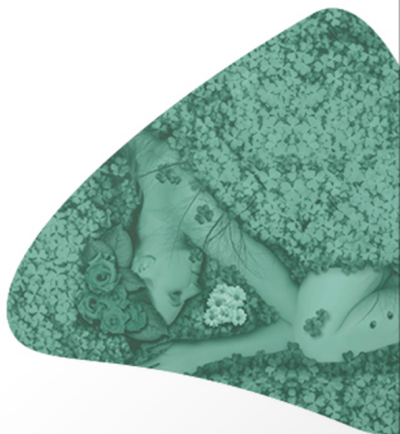
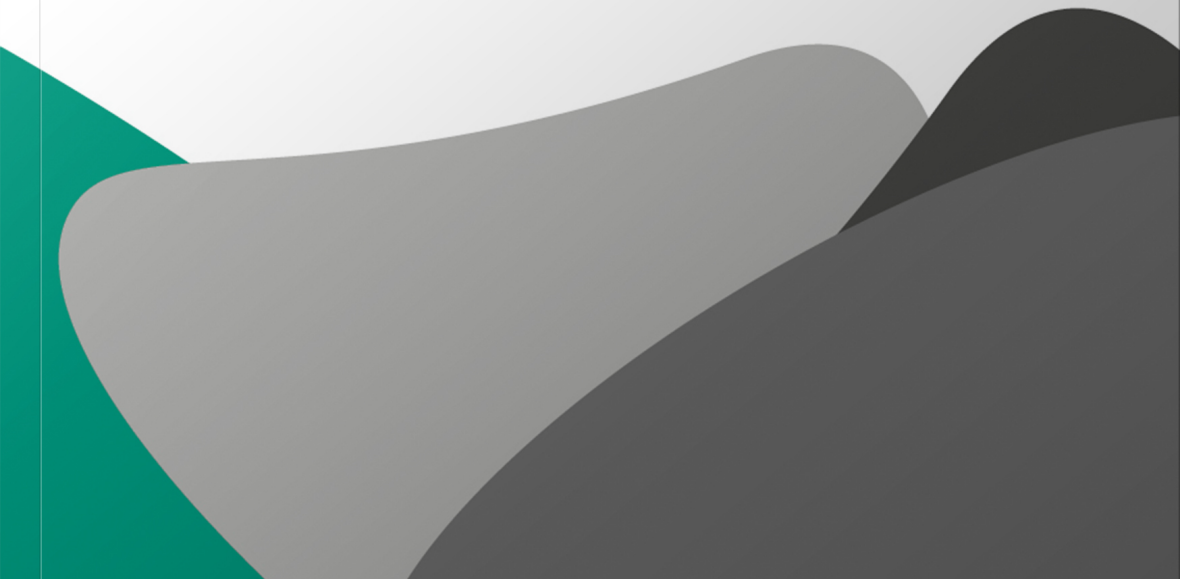




Connecting with Nature through Hands, Heart and Brain

**An Ethnographic Case Study at an Environmental NGO in
Luxembourg**

Yimin Zhang



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2026

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List of Abbreviations

ANF	Administration de la nature et des forêts (Nature and Forestry Administration)
ASR	Automatic speech recognition
GDPR	General Data Protection Regulation
GTM	Grounded Theory Method
HNC	Human-nature connection
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
LIST	Luxembourg Institute of Science and Technology
MAB	The Man and Biosphere
NCA	Nature challenge activity
NCP	Nature's contributions to people
NEP	New Ecological Paradigm
NGO	Non-governmental organisation
RV	Relational values

1. Introduction

The contemporary world is undergoing unprecedented environmental changes driven by human activities. In this context, the relationship between humans and nature has become a complex and pressing topic that draws burgeoning research interest. Although the *biophilia hypothesis* (Wilson, 1984) suggests that humans possess an innate tendency to connect with nature, it is widely believed that the industrial and technological advancements since the 19th century have contributed to a growing disconnection from the natural world (Rogers, 2024). Empirical studies have shown a decline in people's direct contact with nature (Kellert et al., 2017; Soga & Gaston, 2016). Given that interactions with nature not only offer various benefits on human health and well-being (Keniger et al., 2013; Martin et al., 2020) but also foster pro- environmental behaviours (Barrable & Booth, 2022; Geng et al., 2015), the estrangement from nature may have serious negative consequences for both human and ecological prosperity. As such, calls for reconnection with nature have grown increasingly louder in public and academic discourse (Zylstra et al., 2014). Accordingly, the issue of reconnecting people with nature has become a prominent topic in both policy and academic spheres.

From a policy perspective, the importance of re-establishing the human-nature bond is primarily linked to sustainability, which the United Nations Brundtland Commission defines as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, n.d.). For instance, the 15th Conference of the Parties to the UN Convention on Biological Diversity (2022) explicitly framed the sustainable use of biodiversity as a key approach to re-establish a reciprocal relationship between people and nature (UNESCO, n.d. b). Within the sustainability agenda, intergovernmental scientific programmes such as The Man and the Biosphere (MAB) aim to explore improving human livelihoods, safeguarding natural and managed ecosystems as well as promoting environmentally sustainable approaches to economic development as pathways toward mutually beneficial relationships between people and their environments (UNESCO, n.d. a). A closer

examination of such policy formulations may reveal a tendency to adopt a resource- or capital-based view of nature in the discourse on reconnecting people with nature, a perspective that considers fostering the bond with nature is essential primarily because it can be used to support human livelihoods and development.

Beyond policy frameworks, scholarship in the interdisciplinary field of Environmental Humanities has offered alternative perspectives and narratives on human-nature dynamics, which is often articulated through a strong activist voice. For example, studies in the field of environmental justice tackling environmental vulnerability and catastrophic environmental events have shown that harmful relationships between communities and nature are produced and experienced in ways that are deeply entangled with social and power inequalities (e.g. Auyero & Swistun, 2009; Checker, 2005; Fortun, 2001; Petryna, 2013). Scholars in environmental Indigenous studies often adopt a decolonial perspective to reveal that Indigenous communities' rejection of the Western extractivist view of nature; instead, they value a conception of nature as spiritual (see Kondo, 2020) and as co-existence with humans (Thekaekara, 2021), grounded in non-instrumental worldviews. These insights, generated from empirical data, showcase the tensions, diversity, and complexity embedded within the connections between humans and nature, affirming the relevance of the issue as a pressing social reality that merits research endeavours.

While prevailing discourses and existing studies have frequently framed (re)connecting with nature and human-nature relationships as a matter of development, politics and activism, there has been limited attention to the idea of connecting with nature as an *everyday engagement*. By *engagement*, I refer to interactions that involve physical, mental and/or emotional participation. How do ordinary people – those with neither policy-level power nor direct exposure to extreme environmental events – conceive of and construct their connections through non-structural, mundane engagement in everyday life? This question remains largely unexplored. This study, therefore, addresses this gap by amplifying the voices of a group of environmental volunteers. Environmental volunteering encompasses a wide range of activities that aim to protect and improve the natural environment and is accessible to the general public, including practical conservation (e.g. planting, maintaining natural landscapes), environmental monitoring (e.g. bird ringing), and outreach (e.g. guiding na-

ture walks, offering environmental consultations). Focusing on this form of human-nature interaction not only highlights the diversity of pathways through which people connect with nature, but also illuminates the meanings of (re)connection from the perspective of why ordinary individuals are motivated to invest in building and sustaining their relationship with nature – not from an anthropocentric, instrumentalist mindset, but through relational, ethical, and affective dimensions. Thus, a close examination of the environmental volunteers' experiences and perspectives offers fresh insights that move beyond viewing (re)connecting people with nature merely as a means to sustain human livelihoods, achieve sustainable economic development, or remedy environmental degradation. Instead, it contributes to our understanding of this connection as a meaningful engagement embedded in everyday life – one that fosters a positive, relational perception of interacting with nature. In doing so, this research adds a novel empirical perspective to the existing body of literature on human-nature relationships.

To examine the experiences and perspectives on connecting with nature among a group of environmental volunteers at a nature NGO in Luxembourg, this study adopts an ethnographic approach for data collection and a grounded theory approach for data analysis. Empirical data for this research were generated through participant observation documented by fieldnotes, video-recorded fieldwork and ethnographic interviews. Data analysis was guided by a grounded theory coding process, which emphasises a data-driven analytical approach rather than one directed by pre-defined theoretical frameworks. This approach anchors the conceptualisation of connection with nature in empirical data generated within real-life contexts, enabling a direct exploration of participants' lived experiences of everyday nature engagement from an *emic* perspective. Existing empirical studies on environmental volunteering have predominantly adopted quantitative methods, such as surveys, to examine factors that influence participation in nature volunteering (Bruyere & Rappe, 2007; Eom et al., 2016; García-Valiñas et al., 2012; Gulliver et al., 2022; Jacobsen et al., 2012; Liarakou et al., 2011; McDougle et al., 2011; Ryan et al., 2001), to profile the characteristics of environmental volunteers (Randle & Dolnicar, 2006a; Randle & Dolnicar, 2006b) and to evaluate the impact of volunteering on environmental behaviours and attitudes (Hine et al., 2008). Beyond these quantitative efforts, little empirical attention has been paid to environmental volunteers' lived experiences through qualitative ap-

proaches. One of the few exceptions is Ganzevoort and van den Born's (2023) study, which explored Dutch nature volunteers' motivations and challenges using open-ended survey questions and inductive qualitative coding. While these previous studies have contributed valuable insights into environmental volunteers' profiles, motivations, benefits and challenges, a significant gap remains: how is connection with nature enacted, experienced and perceived by environmental volunteers in real life? Existing works on environmental volunteering have largely foregrounded "volunteering" within the domains of volunteerism, management and psychology, treating connectedness with nature primarily as a modifier of volunteering, such as a motivation or an outcome. Few studies, if any, have approached volunteering as a setting or pathway for connecting with nature and for investigating human-nature relationships. This overlooked perspective limits our understanding of the broader significance of environmental volunteering as a lived, relational practice of interacting with nature. Moreover, the lack of qualitative, especially ethnographic, insights into environmental volunteering constrains our exploration of the nuanced and diverse ways people experience and make sense of their connections with nature. Compared to the widespread use of quantitative survey-based methods, this ethnographic research informed by Grounded Theory Method offers the advantage of capturing grounded, vivid, and context-rich realities of people's lived experiences with nature. Rather than relying on predefined hypotheses or categories to produce de-contextualised models, my research elicits novel narratives rooted in everyday realities, thereby contributing methodological insights to the study of human-nature connections.

This research, therefore, aims to explore connecting with nature as an everyday, mundane engagement undertaken by ordinary people. To this end, I employed an ethnographic case study approach to investigate the perspectives and experiences of a group of environmental volunteers in Luxembourg about their interactions with nature. Specifically, this study addresses two research questions: 1. Which perspectives do participants consider important for initiating and deepening connections with nature? 2. What views of nature and human-nature relationships are embedded in participants' engagement with nature from these perspectives?

By approaching connection with nature and conception of human-nature relationships as mundane practices and everyday realities outside of in-

stitutional, activism, or crisis-driven frameworks, this research contributes to the academic conversations within the interdisciplinary field of Environmental Humanities. Aligning with the field's ongoing call to reconnect people with nature and to reflect on the complexity and diversity of human-nature relationships, this study showcases how ordinary citizens may develop, demonstrate and disseminate a sophisticated and nuanced understanding of human relationality with nature in everyday life. By elevating the perspectives of laypeople and highlighting the significance of mundane engagement with nature through ethnographic and grounded theory approaches, this research offers grounded examples of how connections with nature are embedded in daily life from diverse, meaningful perspectives. As such, it contributes empirical depth to the theoretical literature on human-nature relationality. This work presents an alternative narrative to dominant crisis discourses in environmental scholarship, which often foreground grave implications such as “the End of Nature” (McKibben, 2003) and “extinction of experience” (Pyle, 1993). It offers a heartening perspective that (re)connecting with nature need not always be linked with decline, loss, or danger. By exploring how everyday engagement with nature shapes participants' relationships with it, this study enriches the conceptualisation of human-nature interactions from a relational perspective.

This book comprises six chapters:

Chapter 1 Introduction provides an overview of this book, introducing the contextual issues that informed this study, along with its research aim, research questions and scientific contributions.

Chapter 2 Literature Review critically examines theoretical and empirical literature on the human-nature connection. It begins with a conceptual clarification of the terms *nature* and *human-nature connection*, defining how these concepts are used throughout this research. The chapter then presents empirical studies from the fields of environmental ethnography and green applied linguistics, providing a landscape of ongoing academic conversations and identifying the niche that the current research seeks to address. It continues with a theoretical and empirical review of the operating concept of this study: *relational values*. The chapter concludes with a problem statement and the articulation of the research questions.

Chapter 3 Methodology details the research setting, methodological approaches, data collection processes, and reflective considerations that shaped this study. It clarifies and justifies the use of an *ethno-case study* approach for this research. The chapter then outlines the procedures through which data were collected using participant observation and ethnographic interviews. It illustrates a series of decisions made during the process, as well as my reflections on researching multilingually, and on researcher positionality and relationality. Additionally, the chapter presents the constructed dataset, addresses ethical considerations and discusses the methodological limitations of the study.

Chapter 4 Analytical Framework outlines the trajectory of data analysis, which consists of three phases: re-defining the research focus through pilot fieldwork; determining the object of inquiry and formulating research questions through an initial round of data analysis in parallel with literature review; and conducting a second round of data analysis using the Grounded Theory Method (GTM). By elaborating on these data analysis procedures, this chapter aims to justify the validity and trustworthiness of the research process.

Chapter 5 Findings and Discussion presents the findings of this research. Through a close examination of the ethnographic data collected through the fieldwork and interviews with the environmental volunteers, I explore how research participants develop and value connections with nature, as well as their views of nature and human-nature relationships associated with these connections.

Chapter 6 Conclusion recaps the key results that address the research questions and summarises this study's contribution to the existing body of research on human-nature connections. It highlights the implications of the study and concludes by outlining its potential impacts.

In the following chapters, I invite readers to join me in embarking on this ethnographic journey of exploring how a group of environmental volunteers in Luxembourg construct and perceive their connections with nature.

2. Literature Review

Before outlining the methodological implementation of this study, I first review theoretical and empirical literature to situate my research within existing scholarly debates. This literature review is structured around two main objectives. First, it aims to map the landscape of definitions, concepts, debates, and empirical findings related to the human-nature connection. Second, it seeks to identify theoretical and empirical gaps, demonstrating how an ethnographic approach can illuminate nuanced ways in which people conceptualise their relations with nature.

To achieve these aims, I begin by defining the core terms central to this study – *nature* and *human-nature connection*. I then review two bodies of empirical research that have approached this connection: environmental ethnography and green applied linguistics, in order to identify the interdisciplinary niche that this study addresses. Following this, I turn to the notion of *value of nature*, which is essential for understanding why reconnecting with nature matters. Finally, I argue that focusing on mundane, everyday interactions between people and nature has the potential to reveal the complexity and diversity of human-nature relationships. Insights from examining these interactions can contribute meaningfully to efforts aimed at reconnecting people with nature.

In the following sections, I begin this mapping by defining the terms *nature* and *human-nature connection* as they are used in this work.

Defining Nature and Human-Nature Connection

Conceptualising Nature

While commonly used in everyday language, the concept of *nature* is highly fluid and volatile. As de Groot (1992, p. 213) points out, “[o]n closer inspection, however, ambiguities creep in”. Semantically, the term en-

compasses a wide diversity of phenomena, from concrete manifestations such as plants, animals, forests, and rivers, to large-scale constructs like ecosystems or the idea of Gaia (de Groot, 1992). It is also used to describe a diversity of landscapes, ranging from human-influenced landscapes like urban parks to untouched wilderness, such as rainforest (de Groot, 1992; Hartig et al., 2014; van den Berge & Koole, 2006). What is considered nature varies from time, space, culture and individual circumstances (Bratman et al. 2012; Chawla, 2020; van den Berg & Koole, 2006). As such, “[t]he term nature is among the more elusive and vaguely defined concepts” (Wohlwill, 1983, p.6) across disciplines. As Brondizio et al. (2019) summarise:

Within the framing of the natural sciences (context of science), nature include[s] e.g., all dimensions of biodiversity, species, genotypes, populations, ecosystems, the biosphere, ecosystem functioning, communities, biomes, Earth life support’s systems, and their associated ecological, evolutionary, biogeochemical processes and bio-cultural diversity. Within the framework of economics, it includes categories such as biotic natural resources, natural capital and natural assets. Within a wider context of social sciences and humanities and interdisciplinary environmental sciences, it is referred to with categories such as natural heritage, living environment, or the nonhuman. (p.14)

To navigate this conceptual diversity and ambiguity, researchers tend to adopt broad definitions that are adaptable to their research contexts. For example, in reviewing how nature experience impacts human cognitive function and mental health, Bratman et al. (2012) define nature as “areas containing elements of living systems that include plants and non-human animals across a range of scales and degrees of human management” (p.120). Within the context of the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), nature is defined as the non-human world with an emphasis on the diversity of living organisms and their interactions among themselves and with the abiotic environment (Brondizio et al., 2019; Díaz et al., 2015).

In a similar vein, I use the term nature to refer both to concrete species and landscapes and to larger-scale ecosystems, in which the species and

landscapes interact, to reflect the fact that in my data, participants discuss and foreground all these levels.

Conceptualising Human-Nature Connection

Another key notion is *connection with nature*. Like the term *nature*, *connection with nature* is a fluid and multifaceted concept, approached from diverse perspectives and encompassing a range of meanings. Therefore, this section reviews the various interpretations of this idea and clarifies how it is applied within this study.

Historically, the relation between people and nature is a topic that has been contemplated across cultures. Ancient Chinese conceptualised the relationship between nature and humans as 天人合一 (Tiān rén hé yī), meaning that nature and humans form a harmonious whole (Liu, 2019). In Western antiquity, nature is perceived to have a distinct spirituality from that of humans: “every tree, every spring, every stream, every hill had its own genius loci, its guardian spirit” (White, 1967, p.1205). Christianity believes that humanity has been entrusted by God with the responsibility of managing nature, as indicated in Genesis 1:26–28:

And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth. (Book of Bible Quotations, 2005)

More generally, research shows that nature has always been talked about and an integral part of culture (Binney, 2006). In 1984, Wilson proposed the *biophilia hypothesis*, the idea that humans are genetically predisposed to seek connections with nature. This hypothesis has not yet been definitively tested as the genes associated with biophilia have not been identified (Rogers, 2024). Nevertheless, by synthesising several survey-based studies on people’s attitudes toward different images of relationships with nature, van den Born and colleagues (2024) found a high level of nature-friendliness across different cultural contexts and a minimal cross-cultural variability of the nature-friendliness levels. Their finding

suggests that people commonly express a strong tendency to affiliate with nature, offering strong support for the biophilia hypothesis.

Given that connection with nature is deeply rooted in human history and societies, and is increasingly attracting scholarly attention, researchers have sought to deepen their understanding of this issue through empirical investigation. Yet, upon closer examination, ambiguities once again creep in. In conducting a systematic review of the empirical studies on the human-nature connection, Ives and colleagues (2017) note that studies on this topic encompass a wide range of “disciplinary and conceptual perspectives, language, methods and research approaches” (p.106). This is because the issue of connecting with nature spans multiple fields, such as ecology, psychology, education, and sociology. The diversity of approaches has led the relevant literature to become fragmented, resulting in low coherence in the use and understanding of terminologies (Ives et al., 2017). The fragmentation of the literature is also attributed to the different conceptual applications of the term *connection*: “[i]n some instances, connection to nature refers to a cognitive appreciation of being embedded within nature, in others to an emotional attachment, while still others focus on material dependence on nature” (Ives et al., 2018, p.1390). Researchers use terms such as *nature connectedness* (Martin et al. 2020; Mayer & Frantz 2004; van Heel et al., 2024a, 2024b; Zylstra et al., 2014), *connectivity with nature* (Dutcher et al., 2007) and *nature relatedness* (Nisbet et al., 2009) interchangeably to refer to the psychological attachment to nature. Phrases like *contact with nature* (Martin et al. 2020) and *re-connecting to biosphere* (Andersson et al., 2014; Folke et al., 2011) focus more on the physical interactions with flora, fauna, and geological landforms. While most researchers define their respective terminologies in their studies, the terms remain relatively scattered with meanings that are highly dependent on specific research contexts, often failing to capture the multiple dimensions of the connection between humans and nature. To consolidate concepts, ideas, and their practical applications, Ives et al. (2017) adopt the term “human-nature connection” (HNC) as an umbrella concept, based on their multidisciplinary review of 475 empirical studies on how people relate to nature. Ives and other colleagues (2018) define HNC as a concept encompassing

- (1) material connections such as resource extraction and use; (2) experiential connections such as recreational activities in green envi-

ronments; (3) cognitive connections such as knowledge, beliefs and attitudes; (4) emotional attachments and affective responses; and (5) philosophical perspectives on humanity's relationship to the natural world. (p.1389)

The multifaceted and inclusive nature of the HNC concept enables it to capture the diverse ways in which people interact with and relate to nature in real life. This conceptual consolidation fosters the discussion on reconnecting people with nature from multiple dimensions, along a spectrum from external connections to nature (e.g., material and experiential connections) to internal connections (e.g. emotions and worldviews) (Ives et al., 2018).

Having clarified the core terms *nature* and *human-nature connection*, I now turn to a review of empirical studies that investigate these notions. The following sections aim to situate this research within the ongoing scholarly debates and to demonstrate how this ethnographic study, informed by linguistic perspectives, can offer new insights into the topic of human-nature connections. To this end, I engage with existing research from two key domains: environmental ethnography and applied linguistics.

Researching Connection with Nature

Environmental Ethnography

While there has always been ethnography of nature, it is only recently that the term *Environmental ethnography* has emerged. The earliest explicit discussion I have found of this approach is Lezak's (2023) examination of its theory and practice in the field of human geography. Realising that "while environmental ethnography is already widely practised, it has not yet been clearly defined in scholarly literature", Lezak refers to environmental ethnography as "a methodological affinity, a knapsack of geographical, anthropological, and critical theoretical tools to understand the more-than-human world" (p.289).

In environmental ethnography, two trends are noticeable: one is to conduct ethnographies *of* the environment, and the other is to conduct ethno-

ographies *about* environmental topics. We can examine these approaches in turn.

As a field, environmental ethnography is closely related to multispecies ethnography, which shifts the focus from humans to other species that are integral to human social worlds but have traditionally been treated merely as contexts or symbols (Kirksey & Helmreich, 2010). Acknowledging the shared posthumanist orientation of both approaches, Lezak emphasises that environmental ethnography not only attends to DNA-bearing life forms but also directs its research gaze toward existents that are neither life nor chemicals, such as ice, fire and rocks, making it ethnography *of* the environment. From a geographer's perspective, Lezak argues that environmental ethnography is particularly useful for researchers interested in the importance of space and place, because "it can accommodate the landscape itself as an object of ethnographic consideration" (p.291). A few studies corroborate his point. For example, Pyne (2004) discusses how wildland fires shape not only ecosystems and biodiversity but also human societies and values (Pyne, 2004). Rantala et al. (2011) examine the integral role of weather in wilderness guiding in Finnish Lapland. Hastrup (2013) observes the ice's predominant role in forming social imagination and human/non-human network in the Arctic. Lezak therefore calls for adopting environmental ethnography as an approach to "think with environments" and to "honour the uniqueness of place, keeping research grounded in *habitat*" (p.304, emphasis in original). As such, for geographers, environmental ethnography is the ethnography *of* the environment, foregrounding ecological context and nonlife existents.

Contrasted to the ethnography *of* the environment, another comprehensive discussion of environmental ethnography is introduced by Cordner (2024). Cordner's interpretation of the term leans towards the ethnography *about* environmental topics. In this sense, ethnography is not viewed as a method to examine non-DNA bearing life-forms, but for investigating people's actions, perceptions, and social tensions in contexts of environmental issues. Instead of adopting a human-decentring lens to expound environmental ethnography, Cordner draws on studies from environmental sociology to discuss the strengths of ethnographic approaches in revealing the social dynamics, power relationships and inequalities that shape people's experiences of their natural environment. While acknowledging that ethnographic data collected from nonhuman animals essen-

tially contribute to the field of environmental sociology (Kalof & Whitley, 2021), her review of the intellectual work and key findings in environmental ethnography concentrates on people's reactions to environmental issues, their interactions with the environment and negotiation of interpersonal, social and human-nature power dynamics. As such, Corder's sociological view of environmental ethnography represents the ethnography *about* the environment – in other words, ethnography of people in the context of environmental issues.

Both strands of environmental ethnography offer valuable insights into the diverse ways in which people relate to their natural environments in diverse cultural and social contexts. Lezak's (2023) review finds that the ethnographies of the environment bring to the foreground the objects and forms of existence that are often regarded as contexts or inert, such as weather, ice, fire, forests, gold ore, pollution, and garbage. Attending to "the irreducibility of context and the individuality of living and non-living entities" (p.289) proves a valuable approach to enriching the understanding of things "in relationship to their contexts in a non-contingent way" (p.291) and fostering new perspectives on human-nature connections. Yet, while a human geologist approach to environmental ethnography is effective in addressing "the ways in which place, space and environment are both the condition and in part the consequence of human activities" (Gregory, 2009, p.350), its emphasis on the external environment hardly delves into people's inner world, therefore telling us little about how people construe, position, and emotionally engage with nature. To foster the reconnection of people with nature and encourage concrete changes in behaviour, it is critical to understand "what reconnecting to nature means, why it should happen and how it can be achieved" (Ives et al., 2018, p.1389). To promote this understanding, it seems important to study people's knowledge, emotions and perceptions in relation to nature. Therefore, the current research aims to explore people's perceptions and beliefs regarding their connection with nature, aligning with the sociological approach within environmental ethnography. In the following section, I present a critical overview of empirical findings from the ethnographies about the environment.

POWER AND (IN)JUSTICE

Because ethnography is powerful in illustrating how people act, respond to and think in social situations and uncovering underlying power dynamics (Cordner, 2024), one prominent strand of research within environmental ethnography critically examines how environmental issues are entangled with power relations – both among people and between people and nature. Within this strand, three fields of study are particularly important to review: environmental justice, Indigenous studies, and ecofeminism. Each offers distinct yet intersecting perspectives on how environmental tensions are experienced by communities marginalised by historical, cultural, and structural power systems, particularly those differentiated by socio-economic status, race, cultural background, and gender.

The first set of studies falls within the field of environmental justice, where ethnographic studies have covered several topics. Some researchers have considered how environmental vulnerability is experienced by communities confronted with toxic environments (Gutierrez et al., 2021). For example, Checker's (2005) ethnographic monograph *Polluted Promises* tells the story of an African-American community in Hyde Park, Georgia, that is surrounded by polluting industrial facilities. Suffering from debilitating health issues, the community members turn to activism to fight not only against industrial contamination but also against environmental racism. By examining the daily experiences of the Hyde Park community, Checker highlights that environmental injustice is still prevailing in the post-civil rights era, pointing out that "environmental burdens are unevenly distributed around the globe, and people of colour and poor people are on the front lines of poisonous exposures" (p.186). Auyero and Swistun (2009) demonstrate individual testimonies of environmental suffering based on their collaborative ethnographic fieldwork in Flammable, an Argentine shantytown surrounded by a large petrochemical compound, a river highly polluted by industrial toxic waste, an unsupervised waste incinerator and an unmonitored landfill. The authors argue that people's experiences of environmental vulnerability induced by toxic surroundings can only be understood within the broader material and symbolic context, such as the community's historic relationship with the landscape and the discourses of outside agents that shape people's perceptions of their lives and environment. Luna's (2018) study examines the environmental inequality faced by Burkinabe farm-

ers in cotton production based on participant observation and semi-structured interviews conducted in Burkina Faso. The researcher finds that a key reason that Burkinabe cotton farmers widely adopt new agricultural technologies, which significantly increased their exposure to pesticides, is that these technologies offer them “a higher status, modern, technical, *whiter* identity” (p.231, emphasis in original). Her study demonstrates how racist cultural ideologies can influence marginalised people themselves to act in ways that reinforce environmental inequalities.

Still linked to environmental justice, other researchers have explored unusual events, for example, disasters (Cordner, 2024). Ethnographer Kim Fortun (2001), for instance, traces the advocacy for the victims of the 1984 explosion of the Union Carbide chemical plant in Bhopal, India. By analysing the victims’ narratives, Fortun sheds light on the nexus between the unequal power relations in globalisation, the global distribution of technological and environmental risk and environmental legislation. Petryna’s (2013) ethnography of Chornobyl’s aftermath tackles “the vexed political-economic, scientific, legal, and social circumstances” (p.215) that came after the disaster. Through writing an ethnographic account of lawmakers, radiation scientists, health professionals, and sufferers, Petryna demonstrates “different points along the continuum of knowledge production, power, moral sensibility, and self-disclosure” (ibid.) that followed the nuclear contamination. These studies of people’s lived experiences of damaging relationships with their environments reveal the economic, social, racial and political aspects of the relationships between different groups and the natural environment. In these cases, the detrimental relationship between communities and nature is not “mutual”, because those who bear the negative consequences of nature that has been severely harmed are not the ones who have inflicted the harm. In these tragedies, nature plays the role of a “magnifying glass” that amplifies social injustices.

A second field that has been concerned with environmental justice comes from Indigenous studies. These scholars have also adopted environmental ethnography as a helpful tool to critically examine how Indigenous environmental knowledge, practices and relationships with nature complement or contrast with Western systems, as well as how the former has been appropriated and downplayed by the latter. Drawing upon his fieldwork in western Mali, Duvall (2021) finds that Indigenous environ-

mental knowledge represents a holistic understanding of biophysical reality rather than particular geographic or biological features. He further argues that “there is no objective or universal form of environmental knowledge, and therefore, the importance and subjectivity of environmental knowledge together create remarkable possibilities for new concepts to enter into environmental knowledge systems” (p.35). Kondo’s (2021) ethnography focusing on Alaskan Athabascans’ practices in using natural resources and conservation points out the challenges and significance of traditional salmon-human interactions in the Upper Kuskokwim region. Kondo reveals the tension between the government’s control of natural resources and the Indigenous community’s subsistence ways of life, as well as the tension between local river maintenance practices and marine biologists’ perspectives. The researcher also synthesises the Athabascan belief in the special spirits of predatory animals and conservation ecology, arguing that effective management of salmon in Alaska should not exclude Alaskan Indigenous knowledge and practices. Thekaekara (2021) sheds light on the Kattunayakan and Bettakurumba peoples’ relationships with, and strategies for living alongside, Asian elephants based on his ethnographic fieldwork in Southern India. By illuminating Indigenous people’s perceptions and interactions with elephants, Thekaekara describes the core elements of their worldview that shape their coexistence with the animal. The author criticised the exclusion of Indigenous worldviews from policymaking and the homogeneous assumptions of people’s relationships with landscapes and species, calling for the inclusion of Native perspectives to inform policy meaningfully. Often adopting a decolonial perspective, Indigenous environmental researchers have analysed Indigenous practices, knowledge and perceptions of interacting with the natural environment using ethnographic methods, and have provided insights into the diversity of, and the tensions between, different perceptions of nature and relationships with it. The insights from Indigenous studies have brought alternative discourses to the table, other than extractivist views of nature. The decolonial approach to understanding human-nature connections has challenged extractivism, which is deeply rooted in colonialism and refers to the intensive natural resource appropriation intended for raw material exports (Chagnon et al., 2022; Gudynas, 2018). The debates in this field are essential to Indigenous study, but may also inform studies on human-nature connections in non-Indigenous contexts by offering a multi- perspective

framework that integrates diverse ways of interacting with nature and perceiving nature.

A third field of study that examines the human-nature connection as a real-life issue is ecofeminism. Ecofeminism addresses the cultural and symbolic associations often made between women and nature (Miles, 2024). As Plumwood (1993) points out, “women’s inclusion in the sphere of nature has been a major tool in their oppression” and “feminine ‘closeness to nature’ has hardly been a compliment” (p.19). An example of a common form of denial of women and nature is *backgrounding*. Plumwood (1993) explains that the backgrounding of nature refers to “the denial of dependence on biospheric processes, and a view of humans as apart, outside of nature, which is treated as a limitless provider without needs of its own” (p.22); similarly, women are traditionally framed as “the environment” against which male “achievement” takes place, yet they are not recognised for their own achievements. As such, ecofeminism is relevant for analysing how gender-dependent human-nature relations are shaped by intersecting systems of oppression (Patarin-Jossec, 2024). Although ethnographic studies in ecofeminism are relatively rare due to the field’s theoretical orientation, a few researchers have adopted ecofeminism as an analytical lens in their ethnographic environmental studies. In her research on offshore fishing labour in Vietnam, Alonso (2022) examines how masculinities and labour relations mutually shape each other in offshore fishing based on ethnographic data collected from fishers, boat owners, captains, and their partners. Her findings show that labour relations in the offshore fishery are maintained mainly through an emphasis on men’s abilities to do heavy physical work and behavioural expectations associated with masculine norms. Therefore, the author argues for considering masculinity dynamics when addressing illegal, unreported and unregulated fishing. Similarly, Fabinyi’s (2007) study in the Calamian Islands, Philippines, also found that young Calamian men are motivated to participate in the illegal fishery because it is considered a way to demonstrate masculinity and gain status. These cases resonate with ecofeminists’ argument that “we cannot begin to respond adequately to the core forces that continue to energise the domination and degradation of the natural world without first dismantling male-dominated patterns of reasoning, privilege, exclusion, and hierarchy” (French, 2008, Ecofeminism). Ecofeminism contributes to the debate on human-nature relationships by exposing and challenging the ideologies that reinforce the dom-

ination of nature, which is an important ideological support for sexism (ibid.).

Critical environmental ethnographies from the fields of environmental injustice, Indigenous/decolonial studies and ecofeminism present a shared core discourse. They view the relationship between humans and nature as deeply entangled with social power relationships. Exploitive and detrimental relationships between people and nature are the product of unequal social, gender and racial relationships, and therefore, can only be understood in depth by delving into the questions that are rooted in societies, such as: how power is exercised to manipulate people's experiences and perceptions of their natural environment; who bears the consequences of environmental degradation for what reasons; how knowledge and meanings about nature are produced, and who is entitled to justify them; and how practices of interacting with nature are ascribed social meanings and reproduce unequal relationships – both among people and between people and nature. Answering these questions partly explains the prevalent alienation from nature. Yet, exclusively focusing on the discourses of power and injustice in environmental issues is just one aspect of the scholarship on environmental issues.

MEANINGS AND PATTERNS

Environmental ethnographies have not only covered “activist” topics and broad questions of social (in)justice. A number of researchers have also considered other dimensions, particularly in relation to the meanings and patterns of engaging with nature in routine activities (Cordner, 2024). Several fields have produced knowledge from this perspective: environmental education, leisure studies, and environmental volunteerism.

The field of environmental education has long explored how children experience nature in their daily lives. Jørgensen's (2016) study, for example, is based on observations, informal conversations and photos collected from Norwegian kindergarten children. This study of early childhood experiences in nature concludes that children demonstrate a “sense of wonder” in their daily direct and multisensory experiences in nature. These experiences engage children emotionally in encounters with animals in natural habitats and foster their ecological knowledge and environmental consciousness. Apart from nonformal learning about nature,

researchers have also explored how environmental pedagogies unfold in school settings. Tal and colleagues (2023) examine the pedagogical practices and epistemology in Forest Education by analysing ethnographic data gathered in a leading Israeli Forest Education organisation. They identified four key pedagogical practices, namely outdoor play, primitive skills and crafts, sensing, and dwelling. These practices, as argued by the authors, “reflect an epistemology in which knowledge and learning are situated in the immediate embodied context and sensory experiences, and are intended to facilitate a meaningful connection with nature” (p.1502). Ruck and Mannion’s (2021) study provides an understanding of how young people enact their relationships with the natural world in school grounds conservation activities. Through participant observation, the researchers found that while the planned curriculum is underpinned by a stewardship perspective and a utilitarian view of other species, moments during its implementation revealed young people’s enactment of *collective thinking with the more-than-human world*. This way of thinking is described as “more than a purely rational, cognitive process” (p.1505), in which one sees oneself as part of a collective with other species, expressed through excitement, fascination and empathy. Patel and Ehrenzeller’s (2023) case studies in Indian and German schools show that the experience of immersion in nature shapes children’s relationship with nature. Drawing upon observation, semi-structured interviews with teachers and school leaders and informal interactions with students, their cross-cultural ethnographic study finds that across both Indian and German contexts, nature is perceived as a peace educator: “teaching key concepts and skills, promoting ecological ways of living and being, enabling conditions for wellbeing and inner-peace, and a reciprocal children-nature relationship of care” (p.294). Based on these findings, the authors argue for an ontological and epistemological shift where educators should prioritise nature for its intrinsic value in being with nature rather than instrumentalising it for future academic gain. These findings from environmental education studies are deeply grounded in everyday life and therefore inspire approaches to transmit environmental practices and mindsets to adults. In addition, since the cornerstone of education consists of values, insights from environmental education contribute to understanding how environmental values can be integrated into everyday life.

Besides education, connecting with nature can also be achieved through leisure and recreation activities. Rantala and Puhakka (2020) take camping as an entry point to discuss how interaction with nature during outdoor recreation enhances young people's well-being. Archambault's (2016) multispecies ethnographic study in Inhambane, Mozambique, focuses on human-plant relations formed in gardening. Her analysis of the encounters between gardeners and plants, characterised by "the love of plants", shows that in Inhambane, gardening is "constructed as evidence of a particular aesthetic sensibility" derived from the city's colonial past, "imagined as a response to the commodification of intimacy", and "experienced as a profoundly affective and genuine pursuit" (p.264). Baker and Fick (2022) address the paradox between recreational land users' appreciation of natural landscapes and the negative ecological impacts of their activities and values on the landscape. Their ethnographic fieldwork and interviews with rock climbers and other local stakeholders in the Indian Creek area of Bears Ears National Monument in Southeast Utah show that "recreational users value the landscape as a site for experiencing, expressing, and building wilderness values, authenticity, and a corresponding set of identities, practices, and 'ethics'" (p.357). However, the economic drivers underlying these values have led to government prioritisation of commercialised outdoor recreation, resulting in ecological impacts that undermine the ethical foundations of these values. Findings from these studies demonstrate how people perceive a range of benefits and principles regarding interacting with nature, and how they navigate through different, sometimes even conflicting discourses about the values of nature in relatively relaxing, approachable contexts.

Another everyday setting where people interact with nature is voluntary participation in environmental stewardship or conservation projects. While extensive research has examined the motivations, profiles, benefits, and challenges of environmental volunteers, relatively few studies have ethnographically explored how people engage with nature within this context. A few studies in this domain include Adams and colleagues' (2023) ongoing ethnographic exploration of volunteer shepherding – also referred to as "urban shepherding" or "lookering", in which volunteers spend time outdoors observing and reporting on the welfare of livestock. This project finds that the volunteers experience and understand lookerking primarily in terms of a positive connection to the landscape in general and the animals in particular. While the "walkalong" interviews in-

dicate that the volunteers perceive a sense of guardianship towards the herds, the researchers recognise an imbalance between how much participants talk about the meaningfulness they derive from looking and how little they mention the animals' fate of being slaughtered as agricultural commodities. As such, the researchers observed "the lively complexity of a variety of human-animal relations" (p.169) in volunteer shepherding. Another ethnographic exploration of the human-animal relationship in volunteering is Lloro-Bidart's (2017) analysis of a volunteer's experience at the Aquarium of the Pacific. As part of the author's doctoral research based on multispecies and institutional ethnography, this case study analyses how people develop care for animals through performing embodied and emotional labour, and how their relationship with animals is embedded within the political context. Insights from the studies that examine human-nature relationships in the context of pro- environmental actions are valuable because they illuminate the dynamics between environmental beliefs and actions by showing how beliefs are translated into actions, and how actions, in turn, shape perceptions of relationships with nature.

Environmental ethnographic studies looking at everyday interactions with nature are primarily concentrated in the areas of environmental education, recreation and pro-environmental behaviour research. The primary aim of these studies is not to expose the power dynamics that shape people's experiences with and perceptions of nature. Instead, they seek to reveal the patterns within these experiences and perceptions, and to elicit how people construct meanings of nature and their relationship to it. Findings and arguments from these ethnographies suggest that examining the everyday, non-confrontational and positive interactions with nature also deepens our understanding of people's relationship with nature and yield arguments and reflections on how to foster reciprocal human-nature relationships, thus contributing to the human-nature connection debate, asking why and how people should connect with nature.

In this section, I reviewed studies on human-nature connections through the lens of sociological environmental ethnography, identifying two major strands of inquiry: one that examines power and (in)justice within environmental tensions, and another that reveals meanings and patterns of environmental engagement. In the following section, I turn to another

field that has also contributed empirical insights into human-nature connections: applied linguistics.

Human-Nature Connection in Applied Linguistics

Against the backdrop of the global anthropogenic environmental crises, it has become clear that drawing from one perspective is not enough to address the social and cultural dimensions of environmental issues, and that solely focusing on isolated symptoms and their technical solutions is insufficient (Stibbe, 2015). In this section, I would like to look at the contribution of the field of language science to the debate on the environment, and particularly the field of applied linguistics.

Applied linguistics is “a transdisciplinary field which connects knowledge about language and language users to policies and practices in specific contexts” (Li et al., 2023, p.1). The field focuses on “the theoretical and empirical investigation of real-world problems in which language is a central issue” by integrating insights from language study with other disciplinary approaches (Brumfit, 1997, p. 93; Li et al., 2023; Schmitt & Celce-Murcia, 2002). Because the unprecedented environmental changes and crises driven by human activities are certainly one such problem, it is not surprising that applied linguists have developed an interest in the relevant questions. Studying real-life language use concerning environmental matters is one way to shed light on the “common curiosity and anxiety about the state and future of Earth” (Lorimer, 2017, p.121), because language both reflects and shapes how people perceive and treat the natural world, which lies at the core of the contemporary ecological challenges (Stibbe, 2015). Therefore, the field of applied linguistics has the power to inform the emerging debates on how to address “the life-sustaining relationships of humans with other humans, other organisms and the physical environment” (Stibbe, 2015, p.9) in the era of Anthropocene. In turn, the current interdisciplinary endeavour to examine these relationships in diverse cultural contexts allows applied linguists to critically engage in conversations about how to foster healthy human–environment relationships following the diagnosis of the Anthropocene (Lamb, 2020). Within the field, several recent paradigms are particularly relevant to address human- nature connections: *posthumanist applied linguistics* (Pennycook,

2018a, 2018b), *critical assemblage analysis* (Pietikäinen, 2024), and *green applied linguistics* (Lamb, 2020).

To explore the relationships, boundaries and assemblages within the Anthropocene, Pennycook (2018a, 2018b) introduced *posthumanist applied linguistics*. It argues that everyday semiotic practices involve not only humans, but also “the dynamic relations between semiotic resources, activities, artefacts, and space” (Pennycook, 2018a, p.446). For applied linguists, as pointed out by Pennycook, posthumanism goes beyond abstract engagement with the question of what it means to be human (2018b). It offers a lens to address various sets of ethical and political concerns related to urgent real-world issues, such as climate change and human relations with the planet and its other inhabitants (2018a).

In researching the complex and dynamic relations between people and nature, the concept of *assemblage* emerges as a key notion. As the English translation of the Deleuzian-Guattarian term *agencement* in French, *assemblage* is defined as “a becoming that brings elements together” (Wise, 2014, p.91). As Wise (2014) elaborates:

An assemblage is not a set of predetermined parts (such as the pieces of a plastic model aeroplane) that are then put together in order or into an already-conceived structure (the model aeroplane). Nor is an assemblage a random collection of things, since there is a sense that an assemblage is a whole of some sort that expresses some identity and claims a territory. (p.91)

Assemblage thinking, which “takes interactions, relations, heterogeneity, and connections as a starting point” (Pietikäinen, 2024, p.59), offers researchers a lens through which to examine the interplay among language, discourses, nature and society. Combining Deleuzian-Guattarian notions of assemblage and rhizomatic ontology with Foucauldian understanding of discourse, Pietikäinen (2024) develops the *critical assemblage analysis* framework in her study of the *Cold Rush* – “an intensified race for extraction and protection of Arctic natural resources fuelled by accelerating climate change, expanding markets, and a novel revaluating of commons as commodities” (p.3). Rather than privileging language or discourse as the a priori analytical focus, Pietikäinen adopts an assemblage lens to investigate which elements – material or discursive, natural or so-

cial – are assembled to produce a revaluation of Arctic natural resources. By treating language as embedded within the multiple interactions between socio-economic and natural elements, she argues that assemblage thinking offers an effective framework for examining how material and discursive components interact in specific moments to shape how nature is valued, thereby shedding light on the dynamic, relational connections between human societies and the natural world.

Drawing on the theoretical framework of posthumanist applied linguistics and assemblage thinking, Lamb (2020) introduced the framework of *green applied linguistics*. This framework's central aim is to provide "empirical insights into the role of language and discourse in mediating diverse human relationships with animals and nature" (p.1). *green applied linguistics* calls for a critical examination of how the natural world is engaged in people's semiotic practices – in other words, how people create, interpret and communicate meanings within and through their relationship with nature – aiming to address the "dynamic, socioculturally specific, and ethically problematic" (p.2) ways in which people construe and treat nature through semiotic practices. Lamb illustrates the idea of green applied linguistics through examples from his research on the convergence of sea turtle conservation and ecotourism practices at Laniākea Beach, Hawai'i. Applying nexus analysis to ethnographic data such as interviews, video-recorded interactions, documents and photographs, Lamb examines how moments of interactions among volunteer turtle protectors, tourists, and sea turtles emerge from three pathways of discourse: (1) *discourses in place*, which empowers and legitimates certain actions of either the volunteers or tourists; (2) *interaction order*, which foregrounds the real-time, situated encounters between volunteers, tourists and sea turtles; and (3) *historical body*, which refers to the past, routine lived experiences with sea turtles that shape and manifest in concrete actions in relation to the animal. His data shows, for example, how people's interactions with the turtles are determined by two co-existing yet potentially conflicting discourses: the discourse of wildlife protection, which emphasises maintaining distance between humans and the species, and that of sea turtle ecotourism, which highlights intimate humans-turtles interactions; how volunteer turtle protectors discursively position themselves as outreach educators rather than "turtle police" by explaining the risk of wildlife- to-human disease transmission to persuade tourists not to touch sea turtles, instead of issuing stern verbal

warnings; and how volunteers draw on their previous unsuccessful experiences in persuading tourists to maintain distance from sea turtles to construe human-animal relationships in different cultures and to inform their further confrontations with transgressive tourists. Lamb's research showcases how applied linguists can shed light on the dynamic and diverse relationships between people and animals by examining discursive and semiotic practices. As such, he argues that "applied linguistics' empirical grounding in everyday language practices [is] of broad relevance to a wide range of societal issues including environmental problems" (p.2).

By positioning human beings within a human-nature assemblage, the green applied linguistics framework shifts from an anthropocentric perspective. Building on posthumanist concerns, it urges applied linguists to consider, on the one hand, "the central importance of language as a mediating factor in human-animal assemblages" (Lamb, 2020, p.22), and on the other hand, how species and natural environment engage in the discourse on the more-than-human world, as well as how nature bears the consequences of discourse.

Within the green applied linguistics framework, two prominent subfields delve into the pivotal role of language in reflecting and shaping individuals' and societies' ways of knowing and perceiving nature: *ecolinguistics* and *environmental linguistics*.

ECOLINGUISTICS: REVEALING THE STORIES THAT WE LIVE BY (STIBBE, 2015)

Ecolinguistics. Ecolinguistics is an emerging subfield of language and communication studies (Chen, 2016). Scholars commonly acknowledge that the term ecolinguistics was proposed by Einar Haugen in the 1970s (see Chen, 2016; Fill, 2018). In *The Ecology of Language*, Haugen (1972/2001) used the ecosystem as a metaphor to describe (1) how languages worldwide are interconnected, and (2) how languages interact with their contexts of use. Haugen's original elaboration of ecolinguistics takes a metaphorical approach to conceptualising ecology and its relationship with languages. Instead of addressing the actual environmental and ecological issues, Haugenian ecolinguistics focuses on linguistic topics such as language diversity, minority languages, and endangered languages, investigating "language loss and language maintenance in the age of glob-

alisation” (Fill, 2018, p.1). This metaphorical rather than literal use of the prefix *eco* has sparked some debate about whether the Haugenian framework is actually more a part of sociolinguistics than an independent field. Nonetheless, ecolinguistics began to consolidate as a discipline and expand its focus to the interplays between language and environmental matters, particularly following Halliday’s (1990/2001) keynote speech titled *New Ways of Meaning* at the 1990 World Congress of Applied Linguistics (Chen, 2016; do Couto, 2014). Halliday elaborated these interplays by criticising the “linguistic anthropocentrism” from two aspects: on the one hand, everyday language use tends to only emphasise the instrument value of nature and non-human species, reflecting a utilitarian anthropocentrism; on the other hand, discourses propagating non-sustainable actions accelerate the deterioration of environmental issues (Chen, 2016; Stanlaw, 2020). Halliday’s talk marks the establishment of the two complementary strands of ecolinguistics, for which Fill (2018, p.2) suggests the terms (1) *the ecology of language(s)*, which is concerned with the question of *can language diversity be sustained on this earth?* and (2) *ecological linguistics*, which centres around the question of *how language construes people’s view of nature and the environment*. In this section, I focus on reviewing the ecological linguistics strand, relevant in the context of exploring the value of the people-nature connection through discourse analysis, which is central in my work.

Ecological linguistics (hereafter ecolinguistics) primarily examines how language and discourses reflect and shape relationships between people and nature, and their potential to escalate or mediate environmental issues. Stibbe (2015) defines this strand of ecolinguistics as “[The analysis of] language to reveal the stories we live by, judges those stories according to an ecosophy, resists stories which oppose the ecosophy, and contributes to the search for new stories to live by” (p.183).

Ecosophy, also called deep ecology, represents the belief that humans must change their relationship with nature from valuing nature solely for its usefulness to recognising its intrinsic value (Madsen, 2024). Adopting ecosophy as its principal normative framework (Chen, 2016), ecolinguistics aims to critique environmentally destructive discourses and promote beneficial ones, often advocating for language reform to encourage ecocentric language. In *The Routledge Handbook of Ecolinguistics* (Fill and Penz, 2018), studies in the strand of ecological linguistics are cate-

gorised into three perspectives, highlighting its focus on linguistic phenomena and discourse: (1) the role of language in creating, aggravating and solving environmental problems, (2) how environmental topics appear in texts and the media and (3) how language and discourse transport ecological and unecological ideas.

Ecolinguistics has examined the role of language in environmental degradation mainly by analysing texts about environmental problems. Studies have exposed dominant discourses that promote unsustainable behaviours such as greenwashing that misrepresent individuals or organisations as environmentally responsible, consumerist discourses that encourage overconsumption, and economic discourses that emphasise economic growth as the primary goal of society (Stibbe, 2018). Specifically, there is a tradition of examining the business discourses on corporations' environmental representation (Alexander, 2018) through critical discourse analysis and corpus linguistic techniques. For example, Rutherford (2006) systematically analyses and compares the business-environment discourses of two books written for the 1992 Rio Earth Summit and the 2002 Johannesburg Earth Summit, respectively. Rutherford's findings reveal that while the business discourse on the environment kept attempting to conceal a traditionally antagonistic view of environmental issues, the growing intensity of public commitment and concern among international business resulted in a progressive increase in environmental symbols, imagery, rhetoric and concepts within business discourse; however, the global environmental summits have had only limited influence on corporations in reformulating their business environmental discourses, as they tend to speak at a more generic, anticipatory level rather than expressing concrete commitments. Another study conducted by Ihlen (2009) applies content analysis to examine the role of climate change and its rhetorical presence in the non-financial reports of the world's 30 largest corporations. Ihlen identified four central topics highlighted by language patterns: (1) the gravity of the climate change issue; (2) the corporation's alignment with scientific and political authorities in curbing emissions; (3) the corporation's actions taken to reduce its emissions; and (4) the business opportunities posed by the climate challenge. Based on these findings, the author points out that the corporations' rhetoric "exposes a type of economic instrumentality that seems ill-suited to the systemic criticisms and changes that are needed" (p.258), because climate change is framed as an opportunity to establish positive

business representations rather than as a harmful ecological problem. A further example is Alexander's (2018) corpus-based investigation of the Coca-Cola and WWF partnership on water conservation in 2008, which reveals how the cooperation linguistically masks their damage to the environment.

While acknowledging the necessity and significance of analysing environmental discourses through a critical lens, Stibbe (2018) argues that merely identifying negative discourses is insufficient to address environmental issues; we must also search for new positive discourses to guide societies towards a transition to environmentally friendly actions. Therefore, he advocates for adopting Martin's (2004) Positive Discourse Analysis framework to examine the ways in which language reflects and shapes people's relationships with the natural world that "inspire, encourage and hearten us" (Stibbe, 2018, p.165). Examples of such positive alternatives include nature writing, the New Economics discourse that linguistically attributes negative associations to economic growth, and representations of nature as both knowledge and aesthetics in Indigenous literature and oral traditions (ibid.), demonstrating the role of language not only in creating and exacerbating environmental problems but also in mitigating them.

Another question that concerns ecolinguists is how environmental topics are represented in texts and the media. Stöckl and Molnar (2018) focus on eco-advertisements and propose dividing this public discourse domain into three sub-genres: green commercial advertising, green-washed commercial advertising and green nonprofit/social advertising. The authors point out that green commercial advertisements tend to utilise a range of pragmatic techniques to emphasise the brands' engagement with the consumers and argue that the product or service would relieve them of their environmental responsibilities; green-washed commercials are characterised by the pragmatic strategy of making far-fetched connections between the product and nature through either elusive or exaggerated claims; and social advertisements often foreground the 'Green Nightmare', calling "public attention to the "Dystopia" – the destruction of nature, the environment and our entire habitat" (Hansen, 2018, p.139). As such, the different eco-advertisements employ various pragmatic strategies to achieve their communicative purposes and simultaneously construct different images of the relationships between individuals, products and nature. Besides eco-advertisements, the media coverage of natural

disasters is another topic that draws research attention in ecolinguistics (Döring 2018). In addition to media representation of environment-related topics, researchers also examined the political discourses on environmental matters (Kuha, 2018). According to Kuha (2018), there are three major perspectives through which the presence of environmental issues in the language of politics is examined: framing, labelling, and constructing social actors. Environmental matters are often framed as security threats, forming the discourse of environmental security that presupposes environmental issues as urgent (Fischhendler & Katz, 2013) and gives rise to concepts that are open to manipulation and different interpretations, such as energy security (Fischhendler & Nathan, 2014). Regarding labelling, Kuha (2013, as cited in Kuha, 2018) discusses how labels categorising people based on their stances towards environmental issues shape public perception of the matter. She argues that labels such as “climate denier” and “climate believer” in mainstream climate discourse are actually problematic because such expressions “represent climate change science as if it were religion, superstition or a conspiracy” (p.253). With respect to the construction of social actors, Krzyżanowski (2015) analyses European Union policy discourses on climate change from an identity construction perspective. The results show that EU policy constructs the EU’s identity as a global leader with a distinctive role in shaping the global policy framework on climate change through extensive use of the “othering” strategies, namely by juxtaposing positive “us” and negative “them”.

In addition to analysing how environmental topics are represented in the media and texts, and how language implies environmental problems, ecolinguists have further examined how language and discourse convey ideas about the relationship between humans, animals and nature. An example is how the discursive representation of animals justifies and encourages the exploitation of animals, which Cook and Sealey (2018) argue to be an essential topic in ecolinguistics. They stress that merely addressing the changing relationships between human animals that are represented in discourse should be “complemented by the investigation of the stated beliefs and purposes of those who produce language about animals; the perceptions and reactions of those who receive it; and the social, economic, ideological and historical contexts of that production and reception” (p.311). In this vein, Stibbe (2012) examined how discourses used in animal product industries have a direct impact on animal welfare. By analysing a corpus consisting of (1) articles from industry-spe-

cific magazines in the meat sector, (2) articles written by the meat industry for external audiences, and (3) professional articles by interested parties such as veterinarians specializing in food animals or lawyers defending product manufacturers, Stibbe finds that the animal product industry uses the discourse of science to justify the oppression of the animals. For example, “the discourse of evolutionary biology is often invoked to equate the intensive farming and slaughter of animals with the behaviour of predators in the wild, representing it as ‘natural’” (p.25–26). Moreover, in these texts, animals are frequently represented as resources rather than lives, as indicated by the language use such as *damage* instead of *injury* in the expression “bird damage” in the *Poultry* magazine. Stibbe thus concludes that the discourses of animal product industries imply the ideological assumption that animal oppression is “inevitable, natural, and benign” (p.33). He calls for alternative discourses from the animal rights movement that challenge such oppression, as opposing discourses nurture social change (Fairclough, 1993). Along the same lines, Trampe (2018) examines a variety of strategies and perspectives regarding the use of euphemisms for killing and using animals. He identifies two typical language strategies of euphemisation: those that euphemise taboos surrounding the killing and suffering of animals and those that downplay the importance of animals beyond their productive value and utility to human beings. Through examining the euphemisation strategies relating to animals, namely: (1) utilisation of linguistic practice that impose human requirements and standards onto the categories of animals and their behaviours (e.g. *laboratory animals*), (2) linguistic reification of animals using profit- motivated and technically engineered attributes (e.g. *ornamental fish*) and (3) the use of euphemistic terms to avoid directly addressing the killing of animals (e.g. male chicks are *sorted out* in the hatchery), Trampe critically analyses “how language allows humans to appropriate nature in an anthropocentric fashion” (p.328).

Altogether, the *ecological linguistics* strand of ecolinguistics has furnished us with insights into the role of language in fuelling or alleviating environmental problems, the representation of environmental topics in texts and the media, and the environmental ideologies embedded in language and discourses. Researchers have explored these topics mainly by examining textual data through close analysis of lexicogrammar and corpus. Often adopting a critical discourse analysis perspective, researchers have been working toward linking the language use to specific “genres, top-

ics, purposes and practices” (Cook & Sealey, 2018, p.320), to reveal the discourses – i.e. the stories we live by (Stibbe, 2015) – that shape people’s perception of nature, their relationships with it, and how its treatment is justified. As such, ecological linguistics is strongly oriented toward discourse and shows the relevance of adopting such an approach for this work.

ENVIRONMENTAL LINGUISTICS: POSITIONING LANGUAGE AS A CHANNEL FOR ENVIRONMENTAL KNOWLEDGE (HARRISON, 2023)

While ecolinguistics has established a paradigm for studying the role of language and discourses in shaping environmental issues and ideologies, Harrison (2023) notes that its “largely metaphorical and narrative program” does not emphasise language as the “preeminent conceptual framework and channel for environmental knowledge” (p.113). Deeply influenced by his training in linguistic anthropology and fieldwork in the Republic of Tuva, Harrison stresses, therefore, a third linguistic approach to ecological questions: environmental linguistics.

Harrison argues that “[e]nvironmental knowledge may be found at every level of language, from single phonemes used in sound mimesis to oral epic tales that extend to more than 10,000 lines” (p.114). This ubiquitous presence leads him to develop *environmental linguistics* as a field that lies at the intersection of linguistics and natural sciences, examining the linguistic structures and verbal practices that people use to conceptualise, encode, and transmit knowledge about nature. In addition to foregrounding environmental knowledge, another prominent feature of environmental linguistics, compared to ecolinguistics, is the emphasis on Indigenous and decolonial perspectives. Building on his findings on the interconnectedness between the Tuvans’ language and environment, Harrison elaborates on the environmental linguistics framework by expanding the data set with examples from other languages, with a highlight on Indigenous science and the concept of traditional ecological knowledge. Shedding light on six domains of knowledge about nature embedded in Indigenous languages – namely landscapes, lifeforms, time, sound, memory, and survival – “environmental linguistics helps decolonise the sciences” (p.127) by giving these often marginalised or appropriated voices visibility. Harrison (ibid.) argues that:

Indigenous concepts of sustainability [...] must be included in any equitable discourse about conservation. But these voices cannot be fully appreciated without the linguistic expertise that can help interpret them for a wider audience. Linguistic methods are thus an essential element of conservation science.

Before the term *environmental linguistics* began gaining traction with Harrison's paper published in 2023, the field of Indigenous environmental knowledge was already well-established, as seen in works such as *The Routledge Handbook of Indigenous Environmental Knowledge* (Thorn-ton & Bhagwat, 2021). I have already provided examples of ethnographic studies on Indigenous environmental knowledge, practices and relationships with nature. Notably, the environmental linguistics framework offers a unique focus on the role of language in documenting, understanding and transmitting Indigenous knowledge about nature. A few empirical studies on this niche include Grenoble and colleagues' (2019) research on the linguistic encoding of land in Kalaallisut, a Unangan-Yupik Inuit language spoken on the west coast of Greenland. The authors found that in Kalaallisut, the landscape terms are structured around the distinction between land and water, reflecting the people's ontology of landscape and seascape, as well as their way of life that adapts to dynamic changes of the coastline, as vividly depicted by the authors as "liv[ing] in constant dialogue with the sea and the land" (p.35). They also revealed the essential role of navigational functionality in Kalaallisut lexicons and speakers' perceptions of landscape, as accurate navigation is critical for survival in Greenland. Demonstrating how the grammatical and lexical system of Indigenous language is shaped by "the physical topography of the land and the cultural practices of engagement with the land", the authors call for an understanding of the "complex interplay between language, culture and environment" (p.2). Similar insights are also provided by Si's (2011, 2016) fieldwork with Solega speakers in southern India. Based on everyday language data collected with the Solega community, his monograph (2016) discusses what and why the species or landscapes are named, the dialectal variation, as well as the natural cycles and Solega knowledge of natural resources that are encoded in the Solega language. His works showcase linguists' potential to contribute to conservation efforts by documenting and analysing how endangered languages preserve traditional ecological knowledge and reflect complex ecological relationships among various local organisms. A further empirical study that illus-

trates the argument that “[l]anguage diversity is [...] the key to safeguarding biodiversity and a balanced human relationship with nature” (Harrison, 2023, p.113) is Harrison’s linguistic anthropology research on Tuvan’s nature-centric worldview. Harrison elaborates his ethnographic data from six perspectives: (1) interdependency between land and language, (2) folk taxonomies in botany and zoology, (3) cultural understanding of time, (4) nature sound mimesis in the semiotic system, (5) individual and generational memories embedded in the landscape and (6) strategies of survival and sustainable stewardship encoded in the language. Combining his own findings with a review of studies that he includes within the environmental linguistics framework, he argues for a conceptualisation of language and environment as a unified and reciprocally constructed network of relations.

This section reviews applied linguistic studies that investigate how nature is incorporated into people’s semiotic practices, and how language plays a pivotal role in shaping their ways of knowing and relating to nature. Insights from these studies demonstrate that linguistic analysis can serve as a powerful lens for exploring human-nature connections. By taking language as an entry point to approach the human-nature assemblage, researchers have sought to uncover diverse relationalities and contribute to the decolonisation of science and language. Next, I will synthesise my reflections from the reviewed studies in the domains of environmental ethnography and applied linguistics to demonstrate how this interdisciplinary engagement enables me to carve out a niche for a dimension that remains underexplored: everyday environmental values held by ordinary individuals.

Establishing a Research Niche

In the previous section, I reviewed empirical studies on human-nature connections from two fields: environmental ethnography and applied linguistics. I now turn to elucidating how this review informs the development of a research niche for the present study.

Environmental ethnographic studies have adopted both critical and non-crisis perspectives to examine the relationship between people and na-

ture. Most of this research focuses on the power dynamics and injustices underlying human-nature tensions. Compared to the studies with a strong critical orientation, research that explores the meanings and patterns of everyday engagement with nature appears much less common. Moreover, an important dimension continues to be overlooked: ordinary people's everyday interactions with nature. While there is a relatively larger body of ethnographic research within the field of environmental education, much of it centres on structured settings such as schools. Overall, compared to studies on environmental justice or studies examining structured or exceptional experiences with nature, research into informal, mundane, and unstructured interactions with nature remains scattered. This gap leaves us inattentive to the small yet accessible entry points through which individuals initiate, develop, and reflect on their connections with nature. These everyday encounters matter, as they continuously shape people's awareness of, knowledge about, emotional responses to, and relationships with nature.

Empirical studies within the framework of green applied linguistics offer valuable insights into how language use produces, reflects, and shapes communities', institutions' and societies' knowledge and perceptions about nature. However, little research has zoomed into how ordinary individuals talk about their beliefs and values regarding personal experiences with nature in everyday life. By overlooking individual-level perspectives about engaging with nature, we risk missing the nuanced diversity of people's preferences, principles and values regarding connecting with nature. Delving into the individual variations enriches our concrete understanding of why nature matters to people in their daily lives, thereby informing more grounded and inclusive approaches to fostering human-nature reconnection. Furthermore, examining personal experiences sheds light on how people's valuing of nature emerges and evolves. This is meaningful for anticipating and encouraging broader social shifts towards reciprocal relationships with nature, as societal change begins with individuals as one of the primary actors of environmental mindsets and behaviours.

Synthesising the gaps identified in existing ethnographic and linguistic research on human-nature connections, this study carves out a research niche focused on the everyday values of connection with nature held by ordinary individuals. Therefore, this research seeks to elevate the voices

of individuals without institutional power or direct experiences of environmental disasters by exploring how they perceive and value everyday interactions with nature. For this purpose, *value* emerges as a central concept. The following section provides an overview of how scholars have theorised and empirically examined the values of nature, with a particular focus on the concept of *relational values*, which serves as a key conceptual lens for this study.

Researching Values of Nature

Conceptualising Values of Nature

To motivate reconnection with nature, it is essential to understand why such connections matter. The concept of *value* helps address this question. In a general sense, *value* refers to the worth and quality of something in two respects: one is measured by a standard of equivalence, such as the material or monetary worth; the other is based on the thing's importance, usefulness, desirability, or esteem (Oxford English Dictionary, n.d.). From a philosophical perspective, *value* tackles questions about what is regarded as good or preferable (Schroeder, 2021; Editors of Encyclopaedia Britannica, 2015). The concept of value has therefore multiple layers of meaning:

[t]he word 'value' can refer to a principle associated with a given worldview or cultural context, a preference someone has for a particular state of the world, the importance of something for itself or for others, or simply a measure (Pascual et al., 2017, p.9).

The concept of *value* has been employed as a lens through which to explore how people perceive and assign significance to nature. *Values of nature*, also called *environmental values*, have been discussed in various fields including sociology, psychology, anthropology, economics and philosophy (van den Born, 2008). Synthesising the multidisciplinary insights, researchers have reached a consensus that the values of nature should be construed from multiple dimensions. Van den Born (2008) notes that "[v]alues can be considered on two different levels. The first level concerns qualities of nature that are important to the evaluator. The second level concerns moral guidelines" (p.86). In a similar vein, researchers

have identified four key levels of values of nature (Pascual et al, 2023; Raymond et al., 2023): (1) *worldviews* in terms of orientations regarding people-nature relationships, including anthropocentric worldviews, bio/eco-centric worldviews and pluricentric worldviews with no specific focus on either side but emphasizing reciprocal relationships between human and nature; (2) *broad values* that entail moral guidelines and life goals that define desirable interactions and relationships with nature; (3) *specific values*, which refer to judgements regarding the importance and contributions of nature in specific contexts; (4) *value indicators* as quantitative measures and qualitative descriptors that denote nature's concrete influences on people in biophysical, monetary or socio-cultural terms.

In efforts to unpack values of nature, a central debate has emerged around whether nature is valued for its intrinsic worth, or for its usefulness for human beings, namely the instrumental value (Chan et al., 2016; Elliot, 2025; Tallis & Lubchenco, 2014). However, this dichotomous framing often fails to resonate with how people on the ground experience and value their everyday connections with nature (Chan et al., 2016; Muradian & Pascual, 2018). Rather than philosophically considering the inherent worth of nature or merely aiming for the instrumental benefits, people often cherish the relation they hold with nature, and “the preferences, principles and virtues associated with *relationships with* and *responsibilities towards* nature” (Muradian & Pascual, 2018, p.8, emphasis in original). This argument presses the need to answer the question posed by de Groot (1992): “what are the values, the desirable qualities, specific to the people-nature relationship?” within the context where “[...] sufficient attention has been paid to the values of people and nature separately, e.g. on nature's side [...]” (p.531), but not yet on human-nature relationships.

Therefore, scholars have called for a relational turn in valuing nature (Chan et al., 2016). This shift has given rise to the emerging concept of *relational values*, which will be presented in the following section.

The Relational Turn in Valuing Nature

In exploring a complementary approach to understanding nature's significance, a team of sustainability researchers have proposed the concept of *relational values* (RV) as a third category for valuing nature, alongside in-

trinsic and instrumental values (see Chan et al., 2016). They define relational values as the “preferences, principles, and virtues associated with relationships, both interpersonal and as articulated by policies and social norms. [...] [They are] not present in things but derivative of relationships and responsibilities to them” (ibid., p.1462). In other words, relational values are “the values that pertain to relationships between people and nature or among people through nature” (Gould et al., 2024, p.9).

The key to distinguishing relational values from instrumental and intrinsic values is the content of valuing. As Deplazes-Zemp and Chapman (2021) explain, while the usefulness of nature to humans constitutes the content of instrumental valuing, and nature’s inherent properties form the content of intrinsic valuing, the content of relational valuing is, as the term itself suggests, the relationships between people and nature. In the same vein, Raymond and colleagues (2023) expound:

Instrumental values include things important as a means to an end or to satisfy preferences (usually for humans). At least in principle, they are substitutable. Intrinsic values include something’s worth as an end in and of itself, something’s value independent of reference to people as valuers and nature’s inherent moral value regardless of human importance or usefulness (i.e. right to exist). Relational values encapsulate meaningful relationships between people and nature and among people (including across generations) through nature (p.4).

While the introduction of RV as a complementary epistemological framing to value nature offers a bridge between polarised views of nature’s values, namely either as economic metrics or as abstract moral worth (Stålhammar & Thorén, 2019), the concept has also faced critique, particularly regarding the ambiguity surrounding the meaning of “relational” within the term. For example, Norton and Sanbeg (2021) suggested that “all environmental values are ultimately relational” (p.695). Luque-Lora (2023) argues that “relationality is inherent to held, instrumental and intrinsic values. This means that there is no meaningful way in which to distinguish relational values from more familiar types of values” (p.411). He questions if the proposal of RV actually downplays the relational natures of those other values, and as such, “has the perverse effect of confining, rather than promoting, relational thinking” (ibid.). Such criticism

appears to find support in Rolston's (1981) statement: "Values [of nature] are actualised in human relationships with nature" (p.113).

While agreeing that "all valuations are essentially relational" (Himes & Muraca, 2018, p.2), proponents of RV elaborate on their perspective:

We propose that all categories of values are derived from different cognitive frameworks that shape a given relationship with nature. For example, when something is considered to have an 'instrumental value' is mainly due to an underlying correspondence to a given [relational model], namely, 'utilization'. Similarly, intrinsic values can be related to an alternative [relational model] that allocates a particular set of rights to nature (e.g. 'wardship'). Lastly, the current use of the term 'relational values' in the sustainability discourse may be associated with other [relational models], such as 'stewardship' or 'ritualized exchange'. (Muradian and Pascual, 2018, p.9)

Put differently, in terms of *how* nature is valued, all forms of value emerge from the ways in which people relate to nature, and therefore are inherently relational in process. However, as for *what* is being valued, the three values address distinct aspects. In relations where the relationship itself holds significance, the concept of relational values is useful to articulate the importance and virtue of that connection (e.g. care and support in friendship); in relations where the interests and power of one party are emphasised, instrumental values highlight the utility of the exploited side (e.g. animal as product and food); in relations where one party's worth is perceived as independent of the other, intrinsic values focus on the intrinsic rights and moral worth (e.g. Mother Earth and Gaia). Therefore, the concept of relational values facilitates a shift toward a relational understanding of nature.

Given the strength of the concept of *relational values* in illuminating the preferences, principles, virtues, and perceived benefits that people associate with their relationships with nature (Chan et al., 2016; Gould et al., 2024), it offers an effective analytical lens for this study. This research uses this lens to explore how people value their everyday engagement with nature, focusing on participants' beliefs about preferred ways of cultivating meaningful connections and their perceptions of what constitutes reciprocal human-nature relationships.

Having clarified the meaning and theoretical contributions of the concept of *relational values*, I now turn to a review of empirical studies that have applied and examined this concept in practice.

Researching Relational Values

The last section considered how we can understand and define relational values. In this section, I provide an overview of how relational values have been examined empirically. Referring to both relevant systematic reviews and key empirical studies, this section addresses the following questions: Which relational values have been studied? How to study relational values? What is still missing from the discussion?

A recent systematic review of empirical studies on relational values of nature (Pratson et al., 2023) shows that RV has been gaining growing research interest in various fields such as ecology, human geography, marine science, ecological economics, environmental psychology, environmental education, and environmental policy. Existing studies employ both qualitative methods (e.g. participatory approaches, interviews, participant observation, focus groups) and quantitative methods (e.g. surveys and questionnaires, choice experiments) to elicit and interpret relational values (Pratson et al., 2023; Riechers et al., 2022). Based on the empirical data, researchers have discussed relational values from diverse perspectives. They have identified values ranging from individual and cultural identity, social cohesion, place attachment, knowledge, care, stewardship and responsibility, etc. (Pascual et al., 2017; Pratson et al., 2023; Riechers et al., 2022).

In the studies published, two clusters of empirical works on relational values can be identified. The first cluster encompasses the endeavours to unpack the constructs, measurements and “syntax” (Chapman & Deplazes-Zemp, 2023) of relational values. The second cluster includes case studies that aim to understand specific relational values in greater depth and within a broader context of environmental issues. Studies of the first cluster mostly adopt quantitative methods. Klain et al. (2017) examined whether relational values resonate with diverse populations and whether people perceive relational values differently than the New Ecological Paradigm (NEP) statements, which measure people’s environmental concern

(e.g. “Humans are seriously abusing the environment”) (Anderson, 2012). Referring to studies on cultural ecosystem services, the researchers describe six major relational values in plain language in the surveys distributed to a sample of residents of northeastern Costa Rican farmers and tourists in Costa Rica, as Table 1 shows:

TABLE 1: Relational Value Statements (This table is adapted from Table 1, Value statements used in surveys, by S. C. Klain et al., 2017, PLoS ONE, 12(8), p.5. © 2017 Klain et al.).

Relational value	Description
Sense of community	There are landscapes that say something about who we are as a community, a people.
Health	My health or the health of my family is related one way or another to the natural environment.
Identity	I have strong feelings about nature (including all plants, animals, the land, etc.). These views are part of who I am and how I live my life.
Kinship	Plants and animals, as part of the interdependent web of life, are like 'kin' or family to me, so how we treat them matters.
Responsibility	How I manage the land, both for plants and animals and for future people, reflects my sense of responsibility to and so stewardship of the land.
Care for wilderness	I often think of some wild places whose fate I care about and strive to protect, even though I may never see them myself.

Klain and colleagues find that this “relational framing” (p.11) of the significance, feelings and virtues derived from connection with nature are widely resonant with the study populations. Statistics show that while the level of agreement with relational values is largely consistent across different groups, the pattern of agreement with NEP statements varies sig-

nificantly across the groups. This implies that, although people hold different environmental concerns to varying degrees, their understanding of meaningful relationships with nature tends to resonate with one another. Their findings suggest the potential of relational values in alleviating the often polarised divide in the perceptions of nature's value and fostering a wider public's connection to the natural world. This potential can be confirmed by Kleespies and Dierkes' (2020) study series. Demonstrating that RV is a multidimensional construct with three factors: care, community, and connection, their survey-based studies with samples of 350 university students and 878 high school students in Germany illuminate the strong correlation between relational values and connection with nature. To explore the structure of relational values, Saito and colleagues (2022) developed a questionnaire to survey the preferences, principles, and virtues associated with the human-nature relationship among 1862 residents of the Greater Tokyo Area in Japan. Their results show a six-dimensional model of relational values: worldview, social responsibility, satisfaction from being eco-friendly (general stewardship eudaimonic), satisfaction from local stewardship (place-based stewardship eudaimonic), individual identity, and social cohesion.

Two recent qualitative studies in this cluster are noteworthy. They draw on interview data to introduce new relational values referring to concepts in social psychology (Hagen & Gould, 2022) and explore the syntax of relational values (Chapman & Deplazes-Zemp, 2023) respectively. Hagen and Gould explore how empathy and perspective-taking interact with the relational values among residents of a large watershed in Vermont, the United States of America, using semi-structured interviews. Both originating from the field of social psychology, empathy refers to "an other-oriented emotional response congruent with the perceived welfare of another" (Batson et al. 2002, p.1656), and perspective-taking involves "attempting to perceive the experience of another from their point of view" (Hagen & Gould, 2022, Empathy and sustainability section). Through thematic analysis, they find a close alignment between the two concepts and relational values such as care and stewardship. Combining their finding with the previous empirical research revealing the positive effects of perspective-taking and empathy toward nature on environmental perceptions and behaviours (Berenguer, 2007; Schultz, 2000; Sevillano et al., 2007; Swim & Bloodhart, 2015), the authors argue that empathy should be considered as a relational value.

Chapman and Deplazes-Zemp (2023) move from the semantics (the “what”) to the syntax (the “how”) of relational values. Based on semi-structured interviews with Swiss alpine farmers, they propose that relational valuing can be better understood using a lens of bidirectionality. Their interview data show that the alpine farmers perceive their relationships with farm animals, wild animals and the environment from two perspectives. One is an intrinsic aspect characterised by respect, attention and care, and the other is a eudaimonic aspect encompassing the practical, emotional, and experiential satisfaction derived from building relationships (e.g. treating farm animals well brings joy and trust to farmers and makes animal-assisted farming more manageable). Building on this empirical finding, the authors compared intrinsic, instrumental and relational values by illustrating the valuing relation between the valuer (A) and the valued object (B). They described that in an intrinsic valuing relation, the valuer is only oriented towards the valued object, namely $A \rightarrow B$. In contrast, instrumental valuing relation is unidirectional towards A, $B \rightarrow A$, as B is valued solely based on the extent to which B serves a purpose for A. They propose that relational valuing represents a bidirectional relation $A \rightleftharpoons B$, meaning that relational values entail both people’s genuine respect and care for nature’s intrinsic values and their pursuit of nature’s contribution to wellbeing (instrumental values). Chapman and Deplazes-Zemp’s research resonates with the arguments that reinforcing the dichotomy between instrumental and intrinsic values may not contribute to a comprehensive understanding of how lay people value their connections with nature, and therefore, there is a need to include “non-instrumental anthropocentric” values in the debates (Chan et al., 2016; Muradian & Pascual, 2018; Stålhammar & Thorén, 2019).

In addition to research aiming to unpack the components and the overall structure of relational values, there is another cluster of case studies on RV using ethnographic approaches, life histories and participatory workshops that aim to understand how relational values unfold in real life. Some of these studies focus on understanding how specific communities relate to their adjacent natural environment. For example, Kaltenborn et al.’s (2017) case study in the fishing community of Røst in the Lofoten Islands in Northern Norway. Through ethnographic observations, in-depth interviews, and a participatory scenario workshop, the authors explored the community’s connection with nature and the benefits the people derived from the environment. Besides sustaining livelihoods and provid-

ing public services, people perceive their interactions with nature as supporting their well-being, encompassing “maintenance of identity through traditional practices for harvesting of natural resources, nurturing of skills, social cohesion, and acting meaningfully in one’s local environment” (p.166). Cundill and colleagues (2017) present a case study of the Likhayaletu Community from South Africa. Although the Likhayaletu Community claim a portion of land that falls into today’s Double Drift Nature Reserve in the Eastern Cape Province of South Africa, the community does not have physical access to the land due to the proclamation of the reserve and the following eviction. The life histories of the experiencers of the eviction reveal that “the forced removal from their land had disrupted social ties, networks and sense of community” (p.144), and had led to the loss of livestock-keeping culture, food security and physical security. These findings illustrate that people attribute place identity and place dependence to land and the long-term impacts of removing people’s access to nature. Bataille et al. (2021) conducted semi-structured interviews in Aotearoa New Zealand to study the values that *tangata tiaki* (Māori environmental guardians) and landowners have towards wetland ecosystems. Their findings show that although *tangata tiaki* and landowners share values such as *ahikāroa* (longstanding occupation of and connection to place) and attachment to place, which implies a potential common ground, they place different priorities on values. While *tangata tiaki* prioritises relational over instrumental values, landowners generally emphasise instrumental values. This triggers tensions in values between groups and constrains *tangata tiaki* wetland ecosystem management and use. Jackson et al.’s (2022) auto-ethnographic study explores the relationship between river rhythmicity (“the periodic, recurrent phenomena of a riverscape that are synchronised with the rise and fall of river water”, p.949) and riparian communities. Their analysis of two of the authors’ lived experiences with rivers in north-central Canada and Amazonian Colombia illustrates “the irreplaceability of riverine rhythms and the strong desire to maintain and centre relationships with rivers that have been forged from generations of observation, engagement and communal practices of care and reciprocity” (p.960). Their findings also show that river alteration shapes society, and “how disturbance to riverine rhythms through dam construction, deforestation and a changing climate have disrupted intimate relationships that resonate across generations” (ibid.). Likewise, focused on rivers, Mould et al. (2020) conducted a case study in the Macdonald Valley, New South Wales, Australia, to in-

investigate factors that influence landholders' participation in river rehabilitation projects, and how river management programs can better respond to landholders' values. Interview results show that the landholders are motivated to participate in river management by their visions of the river's ideal condition. These visions are shaped mainly by relational values such as aesthetics, amenity and caring for wildlife. Besides, most participants expressed a sense of responsibility and duty of care towards the river. Based on these findings, the authors argue that "[a]pproaching participation through the lens of relational values engenders opportunities for improving river management practice, making it more responsive and adaptive to the particular values that motivate action" (p.17). Moving from relationships with landforms to living species, Monroy-Sais et al. (2022) ran participatory workshops with two communities, one Indigenous and the other non-Indigenous, in a highly biodiverse region in western Mexico. The workshops aim to explore how different values are attributed to various plants and how these values influence strategies for plant resource management in both wild and anthropogenic environments. The results reveal a web of interactions from a relational perspective:

i) multi-directional relationships with biodiversity; ii) connections between community members and their land; iii) a source of knowledge and education for younger generations; iv) balance in the use of the landscape (e.g., forests, cultivation plots, and orchards); and v) reciprocity with plants under the different forms of management, such as protection or enhancement. (p.1240)

Tadaki et al. (2022) studied the diverse meanings and experiences with introduced trout and their management in Aotearoa New Zealand. "To explore the relational values of trout and understand how trout have become an object of moral concern" (p.466), Tadaki and colleagues interviewed 13 knowledge holders including Māori community members, scientists researching the impacts of trout and participating in freshwater decision-making, and staff of the Department of Conservation and New Zealand Fish and Game Council whose primary responsibility is managing native fish conservation and introduced fisheries. Their interviews reveal that the three groups share experiences in care, wonder, and loss in relation to the natural world. The experiences with fish enabled the participants to "pursue lives of value" (p.474) and develop environmental

consciousness as well as care for the natural environment. Tadaki et al's results also reveal that different groups' relationships to fish and fish management are culturally-, historically- and place-specific, which results in differences or even conflicts in values. As such, the authors argue that "it is not just the fish themselves that are of moral concern, but the relationships between people and fish, and between different groups of people that are at stake in current conflicts over trout" (p.475).

This section reviews the expanding body of qualitative and quantitative research on relational values. Researchers have identified and elaborated a diversity of relational values attributed to nature by people across various sociocultural contexts. Existing studies show that adopting a relational perspective on how people value nature advances our understanding of the tensions between policy frameworks, management strategies and local community values (Pratson et al., 2023; Wainaina et al., 2023). These studies also highlight the importance of Indigenous knowledge and worldviews in addressing environmental issues, as well as the role of natural elements in cultural heritage and community identity (Riechers et al., 2022). However, research that focuses explicitly on the interplay between relational values and everyday connections with nature from the perspectives of ordinary individuals remains limited. Aside from a few case studies that delve into everyday experiences and perceptions of nature's relational values (e.g. van Heel et al. 2024a), qualitative research exploring how people value their everyday interactions with nature is relatively scarce. This gap confirms the research niche outlined in Section 2.3: the need to examine the values that ordinary people associate with their meaningful connections with nature as formed through everyday engagement.

Thus far, I have reviewed empirical studies that illustrate human-nature connections across three domains, each characterised by distinct methodological, disciplinary and conceptual orientations: environmental ethnography, green applied linguistics and relational values. Based on this review, I have identified the research niche that this study seeks to address. Before presenting the problem statement, it is necessary to elaborate on several concepts that will inform the subsequent data analysis and allow my findings to contribute to the expansion of the *relational values* framework.

Niche Concepts for Everyday Relational Values

SERIOUS LEISURE

Previous studies have provided evidence that many people appreciate experiential connections with nature for recreational interests (e.g. Baker & Fick, 2022; Kellert et al., 2017). Engaging in activities in nature is widely recognised as a popular form of leisure, a “relatively self- determined activity-experience that falls into one’s economically free-time roles, [...] that is psychologically pleasant in anticipation and recollection [...]” (Kaplan, 1975, as cited in Blackshaw, 2010, p.3). While the term *leisure* is often associated with relief, relaxation, and carefreeness, sociologists have noted a form of leisure that enables people to “express their abilities, fulfil their potential, and identify themselves as unique human” (Stebbins, 1982, p.251). Such leisure activities often require participants to devote relatively considerable time and effort. To conceptualise this more physically and/or mentally engaging form of leisure, Stebbins (1982) proposed the term *serious leisure*. According to Stebbins, serious leisure refers to a long-term endeavour performed by amateurs, hobbyists and volunteers with specific knowledge, skills or training, and characterised by *perseverance, careers, personal effort, durable benefits, unique ethos, and enthusiastic self-identification*. Stebbins argued that these six constructs of serious leisure are hardly identifiable in unserious, casual pastimes. He elaborated on the six dimensions:

TABLE 2: Qualities of Serious Leisure (This table is derived from Serious Leisure: A Conceptual Statement, by R. A. Stebbins, 1982, The Pacific Sociological Review, 25(2), p.251–272. ©1982 Stebbins.).

Quality of serious leisure	Description in Stebbins, 1982
perseverance despite challenges	[...Despite] moments when they suffer stage fright (Stebbins, 1981b), embarrassment (Floro, 1978: 198), freezing cold (Stebbins, 1981 c), anxiety (Dannefer, 1980: 396), fatigue and injury (Thompson et al., 1979; Hershkowitz, 1972), and other strains [...] it is clear that the positive feelings about the activity

	come, to some extent, from sticking with it through thick and thin, through conquering adversity. (p.256)
long-term endeavour with psychological continuity	These endeavors are enduring pursuits with their own histories of turning points, stages of achievement or involvement, and background contingencies. (p.256)
significant personal effort based on specific skills or knowledge	[...] such characteristics as manual dexterity, scientific knowledge, verbal skills, long experience in a role, showmanship, athletic prowess, and, above all, persistent individual effort, differentiate amateurs and hobbyists from dabblers and the public, and volunteers from trainees and clients (p.256)
durable benefits including self-enrichment and personal growth	self-actualization, self-enrichment, recreation or renewal of self, feelings of accomplishment, enhancement of self-image, self-expression, social interaction and belongingness, and lasting physical products of the activity. A ninth benefit-self-gratification or pure fun – which is considerably more evanescent than the preceding eight, is the only one that is also characteristic of unserious leisure. (p.256–257)
strong identification with the pursuits	They are inclined to speak proudly, excitedly, and frequently about them to other people, and to present themselves in terms of them when conversing with new acquaintances. (p.257)
unique ethos within groups	[...] amateurs, hobbyists, and volunteers tend to develop subcultures composed of special beliefs, values, moral principles, norms, and performance standards. Put otherwise, serious leisure participants carry on their interests within their own social worlds [...] (p.257)

The concept of serious leisure has not yet been used to examine human-nature connections, despite its potential to deepen our understanding of nature’s relational value from a recreational perspective. Many nature-related activities that require physical effort, continuity, knowledge and skills fall into serious leisure, such as hiking, environmental volunteer-

ing, and birdwatching. Although nature-related serious leisure is more challenging to access compared to casual activities in nature, such as having a picnic, its “seriousness” enables participants to transform experiential connections with nature into deeper connections at a cognitive and philosophical level. Moreover, The six qualities of serious leisure overlap with multiple relational values of nature, such as identity, recreation, community, knowledge and environmental principles. As such, a serious leisure lens is not only useful for identifying the relational values emerging in such activities but also has the potential to reveal the dynamic interplay among different connections and values. Therefore, it can be used as an effective lens in relational value research to understand why there are people who are willing to invest a significant effort to connect with nature, how these “serious” connections with nature unfold, and what values can be derived from such connections.

AGENCY OF NATURE

In philosophy, *agency* denotes the exercise or manifestation of the capacity to act (Schlosser, 2019). This concept is most frequently applied as a quality of human beings. The notion of human agency, “the ability of people to act intentionally to shape their worlds”, underpins the field of history (Nash, 2005, p.67). In the early 21st century, environmental historians have proposed the idea that nature possesses agency too. However, this notion is challenged by the arguments emphasising the unique connection between human action and ideas. It is argued that although human action is not the only force that alters the world, “the agency of human beings is distinguished by our ability to convert ideas into purposeful actions” (ibid.). Nash reminds us of the classic bee/architect metaphor:

[W]hile a bee can build a hive, the bee cannot envision the hive prior to its building. The bee just builds, whereas the human is presumed to think and then build. The bee is not an agent, while the architect clearly is. (p.67)

Nash argues against this view, drawing on insights from environmental history studies. Taking Mart Stewart’s (1996/2002) work on the mutually transforming relationship between the natural environment and human culture on the Georgia coastal plain between 1680 and 1920 as an example, Nash aligns herself with Stewart that nature also has agency because

natural environments shape human intentions and actions and therefore should be regarded as an active participant in human-nature interactions rather than a background, a vacuum:

No overarching plan ever existed for tidewater rice cultivation on the southeastern coast; in fact, no one is quite sure how the system originated in America (although west African slaves probably brought many of the techniques). But certainly for those who found themselves in this location, both slaves and planters, the characteristics of the Georgia landscape suggested certain alternatives. To put it simply, tidewater rice cultivation could be imagined on the Georgia coast but not in the Colorado desert. Actual methods, moreover, hardly comprised a unified system; they were idiosyncratic and often ad hoc. Many actions undoubtedly emerged spontaneously in the fields, and only later were they passed on as “ideas” or “expertise”. (p.68)

The field of environmental education has also been reflecting on the concept of agency. Examinations of nature-based learning programs and early childhood curricula on sustainability (Ross, 2020; Weldemariam et al., 2017) uncover that “[t]he certainty that intentional human agency alone can change the world (for the better) is firmly entrenched within the humanist and activist framings of education for sustainability and/or environmental education” (Taylor, 2017, p.1451–1452). However, merely considering nature as a substrate for people to act upon fails to address nature’s role in shaping people’s ways of acting, seeing, living and thinking. To understand the reciprocity of human-nature relationships, it is necessary to extend our understanding of agency beyond humans, to include nature as well. This aligns with an alternative philosophical conception of agency, that “genuine agency can be exhibited by beings that are not capable of intentional action, and it has been argued that agency can and should be explained without reference to causally efficacious mental states and events” (Schlosser, 2019, para.1).

Reconsidering our relationships with nature from a perspective of agency prompts us to reflect on the influence, self-functioning and resilience of nature, as well as our positions in the face of nature. Such reflections help capture the complexity of the relationships between people and nature and may shape moral principles for conceiving and interacting with na-

ture. Therefore, bringing the notion of nature's agency into the relational value dialogues contributes to the understanding of how diverse relationships with nature are formed and construed from a non- anthropocentric perspective.

NATURE-INCLUSIVE EUDAIMONIA

The Greek philosophy concept Eudaimonia, also spelt eudaemonia, refers to “the condition of human flourishing or of living well” (Duignan, n.d., para. 1). The notion goes beyond “happiness” as it does not represent “a state of mind or a feeling of pleasure or contentment” (ibid.) but consists of “states and/or pursuits associated with using and developing the best in oneself, in accordance with one's true self and one's deeper principles” (Huta, 2013, p.201). As such, pointing to self-realisation and the quality of a morally good life, eudaimonia is intrinsically linked with value in the sense of moral guidelines and life goals. In the context of environmental studies, there have been voices calling for attention to eudaimonia as a relational value (Knippenberg et al., 2018; van den Born et al., 2018) because “humans are born *relata*. That is why the ideas of relational values and eudaimonia (the good, meaningful, worthwhile life) are intimately bound; good relations are key constituents of the good life” (Knippenberg et al., 2018, p.43, emphasis in original). In response to this call, Knippenberg and colleagues introduced the notion of *nature-inclusive eudaimonia*, meaning “a flourishing life in which nature is an integral part” (p.43). While this notion can be helpful to delve into the philosophical aspect of human-nature connection because it integrates nature into the process of realising self-worth and meaningful life, very few studies have yet employed it as a conceptual lens to explore how the eudaimonic value of nature is expressed in real life. One of the few such studies is Russo Lopes and Bastos Lima's (2023) qualitative research on the sustainable land-use initiatives in the states of Acre and Mato Grosso, Brazil, identifying values that have motivated decisions for conservation in deforestation frontiers and how these values are articulated. Their results reveal that eudaimonic values, including increased meaningfulness, personal growth through learning and knowledge sharing, as well as a sense of contributing to the world, are key factors in these initiatives.

The concept of nature-inclusive eudaimonia does not frame nature as an external background for human living, but a component of meaning-

ful self. Therefore, understanding how it unfolds in everyday, accessible interactions with nature offers strong arguments for why we should (re)connect with nature.

This section presents the key conceptual framework for this research: *relational values*, and proposes several niche concepts to add to the discussion. Synthesising the above theoretical and empirical insights, I will present the problem statement and research questions in the next section.

Problem Statement and Research Questions

This literature review examines conceptual frameworks and empirical studies related to human-nature connections, with the aim of identifying the research niche that the current study seeks to address. It presents a critical review of relevant scholarship in sociological environmental ethnography, green applied linguistics, and the emerging concept of *relational values*. Through this review, I establish the specific focus of this study: exploring how ordinary individuals value their everyday connections with nature.

Overall, ethnographic studies that investigate people's connections with nature in everyday, non-activist settings are significantly less than those that adopt a critical, activist lens focused on power dynamics and inequalities. Similarly, research examining the personal values that ordinary individuals attribute to informal, mundane, and unstructured interactions with nature remains scarce and scattered. Addressing these gaps through the lens of relational values offers an opportunity to illuminate the diverse, nuanced pathways through which people connect with nature, and to understand the significance and virtues embedded in this connection.

Given ethnography's grounding in real-life contexts and its strength in revealing the meaning of everyday interactions, an ethnographic investigation of mundane connections with nature can uncover subtle, invisible and often taken-for-granted dimensions of unstructured engagement. Some may argue that such moments represent unique, transient experi-

ences and, therefore, that findings derived from their analysis lack generalisability or replicability as solutions to the broader disconnection between people and nature (see de Saint-Georges, 2018). I argue, however, that it is not the *generalisability*, but the *everydayness* and *mundanity* of these encounters that make the insights gained from studying them meaningful for efforts to reconnect people with nature. While I do not assume that such moments of connection can be precisely replicated, which would be essentially impossible, this study can nonetheless provide empirical evidence to better understand how connections with nature are cultivated and valued in daily life.

By shifting the research gaze to ordinary people's everyday engagement with and valuation of nature, this study moves beyond the polarised framing of privileged versus marginalised groups. In doing so, I do not intend to diminish the significance of environmental justice research, fully acknowledging that the separation between people and nature has long been, and continues to be, closely tied to social divisions in terms of gender, social class and (post)colonialism. However, I argue that responding to the call to reconnect people with nature also requires a more inclusive narrative that highlights the experiences of the broader public, including those who are neither privileged enough to possess institutional power nor belong to the underrepresented groups that bear the most harmful consequences of environmental degradation. I therefore propose that ethnographically exploring ordinary people's mundane encounters with nature, and the values they associate with these encounters is necessary and valuable. Such in-depth examinations can deepen our understanding of the significance of everyday connections with nature beyond crisis-driven narratives. Moreover, understanding what nature means to ordinary individuals may offer practical insights for fostering the reconnection between people and nature.

This research, accordingly, aims to explore the values held by ordinary citizens – namely, their preferences, beliefs and perceived benefits – regarding their everyday, mundane engagement with nature, using ethnographic methods. It seeks to answer two research questions: 1. Which perspectives do participants consider important for initiating and deepening connections with nature? 2. What views of nature and human-nature relationships are embedded in participants' engagement with nature from

these perspectives? In light of these questions, the next chapter presents the methodology employed to address them.

3. Methodology

An Ethno-case Study Approach

Qualitative researchers seek to elaborate on a certain group of people's meaning-making process, focusing on their identities, actions, interests and beliefs (Erickson, 2018). For this purpose, they have developed “a baffling number of choices of approaches” (Creswell & Poth, 2018, p.8). Among these various approaches, two widely applied methods are ethnography and case study (see Creswell & Poth, 2018; Saldaña, 2011). Although these two terms are often used interchangeably, many qualitative researchers argue that it is necessary to distinguish between ethnographic and case study research. The distinctions are made from different perspectives, for example, the length of time a researcher spends in the field (Parker-Jenkins, 2018; Smart, 2008), the scope of the research (Smart, 2008), and the intent of the research (Creswell & Poth, 2018). However, even experienced researchers still find it challenging to draw a fine line between ethnography and case study as “both concepts overlap and draw on related techniques” (Parker-Jenkins, 2018, p.23). As a result, it can be a struggle to situate one's research within the ongoing debates on the divergence and convergence between ethnography and case study. Was the study doing both or neither? In case of the present research, it looks at a group of environmental volunteers and their perceptions of connecting with nature as expressed through their accounts and actions. This kind of immersive perspective is one of the defining features of ethnography. Therefore, simply categorising this research as a case study without fully acknowledging the ethnographic approaches I engaged in would partially dilute its emic nature. However, unlike ethnography, this research does not seek to develop a “complex, complete description of the culture of a group” (ibid., p.91) in the sense of “writing (-graphy) about people (ethno-)”. This is because, first and foremost, this research does not aim at producing a Geertzian thick description of the community of these environmental volunteers or revealing how their shared culture works. In this study, “ethnography” is rather a *process* than a *product*, which suggests the researcher is better off, following Wolcott's (2008) urge, to dis-

tinguish between *doing ethnography* and *borrowing ethnographic techniques*. In this project, I utilised ethnographic data collection tools to explore the contextual question of how people connect with and perceive nature, using a group of environmental volunteers as a specific illustration. In this vein, my research falls into the category of case study methodology (see Creswell & Poth, 2018; Denzin & Lincoln, 2018). Case studies, as defined by Thomas (2015), are “analyses of persons, events, decisions, periods, projects, policies, institutions or other systems which are studied holistically by one or more methods” (p.23), aiming to “catch the complexity of a single case” (Stake, 1995, xi). Case study methodology does not prioritise understanding how people in the field act and interact from their own perspectives, nor does it emphasise the value of participant’s voices. These concerns, however, are the key interests of ethnographers (Fetterman, 2010).

Parker-Jenkins (2018) helps resolve the “neither or both” dilemma. Her paper *Problematising Ethnography and Case Study* points out that the essential distinction between ethnography and case study is the extent to which the researcher immerses him/herself in the context and/or data, and that “the method commonly employed when people claim to be doing ethnography, is really ‘case study’ drawing on ethnographic technique” (p.18). The author argues that research can represent a hybrid form of both approaches and proposes the term *ethno-case study* to designate such an approach, which

conveys the sense of conducting an inquiry with people, employing techniques associated with long-term and intensive ethnography but limited in terms of research time, engagement with the data and the extent of the findings. The coining of this new term provides the social science researcher with an addition to the existing toolkit of terms with the benefit of being able to locate their work within a space which need not be defined as either ethnography or case study but which usefully draws on both. (p.29)

This research is situated within the ethno-case study approach for two key reasons. The first reason is related to the purpose and nature of the study. As the research aims to explore the multifaceted issue of human-nature connections, using a group of environmental volunteers as an entry point, ethnographic techniques were employed to examine partici-

pants' emic understanding and meanings of nature that are constructed and shared within the group. For such studies that intend to provide a context-specific understanding of an issue from an insider's perspective rather than aiming to portray the culture of a certain group of people, the term *ethno-case study* provides an appropriate positioning from a methodological point of view. This term acknowledges that the study is located within a richer, broader context and values the voices of participants employing ethnographic techniques (Parker-Jenkins, 2018). The second reason to adopt this term is to consider the extent of immersion in the field. According to Hammersley (2006), ethnography is derived from anthropology and traditionally involves "actually living in the communities of the people being studied, more or less round the clock [...] (...) over a long period of time, at least a year and often several years" (p.4). In this project, although I drew on ethnographic techniques such as interviews and participant observation, the extent of my immersion with the context and field falls significantly short of this standard. There was no occasion where I lived with the environmental volunteers for an extended period of time. The fieldwork mainly took place during two late autumns to early spring periods, namely from October 2022 to March 2023, and from October 2023 to March 2024. The whole corpus consists of approximately 5 hours of videotaped recordings, 60 hours of participant observation, and 9 ethnographic interviews that last between 1 hour and 2.5 hours, and fieldnotes of approximately 12,000 words. Hence, the project is not ethnography in the sense of traditional anthropology. This limited immersion into the context is due to, on the one hand, the realistic time constraints on doctoral research, and on the other hand, the nature of my research questions and objects. The project did not seek to produce a comprehensive and interpretative account of the culture of the environmental volunteer community, but set out to understand a certain aspect of the human-nature connection within the context of participatory conservation projects. Therefore, I did not need to spend an extensive amount of time living with the participants to capture the cultural nuances in their lives. I needed, however, *ethnographic sensibility* (Mills & Morton, 2013) to examine volunteers during conservation work. The term *ethno-case study* thus implies my limited research time and immersion in the context, as Parker-Jenkins (2018) suggests.

Although my project is not ethnography in line with traditional anthropology, in that sense, I still employed ethnography as a way of *looking*

(Wolcott, 2008). In other words, I used ethnographic tools as an outsider to elicit emic perspectives (Parker-Jenkins, 2018) to gain insights into multifarious human-nature connections and notions of nature by showcasing the insider perspectives of a group of environmental volunteers.

In the following section, I detail the methods of data collection and explain how I approached the negotiation of the researcher-participant relationship.

Methods of Data Collection

The previous section set out the reasons for adopting the *ethno-case study* as my methodological approach, which implies that the research draws upon ethnographic methods to collect data. Traditionally, the term “ethnographic methods” is used as an umbrella term to refer to qualitative data collection methods that include, for example, interviews, observation, document analysis, collection of personal constructs and mental maps (Delamont, 2004; Kawulich, 2005). In this section, I justify my selection of the research setting and describe its relevant characteristics, outline my process of applying the tools of participant observation and ethnographic interviewing, and reflect on the negotiation of language and positionality in fieldwork.

Research Setting

WHY LUXEMBOURG, LETZEARTH AND AKTIOUN FIR D'ËMWELT?

In this ethnographic research, I have chosen the *reflexive narrative* style (Gobo & Molle, 2017) to engage with the data and present my findings. This means that I neither seek to conceal my researcher's interpretative work by presenting myself as invisible in the field and attempting to provide a “snapshot” of the field as the *realist narrative* ethnography writers do; nor do I align with the *processual narrative* writers by foregrounding my experience of “comprehension of the other” (Rabinow, 1977, ix), namely my own cognitive process of “coming to know the field” in the ethnographic text (Gobo & Molle, 2017). Instead, I value a balance between reality and my own perceptions of the field in presenting the re-

search process and findings, for which I must “[e]xplicitly stat[e] the circumstances of the knowledge production process” (ibid., section 15.4.5). Therefore, before I delve into the data collection methods, I will first introduce the multi-layered research setting, namely Luxembourg, the environmental NGO LetzEarth and its participatory conservation project series *Aktioun fir d’Ëmwelt*¹ (pseudonym).

LUXEMBOURG AS THE BROAD CONTEXT

Luxembourg is often associated with a range of unique attributes: it is the world’s only Grand Duchy, one of the four institutional seats of the European Union, a trilingual state, home to a high immigrant population and a host to a rapidly developing financial sector. These traits make Luxembourg an appealing context for researchers in the fields of politics, multilingualism, migration and finance. However, readers may question how Luxembourg can serve as a meaningful research context for studies in the field of environmental humanities. In fact, Luxembourg’s environmental history makes it a microcosm that reflects the dynamics between people and nature. From the early 20th century to the present, Luxembourg’s economic pillar has shifted from agriculture to the steel industry, and eventually to the financial sector. This transformation has inevitably been accompanied by changes in how people exploit, conserve and co-exist with nature. In the following paragraphs, I will explain why Luxembourg is a meaningful setting for researching human-nature relationships within the context of contemporary socio-economic development, using two examples of its distinctive natural and cultural landscapes: the Minette region and traditional high-stem orchards.

The discovery and exploitation of iron ore in the country’s southern region, known as “Minette”², has profoundly impacted not only the country’s population distribution and industrial development, but also its landscapes. As Crowther (2020) described:

1 [LB] Actions for the Environment.

2 Diminutive of the French word “mine” (meaning “mine”), referring to the relatively low iron content of the ore found in this region.

Over a very short space of time at the end of the 19th century, the Minette ore field grew at a prodigious rate. Villages became towns, and great swathes of land disappeared under massive industrial plants, which spewed out fire, smoke and fumes. And wherever the ore-bearing strata lay close to the surface, the land was opened up to enable opencast mining to ravage the countryside. (section “Industrialisation”)

While this chapter of history echoes the well-known narrative that human extraction of natural resources has led to environmental degradation, it may be surprising for many to learn that several former opencast mining sites have transformed into nature reserves today. Following the cessation of mining in the mid-1970s, these sites began to host flora and fauna that would not have established themselves in the region without these anthropogenic changes, transforming into “biodiversity hotspots” (Crowther, 2020; Arendt et al., 2020). In 2020, the former opencast mining areas such as the Ellergronn (Esch-sur-Alzette) and Giele Botter (Differdange/Pétange) were designated as a UNESCO Biosphere Reserve (Visit Luxembourg, n.d.). As such, the Minette region offers an example of Luxembourg’s potential as a meaningful research context for examining the transformation of human-nature relationships from exploitive extraction to coexistence, which is embedded in socio-economic development.

In addition to industrialisation, urbanisation is another key theme that is closely linked to human-nature dynamics. It is widely believed that urbanisation results in people’s lifestyle changes and often restrains their nature experiences (Hartig et al., 2014). As a historically agrarian country, Luxembourg has undoubtedly undergone rural urbanisation, “a process by which rural areas become urbanized” (Ofori-Amoah, 2017, Abstract), on the way to its current status as a key player in the global financial sector. One trace left by Luxembourg’s rural urbanisation is the significant decline in the number of its high-stem orchards (Luxembourgish *Bongerten*) (Crowther, 2020; Lorgé & Melchior, 2015/2020), which have been a prominent characteristic of Luxembourg’s natural landscape. All Luxembourg’s villages were once encircled by the traditional orchards and depended on the “green belt of fruit trees” for fresh fruits and winter preserves (Lorgé & Melchior, 2015/2020, p.175). However, rural urbanisation has rendered these orchards its first victims (ibid.). As my research participant Birgit noted in an interview:

[...] in orchards there are fruit trees and people used to live on them. They used to pickle and preserve apples and pears and everything to get through the winter. And today, you go to Cactus³ to buy everything. You go to Cactus, in December you go to Cactus to buy strawberries, things like that. All the trees were overgrown, they were no longer taken care of, they broke, died and so on. Around 1900, there were over 1 million fruit trees in Luxembourg. For the tiny Luxembourg, 1 million is crazy. And now, more or less 30 years ago, another inventory was made. There were only 500,000 trees left. (original in German)

The example of the rise and fall of Luxembourg's traditional orchards showcases the impacts of social development on natural landscapes and everyday human-nature connections. At the same time, the current revival and maintenance efforts for *Bongerten* at the government and local community levels reflect a transformation in people's relationship with and perception of nature. This shift moves from a material connection rooted in livelihood to a recognition of *Bongerten*'s ecological significance as semi-natural ecosystems and cultural value. According to the communication campaign for Luxembourg's Natura 2000⁴ sites by the Ministry for the Environment, Climate and Sustainable Development, local administrations and communities have been actively engaged in the restoration and maintenance of traditional high-stem orchards (Chronicle.lu, 2022). As evidenced by my analysis of ethnographic data collected from such orchards, ordinary citizens in Luxembourg value *Bongerten* as meaningful sites to build experiential, cognitive and philosophical connections with nature.

The aforementioned cases of the Minette region and *Bongerten* illustrate how transformations of human-nature relationships and everyday interactions with nature are deeply embedded in Luxembourg's development, history, and culture, particularly within the context of industrialisation

³ a Luxembourgish supermarket company.

⁴ a community network of nature protection areas created under European Union's 1992 Council Directive on the conservation of natural habitats and of wild fauna and flora.

and urbanisation. Therefore, Luxembourg represents a meaningful research context for examining human-nature relationships.

The specific place in Luxembourg I selected for exploring human-nature connections is the environmental NGO *LetzEarth* (pseudonym). In the following section, I will elaborate on why LetzEarth represents a rich and meaningful research site for this inquiry.

LETZEARTH AS THE RESEARCH SETTING

To conduct the ethnographic fieldwork, I selected one of Luxembourg's most prominent environmental NGOs, LetzEarth, as the research site. With a history spanning more than 100 years, LetzEarth's developmental trajectory illustrates the evolution of social perceptions of nature and human-nature relationships, which is reflected in the changes to the NGO's mission and name. Before introducing further details about LetzEarth that are relevant to contextualise this research, it is necessary to include a note on how these relevant details will be presented with careful considerations of research ethics. Luxembourg is a small country with a limited number of large environmental organisations, among which LetzEarth is one of the most active. Its history, mission, activities and operational mechanisms are widely known among residents, which creates an inescapable challenge when describing its characteristics. As a publicly available document, this work is subject to readers' assumptions about the site under research, its components, and even specific members (Badder, 2021). While the changes in LetzEarth's name and mission are meaningful for providing a contextualised understanding of its significance as a research setting for studying human-nature connections, discussing its historical names and missions would highly likely lead to the identification of the organisation, rendering the use of a pseudonym ineffective. To address this dilemma, I adopted a compromise approach: I do not reference the NGO's historical names in the text but present the changes in its mission and core activities. This decision was guided by the intention to minimise the risk of external identification of the research setting and participants, while preserving as much relevant contextual detail as possible. Achieving this balance requires careful ethical consideration and actions. I emphasised to both the gatekeeper and participants that, despite my efforts to safeguard their anonymity, it may still be possible for readers to identify them due to the specific context and niche focus of this

research. All stakeholders confirmed their understanding and provided consent in both verbal and written forms. Following data analysis and formulation of the key arguments of this research, I re-evaluated the potential risks and negative consequences that my findings might pose to the NGO and the participants. As the findings primarily highlight how volunteers at LetzEarth construct and perceive reciprocal relationships with nature, I assessed the negative impact on the organisation and participants to be relatively low. Therefore, I consider it ethically appropriate to discuss the development of LetzEarth's mission while omitting exact time points as part of the justification for selecting the research setting and for contextualising this ethnographic study.

At the time of LetzEarth's founding more than a hundred years ago, the founders of its predecessor envisioned the mission of the forerunning association as the general protection of animals and natural habitats. However, just eight months after the association was established, the board decided to significantly narrow its focus to the protection of the "useful" birds in Luxembourg. While the exact reasons behind the focus on birds are difficult to determine due to limited documentation, the emphasis on "useful" is particularly noteworthy. It suggests a prevailing anthropocentric view of nature at the time: that its primary value was seen as serving human interests, and only species deemed to have instrumental value were considered worthy of protection. Over the following three decades, the predecessor of LetzEarth focused on the conservation of "useful birds" as its core mission. In the 1930s, the association was recognised as a non-profit organisation.

It was not until the 1950s that this mission expanded to include the protection and study of all bird species. The organisation's main activities included, therefore, installation and maintenance of nest boxes, winter bird feeding, and birdwatching and monitoring for both leisure and research purposes. To this day, maintaining nest boxes and monitoring migratory birds remain major activities of LetzEarth's various local sections. The expansion of its mission from protecting "useful" birds to general bird conservation and ornithological research reflected a move away from an anthropocentric approach to conservation.

The 1980s marked a critical period for the development of environmentalism. High-profile grassroots and community-based offshoots of the en-

environmental movements began to emerge, and by the end of the decade, environmentalism had become both a global and national political force (Haq & Paul, 2011; Elliott, 2025). This era also witnessed a series of environmental crises, including the 1986 Chernobyl nuclear disaster, which intensified opposition to nuclear energy across Europe (Haq & Paul, 2011). Environmental issues gained unprecedented attention among the wider public. Against such a backdrop, the predecessor of LetzEarth experienced rapid growth, with its membership increasing nearly fivefold during the 1980s. Meanwhile, a narrow focus on ornithology was no longer sufficient to respond to the growing calls for action on environmental crises. In response, the board of LetzEarth's forerunning organisation declared:

It is not enough anymore to protect a single species through legislation without preserving the ecological environment at the same time. Successful and meaningful nature conservation in the long term requires preserving (and if possible, creating) the basic living conditions for animals and plants. Thus, our scope of activities and missions has expanded. (original in German)

Accordingly, the organisation's mission evolved to encompass broader conservation approaches beyond bird protection. This included, but was not limited to, biotope networking, species diversity preservation, agricultural sustainability, land consolidation and landscape conservation. This significant expansion marked a departure from a decontextualised, human-preference-driven perception of nature and signalled a shift toward advocating an ecological perspective that emphasises interdependence and human responsibility for environmental stewardship.

The organisation LetzEarth took on its current form and public presence in the early 2010s. Following the merger with two other environmental NGOs, the forerunning organisation evolved into today's LetzEarth, which now covers a broader range of conservation activities. These include bird monitoring, environmental awareness-raising, political advocacy, advice services, nature education, and scientific research. The functioning of the organisation largely depends on the volunteers who participate in the activities organised by its local sections across the country. One section of LetzEarth that stands out from the region-based local sections is the "Language" section. This section was created in the early

2010s to engage nature enthusiasts whose primary language is not one of Luxembourg's official languages – Luxembourgish, French or German. Given Luxembourg's multilingual context and the steady demographic input from immigration, which has further enriched its linguistic diversity (Sharma, 2018), individuals from diverse migratory and linguistic backgrounds may face additional challenges in participating in local, community-based environmental activities. The establishment of the Language section represents LetzEarth's endeavour in promoting connection between people and nature in an era of globalisation and debordering.

LetzEarth's developmental trajectory, along with its current environmental mission and activities, make it an ideal site to research human-nature connections. As the overview above illustrates, its mission and practices closely interact with how nature and relationships with nature are conceptualised, as well as how engagement with nature is preferred and experienced. Therefore, LetzEarth offers a valuable lens through which to explore environmental values and practices, ranging from anthropocentric to relational approaches to conservation. With its current reliance on volunteer-driven environmental activities that emphasise community and inclusivity, it provides a rich empirical setting for studying how human-nature connections unfold in everyday contexts and are shaped by issues such as access to nature and nature activities, environmental concerns and relationality toward nature.

AKTIOUN FIR D'ËMWELT AS THE ETHNOGRAPHIC FIELD

Among the various events and activities organised by LetzEarth, I selected the participatory conservation project series Aktioun fir d'Ëmwelt as the site for my ethnographic fieldwork. Aktioun fir d'Ëmwelt originated in the 1980s from the spontaneous grassroots efforts of members of LetzEarth's predecessor organisation to preserve the diversity of natural landscapes and habitats. Today, LetzEarth's local sections organise these activities annually from October to March across the country, with the aim of maintaining natural habitats to support the reproduction of flora and fauna in the upcoming spring. The activities involve hands-on conservation work and are open to the general public without any prerequisites. Projects take place in natural environments such as wetland reserves, meadow orchards, city parks, and urban or suburban forests. Volunteers participating in Aktioun fir d'Ëmwelt engage in a variety of tasks,

including clearing undergrowth, monitoring birds, setting up and cleaning nest boxes, pruning and planting trees and harvesting ripe fruit.

This choice of Aktioun fir d'Ëmwelt as the ethnographic field was guided by the research focus. This study aims to explore how ordinary people connect with nature and perceive their relationships with it through everyday engagement. For this purpose, the hands-on and participatory nature of Aktioun fir d'Ëmwelt activities offers valuable access to people's direct, routine practices and interactions with nature. These activities are open to the general public and require no prerequisites, specialised knowledge or equipment. The volunteers are ordinary citizens, most of whom have not received formal training in wilderness skills or academic education in biology or environmental studies. As such, Aktioun fir d'Ëmwelt provides an accessible and grounded empirical setting for capturing how laypeople construct and perceive their connections with nature. It therefore serves as an ideal field site for this ethnographic research into everyday human-nature relationships.

After justifying the selection of the research setting and outlining its relevant characteristics, I now turn to elaborating on the process of collecting ethnographic data.

Participant Observation

Ethnographic methods, according to Atkinson and Hammersley (1998), rely substantially or partly on participant observation. Participant observation refers to the process by which the researcher participates in and observes the activities, events and interactions of participants within their natural contexts, in order to learn their explicit and tacit meaning-making process (Kawulich, 2005; DeWalt & DeWalt, 2010). Therefore, it constitutes a valuable tool for this study, which aims to explore how people conceive of their connections and relationships with nature.

To conduct participant observation, the researcher must “establish a place” within the natural setting of the participants, namely the field, to investigate, experience and represent the lives and processes experienced by participants on the ground (Emerson et al., 2001). During participant observation, ethnographers must navigate the vagaries of establish-

ing such a place, remain open to empathetic immersion into participants' daily lives and meaning systems, and address the ethical considerations embedded in these endeavours (ibid.). They must also "write, sketch and record [...] to remember, document and reflect, [...] describe, interpret and analyze" (DeLyser et al., 2010, *Ethnography in Practice*). In this section, I detail how I established my place in the field, sought empathetic immersion into participants' lived experiences with nature, navigated ethical concerns, and generated a record from my field engagement.

ENTERING THE FIELD

The first step in conducting fieldwork is to achieve access to the research site and participants. Like most ethnographers, my access to the field depended on gaining formal and informal permission from the gatekeepers (Agar, 1980, as cited in Simmons, 2007, p.12), the individuals who grant and smooth the researcher's access to the participants (O'Reilly, 2009). Gaining access to LetzEarth and its volunteers was relatively straightforward for me. The volunteer coordinator at LetzEarth, Emma, had worked on a previous project with my supervisor. Emma quickly became an ideal gatekeeper: as the staff at the NGO, she had an insider's insight into how the organization works with the volunteers to achieve its environmental goals; as the volunteer coordinator, she had a close connection with the volunteers and is trusted by them; as a former collaborator in a qualitative research project, Emma was open to ethnographic research methods, aware of the challenges that a researcher may encounter in the field and willing to help; and the good cooperation and mutual trust between her and my supervisor nurtured the rapport between Emma and me. Given these reasons, it was quite straightforward for me to approach Emma and gain access to the organisation from her.

After initial email exchanges and informal meetings at my university and her workplace, on 7th June 2022, Emma gave me an oral agreement to conduct fieldwork at LetzEarth. Upon receiving the approval of data collection from the Ethics Review Panel of the University of Luxembourg on 12th October 2022, I wrote Emma an email asking her to inform her colleagues and the volunteers about my research. Soon after receiving my email, Emma briefed the director of LetzEarth on my research. The director permitted me to present my research proposal in the plenary session

on 28th February 2023. In addition, Emma sent the overview of my research to all staff at LetzEarth via email.

Emma's support largely facilitated my access to the organisation as a researcher. I clearly noticed the acceptance of me through the friendly greetings I received from Emma's colleagues at the LetzEarth events, such as "How's your PhD going?". As the gatekeeper, Emma was instrumental in facilitating my access to the research site. She also played a significant role in establishing contact between the volunteers and me. She informed me of which local sections have been active in recent years and would therefore likely be willing to participate in my research, and offered that I could cc her on emails sent to the committees of the local sections. Besides, she put me in touch with several veteran volunteers who have been active at LetzEarth for decades. Most of the volunteers I approached with Emma's help consented to participate in my research almost without further question.

Fetterman (2010) underscores the vital role of gatekeepers in ethnographic research: "An introduction by a member is the ethnographer's best ticket into the community. [...] The trust the group places in the intermediary will approximate the trust it extends to the ethnographer at the beginning of the study" (p.36). Interpersonal trust, centred on Emma, was instrumental in facilitating my entry into the field. Her prior research collaboration with my supervisor enabled a swift development of rapport between us. Furthermore, Emma's act of introducing me to the organisation prompted both her colleagues and the volunteers to extend their trust in her, as volunteer coordinator, to me. My experience of entering the field corroborates many fieldworkers' expositions on the value of the relationship with gatekeepers to researchers' access to the study site and participants (e.g. Broskevičová et al., 2024; McAreavey & Das, 2013; Roller & Lavrakas, 2015).

While gatekeepers play a crucial role in researchers' entry into the field, researchers also rely on their personal skills and ethnographic sensibility to gain insight into the people and reality in the field before inevitably influencing the field with data collection techniques such as conducting audio or video recordings. Mannay and Morgan (2015) remind us of the importance of the "waiting field" as "an opportunity to explore the times where real lives carry on before they make room for the intrusion of the

data production techniques” (p.178), and that “in times of waiting we often learn new things about our participants and ourselves” (p.172). At the beginning of my fieldwork, I took advantage of two waiting fields: one is Aktioun fir d’Ëmwelt, which was later chosen as my main fieldwork site; and the other is *Discussions publiques*⁵ (pseudonym), the monthly casual get-together on environmental topics open to the public. For the period October 2022 to February 2023, I attended ten events from these two series. During this six-month “waiting fieldwork”, I did not participate in the activities as a doctoral researcher collecting data, but rather as an ordinary event participant while awaiting approval from the Ethics Review Panel of the University of Luxembourg to begin data collection. During this period, I informed people in personal conversations that I was a PhD student intending to collect research data in such activities, but had not started yet. I also mentioned that, if they were interested in participating in my research, I would contact them at the appropriate time.

The “waiting field” benefited my research in two ways: first, I had the opportunity to learn what was really going on in the field. I learnt what to expect from these activities, the interests of people on the ground and the appropriate ways to dress and behave. For example, in my fieldnotes, I recorded the following gap between my assumption and the reality of a session of Aktioun fir d’Ëmwelt:

The work is to clean the birdhouse provided by ville du Luxembourg. [...] it’s different than I’ve imagined. I thought the volunteers would be physically engaged in the cleaning work. Actually, most of the time it’s [Jenny] who climbs onto the ladder, opens the birdhouse and clean out the old nest. The most communication between [Jenny] and us is not instruction about how to clean the nest, but the knowledge about the bird, eggs and the difference between the nest texture. We helped her hold the ladder, take the tool bag and the trolley, and hand her the tools. None of the volunteers climbed on the ladder, and only lady B cleaned one bird-

5 [FR] Public Discussions.

house after [Jenny] took it down from the tree. For me, it seems like a 'lecture' on site. [...] (Excerpt from fieldnotes on 09.10.2022)

The second advantage of the waiting field is that it enabled me to establish rapport with the people in the field. I was able to approach volunteers who appeared engaged and receptive to my research and had the opportunity to introduce myself, my research, and the data collection methods I intended to use. When I later invited them to participate in the interviews and asked if I could videotape their activities, almost everyone I knew from the “waiting field” readily agreed to my request. In addition, there is a “snowball effect” in the process of participant recruitment. Several initial participants offered to introduce me to their colleagues at LetzEarth who might also be interested in my research. Many subsequent participants also facilitated similar connections. Their kind support was indeed invaluable to me as a foreign researcher with a limited network. All in all, the 6 months spent on the “wait field” were well worth it.

IN THE FIELD

Once in the field, my fieldwork has two salient features. One is that the research sites are located in outdoor natural settings, and the other is that the fieldwork took place in scattered locations.

Let us consider the “outdoor” dimension first. Given my interest in exploring people’s connection with nature, my fieldwork mainly took place in the outdoor conservation activities in the city park, orchard, wetland and forest. Compared to the ethnographic studies conducted in social system settings such as classrooms, workplaces, healthcare and families, research in the natural environment requires additional ethnographic attention to the non-human elements such as grass, trees, puddles of water and mud, etc. I had to ask myself: What type of landscapes are formed by these natural elements together with the environments in which they are situated? What kind of feelings and emotions can these landscapes evoke? Wild? Comforting? Tough?

Reading back through my first fieldnotes and watching back the very first videos I recorded, I realised it took me quite a while to gain the insights mentioned above. I had placed a strong emphasis on *people* when



FIGURE 1: Puddles formed after rain.

conducting observations and recordings. I was focusing almost entirely on what the participants were saying and doing, thus ignoring the environment and non-human elements. As the fieldwork progressed, *nature* came to the forefront of my research. I realised that it was as essential to learn about nature as it is to learn about people, to understand how people connect to their natural environment. Therefore, in the following fieldwork period, I also paid attention to documenting the landscape. For example, during my fieldwork at the wetland reserve *Reed Marsh* in February 2024, I photographed different landscapes in the wetland (Figures 1 and 2).

Some authors like Kiik (2018) question the lack of attention to nature – plants, animals, and non-human worlds – in most ethnographies of conservation practice and argue for wilding the ethnography of conservation. He suggests three paths toward more writing of nature’s value and agency into research: first, a deeper engagement with the global ecological crises and the environmentalist valuing of nature; second, more applications of multi-species ethnography; and third, a greater inclusion of natural-scientific research results. While for this project, I generally agree with Kiik’s idea that a wilder ethnography of conservation that values



FIGURE 2: Bird netting among the reeds.

the agency of nature can help us refrain from ontological over-flattening, namely diminishing the heterogeneity of the roles that human and non-human actors play in conservation issues and that it is important to include nature in ethnographic research in nature conservation settings, I nevertheless did not conduct a multispecies ethnography because of my focus on the experiences of humans in my field; whereas the multispecies ethnography method foregrounds creatures that traditionally appear on the margins of anthropology (Kirksey & Helmreich, 2010) and is marked by its attentiveness to nonhuman agency (Ogden et al., 2013).

The second notable feature of my fieldwork is that it took place in a field that was not unified, but across a variety of scattered settings. This was due to the specificity of the organisational mechanisms of the volunteer groups of LetzEarth. As mentioned before, the voluntary conservation project Aktioun fir d'Emwelt is organised independently by 21 local sections across Luxembourg. Due to the seasonal timeliness of the maintenance of natural landscapes, the local sections are mainly active from October to March. The frequency of the work depends on various factors such as the need for maintenance of the local landscape, weather conditions and the availability of volunteers. For example, Michael from the lo-

cal section City informed me of the cancellation of a session of Aktioun fir d'Emwelt due to sapling shortages and delayed apple ripening (Figure 3); and a planned activity to maintain the local wetland landscape by the section Nord had to be cancelled because of flooding (Figure 4⁶).



FIGURE 3: Message from Michael.

UPDATE 2: Leider kënnen mir och d'Ersatzaktivitéit zu [redacted] net ofhalen, well d'Fiichtgebitt, an deem mir schaffe wollten, ënnerwaasser steet...

FIGURE 4: Cancellation of the activity.

⁶ Translation of the Luxembourgish text in Figure 4: Unfortunately, we can't organise the alternative activity at [place] either, because the wetland that we want to work on is flooded...

Therefore, if I had focused on one local section for fieldwork, I would likely have risked a lack of data. Another factor that led me to the decision to conduct fieldwork at multiple sites was the consideration of the diversity of the natural landscapes in various regions of Luxembourg and the resulting diversity in the work of different local sections. For example, Luxembourg City and its surroundings are characterised by a high degree of urbanisation; therefore, the local group City is active mainly in the maintenance of bird nesting boxes in city parks and forest parks, as well as in the work within the orchards. As for the local section, Reed Marsh, active in the eastern part of Luxembourg, its volunteers are dedicated to preserving the biodiversity in the local wetland habitats through bird monitoring and organising excursions to raise public awareness on the conservation of wetlands. Therefore, conducting fieldwork at different local sections of LetzEarth allowed me to explore diverse human-nature connections within various settings and landscapes.

As described in the previous section, I employed two strategies to approach local groups with a relatively high frequency of activities: seeking help from the gatekeeper and establishing personal connections in the *waiting field*. The gatekeeper forwarded me the email addresses of the active local groups that she thought might be interested in my research. Eventually, the committee of the section Nord responded positively to my invitation to participate in research. From October 2022 to March 2023, I volunteered with the local sections City and Reed Marsh, participating in conservation work and getting to know the contact persons of both sections. Later, Michael from City and Tom from Reed Marsh agreed to my request to conduct research at their local sections and introduced me to their colleagues. Hence, my fieldwork at LetzEarth took place at its three local sections: Nord, City and Reed Marsh.

At first, it seemed that my fieldwork in scattered sites could be labelled as multi-sited ethnography. However, after consulting the literature on multi-sited ethnography, I decided not to use the term to refer to my ethnographic fieldwork, but stick to the phrase “fieldwork in scattered settings”. This decision was made based on consideration of the scope and purpose of my research. Multi-sited ethnography emerged against the backdrop of globalisation and the resulting increasing mobilities and complex interconnections. As a result, “[m]ulti-sited ethnographic research is therefore mobile. The approach pursues links, relationships and

connections, follows unpredictable trajectories, and traces cultural formations in its pursuit of explanations beyond borders” (O’Reilly, 2009, *Mobile and Multi-Sited Ethnography*).

As such, ethnography moves from its traditional single-site location to “multiple sites of observation and participation that cross-cut dichotomies such as the ‘local’ and the ‘global’, the ‘lifeworld’ and the ‘system’” (Marcus, 1995, p.95). Namely, compared to the conventional single-sited ethnographic research, multi-sited ethnography tends to “broaden ethnography beyond the local” (O’Reilly, 2009, p.146) and to trace the flow of people, objects, discourse, stories, life and conflicts (see Marcus, 1995) in geographically dispersed settings, often crossing national and cultural boundaries

In contrast, the scope of my ethno-case study is a “local” community, namely the volunteers of LetzEarth. Although my fieldwork took place in scattered places in the different regions of Luxembourg, the contexts remained essentially the same: the organisation of LetzEarth. In that sense, the fieldwork did not strictly constitute a multi-site ethnographic study, as I understand “multi-site” to mean not only “different locations”, but also alluding to diverse organisational or cultural contexts.

Despite my decision not to use the term, my fieldwork in scattered sites shares some challenges faced by multi-site ethnographers. First and foremost was the logistical complexity concerning travelling. In my case, the sites of my fieldwork varied from week to week, not only because the activities of the three local sections were interspersed in the programme of Aktioun fir d’Ëmwelt, but also because the venues for activities of the same local section could also vary according to the location of the natural landscapes to be maintained. As a researcher in a foreign country without a driver’s licence, I found it particularly challenging to locate the right place, which is often situated in non-residential areas surrounded by nature and not directly accessible by public transport. I recorded my frustration in the notes taken on 15th of October 2022:

[Finding the spot] was quite an adventure. It took me about 45 minutes to find the place. [...] It’s my first time in [town] and I

have a very poor sense of direction. So I asked a bus driver how I can find [road] and if he knows there is a football field along the road. [...] Luckily, the second lady knows what I'm talking about, "you want to collect apples right?" She took me out of the hall and pointed the way up the hill: go this way and you will find them. (Excerpt from fieldnotes on 15.10.2022)

Second, compared to the fieldwork in a single location, conducting fieldwork in multiple sites requires the researcher to learn about and adapt to the new settings quickly. Therefore, apart from finding the place, another challenge I encountered during fieldwork in the forests, wetlands and orchards was having to quickly learn the appropriate ways to dress and work in different settings. While hiking shoes were perfect for navigating the rugged orchard meadows, rubber boots were indispensable for work in the wetland. Although gathering apples and cleaning bird nesting boxes were not physically demanding, tasks like trimming blackthorns and clearing knee-high weeds required a certain level of physical strength and skill. Upon entering the field in October 2022, I had to learn about various conservation projects and practical skills from different local sections. However, the knowledge I gained over one week may not be applicable in the following week.

Fortunately, these challenges were gradually resolved as my fieldwork progressed. During the second round of fieldwork for *Aktioun fir d'Ëmwelt 2023*, I was able to locate the natural landscapes where local sections carried out conservation work without getting lost. Besides, as my relationship with the participants deepened in the fieldwork, some participants kindly offered to give me a lift to the site, which significantly reduced the pressure of travelling. As for the clothing and techniques needed for the field, I had learnt how to use tools such as pitchforks during the previous year's fieldwork, and how to dress correctly to protect myself from dew and mud.

Similar to the main criticism faced by multi-sited ethnography, a concern that may be raised about my fieldwork in scattered settings is the perceived insufficient depth of engagement with each context. How can you learn each setting in depth if you have to engage in a new setting every week? My answer to this question is that, indeed, compared to a single-

sited field study of the same duration as my fieldwork, the depth of immersion in my research contexts must not be as deep as in the former. However, as argued before, conducting fieldwork in diverse settings enables me to capture the diversity and multiple facets of the issue I study. In addition, to compensate for the limited engagement time in each setting, I conducted two rounds of fieldwork at Aktioun fir d'Ëmwelt in autumn-winter 2022/23 and 2023/24. With the expectations and experiences gained from the first year, I was able to engage in more depth in the fieldwork through more proficient participation in activities and a better ability to identify the focal points for my observation and video recording.

My third response to this potential critique of the scatteredness of my fieldwork is grounded in the object of my inquiry. This research does not aim to describe the characteristics of the NGO LetzEarth, nor to uncover the peculiarities of the people involved as a specific group or community. Instead, the focus is on the relationship between participants and nature. Therefore, instead of solely pursuing a longitudinal engagement with a particular *group* or *setting*, I aimed to explore and trace the unfolding of various *relationships*. In this sense, my approach aligns with the methodological framework of *relational ethnography* proposed by Desmond (2014). Specifically, my data collection does not centre on *places* (such as a specific NGO, its local sections or a certain natural environment) or *processed people* (such as LetzEarth volunteers as a community), but the *field* as a set of people-nature connections that mutually shape individuals' actions in nature, and the *processes* of these relationships. Thus, collecting data in scattered settings supported my research aim by enabling me to capture and reveal the diversity and nuances of human-nature relationships, rather than undermining my meaningful immersion in the field.

Having elaborated on the approaches that I employed to conduct the ethnographic fieldwork for this research, I now delve into the specific methods that I used to collect data. As I intended to analyse participants' perspectives on their connections to nature, I need methods that could precisely capture their words and actions. Taking fieldnotes became insufficient to achieve this goal, as I was not able to accurately write down in real-time what the participants were saying and doing in the field. Fieldnotes are also never an "objective" record of the field and will always reflect, to varying degrees, the researcher's sentiments and inter-

pretations of the field. Therefore, in order to document participants' words and actions authentically and in real time, I conducted video recordings during the second round of fieldwork in 2023/24.

There was a noticeable shift in my primary data collection method from taking fieldnotes in the first round of fieldwork to videotaping in the second round. In 2022/23, I did not bring any recording devices to the field. As Parker-Jenkins (2018) warns, the use of cameras or video recorders can be problematic, especially concerning the potential intrusiveness for some communities if the research involves sensitive issues. Although, according to the feedback of the participants, my research was not perceived to touch on sensitive topics or invade personal privacy, I remained cautious about videotaping, considering the intrusiveness of video recorders. I decided to ask permission for video recording after building rapport with the participants. Having become acquainted with some volunteers in the first round of fieldwork, I reached out to them again before the *Aktioun fir d'Ëmwelt* 2023/24 started to explain the necessity of video recording for my research and ask if they could help me negotiate the informed consent from their colleagues. I received straightforward consent from Maria, Tom and Michael from the local sections Nord, Reed Marsh and City, respectively.

The influence of videography on the participants has long been a key issue of discussion among ethnographers. While some researchers are concerned about the imperial gaze of the camera and the performative behaviour of participants before the camera, and even had to terminate the project due to these considerations (Gregory, 2020), others have concluded that "the presence of the camera had negligible impact on the course of the conversation" (Iino, 1998, p.11). Having viewed my video data, I believe both sides have valid arguments. The extent of the camera's impact on the field is ultimately dependent on the nature of the research and how sensitive the topic is. In my fieldwork, I noticed that the specific condition of the field also influences participants' awareness of the camera: the number of people present, the type of conservation work and the location of the camera. For example, during my fieldwork on 30th September 2023 in a regional orchard managed by the local section City, Jenny, Jules and I were present. That day's work was relatively easy, including collecting ripe apples, planting fruit seedlings and cleaning nest boxes. While doing this not-too-physically-demanding work, Jenny, Jules and I talked to

each other quite often. The filming on that day felt as if I were shooting a science documentary: when Jenny and Jules spoke to me, they would often switch from Luxembourgish to English or German, and explain the varieties of fruit trees and animals that inhabit the nest boxes with instructive language and gestures such as “Schau der Name! (Look at the name!)” and pointing to the labels of the seedling. They often talk straight to the camera, as Figure 5 shows.



FIGURE 5: Jenny introducing the fig tree seedling.

Apparently, Jenny and Jules were fully aware of the camera. Nevertheless, the presence of the camera did not seem to bother them, as their work methods and processes did not show much difference from last year, when I did not bring a camcorder. And I did not worry about the “performative behaviour”. In my previous field experience, which did not include video recording, I have noticed that sharing knowledge about nature was an important behavioural pattern in Aktioun fir d’Ëmwelt. For example, my fieldnote on 15th October 2022 records how people exchanged knowledge about mushrooms and addressed me in English:

A staff at [LetzEarth] was introducing two mushrooms to some volunteers in Luxembourgish. [...] [A volunteer] then explained to

me in English that the mushroom on the left is one of the most poisonous mushrooms in Luxembourg, and the [LetzEarth] staff was explaining how to distinguish it from the benign mushroom. [...] Then the [LetzEarth] staff continued in English to introduce the characteristic of this dangerous fungus. An audience (I guess he works for the Commune) also explained to me in English that this mushroom can lead to kidney failure with chronic poison, and even there is antidote nowadays, still victims will suffer from permanent damage to the organs. (Excerpt from fieldnotes on 15.10.2022)

Therefore, I believe that even if I were not holding a camera, Jenny and Jules would have explained the information to me in English just as well.

In contrast to Jenny and Jules, Neo did not seem to notice the camera too much, although I explicitly asked him if I could start filming and received an affirmative answer from him. Neo's task was to trim the branches of two big trees so that he could have enough space to securely place the nest boxes for owls (see Figures 6 and 7).



FIGURE 6: Neo trimming the tree.



FIGURE 7: Neo putting the nesting box onto the tree.

From his panting captured by the collar microphone, I recognised that Neo's work was not relaxing. Being high up on the ladder, he had to stay focused. Besides, I was videotaping him beneath the tree from the direction where his back was turned. Therefore, the presence of the camera seemed relatively inconspicuous for Neo. Unlike Jenny and Jules, Neo barely spoke to me and only had some brief conversations with his colleague about passing tools and confirming the position of the nest boxes.

Besides the impact of videotaping on the field, another question that I always had to consider is: who am I going to film? More specifically, should I focus on one person or follow the actions of several people? Who should wear the only collar microphone, or should this microphone be worn at all? I had to constantly negotiate these questions according to the specific situation in each fieldwork.

One challenge of conducting fieldwork in Aktioun fir d'Ëmwelt was that I was not able to anticipate who would be present except for the research participants with whom I had negotiated in advance, because participation in this conservation project series was open to both pre-registered and unregistered individuals (although technically, pre-registration is required). In order to strike a balance between ensuring that all attendees' right to be informed about my recording and not deterring people by

terms such as “research” and “videography”, I left it up to the contact persons of the local sections to decide whether or not to inform potential volunteers of my research in advance. The contact persons of Nord, City and Reed Marsh all thought it would be fine if I asked for consent on the spot. Hence, at the beginning of each event, I explicitly announced the goal of my research and my intention to conduct a video recording. I made it clear that if anyone did not consent to be videotaped at any point, I would immediately refrain from recording the person. On one occasion, a group of high school students led by their teacher took part in the conservation activity organised by the section Nord. I explained my project to the teacher, making it clear that I would not film the juveniles.

Another challenge was to determine the focus of videotaping. Because people were dispersed while working in the natural landscapes, it was impossible to capture the entire group or the discourses of everyone. In some cases, there were even several different activities going on in parallel. For example, during the sessions of Reed Marsh in February 2024, there were two groups of volunteers who were responsible for pruning thorns and ringing birds, respectively. Therefore, I often had to make a choice. Most of the time, I shadowed the participants who were already engaged in my research before the videotaping took place, either through the pilot fieldwork or interviews. Sometimes, I asked these participants for their suggestions: what do they think I should record? Maria from Nord, who is in her 70s, told me that I should film “the younger guy”. I soon realised that only the young man of about thirty could lift the pole high enough to hang a nest box on the tree branch. To conclude, I consider two factors when making decisions: one is the rapport with the participants, and the other is the potential effectiveness of the data to answer the research questions.

The last issue I want to address concerns the audio and video recording, which was key to constructing the data through which I could analyse how participants articulated their connection to nature during fieldwork. In order to collect usable data, I used a collar microphone. The collar microphone is a device that enables the camcorder to capture the participant’s talking clearly, minimising the effects of background noise. Moreover, the microphone can capture detailed sounds that can potentially contextualise data analysis. As mentioned before, I was able to notice Neo’s hard work through his panting recorded by the collar mic. How-

ever, I also discovered the limitations of the collar microphone. Since my camcorder has only one microphone jack, only one participant could wear the collar microphone. This could significantly reduce the flexibility of videotaping, on the one hand, due to the limitation of the connecting cable; on the other hand, while the microphone ensures the clarity of the wearer's speech, it reduces the ability of the camcorder to record other people's speech, especially from a distance. Reviewing the recordings from the first videotaped fieldwork, I found that the words of the interlocutors of the person wearing the microphone were very poorly recorded. In the next phase of fieldwork that took place in a quiet forest, I took the plunge and did not use a microphone. To my delight, the conversations and discussions were recorded clearly. After this experiment, I always decided whether or not to use a microphone depending on the situation. If there was much background noise in the field, such as the noise of the wind, saws or planes (the local section Reed Marsh is located near Luxembourg Findel airport), I would ask one participant to wear the collar microphone. If the work took place in relatively quiet forests or small orchards, I would not use the microphone.

LEAVING THE FIELD

My fieldwork drew to a close at the end of February 2024. Since October 2022, I have participated in 22 events organised by LetzEarth, including the participatory conservation project series *Aktioun fir d'Ëmwelt*, the monthly casual get-together *Discussions publiques*, information sessions for volunteers and *Nature Film Night*. I also had 12 interviews with 10 individuals who either work or volunteer at LetzEarth and its local sections. In this process, I received kind support from the research participants, and I have noticed a change in myself from being confused and timid, to enjoying the conservation work while conducting fieldwork. As such, wrapping up the data collection and leaving the field were not as easy as I had anticipated.

Compared to getting *in* the field, namely accessing a research population or site, the issue of getting *out*, or leaving the field, has received less attention (Iversen, 2009). Yet, as Smith and Atkinson (2017) poetically write: "Being personally contoured by a physical culture under study can enchant a researcher as new physical experiences occur, meaningful social

bonds are forged, affective curiosities are explored, and one's analytic imagination is unleashed" (p.636).

Because the researchers' experiences in the field are not only instrumental for their studies, but also have a profound influence on the researchers themselves and can potentially impact the field, we should reflect on the meaning of leaving the field. I believe that leaving the field marks the end of data collection, but does not necessarily mean the end of the researcher's physical presence in the field; it is certainly not the end of the researcher's relationships with the gatekeepers and research participants, nor the conclusion of the mutual influence between the field and the researcher.

In one of my last fieldwork in February 2024, the volunteers of Reed Marsh invited me to join them for lunch after a whole morning of trimming blackthorns in a barren orchard. During the lunch, they discussed the plans for next year's Aktioun fir d'Ëmwelt and agreed that it would be necessary to continue reclaiming this overgrown orchard next year. Having set the plan, Laura and Neo turned to me with smiles:

- "Are you in next year?"
- "Oh yes, I'll be there, I'll be in Luxembourg until at least the end of next year."
- "Perfect!"

Given the time constraint of the doctoral study, it would be unlikely for me to continue collecting data in Aktioun fir d'Ëmwelt 2024/25. But I was glad that Laura and Neo asked me, and my answer to their question was not a random empty promise. My relationship with the volunteers of Reed Marsh did not end with the conclusion of my fieldwork, but changed from researcher-researched to co-members of the local section as I received the membership card in February 2024. I hoped that my "staying" despite "leaving the field" could convey a message to these people who shared with me their stories, knowledge and enthusiasm, that their dedication was not only worthy of being researched in academia, but also deserved to be passed on to more individuals in the broader public.

Every research project will come to an end at some point, but the connections and relationships that we as researchers have forged in the field, which is at the heart of ethnographic research, often last beyond the framework of the project and continue to influence our research agenda or even personal development. I often think of the people from LetzEarth when I move an earthworm from the asphalt road to grassland, when I sort garbage and when I hike in the woods. This also echoes part of my research analysis and arguments that multifaceted connections to nature can be prompted and enhanced through social and emotional bonds.

I conclude this section by citing Smith and Atkinson (2017) again:

We encourage all ethnographers then to exit as gently, thoughtfully, and analytically as one enters the field. Through a more thoughtful and empathic research process, and by engaging more reflexive forms of leaving, researchers can heighten their analytic connection to the study and enhance the intellectual rigour of qualitative research. (p.648)

Interviewing as Part of an Ethnographic Approach

Besides fieldwork, ethnography also often involves close conversations with participants in the form of more or less formal interviews. Ethnographic interviewing has become a widely applied data collection method across various disciplinary and applied fields in social science (Heyl, 2001). Following the “interpretive turn” in social science at the end of the twentieth century (see Mottier, 2005), along with the growing critique of the positivist paradigm, qualitative researchers have increasingly emphasised the interpretation of participants’ accounts within their own context and lived experiences (Parker-Jenkins, 2018). Within the interpretive process, according to de Fina (2019), “special significance was given to language as a site for the construction of interpretations of cultural practices and to interaction as the domain where such interpretations are shared and negotiated” (p.157). Therefore, interviews where participants talk about their “experiences, attitudes, opinions, complaints, feelings and emotions and beliefs” (Cicourel, 1986, ix) became an essential tool to elicit language data and explore informants’ construal of their interactions in the field. As participants’ perceptions are at the heart of my

current research on people's connection to and understanding of nature, I utilised ethnographic interviews in combination with participant observation to gather data. In this section, I discuss three questions concerning interviewing within the frame of an ethnographic approach: How did my interviews and field observations nurture each other? What roles does the interviewer play in constructing the data? Why and how should interviewees be empowered in ethnographic interviews?

To address the first question, "How did my interviews and observations nurture each other?", another question comes first: What is an "ethnographic" interview? From a historical perspective, in anthropology, which is widely regarded as the disciplinary origin of ethnography, interviewing has been used as a complement to other ethnographic techniques such as participant observation and collection of documents or artefacts to grasp the emic perspective of participants (de Fina, 2019). Later, researchers from other disciplines, such as sociology, consolidated the position of interviews in ethnographic research. Hammersley (2006) defines ethnographic methods as "[...] fairly lengthy contact, through participant observation in relevant settings, and/or through relatively open-ended interviews designed to understand people's perspectives, perhaps complemented by the study of various sorts of document[s] – official, publicly available, or personal" (p.4).

However, Hammersley also raises the debate on the extent to which ethnographic research should rely on interviews to collect data. Scholars from the fields of sociolinguistics, discourse analysis and narrative research encounter criticism over the generalised use of interviews in an increasing amount of "self-labelled" ethnographic studies (Hammersley, 2006; de Fina, 2019). Critics argue that ethnographic data collection and analysis should rely primarily on direct observation of participant behaviour, rather than on eliciting participants' perspectives through interviews (de Fina, 2019). Proponents of interviewing as a primary method, conversely, argue that interviewing is an effective means for realising the ethnographic principle of capturing participant perspectives and giving voice to the researched (Hammersley, 2006).

Considering this methodological debate and reflecting on my own data collection process, I understand "ethnographic interviews" as interviews with a strong interconnection with participant observation. An interview

is “ethnographic” when the interview schedule is developed based on the researcher’s observations and interactions with participants during fieldwork, and the information gathered from the interview can enhance the researcher’s understanding of the field and inform or redirect the focus of the researcher’s observation in the field. Byrne (2004) and Rapley (2001) elaborate on the epistemological status of interviews as either a *resource* or a *topic*. In a realist approach, interviews are treated as a tool to access participants’ reality, which is seen as existing independently of the language used to describe it. In contrast, an idealist perspective views interviews as social events in their own right, providing one possible version of the social reality. I believe that ethnographic interviewing treats interview data as a topic. The collection and analysis of ethnographic interview data can be combined with other ethnographic data sources, such as participant observation, in order to enquire into the multiple facets of the researched issue constructed by research participants and the researcher.

As mentioned before, Aktioun fir d’Ëmwelt takes place annually from October to March. The persistent cloudy or rainy weather of the season makes this time of the year in Luxembourg not as cheerful as the spring or summer time for many people. Continuous precipitation also leads to standing water or mud in the natural landscapes where the activities take place, which greatly limits the volunteers’ work. Therefore, I wondered why this conservation project series begins in late autumn rather than in spring. Wouldn’t nature be more attractive in spring or summer; and more people would join the activities then? I asked Emma this question in the second interview. Emma explained that this is because the primary goal of Aktioun fir d’Ëmwelt is to benefit fauna and flora rather than entertain people. If the maintenance work were to take place in spring when animals begin to breed, the activities would actually be disturbing to the local ecology. This piece of interview data revealed to me the significance of the concept of biocentric environmentalism in my field. Through the interview, I gained a new perspective to analyse the data I had collected from my prior observations, but also a new focus for the coming ones, namely asking: why do people actively connect with nature even in challenging conditions?

Having applied interviewing as one of the data collection methods in my ethno-case study convinced me that data from ethnographic interviews

and other ethnographic data complement each other. Rapley (2001) emphasises that in the interview-data-as-topic approach, the collected data are treated as (more or less) reflecting a reality jointly constructed by the interviewee and interviewer. This approach is in line with the “interpretive turn” of qualitative inquiry, “which rehabilitates subjectivity and views data collection as a mutual construction of meaning where the researcher is engaged in ‘double hermeneutics’” (Mottier, 2005, Abstract). Hence, the role of the interviewer in data construction is worth discussing.

Brinkmann and Kvale (2018) metaphorically liken the role of the interviewer in knowledge production to either a miner or a traveller. In a miner metaphor,

knowledge is understood as buried metal and the interviewer is a miner who unearths the valuable metal. The knowledge is waiting in the subject’s interior to be uncovered, uncontaminated by the miner. The interviewer digs nuggets of knowledge out of a subject’s pure experiences, unpolluted by any leading questions. The nuggets may be conceived as objective real data or as subjective authentic meanings. (p.19–20)

In contrast, the traveller metaphor understands the interviewer

as a traveller on a journey to a distant country that leads to a tale to be told upon returning home. [...] The interviewer-traveller, in line with the original Latin meaning of conversation as ‘wandering together with’, walks along with the local inhabitants, asks questions and encourages them to tell their own stories of their lived world. The potentialities of meanings in the original stories are differentiated and unfolded through the traveller’s interpretations in the narratives he or she brings back to home audiences. (p.20)

The miner/traveller metaphor beautifully elaborates different views on researcher subjectivity and reflexivity in interviews. For a miner-interviewer, interviewing is exploited as an instrument to explore a reality that exists out there and is independent of individuals’ subjective views and emotions, while a traveller-interviewer acknowledges interviews as a real communicative event shaped by the assumptions, experiences and

values of both interviewee and interviewer. Setting out to explore the multifaceted question of how people with different experiences connect to and make sense of nature, I was certainly not a miner digging for the one-only gem. Curious about how people come to conservation engagement from different trajectories, I was a traveller who was also willing to share my own stories with the “local inhabitants” and fully aware that my stories, whether told or not, had profound influences on this journey. To illustrate how my interaction with the interviewee and my own background have shaped the interview data, I present here an excerpt from the interview with Bob:

Yimin: Yeah, that's also what inspired me to work for my dissertation because for myself actually, how I started to get so interested in LetzEarth and the nature here in Luxembourg, basically, it's because first of all, I want to finish my PhD. I entered this topic but now I'm keeping my research journal and now I'm realizing I'm really geni-, like really getting into interested in the nature itself. Sometimes I forget about my research and I'm like, yeah, with the nature itself, it's so interesting and that's why I'm actually very grateful for LetzEarth. So those people are...

Bob: It's... You start off with one thing and it takes you to a certain point and then you sometimes have to decide, do I want to take this further? Do I not? I mean I started off with birds. Yeah, I mean my home background is a little industrial town in England. Yeah. I grew up in England and went to university in England and I knew nothing about nature until I met my wife. [...] And then sometimes you go from nature conservation to general environmental protection and then sometimes you go from there to politics. And it's up to you how far of this track you follow.

It is worth noting here that Bob's account of how he started bird watching and then conservation volunteering was not elicited by a question. Although similar data could also be collected through an explicit question, I wonder if the same story would be told in a different way. If I had not shared my unforeseen encounter with the research topic, would Bob still recount his trajectory to his engagement as “following a track” with an unexpected start and many possible endpoints? As Mishler (1986) argues, in interviews, “both questions and responses are formulated in, devel-

oped through, and shaped by the discourse between interviews and respondents” (p.52), and therefore, a comprehensive understanding of interview data is based on recognizing the discourse negotiation of the interviewer and respondent in context of their mutual understanding as meanings unfold during the interview.

While the role of the interviewer should not be overlooked, the focus of ethnographic interviews is on the interviewees. Since the core of ethnographic research lies in understanding the meaning of actions and events from the perspective of those involved (Spradley, 1979/2016), respondents of ethnographic interviews should be given the opportunity to express themselves and to interpret their own experiences. Mishler (1986) suggests several ways “to empower respondents so that they have more control of the processes through which their words are given meaning” (p.118), including letting them decide the topics and timing of interviews and asking for their feedback on the research instrument or the transcripts obtained (see also de Fina, 2019). The essence of empowering interviewees is “to encourage them to find and speak in their own ‘voices’” and to elicit their own narrative accounts, because “one of the significant ways through which individuals make sense of and give meaning to their experiences is to organize them in a narrative form” (Mishler, 1986, p.118).

The interviews conducted for my project are semi-structured or unstructured. The two interviews with the volunteer coordinator Emma are semi-structured and led by interview schedules prepared in advance. These two semi-structured interviews were used to gather background information, including the aims and operational mechanisms of LetzEarth and its local sections. Upon Emma’s request, I sent her the first interview schedule via email in advance. During the second interview, I put the question guide on the table within her line of sight. The other interviews with the volunteers were unstructured, prompted by a few general topics depending on the conversation flow. These unstructured interviews aimed to gather the volunteers’ stories, opinions and feelings regarding their environmental engagement at LetzEarth.

Out of respect for the research participants, I invited them to decide the time, place and language of the interviews according to their personal preferences. I informed the participants in advance that the expected du-

ration of an interview is around 60 to 90 minutes; however, the length of the interview was entirely up to them. Most of my interviews fell within this estimated length, but there were two exceptions: one interview lasted approximately 150 minutes, with Michael from the City section. After a 90-minute conversation before lunch, he said he was not tired and would like to share his stories as much as possible; therefore, we continued the interview for another hour after lunch. The other case was with Birgit and Maria from the section Nord. They expressed the preference to be interviewed together, which I accepted without hesitation. This interview did not proceed in the way where I posed a question, then Birgit and Maria answered respectively; instead, they led the conversation by reminding each other of their respective experiences, adding details to each other's accounts and commenting on each other's differing views. Naturally, this interview was longer than the ones with only one respondent. Hence, I always tried to reserve sufficient time for interviews. Normally, I would not schedule any other tasks on my agenda on the day of the interview. In terms of place, I asked the participants to choose the location that was most convenient for them. As a result, the interviews took place in my office, at a bar, at LetzEarth and at the local section Nord. As for the language, I offered English and German, a point I will further probe in the next section, *Researching Multilingually*.

To encourage volunteers to share their stories in their own voices, I employed several techniques during the unstructured interviews to avoid treating respondents as mere information sources or dehumanising them with irrelevant questions. To prepare for the interviews, I sought to learn about their professional engagements beyond environmental volunteering, their connection and trajectories to LetzEarth and their areas of interest in conservation, be it bird watching, nature writing or landscape maintenance. I looked for such information in my fieldnotes or through the publicised interviews that some of them did with the local media or the publications of LetzEarth. The interview questions and prompts were prepared to match their backgrounds. For example, I read in the annual report of LetzEarth that the senior volunteer Bob was awarded the Outstanding Contribution Award for his long-term dedication in the year prior to the interview. At the beginning of the interview with Bob, whom I had never met in the fieldwork before the interview, this information acted as a nice icebreaker, and Bob started to recall his decades of engagement in LetzEarth almost right after the interview began.

[0:00:14.8] **Yimin:** So first of all thank you so much for coming, to travel from [town] to Belval and it's a pleasure to meet you of course. First of all, I want to congratulate you for the prize by the LetzEarth, because I was reading all the annual reports of LetzEarth, and then you got the Outstanding Contribution Award.

[0:00:39.2] **Bob:** Yeah, it's 100 year. It's on a nice prime place at home.

[0:00:45.5] **Yimin:** Yeah, and I think that's lovely, like they are actually...

[0:00:46.7] **Bob:** I was very pleased, the only problem with getting it in Covid year, of course, was that was no public presentation because we had no public meetings. It was mainly for, I mean, it's a kind of lifetime achievement award, but basically it was for what we did in [year]. Because I produced the English version of the Die Vogelfreunde des Großherzogtums.

At the beginning of each unstructured interview, I would explain that I had come to listen to their stories, and it was supposed to be more of a chat than a traditional question-and-answer interview. As I told Birgit and Maria before the interview:

[0:00:00.0] **Yimin:** Ja, danke sehr. Ich möchte zuerst einmal die vielen Dank für Ihnen sagen, also für Ihre Zeit und Ihre freundliche Unterstützung. [...] bin ich hier gekommen und da interessiere mich für alle ihre Geschichte sozusagen mit LetzEarth. Ja, und eigentlich habe ich, ((lachen)) das ist meine kurze Liste von der Interviewfragen, aber es muss nicht so sein. Ich komme nur für Ihre Geschichte...

(Many Thanks. First of all, I would like to thank you very much for your time and your kind support. [...] I'm interested in all your stories with LetzEarth, so to speak. Yes, and actually I have, [laughing] that's my short list of interview questions, but it doesn't have to be like that. I just come for your stories...)

These strategies proved effective, as respondents began narrating their experiences of working at LetzEarth relatively quickly. I received positive feedback from several participants that they were happy to have such a chance to share their stories at LetzEarth, and were curious about my research findings based on their inputs.

After discussing the interview process, the next section delves into the issue of researching multilingually.

Researching Multilingually

Conducted within an NGO that has developed for over a hundred years in multilingual Luxembourg, this research inevitably encompasses the main languages of Luxembourg: Luxembourgish, German, French and English. Holmes and colleagues (2013) use the term *researching multilingually* to discuss the multilingual methodological dimensions of the studies that involve the use of more than one language in the research process and dissemination. Concerning the complexities of researching multilingually, here I focus on two issues that emerged in my research process: the researcher's influence on the linguistic situation of the field, and multilingual data analysis.

My presence as a researcher began to have an impact on the field, including its linguistic situation, from the moment when I entered the field and met the participants. Finding a common language was always the first issue that the participants and I had to negotiate before the interviews or fieldwork. My Asian appearance often led the locals to assume that English is my most comfortable, or even the sole, language to communicate in. In fact, I am proficient in English and German, with an intermediate level of Luxembourgish and limited proficiency in French. To capture the authentic discourse of these Luxembourgish participants who predominantly communicate in Luxembourgish, German, and French in their daily lives, and to minimise the impact of translation, I applied different strategies to negotiate language for interviews and participant observation. Since an interview is a communication event where I as both the researcher and the respondents should be fully engaged, I proposed English and German, and asked the interviewees to speak Luxembourgish at a slower pace if they felt it was the language through which they

could express certain topics most effectively. For the participant observation, in contrast, I asked the participants to speak whichever language they felt most comfortable speaking, without considering my presence. In each phase of the fieldwork, I had at least one “key participant” from whom I could ask for explanations in German or English. With the help of a camcorder, I could review the interactions by playing back the video in slow motion and then ask a student assistant proficient in Luxembourgish, German, and French to transcribe the conversations.

Although I tried to minimise my influence as a researcher on participants’ language choice, there were two interesting cases where the participants with relatively limited proficiency in English still spoke English with me. One case was mentioned in the previous section, *In the Field*, that Jenny and Jules from the section City often switched from Luxembourgish, which they used in their conversations with each other, to English when speaking to me, who was holding a camera. Through our previous contacts, as well as their pauses and occasional inaccurate phrasing when speaking English, I noticed that English might not be their most comfortable language. Therefore, I responded to them in a mixture of English and German. As the fieldwork proceeded, they gradually spoke only German with me.

Another case was the interview with the 70-year-old Luxembourger, Michael. Michael insisted that the interview could be conducted in English because he wanted to practice his English skills. Based on my years of living experience in Luxembourg, I assumed the older generation would prefer German. Thinking that Michael might be adjusting to accommodate my language preference, I explained that I could manage to conduct the interview in German, and he could even speak Luxembourgish slowly if needed. However, Michael insisted on speaking English. The interview turned out to be bilingual in English and German. Sometimes, Michael would switch to German by himself, and sometimes I proposed that he might want to speak German when I noticed that he was struggling to find the correct phrases in English.

These two cases inspired me to reflect on my understanding of the “natural setting” of a multilingual research site. I simply assumed that it would be most “natural” if the Luxembourgish participants spoke Luxembourgish or German; however, I did not consider my own role as part of this

“natural setting”. The moment when I started interacting with the participants, I began to shape the “natural setting” of the field as a researcher. The influence of my presence on their initial choice of English was much less visible than the impact I had on their subsequent switch back to German. The participants could perceive their language choice for English as “natural” given my presence as a foreign researcher and an international student. Perhaps Jenny and Jules were indeed influenced by the presence of the camera; perhaps Michael just wanted to grasp every chance to practice English; or perhaps, all of them still subconsciously believed that a student from China would be most comfortable with English, and they were so kind that they would like to adapt to my language preference. Although my research does not intend to delve into these psychological factors, I argue that it is necessary to consider the researcher’s reflexivity while researching multilingually and recognise the subjective nature of what is considered “natural” in a multilingual context. The core of multilingual ethnographic research lies in giving participants voices and choices, also in terms of languages.

Another challenge that practitioners of multilingual research face is handling multilingual interviews specifically and engaging in multilingual data analysis (Holmes et al., 2013). Especially for my research where the collected data are often not in the first language of either the researcher or the participants, the multilingual data analysis merits further attention. I must consider the impact of translation on the accuracy of the discourses under examination, and that the respondents’ opinions were not distorted due to the use of a language other than their first language. An example is how I treated an excerpt from the interview with Michael. Michael lamented the decline of biodiversity and believes that there should be a call to reduce, or even ban, the use of pesticides and fertilisers:

The front part of the car, it was full of insects when we arrived. At every stop my father had to clean it. When we filled up the car, we always cleaned the windshield. [...] And nowadays when you go such a long distance, there are rarely any insects anymore. [...] You have a view over the decline, just going by car. Therefore we must incite [encourage]* people in their garden to avoid all, all chemistry and everything.

The word “incite” was amended to “encourage” here, because considering Michael’s English skills and the content of the whole interview, I judge this to be a vocabulary misuse. Michael could not have meant that the boycott of pesticides and fertilisers is something violent, illegal or unpleasant, and it should be achieved by stirring people’s emotions. Therefore, I made a correction note in the transcript.

This shows that researchers need a multilingual sensitivity when treating multilingual data, especially when the languages involved are not the ones that the researcher or participants are most proficient in. An exclusively verbatim focus on the transcripts may not always be the optimal approach for data analysis. In fact, at times, it can even result in a misinterpretation of the participant’s intentions. To avoid this, researchers should carefully examine the contexts while treating the data.

This discussion on language choice is related to another concept that ran through the entire process of ethnographic research: researcher positionality.

Negotiating Positionality

“For ethnographers, writing about how we are positioned is part of the data” (Chiseri-Strater, 1996, p.116), because ethnographic researchers are never external neutral observers but part of the research process, and their perceived identities shape the data collection process in a significant way (Lønsmann, 2016).

The concept of positionality has been discussed by various scholars not only in terms of the fixed or culturally ascribed attributes such as age, gender, race, class and nationality, but also regarding the subjective-contextual factors such as institutional affiliation, historical-personal circumstance and intellectual predisposition (Chiseri-Strater, 1996). However, as Lønsmann (2016) points out, previous studies on positionality tend to limit their focus on the “macro-level demographic categories” (Bucholtz & Hall, 2005), namely the relatively stable identities such as gender and nationality, but ignore the more dynamic identities or positions. In Bucholtz and Hall’s sociocultural linguistic identity framework, identities are produced in linguistic interaction, encompassing local, ethnograph-

ically emergent cultural positions (such as researcher, student and volunteer) and temporary interactional roles (such as story listener and knowledge learner) in addition to the macro-level sociological categories. Therefore, Lønsmann (2016) argues that when discussing researcher positionality, we should go beyond the macro-level demographic categories and acknowledge that researcher positions and identities are not stable, but dynamic, multifaceted and negotiated in the interactions with the informants. Consistent with Lønsmann's arguments, here I discuss how I positioned myself or was positioned by the research participants during my fieldwork, and reflect on the relevance of these various positions to the data collection process.

BEING A YOUNG PERSON WITHIN AN "OLD" ORGANISATION

Although sharing similarities in age and gender between researcher and participants is often thought to foster a more intimate tone (Lønsmann, 2016), I found that the generational age gap between my participants and me actually benefited our rapport. Among the twelve informants, nine are between 50 and 80 years old at the time of the study. In the early stage of my fieldwork, the volunteer coordinator Emma told me that one challenge faced by many local groups of LetzEarth was the ageing of the active members and the lack of youthful power, which she referred to as an "age gap":

[...] but the thing is, that their members are ageing. Or are at a certain age, and the thing is it, then there's not new people coming in and saying "Oh hey let's go and let's continue doing this", then it kinda dies out.

As the fieldwork progressed, I found that the majority of the volunteers who regularly participated in Aktioun fir d'Ëmwelt at the local sections City and Nord were around 50 to 70 years old. There were relatively few volunteers in their twenties or thirties. Senior volunteers like Maria (71) and Birgit (60) are aware of the lack of younger volunteers:

Maria: [...] Insgesamt haben wir keine Negativ. Sagen außer, eben junge Leute müsste man noch mehr haben.

Birgit: Das ist klar, das ist klar.

| Maria: Schon jetzt, jetzt haben wir zwei, drei junge.

| Birgit: Ja, zwei Jahre.

| Maria: Hoffentlich bleiben die.

| Birgit: Ja, aber so, ja, wie alt sind die? In den 20, im Anfang 30. Für uns ist das schon jung. [laughing] Noch jung. Aber man müsste wirklich 17-jährige, so jung müsste man bekommen, aber die haben kein Interesse dafür.

(Maria: [...]Generally we don't have anything negative. Except that we still have to have more young people.

Birgit: That's true, that's true.

Maria: Now we have two, three guys.

Birgit: Yeah, [for] two years.

Maria: Hopefully they'll stay.

Birgit: Yeah, how old are they? In their twenties or early thirties. For us that's already young. [laughing] Still young. But you really would need 17-year-olds, that young you would have to recruit, but they have no interest in it.)

As some types of maintenance work can be quite physically challenging, such as digging ponds, pruning thorns, and climbing tall trees to place nest boxes, the lack of younger helping hands could be a serious issue for local sections that wish to continue their conservation projects. The senior volunteers, such as Michael (70) and Bob (73) were pleased that a young woman in her twenties, like me, expressed her interest in their work and started to participate in the activities regularly. After my first participation in Aktioun fir d'Ëmwelt at City, where I assisted at their stand at Forest Ministry's Open Day, Michael sent me a message (Figure 8):

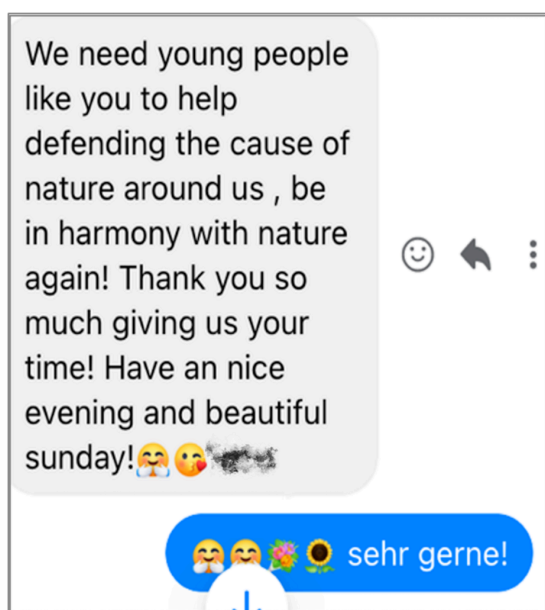


FIGURE 8: Michael's message.

During the interview, Bob jokingly mentioned that he might consider recruiting me:

[...] So we need new people in the [Language Section]. So maybe I need to recruit people like you, Yimin. [laughing]

As such, the age gap did not alienate the participants and me. In contrast, the generational difference brought me closer to these senior volunteers. The general lack of involvement from the younger generation in their activities made my presence in the field a positive thing for the participants. Interestingly, LetzEarth made a photo that Jules (63) and I planting seedlings together as the banner for *Aktioun fir d'Ëmwelt* (Figure 9), which could be interpreted as a call for intergenerational transmission of and cooperation in conservation actions.



FIGURE 9: Banner for Aktioun fir d'Ëmwelt.

During the initial data analysis, I realised another reason that the senior volunteers welcomed me as a young researcher. When asked about the motivations of their environmental engagement, the participants frequently mentioned phrases like “the next generation” and “children”, which implies that their dedication to conservation is closely linked to a concern for the future generation. As Carmi and Arnon (2014) argue, environmental attitudes and behaviour have a future orientation, assuming responsibility for the future outcomes of present actions. For the senior volunteers, I represented the next generation whom they were preserving nature for. Thus, they were open to my presence in the field and to sharing their insights with me.

STUDENT, RESEARCHER OR VOLUNTEER? A DIFFICULT ENDEAVOUR

The way in which I introduced myself to the participants was also a matter of self-positioning in the field. Should I present myself as a “doctoral researcher” or a “PhD student”? Having weighed the different perceptions that the two phrases would bring to the table, I chose to introduce

myself as a “PhD student” instead of “doctoral researcher”, unless I had to write down my institutional affiliation and job title on the formal documents, such as the information sheet and consent forms. By positioning myself as a student rather than a researcher, I hoped to negotiate the power dynamic between the participants and me. Overemphasising my identity as a “researcher” in front of the volunteers from all walks of life would likely create an unnecessary distance between us. A researcher-researched relationship implies an asymmetric power dynamic where the informants could feel dehumanised as data under examination or being judged. This could lead to the reluctance to share their genuine opinions, experiences or complaints.

In contrast, as a “student”, I learn from people. I learnt the information about the organisation from the volunteer coordinator, and how to build connections to nature from the volunteers. Besides, compared to people with extensive knowledge and skills about nature who are adept at pruning trees and capable of distinguishing bird species from their songs, I am a pupil of natural knowledge. As my data analysis showed, the conservation projects were often discursively constructed as a setting for learning environmental knowledge and attitudes. Therefore, positioning myself as a student in the field not only helped me negotiate the researcher-participant power relationship, but also enabled me to integrate better into the field where learning is an important form of interaction.

Alongside negotiating the researcher/student identity, I also had to maintain a balance between my roles as a researcher and a volunteer. As discussed before, an ethnographic researcher cannot remain an external observer and is always part of the field. Yet, how do practitioners of participant observation position themselves in the field? Delamont (2004) asserts that the term “participant” observation does not usually mean real participation of the researcher, namely doing what research participants do, but rather watching the things being done and interacting with the informants while *they* do it. However, I found it hard to follow Delamont’s advice in my fieldwork. Given the participatory nature of Aktioun fir d’Ëmwelt and its emphasis on involving people in hands-on conservation work, being a passive participant like a bystander (Spradley, 1980) who watches without actively doing would appear quite awkward. As some tasks were physically demanding for the senior volunteers, my passive observation without active contribution would not help build rap-

port with them. In addition, as I initially entered the field as a volunteer rather than a researcher (see section *Entering the Field*), completely switching my position from a participant-volunteer to an observer-researcher would disturb my ongoing relationship negotiation with the participants. Therefore, I tried to participate in Aktioun fir d'Ëmwelt as a "volunteering researcher". While explicitly explaining to the informants that my primary goal in participating in Aktioun fir d'Ëmwelt is to collect research data, I also actively engaged in physical work with the volunteers and learnt knowledge and skills from them. As it was not possible to take fieldnotes while engaged in the hands-on work, I had to memorise the interactions in the field that I deemed worth documenting. Later, I would take notes or audio-record myself on the way back from the fieldwork. In my later fieldwork assisted by a video camera, interestingly, I was able to engage in more passive participation by only filming the participants without conducting the conservation work, as it was obvious to others that my hands were already occupied. Nevertheless, I still had to negotiate between moderate participation and active participation (Spradley, 1980) by deciding when I should stop videotaping and lend a hand to other volunteers. For example, during the process of clearing weeds on a wetland at the section Nord with Maria, I started with only filming Maria's work. Later, as I noticed that the task was quite exhausting, I put away the camera and grabbed a pitchfork to gather the weeds with her.

Negotiating multifaceted identities as both a volunteer and researcher was challenging, particularly when multitasking between collecting ethnographic data and engaging in physical work. However, this endeavour benefited my fieldwork in several ways. First, through working with the volunteers, I developed a closer relationship with them. The similar experiences and feelings from Aktioun fir d'Ëmwelt often served as a good conversation starter. Second, my engagement in the field not only as a researcher but also as a volunteer helped me negotiate continuous access to the field. The senior volunteers from the Nord section agreed to my request for video recording during our first meeting, because they saw the photos of me working with other local sections and recognised me as "the girl on the poster". Thirdly, through these hands-on efforts, I gained first-hand experience of what it's like to engage in environmental work. Reflecting on my own experiences, I also gained insights into the informants' perspectives.

Negotiating the diverse, dynamic positions and identities at different levels, and navigating through their combinations and collisions, are the endeavours that all ethnographic researchers must undertake. Whether as a young volunteer who could help out, a university student who learnt about the human-nature connection or a researcher who conducted ethnographic fieldwork, I was constantly positioning myself and being positioned by the participants. As researchers can actively use positioning to negotiate access to the field and the relationship with informants, we must attend to the issue of honesty and manipulation (Lønsmann, 2016). As Lønsmann questions, would consciously positioning myself in one way or another be a way to manipulate the informants? My answer would be, as long as we ensure the transparency of “who we are and who we are not” (Lønsmann, 2016, p.34), the active positioning is ethical. While introducing myself as a “PhD student”, I never denied that I was also a researcher, and I explained to several curious participants how I would treat the information I gathered in analysis. While engaging in the activities as a young volunteer, I made it clear to the senior volunteers that I could not promise any long-term engagement as I did not even know if I would stay in Luxembourg after my doctoral study.

In this section, I elaborated on the data collection methods for this study: participant observation and ethnographic interviews. Additionally, I reflected on the negotiation of language in multilingual research sites and the positioning of the researcher in fieldwork, both of which profoundly influence the data collection process and the data collected. In the next section, I will present the data constructed from the ethnographic fieldwork.

Data Constructed

My main period of fieldwork took place from October 2022 to March 2023 and from October 2023 to March 2024 in the participatory conservation project series Aktioun fir d'Ëmwelt. The fieldwork involved participant observation and ethnographic interviews with the volunteers and the volunteer coordinator. In addition, I regularly participated in the monthly casual get-together, Discussions publiques, information sessions for volunteers and Nature Film Night organised by LetzEarth. I also occasionally

helped at outreach events such as its Open Days, the exhibition at the Forest Ministry and the Christmas publicity campaign in local bio-supermarkets. During the process of interacting with the people at LetzEarth and collecting data, I gathered data involving, as noted before, approximately 12,000 words of fieldnotes, 5 hours of videotaped recordings, 60 hours of participant observation, and 10 interviews that lasted between 1 hour and 2.5 hours. I now present the profile of the research participants.

Profile of Research Participants

The recruitment of research participants was quite straightforward. Two criteria applied: potential participants should be at least 18 years old and have been active in volunteering at LetzEarth. Emma, the volunteer coordinator, acted as the gatekeeper for my fieldwork and is also the first research participant. She participated in two formal interviews where she provided valuable background information on LetzEarth and its local sections. After sending out formal invitations to volunteers I had met during the pilot fieldwork or who had been introduced by Emma and other volunteers, 12 people agreed to participate in interviews and/or be videotaped during their volunteering. Among them are the active volunteers from the three local sections City, Nord and Reed Marsh, as well as Bob from the Language section, and Eric, the Honorary President of LetzEarth, who has been volunteering at LetzEarth since its predecessor was established. Table 3 presents the profiles of the 12 participants:

TABLE 3: Participant Profile.

Pseudonym	Age at time of study start	Note
Jenny	55	City
Jules	63	City
Michael	70	City
Laura	28	Reed Marsh
Neo	30	Reed Marsh

Christophe	51	Reed Marsh
Daniel	30	Nord
Birgit	60	Nord
Maria	71	Nord
Bob	73	Language Section
Emma	31	Volunteer Coordinator
Eric	80	Honorary President

Fieldnotes

As mentioned previously, writing down fieldnotes during my fieldwork was very challenging. Engaging in active participation observation, I was unable to take notes on site using a phone or notebook. Therefore, I had to memorise my observations, experiences and feelings and recall them afterwards in order to write, as Emerson and others (2011) put it, “[the] process of recalling in order to write involves reimagining and replaying in one’s mind scenes and events that marked the day, actively repicturing and reconstructing these witnessed events in order to get them down on a page” (section “Recalling in Order to Write”). I often took quick notes on my mobile notepad and audio-recorded myself on the train back from the fieldwork, and then transcribed the audio recordings to add to the notes. In the later stages of my fieldwork, where video recording was involved, the main content of the notes shifted from event descriptions to my reflections that the camcorder could not capture, or to additional clarifications on what happened when I turned off the camera. For example, in one piece of my fieldnotes from September 2023, when video recording was applied, I noted down the interaction between Jules and me before the work started:

Conversation happens before the [work] started. [Jules] and I were waiting for [Jenny]. I asked how [Jules] had started his work

with [LetzEarth]. He recalled how his interest for nature started almost 50 years ago (he laughed when mentioned this number) as a student in ecological education (concrete name needs to be confirmed). He used to work for the [place], but was not happy with the administrative work in his job profile. [...] (Excerpt from fieldnotes on 30.09.2023)

As such, the approximately 60-hour participant observation has resulted in approximately 12000 words of fieldnotes.

Audio, Video Recordings and Their Transcription

The ethnographic interviews were all audio-recorded. The interviews were conducted in English and German, and sometimes the two languages were used interchangeably. I used two software programs to transcribe these audio recordings: MacWhisper and MAXQDA. In compliance with research ethics and GDPR, I did not use automatic speech recognition (ASR) programs that run on cloud servers and store data on external servers. I chose MacWhisper for the initial auto-transcription because this offline program transcribes audio locally on the device without transferring data to external servers. After obtaining the texts transcribed by MacWhisper, I imported the preliminary transcripts together with the audio recordings into MAXQDA for further detailed manual transcription. Similar to MacWhisper, MAXQDA processes and stores data on my device. It integrates the transcription window and the audio player into the same interface and allows users to adjust the rewind interval and playback speed (see MAXQDA, 2021). During the process of manual transcription, the identifiable information disclosed in the interviews, such as real names of people, places and organisations, was anonymised by replacement of pseudonyms or deletion. Besides, I manually corrected the speaker turns and the mis-transcribed phrases, as well as added punctuation to ensure a faithful reproduction of the informants' words as accurately as possible. As for the transcription convention, Kowal and O'Connell (2004, p.250) suggest four different forms of transcription: standard orthography, literary transcription, eye dialect and phonetic transcription. In literary transcription, the linguistic deviations from the standard written language are taken into account to preserve the originality of the conversation. Given my research focus on understanding people's thoughts as ex-

pressed in their own language, I chose literary transcription to process the interview data.

The transcription of video recordings was more complicated than that of audio recordings. Since most of the participants are elderly Luxembourgers, their first language, namely Luxembourgish, is the most frequent language in video data. Although my Luxembourgish skills are sufficient for simple communication with them, I am not able to conduct the verbatim transcription with rigour. To address this challenge, I explored ASR tools for Luxembourgish in compliance with research ethics, including the LuxASR program newly developed by Prof. Peter Gilles' team from the Institute of Luxembourgish Language and Literature at the University of Luxembourg. However, these tools are not yet fully trained to transcribe spontaneous data recorded in real-time interactions, and my intermediate language skills do not enable me to conduct quality control and revision for the machine-generated transcripts. Thus, to ensure an accurate and timely transcription, I hired a student assistant with proficiency in Luxembourgish and basic knowledge of transcribing. Before the transcription, I presented my research context, goals, and data sets to the student assistant, and introduced her to the transcription conventions and precautions concerning research ethics and data protection. As the LuxASR program already transcribed some video clips, the student assistant received these machine-generated transcripts for manual correction. After the transcribing process, the student assistant and I conducted quality control and revision together. Since I am capable of understanding written Luxembourgish, the student assistant did not have to translate the texts into English. A fixed-term contract for 3.5 months with 20 working hours per month was signed with the student assistant for the transcription of 4-hour video clips involving interactions in Luxembourgish.

Ethical Considerations

Fieldwork also raises ethical questions as “ethical dilemmas and concerns are part of the everyday practice of doing research – all kinds of research” (Guillemin & Gillam, 2004, p.262). Although research ethics is not confined to only qualitative inquiries or studies involving human participants (Guillemin & Gillam, 2004), ethics tend to be considered “an even

more pressing concern” to qualitative researchers due to “the emergent, dynamic and interactional nature of most qualitative research” (Iphofen & Tolich, 2018, p.1). As Murphy and Dingwall (2001) point out, questions concerning the appropriate ways to treat each other as human beings within the context of research are not wholly different from the questions about which values should be prevalent within a society. For any study, ethical research practice is rooted in the moral principles of *respect for persons*, *beneficence*, and *justice* (Marshall & Rossman, 2016). This means researchers should refrain from treating participants as merely a tool to achieve their research goals or harming the participants during the research process in any way. Instead, we should uphold the inherent rights of research participants such as privacy, anonymity and self-determination, and be mindful of the social justice implications of the research in terms of who benefits and who does not (Marshall & Rossman, 2016; Murphy & Dingwall, 2001).

Guillemin and Gillam (2004) distinguish two major dimensions of ethics in qualitative research, which they term *procedural ethics* and *ethics in practice*. *Procedural ethics* involves seeking approval from a research ethics committee, and *ethics in practice* refers to the ethical issues that arise in the doing of research (ibid.). In my research, there seemed to be a gap between these two dimensions. In my application for ethics approval handed to the University of Luxembourg Ethics Review Panel, I assessed the potential harm for the participants as “participants may be made uncomfortable by my presence, taking fieldnotes and conducting audio/video recordings during their activities; fear being misrepresented and/or depicted negatively; worry about information leakage concerning personal data, experiences and frank opinions”. However, this was not the case in my fieldwork. The participants never asked me to stop participating in their activities or to stop recording, nor did they ever express concerns about information leakage or request elimination or rectification of the information disclosed. To avoid manipulating the participants to give consent before knowing what their participation in the research implies (Etherington, 2007), before each fieldwork and interview, I briefed the participants on the research aim, my ways of storing and treating data, their rights as research participants and the potential risks. Before any audio or video recording began, I explicitly asked the participants if I could start recording. Participants were also informed orally and by information sheets that they could decide whether they would

want to receive a copy of the recordings or transcript, and I would remain available for any further questions or requests. If the participant wished, he or she would also receive the preprint or/and published research results and was welcome to give feedback.

Although none of the participants expressed specific concerns about the risk of still being identifiable despite pseudonymisation, and many joked that we were not discussing sensitive secrets, they would not worry even if I were to publish their real names. Nevertheless, pseudonymity and confidentiality remained the biggest concern of my research. This was largely due to the specificity of my research context. Given Luxembourg's small size and the locals' strong personal connections, acquaintances may find it relatively easy to identify participants through my research, which draws heavily on personal accounts. Moreover, LetzEarth is one of the oldest, largest and most well-known environmental NGOs in Luxembourg. It is highly likely that the public can still identify the organisation and the people involved through my ethnographic description of the activities despite the pseudonyms. However, to ensure a meaningful contextualisation of data collection and analysis, I need to retain the relevant background information. To address this dilemma, I negotiated several solutions with the gatekeeper and participants. Taking advantage of the multilingual research setting, I created symbolic pseudonyms for the organisation, the local sections and activities in another language by employing Luxembourgish, German, French and English in an alternating manner. While the pseudonyms are not direct translations of the real names, I tried to preserve the thematic relevance in the pseudonyms. I discussed the pseudonyms with the gatekeeper and adopted her suggested modifications. As for the anonymisation of the participants, the disclosed identifiable details that were not relevant to the research were eliminated or replaced by non-identifying placeholders; if the information needed to be retained for data analysis, I substituted the identifiable details with similar fictional information that would not compromise the rigour of the study. Despite all the efforts made by the researcher to safeguard participants' privacy, however, as Walford (2005) points out, "even if the identity of the community or organisation could be concealed, it is very unlikely that individual anonymity can be maintained through pseudonyms in relation to the other people involved" (p.87). Therefore, I repeatedly emphasised to the participants the risk of remaining recognis-

able despite the pseudonyms. They indicated their acceptance of this risk orally and by signing the consent form.

While ensuring confidentiality through the use of pseudonyms is a norm for studies involving human participants, there can be circumstances where participants wish to waive their right to anonymity, and the institution or organisation participating in the study wishes to be publicly acknowledged for its involvement in research. During my fieldwork, a senior volunteer who is also the contact person of his local section reached out to me and expressed the wish to post about their participation in my research on the local section's Facebook page. Another local group discussed with me whether they could present their involvement in the annual assembly meeting. In both cases, I explained that it is my obligation as a researcher to safeguard confidentiality and why this is important for both the researcher and participants. While I asked the participants not to publish their involvement in my study online, I agreed that they could present their participation in my research during their internal meetings. Another time, the volunteer coordinator asked for my consent to use the photo of me working with another volunteer in Aktioun fir d'Ëmwelt (see Figure 9) for designing banners, posters and brochures. As the other volunteer agreed, and the photo did not indicate a researcher-researched relationship, I gave Emma my consent. While LetzEarth never requested to waive its anonymity for acknowledgement of its contribution to the research, the public dissemination of the photos of me participating in its activities made my endeavour to uphold confidentiality more complicated. Nevertheless, I believe that the negotiation of anonymity with the participants and the organisation complies with research ethics norms. During this process, the participants' rights to be informed and their autonomy were respected. In addition, the fact that some participants believed that disclosing their involvement in my research could benefit them personally or support their communities highlights both the reciprocal nature of my research practices and the broader value of the study.

Methodological Limitations

Previously, I argued for the application of an ethno-case study approach in my research. Parker-Jenkins (2018) underscores the inherent limita-

tions of ethno-case study research in her definition, that compared to the traditional ethnographies, research applying an ethno-case study approach is “limited in terms of research time, engagement with the data and the extent of the findings” (p.29). In line with Parker-Jenkins’ elaboration, I now discuss my limited immersion in the field from a methodological perspective.

One of the main constraints I had for my doctoral research was time. Having to complete the project within four years, I have limited opportunities to engage more extensively in the field and develop deeper connections with research participants beyond what was feasible within the scope of this research. It would be fruitful to conduct fieldwork beyond the framework of *Aktioun fir d’Ëmwelt* to further explore the volunteers’ connection with nature in other activities, for example, observing how they are involved in environmental continuing education, gardening or hiking. However, it was not feasible for me to engage in a more comprehensive ethnographic fieldwork due to the time restriction of the doctoral study.

Another factor that posed challenges to my fieldwork is multilingualism in the field. As discussed in Section 3.3, navigating through a multilingual research setting requires language proficiency and multilingual sensitivity of the researcher. However, despite being plurilingual with language skills in English, German and Luxembourgish, it was challenging for me to grasp all the communicative details in the field. I could not fully understand the proper terms for plant and animal species in German, which sometimes made it difficult to make sense of the activities and fully engage in the “learning in nature” interactions. When the participants communicated with each other in Luxembourgish at the speed of native speakers, I could only grasp the main topic of the conversation, but hardly understand the details. This led me to miss opportunities to ask follow-up questions in a timely manner and initiate informal interviews during participant observation. Although I attempted to rectify the situation by seeking clarifications from participants afterwards and discussing the videos with the student assistant, I recognised that I could have gained more profound insights into how human-nature connections are discursively constructed if I had comprehensively understood participants’ communication and posed relevant questions on-site.

Thirdly, my active participation during participant observation resulted in certain limitations for the research. Although active participation “is an extremely useful technique” (Spradley, 1980, p.61) and helped me continuously negotiate access to the field, establish rapport with the participants and gain personal feelings and insights from the field, sometimes my intensive engagement in the volunteering work refrained me from “studying other members of the social world and, perhaps more vitally, time spent writing the fieldnotes”, as Delamont (2004) argues. Sometimes, when I was doing the hands-on work, I was not able to pay full attention to the words and actions of other volunteers at the same time, or had to miss the chance to videotape the meaningful yet transient interactions. There were also circumstances where the volunteering task was quite exhausting, for example, clearing a barren orchard located in the wetlands by trimming blackthorns and sawing through dead trees. The physical work left me with no energy for writing up fieldnotes after a whole morning of physical work, with my research agenda still on my mind. If I had the chance to continue the participant observation for another year, I would consider detaching myself a bit more from the engagement in the conservation work and reclaiming more of the researcher position in the field.

In Chapter 3, I expound on the research setting, approaches and methods used to collect ethnographic data, and a series of decisions and reflections I engaged in during the data collection phase. In the following chapter, I will outline how I analysed these data employing a Grounded Theory Method approach.

4. Analytical Framework

Navigating the Analytical Challenges of Ethnographic Inquiry

As outlined in the previous chapter, this research adopts an ethno-case study approach, employing ethnography as *a way of seeing* (Wolcott, 2008) the *foreshadowed problems* (Delamont, 2004). An ethnographic way of seeing involves collecting and synthesising heterogeneous data generated in real-life settings, such as fieldnotes, video recordings, ethnographic interviews, and relevant textual or visual materials. Moreover, it requires the ethnographer to remain attentive to what is actually unfolding in the field and how participants experience meanings from their own perspectives, rather than imposing the researcher's speculations upon the field and its actors. Therefore, the "foreshadowed problems" refer to a broad issue or idea that merits investigation rather than the specific object of inquiry and research questions that will eventually define the niche of the research. The latter ones must be constructed by the researcher during his/her engagement with the field and data. This construction is a non-linear process involving a series of iterative analytical loops (Delamont, 2004), which makes the analysis of ethnographic inquiries challenging. While a range of analytical tools are available to ethnographers, such as identifying patterns or key events, constructing visual representations (Fetterman, 2020), and applying qualitative data analysis techniques such as content analysis, thematic analysis or discourse analysis, there are no off-the-shelf analytical formulas ready for immediate use. Ethnographers must customise their analysis procedures from the outset, as each field is inherently unique, shaped by spontaneous and unrepeatable interactions. Additionally, because ethnography aligns with a constructivist epistemology where knowledge is co-constructed by participants and the researcher, its analysis is profoundly influenced by the researcher's subjectivity. This subjectivity is shaped by factors such as the relationships he/she builds with participants, his/her initial perspectives on the field, engagement with literature, and prior re-

search experiences. Consequently, the emergent nature of ethnographic analysis challenges researchers to “find their way through the forest” (Fetterman, 2020).

As such, in the following sections of this chapter, I will explain how I navigated the analytical challenges throughout this ethnographic research. I will outline my actions and decisions taken across three phases: (1) re-defining the foreshadowed problem, followed by a return to the field with a revised perspective; (2) conducting an initial round of data analysis in parallel with literature review, which led to the refinement of the object of inquiry and formulation of research questions; and (3) undertaking a second round of data analysis using Grounded Theory Method (GTM), which informed the organisation of my findings as presented in the chapter Findings and Discussion. This procedure is illustrated in Figure 10. By tracing my trajectory of data analysis, I aim to highlight the emergent nature of this research and invite readers to join me in considering the positioning of this ethno-case study within both real-life practices and conceptual frameworks.

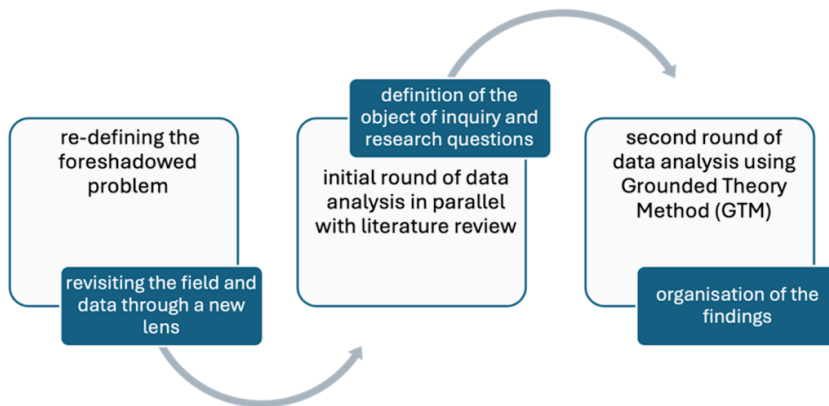


FIGURE 10: Analytical phases.

Redefining the Foreshadowed Problem

Although it is essential for ethnographers to avoid bringing preconceived ideas into the field, “the exhortation to beware of bias should not be interpreted as an injunction against prior thought”, since “there is a difference between an open mind and empty head” (Dey, 1993, p.65). To make sense of the field and produce new knowledge, researchers should take advantage of accumulated knowledge rather than dispense with it (*ibid.*). Therefore, ethnographers enter the field with “an intellectually thoughtful set of foreshadowed problems” (Delamont, 2004, section “Foreshadowed Problem(S)”). These foreshadowed problems are “ideas that will guide the access negotiations, the initial fieldwork, the early writing of the out-of-the-field diary. These come from reading, from colleagues and mentors, from the core of the discipline” (*ibid.*). As previously discussed, such foreshadowed problems are relatively general notions that will give rise to the specific object of inquiry and research questions.

In this research, the foreshadowed problem was profoundly shaped not only by my engagement with the literature and discussions with my thesis supervisor, but also by the field itself, particularly through my experience of the “waiting field”, as discussed in the section *Entering the Field*. At the earliest stage of my doctoral research, my intended focus was to explore the role of multilingualism in communication within the context of environmental volunteering. However, following the initial exchanges with the volunteer coordinator, Emma, and early interactions with participants in the waiting field, it became clear to me that this focus did not reflect the major concerns of the people in the field. They did not perceive languages and multilingualism as particularly impactful or contentious in conducting conservation work, organising nature-related activities or communicating environmental goals. For example, as Emma noted in the first interview regarding the “Discussions Publiques” and the NGO’s conservation information flyers:

And so for instance, for the Discussions Publiques, we’ve never had a Discussion publique where suddenly we were like ‘oh no! We cannot find a common language!’ There’s- like even if we don’t indicate a language, we will find a common one, and people will be like ‘oh no worries let’s talk in English’ or ‘let’s talk in French then.’ If

that's like how we can communicate all together. I mean that can go wrong if once you have a person that really doesn't understand one, or the other language but- and that's also how I feel about the local sections, I feel like Luxembourgish people know so many languages that it is actually easy for them to switch, and I feel like language is not the most important.[...] We have [the flyers] in French and English. And we said we would do it in French and English, and check out how it will go, and then we would see whether we would get a lot of feedback 'Oh why don't you have it in Luxembourgish?' Or, yeah and then we might translate it but for now it has actually never been a question.

Therefore, had I insisted on my initial foreshadowed problem and imposed it onto the field, it would have created a disconnect between the research and the realities of the field. Such a mismatch would have significantly undermined the richness and validity of the research outcomes and diminished this study's practical relevance.

While participants did not view language and communication as a major concern in their environmental volunteering, their reflections on human-nature connections emerged as a recurring theme throughout the fieldwork. Senior volunteers from different local sections independently articulated a shared concern about the growing disconnection they observed between the younger generation and nature, which is reflected in the noticeable lack of younger volunteers within the NGO. They often spoke about their physical interactions with nature or efforts to facilitate such experiences for others, and expressed both the enjoyment they found in learning about and being with nature as well as the deep concerns about the contemporary anthropogenic environmental problems. Their environmental volunteering activities, such as cleaning nest boxes, ringing wild birds, and maintaining traditional orchards and wetlands, left a strong impression on me. These practices suggested to me that domesticated, managed and even human-created landscapes are regarded by these people as part of nature, and that human presence and intervention in nature are acknowledged and valued. This perspective reflects a rejection of the notion of human-nature dichotomy, instead emphasising connection, interaction and mutual influence between human and nature. Therefore, I discerned that the issue of the human-nature connection held central significance for the people in the field. Consequently, af-

ter six months of initial engagement with the “waiting field” and a series of data discussion sessions with my thesis supervision committee, I decided to shift my research focus toward exploring the human-nature connections in the field.

Thus, I began the first round of data analysis guided by the revised foreshadowed problem: how participants’ connection with nature was unfolding, perceived and constructed on the ground.

First Round of Data Analysis: Refining the Object of Inquiry and Formulating Research Questions

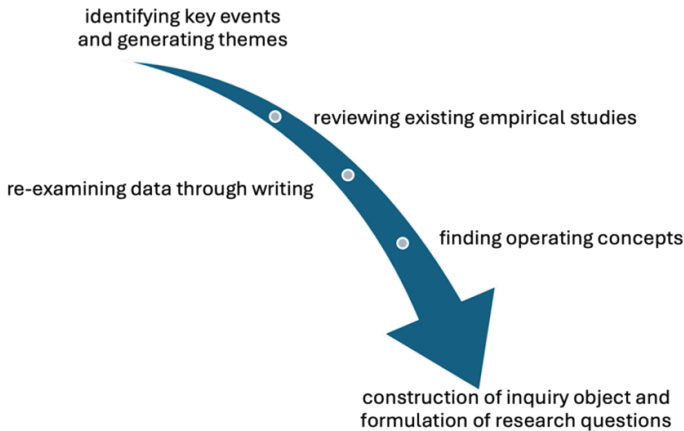


FIGURE 11: Procedure of the first round of data analysis.

Centred on the revised foreshadowed problem of human-nature connections, the first round of data analysis followed an iterative process that was both data-driven and literature-informed. The goal of the initial round of analysis was to construct the object of inquiry and to formulate research questions. This phase involved identifying key events within the data and generating relevant themes, reviewing pertinent empirical stud-

ies that could help interpret these events and themes, re-examining the data through writing, and finding operating concepts (Figure 11).

Identifying Key Events and Generating Themes

The initial identification of the key events was conducted intuitively. I began by asking myself two introspective questions: Which moments from the fieldwork or interview narratives left the strongest impression on me? How do these moments speak to me? When scrutinising the data through the lens of these two questions, I tried to position myself more as a “storyteller” than a “researcher”: If I were to tell the story of the people I encountered during fieldwork, what kind of story would it be? Which episodes would I choose to share with the audience, and how might these episodes come together to form the chapters of the story? With these questions in mind, my first step was to identify the incidents from each session of fieldwork and interview that resonated with me emotionally or challenged my prior assumptions. I documented my responses to these moments. Then, I reviewed the data with these key events as a reference point, in order to determine whether each event formed a part of a broader pattern or stood out as a singularly significant incident. In the following paragraphs, I will elaborate on this procedure through two examples.

During an interview with Eric, who is one of Luxembourg’s most prominent ornithology experts and the author of several scientific publications on the country’s avifauna and natural landscapes, I was surprised to learn that he had never pursued formal education in relevant disciplines such as biology or ecology. Instead, Eric took pride in having acquired extensive knowledge and deep insights into local ecology through self-directed learning characterised by sustained physical engagement with nature. I noted down my reflections:

Very touched by Eric. He was born during the WWII in a working class family in Luxembourg. Due to the difficult circumstances, he never had a chance to go to the university despite his excellent academic performance in school. However, thanks to his curiosity and love of nature, he self-taught himself into an expert on bird conservation and contributed to several books on science commu-

nication. Reviewing the interview with him, I can't help reflecting on my own luck and privilege, on my fantasy of higher education being the only place for knowledge production, and also on my unnecessary pride of being a PhD student. (Reflective notes on 27.03.2024)

Eric's extraordinarily fruitful learning experiences outside formal education contexts sensitised me to the theme of "learning about nature". Using this key event as a reference point, I asked the following questions as part of a larger set that guided the re-examination of the data: Did other participants also value learning about nature? If so, how did they learn? Did they place particular emphasis on learning within or outside formal education contexts? These questions enabled me to detect participants' opinions, narratives or actions that related to the same theme in other parts of the data, which may be articulated in a subtle and indirect way or not have left as strong an impression on me. I refer to these as "satellite events". The key event, alongside satellite events, gave rise to a broader thematic pattern. Regarding the theme of "learning about nature", I identified several statements, narratives and actions in interviews and fieldwork that reflect how participants perceive and engage with this learning. For example:

Birgit: Das ganze Wissen, was ich zum Beispiel erhalte über die Natur, habe ich mir selbst beigebracht. Also ich bin keine Biologin, nichts gelernt, gar nicht. Habe ich nur alles im Laufe der Jahre selbst beigebracht und all die Pflanzen, all die Vögel, all die Tiere, die ich kenne, und Zusammenhänge und so weiter, wie gesagt, alles selbst beigebracht. Und eben auch am Hand von LetzEarth, wo ich Kurs mitgemacht habe und solche Sachen, weil ich Aktivitäten dabei war und gelernt habe und das heute halt wieder weitergebe.

(All the knowledge, for example, what I know about nature, I taught myself. I'm not a biologist, I didn't study it, not at all. I've just taught myself everything over the years, all the plants, all the birds, all the animals I know, and how they are connected with each other and so on, like I said, I learnt all by myself. And also with the help of LetzEarth, where I took courses and stuff like that, because I participated in the activities and learnt things, and now I'm passing that on.)

Daniel: [...] und so habe ich dann mich Stück für Stück immer weiter familiarisiert mit den Arten und so weiter. So viel zumindest zum Bestimmen der Arten und dann ja weitere biologische Zusammenhänge oder ökologische, dass das kommt dann noch so ein bisschen dazu. Je mehr man, wie sagt, die Protagonisten in der Natur kennt, dann auf einmal versteht man auch wie die miteinander so ein bisschen wechsel, wirken.

([...]and so, little by little, I gradually became more and more familiar with the species and so on. At least that's how much I know about identifying species, and then there are other biological and ecological connections that come into play as well. The more you know about the protagonists in nature, the more you understand how they interact with each other.)

Bob: [...] So I've always said, among experts, I'm a layman, but among laypeople, I'm an expert. So the people who go on these walks don't want hugely expert opinion. If I can say, "That's a golden oriole and it lives there and it does this," people go, "wow! How do you know that?" It's just something I've acquired over the years.

Therefore, I came to realise that "learning about nature" is a theme that resonated broadly with the participants. Accordingly, it warrants deeper investigation in the next stage of analysis.

One standout key event was Jenny's planting of non-native fruit tree seedlings in the local traditional orchard. During the fieldwork in several of Luxembourg's traditional orchards, I learnt that the country's meadow orchards are predominantly composed of native fruit tree species, most notably apples and pears, with occasional plums and cherries. However, during a session of fieldwork in late September 2023, I observed Jenny planting fig tree seedlings in the orchard she and her fellow volunteers looked after. Although this act initially struck me as somewhat "unnatural", it was, in fact, Jenny's attempt to support the orchard in adapting to the impacts of climate change. In addition to recording Jenny's actions with the videocam, I documented my observations and thoughts in the fieldnotes:

Jenny called the three fig trees “an exotic corner” and “an experiment”. The label of the fig is “dessert king”. There were disagreeing voices regarding planting fig trees in the orchard of [place], because they are not “traditional” and “*einheimisch*”⁷ species in Luxembourg. But against the backdrop of climate change (see also the video when we talk about apples this year). The temperature is getting higher, and recently it has been less raining. Unlike it used to be, in the recent years the orchard is facing drought – no natural water in weeks during summer. Such climate is not good for the “traditional” apple and pear species, and Jenny and her colleagues are witnessing this change. However, such climate is suitable for fig to grow. So they start this experiment in their orchard against the “tradition” and “*einheimisch*”. She joked with Jules if in the coming years they would be planting coffee beans. Pay attention to their change and development of actions with nature, how they deal with / do and talk about the usually taken as negative issue – climate change. (Excerpt from fieldnotes on 30.09.2023)

This incident stood out as a singularly significant key event, not only because the action of introducing non-native species did not occur in other fieldwork sessions or interview narratives, but also because it uniquely encapsulated a complicated aspect of the human-nature relationship. The seemingly mundane act of planting fruit tree seedlings revealed a compelling paradox: While the action initially struck me and met with external criticism as “unnatural”, the participant perceived it as a “natural” strategy for enacting nature’s resilience in response to environmental change. Challenging my assumptions about the meaning of “natural”, this key event pointed to the interplay between human actions in nature and people’s perceptions of the human-nature relationship as a potential lens for interpreting the data.

The above two examples illustrate the initial stage of the first round of data analysis, in which I identified key events and considered whether these incidents indicated broader patterns or represented singular, meaningful

7 [DE] native, indigenous.

cases. Importantly, this reflective process did not begin only after I exited the field in November 2024; instead, I engaged in it throughout the entire data collection phase. As Cohen et al. (2017) remark, qualitative data analysis is not an isolated later stage of the research, but rather an ongoing process that runs through the entire project, meaning that data collection and analysis are frequently conducted simultaneously. Since the key events embody a concrete manifestation of the foreshadowed problem of the human-nature connection, maintaining a continuous attentiveness to them during both data collection and analysis provided me with a problem-oriented lens. Through this lens, I could engage with the fragmented field and heterogeneous data with an awareness of what I *could* – though not necessarily *should* – look for in fieldwork and unstructured interviews. Here, I emphasise that these key events informed me about what I *could*, rather than *should*, attend to, because I believe these key events should serve as *inspirations* that suggest possible directions for navigating the field and engaging with the data, rather than *instructions* that impose fixed perceptions onto the field. Treating key events as rigid guides risks bringing preconceptions into the field and desensitising the researcher to other meaningful niches in data, which is what ethnographic research explicitly seeks to avoid. In the meantime, attentiveness to key incidents helped me identify potential points of convergence within the data, as well as divergences or even tensions between participants' differing experiences and perspectives. These preliminary findings prompt me to make sense of the data more comprehensively and construct a "story" from the data, as mentioned previously.

I documented this tentative analysis guided by the identification of key events in a Word document titled *Story of Data* and an accompanying Excel table. In *Story of Data*, I organised the key events, satellite events, and my impressions, reflections and preliminary interpretation within a thematic structure. Each theme was derived in relation to the foreshadowed problem – human-nature connection – and used as the section title. I included screenshots from video recordings and excerpts from interviews or fieldnotes that outline the key events, alongside my tentative interpretations and, where applicable, contextual information or supporting literature. To facilitate the subsequent analysis, I used colour codes to highlight what I considered particularly noteworthy about the key event. Figures 12 and 13 present example pages from *Story of Data*. In the accompanying Excel table, I documented all the themes from *Story of Data*, as

Figure 14 shows. Next, I move to explain how a data-driven literature review has contributed to constructing my object of inquiry.

3. Acknowledgement of domesticated, managed and created landscapes and eco-friendly human intervention in natural environment

In the interviews where participants describe their previous activities at LetzEarth and in my fieldwork where various conservation activities are carried out, one action stands out: **creation and maintenance of landscapes**. Concerning such acts, there is an interesting contradiction. According to Oxford English Dictionary, the word 'natural' is explained as "Formed by nature; not subject to human intervention, not artificial". However, human intervention is a significant discourse/Discourse of the nature friends I worked with: They domesticated open lands into community orchard with significant cultural meanings; they established bird ringing station in nature reserve to monitor breeding and migrating birds; they hang artificial nest boxed in city parks and forests and regularly clean the boxes for next season; they remove weeds and trim trees in the wetlands...It's the discourse of "landscapes" described by Greider and Garkovich (1994, p.1) as "symbolic environments created by human act of conferring meaning to nature and the environment, of giving the environment definition and form from a particular angle of vision and through a special filter of values and beliefs."

Bob: We got the prize GreenLove for digging lots and lots of ponds because [city] has very heavy soil. If you dig a hole in [city] and just leave it, it fills with water and you've got a pond. So, we did, we dug ponds and we did planted hedges and we cut hedges and we planted trees, and we did all kinds of things and we were amazingly active.

For Bob, his work in the nature is "constructive". His description of how he and his colleagues made ponds is an interesting combination of "human construct" and "natural process". He uses three "come" to show that once the holes were "created", the natural landscape would form naturally. Human intervention here is no longer a disapproving process that changes the nature negatively. To "use" the land, does not always mean to "exploit" the land only for industrial or human used way.

Bob: And the... I mean, you really get the sense though, at the end of that work, you've done something incredibly constructive. Because, like we said, in [city], you just leave nature to establish itself. Just dig the hole and nature will come. The vegetation will come, and the rainwater will come, and it's got nowhere else to go so it just fills the pond. And after a time you've got the most amazing habitat there and it's very very inspiring. I ought to go back to [city] far more often than I do just to see what happened

FIGURE 12: Page from "Story of Data" (1).

to all these ponds that we created. [...] And so digging, if you've got the land or the permission to use the land, you can do wetlands from almost nothing.

In the later stages of the pond-digging work, the volunteers used mechanical aids. It's unusual to draw the connection between excavator and natural landscapes, but as Bob humorously said: "[...]we had one colleague in [city] who specialized in telling digger drivers exactly how to do wetlands." Human and machinery intervention is not regarded as negative here. It's a way to actively contribute to the conservation.

Birgit: Also am liebsten arbeite ich in der Natur. Wir haben zum Beispiel zwei Flächen, | die wir entbuschen, wo wir dann, da wird mit dem Freischneider wird alles gemäht, und wir reichen das dann zusammen. Auf einem Haufen wird das dann gemacht und dann können die Orchideen wieder wachsen. Zum Beispiel, ja. Und solche Sachen, wo man ein bisschen anpacken muss, ja, das mache ich gerne. Auf der anderen Fläche, da haben wir so kleine Tümpel, kleine Weiherchen und so, und da wächst Röhre String(?) Das müssen wir, wenn es zu viel ist, müssen wir das auch raus schneiden, rausnehmen, weil sonst verlandet der Weiher und dann haben die Tiere wieder kein Wasser da. Und dann habe ich so hohe Stiefel an und dann steig ich dann da rein, unter Wasser, solchen Sachen, das mag ich gerne.

Sa. 7. Oktober 2023 ·

10:00 – 13:00 Wir schaffen und erhalten ein wichtiges Feuchtgebiet: Kopfweiden werden gepflegt, Mödesüß gemäht und mehrere Tümpel entbuscht. Treffpunkt:




"We create and maintain an important wetland: we take care of pollarded willows, mow meadowsweet and clear several ponds of bushes."

Birgit talks about how their local section bought a land and "re-naturalized" and changed the landscape:

Birgit: Was machen die mit dem Geld? Wir sind ja kein Sparverein, sondern wir sind da für die Natur, was zu tun. Und dann war im Ösling an der Wilz eine Parzelle, die gekauft werden konnte, die dann renaturiert wurde. Die Fischen werden ausgenommen

FIGURE 13: Page from "Story of Data" (2).

	A	B	C	D
	reimagining the human positioning in nature	learning about nature	feeling	comments/thoughts
1	emotional connection and empathy with non-human creatures: anthropomorphism and anthropomorphization of the non-human beings;	learning from the family, community, whether or not they are layman or experts. Learning about nature is not only about the 'knowledge' but also about the attitude towards nature.	frustration and other negative feelings in face of politics and policies	how do people construe the human intervention in nature and with non-human beings: fix of the human-induced problems, or something pure human-induced problems, or something pure positively pro-active? What are the tensions and how?
2	'beauty'			
	Discourse on domesticated or managed nature; Acknowledgement of positive human intervention in nature; or humans are 'making up' for the problems they caused; stewardship			Why should we intervene? For what motivations? Who are these intervention for? Who benefit from these actions? (humans or non-humans??)
3	positive narrative of environment in contrast to the crisis narrative in dominant environmental discourses; through direct contact with nature	learning of natural knowledge goes hand-in-hand with the emotion	future orientation: children	what kind of nature and conservation are they
4		learning through direct connection with nature	complicated emotions: hope or not?	perceiving and expressing?
		learning of soft knowledge and hard knowledge in the nature; expert/non-expert	multi-layered meaning of the community conservation work: save the world? Feel happy or hopeful?	reactive conservation (mitigate human impacts on the environment vs. proactive conservation (taking preventive measures to address potential threats and challenges before they escalate) (OpenAII)
5	discourse on 'dirty' and 'clean'			
6	meaning of the view 'human is a part of nature'.			
7	The future-orientation: 'next generation', 'children'			
8	Generational gap.			
9	Characteristic of their on non-activist conservation engagement			
	man-created nature and its cultural meaning: bongert as a show case and			
10	its revival			
	"knock-on effect" of conservation; nature conservation as something social; Influence of personal relationship on environmental engagement; a holistic view of 'nature' and conservation; connection between			
11	conservation and other social topics (politics, education...)			

FIGURE 14: Excel table with themes derived from key events.

Reviewing Existing Empirical Studies

By identifying key events and generating tentative themes, I developed an initial understanding of the ethnographic data. As shown in the Excel table (Figure 14), learning about nature emerges as a prominent theme. Additionally, participants perceived human presence and activities in nature from a relatively positive perspective compared to the crisis narrative of Anthropocene, while also navigating mixed emotions related to their environmental engagement. However, this preliminary understanding did not yet constitute a clearly defined line of inquiry. To sharpen the analytical focus, it became essential to situate this study within specific areas of research and clarify the academic debates to which it aims to contribute. To this end, I engaged with existing empirical studies that have explored human-nature connections and addressed themes that resonate with those emerging from my data. This step helped position my research within ongoing scholarly conversations and therefore contributed to refining the broad foreshadowed problem into a more focused analytical thread.

As outlined in the section *Re-Defining the Foreshadowed Problem*, this ethnographic research aims to explore human-nature connections by examining how people perceive and construct these connections in their interactions with nature and the ways they articulate their relevant experiences. The themes emerging from my data pertain to people's lived practices, emotions, perceptions and meaning-making processes related to nature. Accordingly, this research has the potential to contribute to the discussions within the fields of environmental ethnography and environmental discourse. Environmental ethnography seeks to understand how environmental concepts and issues are perceived and experienced on the ground by relating diverse nature-related "knowledge, everyday perspectives and experiences" to one another (Greschke, 2015, p.137). The field of environmental discourse examines the "ensemble of ideas, concepts and categories" through which meaning is given to nature and which are expressed and reproduced through language and practices related to human-nature interactions (Hajer & Versteeg, 2005, p.175). Therefore, I anchored this research at the intersection of these two fields, and mapped the landscape of relevant empirical studies by compiling an annotated bibliography, as exemplified by Figure 15:

Empirical studies on environmental discourse

source	Journal / discipline	Issue, research question, results	methodology
Chang et al.2022	<i>BioScience</i> environmental communication	environmental digital discourse What environmental issues are discussed on Twitter and how? Results illustrate where environmental discourse diverges and converges on Twitter across countries, states, and characteristics, such as political ideology.	Quantitative automated text analysis
Gustafsson 2013	<i>Journal of Integrative Environmental Sciences</i>	This paper examines how the Swedish Society for Nature Conservation (SSNC), one of the largest environmental NGOs in Sweden, describes biodiversity in its 2011 yearbook. SSNC defines biodiversity by re-articulating three environmental discourses and integrating them into a single storyline. The analysis shows how these discourses offer different possibilities for different subject positions to speak about and act in relation to biodiversity. The study also shows how normative implications for action are articulated as consequences of these definitions and who is responsible for performing these actions.	Qualitative Text and Discourse Analysis
Carolán 2006	<i>Society and Natural Resources</i> sociology and policy	This article analyses the metaphorical terms within the environmental sciences.	Content analysis of a random sample of articles from three peer-reviewed

FIGURE 15: Example page from annotated bibliography.

This data-driven literature review, with a focus on empirical studies, contributed to the construction of my object of inquiry. Since both environmental ethnography and environmental discourse are interdisciplinary research fields rather than stand-alone academic disciplines, reviewing empirical studies from both areas revealed a range of theoretically and conceptually grounded themes from diverse disciplines that resonate with those emerging from my heterogeneous data. For example, environmental knowledge is a central theme of studies in Indigenous studies and environmental education. Insights from these studies often illuminate how and what people learn about nature, and how this learning interplays with how they relate to nature. This prompted me to approach the theme of “learning about nature” through the lens of the human-nature relationship. Human domination of nature frequently appears as a theme in studies of environmental justice and ecofeminism. Their argument that the human power over nature is rooted in the suppression of women and marginalised groups led me to reflect on and redefine the theme of environmental stewardship in my own data. Ecolinguistics’ focus on the role of language in shaping people’s view of nature and their relationships with it highlights language as an effective entry point to elicit and understand participants’ emotions and perceptions regarding nature. Thus, reviewing these empirical studies from environmental

ethnography and environmental discourse provided me with a frame for linking my data to the concepts of human-nature connection and relationship from epistemological, ontological and methodological perspectives. It also encouraged my deliberate engagement with conceptual tools from multiple disciplines – including linguistics, sociology, psychology, education and philosophy – to examine the scattered data on two interrelated levels: first, how participants connect with nature with respect to practices and experiences; and second, how they relate to nature in terms of the meaning and quality of the relationships they perceived and constructed. Therefore, this data-driven review of empirical studies has informed a further refinement of the object of inquiry. The foreshadowed problem of the human-nature connection has been developed into a two-layered set of questions: How do participants connect with nature, and what kind of relationships are constructed through connections?

Re-Examining Data Through Writing

The two questions derived from the data-driven review of existing empirical studies guided a re-examination of the data. In this step, the tentative themes were subject to “continual modification, addition, refinement, excision, extension and amendment” (Cohen et al., 2017, section 32.1). During this process, the lenses of connection with nature and relationship with nature served as “pre-ordinate analytical tools” that had been decided prior to the re-examination phase (ibid.). The objective of this phase is to explore what insights the data can offer into how participants experience, enact and perceive their connections with nature and how they position themselves in relation to nature. For this purpose, I employed writing as a method of analysis. According to Richardson (2024), writing is “*a method of inquiry, a way of finding out about yourself and your topic*” (p.179, emphasis in original). In a similar vein, Mitchell and Clark (2021) remind us that “[w]riting does not just report – but adds to and becomes part of the research method” (p.1). Specifically, my analytical writing involved composing a series of texts in the form of an “extensive abstract” that documented preliminary research questions, data interpretations and emerging arguments across different stages of the research. In the following, I present several excerpts from these “extensive abstracts”:

[July 5th 2023]

my project sets out to uncover the beliefs and values towards nature and the human-nature relationship of a group of environmental volunteers and staff at a nature NGO in Luxembourg and their perceptions of their engagement there. [...]

This project aims to answer the following questions:

- What does “nature” mean to the volunteers and staff of this nature organisation?
- Why and how do people connect with nature through volunteering at an environmental NGO?
- What and how are the knowledge and values about nature and connecting with nature created, negotiated, and conveyed in these activities?

What gains and challenges do the environmental volunteers experience in their engagement?

[...] I argue that a comprehensive understanding of nature and the human-nature connection enables us to find appropriate ways and mindsets for a mutually beneficial co-existence between human society and natural environment, and that eventually, we should understand “nature” as a social construct and that it is not to be regarded as a wild area that is apart from the society. [...]

[September 27th 2023]

[...] my dissertation explores the meanings of nature and human-nature relationships that are expressed, shaped, challenged, reconstructed and reinforced by a group of ordinary citizens from various walks of life who are highly engaged in environmental

activities. Through the study of their experiences and views, this project seeks to understand from a grassroots perspective how and why people (re)connect with nature and the meanings they endow the natural world.

[...] what do people talk about when they speak about nature? What do people do to connect with nature and contribute to conservation? What beliefs and values lie behind these talks and actions? In brief, the general research question is: what are the Discourses on nature and human-nature relationship of ordinary citizens with strong environmental engagement?

To answer the general research question, I delve into concrete questions such as: why do people care and act for nature? What challenges and tensions are people experiencing in their environmental engagement? How do people talk about nature? How do people learn about nature and translate their knowledge and concerns into action? How do people reflect on their experiences?

[...] Revealing the Discourses of ordinary citizens on the notion of nature, my research contributes in an innovative way to the environmental discourse analysis by addressing some facets of the diversity and complexity of human-nature relationships from a grassroots perspective. Since grassroots environmental participation is characterised by its hands-on, wide-ranging, practical and participatory nature, it has great prospects to contribute to possible solutions to the environmental issues faced by our world. As such, the relevance of this study lies in its highlighting of new perspectives to understand this topic and potential inspiration of wider involvement with pro-nature activities.

[July 5th 2024]

[...] My fieldwork also shows that participants actively manage the local natural landscapes through maintenance and monitor-

ing work, in Weldemariam and colleagues' words, "to care for, to save, to conserve, to steward [...]", while sharing knowledge and skills about nature in their interactions. Researchers argue that such a view of nature risks diminishing the agency of non-human nature and forcing anthropocentric human-nature relationships (Weldemariam et al., 2017). However, my further examination of the participants' discourse reveals that this notion of nature often motivates people to establish a long-term connection with nature, which leads them to go beyond merely viewing nature as a site for exerting human agency. They see through the agency of non-human beings and nature during their leisure time, informal learning and stewardship in nature: they talk about animals' survival strategies, emotions and decision-making, even though some of the claims are biologically unscientific; they narrate their experiences of (almost) being hurt by wildlife as anecdotes, which indicates the respect for animals' intrinsic right to self-defend irrespective of any human intentions or interpretations; they design awareness-raising activities that put human participants into the shoes of animals, inspiring a non-human perspective on the laws of nature; they describe nature as an active, dynamic, resilient, self-operating whole system rather than a passive substrate for human activities.

[...] The participants' trajectories of connecting to nature show that anthropocentric perceptions can serve as an encouraging start to connection with nature. These perceptions are not rooted in human chauvinism or human exceptionism, but in weak anthropocentrism. Weak anthropocentrism advocates that non-human organisms and environment have not only material utilities and instrumental value for humans but also intrinsic value to enrich the human spiritual world; therefore humans have a moral obligation to care for nature (Niu, 2019). Framing nature as a setting for serious leisure, social relationships and informal learning, the participants act in nature to explore the intrinsic value of the natural world. The initiation often evolves into long-term engagement with nature that empowers people to adopt a biocentric perspective, which acknowledges the inherent value and moral

standing of non-human life and advocates that the human moral concern should be extended beyond humankind to encompass non-human nature (Wang, 2019). This biocentric vantage point takes people's connection to nature to a deeper level, where non-human beings and nature are perceived as subjects that can actively participate in and influence the connections between humans, non-humans and the abiotic environment.

Based on these findings, I argue that a dichotomous perspective to understand people's views on nature does not help us grasp the complex and dynamic process in which people establish and negotiate their relationships with nature. People value human agency in nature and pursue their material and spiritual needs based on a rational understanding of human interest and nature's inherent value, while simultaneously conceiving nature and other organisms as active entities with intrinsic values and agency. (Re)Connecting to nature is a long-term dynamic process of learning and unlearning diverse notions of nature and non-human "others" through concrete interactions with nature and acquiring knowledge, skills and meaningful social relationships in these interactions.

Readers may note that the research goals, questions, findings and arguments presented in these texts differ from those of the book; some even diverge significantly from the contents here or are entirely absent here. However, this process of writing-as-analysis constitutes an important part of the trajectory towards niche research questions. It prompted me to reflect on how my data provides insights into the issue of human-nature connections and relationships. As writing made my understanding of data and the reasoning process visible and traceable, revisiting the data through writing enabled me to recognise the "data earworms" and uncover the "plot of my data" (Mitchell & Clark, 2021). In writing the "extensive abstracts", I repeatedly engaged in summarising, grouping and interpreting data to organise the relevant themes around the issue of human-nature connection, and developed arguments about how my data offers insights into fostering reciprocal human-nature relationships. As such, composing these texts stimulated an iterative reading of the data. During this process, it gradually crystallised that the data speak to three in-

terrelated perspectives of participants' connection with nature: how they interact with nature, how they view nature, and how they relate to nature. Participants interact with nature through physical contact, hands-on practices and intellectual engagement; they view nature as deeply interconnected with human existence and possesses non-instrumental value and agency; they reject the notion of human domination of nature but rather see themselves as part of nature. Thus, by this point, the object of inquiry and "plot of data" gained further clarity: This research sheds light on how people develop connections with nature, and how they view nature and their relationships with it in these connections.

Finding Operating Concepts

Following the clarification of my object of inquiry, I turned to the refinement of my research questions. For qualitative research, defining appropriate research questions is a challenging task. This is because the research questions of qualitative inquiries "should be general enough to permit exploration but focused enough to delimit the study" (Marshall & Rossman, 2016, p.176) due to the exploratory nature of qualitative research. As qualitative inquiries set out to "explore the general, complex set of factors surrounding the central phenomenon and present the broad, varied perspectives or meanings that participants hold" (Creswell & Creswell, 2018, p.192), the research question should address a phenomenon or concept rather than be limited to a specific research field. This requires the researcher to anchor the research questions into certain conceptual framework(s). Therefore, before formulating the research questions, I aimed to define the operating concepts of this study, namely the analytical lenses through which I would develop data analysis.

As clarified, the central object of inquiry in this research is people's connection with nature. Consequently, the concept of human-nature connection became the key notion shaping the research questions and guiding data interpretation. As discussed in the Literature Review chapter, the terminologies and conceptualisations regarding this concept are highly heterogeneous and fragmented. Depending on the discipline or research context, scholars have approached this connection from different perspectives, including material dependence, cerebral cognition and emotional attachment (Ives et al., 2018). This heterogeneity presented the

challenge of selecting a conceptual framework that aligns with my data. Therefore, I revisited the data, the emerging themes, and the extensive abstracts to identify the types of connections with nature that were prominent in my ethnographic field. I found that participants practice and perceive their connection with nature through a range of perspectives, from physical experiences to emotional resonance. It therefore became essential to select a notion that could encompass the multiple dimensions emerging from the data. With this in mind, I adopted the conceptual framework of human-nature connection (HNC) proposed by Ives et al. (2017), which identifies five types of connections to nature, ranging from material, experiential, cognitive, emotional and philosophical. Compared to related concepts that focus on a single aspect of either psychological attachment or physical interactions with nature, such as “nature connectedness”, “nature relatedness” and “contact with nature”, the five-dimensional HNC framework offers a more comprehensive approach to exploring people’s connection with nature from diverse perspectives. It enables me to approach the theme of connection with nature not only as a general phenomenon under examination but also to delve into its diversity and multifaceted nature in a more nuanced way.

As the relationship between participants and nature also emerged as a core theme in this research, the notion of the human-nature relationship also became an operating concept. Notably, this concept is included within the HNC framework, which is referred to as the philosophical aspect of the human-nature connection (Ives et al., 2018). However, I chose to treat this concept as a primary analytical lens rather than as a subordinate element within the HNC framework. This decision was guided by the engagement with data. Iterative data examination revealed that themes centring on human-nature relationships – such as “stewardship”, “people as part of nature”, and “recognition of domesticated landscapes as nature” – emerged as “data earworms”, namely recurring motifs, forming a pattern with analytical significance in its own right. While participants’ actions and accounts revealed the process and means by which they developed connections with nature, they also illuminated how participants positioned themselves in relation to nature within those connections. In this sense, the human-nature connection lens enables me to explore people’s practices and experiences in building connections with nature, while a human-nature relationship perspective allows for a deeper examination of the meanings people attribute to those connections. Therefore, I de-

cided to treat the human-nature relationship as an operating concept on equal footing with human-nature connections.

To define human-nature relationship as an analytical concept for this research, I turned to the literature in environmental philosophy. Environmental philosophers often use metaphors to describe this relationship, for example, portraying humans as a master, processor, engineer, guardian or caretaker of nature, or as an adventurer, participant in nature (see de Groot, 1992; de Groot et al., 2006). While these are powerful illustrations of the power dynamics views of nature embedded in the diverse human-nature relationships, they do not provide a systematic analytical model with explicit entry points to approach this notion. Additionally, I do not seek to use my data to validate any existing relationship image, but rather to examine how the data can elicit new insights into this concept. Therefore, a more structured conceptual framework is required. In light of this, I chose to draw on the conceptualisation and sub-concepts within Muradian and Pascual's (2018, p.10) human-nature relational model to develop my data analysis.

TABLE 4: An Elementary Typology of Human-Nature Relational Models (This table is derived from A Typology of Elementary Forms of Human-Nature Relations: A Contribution to the Valuation Debate, by R. Muradian and U. Pascual, 2016, Current Opinion in Environmental Sustainability, p.8–14. © 2016 Elsevier B.V.).

RelationalModel	Society–Nature Distinction	Nature with agency	Human–Nature Relationship	Emotional Drivers	Practices
Detachment	Yes	No	Nature invisible	Indifference	Absence of codi- fied practices

Domination	Yes	No	Nature as inferior to humans	Fear	Rules and norms based on human entitlement and superiority
Devotion	No	Yes	Nature superior to humans	Seek of transcendence Obligation	Rituals, taboos, religious practices
Stewardship	No	No	Humans as part of nature	Care, sense of belonging, identity	Conservation- and management-oriented rules and norms
Wardship	Yes	No	Nature as separate entity with intrinsic rights	Appreciation, peacefulness, care	Rules and norms where delimitation of pristine spaces or conditions, and biocentrism prevail

Ritualized exchange	No	Yes	Humans and nature as equals	Obligation	Rules and norms based on the sense of partnership
Utilization	Yes	No	Nature as separate entity without intrinsic rights	Needs satisfaction, hedonic pleasure	Rules based on rational calculation and market orientation

This conceptual framework of human-nature relational models serves as a useful analytical tool for this research. From a theoretical point of view, it breaks down the notion of human-nature relationship into conceptually grounded, explicit dimensions for analysis. From a data-driven perspective, since the themes emerging from my data encompass the society-nature distinction, nature’s agency, emotional drivers and interaction approaches with nature, this framework enabled me to transform what initially appeared as scattered themes into nuanced dimensions for examining human-nature relationships.

Compared to the more straightforward selection of *human-nature connection* and *human-nature relationship* as operating concepts, the choice of the third concept, *relational values*, was less direct. This was because it emerged as a notion that was “*responsive* to the emerging data and their analysis and interpretation (a *posteriori*)” (Cohen et al., 2017, section 32.1, emphasis in original). While participants’ narratives of their experiences with nature and real-life actions during fieldwork offered insights into how people cultivate various connections with nature in practice, the data also revealed that participants held compelling understandings of why

connection with nature is important. They also expressed ethical stances on how one should interact with nature and what qualities make their relationships with nature reciprocal. These understandings and stances reflect their beliefs about what is important, right, and preferred, which is the core concern addressed by the notion of *value*. The value-related themes emerging from my data include a sense of responsibility towards nature and future generations, hope and optimism for environmental engagement, and respect for nature as an active agent rather than an inert subordinate to humans. These perspectives clearly diverge from the notion of *instrumental value*, which treats the valued object merely as a means to an end. However, I also found the lens of *intrinsic value* inadequate for interpreting my data, as it did not appear that participants viewed nature as possessing moral worth independent of human presence.

A pivotal moment in identifying *relational values* as a suitable concept occurred during my exchange with Prof. Riyan van den Born, Director of the Centre Connecting Humans and Nature at Radboud University. Inspired by her work on people's visions of nature (e.g. van den Born et al., 2001; van den Born, 2006a, 2006b, 2008; van den Born et al., 2018; van den Born et al., 2024), I reached out to her via LinkedIn to ask for her advice on my preliminary findings at the time (see Figure 16). To my appreciation, Prof. van den Born responded warmly and suggested that I explore the concept of relational values. As elaborated in the Literature Review chapter, relational values proved to be a useful analytical lens for making sense of my data. First and foremost, it addresses the people's preferences, principles and virtues associated with their relationships with nature (Chan et al., 2016), which closely resonate with my emerging findings. It provides a conceptual tool to explore participants' views, beliefs and meaning-making regarding their relationships with nature. Analysing the data through the lens of relational values also added practical significance to my research: it highlights why (re)connecting matters for both people and nature, and why studying this connection is essential for understanding how to foster meaningful and reciprocal relationships with nature.

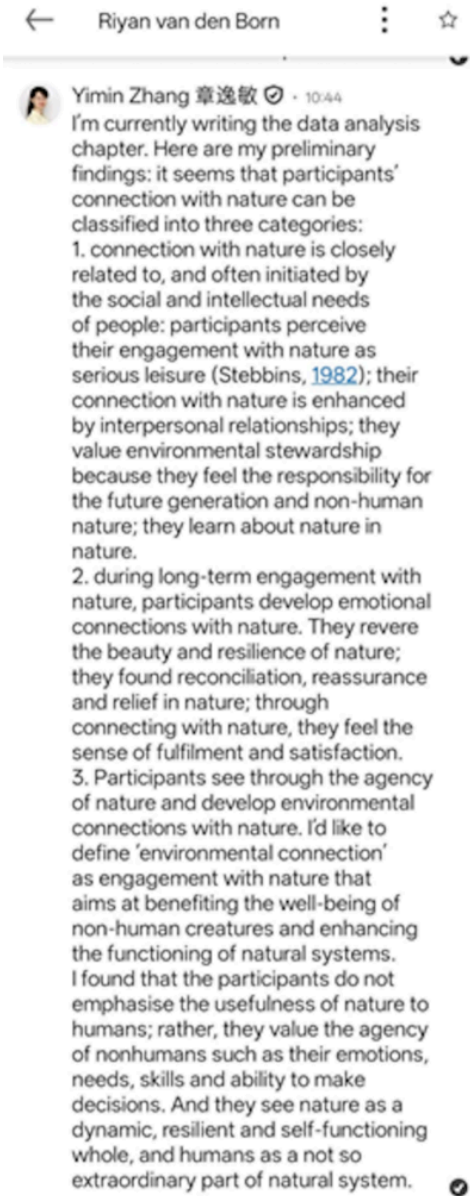


FIGURE 16: My message to Prof. van den Born about my preliminary findings.

Determining Object of Inquiry and Research Questions

The first round of data analysis involved an iterative engagement with both the data and literature. Throughout this process, the object of inquiry was crystallised: This research aims to explore how people connect with nature, what kinds of relationships they construct with it, and how they value these connections in their everyday engagement with nature. To refine these broad research objectives into specific research questions, it was essential to ground the research questions in the operating concepts, as well as the “story”, or, in Cohen and colleagues’ (2017) terms, the “plot” of the data. To this end, I revisited the key events, emerging themes and extensive abstracts through the lenses of the HNC framework, models of human-nature relations and relational values. This final step in determining the research questions can be metaphorically understood as “improvisational weaving”. In this metaphor, the key notions of human-nature connection, human-nature relation and relational values function as the warps, providing a continuous structure for data analysis. The ethnographic data and emerging themes serve as the wefts, threaded through the warps. Together, the warps and wefts shape the fabric – the story of the data – while the emerging research questions are the pattern of the fabric, formed by the dynamic movement of wefts across the warps and eventually becoming visible on the surface. This weaving is improvisational because the pattern was not predefined by a weaving draft, but instead emerged from the interwoven threads of warps and wefts. The determination of the research questions is akin to the moment when the weaver steps back from the loom and recognises the delightfully surprising pattern that has appeared.

This improvisational weaving forms the fabric: my data reveals that participants connect with nature through various perspectives, including experiential, cognitive and emotional aspects. They consider these connections important for both nature and themselves, as engaging with nature through these perspectives enabled them to gain knowledge, skills, enjoyment and hope, and to develop an ecological understanding of nature. In their experiences, they constructed relationships with nature that recognise the agency of both humans and nature, and they believe that such relationships should be preferred as a remedy for the current disconnec-

tion between people and nature, as well as for addressing the environmental crisis. This plot of data sheds light on the following questions:

- Which perspectives do participants consider important for initiating and deepening connection with nature?
- What views of nature and human-nature relationships are embedded in participants' engagement with nature from these perspectives?

Thus, the first round of data analysis achieved its aim: constructing the object of inquiry and defining research questions.

While the initial phase of data analysis represents the path toward formulating the research questions, the second round of analysis constitutes the trail toward answering them. In the following section, I detail my actions and decisions taken during this phase.

Second Round of Data Analysis Using Grounded Theory Method (GTM)

Once the research questions were defined, the study progressed to the next phase: systematically organising and interpreting the data using analytical tools to address the research questions. This marked the second round of data analysis, for which I selected the Grounded Theory Method (GTM) as the primary analytical tool. In this section, I explain the rationale behind this choice, describe how I coded data using GTM and operationalised the key concepts during the coding process, and clarify how I adapted the method to suit the nature of my object of inquiry and ethnographic data.

Why Grounded Theory Method as an Analytical Tool

Before I delve into the rationale behind the choice of grounded theory as the data analysis method, it is necessary to first situate this approach within my research and clarify the use of the relevant terms. According to the founders of grounded theory, Barney Glaser and Anselm Strauss

(1967/2006, p.1), the approach is designed for “the discovery of theory from data” and aims to “provid[e] us with relevant predictions, explanations, interpretations and applications”. As Timmermans and Tavory (2007) elegantly noted: “In essence, grounded theory presents an analytical choreography with a deep immersion in data and then a transcendence of this data to reach higher levels of abstraction” (p.496). While Glaser and Strauss’s original definition encapsulates the core features of grounded theory, namely its close attentiveness to empirical data and its goal of constructing theories inductively, they were “often unclear in their book as to when grounded theory referred to the end product and when it referred to the methodology” (Hadley, 2019, p.265). In fact, the emphasis on “the discovery of theory from data” suggests a strong focus on grounded theory as a product, which stands “in sharp contrast to the use of grounded theory method today where it is known primarily as a method of qualitative data analysis” (Urquhart, 2023, p.4). Therefore, today’s researchers often explicitly distinguish between the *Grounded Theory Method* and *grounded theory* as the outcome of GTM’s inductive analysis (Hadley, 2019).

In this research, I employed grounded theory as an analytical tool and deliberately refrained from claiming that the study aims to construct a grounded theory of human-nature connection. This caution is based on an awareness of the limitations of the current study and the existing literature on the topic. First, as discussed in the Methodology chapter, this ethno-case study was conducted within a relatively limited timeframe and with constrained immersion in the context, which restricts the capacity of this study to construct a comprehensive stand-alone theoretical framework. Second, as demonstrated in the Literature Review chapter and the *Finding Operating Concept* section of this chapter, the human-nature connection is not a topic for which little or no theoretical or conceptual frameworks exist. Accordingly, the aim of this research is to offer new insights that may empirically confirm, challenge or extend existing literature, rather than to construct a self-contained theory on human-nature connection. Grounded theory as an analysis method can contribute to this purpose despite the aforementioned limitations, because

while the application of the GT method can result in a theory, in many cases, it amounts to a new or better conceptualisation or a framework that links concepts but falls short of a fully elaborated

theory that covers all aspects, stages, consequences, and likelihood of a process or a phenomenon. (Timonen et al., 2018, p.4)

Therefore, treating grounded theory as a method for data analysis allows for the identification of new concepts from my ethnographic data that contribute to the development of existing theoretical explanations of the relevant experiences and phenomena (Corbin & Strauss, 2015). Hence, I chose grounded theory as the analytical tool for this research. In the following text, I use the term GTM to refer to my use of grounded theory as a data analysis method.

It is the core tenets of GTM that make it a suitable method of data analysis for this research: its embeddedness in data, its emphasis on emic and context-sensitive understandings of the object of inquiry, its theory-building orientation aimed at eliciting and constructing analytical relationships between concepts emerging from data, and its applicability to ethnographic data. First, GTM is an “exploratory, open-ended and emergent” (Hadley, 2019, p.265) method for inductive data analysis. As the attribute “grounded” indicates, the analysis starts from and is rooted in empirical data rather than predefined notions or frameworks. GTM enables data to generate analytical concepts, rather than letting concepts dictate the interpretation of data. It provides rigorous yet flexible guidelines for an inductive analysis that begins with an open exploration of the data (Thornberg & Charmaz, 2014). This characteristic closely corresponds to the emergent, data-oriented nature of this research. As illustrated in the previous section on the first round of data analysis, not only the object of inquiry but also the operating concepts of this research were constructed and identified from data. Therefore, GTM enables me to continuously engage in a data-driven mode of analysis, allowing my findings to remain deeply rooted in the ethnographic data. In doing so, it supports my aim of informing existing literature on human-nature connections and nature’s relational values with new insights generated from real-life settings.

GTM’s groundedness in data requires researchers to maintain openness to the empirical world and a willingness to understand the issue under examination from the perspectives of those who have experienced it (Charmaz & Thornberg, 2021). This entails paying close attention to participants’ actions and the contexts in which they are situated, as well as how they make sense of the actions and situations (Thornberg & Char-

maz, 2014). As Charmaz (2006) describes: “we try to learn what occurs in the research settings we join and what our research participants’ lives are like. We study how they explain their statements and actions, and ask what analytic sense we can make of them” (p.2–3). This leads to the second tenet of GTM: its emphasis on pursuing context-related and emic understandings of the processes and phenomena. This core principle makes GTM a powerful tool for analysing my data in a way that aligns with the research aim, namely to elicit participants’ perceptions and values regarding their connections and relationships with nature by examining their real-life practices.

Thirdly, while this research does not seek to construct a fully elaborated theory, it aims to go beyond the mere identification and description of emerging themes. The objective is to conceptualise the themes and illuminate the relationships between them. In other words, this study not only explores *what* types of connections and relationships participants form with nature, as well as the values associated with these experiences, but also examines *how* these elements are interconnected. This aim aligns with the “theory” aspect of GTM. Compared to other qualitative data analysis methods, GTM allows for to a “more abstract and complex level of ‘conceptual density’ – that is, the place where core concepts were derived from the data, affording the basis for clear articulation of the relationships between concepts and the generation of new theoretical insights” (Bryant, 2017, p.73). However, this does not suggest that GTM is incompatible with other qualitative research approaches, particularly not with ethnography, which emphasises “thick description”. In this research, I adopted GTM within an ethno-case study framework and combined it with thematic analysis in the initial round of data analysis and techniques from discourse analysis, as will be elaborated later. Charmaz (2014) synthesises GTM with ethnographic approaches, stating: “Grounded theory ethnography gives priority to the studied *phenomenon* or *process* – rather than to a description of a setting” (section Grounded Theory in Ethnography). Therefore, GTM’s theory-building orientation enabled me to conceptualise the themes emerging from the ethnographic data and analyse the interplays between these concepts, in addition to identifying and describing them.

Finally, from a standpoint of practicability, I chose GTM as an analytical tool because it is applicable and sufficient for analysing data collected in

this study, including fieldnotes, video recordings and interviews. Participant observation and qualitative interviewing are among the most commonly used data collection methods in the grounded theory approach (Timonen et al., 2018). GTM offers systematic yet flexible, data-oriented guidelines for analysing qualitative data, making it a well-suited analysis tool for this research.

Having outlined the rationale for choosing GTM as the analytical tool, I now turn to elaborating on how I applied GTM to analyse data following its guidelines.

How Grounded Theory Method Was Applied in Data Analysis

GTM encompasses a range of techniques and steps, including theoretical sampling, analytical data collecting, coding, memo writing, sorting, saturating and theorising (Charmaz, 2014; Thornberg & Charmaz, 2014). As previously discussed, while this research applies GTM as a tool for data analysis, it is not a grounded theory project in the traditional or strictest sense. The study does not aim to construct a self-contained theory. Similar to how ethnography is treated in this research (as discussed in the Methodology chapter), grounded theory is adopted here as a *process* rather than a *product*. Accordingly, I selectively borrowed techniques from GTM rather than following the entire grounded theory procedure in a step-by-step manner. Specifically, I employed a GTM-informed approach to coding as the primary analytical technique for this research. Coding is “the process of defining what the data is about” (Bryant, 2017, p.120). It means identifying what the data are about by categorising segments of data with a label that simultaneously summarises and accounts for each piece of data (Charmaz, 2006). Grounded theory coding consists of three phases: *initial coding*, *focused coding* and *theoretical coding* (Thornberg & Charmaz, 2014). I now elaborate on how I applied each of these phases to code and analyse my data.

INITIAL CODING

Initial coding, also referred to as *open coding*, is the phase in which the researcher stays close to and open to the data by scrutinising and assigning codes to pieces of data, word by word, line by line, paragraph by para-

graph, or incident by incident, or using a combination of these strategies (Thornberg & Charmaz, 2014; Urquhart, 2023). One of the key principles of initial coding, as indicated by its alternative name, is to remain open to data (Bryant, 2017; Charmaz, 2006). This requires the researcher to avoid examining the data through the lens of pre-existing knowledge or ideas, and to be prepared to be surprised or challenged by data (Bryant, 2017).

To foster flexible ways of seeing, researchers pose general and open-ended analytical questions to explore and define what is happening in the data (Thornberg & Charmaz, 2014). Grounded theorists have suggested a range of questions for initial coding from various perspectives. The following non-exhaustive list presents some example questions I encountered and categorised from the literature:

- Questions focusing on the plot of data: What is this data a study of? What is actually happening in the data? (Glaser, 1978, p.57) What does the data suggest? Pronounce? From whose point of view? (Charmaz, 2006, p.47)
- Questions focusing on the process under study: What process(es) is at issue here? How can I define it? How does this process develop? When, why, and how does the process change? What are the consequences of the process? (Charmaz, 2006, p.51)
- Questions focusing on participants' perspectives: What is the participant's main concern? (Glaser, 1998, p.140) How does the research participant(s) act while involved in this process? What does the research participant(s) profess to think and feel while involved in this process? What might his or her observed behavior indicate? (Charmaz, 2006, p.51).

Since this study's research aims to explore participants' perceptions of their connections with nature, I guided the initial coding process by asking myself four participant-focused questions: What are they doing here? What do they observe? How do they think? How do they feel? These questions helped me to remain close to participants' perspectives without imposing pre-existing notions onto the data.

To facilitate the coding process, I used the qualitative data analysis software MAXQDA. I used a colour-coding system: green for codes regarding opinions, yellow for observations, red for emotions, and blue for actions (see Figure 17). In Figures 18, 19, 20, 21, I show how I conducted the initial coding using these four open-ended questions, drawing on excerpts from the interview transcript with Bob as an example. The open coding generated an initial coding system, as shown in the Figure 22.

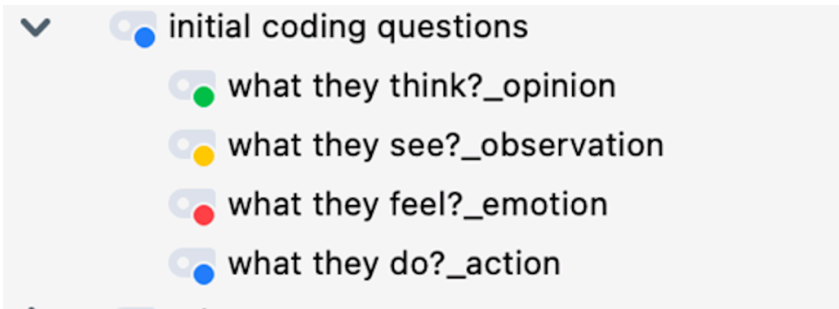


FIGURE 17: Questions for initial coding.

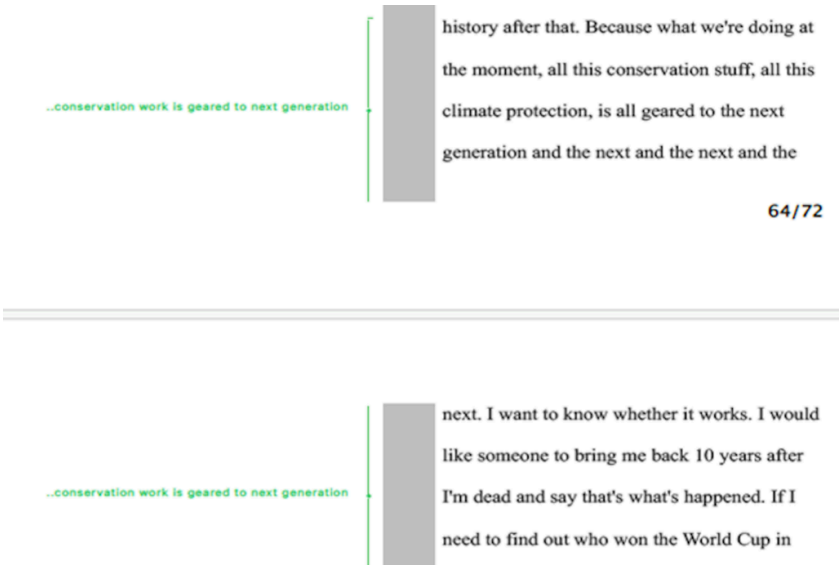


FIGURE 18: Coding example 1.

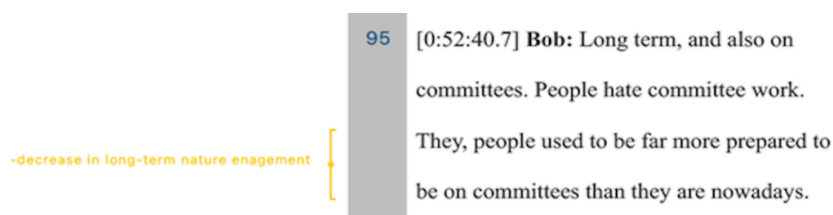


FIGURE 19: Coding example 2.

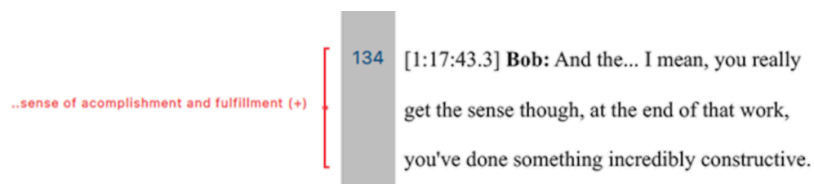


FIGURE 20: Coding example 3.

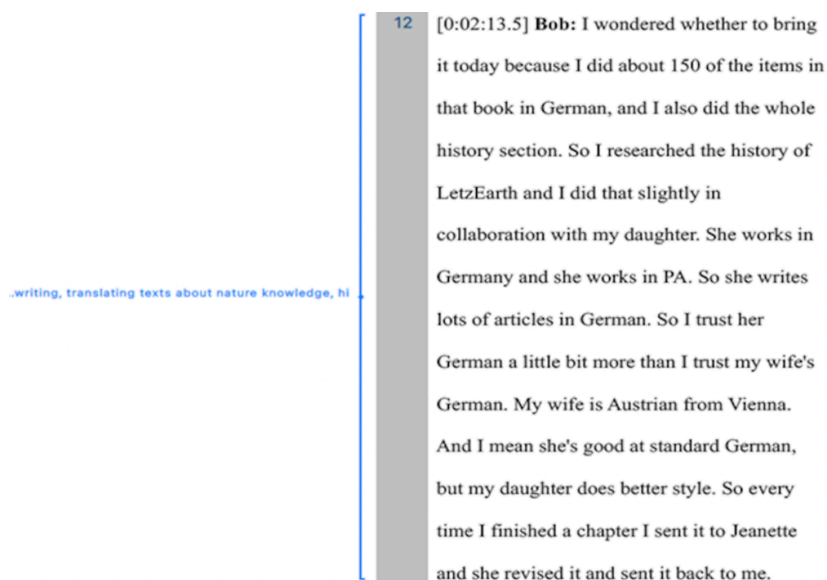


FIGURE 21: Coding example 4.

Code System	
Code System	
what they see?_observation	children nowadays make connection between soil and "dirty" decrease in insect species children/people are disconnected with nature nowadays children prefer to make "useful" things in nature when children are concentrated on feeling nature, they exclude other disturbance animals actually behave differently than people think nature establishes itself changes in practices and laws caused that children don't come along hands-on work and learning goes hand-in-hand decrease in long-term nature engagement
what they feel?_emotion	frustration seeing personal environmental effort diminished by society pleasure, joy, happiness feeling of home, at ease sense of accomplishment and fulfillment inspiration relief
what they think?_opinion	practical connection with nature by hand contributes to learning and emotion, in the brain on-ground nature education is especially needed nowadays to make up for "extinct experiences" soil is life learning about nature nurtures emotional connection physical and experiential contact with nature nurtures emotional connection critical stance toward the Christian view of nature as a exploitable resource the concept of "clean" kills nature it's enough and good to be "half expert" of nature people need a concrete entry point to connect with nature direct contact with nature develops people's relationships with nature, makes people see invisible things in nature there are both pros and cons in installing artificial facilities in nature people protect what they know people should stop using pesticides at all nature should be discussed and protected as a whole, not only as one species, nature is connected disconnection from nature is due to urbanisation it is important to learn about nature in nature and pass on the learnings nature is appropriated by capitalism pesticide are harmful for nature and should be banned political activism is an important way to engage with nature it is important to build network in nature engagement, to pass on approach to nature is influence by Joseph Cornell's theory we should feel the details in nature children should be brought into contact with nature to learn to appreciate it and not afraid of it children should be let outside to connect with nature nature shouldn't be regarded as something "dirty" or "dangerous" it is important that children get in contact with nature disconnection from nature makes children/people stressed out. children/people should learn about nature by experiencing it personally, not only through reading and being lectured conservation work is geared to next generation animals should be taken care of based on their inherent habits and needs nature engagement should be something developing we should be aware of social issues' impact on nature, and get politically involved preference to the "doing" at LetzEarth than activism environmental topics should be approached from a positive perspective conservation is about maintaining diversity of landscapes human is a part of nature and we are exceptional than other species
what they do?_action	encouraging children to grab nature in hand self-learning about nature through direct contact with nature or from other people installing artificial facilities in nature Passing on approaches to nature education feeling nature with children playing with nature learning about nature carrying out nature-related projects, education... developing network to implement nature-related projects, to learn conveying environmental knowledge (+) using linguistic competence for environmental communication initiating organisational support for conservation actions maintaining landscape creating landscapes doing hands-on work/activities exploring nature with family, friends, mentors writing, translating texts about nature knowledge, history

FIGURE 22: Initial coding system.

As the generated coding system showcases, the open coding process led to sorting and clustering of initial codes. As a result, the researcher was

able to identify the most prominent and frequent initial codes that warranted further analysis (Thornberg & Charmaz, 2014). With these insights in mind, the researcher moves to the next phase: *focused coding*.

FOCUSED CODING

In focused coding, also known as *selective coding*, the initial codes are organised into conceptual *categories* that capture the underlying patterns (Glaser, 1998; Thornberg & Charmaz, 2014; Urquhart, 2023). The goal of this step is to “synthesise and explain later segments of data” (Charmaz, 2006, p.57). This is the phase where I operationalised the key concepts identified in the first round of data analysis (see section 4.3.4 *Finding Operating Concepts*). In particular, the concept of *relational values* informed this process. At first glance, this may appear to be a violation of GTM’s tenet that researchers should approach data with an open mind and avoid imposing extant concepts. However, grounded theorists have addressed the misconception of “the researcher as a blank slate” (Urquhart & Fernández, 2013; Urquhart, 2023) and the belief that “engaging with the literature and existing theory spoils grounded theory” (Timonen et al., 2018). These myths stem from a superficial understanding of the role of literature in research (Urquhart & Fernández, 2013). The interaction between literature review and data analysis is not unidirectional. While prior engagement with literature can inform data analysis, the examination of empirical data also guides the researcher in identifying which literature may be useful to anchor the study and interpret the data. Therefore, whether an analysis using GTM is “contaminated” by pre-existing concepts does not depend on *whether* such concepts are involved, but rather on *when* and *how* the concept came into play. As Urquhart (2023) clarifies: “it is more accurate to say that grounded theory research does not *start* with a theory to prove or disprove” (p.32, emphasis in original), “but to consider what the data says first” (p.230). As illustrated in the section *Finding Operating Concepts*, the key analytical notions for this research were not defined *prior to*, but *during* data analysis. In other words, the lens of relational values emerged from data, rather than dictating my reading of data. Thus, it serves as a valid lens for focus coding.

Focused coding in this research, namely the categorisation of the initial codes, was therefore informed by the notion of relational values. Before examining the initial codes, I drew on the typology of relational values de-

veloped by Raymond and colleagues (2023) to orient my understanding of the concept toward using it as an analytical lens. According to Raymond et al., there are four key layers of relational values:

1. *Worldviews* are the “lenses” through which individuals and groups perceive, interpret, inhabit and modify the world. [...] Overall, worldviews can be clustered into three orientations regarding people-nature relationships. Anthropocentric worldviews prioritise humans [...]; Bio/ecocentric worldviews place importance on living beings (i.e. biocentric) or nature as a whole (i.e. eco centric) as having inherent worth in themselves [...]; pluricentric worldviews, an emerging concept, focus on reciprocal, intertwined and embedded relationships between humans and other beings, and nature’s elements and processes (i.e. with no centre).
2. *Broad values* are life goals and guiding principles, including what constitutes desirable people-nature relationships.
3. *Specific values* are judgements regarding the importance of something in “specific” contexts, including biodiversity, ecosystems, people-nature relationships or human wellbeing. These are sometimes called “assigned” or “contextual” values.
4. *Value indicators* are quantitative measures (e.g. hectares, money and indices) or qualitative descriptors (e.g. expressions, arguments and stories) of specific values. (p.3–4)

In focused coding, I adapted this typology into a set of guiding questions that helped me identify “value” within initial codes: How do the initial codes reflect participants’ beliefs, principles and preferences regarding connecting with nature? How do they convey the importance of connecting with nature to participants? What benefits do participants perceive from this connection? While scanning the initial codes through these questions, I selected the most illustrative ones, identified the underlying relationships among them, and then merged and categorised them into focused codes. An example of this process is how I categorised the initial codes “writing and translating texts about nature knowledge and history”, “doing consulting work”, “teaching knowledge about nature” and “raising awareness about environmental issues” under the focused code “giving nature a voice”. These initial codes appeared frequently across

different parts of the data and were therefore selected for further analysis. By revisiting the data segments associated with these codes, I identified a common thread: Through these actions, participants advocate for a deeper understanding of nature's complexity, resilience and agency and challenge a common notion of nature as a passive subordinate of humans. Drawing inspiration from a phrase encountered in the field, "give nature a voice", I grouped these initial codes under the focused code *giving nature a voice*. It reflects participants' recognition and respect for nature's active role in shaping the interactions between people and nature, and their belief that this attitude forms the basis of a reciprocal human-nature relationship that should be communicated and shared. Thus, *giving nature a voice* expresses their value regarding building meaningful relationships with nature.

Naming the focused codes was also a rigorous process. Charmaz (2006) reminds us that focused codes should be "more directed, selective and conceptual" (p.57). To reach this, I drew on both data and literature to search for precise and meaningful conceptual phrases for focused codes. As illustrated by the above example, some focused codes were derived directly from the data and the field, such as *grasping nature with hand and mind* and *giving nature a voice*. These codes remain closely tied to the ethnographic data while vividly synthesising the shared implications of relevant initial codes at a conceptual level. Other focused codes, such as *nature as guide* and *human as a collaborator with nature*, were informed by existing concepts, such as de Groot's (1992) notions of "Man the Steward of nature" and "Partnership with Nature". While inspired by these established ideas, these focused codes are intended to capture implications from my data that diverge from the original concepts in nuanced ways (see chapter Findings and Discussion). Additionally, some focused codes were directly borrowed from developed conceptual frameworks, such as *nature as "serious leisure"* (Stebbins, 1982). These codes emerged through an iterative process of examining relevant data segments, identifying connections among the initial codes and engaging with literature from multiple disciplines. Focused codes drawn from established literature benefit from conceptually developed notions, allowing the findings from my fieldwork to be addressed in an interdisciplinary manner. The following list demonstrates the generated focused codes:

- Grasping nature with hand and mind
- Experiencing nature as serious leisure
- Relational learning about nature
- Giving nature a voice
- Emotion sparks connection with nature
- Positive emotions as a way to connect with nature
- Positive emotions as a gain from connecting with nature
- Nature as a guide in learning about nature
- Nature as a participant of environmental engagement
- Collaborating with nature

Following the focused coding phase, the analysis progressed into *theoretical coding*.

THEORETICAL CODING

According to Urquhart (2023), “[t]heoretical coding is the stage where codes are related to each other” (p.79). In this phase, researchers move beyond an empirical description of data toward a higher level of conceptualisation and theorisation. The goal of theoretical coding is to “specify possible relationships between categories you have developed in your focused coding” in order to “tell an analytic story that has coherence” (Charmaz, 2006, p.63). Thornberg and Charmaz (2014) clarify the fundamental distinction between theoretical codes and initial or focused codes:

Initial and focused coding generate data-driven and empirical codes and categories by building on constant comparisons of data, data and codes, and codes and codes. In contrast, theoretical codes consist of ideas and perspectives that researchers import to the research process as analytic tools and lenses from outside, from a range of theories. Theoretical codes refer to underlying logics that could be found in pre-existing theories. (p.159)

As such, theoretical coding is the stage where external, extant theories and concepts play a vital role in GTM. Thornberg and Charmaz (2012) encourage researchers to explore and engage with a wide range of established theories across academic disciplines and professional domains to figure out theoretical codes. In this research, the conceptual frameworks

identified during the first round of analysis played a crucial role in theoretical coding: the multi-dimensional *human-nature connection (HNC)* framework (Ives et al., 2017) and the *human-nature relational model* (Muradian & Pascual, 2018). The HNC framework offers a way to approach people's connections with nature from multiple perspectives spanning inner to outer worlds. When I re-examined the focused codes and associated pieces of data with the HNC framework in mind, a metaphor emerged: it seemed that three vital organs played essential roles in fostering participants' connections with nature: hand, brain, and heart. This led to the conceptualisation of *grasping nature with hand and mind* and *experiencing nature as serious leisure as embodied experiences with nature, relational learning about nature* and *giving nature a voice as intellectual engagement with nature*, and the three emotion-related focused codes as *emotional resonance with nature*. These three theoretical codes illuminate how participants value different pathways for connecting with nature, enabling me to tell the first part of the "analytic story" by answering the first research question: which perspectives do participants consider important for initiating and deepening connection with nature? Meanwhile, two elements from human-nature relational model proved useful in conceptualising the shared implications of the focused codes *nature as a guide in learning about nature*, *nature as a participant of environmental engagement* and *collaborating with nature*, namely "nature entity with agency" and "how nature is positioned vis-à-vis humans" (Muradian & Pascual, 2018, p.10). The data segments associated with these codes suggest that participants reject the notion of a dichotomy between human and nature or the idea that nature is only "natural" without human presence. Instead, they value reciprocal interactions with nature and do not perceive such interactions as disturbances to nature. These data also reflect participants' recognition of and care for nature as an active agent in their interactions with it. From these reflections, I developed the theoretical codes of *human-included naturalness* and *recognition of nature's agency*. These two theoretical codes ultimately enabled me to articulate how participants view their relationships with nature.

This section outlines my trajectory in applying GTM-informed coding techniques to analyse my data, constituting what Hadley (2019) describes as a "[r]eflexively interpretive analysis, starting with empirical description and moving progressively towards higher levels of theorisation" (p. 266). Before presenting the organisation of my findings yielded from this

rigorous analytical process, I will first explain how I applied GTM in specific ways that align with the nature of my object of inquiry and ethnographic data.

How Grounded Theory Method Was Adapted to This Research

In addition to following the conventional coding steps of GTM, I also employed this analytical tool in a way tailored to the aim and characteristics of this study. The central goal of this ethnographic research is to explore people's perspectives and values associated with their relationship with nature, as expressed from their own viewpoints grounded in real-time life and lived experiences. This aim led to two particular emphases in my application of GTM: close attention to participants' language use, and a commitment to preserving ethnographic vividness in the presentation of the findings. I will now explain why these two aspects are important for my analysis, and how I engaged with them in the analytical process.

ATTENDING TO LANGUAGE AND DISCOURSE

As thought finds its expression, reality and form in language (Vygotsky, 1934/1986), examining participants' language use offers a tangible entry point to explore their beliefs, values, and perspectives. Therefore, placing analytical focus on language directly supports the aim of this study. This approach can be effectively integrated into GTM. In fact, language plays a crucial role in how and what grounded theory codes are constructed and analysed, as Charmaz (2006) expounds:

[...] language confers form and meaning on observed realities. Specific use of language reflects views and values. [...] we attribute meanings to specific terms and hold perspectives. Our codes arise from the languages, meanings, and perspectives through which we learn about the empirical world, including those of our participants as well as our own. Coding impels us to make our participants' language problematic to render an analysis of it. Coding should inspire us to examine hidden assumptions in our own use of language as well as that of our participants. (p.47)

Therefore, close attention to participants' language use facilitated me to construct the grounded theory codes and articulate how the theoretical codes reflect participants' perspectives on their connections and relationships with nature. To examine language use within data, I incorporated discourse analysis techniques in this grounded theory analysis. Specifically, I looked for *environmental discourse*, defined by Mühlhäusler and Peace (2006) as "the linguistic devices articulating arguments about the relationship between humans and their environment" (p.458). This entailed "trac[ing] a particular linguistic regularity" in participants' verbal expressions during interviews and fieldwork to identify the "ideas, concepts and categories" through which they attributed meanings to their experiences with nature (Hajer & Versteeg, 2005, p.175).

An example of this analytical act is the development of the focused code *grasping nature with hand and mind*. This code was directly inspired by a participant, Eric, who offered a compelling interpretation of the semantic link between the German verbs *greifen* and *begreifen*. Both can be translated as "to grasp" in English, yet *greifen* means "gripping" while *begreifen* means "to comprehend". Using this etymological insight as a metaphor, Eric argued that learning about nature begins with hands-on engagement. The examination of this piece of data, originally in German, inspired me to consider how a similar view can be embedded in and expressed through the English word grasp through its dual meaning. With this linguistic inspiration in mind, I revisited the data segments associated with the tentative code *grasping nature*, paying particular attention to linguistic regularities in participants' speech. I then observed a frequent use of transitive verb phrases that take nature as their object, along with participants' consistent expressions of approval for such actions. These language uses often occurred in narratives that articulate a causal link between physical contact with nature and a deepened understanding of it. Thereby, I confirmed that the focused code *grasping nature with hand and mind* effectively captures participants' perspective that practical interactions with nature foster a meaningful inner connection with it.

Deliberate attention to language use enhances this grounded theory analysis by offering sources for tentative codes, establishing logical links between raw data and conceptual codes, and facilitating an analytical presentation of the findings to address research questions. This suggests

that GTM can benefit from the incorporation of discourse analysis techniques.

RETAINING ETHNOGRAPHIC VIVIDNESS

There appears to be a subtle tension between a GTM way and an ethnographic way of making sense of the data. While a grounded theory approach emphasises conceptual development and theorisation, an ethnographic approach is oriented toward producing detailed and meaningful (“thick”) descriptions of lived experiences and settings (Oktay, 2012). When applying GTM as an analytical tool in this ethnographic case study, this nuanced divergence became my practical dilemma, particularly during constructing and presenting the results. Should I prioritise a higher level of theorisation encouraged by GTM, or foreground the empirical description valued by ethnography?

After careful, iterative reading of data and codes, I chose to strive for a balance between the two aspects – preserving an ethnographic vividness within this grounded theory analysis. This decision was guided by the overarching research goal: to explore how participants value their connections with nature from their own points of view, grounded in real-life experiences. An emic perspective in reading the data, both for the researcher and readers, is therefore essential for this study. A mere pursuit of conceptualisation and theorisation at the expense of the richness and originality of the ethnographic data would risk undermining this goal. Thus, in presenting the analysis results generated through GTM, I aimed to preserve ethnographic vividness – in other words, to foreground participants’ voices – by presenting and analysing the *ethnographic moments* (Prost, 2003) captured from fieldwork, and participants’ original narratives and expressions from interviews, rather than limiting the analysis to summaries or abstracted codes.

Social anthropologist Prost (2003) defines *ethnographic moments* as

the moment in which the anthropologist rises to meet a revealed problematic encapsulated in a particular instance of fieldwork, may be paralleled to the experience of religious epiphany, whereby embodied and intellectual understanding of phenomena and situation

come to merge, producing a totalising understanding of the field and the “afield”. (p.1)

In other words, an ethnographic moment constitutes an incident during fieldwork that strikes the researcher with its vividness and distinctiveness in revealing the complexity of the situation, process, phenomenon or issue under study. Therefore, incorporating ethnographic moments into GTM not only contributes to “grounding” the findings in field data, but also effectively conveys the tensions, interconnections and complexity embedded in the object of inquiry. In the Finding and Discussion chapter, I present ethnographic moments from my fieldwork by combining thick description, screenshots from video recording, transcripts of participants’ speech in the video clips and excerpts from fieldnotes. In doing so, I demonstrate how the analytical codes and their conceptual insights emerged from participants’ lived realities, thereby carrying practical richness.

In treating narratives from ethnographic interviews, I align with Flyvbjerg (2006), who asserts that “[g]ood narratives typically approach the complexities and contradictions of real life” (p.237). Flyvbjerg further argues that such narratives often cannot, and should not, be summarised, as doing so would strip them of their embedded richness. This perspective also applies to excerpts in which participants articulate their opinions and emotions. Not only do the original expressions matter, but even the length of the speech conveys the participants’ stance and intensity of beliefs and emotions. For instance, during the interview with Daniel, I initially assumed he was relatively introverted and not particularly communicative. I had to remind him to speak louder so the recorder could clearly capture his voice, and I prompted him several times to elaborate on the details of his relevant experiences and views. However, when our conversation turned to Luxembourg’s new conservation law, which bans the private capture of wild animals, including butterflies, regardless of intent, Daniel had much to say. His response resulted in approximately 1100 words of speech (in German) in the related transcript excerpts. This indicated to me his strong opposition to the delegitimisation of direct contact with nature. Therefore, I chose to present the original transcript excerpts rather than a summary, allowing Daniel’s voice, rather than solely my interpretation, to convey his view and experiences to the reader. Based on similar considerations, I retained the long narratives in which

participants recounted their experiences in data analysis, in order to preserve the richness and expressiveness embedded in their speech.

By presenting ethnographic moments and participants' original speech in data analysis, I aimed to preserve ethnographic vividness in this GTM-informed ethno-case study. This approach grounds the grounded theory codes within the perspectives of participants, demonstrates how conceptual insights emerged from the texture of field data, and creates an open and transparent "scope for readers" (Flyvbjerg, 2006, p.238) to engage with and evaluate my analysis, or even to develop their own interpretations of my data. Therefore, integrating ethnographic vividness does not undermine but rather enriches the implications of grounded theory research.

So far, I have elaborated on the actions, decisions and reflections that I engaged with during the second round of data analysis using a Grounded Theory Method. This rigorous procedure eventually gave rise to the "narrative framework" in which I report my findings (Urquhart, 2023, p.5) in the Findings and Discussion chapter, which follows the current chapter outlining my data analysis trajectory. In the next chapter, I will present a story of a group of ordinary citizens who have developed meaningful connections with nature through everyday environmental engagement from embodied, intellectual and emotional perspectives, and who have cultivated intriguing understandings of nature and human-nature relationships through these connections. Through eliciting their preferences, beliefs and views regarding engagement with nature, this narrative reveals how they value their relationship with nature as constructed in everyday, mundane interactions with it.

5. Findings and Discussion

Chapter 5 discusses the findings of this study. By presenting and interpreting the ethnographic data within a narrative framework guided by the theoretical and focused codes generated through the grounded theory analysis described in the previous chapter, this chapter addresses the following two research questions:

Q1. Which perspectives do participants consider important for initiating and deepening meaningful connection with nature?

Q2. What views of nature and human-nature relationships are embedded in participants' engagement with nature from these perspectives?

To answer these questions, I draw on distinct data sources: interview data for Q1 and video ethnographic data for Q2. This decision was based on the respective strengths of each data type in addressing the specific focus of each research question. The first research question explores participants' preferences and beliefs about connecting with nature. These thoughts were more explicitly articulated in interviews than during the activities in Aktioun fir d'Ëmwelt, which are characterised by physical work and non-verbal interactions. Moreover, for many senior volunteers, previous experiences of environmental engagement play an essential role in shaping their beliefs. Therefore, I draw on the strength of ethnographic interviews in eliciting remembered experiences and personal opinions (Buscatto, 2018) to address Q1. The second research question explores the types of human-nature relationships that are enacted through these multifaceted connections. This entails examining the live dynamics between participants and nature. To this end, I delve into the *ethnographic moments* (Prost, 2003), which were captured through fieldnotes and video recording and provide access to an emic perspective on the sense-making process embedded in real-life interactions (Koskinen-Koivisto et al., 2020). Although the volume of video data is smaller due to constraints beyond my control (e.g., fixed annual scheduling and weather-related cancella-

tions, as discussed in Chapter 3), the strength of qualitative data stems not from sheer amount, but from its potential to reveal previously invisible phenomena and more nuanced understandings (de Saint-Georges, 2018). Accordingly, I use these two types of data to address the two research questions respectively.

Sowing Seeds and Tending Soil for Connection with Nature

Exploring Connecting with Nature as a Trajectory

Existing sociological environmental ethnographies have been examining the roots of detrimental human-nature relationships and revealing the patterns of actions and perceptions embedded in non-confrontational human-nature interactions. These insights have advanced our understanding of how human-nature connection is deeply impacted by social, political, economic and racial power dynamics, and how reciprocal human-nature connections are enacted in educational, recreational and pro-environmental activities. In addition, a wealth of survey-based quantitative studies and meta-analyses have concluded that physical and psychological connections with nature promote people's well-being and pro-environmental behaviours (e.g. Barragan-Jason et al., 2023; Martin et al., 2020; Pritchard et al., 2020; Whitburn et al., 2020). The debate, however, seems to overlook a fundamental question: which perspectives do people consider essential for initiating and deepening connection with nature in everyday life? Neglecting this question risks overlooking the diverse and nuanced pathways through which engagement with nature can be sparked and nurtured in everyday life. As such, I will address the question:

Which perspectives do participants consider important for initiating and deepening meaningful connection with nature?

Embodied Experiences with Nature

During the interviews, participants frequently describe their direct, physical experiences with animals, plants and landscapes and express their

opinion that such practical engagement plays a fundamental role in fostering a close connection with nature. These discourses conceive “nature” neither as an abstract and general reference to all things that are “non-human”, nor as an “environment” that is often invisible as a substrate for human activities. Instead, nature is something concrete and tangible to hold in hand, to experience, to interact and work with. Their connection with this concrete nature, therefore, is enhanced through practical and embodied experiences with it.

“GRASPING NATURE IN MIND COMES FROM GRASPING NATURE WITH HAND”

I begin the detailed analysis with the focused code that emerged directly from my conversation with Eric. Born during the Second World War in a Luxembourgish working-class family, Eric’s early years were marked by modest material conditions but not boredom – his childhood was immersed in the exploration of nature. Due to the challenging post-war economic circumstances and the underprivileged family background, Eric could not afford to pursue higher education in environmental science as he wished. However, he has achieved a fulfilling nature career: he started as a primary school nature teacher and later was recruited as a mentor of nature pedagogy by the Luxembourg Ministry of Education. In addition, Eric is the former president of LetzEarth, its current honorary president, the co-founder of the conservation foundation GreenLove and one of Luxembourg’s leading ornithologists. There is no doubt that Eric has always been in close connection with nature throughout his life. During the interview, Eric recounted the beginning of his journey in nature:

Da habe ich Glück gehabt meine Eltern, die kamen alle beide von dem vom Bauern her und meine Großeltern die hatte noch einen Bauernbetrieb. Und für mich war es sehr wichtig, in den Ferien war ich dann dauernd bei ihnen auf dem Hof. Und meine Großmutter, die war so eine, sagen wir mal, so eine Küche, eine, eine Kräuterafrau. Sie hatten einen großen Garten. Und ich habe dann allmögliche Dinge gefragt, wie heißt das, und so. und was machst du damit? Und dann haben wir zusammengekocht. Und das war fantastisch. Ich habe da so viel, sagen wir mal, erlebt, konkret. Das heißt, mit, das wichtig ist, ehrlich. Wenn man, man sagt ja, ich habe es begriffen. Man vergisst immer, Begreifen, das kommt von Grei::fen. Das

heißt, wenn man etwas begriffen hat, musste man es vorher irgendwie auch gegriffen haben, angepackt haben. Und das war so wichtig, wir haben dann im Garten zusammengearbeitet. Ich habe dann gefragt, oh welcher Käfer ist das denn jetzt wieder?

(I was lucky, because my parents both came from farmer's family and my grandparents still had a farm. And it was very important for me, I was always on the farm with them during the holidays. And my grandmother, she was, let's say, a "herb lady". They had a big garden. And I would ask them all sorts of things, what is it called and so on, and what do you do with it? And then we cooked together. And that was fantastic. I've experienced so much there, let's say, concretely. That is, the important thing is, when, honestly, when people say, "I've grasped something, understood.", they always forget, grasping something in mind comes from grasping something with hand. This means if you've understood something, before that you have to somehow grip it with hands, have hands-on experiences. And that was so important, we then worked together in the garden. I then asked, oh which beetle is that again?)

This passage is part of Eric's answer to a question that was posed by himself during the interview: "[...] in order to really understand my, let's say, my engagement with LetzEarth, I must expand a bit. That is quite important, how do you get into nature conservation as, as we often say, a citizen?"⁸. Answering his own rhetorical question, Eric emphasises the importance of concretely doing, interacting and experiencing in his first contact with nature. Although the word "nature" is not mentioned in this excerpt, its presence is evident in the tangible and experienceable spaces of the farm and garden, where Eric and his family explored and worked with species such as herbs and beetles. His interpretation of the German verbs *begreifen* and *greifen* is particularly noteworthy. Both words can be translated as "to grasp" in English, but with different semantic meanings. *Begreifen* refers to "to understand something completely" and *greifen* means "to take a strong hold of something". To preserve Eric's nuanced linguistic interpretation as much as possible, I translate his argu-

⁸ [...] um meinen, sagen wir mal, meinen Engagement bei LetzEarth richtig zu verstehen, muss ich ein bisschen schon ausholen. Das ist ja wichtig, wie kommt man zum Naturschutz, als, gewöhnlicher sagen wir mal, Bürger?

ment as “grasping something in mind comes from grasping something with hand”⁹. It goes beyond a morphological explanation that *begreifen* is derived from the root word *greifen*, but highlights Eric’s strong belief that practical experiences in nature form the crucial basis for cognitive understanding of it.

While Eric is the only participant who explicitly articulated this intriguing perception of “grasping”, the data suggests that the idea of “grasping nature with hand” is also valued by other participants. For Christophe, holding a bird in hand is “magical”. In 2005, Christophe moved from France to Luxembourg for work reasons. As a newcomer to the Grand Duchy, Christophe “wanted to visit the country with the approach of nature” and became a member of LetzEarth. He learnt about the wetland reserve and the Reed Marsh team through LetzEarth’s magazine *Rose*. During his first visit to Reed Marsh, Christophe found “the activity very interesting. People were also very cool and very friendly”, and afterwards joined the bird ringing team. He recalled his contact with Luxembourg’s nature:

The passion to do something connected with nature came progressively, I would say. And I love animals more. Okay, already there are also plants or trees. But the thing with birds is very special. Yes, when you have a bird in your hand, it’s magical.

This excerpt suggests that Christophe views connection with nature as a developing process, and for him, the practical interaction with concrete species – in his case, birds – is a significant catalyst for this process. His description of the feelings of having a bird in hand is “special” and “magical”, which are not tactile sensations but rather inner experiences of meaningfulness and wonder. This interestingly echoes Eric’s view that “grasping something in mind comes from grasping something with hand”, suggesting that physical contact with tangible species nurtures internal responses towards nature. These internal responses, in Christophe’s words, can “progressively” develop into the “passion” of engagement with nature.

9 Man vergisst immer, Begreifen, das kommt von Greifen.

Michael also values physical contact with nature, as he believes practical experiences promote emotional and cognitive connection. Before his retirement, Michael worked as a primary school nature teacher and a mentor in nature pedagogy at the nature activity centre, Green Charlet, which was affiliated with LetzEarth. At Green Charlet, children are offered outdoor workshops and activities to learn about nature and how to interact with it. Throughout his career, Michael dedicated himself to guiding children to experience and explore nature. Outside of his professional work, he has been a long-term volunteer at LetzEarth's local section, City. During the interview, Michael used the imagery of hands and brain to vividly explain his perspective that physical practices play a unique and important role in forming an awareness of nature:

Also, alles, ich glaube alles, was man mit den Händen macht, das geht gleich ins Gehirn rein. Da ist die Verbindung von der Hand, von den Sensoren in der Hand, da geht die Verbindung bis ins Gehirn. Wenn du das gemacht hast, dann weißt du das. Aber anders so theoretisch ist das nicht derselbe, den vielleicht verschieden, die sind anders geschickt, die Gehirne, die können das auch aufnehmen, aber, aber viele brauchen halt, die meisten, glaube ich, brauchen den Kontakt, damit es klappt, ne? [...] Er muss damit richtig arbeiten und richtig anfassen.

(So everything, I think everything you do with your hands goes straight into the brain. There's the connection from the hand, from the sensors in the hand, the connection goes right into the brain. If you do it, then you know it. But theoretical things are not the same, it's perhaps different, it's sent in a different way [into] the brain. The brain can also pick it up, but many people need, I think most need the contact to make it work, right? [...] You must really work with it and touch it.)

Besides emphasising the impact of physical interaction on the cognitive connection with nature, Michael argued that such interactions also arouse emotional responses:

Auch die Gehirnzelle wären erst dann bestimmt stimuliert. Dadurch Kinder dann mit Sachen in die Hand nehmen, selber probieren. Man muss sich mal schmutzig machen, dass man sieht, was Erde ist. Guckst du, habe auch ein schönes Beispiel, im Kopf, dann,

ein kleines Mädchen hat dann auch dann, einen Wurm. ‚Hei kuck mol, Michael, ein Wurm!‘ Guck, ein Wurm, ne? Die dann, ‚Eeeh---, Wurm.‘ ‚ist ein schöne Wuerm? Guck, wie den jetzt bewege do. Wie die bewege auf der Hand. ‘ ‚Wo kannst du den anfassen?‘ sagt ein anderes Mädchen. Der macht ja nichts, der Wurm. Da, so kleine Sachen, den zahlt. Da kannst du so viel le::sen und so, das kannst du lesen, du kannst Bilder gucken, ist nicht derselben. Du musst spüren, wie der Wurm sich auf deine Hand bewegt. Oder ein Käfer, der krabbelt da, ne? Spürst du, wie der so, so ganz, so richtig kitzelt, ne? So kitzelt. Ja, die kleinen Füßen, die so, ganz, ganz, ganz... fein! Da werden deine ganz kleine Nerven, da werden, der berührt. Die Berührung geht dann ins Gehirn. Das geht bis in deinen ganzen Körper. dass du das fühlst, das kannst du nicht so lernen als Bücher. Das ist richtiger Kontakt mit, mit den Tieren.

(The brain cells would definitely be stimulated then. Through [practices] children hold things in hands, try out by themselves. You have to get your hands dirty to see what earth is. Look, I also have a nice example in mind: a little girl with a worm. “Hey look, Michael, a worm!” Look, a worm, right? Then, “Eeeh---, worm.” “Is a beautiful worm? Look, how it moves there. How it moves on your hand?” “Where can you touch it?” said another girl. It doesn’t harm, the worm. So, little things like that, it counts. You can read a lot, you can read, you can look at pictures, it’s not the same. You must feel how the worm moves on your hand. Or a beetle, it crawls there, right? You can feel how it really tickles, right? It tickles like that. Yes, the little feet that are so, so, so... fine! Your very small nerves are touched. The touch then goes to your brain. It goes all the way into your body. You can’t learn that from books. It’s real contact with the animals.)

The anecdote of the two little girls and the worm illustrates how emotional reactions towards species that are often negatively perceived can be changed through physical interaction. With Michael’s encouragement to hold the worm, the two little girls navigated their feelings from disgust to curiosity, supporting Michael’s opinion that physical contact with concrete species forms a closer inner connection with nature. It is also noteworthy that while Michael believes that the worm and beetles should be held in hands for interaction, he does not perceive them as something under human control and devoid of agency. Holding the worm and beetles is not aimed at demonstrating humans’ power to control over these

small animals or the desire to dominate them, but to experience their vitality directly: the worm is “beautiful”, and the beetle “tickles” with their tiny feet. This transition from tactile to emotional sensations, according to Michael’s vivid metaphor of brain and nerves, can only be achieved through physical interaction with nature. He gave another example of “embracing trees” to illustrate this viewpoint:

Auch den Baum fühlen, haben wir auch gemacht, immer den Baum fühlen, auch mit verbundenen Augen, wie gesagt, die Augen binden. Nur gesagt, müssen den Baum umarmen. Das ist unser Freund, so, die Baumen. I embrace the tree, and I...I try to be in contact with him. Es ist so viel, als die Rinde von dem Baum spüren, dass die anders siehst als die von anderen Aart. Wenn du das Eiche fühlst, du hast eine Birke oder du hast eine Buchen, die Buchen hat den Stamm glatt, die Eiche hat ganz graue Rinde. Kannst du gut unterscheiden durch das Fühlen nur. Ich kann es auch im Buch studieren, ja, das so, so und so und dann, die ist es so und so. Wenn du die nie gespürt hast, dann vergisst du das wieder sowieso ganz schnell. And dann spürt hast die raue Rinde von der Eiche, "das ist eine Eiche", da kennst du gleich, ne?

(We also felt the tree, we also did that, always to feel the tree, with blindfolds covering eyes. Just as said, must hug the tree. That's our friend, the trees. I embrace the tree, and I... I try to be in contact with him. It's so much, like feeling the bark of the tree, the barks of different tree species are different. If you feel the oak, you have a birch or you have a beech, the beech has a smooth trunk, the oak has very grey bark. You can only tell the difference by feeling it. I can also study it in the book, yes, it's so, so and so and then it's so and so. If you've never felt it, you'll forget it very quickly anyway. And then you feel the rough bark of the oak tree, "that's an oak tree", you know right away, don't you?)

The gesture of embracing and hugging carries emotional significance. Like Michael mentioned, embracing creates a sense of friendship between people and trees. At the same time, physical contact contributes to nuanced learning about trees. While bark textures can be described in textbooks as verbal knowledge, descriptive language alone cannot create the embodied learning experiences that Michael believes are an efficient way of understanding nature.

While Eric, Christophe and Michael shared encouraging experiences of how hands-on interactions with nature have promoted the cognitive and emotional human-nature connection, Birgit, the president of LetzEarth local section Nord, expressed her concern about what Pyle (1993) terms as *extinction of experience*:

Die [Kinder] haben keine Zeit mehr, um dann auch noch da irgendwas über Schmerterlinge zu lernen oder über den Fuchs zu erfahren, oder irgendwie so etwas. Das fehlt sehr. Okay, die Kinder lernen auch ein bisschen über die Natur in der Schule, aber nicht so das Praktische. Das fehlt einfach, und wirklich mal ein Regenwurm anzufassen, mit den bloßen Händen in der Erde zu wühlen und zu gucken, was es dafür Lebewesen gibt in der Erde und so.

(The [children] don't have the time anymore to learn something about butterflies or experience things about foxes, or anything like that. That's missing very much. Okay, the children also learn a bit about nature at school, but not such practical things. That's just missing, actually touching an earthworm, digging in the soil with their bare hands and seeing what kind of creatures there are in the soil and so on.)

Birgit's critical view that the "practical things" are missing in today's environmental education implies that she considers hands-on contact to be essential in learning about nature. It impressed me how strongly her examples of the physical contact with nature resonates with her fellow volunteers. The fundamental role of "hand" in initiating contact with nature is highlighted once again, emphasising that an inner connection with nature starts with actions such as grasping, holding, touching, and digging.

While expressing the perspective that hands-on contact with animals, plants and non-living forms such as soil is fundamental for developing meaningful connections with nature, participants described their lived experiences of "grasping" nature. They picked up everyday plants and animals in the surroundings and interact with them with curiosity, care and joy. For example, Michael and his students collected frog eggs and built mini paludariums to observe the life cycle:

Michael: Formerly I was a teacher, a normal teacher in primary school. But I always was interested in nature activity, so I went

with my little students, I went outside always when I was a normal teacher already. We had, we collected frog eggs to see the evolution in class, and afterwards we put them back in the pond. So the children could see the evolution of life because with frogs you can see a little bit of evolution. Life came from water and it goes on the land. A bit compacted history of evolution.

Yimin: I never thought frogs in that way, but now...

Michael: Yes, but it's really stunning to see that. You go to the pond with the kids and they collect the eggs and you take them in a little aquarium and then you must make also a land place where the little frogs can go. But you have to put them very quick outside again because they don't get the food they need when they are in an aquarium. You can feed the little frogs afterwards. We had also, I had to make contact with, I always was impressed how much is necessary for children to be in contact with animals.

What strikes me most in Michael's experience is how profound knowledge about nature can be visualised through small, entertaining interactions with familiar animals. The macroscopic concept of evolutionary history becomes tangible through creating a paludarium and observing the life cycle of frogs. This fun interaction with frogs serves as an intuitive and embodied approach to learning about the species' living habits and the history of organisms transitioning from aquatic to terrestrial life. Moreover, hands-on activities transform such knowledge from purely cerebral understanding into an experience that evokes a sense of wonder and emotional connection with nature. As Michael puts it, "It's stunning to see that".

Birgit also recalled her interactions with frogs and their amphibian relatives, but within a different context. Each year from mid-February to mid-April, the mild nighttime temperatures along with the humid climate in Luxembourg create ideal conditions for toads, frogs and other amphibians to migrate from their winter terrestrial habitats to spawning waters. Yet their migratory paths are cut off by motorways and highways, with speeding vehicles further increasing the danger of these animals being killed during the crossing. As such, LetzEarth has launched the annual "rescuing toad in migration" action in cooperation with the Luxembourg

Nature and Forestry Administration (ANF)¹⁰ to help the amphibians reach their spawning waters safely. During the migration period, ANF staff set up fences at the borders of the concerned terrestrial habitats to prevent the animals from crossing the motorways by themselves. The LetzEarth volunteers then collect the migrating amphibians in buckets and take them across the motorways. The toad rescuing action is one of the first activities that Birgit participated in when she started volunteering at LetzEarth. This engagement has left a deep impression on her:

Und damals haben sie Kröten und Frösche über die Straßen gesetzt, damit sie nicht überfahren werden. Und das war in der Zeit, wo ich dazu kam. Da kann ich mich noch so gut daran erinnern, ja. Wie geht das? Werden die wirklich überfahren und so? Ja, die werden wirklich überfahren. Auch wenn man sie in die Mitte nimmt von den Rädern und sterben sie durch den Luftdruck und so weiter. Das sind alles Sachen, die man dann gelernt hat und später dann auch weiter gemacht. Als richtig Erwachsener, dann habe ich dann selbst zwischen Bettendorf und Monsdorf Kröten und Frösche und Molche über die Straße gesetzt. Und ja, so hat das sich aufgebaut und immer wieder was in der Natur getan.

(And back then they took toads and frogs across the road so they wouldn't get run over. And that was at the time when I joined. I can still remember it so well, yeah. How does that work? Do they really get run over or things like that? Yes, they really do get run over. Even if they are in the middle of the wheels they die from the air pressure and so on. These are all things that you learnt and then continued to do later. As a real adult, I then help toads and frogs and newts across the road between Bettendorf and Monsdorf by myself. And yes, that's how it built up, always do things in nature.)

In this excerpt, Birgit did not describe the practical interactions she had with toads in this action. Nevertheless, her recollection of this practical experience reveals its profound influence on her awareness of the often-overlooked, nuanced ways in which everyday human activities impact nature. Through the hands-on rescuing actions, Birgit realised that the motorways and vehicles that people take for granted seriously pose mor-

¹⁰ Administration de la nature et des forêts.

tal danger to these small animals. She learnt about the subtle vulnerability of nature caused by human activities, a phenomenon that is highly unlikely to be found in any biology textbook. Even if a frog wheels do not crush a frog, the pressure differential caused by the car passing over it can still kill it. This awareness, knowledge, and the willingness to act for nature are “built up” in such practical engagement with nature.

Eric’s experiences also strongly support his intriguing perspective of “grasping” nature:

Und da es kein Fernseher gab, das heißt, die Freizeit, die wir hatten, die verbrachten wir wo? Draußen. In der Natur. Und da haben wir, ich habe mit meinen Brüdern, wir hatten da nicht weit entfernt von unserem Haus, da gab es einen Bach, damals war der Bach noch sauber. Wir haben da Fische gefangen, kleine. Die haben wir dann in Aquarien gemacht und wir haben dann gesehen, wir haben Froschleicht genommen. Und wir haben dann gesehen, wie aus den Eiern da auf einmal kleine Frösche kommen, Kaulquappe und so. Das war so, so wichtig, dass wir das konkret erlebt haben. Der Nachbar, der war auch ein Bauer bei uns. Und jetzt hat, auf einmal, hat seine Katze, die hatte drei Junge bekommen. Und er hat uns jedem, von meinen zwei Brüdern damals, der Jüngste war noch nicht auf der Welt, wir bekamen dann einen Katz. Ah! Das war! Das war natürlich SO wichtig, dass wir uns da auch darum kümmern mussten, wir haben dann festgestellt, ja wie, was fressen die, wie verhalten sie sich, und so weiter und so weiter. Und da es kein Fernsehen gab, was machten wir? Sonntags mit unseren Eltern haben wir jeden Sonntag wenn frei war, gehen wir spazieren in die NATUR. Und da haben wir, alle, wir haben Pilze gesammelt. Wir haben Früchte gesammelt. Wir haben Blumen gesammelt, einen Blumenstrauß für meine Mutter. Das war so wichtig. Ich habe die Bäume kennengelernt, die Blätter der Bäume, die Früchte der Bäume. Und das war die BASIS, sagen wir mal, für meinen ganzen Naturschutzgedanke. Ohne diese Basis, glaube ich, hat man es sehr, sehr schwer.

(And since there was no television, so to say, the free time we had, where did we spend it? Outside. In nature. And there, I, with my brothers, we had a stream not far from our house, back then the stream was still clean. We caught fish there, small ones. We built aquariums and we saw, we took frog

spawn. And we saw how from the eggs, little frogs emerged, tadpoles and so on. It was so so important that we experienced this concretely. The neighbour, he was also a farmer near us. And then once, his cat had three kittens. And he gave each of us, my two brothers at the time, the youngest wasn't born yet, we each got a cat. Ah! That was! That was, of course, SO important, that we had to take care of them, we then found out, yeah, like what do they eat, how do they behave, and so on and so forth. And since there was no television, what did we do? On Sundays with our parents, every Sunday when we were free, we went for a walk in NATURE. And there, all, we collected mushrooms. We collected fruits. We collected flowers, a bouquet for my mother. It was so important. I got to know the trees, the leaves of the trees, the fruits of the trees. And that was the BASIS, let's say, for my whole idea of nature conservation. Without this basis, I believe, it is very, very difficult.)

This enthusiastic recollection resonates powerfully with his viewpoint that grasping nature with hands lays the foundation of grasping nature in mind. In Eric's view, nature is so concrete, inviting and within reach: it is the stream near his childhood home; it is the fish and frogs that he and his brothers caught and observed; it is the kitten that he took care of; it is the mushrooms, fruits, leaves and flowers that he picked with his family. As demonstrated by his repeated statement "that/it was so important" and explicit emphasis on these practical experiences as the essential basis for his conservation mindset, Eric is convinced that hands-on interactions with nature are fundamental for fostering cognitive connection with nature.

Immediately after sharing with me the fulfilling memories of "concretely experiencing nature" with his family, Eric continued with a fond recollection of his primary school teacher, who had guided children in hands-on explorations of the natural world:

Jetzt kam dann noch dazu, wir hatten dann einen Lehrer, der war auch ganz interessiert an Naturkunde. Und bei dem haben wir unwahrscheinlich gelernt. Ein Beispiel. Wir gingen in den Wald im Herbst und sammelten dann wilde Kirschbäume. Und jeder der Schüler und Schülerinnen, nein das waren nur Schüler, damals waren wir noch getrennt, manche. Jeder von den Kindern, Jungen, da bekam einen wilden Kirschbaum, den wir selbst aus dem Wald ge-

nommen haben. Der wurde in die Schule mitgenommen und der Lehrer, der bekam von der Gemeinde, ein Stück Garten zur Verfügung, da pflanzen wir diesen Kirschbaum da ein und er konnte pflropfen. Du weißt was das ist? Pflropfen, das heißt, da werden Sprosse des echten Kirschtbaums auf den Alten gepfropft. Also, das ist eine ganze Wissenschaft für sich.

(And what's more, we had a teacher who was also very interested in natural history. And we learnt an incredible lot from him. One example. We went to the forest in autumn and collected wild cherry trees. And every boy and girl, no, we were only boys, at that time we were still separated, some. Every child, boy, got a wild cherry tree that we took from the forest ourselves. We brought it to school and the teacher, he got a garden from the commune, so we planted the cherry trees there and he grafted them. Do you know what that is? Grafting, that is, to graft the new branches of the cherry onto the old one. It's a whole science itself.)

After explaining to me the term *pflropfen* (to graft), Eric continued to share the nature activities that the teacher organised:

Und jetzt hat dann das, ah, für mich sehr wichtig, zum Schluss des Schuljahres bekam jeder seinen Kirschbaum mit nach Hause. Super! Und wir konnten dann diesen Kirschbaum in unseren Garten einpflanzen. Das war eine unheimliche Erinnerung. Und der Lehrer, der hatte auch Bienen. Da haben wir mit ihm Honig zusammen gemacht. Er hatte einen großen Garten, da haben wir dann Erdbeeren gepflanzt und so. Das war auch sehr wichtig, dass man da so ein Lehrer hat, der vermittelt einen Aspekt aus der Natur. Und wenn man das nicht hat, ist das sehr, sehr schwierig.

(And then, ah, very important for me, at the end of the school year everyone got their own cherry tree to take home. Super! And we could plant the cherry tree in our garden. That was an incredible memory. And the teacher also had bees. We collected honey together with him. He had a big garden and we planted strawberries there and so on. It was also very important to have a teacher like that who conveys an aspect of nature. And if you don't have that, it's very, very difficult.)

Eric has learnt “an incredible lot” from this teacher, who “conveyed an aspect of nature” through the hands-on activities such as picking wild cherry trees, grafting and planting them, collecting honey and growing strawberries. In these activities, nature was experienced as a tangible partner – a partner into which labour is invested and which, in return, offers fruit, honey and joy. Rather than viewing the harvesting practices through an exploitative lens, Eric perceives such practical engagement as joyful learning experiences that have formed the foundation of his conservation ideas, which would have been “very, very difficult” to develop without such experiences.

Overall, hands-on contact with animals, plants, and their living environment is highly valued as a fundamental way of forming a close, internal connection with the natural world. As Eric insightfully put it: grasping nature in mind comes from grasping nature in hand. Such physical contact can be simple actions such as touching a worm, holding a bird, hugging a tree, and picking up a wildflower, or it can be more skilful practices, such as building paludariums, grafting fruit trees, and rescuing migrating amphibians. Through these on-ground, practical interactions with nature, people can develop nuanced knowledge about nature, positive emotions towards it and awareness of the relationship between humans and nature.

While participants perceive “grasping nature with hand” as an essential way to initiate and develop experiential, cognitive and emotional connection with nature, they also acknowledge other pathways to experience nature physically. In the next section, I invite readers to join my participants in experiencing nature as a serious leisure.

INTERACTING WITH NATURE AS SERIOUS LEISURE

When I started participating in Aktioun fir d'Ëmwelt in October 2022, weekends became almost the last thing I was looking forward to. I would prefer to spend my after-work time in a more relaxing way than getting up before sunrise and exposing myself to the damp chill of late autumn mornings “in the middle of nowhere in Luxembourg’s nature” (as I often joked with colleagues). Yet, my research participants, such as the volunteer bird ringers at the local section, Reed Marsh, seem to hold a different view.

The local section Reed Marsh is located in a wetland conservation area on the eastern edge of the Canton of Luxembourg. Its main activity is bird ringing, which is mainly done by volunteer ringers led by the founder of the section, Tom. Bird ringing consists of the following techniques: mist-netting, extracting, processing, measuring and releasing. For mist-netting, fine nylon nets are set up along the wetland habitat. The nets are too thin to be visible to birds, so they fly into them (see Figure 2 “Bird netting among the reeds”). To ensure the safety of birds, volunteers do not open the nets in inclement weather such as heavy rainfall. After setting up the nets, the volunteers regularly check the nets every 30 to 40 minutes to ensure all captured birds are extracted in a timely manner. When removing the birds from the nets, the volunteers handle the birds with a gentle but firm grip and carefully untangle the nets from the birds’ wings and legs. The birds are then put into breathable cloth bags and taken back to the ringing station for processing. With ringing pliers, the ringers place a uniquely numbered aluminium ring on the bird’s leg. Then, they determine its species and sex, measure its weight and the length of the wing and leg, and record the data in the database. The birds are released once the ringing is completed and the data are documented.

On February 18th, 2023, I visited the Reed Marsh team for the first time. Tom asked me to meet him at 8:30 am. Upon arrival, I realised that I was already the last person arriving at the wetland. Tom, Ken and John had already started their ringing session.

I feel a genuine love and dedication from Tom, Ken and John. The meet time is early (8:30 today), and the best time to set up the bird sampling net is 30 min before the sunrise, which means in summer it’s going to be around 5am. Ken got up at 6 am on a Saturday morning (me too). John comes from Trier. Tom has been doing this for a lifetime. A regular participation like this requires persistence. Tom also mentioned that sometimes in order to observe the birds, they even set up tents in the wetland and spend the whole night there. (Excerpt from fieldnotes on 18.02.2023)

Love, dedication and persistence are the key words that describe my first impression of these bird ringers. A few months after my visit, Tom in-

roduced Laura to me, who was not present during my visit but was interested in participating in my research interview. Having obtained her Bachelor's degree in biology and Master diploma in evolutionary anthropology, Laura works at the ecological service of commune W in Luxembourg. Laura learnt about Reed Marsh through her internship supervisor at a nature conservation syndicate in Luxembourg. She joined the local section at the beginning of the large-scale lockdown due to the COVID-19 pandemic:

Wie ich es kennengelernt habe, Reed Marsh, also ich habe als Student, habe ich ein Praktikum gemacht bei [Name des Syndikats]. Und da war mein Betreuer, er hat von der Reed Marsh geredet und er hat gesagt, ich kann mal vorbeikommen. Und deswegen, also ich habe es durch ihn dann kennengelernt, Reed Marsh. Und da bin ich ein paar Mal da hin und es war auch, also es war genau zu Beginn von Corona. Und man konnte sehr, sehr wenig andere Sachen machen. Aber Reed Marsh, das war, geradewegs, auch Corona mit Maske und so, aber trotzdem man konnte geradewegs dahingehen. Und deswegen, weil es mir so gut gefallen hat, also bin ich am Anfang so zwei Mal die Woche dahin, ich hab irgend nichts Besseres zu tun. Und irgendwann habe ich gemerkt, auch dass nach Corona-Zeit es mir immer noch gefallen hat. Und so bin ich da hängen geblieben. [...] Das war wirklich nur Zufall. Ja, weil eigentlich, also wirklich, sagen wir mal so, er hat das dann vorgeschlagen, aber so wirklich gedacht so, auch das schaue ich mir jetzt an, das war wirklich, ach verdammt, ist jetzt schon ein Monat hier zu Hause, ich muss was machen.

(How I got to know it, Reed Marsh, well when I was a student, I did an internship at [syndicate name]. And there was my supervisor; he talked about Reed Marsh and said I could come by. And that's why I got to know Reed Marsh through him. And I went there a few times and it was right at the beginning of Corona. And you could do very, very few other things. But Reed Marsh, during Corona too, with a mask you could still go straight there. And that's why, because I liked it so much, I went there twice a week in the beginning, I have nothing better to do anyway. And at some points I realised that even after Corona I still like it. And so I'm sticking around. [...] It was really just a coincidence. Yes, because actually, in fact, let's say, he suggested

it back then, but I only really considered it like, let's now really have a look, it was really, damn, it's been a month at home, I must do something.)

At the beginning of March 2020, the Luxembourg government adopted a series of control measures amid a sharp increase in COVID-19 cases, including suspension of education activities, promotion of home office, prohibition of large events and limitation of private gatherings. The interruption of occupational routine and restrictions on recreational activities resulted in many people suddenly having an abundance of unoccupied time. In this context, Laura turned to nature to fill this undesired idleness, which is articulated as a choice with no other alternatives and an unintentional “coincidence” that would unlikely to have happened without the excessive free time. However, Laura stayed in the team after the pandemic, even though she no longer needed to pass the time, which suggests that Laura perceived this engagement beyond simply a time killer.

Research found that one common motivation for people to visit nature during the COVID-19 pandemic is to “relax and unwind” (Peterson et al., 2024). Nevertheless, Laura’s account of her experiences, along with my fieldwork at Reed Marsh and exchanges with her fellow volunteers, reveals an alternative narrative of experiencing nature during leisure time that does not necessarily align with a conventional notion of “relaxation”. As discussed before, bird ringing requires technical skills, dedicated time and personal effort. Yet, such demands do not undermine Laura’s involvement. She does not see getting up early on weekends as an off-putting; quite contrary, it is among the reasons why she enjoys working there:

Yimin: [...] Aber trotzdem bist du schon im Team geblieben, trotzdem da keine Pflicht dafür haben. Und darf ich fragen, wieso ist das, dass du, ja, well, there is no obligation, aber trotzdem bist du geblieben?

Laura: Weil... it is more... also es gibt mehrere Gründe. Erstens, das ist, man macht es morgens früh. Und ich habe so den Eindruck, wenn ich am Wochenende nichts morgens plane, dann verträdele ich den Morgen. Gehe ich dahin, dann habe ich den Eindruck, ich habe schon etwas gemacht. Es fühlt sich ja, für mich fühlt es sich nicht nach Arbeit an. Es ist einfach so, ich gehe dahin, ich bin in der Natur. Das ist auch so was, gerade jetzt auch, wo ich arbeite, ich

bin viel im Büro eigentlich und da bin ich dann draußen und dann habe ich so sozusagen und schon mein Pensum an Natur habe ich dann bekommen. [...] Ich würde nicht einfach so morgens und fünf Uhr grundlos aufstehen, niemals. Aber wenn ich ein Ziel habe, dann geht es. Und dann ist das kein Problem. Also stört mich nicht. Also jetzt wo ich arbeite, merke ich, ich kann nicht mehr jedes Wochenende dahin gehen. Das schaffe ich nicht. Und ich kann auch nicht zwei Tage hintereinander, weil ich muss irgendwann halt schlafen. Aber ja, trotzdem, irgendwie stört es mich nicht so. Und irgendwie ist es auch schön, dann ja, irgendwie stört es mich tatsächlich nicht, dass das so früh ist.

(Yimin: [...] But still, you stayed in the team even though there's no obligation to do so. And may I ask, why is that? Well, there is no obligation, but still, you stayed?)

Laura: Because... it is more... there are several reasons. First, it's something you do early in the morning. And I have the impression that if I don't plan anything in the morning on weekends, I waste the morning. If I go there, I feel I've accomplished something. For me, it doesn't feel like work. It's just that I go there, I'm in nature. That's also something, especially now, while I'm working, I spend a lot of time in the office actually, and there I'm outside, and so to speak, I've already fulfilled my quota of nature. [...] I wouldn't just get up at five in the morning for no reason, never. But if I have a aim, I can do it. And then that's not a problem. So it doesn't bother me. So now that I'm working, I realise I can't go there every weekend. I can't manage that. And I can't go two days in a row either, because I have to sleep well at some point. But still, somehow it doesn't bother me that much. And somehow it's also nice, then yes, somehow it actually doesn't bother me that it's so early.)

Laura does not perceive the fact that bird ringing requires her to be active in wetlands early in the morning on weekends as an unpleasant challenge or a discouragement, but rather as a joyful impetus that enriches her life with a sense of accomplishment. Her comparison between her engagement with birds and work suggests that this activity is something that she genuinely enjoys rather than an enforced obligation, despite the significant time and energy it demands.

In addition to the willingness to invest time and effort, Laura demonstrates a strong sense of passion and identity alignment with this engagement. She notes that she often speaks excitedly and frequently to her family about the wetland reserve, and as a result, her grandparents and aunt visited Reed Marsh to watch the swallow migration:

Also weil ich es mag und so viel immer über Reed Marsh rede, weil, immer wenn wir irgendwie, Sachen die man mag, auf die, auf die kommt man ja automatisch immer auf das zu sprechen, über die erzählt man dann mit Leidenschaft. Und weil ich dann oft über die Reed Marsh rede, weil ich es sehr mag, dann meine Großeltern und meine Tante, die waren dann auch schon mal so kommen, als die Schwalben im Juli – das ist so schön, das musst du dir anschauen, das ist so schön, weil die kommen dann und dann fliegen die so umher, es war immer mehr um Tausende und dann gehen sie in den Schilf schlafen. Das ist ein richtiges Spektakel. Und dann sind sie gekommen, um das zu schauen.

(So, because I like it and I always talk about Reed Marsh so much, because whenever, somehow, when it comes to the things you like, you automatically talk about them, you talk about them with passion. And because I often talk about Reed Marsh, because I really like it, then my grandparents and my aunt, they came when the swallows in July – it's so beautiful, you must see it, it's so beautiful, because they come and then they fly around like this, there were always thousands of them and then they go to sleep in the reeds. It's a real spectacle. And then they come to watch it.)

Laura's enthusiasm for the wetland reserve and the birds stands out in this excerpt. Her strong identification with the engagement is evident in her self-report of "speaking proudly, excitedly, and frequently about [it] to other people", and her tendency to "present [herself] in terms of [this engagement] when conversing with new acquaintances" – as she did with me (Stebbins, 1982, p.257). While she began by narrating how her grandparents and aunt were influenced by her passion to come to watch the bird migration, she shifted the focus mid-sentence from narration to a spontaneous and warm invitation to me. It is not an invitation to merely "be in nature" or "do something in nature", but to immerse oneself in nature by mindfully admiring birds and their migration as a "beautiful spectacle". The migrating swallows are not merely components of the wetland

scenery, but rather the focus of the experience that evokes appreciation and passion.

Laura also observes the shared enthusiasm within the Reed Marsh team among her fellow volunteers:

Laura: Dann, was ich auch so mag, weil ich Anthropologie studiert habe, die anderen zu beobachten, ich finde es lustig zuzuschauen, gerade die, die so voll Vogel fokussiert sind, wie die da aufblühen oder, ich finde es lustig, ich glaube, like, denke nicht, dass ihnen das auffällt. Aber manchmal kommt so ein Rotmilan und dann stehen alle auf, dann kannst du vergessen. Dann sind sie alle da fokussiert, dann ist alles andere unwichtig, oder so wie deren Augen glühen, ich mag das, so zuzusehen.

Yimin: Ja, die Begeisterung in den Augen.

Laura: Ja, dass du es so siehst. Und das... das ist einfach irgendwie die Natürlichkeit, dass du nicht deine Freude unterdrücken musst, weil du dann sozusagen als so Naturfreak oder so dergestalt bist, weil wir sind dann unter uns. Und ja, du kannst sozusagen deinen Gefühlen zu den Vögeln dann auf einen freien Lauf lassen.

(Laura: Then, what I also like, because I studied anthropology, is observing other people. I find it interesting to see, especially the ones that are so fully bird-focussed, how they glow in high spirits or, I find it funny, I think, like, I don't think they noticed that. But sometimes a red kite comes and then everyone stands up, then you can forget. Then they're all focused, then everything else is not important, or the way their eyes glow, I like seeing that.)

Yimin: Yes, the enthusiasm in their eyes.

Laura: Yes, that you see it like that. And that... that's just kind of the naturalness, that you don't have to suppress your joy, because then otherwise you're like a nature freak or something, because then we're among ourselves. And yes, you can let your feelings for the birds run free, so to speak.)

Her observation of the nuanced emotional expressions of her fellow volunteers reflects not only her deep understanding of them, but also her own shared sense of wonder towards the birds. Laura's comments on her observation convey a sense of community and identity. The sentence "we're among ourselves" signals her identity alignment with the bird ringers. While within the community, the excitement about birds is regarded as "naturalness", namely something normal and common, such enthusiasm might be considered negatively as exaggerated or even pre-tentious as a "nature freak". As such, the wetland reserve represents a special safe space to share their passion for birds unreservedly.

Laura's engagement with birds at Reed Marsh began as a way to pass time during the COVID-19 lockdown, and evolved into a form of passionate leisure that embodies personal effort, dedication, fulfilment and identity alignment. These features convey a sense of seriousness, that Laura takes her engagement with birds seriously as something meaningful and enduring, rather than an evanescent pleasurable pastime. This "seriousness" does not undermine her enjoyment of the experiences, as it entails "earnestness, sincerity, importance, and carefulness, rather than gravity, solemnity, joylessness, distress, and anxiety" (Stebbins, 1982, p.258). As such, I came to understand that nature can be experienced and valued as serious leisure. Through the lens of serious leisure, Laura's gradually developing connection with birds and the wetland crystallises through both experiential and emotional dimensions.

This combination of seriousness and joyfulness is also evident in other participants' discourses on their engagement with nature. Eric shared his extensive experiences of carrying out various on-ground conservation projects in his early years. These projects demanded substantial physical, mental and time investment, and Eric undertook them on a full voluntary basis outside of work. He spent five years conducting fieldwork in Luxembourg's natural landscapes and an additional five years co-authoring an atlas of breeding birds in Luxembourg, based on this fieldwork, which was published by the predecessor of LetzEarth. Disappointed by the lack of awareness and institutional action to prevent the overexploitation of natural habitats, Eric, alongside Tom, mobilised grassroots donations for the purchase of land in Northern Luxembourg to establish nature reserves. This initiative eventually evolved into the establishment of LetzEarth's conservation foundation, GreenLove. He also engaged in build-

ing one of the biggest wildlife rescue stations in Luxembourg. While none of these projects sound like light tasks, Eric perceives these experiences with nature as “incredibly fun” and remarked that he was still trying to continue some activities in nature as much as possible despite age-related mobility limitations:

Aber das macht unheimlich Spaß. Ich bin jetzt 81, leider muss ich jetzt feststellen, also mit der Dynamik, die ich mal früher hatte, ist es nicht mehr so. Aber das ist das Leben, das ist normal. Man wird älter und ich mache jetzt nur noch das, was ich schaffe. Ich habe Probleme mit meinem Knie und so. Ich mache jetzt nur noch das, was mir Spaß macht. Ich helfe Guihelm und Tom beim Ringen. [...] Aber daher will ich dann noch so gut ich kann, macht mir Spaß. Ich bin nach wie vor ein begeisterter Ornithologe. Also die Vogelwelt interessiert mich natürlich nach wie vor am meisten. Aber ich bin genauso interessiert an Pflanzen, an alles was kriecht und fliecht, alles was rein der Natur vorkommt interessiert mich.

(But it's incredibly fun. I'm 81 now, unfortunately, I must admit that I no longer have the dynamism I used to have. But that's life, it's normal. People get older and now I only do what I can manage. I have problems with my knees and so on. I only do what I enjoy now. I help Guilhem and Tom with ringing. [...] But that's why I still want to do as much as I can, I enjoy it. I've always been an enthusiastic ornithologist. Well of course I'm still most interested in the world of birds, as always. But I'm just as interested in plants, in everything that creeps and flies, everything that occurs in nature interests me.)

Eric's genuine and enduring love for actively engaging with nature is evident in these excerpts, as showcased in his continuing involvement in bird ringing. Although his stamina declines due to ageing, his high spirit and perseverance remain. His remarks indicate the psychological continuity for this lifelong endeavour with nature, which is another essential quality of serious leisure (Stebbins, 1982). The enjoyment and dedication have forged a lasting and close bond between Eric and nature.

Like Eric, Bob was an old-timer of LetzEarth. He worked as a tax inspector in the UK before moving to Luxembourg in his twenties to serve as an EU official responsible for translating and editing. Upon settling down in the

town M in south-western Luxembourg in the 1980s, Bob and his ex-wife engaged in local conservation and were among the founders of the local section M. In 2020, he was awarded the prize “GreenLove” by LetzEarth for his lifelong outstanding dedication. According to Bob, one of the reasons he was awarded the prize was his leadership in creating a standing water area by excavation of ponds to restore biotope diversity around town M, as a remedial measure for the environmental impacts of infrastructure development:

We got the prize GreenLove for digging lots and lots of ponds because M has very heavy soil. If you dig a hole in M and just leave it, it fills with water and you’ve got a pond. So, we did, we dug ponds and we did planted hedges and we cut hedges and we planted trees, and we did all kinds of things and we were amazingly active. But it’s exhausting. [laughing] After a time you start thinking “I can’t keep up this pace.” So gradually slowed down a bit, but we, we were really active. [...] What’s really fun, what’s really “dirty” though, is digging a pond by hand. I mean we, the first one we did in M, we took an entire summer holiday to do it, the school holidays. And we have people there every single day, just with spades and shovels and wheelbarrows. And it requires incredible organization because if you have people just digging a hole, then they reach a point where you think, “How do I get the earth out of this hole? I haven’t left a barrow run.” [Yimin laughing] So you have to dig a barrow run. [laugh] I mean, you really get the sense though, at the end of that work, you’ve done something incredibly constructive. Because, like we said, in M, you just leave nature to establish itself. Just dig the hole and nature will come. The vegetation will come, and the rainwater will come, and it’s got nowhere else to go so it just fills the pond. And after a time you’ve got the most amazing habitat there and it’s very very inspiring.

Digging ponds in an area with “very heavy soil” is obviously time-consuming and laborious work that was “exhausting” and “took an entire summer holiday,” indicating the commitment and effort that Bob put into his engagement with nature. Meanwhile, his passionate involvement and sense of achievement stand out through several emotional expressions with positive connotations of enjoyment such as “what’s really fun”, “incredibly constructive”, “most amazing habitat” and “very very inspiring”.

The example of someone who might forget to leave a barrow run and therefore would end up trapping himself in the hole implies that the work required skills and careful planning – in his words, “incredible organisation” – and humorously frames the activity as a fun experience rather than a tedious or arduous work. Therefore, it can be concluded that Bob also experienced nature as a form of serious leisure. The challenging but fun work has paid off for both Bob and nature. Bob had the opportunity to personally experience nature’s self-reconstruction and reaction to human interventions, which deepened his inner connection with nature. The pond area has evolved into one of Luxembourg’s nature reserves, serving as a successful example of renaturalisation and compensation for infrastructure development, thereby projecting the dynamics and balance that people seek in their relationship with nature.

Maria’s case provides another example of how engaging with nature as serious leisure promotes a deeper, internal connection with nature. Maria joined the section Nord about ten years ago. Initially, she felt hesitant and timid about participating in the section’s activities, as she was concerned about her lack of specific knowledge about flora and fauna. Eventually, Maria “gathered her courage”¹¹ to try the activities such as butterfly observation hikes, ringing water birds and cleaning nest boxes in the woods, and found them beginner-friendly and interesting. She also began attending continuing education courses offered by LetzEarth on topics such as butterflies and birds. She recounted how she has developed a passion for birdwatching and contributed to the red-backed shrikes inventory created by LetzEarth:

Ich bin auch jetzt süchtig nach, ich habe da ein Fernglas gekauft, schon immer, und natürlich muss man das haben, wenn man Vögel, und dann bin ich ein paar Mal die Woche geh ich da, ob schon, da viel mal, ja nicht jeden Tag als super Neues, aber ich gucke mir dann gerne an Besonderes, wenn die jetzt wieder zurückgekommen sind, die Maise, und dann gehen die Vögel wieder gucken, sind die da und so? Die sind, die zurück. Und ich mache jetzt auch beispielsweise bei einer Bestandsaufnahme von dem Neuntöter. Das ist ein kleiner Vogel, der, also, nur im Sommer bei uns ist. Und das

11 habe meine Mut gefassen

kommt auch von der [Ort], von der LetzEarth. Die machen jedes Jahr Bestandsaufnahmen von Vögel und so. [...] Und der Neuntöter, den ich jetzt gemacht habe, den, der sitzt gerne auf Dornen, Hecken und der spießt seine Käfer da drauf, und so. Ein sehr schöner Vogel. Die gute Nachricht ja, sie sind sehr häufig dieses Jahr, an der Fenstergestelle, überhaupt, ich habe auch mit Daniel schon gesprochen.

(I am also now addicted to, I bought a pair of binoculars, always, and of course, you must have them if you [watch] birds. So, a couple of times a week, I go there, even though, well, often it's not like you have something super new every day, but I like to see something special, like when the tits return, I go watch the birds again, are they there and so not? They've returned. And now I'm also participating, for example, in making an inventory of the red-backed shrike. That's a small bird that's only with us during summer. And it [the inventory] is also from [place], from LetzEarth. They do bird inventories every year. [...] And the red-backed shrike, in which I've been engaging now, it likes to sit on thorns, hedges, and it impales its insects on them, and so on. A very beautiful bird. The good news is that they are very common this year, on the window frames, whatever, I've also already discussed it with Daniel.)

Maria's enthusiasm for birdwatching becomes evident in her description of feeling "addicted to it", a phrase that also suggests sustained participation and deep emotional attachment. She invested in equipment such as binoculars and spent time on repeated observations, which indicates her persistent effort. Furthermore, specific knowledge and skills are developed in this pursuit. Using everyday language, Maria concisely describes red-backed shrikes' physical appearance (small), behaviours (only in Luxembourg during summer, sit on thorns and hedges and impale the prey on them) and distribution changes (appear more common this year), demonstrating her knowledge gained from her firsthand observation of the bird and relevant training. The observation skills and species knowledge enabled her to contribute to the scientific inventory project. This marks a significant progress in Maria's engagement with nature and personal growth, given that she once hesitated to join the local section due to a lack of confidence in her knowledge of nature. As such, Maria has also experienced nature in the sense of serious leisure, which has primarily nurtured her cognitive connection with it.

As demonstrated in the above analysis, several common qualities have emerged in participants' accounts of their experiences engaging with nature: passion, skills and knowledge, identification with the pursuit, significant personal effort, persistence, psychological continuity, personal growth and enrichment. These qualities form the discourse of experiencing nature as serious leisure. Thirty years after first introducing the concept of *serious leisure*, Stebbins, together with Davidson, examined the concept in relation to nature challenge activity (NCA) in their 2011 book *Serious Leisure and Nature*. While the authors highlight nature as a dominant element of serious leisure pursuits, they still mainly conceive nature as a "setting" and an "environment" to practice the leisure activities, as indicated in their definition of NCA:

A nature challenge activity (NCA) is a leisure pursuit whose core activity or activities centre on meeting a natural test posed by one or more of the six elements [air, water, land, animals, plants, ice and snow]. A main reason for engaging in a particular NCA is to experience participation in its core activities pursued in a natural setting. (p.2)

As such, NCA as serious leisure substantially focuses on the challenges that participants seek in nature. From this angle, the authors provide detailed descriptions of how relevant outdoor activities are rendered "challenging" by the natural environment, essentially treating nature as the backdrop but not the content of the serious leisure. As a result, the authors did not delve into the link between serious leisure and conceptions of nature (Bissix, 2014). In my participants' discourses, nature is meaningfully experienced as serious leisure. For them, it is the birds, the ponds that create new biotopes, and "everything that creeps and flies" that have generated curiosity, enthusiasm and the sense of wonder and enrichment. While a passionate birdwatcher like Maira may not hold a bird in her hand as bird ringers like Laura and Christophe do, she nonetheless establishes a personal connection with birds and experiences this connection through sensory engagement. By engaging with nature as serious leisure, people deepen their emotional and cognitive connections with nature, which are reflected in their enjoyment of nature and their strong willingness to learn about and act for nature.

REAPING MEANINGFUL CONNECTIONS WITH NATURE THROUGH EMBODIED EXPERIENCES

In grasping nature with hands and interacting with nature as serious leisure, participants do not conceive nature as an empty substrate or an object that is subjected to exploitation and power domination. Instead, nature is a valued entity – one from which to learn and draw inspiration, deserving of mindful attention, passionate investment and dedicated effort to establish a meaningful connection with, and with which a once-strained relationship needs to be repaired through actions. This constitutes a discourse that embodies experiences with nature foster meaningful human-nature connections. Here I use the preposition of “with” instead of “in” to describe the relevant experiences, because my participants’ discourse does not push animals, plants and biotopes into the background as merely a substrate to perform human activities; rather, nature stands in the centre of the physical and sensory interactions. This perspective suggests that physical engagement with nature driven by curiosity, reverence and self-enrichment sparks people’s positive experiential, emotional and cognitive connections with nature. It provides a meaningful contrast to the capitalist and extractivist view of human-nature interactions, which centres on commodification, the acquisition and appropriation of natural resources, and the perpetuation of exploitative relations between humans and nature, as well as among people.

Dominant scholarly discourses on human activities in nature tend to take a critical stance. The concept of Anthropocene has become an intellectual zeitgeist to address the anxiety over the harmful consequences of “the end of nature” – the idea that nature is no longer untouched by human activities (Lorimer, 2015, 2017). The meta-narrative of Anthropocene tends to view the future as dystopian, where human exploitation of natural resources will eventually threaten the continuity of human life (Chernilo, 2017), highlighting anthropogenic pollution, climate change, and biodiversity loss. At a more micro level, researchers also criticised the “tendency to consider the environment as a backdrop or a substrate for humans/children to act upon: to be loved, to care for, to save, to conserve, to steward, to sympathise for, to respect, to experience and to appreciate” (Weldemariam et al., 2017, p.346). Nevertheless, my data and findings suggest an alternative perspective to ponder on the role of human agency in the human- nature connection. Active direct interactions with animals, plants and natural landscapes form embodied experiences with

nature, which nurture people's connection with nature at cognitive, emotional and philosophical levels.

Sometimes, mindful embodied experiences can be achieved without exercising actions that intervene in nature but simply through bodily sensations. Through feeling and sensing nature, people can refocus on nature itself as an entity with subtle vigour transcending the noise of human society, as Michael's experience with children shows:

Michael: It was my mother who, die hat uns so Augenbinde genäht. Augenbinde, bin ich mit den Kindern, so haben wir barfuß dann, sind wir durch die Wald gegangen, mit den Augenbinden haben sie, einander so mit der Hand genommen, dann den durch den Wald zu gehen, um den Wald zu fühlen mit den Füßen. With our feet. Meine Mutter hat uns die Augenbinden genäht, weil wir hatten kein Geld für meine Projekte, also ich hatte kein Geld, gar nichts. So habe ich angefangen, mit so Augenbinden, die meine Mutter noch genäht hat. [laughing softly]

Yimin: Ja, dann without seeing anything, you feel better.

Michael: Yes. You can more concentrate if you don't see. Afterwards you tell the children, "What did you feel?" Or you go to make one kid next to a tree and you say, "Listen, and listen to what you hear." But it was a funny experience. One of the kids he said afterwards, "I heard a spinner, a Spinne, a spider going down near me." How could you hear a spider? He thought, he said that, but I don't believe it. I think he looked, he saw it, yes, but he didn't hear it. To hear a spider, it must be a noisy spider, I think. [laughing] That was funny, yeah? And then, we had the planes that passed, they didn't hear them. They didn't talk about it. It was, for them, perhaps, natural noise for them. There were three in the time set, for five minutes, we concentrate and we just listen what we hear. So there was the noise of the cars on the road, they didn't tell about it and also the planes that passed, they didn't tell about it. They excluded these noises. Because they hear it all the time, I think.

Yimin: Yeah and people take it for granted.

Michael: Yes, yes. So the small noises that are just, normally we don't hear when a bee is fleeing by or some...So, these small... And there are kids that are here, then the leaves are moving in the wind.

Yimin: Yeah, it's like when the wind, es zieht, wenn es zieht, aber ja? Die Blätter...

Michael: Ja die Blätter rauschen. Das Blätterrauschen. Auch wenn es nur ein bisschen ist, das hört man, dann muss sich konzentrierte, hörte man das. Das sind all die Sachen, die man auch dann im Wald, dann spüren muss.

(Michael: It was my mother who sewed these blindfolds for us. Blindfold, I went with the children, we walked barefoot through the forest, with the blindfolds, we held each other by hand, then walked through the forest to feel the forest with our feet. With our feet. My mum sewed the blindfolds for us because we didn't have money for my projects, well I had no money, nothing at all. That's how I started, with blindfold sewed by my mum. [laughing softly] [...])

Yimin: Yeah, it's like when the wind, it blows, when it blows, no? The leaves...

Michael: Yes, the leaves rustle. The rustling of the leaves. Even if it's just a little bit, you can hear that, then you must concentrate, you hear that. These are all the things that you must feel in the forest.)

Practical engagement with nature through mindfulness is regarded as an important pathway for cultivating inner connections with nature, as these lived encounters raise awareness by making aspects of nature perceptible and tangible. For example, Michael shared how observing birds breeding in garden nestboxes contributes to an understanding of ecology and prompts reflection on everyday treatment of nature:

Michael: Bilder von Vögeln, das ist schön, aber weil du den selbst im Garten sehen kannst, wenn sie dann die, ich habe im Moment zwei Brüten bei mir im Garten, zwei so Nistekästen, wo in dem einen ist eine Blaumeise, in dem anderen ist eine Kohlmeise. Da siehst du die mal reinfliegen und so, dann kriegst du ein anderes Verhältnis auch

zur Natur. Das finde ich wichtig für die Kinder oder auch für die Erwachsene, dass sie diese Erfahrung auch machen können. Dass du die Tiere genau beobachten wirst. Wenn du sie nicht kennst, wirst du auch nicht schützen.

Yimin: Ja, und dann direkt Kontakt mit den Tiere.

Michael: Direkt Kontakt, ja. Die bringt dann Maden und Raupe oder so, bringt sie dann rein zu füttern. Das kannst du dann beobachten. Dann siehst du auch, die nützt die Raupe jetzt hier von der Brennessel. Also muss ich die Brennessel auch mal vielleicht im Garten stehen lassen. Weil diese auch nützlich nicht nur für die Raupen, mäi auch für den Vogel, der die Raupen frisst. Dass das ein ganzer Kreislauf ist, die Natur. Wenn ich alle Unkräuter im Garten rausreiße, dann haben auch diese Insekten und diese Vögel nichts mehr zu fressen. Dass die Leute wieder die ganzen Kreuze aufsehen wissen.

(Michael: Pictures of birds, that's nice, but because you can see them personally in the garden, when they, I have two broods in my garden at the moment, two nest boxes, where in one is a blue tit and in the other is a great tit. You can see them flying in there and so on, and you get a different relationship with nature. I think it's important for children and adults to be able to have this experience. That you observe the animals closely. If you don't know them, you won't protect them.)

Yimin: Yes, and then direct contact with the animals.

Michael: Direct contact, yes. They bring maggots and caterpillars or something, then bring them in to feed. You can then observe that. Then you can also see [the birds] use the caterpillar from nettles. So maybe I also have to let the nettles grow in the garden. Because it's not only useful for the caterpillars, but also for the bird that eats the caterpillars. It's a whole cycle, nature. If I pull out all the weeds in the garden, then these insects and birds have nothing left to eat. People are aware of these crosses again.)

In this example, consciously engaging with nature through embodied experience is perceived as a gateway to an ecological view of nature. The notion of ecology unfolds concretely in on-the-ground, everyday scenarios through mindful observation of nature, forming a “different relation-

ship with nature” – a connection that is empirical rather than conceptual, and driven by experiential environmental knowledge and awareness (“If you don’t know them, you won’t protect them”).

Hendee (1969, as cited in Dunlap & Hefferman, 1975) distinguished “appreciative” and “consumptive” activities in nature. Participants in appreciative nature activities, such as hiking, camping and photography, engage with nature without altering it (in a substantial or intentional way), whereas practitioners of consumptive activities like hunting and fishing intentionally take things from nature (Dunlap & Hefferman, 1975). I borrow this conceptual distinction to elaborate on the significance of embodied experiences with nature for people’s connection with it. My data indicate that, in addition to appreciative experiences with nature such as touching, observing and listening, certain consumptive interactions with nature can also enhance people’s environmental awareness in nuanced ways. An example is how Birgit and Maria have experienced the “Krautwäsch” tradition. Krautwäsch is bouquets made of wildflowers, herbs, cereals and vegetables for the herbal consecration on the Feast of the Assumption of the Virgin Mary on 15th August in Luxembourg. On 14th August, people collect plants in their neighbourhood and prepare the bouquets. On the day of the Feast, the bouquets are brought to the church and blessed during the Mass (Figure 23). A typical Krautwäsch contains the following plants: crops (e.g. wheat, oats, barley, rye), a carrot, an onion, a walnut leaf, dill, oregano, St John’s wort, sorrel, willowherb, kingcup, mugwort, sage, yarrow, camomile and lovage (Arendt et al., 2020). Birgit and Maria have been participating in this tradition for a long time, and they noticed that climate change has manifested in their bouquets:

| Birgit: Das ist ja immer viel Arbeit, aber es macht auch Spaß.

| Maria: Ja, das macht Spaß. Der einzige Nachteil, finde ich, weil jetzt die Sommer so warm sind, viele Kräuter finden nicht mehr. Beispielsweise Johanniskraut.

| Birgit: Ja, das ist bei mir im Garten verblüht.



FIGURE 23: Krautwäsch in front of the church. ©2024 Guy Klein.

Maria: Ja, aber ja, vor einer oder zwei Wochen herrlich. Aber das dauert jetzt noch ein Monat. Dann ist das verblüht, ist alles also früher jetzt Kräuter.

Maria: Ein bisschen Schwierigkeiten, müsste Marirhimmelfahrt-

Birgit: - müsste vorverlegt werden. Nee, das ist wirklich, also, okay, wir nehmen halt jetzt verblühten Johanniskraut, deshalb dann, man hat nicht mehr so schön blühtig drauf wie das früher war, sondern eher vertrocknete, die nicht mehr blüht.

(Birgit: It's always a lot of work, but it's also fun.

Maria: Yes, it's fun. The only downside, I think, is that because the summers are so warm now, you don't find many herbs anymore. For example, St John's wort.

Birgit: Yes, they withered in my garden.



FIGURE 24: Volunteers picking plants for Krautwäsch.
©2024 Guy Klein.

Maria: Yes, but yes, a week or two ago it was marvellous. But there's still one more month [until the Assumption]¹². Then it'll have faded, all the herbs are earlier.

Maria: A bit of difficulties, Assumption of Mary -

Birgit: - would need to be brought forward. No, that's really, well, okay, we're using faded St John's wort now, so then, you don't have the beautiful flowers as it used to be, but rather dried up flowers that no longer bloom.)

Through collecting the plants for Krautwäsch over the years, Birgit and Maria are able to experience the concrete impacts of climate change on nature first-hand. For them, climate change becomes real and tangible through direct contact with the wilted St John's wort. Their observation resonates with LetzEarth's primary objective of promoting this activity with strong religious characteristics: to familiarise people with the diversity of everyday herbs and to raise awareness about the decline of this di-

¹² This interview was conducted on July 12., 2023.

versity. As such, moderate consumptive interactions with nature can render environmental issues tangible, thereby raising public awareness of them.

Moreover, bodily interactions with nature are believed to cultivate positive views of nature and prevent feeling drained by environmental issues. Bob told me how he and his ex-wife brought their children into embodied interactions with nature to encourage their positive attitude toward nature:

So, yeah, and during that time, we were discussing all kinds of environmental issues at home. I remember, I mean the 1970s and 80s there was the oil price shock. And this was when the environmental movement was really accelerated. So we were part of that. And I remember we had to be very careful with the children. We would have mealtimes and we were talking about environmental issues and problems. And at one stage we said, 'No, we've got to be careful about this. We're talking very negatively. I mean, the children have got to grow up thinking positive about the environment.' So we made sure that they knew birds, they went on walks with us, they helped dig the ponds, sometimes willingly and sometimes reluctantly.

Bob's view supports my previous findings, which suggest that hands-on interactions with nature, when experienced mindfully, foster a positive emotional and cognitive connection with nature. Through such embodied interactions, nature is construed primarily not as a desperate victim of human destruction, but as a source of joy, wonder and fulfilment.

The discourse that embodied experiences with nature foster meaningful connections with nature may explain a somewhat surprising result in my research: a critical voice against certain conservation regulations from a nature enthusiast. The 30-year-old Daniel is the vice-president of the section Nord. His interest in nature emerged during the COVID-19 lockdown, when he began identifying species on his walks. His interest was further piqued by the "City Nature Challenge", where participants were encouraged to take photos of plants, animals, fungi, and anything they found in nature and upload the photos to an online community for nature lovers. During a local butterfly excursion in 2022, he met Birgit, who was im-

pressed by his keen interest in nature and thus invited him to join the section Nord. During the interview, Daniel openly expressed his opposition to the regulation prohibiting the private capture of butterflies:

Daniel: Also, mein Problem, dass man, wie soll ich sagen, man darf keine Schmetterlinge fangen, pauschal. Also selbst wenn man sie einfach mal einfängt, um sie zu bestimmen und dann sofort wieder frei ist. Ja, das ist verboten hier in Luxemburg.

Yimin: Man kann keine Schmetterlinge fangen?

Daniel: Ja. Das Fangen, selbst wenn man sie nicht tötet, um sie in die Sammlung zu tun, dann hab nur kurz fangen und dann wieder so schauen, was habe ich gefangen und dann sofort wieder frei, was ja überhaupt keinen Schaden angerichtet. Das ist verboten. Man braucht dann eine Ausnahme, also man braucht eine Genehmigung dafür. Und dann muss man so eine Formular ausfüllen mit persönlichen Daten und so weiter. Aber das, was ich ärgere, ich finde, auf diesem Formular muss man auch wissenschaftliche Publikationen und Referenzen von anderen, in dem Fall Lepidopterologen oder was, die dann bezeugen können, dass man irgendwie eine Ahnung hat. Aber was ich daran so irrsinnig finde, ist, wie soll man irgendwie wissenschaftliche Publikationen dazu sagen, wie mal Schmetterlingen oder sonst, was veröffentlichen können oder schreiben können, wenn es verboten ist, die Teile überhaupt mal zu fangen. Also da beißt sich die Katze in den Schwanz, weil man braucht hier seine Referenzen, um fangen zu dürfen, aber um überhaupt was Vernünftiges schreiben zu können, muss man bereits fangen dürfen. Das ist sehr unsinnig. [...] Die Leute, die müssen Kontakt zu Natur haben, um sich überhaupt damit zu interessieren, damit auszukennen, damit überhaupt zu verstehen, was es da ist, was man irgendwie schützen sollte. Und wenn man solche Regeln hat wie hier, dass man nicht mal Schmetterlinge einmal kurz fangen darf, um sich zu, um sich anzuschauen und zu bestimmen, dann entfremdet das die Leute von der Natur. [...] Also es gibt schon Fälle, wo einzelne Individuen sehr großen Schaden anrichten. Aber dann sollte man diese Fälle irgendwie separat behandeln und dann separat die Orchideen oder Bärlapp oder was auch immer, da schützen sollen. Nicht sagen irgendwie, alles ist PAUSCHAL geschützt. selbst die

Arten, wo es gar keinen Sinn ergibt. Weil dann zieht man nur eine Barriere, eine Mauer zwischen den Menschen und der Natur hoch und das ist weder für die Menschen noch für die Natur gut.

(Daniel: Well, my problem is that, how should I put it, you're not allowed to catch butterflies in general. So even if you just catch them for identification and release them immediately. Yes, that's forbidden here in Luxembourg.

Yimin: You can't catch butterflies?

Daniel: Yes. Catching them, even if you don't kill them to put them in the collection, just catch them briefly and then look and see what I've caught and then immediately set them free again, which does no harm at all. That is forbidden. You then need an exception, so you need a licence. And then you have to fill in a form with personal details and so on. But what I find annoying is that on this form you also have to include scientific publications and references from others, in this case lepidopterists or whatever, who can then prove that you have some knowledge. But what I find so insane about it is that how are you supposed to be able to publish or write scientific publications about butterflies or anything else if it's forbidden to catch them in the first place? That's cat biting its tail, because you need your credentials to be allowed to catch them, but to be able to write anything that makes sense at all, you have to be allowed to catch them. That's such nonsense. [...] People need to have contact with nature in order to be interested in it at all, to get familiar with it, to really understand what it is that should be protected somehow. And if you have rules like this, where you're not even allowed to catch butterflies to observe and identify them, then that alienates people from nature. [...] Well there are certainly cases where single individuals cause a lot of damage. But then these cases should somehow be treated separately, the orchids or lycopods or whatever should be protected separately. Not somehow say that everything is GENERALLY protected, even the species where it makes no sense at all. Because then you're just putting up a barrier, a wall between people and nature, and that's neither good for people nor for nature.)

The legal framework Daniel refers to here is Article 19 (2) of Luxembourg's Act of 18 July 2018 concerning the protection of nature and natural resources and amending related legislation¹³:

Sauf autorisation du ministre, sont interdites la capture, la tenue en captivité et le relâchement dans la nature de spécimens appartenant aux espèces animales sauvages quelle que soit leur provenance [...]

(Unless with ministerial authorisation, the capture, keeping in captivity, and release into the wild of specimens belonging to wild animal species, regardless of their origin, are prohibited [...])

Under this Act, the capture of butterflies without prior official authorisation is illegal. Daniel takes a strong critical stance against this regulation, as indicated by phrases such as “I find so insane”, “that’s cat biting its tail”, “that’s such nonsense.”, “that alienates people from nature” and “putting up a barrier, a wall between people and nature”. Here, I do not seek to delve into a discussion on environmental policy and its enforceability, but try to understand Daniel’s view on human-nature connection based on his opinion on this regulation. He opposes this regulation because it delegitimises the practice of capturing in general, attributing exclusively environmentally negative connotations to it. Such connotations disregard non-destructive capture as a means to establish direct physical contact with nature and the significance of hands-on interactions with nature in fostering reciprocal human-nature connections. Moreover, the practical implementation of this regulation, namely, one needs a scientific reference to apply for the authorisation, imposes that discourse that physical interactions with nature can only be legitimised by institutional knowledge. This contrasts with the viewpoint of Daniel and the experiences of other participants, that direct practices with nature are an important pathway to gain environmental knowledge and awareness. As such, Daniel perceives this regulation posing a dilemma of “cat biting its tail” and erecting “a wall between people and nature” that cuts off not only the physical but also the cognitive connection between people and nature, hindering the on-the-ground understanding of “what it is that should be protected”. Daniel’s critical view on the conservation Act suggests that he highly values embodied experiences with nature as a crucial

13 Loi du 18 juillet 2018 concernant la protection de la nature et des ressources naturelles et modifiant.

entry point to learn about nature and integrate environmental awareness.

In the current section, I elaborated on the finding that participants value embodied experiences with nature as a significant gateway to meaningful connection with nature at experiential, emotional and philosophical levels. Participants' lived experiences and opinions reveal that such embodied experiences can be realised through "grasping nature with hands", namely hands-on interactions with nature, and mindfully experiencing nature as a form of serious leisure. They believe that embodied experiences with animals, plants and biotopes form the foundation of inner connection with nature as a tangible and vigorous entity rather than an overlooked substrate to exert human domination. This view constructs a positive discourse on the role of human activities in human-nature relationships. In the next section, I will move to another perspective that is valued in fostering reciprocal human-nature connections: intellectual engagement with nature.

Intellectual Engagement with Nature

Besides embodied experiences, the nature friends recognise intellectual engagement with nature as an important lens for enhancing one's connection with nature. They emphasise the significance of identifying species and understanding animals' habitats, behaviours and ecological roles as means of fostering a closer connection with nature. Several participants are also committed to imparting knowledge about nature and raising environmental awareness through writing, mentoring and consulting. Participants believe that such intellectual engagement promotes a comprehensive perception of nature, particularly concerning the species that are socially constructed as negative. They view intellectual engagement with nature as a meaningful way to mediate tensions between people and nature, encourage environmental behaviours and inspire reflections on human-nature relationships. The sense of wonder and fulfilment that arises from such intellectual engagement acts as a powerful catalyst for further exploration of nature. Through gaining and communicating ideas about nature, people recognise nature as a complex system with intricate internal connections, where species have their own ways of interacting that should not be defined solely by human standards.

RELATIONAL LEARNING ABOUT NATURE

One prominent form of intellectual engagement is learning. Examining how participants describe and reflect on their experiences of learning about nature and how they facilitate such learning, I noticed that learning about nature is perceived as deeply relational. The process and content of learning about nature involve relationality in three interconnected dimensions: the relationship among people, the relationship between people and nature, and the ecological relationships within nature itself.

Using an example of “learning about seeds”, Michael elaborated on his observations and concerns regarding the declining awareness of ecological processes among people, emphasising that such processes should not be appropriated or obscured by commercialisation:

Wir zeigen, wo kommt der Samen her. Das ist ein Projekt mit den Bienen. Die Bienen machen die Befruchtung, das wir säen und denen können wir wieder nehmen, um dann neues Gemüse zu sähen. Wann, fragt die meisten Leute, wo kommt der Samen in diesen Tüten her? Die kaufen da sind Tüten, mein Salatsamen oder Tomatensamen. Aber dass das dann auch von den Pflanzen kommt, das sind die auch nicht mehr sich bewusst so richtig. Also es kommt aus dem Läden.

(We show where the seeds come from. This is a project with bees. The bees do the pollination, we sow the seeds, and we can harvest seeds again to grow new vegetables. Most people then ask, where do the seeds in these bags come from? They buy bags, my lettuce seeds or tomato seeds. But they're no longer really aware that, those seeds also come from the plants. It comes from the shops.)

Therefore, he believes it is important for people to (re)learn about nature:

It's important to learn about it. Because the other generations before they knew everything about nature. And now people in the big cities they don't know any more anything. And I think there's more than one generation that got lost there. Because it was also everything of, we knew about nature was transported from the grandparents to the parents and the children and so on. And there was a cut when we went into big cities.

Michael emphasises learning about “where seeds come from” as a dynamic, relational process involving plants, animals and human practices, rather than “what seeds are” as isolated botanical units. Here, learning about seeds is framed as understanding the interconnectedness within nature: that the life cycle of plants is closely linked to other organisms like bees, and therefore, seeds should be perceived as part of the ecological process instead of merely as commodities. In addition to the content of learning, Michael also perceives the process of learning about nature as relational. According to him, the widespread lack of knowledge about nature today is largely a result of diminished close contact with nature caused by people’s migration to urban areas. This view suggests that learning about nature is believed to occur through a direct relationship with nature. In the meantime, Michael believes that learning about nature is achieved through relationships among people, for example, inter-generational connections that pass on knowledge and experiences.

For Eric, the “key experience” that sparked his love for birds is his first successful identification of a fieldfare:

Aber dann gab es da ein Schlüsselerlebnis. Meine Mutter, die hat im Winter immer Vögel gefüttert, damals gab es noch echte Winter mit viel Schnee. Heute ist es Konfekt. Gut. Und dann hat her, meine Mutter hatte dann eine Futterstelle eingerichtet hinter dem Fenster, dann saß ich hinter der Gardine und habe dann gesehen, welche Vögel kommen da. Und da hat, damals hatte die Vorgängerin von LetzEarth, die Vögelschutzliga. Die hat einen Büchlein veröffentlicht, die wichtigsten Vögel Luxemburg. Und das hat meine Mutter mir geschenkt. Es gab damals in unserer Familie, in unserem Haus, gab es wie gesagt jetzt aber schon drei Bücher. Es gab die Bibel, [laughing], dann hatte meine Mutter mir, den Meyers Kinderschul-Lexikon geschenkt. Das war so ein Ding, sagen wir mal, ein Lexikon mit allen über die Natur hauptsächlich. Ja, ja, ja, ja. Und ob du glaubst oder nicht, ich habe dieses Buch auswendig gekannt. Also, tatsächlich. Ich habe nur immer darin gelesen und habe da eine ganze Menge gelernt, auch wenn ich nicht alles verstanden habe. Und das dritte Buch war dieses Vögelbuch, Vögel. Und ja, dann habe ich dann den Vögel nach-, zugeschaut, das war sehr schön. Und da plötzlich taucht ein Vogel auf, der gar nicht, den wir noch niemals gesehen hatten. Auch meine Mutter hat ihn noch nie gesehen. So

wie eine Amsel, ich habe das auch hier in diesem großen Buch beschrieben. Du hast das ja. Das habe ich auch beschrieben da. Und plötzlich saß dieser Vogel da wie eine Amsel, aber grau und braun. “Wah! Was ist das?” Und dann in meinem Büchlein, tatsächlich, da war der Vogel abgebildet, da war eine Wacholderdrossel, damals, war die äußerst selten, heute brüten sie in Luxemburg, heute, aber damals war sie nur im Winter da, na? Wow ich war so begeistert, und da begann meine Liebe zu den Vögeln.

(But then there was a key experience. My mother, she used to feed birds during winter – back then we still had real winters with lots of snow. Today it's just confectionery. Anyway. So, my mother had set up a feeding station behind the window, and I would sit behind the curtain and watch which birds came. And then, back then, the predecessor of LetzEarth, the Bird Protection League, had published a booklet about the most important birds of Luxembourg. And my mother gave it to me as a gift. At that time, in our family, in our house, there were, as I said, only three books. There was the Bible [laughs], then my mother gave me the Meyers Children's School Encyclopedia. That was like, let's say, an encyclopedia mainly about nature. Yes, yeah, yeah, yeah, and believe it or not, I knew that book by heart. Well, really. I just kept reading it and learned a lot from it, even if I didn't understand everything. And the third book was this bird book, birds. And yes, I watched the birds, it was wonderful. And then suddenly a bird appeared that we had never seen before. Even my mother had never seen it. It looked like a common blackbird, I also described this in the big book, you have it. I described it there. And suddenly this bird was sitting there, like a blackbird, but gray and brown. “Wow! What is that?” And then in my booklet, really, the bird was illustrated, it was a fieldfare. Back then, it was extremely rare. Today they breed in Luxembourg, but back then they were only around in winter, no? Wow, I was so excited, and that's when my love for birds began.)

In this account, young Eric's learning about nature, particularly birds, began from two aspects. On the one hand, he eagerly engaged with cognitive learning by reading and even memorising the Meyer Children Encyclopedia, despite not fully understanding its content. On the other hand, what he highly values as “key experience” is the direct observation and identification of birds. The highlight of this experience lies not merely in acquiring factual knowledge about the fieldfare from the handbook, but in forming a direct, affective relationship with birds. As he put it, “that's

when my love for birds began". Through identification and recognition, previously unfamiliar, or even unseen species are no longer "something" vague and abstract, but become "someone" with a concrete form of existing, clear presence and identity, which creates a sense of personal relationship. This process showcases a form of relational learning about nature, where learning is fostered through lived experiences and personal connections.

Similar to Eric's passion for birds, Birgit has a particular interest in bees and wasps. Besides serving as the president of the local section Nord, she also volunteers as a wasp consultant for LetzEarth, advising people who are concerned about wasp nests. The goal of such consultancy is not to assist people in removing the nest and eliminating the wasps, but rather, to calm people down by explaining that wasps do not attack humans blindly and to offer ways to co-live with wasps. Birgit shared her thoughts about her relationship with wasps in the interview:

Also Jugendliche habe ich auch [making a shocking face]. Ja, man wusste auch nicht, Wespen sind wichtig für die Natur. Und so man hat das einfach so gelernt, "Wespen stechen, Wespen sind schlecht, Wespen stören, man kann Allergie bekommen, man kann sogar sterben davon." Die Tiere waren einfach negativ. Man hat sich einfach nicht die Zeit genommen, um sie mal wirklich zu beobachten, was sie machen und so weiter. [...] Zu Hause habe ich sowieso Vogeltränke stehen und da kommen die Wespen dann auch trinken, weil sie halt um, so wie gestern warst es so schwül warm, über 30 Grad und so. Die müssen dann auch die Nester kühlen. Und dann kommen die Arbeiterinnen heraus, nehmen Wasser auf, und bringen das wieder ins Nest rein und damit kühlen sie das Nest und sie machen auch mit den Flügeln, dass es verdunstet, um Kühle in das Nest einzubringen. Und wenn die da dann sitzen und das Wasser aufnehmen, und dann beobachtet man sie, wo sie hinfliegen. Das habe ich dann anfangs auch gemacht. Da habe ich auch gemerkt, ah, da oben, da ist das Nest, da liegen reinraus.

(Well, as a teenager, I also had [making a shocking face]. Yeah, we didn't know that wasps are important for nature. We just learned things like, "Wasps sting, wasps are bad, wasps are annoying, you can get an allergy, you can even die from it." These animals were just negative. People just

didn't take the time to really observe them, to see what they actually do, and so on. [...] At home, I have a birdbath anyway, and the wasps come to drink there too, because they, like it was so hot and humid like yesterday, over 30 degrees, like that. They also need to cool their nests. So the worker wasps come out, collect water, and bring it back to the nest to cool it down. They also fan their wings, so the water evaporates, to cool down the nest. And when they sit there and drink the water, you can watch where they fly off to. That's what I did at first. I noticed, ah, up there, that's where the nest, lying there.)

Birgit attributed both her own and others' biased view of wasps solely as dangerous animals to a lack of relational understanding: specifically, a lack of knowledge about their ecological role and the absence of a personal, attentive relationship with the species. The example of her personal observation of wasps implies a strong sense of attentiveness and signals the development of a close, caring relationship with the species. Through careful observation of their behaviour, a more nuanced understanding of the wasps emerges: stinging is not their only behavioural trait; they are not always aggressors, but also engineers with sophisticated survival strategies. Such observation enables one to perceive species in their own right beyond anthropocentric assumptions and fears, fostering a convivial relationship with nature.

Observing and identifying species also play a fundamental role in Daniel's connection with nature. Daniel "didn't know much about nature before 2020"¹⁴ until he started photographing and identifying the plants and animals he saw while taking walks during the COVID pandemic. He participated in the "City Nature Challenge", an annual international community science competition for people to find and document plants and wildlife in cities. Participants of this challenge share their observations through the online platform iNaturalist, which is "an online social network of people sharing biodiversity information to help each other learn about nature" (iNaturalist, n.d.). The following screenshot illustrates how iNaturalist works:

14 Ich meine, ich selbst, vor 2020, hatte ich jetzt auch nicht so viel Ahnung.



FIGURE 25: iNaturalist. (n.d.) How It Works (retrieved from <https://www.inaturalist.org/>).

Daniel considers this experience to have had an important influence on his learning about nature:

Seit dann im Frühjahr 2020 angefangen habe, meine, zu dokumentieren, was in der Natur so kräut und fleust und wächst, da habe ich halt schrittweise immer weiter gelernt. Ich meine, ich habe dann auch einige Bestimmungsbücher, über zu Pflanzen, Pilzen, Vögel, Schmetterlinge, Insekten, im Allgemeinen und so weiter, habe ich mir dann auch besorgt, aber hauptsächlich auch habe ich dann dadurch gelernt, also zumindest der Bestimmung, die Arten zu erkennen, indem ich die Fotos auf iNaturalist gepostet habe und dann gesehen habe, was dann wie die, ja die automatische, der automatische Vorschlag ist, was es sein könnte, respektive dann, gibt es ja auch noch andere Leute auf iNaturalist, die dann auch noch eine Bestimmung liefern oder bestätigen. Und so habe ich dann mich Stück für Stück immer weiter familiarisiert mit den Arten und so weiter. So viel zumindest zum Bestimmen der Arten und dann ja weitere biologische Zusammenhänge oder ökologische, dass das kommt dann noch so ein bisschen dazu. Je mehr man, wie sagt, die Protagonisten in der Natur kennt, dann auf einmal versteht man auch wie die miteinander so ein bisschen wechsel, wirken. Genau.

(Since I started in spring 2020 to document everything that crawls, flies, and grows in nature, I've been always gradually learning more and more.

I mean, I also have some identification handbooks on plants, fungi, birds, butterflies, insects, in general and so on, I also got. But mainly I learned through, at least when it comes to identifying species, by posting photos on iNaturalist and seeing what the automatic suggestions were for what it might be. And there are also other people on iNaturalist who provide or confirm identifications. In this way, I got more and more familiarised with the species and so on, little by little. So much at least for identifying the species, and also further biological or ecological connections, that comes then. The more, like I said, the more you know about the protagonist in nature, then you also understand how they exchange, influence each other. Exactly.)

In this example, Daniel's learning about nature is relational in two ways. First, it is socially relational in process. Identifying species is a community-based activity. Learning about the species builds on collaborative knowledge within the online community. Second, it is ecologically relational in content. The outcome of this learning is not limited to identifying species individually but leads to the perception of ecological interactions among them. Identifying a species is not only about acquiring isolated factual knowledge, but also about understanding it within a broader ecological context involving intricate interactions. As such, this relational learning about nature fosters knowledge about nature and ecology, thereby enhancing cognitive connection with nature.

In addition to the City Nature Challenge and learning with the online community, he shares his experiences of exploring new species during activities organised by the section Nord:

Also was ich interessant finde ist, wenn ich irgendwelche Dinge sehe, die ich noch nicht gesehen habe, irgendwelche Arten. Ich meine zum Beispiel am 1. Mai bei der Wanderung, wo ich auch mitgeholfen, die zu organisieren, da wurden, da ging es auch um Weiher und so weiter. Und da wurde auch eine Reuse am Vortag ausgelegt, wo dann halt Amphibien sich drin sammeln können, damit wir dann am Tag der Wanderung da vielleicht was zu sehen haben. Und da war alles drin. Da hatten wir, das haben wir, Bergmolch, den man häufiger sieht, der war da drin, aber dann war auch der Fadenmolch drin, der Teichmolch und sogar einen Kammmolch war drin und auch ein Bluteigel, sogar. Das finde ich, besonders der

Kammulch in diesem kleinen Weiher, der von der SICONA¹⁵ da erst ein paar Jahre vorher angelegt wurde, war schon, wir waren beeindruckt, dass da sogar einen Kammernulch drin zu finden war. Genau. Oder bei dieser Wasseramsel Beringung. Ich meine, natürlich die winzig kleinen Wasseramsel. Die waren schon cool, weil die irgendwie so einen riesigen Schnabel hatten. Und die waren so ein paar kleine [xxx]¹⁶ schon sehr lustig aus. Aber was ist dann noch was besser fund, das war, dass wir da am Ufer zufälligerweise da haben. Da habe ich eine Pflanze gesehen, die ich noch nie gesehen habe. Das war irgendeine Sommerwurzen, habe ich leider den Namen vergessen. aber so eine parasitäre Pflanze, die gar kein Chlorophyll ausbildet und an anderen Pflanzen, da gibt es ja sehr viele von diesen Sommerwurzen. Aber das hier, ich habe jetzt die genaue Art leider vergessen, aber zumindest dieses [xxx] , das fand ich schon sehr spannend, so ein Zufall.

(What I find interesting is when I see some things I've never seen before, whatever species. I mean, for example, on May 1st during a hike I helped organise, there was, it was about ponds and such. The day before, a trap had been set to collect amphibians, so we might have something to observe during the hike. And there was everything in it. We had, we have alpine newts, which people see more often, it was there, but also smooth newts, palmate newts, and even a crested newt were inside, and even a leech. I found, especially the crested newt in this small pond, which had been released by SICONA only a few years before, was really, we were amazed that even a crested newt was found there. Exactly. Or during the dipper bird ringing. I mean, of course the tiny little dippers. They were cool, because they somehow have such big beaks. And there were a few small [xxx] quite fun. But what I found even better was that we happened to have on the bank, I saw a plant there that I'd never seen before. It was some kind of summer root, unfortunately I forgot the name, but it was a parasitic plant that doesn't produce any chlorophyll and [is parasite] on other plants, there are lots of

¹⁵ Le syndicat intercommunal pour la conservation de la nature, "Intercommunal nature conservation association".

¹⁶ This part contains incomprehensible or inaudible words. The same applies below.

these summer roots. But this one, unfortunately I forgot the exact species, but at least this [xxx], I found it very exciting, such a coincidence.)

During this interview conducted almost two months after the hiking, Daniel could still effortlessly remember and list the different newt sub-species that he had observed at the time. In Daniel's view, the individual animals are not merely "newts" as a homogeneous species, but are perceived with distinctions. This reflects not only his nuanced understanding of the species, but also an emotional engagement, as implied by the phrase "we were amazed". His emotional connection with nature, marked by curiosity, wonder and enthusiasm, particularly stands out in the example of the parasitic plant. Although he cannot remember its exact name, his intuitive understanding of parasitic relationships between plants, along with the lingering excitement and sense of wonder, remains vivid. As such, his learning about nature is relational: it occurs through direct interactions with nature, interplays with emotional engagement with it, and visualises ecological interactions within nature.

Considering himself a "small expert in butterflies in Luxembourg"¹⁷, Daniel also shared how his engagement with butterflies had developed during the past few years. It can be largely attributed to a personal network. When he started doing nature photography during the COVID-19 pandemic, "butterflies in particular crystallised as my main interest"¹⁸, and therefore, he joined the butterfly excursion organised by the section Nord in 2022. In this excursion, Daniel met Mark, one of the most prominent lepidopterists in Luxembourg. As their acquaintance developed over time, Marc showed Daniel his collection of butterfly specimens, taught him techniques to research butterflies and took him on transactions. Later, through Mark's introduction, Daniel began volunteering at the Luxembourg Institute of Science and Technology (LIST), where he regularly conducts systematic surveys along transects to gather data on insect distribution.

¹⁷ Bei Tagfaltern als kleiner Experte

¹⁸ Schmetterlinge insbesondere haben sich dann auch als Hauptinteresse dann rauskristallisiert, deswegen dann auch die Schmetterlingsführung.

Ja, daraufhin, ich meine, hab ich auch dann privat mich mit Mark ausgetauscht. Und da hat er mich auch mal mit zum Leuchten genommen, also um Nachts, dann einfach eine Lichtquelle, da irgendwo platziert mit einem Netz runter rum, um halt Nachtfalter anzulocken. [...] auch hat er mir das gezeigt und dann auch ein paar Microlepidoptera, die man heute unter der Stereo-Lube untersuchen muss, die er mitge-, der er dann angefangen hat. Dann am Tag darauf dann gezeigt, wie er das dann irgendwie auch präpariert in seine Sammlungen gezeigt und so weiter. Er ist auch mit mir seine Transakte mal gelaufen, und hat auch den Kontakt zum LIST hergestellt. Wie gesagt, ja gut, das war dann nicht direkt über LetzEarth, aber das war, da dann die Schmetterlingswanderung, wo, wo ich dann auch einerseits von LetzEarth rekrutiert wurde und andererseits habe ich dann Kontakt mit Mark bekommen, der mir dann auch noch weitere Dinge gezeigt hatte, dass er dann irgendwie Kontakt zum LIST hergestellt hat. Also das war schon irgendwie dann, da haben wir mal eine wichtige Wanderung davon, weil da viel Kontakt hier und da hin hergestellt wurde.

(Yes, after that, I mean, I also exchanged privately with Mark. And he once took me with him to light things up, so at night, he simply placed a light source somewhere with a net around it to attract moths. [...] and he showed me that and then also a few micro-Lepidoptera that you have to examine nowadays under the stereoscope, which he started with. Then the next day he showed me how he somehow prepared them in his collections and so on. He also went through transects with me and put me in contact with LIST. As I said, well, it wasn't directly via LetzEarth, but it was the butterfly excursion, where I was recruited by LetzEarth on the one hand and on the other I got in touch with Mark, who then showed me other things and somehow made contact with LIST. So that was kind of an important excursion, because a lot of contacts were made here and there.)

This excerpt shows that Daniel's connection with butterflies is anything but an unaccompanied journey involving only himself and the butterflies. His practical learning about the species is essentially supported by the "lot of contacts", including the ones with Mark and LIST. Without Mark's guidance, it would likely be difficult, if not entirely impossible, for Daniel to get such direct, hands-on experience with the specific lepidopterist research practices, which significantly promotes his learning

process from a practical perspective. As such, Daniel learns about lepidoptera through the relationship with the knowledge keeper. This relational dimension of learning about nature is highly valued, as indicated by Daniel's comment, "that was kind of an important excursion".

Similar to Daniel's fruitful learning from Mark, Michael had an interesting experience of learning from a "donkey whisperer" in southern France. When Michael started working at the Green Charlet, he had to develop nature pedagogy projects from scratch with his colleagues. One of Michael's first projects at the nature activity centre was to build a donkey stall. To prepare for this project, Michael visited the donkey whisperer to learn about the animal.

It was a woman who was very like eine Pferdflüstererin¹⁹, also eine Esselflüstererin²⁰, who could do very good with the donkeys. And there I went for a week with her, we made the stalls there. It was very interesting. We learnt everything about donkeys there, how to guide them, how to look after their feet, everything and so on. We even went to a guy who makes the saddles for them.

One of the takeaways from this learning experiences was that donkeys are not as unintelligent as they are often assumed to be:

Michael: The donkey was always considered as a not intelligent.

Yimin: Oh yeah, same here in Europe?

Michael: Not being intelligent, yes. And if you learned bad in class, for example, you said you were a donkey. And even there was a time, the children who didn't work well in class, they had the donkey ears. They had to put them on their head, on their head and they had to sit on the last bench of the class. That was before my, before I lived. But I remember that, yes. A generation before, yes. Yes, always donkey considered as a not intelligent animal, but they are more intelligent than horses, because you say they are stubborn,

¹⁹ Horse whisperer

²⁰ Donkey whisperer

no, they are not stubborn. If you come on your way, you come on a place where there is water, in the middle of the road or in the wood, the donkey, he will not go in the water when you pull him. He stops, because he does not know if it's deep or not, the water. A horse is going, just leading you, leading him through the water. There's no problem. He's not reflecting it. And then the donkey, also when there is some problem and he is afraid, so he runs and after a few passes he stops and he returns and he looks, what was the problem now? And the horse is running and running, never turning back.

Yimin: Oh yeah, the horse is like always forward.

Michael: Yes, forward. The donkey is more sensitive also.

Yimin: Oh, I didn't know about that.

Michael: Yes, therefore, I didn't know also because I did that stalls in South France. This woman really, she knew everything about donkeys. She lived all her life with donkeys. That was her life in donkeys. But it was a kind of [xxx] there, where the housing, because she made more, she did care more for the donkeys than for people.

The relationality of Michael's learning about donkeys is intriguing from three perspectives. First, it is socially relational. This learning process is fundamentally realised and supported through the connections that Michael had with the people who knew well about the animal, such as the donkey whisperer and the saddle maker. Secondly, the learning was grounded in the forming of a living relationship with the animal rather than abstract facts from textbooks or lectures. Taking care of the animal and learning relevant skills from someone who deeply cares for it is a profoundly relational act. Third, the learning outcome is a changing perception of the animal. The example of using donkey ears as the symbolic punishment for underachieving children reflects a long-standing association of donkeys with insensitivity and stupidity. However, through directly engaging with the animal and a caring relationship with it, Michael came to understand donkeys beyond cultural stereotypes, forming a new cognitive connection with the animal. Therefore, the learning is deeply

grounded in a relational context where the relationships between people and donkeys unfold rather than in isolated abstract facts.

Reflecting on his experiences of learning about nature, Michael offered the compelling metaphors of sponge and blinkers, which I find intriguingly capture the multidimensional relationality of learning about nature:

Ja, das ist auch, weil ich viel Kontakt damit hatte, all diesen Leuten hatte. Im Green Charlet habe ich auch dann Spezialisten für den Wald begegnet, ich habe Spezialisten für die Vögel begegnet und sogar dann, wie man dann Steinmauern baut, die auch gut für die Natur sind, wo Tiere sich verstecken können. Es ist halt gut, wenn man irgendwo arbeitet, wo viele Spezialisten sind, dann kann man von jedem so was aufsaugen. So wie ein Schwamm musst du sein und alles so aufsaugen. Information von da, von da. Wenn du eine Frage hast, kannst du zu jemanden hingehen. Das ist schön für mich als Lehrer. Von alles ein bisschen kannte, aber nicht viel. Nicht ein Spezialität. Manchmal wenn du sehr Spezialist bist, hast du ein bisschen Scheuklappen. Du siehst nicht nach rechts nach links alles. Du hast Scheuklappen haben. Du musst kucken zu allen Seiten, so finde ich.

(Yes, that's also because I had a lot of contact with all these people. At the Green Charlet I also met specialists for forest, I met specialists for birds and even how to build stone walls that are also good for nature, where animals can hide. It is indeed good when you work somewhere where there are lots of specialists, then you can absorb things from everyone. You must be like a sponge and absorb everything, information from here and there. If you have a question, you can turn to someone. That's nice for me as a teacher, I know a little bit about everything, but not much. Not a speciality. Sometimes when you're very specialised, you have a bit of blinkers. You don't see everything from right to left. You have blinkers. You have to look to all sides, I think.)

According to Michael, one should learn about nature like a sponge and without blinkers. By learning like a sponge from a community of nature friends, one develops knowledge and skills of nature through a personal network. In this way, the learning process is embedded in social ties, and is thus socially relational. The metaphor of the sponge absorbing everything, combined with Michael's experience of learning from colleagues with diverse focal interests in nature, also suggests his view that learning

about nature involves understanding it from different perspectives within a comprehensive context, rather than solely focusing on fragmented aspects. This belief becomes more evident in his metaphor of blinkers. It suggests that any element of nature should not be only learnt or understood in isolation, but rather within a broader, ecological context.

In the examples above, learning about nature is perceived as a highly relational process. Participants value social networks that supported their learning about nature, the bonds formed between people and nature during the learning process, and the ecological interactions they came to recognise as a learning outcome. Relational processes such as observing, identifying, and exchanging ideas with others are considered more important than isolated, abstract facts, as the processes were frequently recalled with passionate emotions, while the factual content often went unmentioned. Participants' experiences and views also suggest that meaningful connections with nature are fostered in learning that is grounded in real-world and ecological contexts, where direct engagement with nature and ecological interactions within nature can unfold. Relational learning promotes nuanced understanding of species, encourages perceptions that transcend cultural and social bias, and nurtures an ecological view of nature. It also boosts a sense of wonder, curiosity and conviviality towards nature.

While learning about nature is valued as an essential way to engage with it intellectually, participants also emphasise disseminating knowledge and raising awareness about nature as an important pathway to enhance human-nature connections. In the next section, I will discuss how "giving nature a voice" plays a significant role in fostering this connection.

GIVING NATURE A VOICE

Before I begin the discussion in this section, I ask readers' indulgence to express my respect and condolences for Bob. Just a few months after the interview, I came across an unexpected and saddening piece of news on LetzEarth's Facebook homepage: Bob had passed away. Although I learned during the interview that Bob was living with cancer, his humour and optimistic spirit touched me so much that I did not expect that he would leave us so soon. His kind words at the end of the interview, "you

will never bother me. I just love this kind of contact and I realise I have a lot to say because I've done a lot here", had sadly become a bittersweet full stop for our brief yet joyful encounter, instead of a hopeful comma that signals more wholesome conversations to come. In its tribute post, LetzEarth thanked Bob for his lifelong dedication to "give nature a voice". I find this thoughtful phrase aptly encapsulates how Bob and his fellow volunteers have been trying to bring people and nature closer together. Therefore, I borrow the phrase here to discuss how Bob and other nature enthusiasts have engaged with nature in a meaningful way.

Although Bob was actively engaged in the physical labour related to nature conservation, such as excavating ponds to restore local biotope diversity, he considered himself rather as a "head worker" who contributed mainly by writing about nature:

I think from my point of view I've certainly contributed far more by writing than I have by doing by hand. Because ja, I've dug ponds and I've planted hedges and I've done Aktioun fir d'Ëmwelt but I don't feel entirely at ease with that. I'm not a natural worker with my hands. I'm a head worker. And so if I can contribute by writing, then I prefer to do that. That's using the skill I have.

Bob's self-reflection offers an interesting alternative perspective to my first finding that meaningful connections with nature originate from grasping nature in one's hands. He considered that his multilingual writing and translating skills had contributed more to nature than his hands-on work. He served as the editor for the organisation journal, *Rose*, for nearly 10 years and authored numerous popular science articles focused on nature. He contributed to several nature-themed publications of LetzEarth and translated major works from German to English. Furthermore, Bob translated and subtitled into English a series of short documentary videos in Luxembourgish, produced by LetzEarth, which introduce nature reserves in Luxembourg. In 2012, he founded the LetzEarth's Language section, aiming to include people whose most comfortable languages are other than Luxembourgish, German and French in nature-related activities. In the interview, Bob proudly mentioned one of his main works, the English translation of *Die Gefiederten Freunde des Großherzogtums*²¹, an introductory guide to birds that breed in Luxembourg or pass through Luxembourg on migration.

They were discussing whether to do an English version of the *Die Gefiederten Freunde des Großherzogtums*, because they were already the German and the French version. And I said, “Look, you actually need an English version. There are thousands of people here who are interested in nature, and they read English if they can.”

Bob tried to build a “more personal” bridge between English speakers in Luxembourg and nature using his professional multilingual writing skills as an EU translation officer:

That’s my English. I get a little acknowledgement on the fly because the authors are Eric and Peter, but it says English text by Bob. I was quite pleased with that because I know both Eric and Peter, and I said to them, “Look, I know your German work. I know the French one. Can I change the English slightly? I mean, I make it a different style. And they say, “Yeah, go ahead.” And Peter, in particular, has very good English. So I sent him everything I was writing and he said, “Yeah, I like this. It sounds good.” So it’s very much my style of that. [...] I know the way my colleagues write German, most of them are retired schoolteachers. So they write in a rather formal way, which is not my way of writing. So, I mean, they can do that in German and French if they like, but it just sounds terrible in English, which is why I said, I’m gonna make this much more informal, more personal. And several readers have said, I like that style.

Intrigued by “Bob’s style”, I wondered how Bob had “changed the English slightly” to make the text sound “more personal”. Therefore, I read both the original German version of *Die Gefiederten Freunde des Großherzogtums* and Bob’s translation in comparison. Here, I take the entries “Goldcrest” and “Eagle Owl” as examples for analysis. To give readers a clear view of the changes Bob made in his English translation compared to the original German text, I highlighted the non-literal translation in red. My analysis does not seek to judge whether the German or English version is better, but rather focuses on how Bob’s translation choices, namely additions, omissions and modifications of certain details, include English

21 *Grand Duchy’s Feathered friends*, pseudonym for the publication.

speakers in Luxembourg into the local conservation discourse and give nature a voice.

TABLE 5: Goldcrest.

Original German version	English version by Bob
Das Wintergoldhähnchen zeigt, anders als das Sommergoldhähnchen, eine deutliche Vorliebe für Nadelholzbestände, besonders Fichten, und zieht Hochwälder der parkähnlichen Landschaft vor. Zum Brüten genügen manchmal schon einzelne, in den Laubwald eingestreute Nadelbäume, die durchaus auch in Waldnähe oder gar parkähnlichem Gelände und nahe menschlicher Siedlungen stehen können. Neststandort und Nistmaterial ähneln denen des Sommergoldhähnchens. Das Wintergoldhähnchen ist ein nicht seltener Standvogel, der 1-2 Jahresbruten mit je 8-10 Jungen aufzieht. Es ist die kleinste Vogelart Luxemburgs und Wappenvogel der Zeitschrift „Regulus“.	Unlike the Firecrest, the Goldcrest has a marked preference for coniferous woodland (especially spruce), and for high forest over parkland habitats. It is not picky, though. For breeding purposes, all it sometimes needs is a few conifers in otherwise deciduous woodland. They can be near woodland, or in parkland, or close to human settlements. The positioning and structure of the nest is the same as for the Firecrest. The Goldcrest is a fairly common year-round resident, raising two annual broods of 8-10 young each. The Goldcrest is Luxembourg's smallest bird, also the national bird, and the emblem of the eponymous national conservation magazine "Regulus".

Compared to the original German text, Bob's English translation introduces several additional details. First, he added a comment, "it is not picky", after describing the bird's habitat preference. This is an anthropomorphic expression that subtly attributes a human trait of being undemanding to the bird. Such personification evokes more positive and relatable feelings in readers. Furthermore, Bob's translation adds two culturally significant pieces of information: that the Goldcrest is the national bird of Luxembourg and that *Regulus*²² is the country's national conservation magazine. These additions suggest Bob's effort to make the translation more inclusive for English-speaking readers who may lack back-

ground knowledge about Luxembourg. Instead of assuming prior knowledge from readers, he enhanced the information accessibility and readers’ engagement by providing the context. These details help contextualise the symbolic role of Goldcrest in Luxembourgish culture and conservation efforts. As such, Bob’s translation conveys not only a sense of cultural inclusiveness but also the connectedness between the bird and people.

In the entry on Eagle Owl, we can also see Bob’s cultural sensitivity and awareness of the close connection between humans and birds.

TABLE 6: Eagle Owl.

Original German version	English version by Bob
Der Uhu, der wegen seines auffälligen Rufes zu seinem Namen kam , ist die größte Eule Europas. Bis in die 30er Jahre des vorigen Jahrhunderts brütete er in felsenreichen Wäldern und Flusstälern, wo er Felsnischen als Brutplatz auswählte. Danach galt er jahrzehntelang als ausgerottet. 1982 konnte erstmals wieder eine Brut nachgewiesen werden. Augenblicklich dürften 15-20 Paare regelmäßig bei uns brüten, wobei Ringfunde belegen, dass die Neubesiedlung unseres Landes ihren Ursprung aus Wiedereinbürgerungsprogrammen in der Eifel hat. Natürliche Felsen und solche in Steinbrüchen und ehemaligen Tagebaugebieten (Eisenerz) werden als Nistplatz ausgewählt. So brütet der	The Eagle Owl is Europe’s biggest owl. It was a breeding species in Luxembourg until the 1930s, occupying nest sites in rocky woodland and valleys and building its nest on rock ledges. For decades afterwards Eagle Owls were absent from Luxembourg, mainly because of hunting persecution, until a pair returned and bred again in 1982. The current breeding population is put at a regular 22-25 pairs. Ringing recoveries have shown that this recolonisation of Luxembourg has its origins in reintroduction programmes in the nearby Eifel region of Germany. Eagle Owl nest sites are natural rock faces and man-made ones in quarries and in abandoned opencast (iron ore) mines. Ea-

22 The scientific Latin name of Goldcrest is “Regulus regulus”.

Uhu auch auf dem Gebiet der Stadt Luxemburg. Er ernährt sich von Kleinnagern, Ratten, Igel und zum Großteil von Vögeln bis zur Größe einer Krähe. Viele Uhus verunglücken an Stromleitungen und Stacheldrahtzäunen oder werden Opfer des Straßen- und Bahnverkehrs. **Zudem engt zunehmender Druck Erholungssuchender auf ruhige und entlegene, naturnahe Gebiete ihren Lebensraum ein.**

gle Owls also breed within the borders of the city of Luxembourg. They feed on small rodents, rats, hedgehogs and – to a great extent – birds, up to the size of a crow. Many Eagle Owls fall victim to collisions with power lines and barbed-wire fences, or with road vehicles and trains. **They also suffer from habitat disturbance caused by human intruders in remote, natural parts of the country.**

In this entry, Bob's nuanced alterations to the original German text can be classified into four aspects. The first one concerns phonological untranslatability. In German, Eagle Owl is called Uhu [ˈuːhu], which is a phonetic mimic of the bird's call. Since its English name is not onomatopoeic, Bob chose not to translate the German explanation of its name. The second aspect is fact-based revision. Since Bob's translation came five years after the publication of the German version, the breeding status of Eagle Owl in Luxembourg had improved during the time, increasing from 15-20 pairs to 22-25 pairs. As such, Bob made the corresponding revisions in his English text. Thirdly, Bob again introduced contextual information. By specifying the location of the Eifel region, Bob's translation is more accessible to readers unfamiliar with the natural landscapes around Luxembourg, making the text more culturally inclusive. The last aspect is the translator's voice. I argue that by bringing his own translator's voice into the text, Bob gave nature a voice. There are two relevant excerpts in this text, as shown in the following table:

TABLE 7: Bob's Translator's Voice.

	Original German version	Literal translation ²³	English version by Bob
Excerpt 1	Danach galt er jahrzehntelang als ausgerottet. 1982 konnte erstmals wieder eine Brut nachgewiesen werden.	<i>After that, it was considered extinct for decades. In 1982, a brood was confirmed for the first time.</i>	For decades afterwards Eagle Owls were absent from Luxembourg, mainly because of hunting persecution, until a pair returned and bred again in 1982.
Excerpt 2	Zudem engt zunehmender Druck Erholungssuchender auf ruhige und entlegene, naturnahe Gebiete ihren Lebensraum ein.	<i>In addition, increasing pressure from people seeking relaxation in quiet, remote areas close to nature is restricting their habitat.</i>	They also suffer from habitat disturbance caused by human intruders in remote, natural parts of the country.

It is evident that in both excerpts, Bob shaped the translation with his own voice. In excerpt 1, he used the emotive and critical phrase “hunting persecution” to provide additional information on the reason why Eagle Owls once became extinct in Luxembourg. It was not an outcome of neutral “hunting”, which can often be perceived as justifiable human activity for survival or cultural reasons. Rather, it was a tragic consequence of “persecution”, which is a deliberate hostile act aimed at harassment and damage. Compared to the German sentence, Bob’s translation goes beyond a factual description. He critically emphasised that the extinction was not a neutral phenomenon, but a consequence of harmful human activities toward nature. Then, Bob translated the return of Eagle Owls in an active sentence with the species as the subject: “a pair returned and bred again”. Compared to the German sentence whose literal transla-

²³ Literal translation by DeepL Translator <https://www.deepl.com/en/translator>.

tion is “a brood was confirmed for the first time”, Bob’s translation does not frame the owls merely as an object of observation and research, but rather as agentic individuals actively performing their actions. The sentence “a pair returned and bred” not only describes a neutral ecological phenomenon, but also vividly conveys a hopeful dynamics of life starting anew. Similarly, in excerpt 2, Eric critically reframed the role of human beings in the survival challenges that Eagle Owls are still facing. Instead of keeping the expression with a somewhat positive connotation, “people seeking relaxation in quiet, remote areas close to nature”, Bob pointed out sharply that these people are “intruders” invading Eagle Owls’ natural habitats. In his translation, the birds are again brought to the foreground, becoming the subject of the sentence who “suffer from” such invasion. Therefore, Bob’s critical voice on humans’ disturbance to the species is stronger than the original German text. His critical translator’s voice makes such tensions visible to readers with greater emotional impact, highlighting the fact that the birds are actively living while bearing the harmful consequences of human disturbance. As such, Bob’s translator’s voice gives a voice to the speechless Eagle Owls within the unequal power relationship between humans and nature.

The above examples illustrate how Bob used his translation skills to foster people’s knowledge and awareness of nature. Through language as a medium, he illuminated the close relationship between birds, people and culture, gave the voiceless species a voice within human-nature relations and made these voices accessible to a broader public.

Like Bob, his friends Eric and Birgit are also committed to giving nature a voice. Instead of doing so through writing and translation, they contribute by offering consultation. As a keen ornithologist, Eric volunteered to take consulting calls from people with questions about bird encounters. He shared a case where he convinced a woman to accept a wryneck in her garden:

Eric: Und dann ruft eine Frau mich an, sagen sie mal, „Jetzt bin ich aber wütend wütend wütend!“ „Ja was denn?“ „Ich habe ein Nistkasten im Garten hängen. Und da waren jetzt Meisen, die hatten Eier gelegt und so. Und jetzt kommt so ein Vogel, er sieht aus wie ein Spatz, so braun und gestreift und so. Und der geht jetzt in den Nistkasten rein und schmeißt alles aus dem Nistkasten drauf, die Eier

und die, die, das Moos und so. Sauerei, was mach ich jetzt?“ Ich sage, „meine liebe Dame, da haben Sie aber Glück.“ „Wie denke?!“ „Ja“, sage ich, „da haben Sie einen sehr seltenen Vogel, der da auch in diesen Nistkasten will.“ „Ach so, ja“, sagt der. Der ist der Wendehals. Kennst du den?

Yimin: Nee, nicht genau.

Eric: Der gehört zu den Spechten, der Wendelhals. Und der braucht Nistkästen, ja, mit einem bisschen größeren Loch als die Kohlmeise und so. Und der säubert, er legt seine Eier einfach nur auf den nackten Boden. Er baut kein Nest. Und wenn da ein Nest drin ist, das stört ihn. Und dann wird das ganze Material raus. Und ich sagte dann der Frau, „Glauben Sie mir, Sie haben eine große Rarität. Lassen Sie das Tier bitte in Ruhe und sagen Sie mir, ob das hingebaut, ob das funktioniert. Das würde mich sehr, sehr interessieren und sehr freuen.“ Die Frau, „das gibt es doch nicht, ich habe nie davon gehört.“ „Ja, ich, habe Sie das Vogelbuch? Schauen Sie mal Wendelhals, da lesen Sie mal. Sie haben jetzt das Glück, einen Wendelhals zu haben, das ist nicht so häufig.“ Und die Frau begreift, das hat geklappt. Der Wendelhals hat doch gebrütet mit Erfolg.

(Eric: And then a woman calls me and says, “Now I’m angry, angry, angry!” “Yeah, what happened?” “I have a nesting box hanging in my garden. And there were tits, they laid eggs and so. And now comes a bird along, it looks like a sparrow, brown and striped and so on. And now it’s going into the nest box and throwing everything out of it, the eggs and the moss and everything. It’s a mess, what do I do now?” I say, “dear madam, you’re very lucky.” “What do you mean?!” “Yes,” I say, “you have a very rare bird that also wants to use this nest box.” “Oh, yeah?” she says. That’s the wryneck. Do you know it?

Yimin: No, not really.

Eric: It belongs to the woodpecker family, the wryneck. And it needs nest boxes, yeah, with a slightly larger hole than the great tit and so on. And it cleans, it just lays its eggs on the bare ground. It doesn’t build a nest. And if there’s a nest in there, it gets bothered. And then all the stuff gets thrown out. And then I told the woman, “Believe me, you have a great rarity.

Please leave the animal alone and let me know whether it takes over, if it works. I would be very, very interested and very happy to hear. The woman said, "That's impossible, I've never heard of that." "Yes, I, do you have the bird book? Take a look at the wryneck, read about it. You're lucky to have a wryneck, they're not that common." And the woman realised that it had worked. The wryneck had successfully bred.)

What is intriguing in this anecdote is how the tension between the woman and the wryneck arose and how Eric mediated in it. The fact that the woman hung nest boxes in her garden indicates that she was not hostile to birds. However, she was not familiar with the wryneck species and therefore saw its behaviours merely through an anthropocentric lens. She had not realised that its "mess making" was an innate natural behaviour for nesting and interspecific competition, perceiving it as a disruptive violation of an assumed order. This suggests that certain everyday tensions between people and nature cannot be entirely attributed to human exploitation, apathy or hostility toward nature, but may also arise as a result of a lack of ecological knowledge and awareness, even among those who intend to develop a positive connection with nature. In the case of the wryneck, as the bird was unable to introduce itself or speak in its own defence, Eric lent it his voice using his knowledge and communications skills. Besides suggesting that the woman learn about the bird by referring to the bird handbook, Eric emphasised that she was "lucky" to have the "uncommon" species in her garden. Rather than focusing on lecturing her on factual knowledge and the relatively abstract principle that species' instincts should be respected, Eric tried to inspire her excitement and sense of wonder toward the bird. As such, Eric's consulting work represents an act of advocacy for nature by making ecological information accessible and encouraging a shift away from an anthropocentric view of nature.

Likewise, Birgit talked about her work as wasp consultant during the interview:

Birgit: Es so, ja, also ich bin, jetzt gebe ich wieder ein bisschen an, ich bin bei der Gruppe Wespenberater. Da bin ich mit dabei und da können die Leute, die irgendwo zu Hause oder irgendwo in Bienen-nestsen, Wespennestsen haben, was sie stört, oder was sie meinen, es würde stören, können sie dann anrufen und wir beruhigen die

Leute dann erstmal und im schlimmsten Fall fahren wir hin, wir gucken uns die Sache an und meistens kriegt man die Leute beruhigt und sagt, sie können das Nest ruhig da lassen, sie bauen jetzt einen Paravent, einen Paravent, irgendwas vorne dran bauen, damit die Wespen nach oben wegfliegen und dann sind sie nicht gleich auf ihrem Tisch und so weiter. Wenn Sie am Tisch setzen, sitzen zu essen, dann setzen Sie hier neben daran die Teller mit ein bisschen Marmalade drin, ja, dann gehen die Wespen dahin und die lassen Sie da in Ruhe. Und so, solche Tricks, die wir den Leuten dann erklären und zeigen. Und ja, also, wir erklären dann auch auf, nicht nach den Wespen- machen, wie [blasen]

Maria: - schlagen oder so,

Birgit: Auch nicht machen! Das mögen sie überhaupt nicht. Den Sauerkeim mögen sie überhaupt nicht, den man ausbläst, das mögen sie überhaupt nicht. Und dann werden die erst aggressive. Also man soll einfach nur, nur zachte Bewegung machen. Auch wenn man das Tier dabei berührt, das macht gar nichts. Also die haben nicht so schnell den hinteren gedreht und Sie gestochen, wenn Sie einfach so das Tier wegdrücken und, oder es einfach fliegen lassen, es einfach mal gucken, beobachten was es macht. Manche kommen auch geflocht-, setzen sich dahin, und dann gucke ich, das sind jetzt da rein? Okay, dann pass ich auf. [making a gesture as if a wasp as if a wasp flew into her neckline] Wenn sie da dann gedrückt wären, könnten sie stechen. Ich beobachte sie dann, irgendwann fliegt sie wieder weg. Und ich nehme sie auf den Finger, komme's auf den Finger krabbeln.

Maria: Oh! Oh?

Birgit: Dann beobachte ich sie so, und irgendwann fliegt sie weg, weil sie hat bemerkt, da gibt es nichts zu fressen, fliege ich wieder weiter.

Maria: Das muss man sich überwinden vielleicht.

Birgit: Ja, auf jeden Fall.

(Birgit: Well, now I'm going to brag a little bit again, I'm part of a wasp advisory group. I participate in that. People who have bee hives or wasp nests somewhere at home or elsewhere that are bothering them, or think they might get bothered, can call us and we calm them down first. In the worst case, we go there, take a look at the situation, and most of the time we can reassure people and tell them they can leave the nest where it is. They can build a screen or something in front of it so that the wasps fly upwards and don't end up on their table or so. When you sit at the table to eat, you can put a plate with a little marmalade next, and then the wasps go there and won't bother you. And so, we explain and show people such tricks. And yeah, we also explain what you should not do to the wasps, like [blowing].

Maria: -slapping them or something like that.

Birgit: Don't do that either! They don't like that at all. They don't like the oxygen you blow out, they don't like that at all. And then they become aggressive. So you should just, only make gentle movements. Even if you touch the animal, it really doesn't matter. Well, they won't turn around and sting you so fast if you just push the animal away like this, or let it fly away, just watch and see what it does. Some of them come flying in, sit there, and then I look to see if they're in there. Okay, then I'll be careful. [making a gesture as if a wasp flew into her neckline] If they were pressed there, they could sting. I watch them, and at some point they fly away. And I pick them up with my finger, let them crawl onto my finger.

Maria: Oh! Oh?

Birgit: Then I observe them, and eventually they fly away because they realise there's nothing to eat, so I fly on.

Maria: Maybe people must overcome that.

Birgit: Yes, definitely.)

As Birgit describes it, the purpose of the wasp consultation is to help people learn how to coexist with wasps. The practical tips she shared suggest that the everyday tensions between people and wasps, such as the annoyance people feel when wasps fly nearby, often stem less from the insect's actual stinging behaviour but more from people's fear of encoun-

tering them in the first place. To overcome this fear, it is important to understand that wasps' act of stinging humans is a defensive reaction rather than a predatory attack. In this sense, Birgit's consultation work is not only about offering technical advice on dealing with wasps or educating people on factual knowledge about the species, but also about advocating for adopting wasps' perspective, a shift away from the one-sided view of the species as aggressive pests, and coexistence with them. In the above excerpt, it is interesting how a mini consultation session unfolded between Birgit and Maria. Notice how Birgit shared recommended practices with Maria: "they don't like [slapping] at all. They don't like the oxygen you blow out," and explained that when wasps realise there is no food, they simply fly away. These suggestions are articulated from the wasps' perspective, treating them as agents in their own right rather than a problem to be dealt with. As such, drawing on factual knowledge and practical skills, Birgit and her consultant colleagues mediate the tension between people and wasps by giving it a voice, as her following words indicate:

Und das probieren wir helf den Leuten, diese Angst zu nehmen. Und was die Leute auch nicht wissen, dass die Wespen nur ein Sommer da ist. Das Nest stört dann im spätesten, ging welche Art, es ist im November ab. Und dann sind sie weg, dann ist es keine mehr da. Die Leute meinen immer, die würden da drinnen überwintern und im nächsten Jahr wieder da, aus dem gleichen Nest dann wieder, das stimmt auch nicht. [...] Und halt, ja, wenn irgendwie was ist, den Leuten erklären, den Leuten erklären, wie das zusammenhängt und dass die Wespen nicht so gefährlich sind.

(And we try to help people overcome this fear. What people also don't know is that wasps are only around in the summer. The nest only disturbs latest until, whatever kind of wasps it may be, by November it's gone. Then they're gone, and no wasps are left. People always think they would hibernate there and come back the next year, from the same nest, but that's also not true. [...] And, yes, whatever it is, is to explain to people, explain to them how things are interconnected with each other and that wasps aren't that dangerous.)

In this section, I discuss how participants engage in meaningfully negotiating people's relationship with nature through practices of nature-related writing, translation and consultation. By practising these commu-

nicative acts as a form of advocacy, participants give voice to the otherwise speechless nature, navigating human-nature relationships with both cognitive understanding of the issue and emotional resonance with the concerned species. In giving nature a voice, they make it more emotionally relatable, disseminate factual knowledge about it in accessible ways, and mediate tensions between people and nature from a less anthropocentric perspective. As such, they foster reciprocal connections with nature from cognitive, emotional, and philosophical perspectives among the wider public.

TOWARDS A RELATIONAL UNDERSTANDING OF INTELLECTUAL ENGAGEMENT WITH NATURE

The previous two sections discuss two forms of intellectual engagement with nature that are valued by research participants: relational learning about nature and giving nature a voice. Examples from both aspects showcase how intellectual works such as learning, reflecting, communicating and negotiating can encourage positive connections with nature. Participants value their intellectual engagement with nature more as the process of “coming to know” through social networks and direct contact with nature than as the status of “processing the knowledge”. This perspective becomes evident in their recognition of autonomous learning about nature, and in their view that valid knowledge, especially the one that sparks further interest and curiosity about nature, is not exclusive to academic institutions. For example, Laura recognised that her learning about birds in Reed Marsh is more interest-driven compared to formal educational contexts. As she explained:

Es ist ein anderes Lernen als jetzt in der Schule und an der Uni, weil da ist immer so, du lernst und dann immer leicht gezwungen, weil du später eine Prüfung hast. Aber hier ist dann also, du machst es für dich, in deinem Rhythmus so viele Informationen für dich interessieren.

(It's different from learning at school or university, because there you always learn and then you're kind of forced to because you have an exam later. But here, you do it for yourself, at your own pace, and you take in as much information as you're interested in.)

In a similar vein, Birgit described her year-long self-directed learning about nature as “simply fun”:

Das ganze Wissen, was ich zum Beispiel erhalte über die Natur, habe ich mir selbst beigebracht. Also ich bin keine Biologin, nichts gelernt, gar nicht. Habe ich nur alles im Laufe der Jahre selbst beigebracht und all die Pflanzen, all die Vögel, all die Tiere, die ich kenne, und Zusammenhänge und so weiter, wie gesagt, alles selbst beigebracht. Und eben auch am Hand von LetzEarth, wo ich Kurs mitgemacht habe und solche Sachen, weil ich Aktivitäten dabei war und gelernt habe und das heute halt wieder weitergebe. Ja, das macht einfach Spaß.

(All the knowledge, for example, what I know about nature, I taught myself. I'm not a biologist, I didn't study it, not at all. I've just taught myself everything over the years, all the plants, all the birds, all the animals I know, and how they are connected with each other and so on, like I said, I learnt all by myself. And also with the help of LetzEarth, where I took courses and stuff like that, because I participated in the activities and learnt things, and now I'm passing that on. Yeah, it's simply fun.)

She does not identify as a “biologist”, suggesting her subtle distancing from the idea that meaningful knowing about nature is only grounded in institutional credentials. Instead, she foregrounds the role of intrinsically motivated and self-paced learning about nature, accumulated personal experiences and participation in community nature activities in fostering an affective rather than purely cerebral connection with nature, asserting these forms of engagement as valid pathways of knowing nature.

The emphasis on the process of learning and engaging over intellectual mastery is also reflected in Bob's recognition of “non-expert” knowledge:

I'm not a bird expert, because I came to it too late. People who grow up with this just know it. I mean, people like Eric and George and Tom, I mean, they know birdsong, they can listen to birdsong. So that, that, that and that. I can do it to an extent, but not to their extent. So when I do a walk, I'm not really an expert, but I'm sufficiently an expert to be able to tell other people what's this bit. You know from teaching. You don't have to be an academic to teach school

classes, you just have to be a few steps ahead of the class. So I've always said, among experts, I'm a layman, but among laypeople, I'm an expert. So the people who go on these walks don't want hugely expert opinion. If I can say, "That's a golden oriole and it lives there and it does this," people go, "wow! How do you know that?" It's just something I've acquired over the years.

By repeating "I'm not an expert" and hedging ("I can do it to an extent, but not to their extent"), Bob was not delegitimising himself but rather asserting his legitimacy as a mediator between people and birds. His acknowledgement of his own "expert layman" identity suggests a belief that meaningful engagement with nature does not require an academic authority of knowledge. According to Bob's experience, what sparks interest is not the "hugely expert opinion", namely knowledge as a product of formal expertise, but rather acquiring situated knowledge as a process of "getting to know", which makes nature relatable through concrete sensory understandings.

A similar acknowledgement of the "self-learner" identity and an understated distancing from institutional authority can also be found in Eric's account:

Ich bin Autodidakt, aber ich habe viele Kurse mitgemacht. Ich bekam auch regelmäßig Post aus dem Ausland, und da wurde ich immer adressiert ‚Dr. [Familiennamen]‘. Habe aber nie ein Doktor, nie ein Doktor gemacht, aber das stört mich nicht. Das stört mich nicht. Man muss ein Leben leben. Und ich habe ein erfülltes Leben gehabt. Ich bedauere nichts.

(I'm self-taught, but I've taken many courses. I also received regular mails from abroad, and they always address me as "Dr. [surname]". But I never got a doctorate, never did a PhD, but that doesn't bother me. It doesn't bother me. You must live your life. And I've had a fulfilling life. I don't have any regrets.)

This brief excerpt reveals a nuanced confrontation between two competing discourses on the legitimacy of knowing nature. The external assumption of Eric's doctoral title suggests a prevalent view that extensive knowledge of nature is typically the product of higher education and institu-

tional science. This view essentially represents the discourse of credentialism, the belief that the best measure of a person's ability or intelligence is formal qualifications such as academic degrees (Oxford English Dictionary, n.d.). Eric's resistance to this credentialism discourse is suggested by his emphasis on "it doesn't bother me", which downplays the importance of the formal institutional status. He places greater value on a relational discourse of engagement with nature – the nature-inclusive eudaimonia, where the value of learning about nature lies in the process of living "a flourishing life in which nature is an integral part" (Knippenberg et al., 2018, p.43).

As such, participants' distancing from credentialism and emphasis on informal, intrinsically motivated learning about nature reinforces the idea that intellectual engagement with nature is valued from a highly relational perspective. As discussed in the section *Relational Learning about Nature*, the approach of relational learning foregrounds the dynamic *process* of knowing that is deeply embedded within personally, socially and ecologically relational contexts over the static *state* of having decontextualised knowledge. Moreover, participants perceive factual knowledge about nature not merely as the end goal of their engagement, but as a means to fostering a constructive relationship with nature, as the examples of *Giving Nature a Voice* suggest. In other words, facts and knowledge about nature are valued as a relational tool to stimulate reflections on tensions between people and nature and prompt a human-nature relationship of care and responsibility. As Michael concisely put it:

Wenn du sie nicht kennst, wirst du auch nicht schützen.

(If you don't know them, you won't protect them.)

From her experience as a wasp consultant, Birgit noted that a lack of knowledge about nature could lead to a confrontational human-nature relationship:

Die Leute sehen ein Nest, das muss weg. Wie gesagt, die deutsche Wespe, die gemeine Wespe, das sind die, die auf den Tisch kommen und mitessen wollen. Alle die anderen Arten, die kommen nicht, die machen das nicht. Und die Leute verstehen das nicht. Sie sehen ein Nest, sie sehen die Wespe, das muss weg. Sie verstehen nicht, wenn

das jetzt eine andere Art ist, dass sich überhaupt nicht gefährlich ist, dass man hier ruhig da sein lassen kann, ohne dass was passiert, und da verstehen die Leute nicht.

(People see a [wasp] nest and it must be got rid of. As I said, the German wasp, the Common Wasp, are the ones that come onto the table and want to eat with us. All the other species don't come, they don't do that. And people don't understand that. They see a nest, they see wasps, they must get rid of them. They don't understand that this is a different species, that it's not dangerous at all, that you can just leave it alone and nothing will happen, and people don't understand that.)

What Birgit emphasised here is the role of ecological literacy – “the key ecological knowledge necessary for informed decision-making” (McBride et al., 2013, p.3) – as a fundamental mediator in the human-nature relationship. In the case of wasps, people commonly regard them indiscriminately as a nuisance, without understanding the behavioural differences among subspecies or the underlying drivers of the behaviours – foraging rather than attacking. This general lack of ecological literacy leads to an antagonistic relationship between people and wasps: wasps are perceived solely as a threat, and their nests are destroyed unnecessarily. As such, the intellectual engagement with nature is not confined to the mere acquisition of information, but involves cultivating a relationship-oriented awareness.

A similar point of view is also evident in Michael's recollection of his experience as a nature educator:

We did collect Schnecken von aller Arten, und sie machen die auch Terrarium also, die behalt da auch Pflanzen drinnen, um die zu beobachten, und auch Experimente mit denen zu machen. That's, across a knife, go over a knife, so you see they have slime that is protecting them not being cut. So you can go over the knife, yes. And then you make some Essig, here is the Schnecke, und here is the Salat and dann machst du hier Essig hin, da macht sie hier kehrt. Sie will da hinter zu den Salat, aber der Essig, das schreckt sie ab. So zwei Experimente haben wir auch mit den Kindern mit den Schnecken gemacht, dass sie einfach keine Angst haben vor Schnecken,

dass die auch die anfassen und gucken, wie schön die auch sind, wenn dann ihre Augen so in die Höhe strecken.

(We did collect all kinds of snails, and they also make terrariums, where you have plants in it, and can observe them and also do experiments with them. [... And then you make some] vinegar, here is the snail, and here is the lettuce, and then you put some vinegar here, the vinegar makes it go around. It wants to go behind [to eat] the lettuce, but the vinegar scares it away. With children, we did such two experiments with snails so that the kids wouldn't be afraid of snails, so that they would touch them and see how beautiful they are when they stretch their eyes up like that.)

It is noteworthy that Michael framed the objective of the two experiments not as teaching biochemical knowledge about snails, such as the secretion mechanism of protective mucus or their chemical perception of acidic stimuli, but ultimately as cultivating an affective perception of snails beyond a feared garden pest. This reflects a relational view of understanding nature: it is not only about acquiring decontextualised knowledge through detached observation, but also about trying to gain an emic insight into nature and reflecting on the people and nature relationships that have often been taken for granted within an anthropocentric worldview. It echoes Birgit's remark:

Und das ist dann unsere Aufgabe als Verein, mit Aktivitäten und so weiter, die Leute aufzuklären und zu sagen, hier, versuch das doch mal, guck doch mal, ist das so schlimm, wenn da eine Schwalbe brütet? Und da ist unten halt ein bisschen Kacke von denen, das ist gar nicht so schlimm.

(And that is our association's mission, through activities and so on, to explain to people and say, here, try this, take a look, is it really so bad if a swallow makes its nest there? There'll be a bit of their poo, but that's not so bad at all.)

As Birgit's understanding of LetzEarth's mission suggests, a meaningful intellectual engagement with nature is not only about facts – for example, the appearance, taxonomy or biological behaviours of swallows – but also about adopting a relational stance toward nature that involves reflecting

on certain anthropocentric views that frame nature as a nuisance, and moving toward a coexistent relationship rather than a judgemental one.

In this section, I discussed the second perspective that participants consider important for developing meaningful connections with nature: intellectual engagement. The process of forming a cognitive connection with nature, such as knowledge and awareness, is perceived as deeply relational. It involves learning through social networks, cultivating direct and intimate relationships with nature and recognising the web of ecological interactions. Participants emphasise their strong preference for acquiring knowledge about nature within living contexts where these relationships unfold, rather than through detached and isolated approaches. Factual knowledge is not valued as the end goal of intellectual engagement with nature, but rather as a relational tool to mediate tensions and achieve reciprocal human-nature relationships. As such, relational intellectual engagement with nature emerges as a significant perspective for deepening one's connection with nature. In the following section, I will discuss the third perspective of fostering connection with nature: affective attachment.

Emotional Resonance with Nature

So far, I have discussed two perspectives that participants value for initiating and deepening human-nature connections, namely embodied experiences and intellectual engagement with nature. In the present section, I focus on the third perspective that is perceived to underlie meaningful connections with nature: emotional resonance. As mentioned in Chapter 4, one of the four basic questions I asked when scrutinising the interview data during initial coding is “what emotions do participants experience in relation to their engagement with nature?”. Upon analysing the initial codes that correspond to this question, I found that emotional resonance with nature permeates the trajectory of connecting with nature. Like embodied experiences and intellectual engagement, emotional resonance with nature is valued as a meaningful spark to initiate a lasting connection with nature. Through the process of engaging with nature, hope is believed to be an effective approach to developing a reciprocal relationship with it. Finally, participants reported that their hands-on and learning experiences with nature generated emotional attachments and

affective responses. As such, an emotional resonance with nature is perceived to pervade the entire arc of the connection with it, and is therefore regarded as a valuable perspective for developing this connection.

INTUITIVE ATTACHMENT AS AN ENTRY POINT

As I discussed in the previous section, Michael argues that cognitive connection with nature underpins environmental mindset and behaviours – “if you don’t know them, you won’t protect them”. Interestingly, Birgit offered a contrasting perspective. From her perspective, people are not necessarily drawn to nature through cognitive knowledge or perceived responsibility, but through emotional and aesthetic appreciation. This view is profoundly shaped by her mom:

[...] es ging ja schon zu Hause an, dass die Mutter eine auf Sachen aufmerksam gemacht hat. ‚Guck mal, der schöne Käfer, da pass auf, tritt nicht drauf.‘ Obwohl sie nicht wusste, was für einen Käfer es ist, aber sie hat Respekt einem beigebracht, beigebracht, auch vor einem Käfer, nicht nur vor einem großen Hund oder einer großen Kuh oder so, sondern auch von kleinen Sachen, oder der Blümchen, ‚guck mal wie schön das Blümchen ist!‘ und so, obwohl sie die Namen nicht wusste. Deshalb bin ich heute immer noch ein bisschen, also nicht so ganz mit dem Spruch einverstanden, ‚Erst was man kennt, schützt man.‘ Es ist eine Art Wahrheit dran, aber es muss nicht das Kennen sein. Ich muss nicht wissen, was für eine Blume es ist, damit ich sie schütze und sie nicht ausreißt oder umgrabe, und so. Und ja, also von Kindheit an, Interesse an der Natur und die Schönheit gesehen und so.

([...]it had already started at home, my mother inspired me. “Look, a beautiful beetle, be careful, don’t step on it.” Even though she didn’t know what kind of beetle it was, she taught us to respect it, also to respect a beetle, not just big dogs or cows or so on, but also small things, or flowers: “Look how beautiful that flower is!” and so on, even though she didn’t know their names. That’s why until today I still don’t quite agree with the saying, “You only protect what you know.” That makes some sense, but it doesn’t necessarily have to do with knowledge. I don’t have to know what kind of flower it is to protect it and not pull it out or dig it up and so on. And yeah, so from childhood, I’ve been interested in nature and its beauty.)

This excerpt clearly reflects Birgit's disagreement with the notion that knowledge is the exclusive foundation for a lasting and meaningful connection with nature. She explicitly challenges the idea that knowledge is a prerequisite for care for nature through disalignment and partial alignment expressions: "until today I still don't quite agree with the saying" "that makes some sense, but it doesn't necessarily have to do with knowledge". She emphasised that her mother's lack of taxonomic knowledge did not diminish her deep, inner connection with nature marked by empathy and care. On the contrary, this intuitive bond was so powerful that it profoundly shaped Birgit's first emotionally significant experiences with nature, characterised by interest and affection, preceding her later learning and physical engagement. This echoes Seamon's (1984) argument: "[l]ove and responsibility for the earth cannot only be thought about cerebrally; they must be felt emotionally, with the heart" (p.769). This viewpoint does not oppose knowledge-centric environmental ethics, which emphasises the role of ecological literacy in shaping how people relate to nature; rather, it offers a complementary perspective that values the emotional foundation underlying a deep connection with nature.

Maria reported her similar experience of "affect before intellect":

Meine Eltern waren Bauern, ich war viel draußen, kannte die Natur, immer die schöne Blumen, aber auch nie genau, das ist die und die Blumen. Aber das hat mich immer schon gefallen.

(My parents were farmers, I spent a lot of time outdoors, I knew nature, always [as] beautiful flowers, but I never knew exactly, this is this or that flower. But I always liked them.)

Maria's description reveals that her affective connection with nature had emerged before cognitive understanding. However, Maria expressed a sense of insecurity regarding her intuitive perception of nature and limited scientific knowledge during the interview. Interestingly, Birgit's reaction to Maria's account reinforced the viewpoint that cerebral knowledge about nature should not be over-emphasised as the privileged – if not the only – pathway for meaningfully connecting with nature, in contrast to emotional and aesthetic attachments.

Maria: Aber ansonsten, nie, bis jetzt spät, späte, davon zehn Jahren so zirca. Aber ich, das hat mir immer gefallen, wollte immer dazukommen, zu diesem Verein hier, da habe ich, ich habe immer gedacht, ich kenne doch so, „die kennen alles“ –

Birgit: – ah nee! –

Maria: – „kennen jeden Vogel und jede Blume“ –

Birgit: – umm...[laughing] –.

Maria: – „ich bin doch nicht da geeignet.“ Da bin ich aber einmal, habe meine Mut gefassen, so ging dahin, hat mir sehr gut gefallen, auch die Aktivitäten, die wir machen jetzt.

(Maria: But apart from that, never, until now, late, late, about ten years ago. But I always liked it, always wanted to join this association, [but] at that time I always thought, I thought so, “they know everything” –

Birgit: – ah no! –

Maria: – “know every bird and every flower” –

Birgit: – umm...[laughing] –.

Maria: – “I’m not suitable there.” But then I gathered my courage, went along, and really liked it, also the activities we do now.)

Compared to Birgit, who began environmental volunteering in adolescence, Maria perceived her own engagement that started in her 60s as “late”. One factor behind this “delay” is her assumption that comprehensive knowledge of nature is the prerequisite, and even a gatekeeper, for engagement with nature. This belief is reflected in Maria’s othering and self-positioning as an outsider of the community, as expressed in her remarks: “they know everything” and “I’m not suitable there”. Maria’s previous self-censoring reflects an *axiological scientism* (Stenmark, 1997) view of the human-nature connection, that science – knowledge and the state of knowing – is the most valuable part of connecting with nature. This view inevitably dismisses the significance of the intuitive and emo-

tional aspects of people's experience with nature in forging the connectedness with it, often rendering these aspects as superficial or secondary. Interestingly, as a more experienced environmental volunteer, Birgit immediately expressed her rejection of the expectation that "they know everything" through a vocal disagreement, humorous hesitation ("umm...") and laughter. This excerpt suggests that even the most unadorned affection for nature, such as the simple feeling of "liking", which is not grounded in scientific understanding, should be encouraged as a valuable entryway into human-nature connections, rather than overshadowed by the discourse of axiological scientism. I conclude this section with a quote from the American naturalist John Burroughs (as cited in Sobel, 1996, p.10):

Knowledge without love will not stick. But if love comes first, knowledge is sure to follow.

HOPE AS AN APPROACH

During data collection, the participants' positive vibes for nature impressed me. I frequently heard phrases such as "I enjoy it", "it's fun" and "I like (doing) it", which have left me the impression that their experiences and viewpoints in relation to nature are underpinned by genuine enjoyment, satisfaction, curiosity and amazement. Meanwhile, I am not implying that my research participants hold a naïve view about human-nature relationships, or that they are ignorant of the environmental issues and the power inequalities that have caused and aggravated these problems. In contrast, they demonstrated a deep understanding of issues such as biodiversity loss, people's disconnection from nature, the impacts of industrialisation, commercialisation and urbanisation on human-nature relationships and the appropriation of nature by capitalism. This, however, does not mean that they stick to disappointment, anger and desperation as a way of relating to or acting for nature. Instead, they value positive emotions as a meaningful approach to engaging with nature.

I previously analysed the following remark by Bob in the section "Harvesting Meaningful Connections with Nature through Embodied Experiences". Here, I revisit this excerpt from a different perspective: positive emotion as a valued approach to connect with nature.

So, yeah, and during that time, we were discussing all kinds of environmental issues at home. I remember, I mean the 1970s and 80s there was the oil price shock. And this was when the environmental movement was really accelerated. So we were part of that. And I remember we had to be very careful with the children. We would have mealtimes and we were talking about environmental issues and problems. And at one stage we said, 'No, we've got to be careful about this. We're talking very negatively. I mean, the children have got to grow up thinking positive about the environment.' So we made sure that they knew birds, they went on walks with us, they helped dig the ponds, sometimes willingly and sometimes reluctantly.

Bob's remark draws a clear boundary between the "negative" and "positive" aspects of human-nature interactions: the anthropogenic environmental crisis versus the mutual flourishing engagements. On the one hand, he cautiously evaluates a mere focus on the negative aspect as potentially harmful for developing a reciprocal connection between children and nature. On the other hand, Bob values a positive construing of human-nature interaction and prioritises hope over pessimism, which is reflected in his deliberate effort to cultivate uplifting experiences with nature for his children by making nature part of family memories. Inherently encompassing positive emotions such as hope, optimism and joy, "thinking positively about the environment" is perceived to be a valued approach to nurture constructive connection with nature. This perspective aligns with Sobel's (1996) argument that "[w]hat's important is that children have an opportunity to bond with the natural world, to learn to love it, before being asked to heal its wounds" (p.10). Being merely exposed to environmental problems, as pointed out by Sobel, leads to *ecophobia* marked by hopelessness, powerlessness and a sense of lack of control, which impedes people's motivation to build transformative connections with nature.

However, it must be acknowledged that in the context of environmental degradation, it is highly unlikely for those who are environmentally conscious to remain unaffected by the emotional burden of ecological problems, and sometimes, other people's indifference, inaction and harmful behaviours towards nature. They have to navigate an emotional balance. During the interview, Birgit recounted a confrontation with a wooden

furniture vendor at a spring fair in Luxembourg City. Concerned by the large-scale rainforest destruction in Southeast Asia resulting from the international timber trade, Birgit questioned the vendor if he was aware that his business led to deforestation and harm to indigenous communities who rely on the rainforest for their livelihood. To Birgit's indignation, the vendor responded indifferently, saying that those impacts were not his concern and he only cared about the business's profit. Taking this confrontation as an example, Birgit expressed her indignation over the environmental inequalities driven by the imbalanced power dynamics both among human beings and between humans and nature, and a sense of powerlessness. Yet, she still aligned with Maria, that despite these negative aspects, their seemingly mundane engagement with nature brings hope and joy, which has been sustaining their lasting motivation to act for nature.

Birgit: [...] Und das deprimiert mich. Das deprimiert mich! Ich habe Depressionen deswegen, weil ich das einfach nicht verstehe.

Maria: Wenn man da machtlos ist, vielleicht...

Birgit: Ja, ja, ja. Also man, man, wenn auch auf der einen Stelle was Gutes passiert, kannst du sicher sein, 100 Kilometer daneben wird es zerstört.

Maria: Aber trotzdem um jetzt auf uns Aktivität zurück, das war ja Ihre Frage. [facing Yimin]

Birgit: Ah sicher, ja.

Maria: Auch wenn wir nicht jetzt die Welt damit retten, viel wir machen, wir sehen doch ein kleines Resultat. Nistkasten aufhängen, aufhängen, vielleicht ein paar Vögel retten, ein paar Blumen, das macht doch Freude. Also wir retten die Welt nicht dadurch. Das ist ein anderes Thema. Ja, da können wir nichts dagegen machen. Aber...

[...]

Maria: Wir machen es ja trotzdem, du auch, ne?

Birgit: Ja--!

Maria: Man darf nicht zu viel denken, die Welt, die Dunkel oder so, man muss eine kleine Arbeit da.

Birgit: Ja, auch wenn mal einer, grantig ist oder frech ist, dann ärgert man sich die erste Stunde drüber und denk aber dies und dessen, aber man vergiss sich schnell wieder und nee, man will, man macht weiter.

(Birgit: [...]) And that depresses me. It depresses me! I get depressed because I just don't understand it.

Maria: When you're powerless, maybe...

Birgit: Yes, yes, yes. I mean, even if something good happens in one place, you can be sure that 100 kilometres away it's being destroyed.

Maria: But anyway, back to our activities, which was your question. [facing Yimin]

Birgit: Ah, sure, yes.

Maria: Even if we're not saving the world by doing this now, we do a lot, we still see a small result. Putting up nesting boxes, maybe saving a few birds, a few flowers, that brings joy anyway. We're not saving the world by doing this. That's a different issue. Yes, there's nothing we can do about that. But...

[...]

Maria: We're doing it anyway, you too, aren't we?

Birgit: Ye--s!

Maria: You can't think too much, the world, the darkness or things like that, you have to [do] the little bit of work.

Birgit: Yes, even if one is grumpy or angry, you get annoyed about it for the first hour and think this and that, but you quickly forget about it and no, you want to, and you do keep doing.)

Regarding the human-nature relationship, Birgit and Maria share two opposing sets of emotions. In the face of the widespread anthropogenic environmental problems at a global scale, they both feel a sense of powerlessness, which is evident through their explicit expression, such as “when you’re powerless”, and figurative language use such as “100 kilometres away” and “we’re not saving the world”. At the same time, they do not dismiss the hope and joy that the “small results” of their mundane interactions with nature have generated. As the end of the cited excerpt suggests, what lasts and motivates is not the “darkness”, but such hope and joy. “Forgetting” about the anger and annoyance and turning to hope is not an act of avoidance, but an approach of continuing to fight for nature.

Michael’s remark resonates with this viewpoint:

It’s also important in all this work to see the positive points. Sometimes you see there are a kind of insect that was, we thought it was, it had disappeared, it is found again somewhere. So these examples are very positive. Or you see some birds begin again to nest here, so that is a positive sign. You do not have always to show the negative. That is depressing people and not going to make them stand up for more nature. If you just say we are just destroying everything and everything is going to die, people get depressed and don’t stand up to protect. Just being angry and doing nothing is not good.

In Michael’s argument, “hope” is embodied in the revival of species. A concrete example of such heartening results of conservation efforts can be found in the previous section *Giving Nature a Voice*, that the number of breeding Eagle Owl pairs in Luxembourg has increased from 15–20 to 22–25 from 2015 to 2020. Michael highly values the “important” role of feeling hopeful for the positive conservation outcomes in encouraging environmental behaviours, contrasting it with the negative impacts of solely addressing the environmental crisis as “depressing” and discouraging. He explicitly distanced himself from the approach of focusing exclusively on negative issues through the evaluation that “just being angry and

doing nothing is not good". This view resonates nuancedly with Moore's (1992, as cited in Sobel, 1996, p.9) findings about the effects of West Germany's curriculum implementation that intended to raise pupils' awareness of the environmental crisis in the 1980s:

Concerned about acid rain effects on German forests, the ozone hole, heavy-metal pollution in European rivers, the aftermath of Chernobyl, and other environmental problems, the Germans implemented a conscientious national curriculum endeavor. [...] As a result of the curriculum initiative, education officials found that students felt hopeless and disempowered. The problems were seemingly so widespread and beyond their control that the students tended to turn away from, rather than face up to, participating in local attempts at problem solving.

As the above examples of how people negotiate their emotional perception of environmental issues suggest, positive emotion, especially hope, is perceived as an effective approach to encourage and shape constructive connection with nature. It is noteworthy that such hope is not random or naïve, but is based on practical engagement with nature and understanding of conservation endeavour. The hope grounded in practice and cognitive awareness offers emotional support for (re)connecting with nature.

AFFECTIVE RESPONSE AS A GAIN

Finally, yet importantly, positive affective responses, such as fascination and relief, are perceived as a valued outcome of meaningful connection with nature. For example, Laura observed how her emotional intimacy and fascination toward birds have developed in the course of her engagement at the ringing station:

Das heißt, also, ich bin nicht so, extrem Vogel bezogen, ich merke jetzt mit der Zeit, weil ich jetzt schon so lange dahin gehe, dass ich mittlerweile so kann sagen, diese Vögel merke ich lieber als diese, und ich entwickle langsam, bin ich selbst, bin ich so mich beobachten selbst, es erstaunt mich so, immer mehr eine Faszination, entwickle.

(That means, well, I'm not extremely bird-oriented, [but] I've noticed over time, because I've been going there for so long now, that now I can say that I like these birds better than those, and I'm slowly developing, I'm observing myself, and I'm amazed at how a fascination is developing more and more.)

As elaborated in the section *Interacting with Nature as Serious Leisure*, Laura began participating in bird ringing not because she was a bird enthusiast, as she said, “extremely bird-oriented”. While her connection with birds was not kindled by a preceding intuitive attachment, a positive emotional resonance with birds has developed in the process of her practical interaction with the species. In this case, while emotional connection does not serve as a spark that explains *how* Laura *started* to engage with birds, as an appreciated outcome of the process, it articulates *why* she *returned* to the animal and the wetland reserve for a long-term attachment.

From Michael's viewpoint, the amazement emerged from experiencing and learning about nature plays an essential role in forging a profound connection with nature:

Michael: [...] wenn du, eine Schnecke nimmst du und du siehst wie die über also eine Klinge klettern kann, dann hast du Respekt vor der Schnecke. You, bestaund, ja? Staunen.

Yimin: Yes, it's amazing.

Michael: Ah It's amazing that! It's not possible. I can't do that. I will be cut, the blood will be shed when I touch it, but the Schnecke [snails], he can do it. So much like things. You must, so “Aha-Erlebnis”, “Oh-ha!”, ist fantastisch. Sie ist dann, son-, wie eine Pusteblu-me so, Löwenzahn, da fliegen die Samen, dann, die haben hier Fallschirme dran. Die können überall hinfliegen, so, die lässt sich überall wieder und dann kommt eine neue. Auch das sind so Wunder, wie du sagst, „Oh-ha!“ Die muss man den Kindern und den Erwachsenen auch manchmal noch tragen.

(Michael: [...] when you, you take a snail and see how it can climb over a blade, then you'll have respect for the snail. You are amazed, yeah? Amazement. [...So much like things.] You must, such an “Aha-moment”, “Oh-ha!”, is fantastic. It's, like a blowball, dandelion, the seeds fly away, and they have

parachutes. They can fly everywhere, and then they land anywhere and a new one comes. That's also a wonder, like you say, "Oh-ha!" You must let children and also adults experience that.)

Michael highly values the sense of wonder and amazement as the emotional outcome from experiences with nature, as indicated by his repeated use of the modal verb "must", which conveys a strong belief in necessity. His vivid emphasis on the "Aha-moment" points to how powerfully the feelings of surprise, wonder, joy and awe that are gained in direct experience with nature touch people, and therefore form a deep inner connection with nature.

In addition to amazement, Michael argues that relief holds significant emotional value in the connection with nature:

I think the world for kids is being concentrated in the cubic classroom, disconnected of the real nature. That's the main problem, I think. Therefore kids are going to explode and. There are no more, nicht mehr geerdet [not grounded anymore]. So when we have here, this must be geerdet [grounded]. There must be contact with the soil, to get when there is too much Volt, it's going through your body and it's going in the soil. You don't die from it. I think that we need also, we have to be in contact with nature and soil.

Through the metaphor of earthing wire, Michael powerfully expressed his belief that contact with nature provides stress relief and emotional comfort, thereby playing a crucial role in supporting well-being, much like a grounding wire channels high voltage safely into the ground in case of danger. While this metaphor vividly illustrates relief as one of the perceived emotional benefits of connecting with nature, Bob's reflection on the human-nature relationship through the lens of mortality offers a clear and heartfelt expression of this perspective:

I've thought now twice about mortality and you just get used to the idea of, you know, we all die, we don't have to die just yet, but still, I mean, that's the way of life. And I think that's one of the things that nature study has taught me as well. I mean, I have no religious beliefs. I observe how life starts and ends in nature. And we're part of nature too. We're just another animal, mammal species. And life

starts. You lead your life, you reproduce and you die. Just like every other species. I find that very reassuring.

This excerpt essentially presents a critical reflection on human exceptionalism. From the perspective of the life cycle and mortality, human beings are simply living organisms and therefore are not more privileged than other mortal species in nature. In this sense, Bob blurred the boundary between human and nature in his discourse: nature is no longer an “other”, but an entity to which we belong; animals are not outsiders either, but our kin. In Bob’s case, this perception meaningfully extended beyond a pure rational cognition, but also held deep emotional significance. As someone living with terminal cancer, the insights he gained from nature brought him reassurance and peace. The relief that Bob found in nature at the end of his life made his lifelong connection with it profoundly moving.

The present section elaborates on the third dimension that participants value in their connection with nature: emotional resonance. My findings suggest that emotional experiences shape how people initiate, sustain, and construe the meanings of their connection with nature. The emotional experiences with nature closely interplay with the other two forms of interaction with nature: embodied experiences and intellectual engagement. Viewing the three perspectives comprehensively, I find that they mutually shape one another without being mutually exclusive, nor do they form any linear cause-and-effect relationships in which one serves as a prerequisite or consequence of the others.

Pollinating Blossoms and Harvesting Fruits of Human-Nature Relationships

Zooming into the Meanings of Connecting with Nature

The previous section uncovers three key perspectives that participants value in developing meaningful connections with nature: embodied experiences, intellectual engagement, and emotional resonance. To further explore how participants perceive their relationships with nature as they

unfold through these multifaceted connections, this section addresses the second research question: What views of nature and human-nature relationships are embedded in participants' engagement with nature from these perspectives?

To ground the answers to this question in participants' live interactions with nature and their real-time sense-making process, I examine the video data and fieldnotes collected through participant observation. The analysis reveals that nature is positioned not as a passive backdrop or object, but as an active guide and participant in shaping individuals' embodied, intellectual and emotional engagement. Furthermore, participants challenge the image of "human as the steward of nature" (van den Born, 2006a, 2006b), instead positioning themselves as collaborators with nature. In doing so, they embrace the notions of the *agency of nature* (Nash, 2005) and *human-inclusive naturalness*, which contest two fragmented understandings of human-nature relations: human dominance over nature and the human-nature dichotomy.

Nature as a Guide and Participant

On October 15, 2023, I joined Michael and his two fellow volunteers from the section City, Jenny and Jules, for an Aktioun fir d'Ëmwelt session in a suburban forest in southern Luxembourg. In addition to the four of us, there were also four participants of the activity who were not regular members of the section but had joined after seeing the open call. To distinguish these four participants of Aktioun fir d'Ëmwelt from my core research participants, namely Michael, Jenny and Jules, I will refer to them in the following text as "spontaneous volunteers". The purpose of that day's Aktioun fir d'Ëmwelt session was briefly outlined in the program of Aktioun fir d'Ëmwelt:

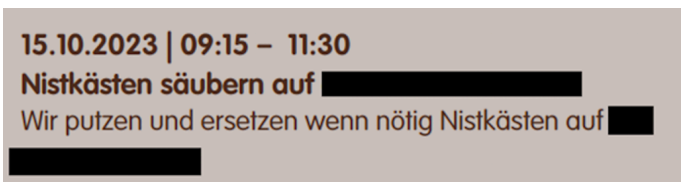


FIGURE 26: Program of Aktioun fir d'Ëmwelt.

Clean nest boxes at [place]

We'll clean and, if necessary, replace nest boxes at [place].

Michael, Jenny and Jules brought various tools: a ladder approximately two meters tall, hammers, scrapers, nails, work gloves, and a handcart loaded with several brand-new nest boxes. Our group of eight followed the trail deeper into the woods. Jenny discovered the first nest box. She set up the ladder, climbed up, and took down the nest box. Inside the box was an empty bird nest made of moss and twigs, interspersed with down feathers. Jenny took it out and handed it to Jules. Instead of throwing it away, Jules showed the empty nest to the rest of us and said that he would take it with him and use it as material for his participation in the Science Festival.



FIGURE 27: Jules holding the nest.

Jules: Also ech huelen déi Näschter elo mat, well ech um Science Festival matgedeelt, iwwer Deieren, déi an den alen Vullennäscht sinn. Mir brauchen nach e puer Äschten, bis well hu mir weineg Deieren rauskritt. I will take these nests for my workshop on science festival, to see what kinds of beasts are inside.

(So, I'm taking the nests with me now, because I participated in the Science Festival, about animals that live in old bird nests. We still need a few twigs, so far we've found a few animals. [I will take...])

The four spontaneous volunteers were intrigued by Jules' "animals in bird nest" project. One of them asked further: "Beasts?". Realising that his choice of words was inaccurate, Jules explained himself in Luxembourgish: "Also nee, Vullen – also net – ech weisen Iech et. (*Well, no, birds – well not – I'll show you*)". Saying so, he took out from his jacket pocket a bird identification booklet and an A4 sheet printed with pictures and names of several insects.



FIGURE 28: Jules introducing the insects.

Jules: An deenen Näschter kann ee Saache fannen ewéi dat do, Fléi, vill Larven, Matten, Instektenlarven, Milben, Käferen, Stëbleis, Col-lenbole.

(In those nests, you can find things like that – fleas, many larvae, moths, insect larvae, mites, beetles, dust lice, woodlice.)

This interaction represents an ethnographic moment for me, because the ways in which Jules engaged with the material, nature and people

reframed the activity in a way that diverges from how it was initially framed in the program. The moment when Jenny took out the empty nest from the box and cleaned out the dust with the flat scraper, the task “cleaning nest box”, as specified on the program, is completed. The empty bird nest could have been discarded, and the group could have already moved to the next nest box. However, rather than treating the nest as a waste, Jules valued it as a learning material that could engage the audience. The moment when Jules took out the booklet and the A4 paper was unexpected and striking for me. These materials, together with Jules’ explanation to the spontaneous volunteers, reframed the event from a work-oriented maintenance activity into a knowledge-sharing interaction oriented toward learning. This instance provides us with an ethnographic demonstration of relational learning about nature discussed in Section 4.1.3. The spontaneous volunteers were learning about the otherwise invisible ecological relationships between birds and insects embedded within bird nests through direct contact with the natural construct and interaction with the nature knowledge holder, Jules. In this moment, nature – here the birds, the nest and other creatures inhabiting it – was not only perceived as something to be helped, cared for or managed, but also as a guide that supported people’s relational learning. The natural configuration of the nest, rather than a controlled experiment, shapes the learning process. As such, this ethnographic moment indicates that nature is not perceived merely as an inert object to be learnt about, nor a passive substrate where learning happens. Rather, it shapes people’s nature literacy – *“the ability to learn from and respond to direct experience of nature – means seeing nature as a connected, inclusive whole”* (Sobel, 1996, vi, emphasis in original) – as an agentive force.

While Jules was introducing the other residents of the bird nest, Jenny finished cleaning the first nest box and hung the box back onto the tree. In the meanwhile, Jules continued sharing:

Also, déi Näschter ginn erausgeholl, wéinst deen, wéi ech Iech gewisen hunn, déi Parasitten, déi dra sinn. Dat heescht an där doter Këscht ass nach vill Plaz, an do géif nächst Joer d’Meesen en Nascht do drop bauen, mee an deenen Näschter do sinn déi Parasitten an dann hunn déi Jonk direkt déi Parasitten. Bah, Dir hutt do déi Fléien, déi suckele Blut bei deenen jonke Vullen, mee Fléien sinn

esou richtig onsympathesch Déieren. Déi Vullefléi ginn och un ons
Blutt suckelen.

(So, the nests are removed because of the parasites I showed you, the parasites inside the nests. That means in this box here, there's still a lot of space, and next year the tits would build a nest on top of it. But in those nests, there are parasites, and then the chicks would immediately have those parasites. Ugh, you've got those fleas that suck blood from the young birds. Fleas are really unpleasant animals. Those bird fleas even suck our blood too.)

This excerpt continues to illustrate how Jules facilitated others' relational learning about nature, albeit from a different layer than the previously analysed moment. Capturing the complex dynamics that autonomously form within nature, Jules grounded the understanding of the animals and human intervention in a dynamic and relational context. In this moment, Jules moved from sharing descriptive knowledge about nature – namely *what* inhabits in a bird nest – to offering explanatory knowledge about biological and human-nature interactions – *how* the animals interact with one another and *why* the maintenance work was necessary. Combining direct contact and intellectual engagement with nature, this moment highlights another layer of nature-related literacy: a kind of literacy that goes beyond a basic identification of flora and fauna, touching on ecological literacy – “the key ecological knowledge necessary for informed decision-making” (McBride et al., 2013, p.3). In other words, it is not only about naming species – be they fleas, mites, or lice – but about letting the biological interactions occurring in nature tell why and how humans might interact with nature.

The group moved forward in the forest. After a spontaneous volunteer hung up two new nest boxes on trees, the group came across another old nest box that needed cleaning. Jenny climbed onto the ladder and took it off. She handed the box to a spontaneous volunteer, who then passed it to Jules. When Jules opened the box, he immediately identified the old owner of the nest: “Hei ass Kleiber dran! (*Here is a nuthatch!*)” What strikes me as an ethnographic moment is not Jules' immediate identification per se, but the group's curiosity and fascination about the nest: the moment Jules opened the box and named the bird, the spontaneous volunteers gathered around with soft yet audible exclamations of “wow” (Figure 29). This moment, although only lasting less than two seconds in my field-



FIGURE 29: Jules checking the nest.

work video, represents a significant ethnographic moment for me that indicates that this nest box cleaning session was beyond a merely work-focused activity aiming at completing a task within a limited time frame. It is also a form of exploratory learning, characterised not only by the transfer of information but also by an emotional atmosphere of curiosity and a sense of discovery.

To everyone's amazement, this nest box was a "shared flat", like a spontaneous volunteer humorously put it: "eng WG²⁴!". Behind the nuthatch nest is another nest of a flycatcher family (Figures 30 and 31).

| Jules: Dat hei war dran. Hei ass Kleiber dran an -

| Michael: Kleiber ass mat denen Holzschuelen.

| Jules: Jo, an dat anert hannendrun ass e Nascht vum Méckefänkert. Kréien ech den iergendwéis hei eraus? Jo. An hei ass den Nascht vum -

24 abbreviation of *Wunngemeinschaft* [LB], shared flat.

Jenny: Jo den ass do dran, dat sinn zwee Bruten also. Do war sugger eng Kéier-

Michael: Eng Mees.

Jenny: Eng Mees déi ugefangen huet.

(Jules: This one had inside. Here is a nuthatch and -

Michael: The nuthatch is the one with the wooden shavings.

Jules: Yes, and the other one behind it is a nest of a flycatcher. Can I somehow get it out? Yes. And here's the nest of -

Jenny: Yes, it's in there. There are two broods. There was even once -

Michael: A tit.

Jenny: A tit that had started [nesting])



FIGURE 30: Discovering nuthatch nest.

Again, Jules took out his bird booklet and explained more details about the flycatcher to the group (Figure 31):

Also hei ass- Ech weisen Iech den hei. E schwarze Méckefänkert. Ech weisen Iech den am Buch. Also dat do, dat hei Nascht ass vun dem dote Vull, schwaarze Méckefänkert. T'ass een dee bis an Afrika flitt, déi kommen Enn Abrëll, Ufank Mee erem. An déi ginn och an esou Këschten.

(So here is – I'll show you here. A European pied flycatcher. I'll show it to you in the book. So that, the nest here is of that bird, the European pied flycatcher. It's one that flies all the way to Africa. They return around the end of April or beginning of May. And they also use these kinds of boxes.)



FIGURE 31: Introducing flycatcher.

While attending to this “shared flat” nest box, Jules, Michael and Jenny initiated another moment of knowledge sharing. Once again, the abandoned nests were not treated as something useless only to be cleared

out. Rather, they were perceived as a stimulus for learning. Rather than beginning with theoretical, abstract knowledge, the group's intellectual engagement with the birds depended on the specific nests. What made this ethnographic moment revealing was that Jules and Michael let the nests "tell" before Jules consulted his identification booklet. The materials, shapes and spatial overlap of the nests revealed the actual behaviours of, and possible interactions between, the bird species. As such, this learning interaction was guided and shaped by nature itself, namely by the birds and their natural constructs, rather than a pre-planned agenda. In this sense, this ethnographic moment evokes a metaphor of emergent and contextual learning about nature: nature "designs" the "curriculum" of environmental learning with the elements and interactions within it.

As the cleaning work continued, the group moved from one nest box to another. Birds had taken advantage of almost all the boxes that we checked. Upon opening each one, Jules and Jenny – or perhaps the nests – revealed something about the former inhabitants. As the group discovered another nuthatch nest, one of the spontaneous volunteers was intrigued by the extraordinarily small size of the box's entrance hole. In response to her question, Jules explained more about nuthatches' nesting behaviour.

| Jules: Hei war Kleiber.

| Spontaneous volunteer: Och wann d'Lach esou kleng war?

| Jules: Also wat de Kleiber mëcht, gesäit een hei, dat hei ass, esou Buedem. Se huelen Buedem, den esou Leem den naass ass, an den dréckt den dann mat sengem Schniewel uewen bäi.

| Spontaneous volunteer: Maach den net futti, den kënnt dir dann an der Ausstellung weisen.

| Jenny: Dat Nascht – mir fanne méi schein Kleibernäschter, also dat do ass elo net dat schéinst. Hei waren och schonn Spawecken dran an all méigleches.

| Jules: Also dee mescht, wann dem d'Lach ze grouss ass, mecht den, ehh, dat méi kleng. Dat heecht, dat gëtt da wéi Bëton an dir

hutt heiansdo Këschten, also déi éischt déi mir haten, do mat dem grouss Lach, déi- wann de Kleiber do esou richteg aktiv ass, da kritt dir déi Këschte wierklech ganz schlecht op, well da braucht dir en Hummer fir dat futti ze schloen well wann dir wëllt am Hierscht botzen, dat ass wéi Steen. Hien hëllt, an der Mëtt dat ass da wéi e klenge Lach wou hien erakennt. Dat heescht, hie mëcht wann him d'Lach ze grouss ass - Also dat do ass e normal Lach, do kënnst hie ran, also, wann et nach méi grouss ass mëcht hien dat zou, dat keen anere rakennt. Also, och heiansdo sugger esou zou, wann hei op der Säit esou splécke sinn, ginn déi och nach zougemaueert, dat een d'Këscht wierklech net méi opkritt. Do ass en, do rífft hien jo elo. Also den dir elo héiert, dat ass de Kleiber.

(Jules: Yes, a nuthatch was here.

Spontaneous volunteer: Even though the hole was so small?

Jules: So what the nuthatch does, you can see it here, such soil, it takes soil, like wet clay, and presses it with its beak on the top.

Spontaneous volunteer: Don't break it, you can show it in the exhibition.

Jenny: The nest – we've found nicer nuthatch nests; this one isn't the prettiest. Here is also spiderweb and all sorts of things.

Jules: So, if the hole is too big, it makes it smaller. So it becomes like cement, and sometimes you get boxes like the first ones we had, with the big hole. If the nuthatch is really active, you can barely open the box. You need a hammer to break it open when you want to clean it in autumn, it's like stone. In the middle, there's a small hole where it can get in. So, if the hole is too big, it does that [seals it up]. This is a normal hole, so it can get in. But if it's bigger, it seals it so others can't enter. Well, sometimes even so sealed up, that the sides got walled up, so you really can't open the box anymore. There it is, it's calling now. Now you can hear it, that's the nuthatch.)



FIGURE 32: Jules pulling apart the nuthatch nest to demonstrate its texture.



FIGURE 33: A cement-like pieces of the nest.

This moment showcases a telling combination of embodied and intellectual engagement with nature. Notably, the nest and bird, rather than pre-existing frameworks, guided this relational learning process by shaping what people want to learn and how they connect with nature. Here, what people learn and how they learn largely depend on what nature has to offer. The small nest entrance hole sparked the inquiry. The nest was recognised as a tangible prompt for learning, as indicated by the spontaneous volunteer's suggestion to preserve the nest for Jules' exhibition at the Science Festival. At the end of this episode, Jules' recognition of the nuthatch's birdsong and his gesturing toward it represents a meaningful instance of embodied sharing of tacit knowledge. As such, the group engaged in a form of inductive, situated learning that challenges the traditional theory-first, practice-later model of deductive learning aligned with cognitivist approaches.

As introduced previously, the predecessor of LetzEarth placed a strong focus on bird conservation and ornithology. Consequently, the installation and maintenance of nest boxes have been a traditional and defining activity of LetzEarth that continues to be practised by its local sections today. During my fieldwork with the three local sections, I observed five sessions of *Aktioun fir d'Ëmwelt* that focused on setting up, cleaning and repairing nest boxes in the local park, orchard or forests. Each time a volunteer took out an old bird nest from a box, the group would gather around to discuss the texture of the nest and its inhabitants. Sometimes participants even found unhatched eggs or fragments of eggshells, which also offered clues about the former occupants of the nest. As the ethnographic moments discussed above indicate, the nests sparked curiosity and a sense of wonder that transformed the maintenance work into a setting for emergent, situated learning. Moreover, the natural materials, organisms, and species' behaviours and interactions functioned as a driving force behind the embodied experiences, such as touching and listening, that shaped the intellectual engagement. In this way, a subtle ontological shift seemed to emerge in this embodied and intellectual engagement with nature: nature appeared to be perceived as an active guide that influences how people came to know about it, rather than only a passive entity that needs human care. This gestures towards the new materialist thought, which "[c]onceiv[es] matter as possessing its own modes of self-transformation, self-organisation, and directedness, and thus no longer as simply passive or inert" (Coole & Frost, 2010, p.10).

While the previous analysis has shown that nature actively shapes people's embodied and intellectual engagement with it, two ethnographic moments from my fieldwork on 9th November 2024 with Birgit, Maria, and their fellow volunteers of section Nord reveal that nature is also perceived to play an agentic role in shaping the emotional resonance with it. These two moments occurred when that day's Aktioun fir d'Ëmwelt session had already finished, and Birgit and I were having a casual conversation. Thus, I did not turn on my video camera or voice recorder at that time. As such, these ethnographic moments are retrieved from my fieldnotes. Birgit's words, originally spoken in German, are therefore rendered here as paraphrased English rather than as direct citations or translations.



FIGURE 34: The apple tree.

As we were passing by a community orchard, Birgit stood by an apple tree and pointed to it: “this is a typical apple tree” (Figure 34). The “typicalness”, according to Birgit, refers to the flattened dome shape of its crown. “The shapes of the trees actually look like their fruit,” said Birgit. She then explained that the crown of a pear tree tends to be more conical in shape compared to that of an apple tree, just as the shape difference between pears and apples. She told me with admiration in her voice, that this ap-



FIGURE 35: An apple gnawed by an animal.

ple tree is “very old, could be even one hundred years old, but in good shape and healthy”. “This tree speaks to me. I don’t always feel this with all trees, but with this one I feel something. It shines healthily, and I feel it speaks to me.”

We kept walking along the trail beside the orchard. In late autumn, fallen fruits were scattered along the roadside. Birgit bent down and picked up an apple that had been hollowed out by an animal (Figure 35). “I wonder what animal had eaten it. Maybe some kind of rodent. Look how thoroughly and skilfully it gnaws!”

In these two moments, Birgit’s actions and words demonstrate a genuine emotional resonance with nature marked by her sensitivity, admiration and fascination with its subtle nuances. It is noteworthy how materiality closely interplays with her emotional connection with nature in these two moments. She perceives the shape of the tree crown as expressive – it tells the characteristics of the tree. Moreover, she appeared to perceive her emotional connection with the apple tree as initiated by the tree, who “speaks” to her through its radiating, contagious vitality. This perception suggests an acknowledgement of the tree’s active role in shaping this con-

nection. Similarly, when the gnawed apple elicited Birgit's admiration for the animal's eating skill, the apple became meaningful as a trace of an animal's agentic behaviour. In both moments, Birgit's emotional resonance with nature is grounded in her physical and sensory contact with it. As such, these instances suggest how nature is recognised as an active participant in the formation of the emotional human-nature connection, rather than a passive object onto which human emotions are projected, echoing the new materialism perspectives.

In the present section, I draw on the ethnographic moments from two fieldwork sessions to elucidate my finding that when participants engage with nature through embodied, intellectual and emotional perspectives, species and materials in nature are foregrounded as an active guide and participant of their experience with nature, rather than treated as a void background to practice actions or an inert object to project knowledge or emotions on. Nature forms the process of "coming to know", producing meanings in participants' cognitive and emotional connections with it. This finding suggests that a new materialist understanding of nature's "capacity to affect and be affected" (Deleuze & Guattari, 1988, as cited in Fox & Alldred, 2022, para.10) can be manifested in seemingly mundane, everyday interactions with nature.

In the next section, I will move to demonstrating how participants position themselves as collaborators with nature.

From a Steward of Nature to a Collaborator with Nature

On an afternoon in late September 2023, Jenny and Jules worked in a community orchard in Luxembourg City. According to the program of Aktioun fir d'Ëmwelt, the main task for the day was to collect ripe apples. However, compared to the scene I witnessed in end October 2022 in the same orchard, where naturally ripened apples had fallen beneath the trees, almost forming a carpet exuding the sweet fragrance of apples mixed with a faint scent of fermentation – the scene in 2023 appeared rather cheerless (figure 36).



FIGURE 36: A few fallen apples were beneath the tree.

Just as I assumed that we had come too early this year and that the apples had not ripened yet, Jenny explained that I actually arrived already too late for the apples – most of the apples had already fallen a week earlier when she last checked:

Jetzt gehen wir mal zu den Äpfeln, denn letztes Jahr waren wir ja Ende Oktober hier, da haben wir gesehen die Äpfel waren fast alle runter. Jetzt bin ich vor einer Woche runtergegangen, die Äpfel sind fast alle runtergefallen. Und, jetzt müssen wir uns anschauen was noch da ist, es waren schöne Äpfel. Aber, müssen wir halt schauen was jetzt ist, aber das kann man nie richtig planen in der Natur. Dieses Jahr ist alles ein Monat früher als sonst. Auch die Weinlese an der Mosel ist auch früher. Es ist einfach so heiß ist. Zuerst wegen dem vielen Regen gut wachsen, und jetzt mit der Sonne wurde es frühzeitig reif, nicht gut reif geworden. Aber, da muss man flexibel bleiben. Es ist der wärmste September seit Wetteraufzeichnung glaube ich, dieses Jahr. Und da ist halt alles früher reif. Aber die Dates für den [Aktioun fir d'Ëmwelt] müssen wir schon im Frühjahr einreichen und da weiß keiner wann das alles, das alles reif ist. Da ist viel- also Theorie und Praxis ist nicht immer das Gleiche.

(Now let's go to the apples, because last year we were here at the end of October, and we saw that almost all the apples had fallen. Now I went down there a week ago, and almost all the apples already fell. So now we have to see what's left. They were nice apples. But we'll just have to see what's there now. You can never really plan these things in nature. Everything is a month earlier than usual this year. The grape harvest alongside the Moselle is also earlier. It's just so hot. At first, the rain helped them grow well, but now with the sun, they ripened early but didn't ripen well. But you have to remain flexible. I think this is the warmest September since we had weather records, this year. And everything is ripening earlier. But we have to submit the dates for Aktioun fir d'Ëmwelt already in the spring, and no one knew at that time when everything would be ripe. There's a lot of- well, theory and practice aren't always the same.)

Through working in the orchard regularly, Jenny experienced firsthand the concrete impacts of climate change on plants. Pointing out the mismatch between theory and practice, she expressed her belief that knowing nature should be grounded in embodied experiences with it rather than abstract theories. Her direct observation and experiences of the natural phenomena led her to perceive nature's unpredictability as an adaptive and autonomous reaction to environmental changes. In response to this unpredictability, it is striking that Jenny's remark reflects a tone of acceptance rather than lament, and an emphasis on adaptation rather than resistance. Even though the unusually high temperatures that led to early fruit ripening are highly likely related to global warming, Jenny did not frame the situation as a crisis that had to be managed or controlled. Instead, she emphasised it as a scenario requiring human adjustment and flexibility. She stressed that instead of *planning for* nature, we should *adapt to* nature. Attuning to nature's tempo and rhythms is not about controlling and altering them, but about allowing nature to enact its resistance and reminding people to remain adaptive and responsive to nature.

In addition to Jenny's flexible attitude toward the early-ripening apples, what also struck me on that day's of the Aktioun fir d'Ëmwelt session was that Jenny and Jules planted two fig tree seedlings in the orchard. As a species native to regions ranging from Asiatic Turkey to northern India, as well as the Mediterranean (Editors of Encyclopaedia Britannica, 2025), it was pretty surprising to find it cultivated in a community orchard in

Luxembourg, which has a continental climate. Jenny explained that this was their trial in the orchard to adjust to the increasingly dry and hot summer conditions.

Jenny: Er ist früh aufgeschossen und Feigenbaum hat gute Chancen hier, denn es ist steinig, es ist Luxemburger Sandstein, es ist sehr trocken, es ist ein Südhang, es ist kein Wasser hier. Wir haben noch keinen Anschluss zum Wasser, also werden wir jetzt das Experiment mit den Feigenbäumen. Aber der hier ist angekommen. Und die sieht im Moment ziemlich resistent bei uns. So, ja...ja der ist schon gut. Den do... Hier steht Winterschutz im ersten Jahr, aber ich glaube das ist kein Problem. Hier ist so ein warmer Hang. Die klassischen Obstbäume sind in den letzten Jahren alle verdurstet. Und, schau der Name, Desert King.

Jules: [laugh] Desert King, dat passt.

Jenny: Desert King, da steht auch für unvorteil-, unvorteilhafte Standorte geeignet. Und dann habe ich gedacht, das ist der richtige, wenn er das erste Jahr schafft, dann ist gut.

Yimin: Ich glaube in Luxemburg, da gibt es viel Regen, rain?

Jules: Manchmal ja.

Jenny: Also, wenn es regnet, dann regnet es viel und lange. Also im Sommer hatten wir 4-5 Wochen, da hat es nur geregnet. Es war, menge ech, August, August oder Juli. Juli, das war Pech, und nachher hat es überhaupt nicht mehr geregnet. Ja, das, nein wir hatten aber in- also letztes Jahr war nur trocken, das war schlecht. Aber die normalen Sommer bei uns sind immer so durchwachsen. Jaja, da hat viel geändert, ganz viel. Normalerweise hat es genügt hier im Herbst ein Obstbaum zu setzen, der ist am Frühling angewachsen, aber das funktioniert nicht mehr.[...] Hier sind eben ganz, ganz viele Steine, das ist das Problem hier. Und die, ja, da gibts so Theoretiker. Die meinen dann, an einem Bongert wächst das und das, aber man muss auch die Geologie gucken, wo soviel Steine sind.

Jenny: It sprouted early and the fig tree has a good chance here because it's stony, it's Luxembourg sandstone, it's very dry, it's a south-facing slope, there's no water here. We don't have a water connection yet, so we're going to experiment with fig trees. But this one has arrived. And it looks pretty resilient at the moment. So yeah...yeah it's fine. That one... It says winter protection in the first year, but I don't think that's a problem. It's on a warm slope. The classic fruit trees have all died of thirst in recent years. And look at the name, Desert King.

Jules: [laugh] Desert King, that fits.

Jenny: Desert King, it also says suitable for unfavour-, unfavourable locations. And then I thought, that's the right one, if it survives the first year, then it's fine.

Yimin: I think in Luxembourg there's a lot of rain?

Jules: Sometimes, yes.

Jenny: Well, when it rains, it rains a lot and for a long time. In the summer we had 4-5 weeks where it only rained. It was, I think, August, August or July. July, that was bad luck, and afterwards it didn't rain at all. Yes, that, no, but we had- last year was just dry, that was bad. But normal summers here are always mixed [with rainy and sunny days]. Yeah, a lot has changed, a lot. Normally, it was enough to plant a fruit tree here in autumn, and it would grow in the spring, but that doesn't work anymore. [...] There are so many stones here, that's the problem. And then there are these theorists, they say that this and that grows in an orchard, but you also have to look at the geology, where there are so many stones.)

In this ethnographic moment of planting fig tree seedlings in a Luxembourg-based community orchard as a response to the changing climate, Jenny once again demonstrated her deep situated understanding of the local natural environment, plant characteristics and the ecological interaction between flora and their environment. The climate-change-induced dryness and heat, combined with the rocky terrain that limits soil permeability, have posed challenges for the survival of fruit trees. In response to this challenge, she reiterated her critical stance toward “theorists”, suggesting her opinion that interactions with nature should be guided



FIGURE 37: Jenny planting the fig tree.

by contextual, experiential understanding rather than abstract or oversimplified hypotheses. As discussed above, Jenny's on-the-ground engagement with the orchard allows her to perceive climate change as a tangible force exerting concrete impacts. Faced with these impacts, the trial with the fig trees suggests the volunteers' relational stance toward the environmental issue. In this instance, Jenny (and Jules) did not position the orchard as a purely passive victim of climate change. Acceptance of climate change's effects does not equate to powerlessness or inaction. The adaptability and flexibility reflected in Jenny's words and actions are based on the acknowledgement of nature's resilience. By introducing fig trees into a traditionally apple-dominated orchard, Jenny and Jules did not distance themselves from the environmental issue but tried to enact and enhance nature's own resilience.

Reviewing the video recording of this fieldwork session, I initially coded the discussed ethnographic moments as "participant as a steward of nature". However, comparing the data with relevant literature, I found that while the concept of stewardship can address Jenny's physical labour in



FIGURE 38: Jennt showing the "Dessert King" label.

the orchard, her sense of responsibility and care for the trees and her reflections on climate change, it does not fully capture the nuanced relationship with nature she perceives and constructs in these moments. Muradian and Pascual (2018) propose that "[i]n the Stewardship model, the natural entity is perceived as not having agency but there is no clear-cut subject-object distinction, since humans are seen as part of (and dependent on) nature" (p.12). In a similar vein, de Groot et al. (2006) define that

Man the Steward comprises the caretaker of nature who sees nature as a subtle, fragile system to be handled with care and precaution for the benefit of humankind, and the guardian of nature who recognises not only that but also that nature has an intrinsic value of its own, borrowed as we have it from God or future generations. (p.12)

As such, a stewardship view of the human-nature relationship is intrinsically hierarchical despite its environmental orientation, positioning humans as superior to nature. It implies that nature is inert, fragile, instru-

mental to human interest and dependent on human care. My findings from the above ethnographic moments diverge from this view. In the instance of the early-ripening apples, Jenny perceives the active force of nature beyond predictability. Her view that people should adapt to nature subtly reverses the implied hierarchy embedded within the stewardship model. In the moment with the fig tree seedlings, Jenny recognised their resilience to heat and drought, and turned to nature's own capacity as a response to environmental challenges. As such, I found the initial code "steward of nature" inaccurate, given that the participant engaged with nature more as a "collaborator", showing responsiveness to nature and acknowledging its capacity for self-regulation. At the same time, the human-nature relationship demonstrated in these ethnographic moments does not yet reach the level of "partnership with nature", where "human and nature both carry much of the same value and share the planet in relationships of work, play and spirituality" (de Groot et al., 2006, p.12) and "[nature] rises to stand side by side with us, also at the level of our spirituality and love" (de Groot, 1992, p.486). Therefore, I use the code "collaborator with nature".

One month after working with Jenny and Jules in the orchard, I joined Maria for an Aktioun fir d'Ëmwelt session organised by her local section, Nord. The task focused on maintaining a piece of wetland by clearing withered grass and branches. During this fieldwork session, I shadowed Maria as she cleared dried grass and fallen branches with a pitchfork. At the beginning, she did not thrust the pitchfork deeply into the ground, but started by removing the surface-level, non-rooted grass (Figure 39). As the clearing progressed, she had to exert more effort to uproot the dry grass and lift larger piles mixed with fallen branches (Figure 40). She used her body weight to pull out the entire grass and then deposit it into a collection pile (Figure 41). As the pile grew larger, she had to lift the loads higher to stack the grass and branches together. As I realised the physical demands of the work, I stopped video recording and joined Maria with a pitchfork (Figure 42). Therefore, I personally experienced the challenge of this task. The weight of the pitchfork, combined with the grasp of the grass roots in the soil, required force to insert the pitchfork, putting a strain on the arms, shoulders and back. After helping Maria for a while, I resumed video recording. Since the collar microphone continuously fell off Maria's sweater due to her movements, I decided not to use it anymore. Hence, the recorder captured my own panting. After this fieldwork,



FIGURE 39: Maria clearing the surface grass.



FIGURE 40: Uprooting dry grass.



FIGURE 41: Depositing dry grass into a collection pile.



FIGURE 42: Maria and I working together. ©2023 Guy Klein.

my arms and back were sore for two days. As such, I had a firsthand sense of the significant effort Maria put into this task. Ten volunteers participated in this *Aktioun fir d'Ëmwelt* session, me excluded. Despite everyone working hard like Maria, they could not finish clearing the entire field in one morning.

Reviewing the video recordings and recalling how physically demanding the work was, I wondered: now that the task requires considerable effort and time, why do the volunteers insist on conducting the work manually? Why was machinery not an option? Therefore, I wrote an email to the board of the local section Nord to ask for their insights. Birgit replied as follows:

Yimin: Warum können diese Arbeiten nicht mechanisch erledigt werden?

Birgit: Bei mechanischer Bearbeitung der Fläschung, würde durch die schweren Maschinen die Biodiversität zerstört werden. Der Boden würde zudem verdichtet werden und die Pflanzen hätten Schwierigkeiten neu zu spriessen im Frühjahr. Durch die Verdichtung des Bodens würde auch das Wasser nicht richtig einziehen und der Feuchtbiothop würde nicht mehr seinen Zweck erfüllen. Auch würden die um diese Zeit noch verbleibenden Lebewesen die sich noch auf der Fläschung befinden zerdrückt und getötet werden. Dann möchten wir auch gerne unsere Mitglieder und die allgemeine Bevölkerung auf die Wichtigkeit des Gebietes aufmerksam machen, indem wir sie auf die Fläschung locken. Wie kann man das besser, indem man sich mehrere Stunden auf dem Gebiet aufhält und durch vorführen der Arbeit zeigt: 1. was haben wir hier? 2. Was muss wie getan werden um das Gebiet so zu erhalten? 3. Warum ist es wichtig so ein Gebiet zu erhalten? Und es macht einfach Spaß mit Menschen zusammen zu arbeiten für den Erhalt unserer doch soooo bedrohten und geschundenen Natur.

(Yimin: Why can't this work be done mechanically?)

Birgit: With the mechanical processing of the area, biodiversity would be destroyed by the heavy machines. The soil would also become compacted, and the plants would have difficulties sprouting again in the spring. And

the compaction of the soil would also prevent the water from soaking in properly, and the wetland biotope would no longer fulfil its purpose. Also, the remaining creatures that are still on the land at the time would be crushed and killed. We also want to make our members and the general public aware of the importance of this area by attracting them to the site. What could be a better way to do this, than to spend several hours in the area and to demonstrate through our work that shows: 1. What do we have here? 2. What must be done to maintain the area? 3. Why is it important to maintain such an area? And it's simply fun to work together with people to maintain our soooo threatened and abused nature.)

By shunning mechanical operations and relying on manual labour, the volunteers not only work *on* the wetland, but also work *with* it. Birgit's protective stance towards nature is evident in her awareness of the destructive impacts of mechanical intervention on soil structure and small animals, and in her positioning of nature as a victim of human threat and abuse. This framing gestures towards restitutive justice that requires people to make restitution to nature harmed by humans (DesJardins, 2023). This protective orientation reflects the classic environmental stewardship discourse. However, what also introduces a collaborative dimension into their decision and practice is the perception of manual labour as a means of cultivating embodied and intellectual engagement with the land. Opting for physical interaction with the wetland, the volunteers do not impose human convenience onto it, but let the land tell people what it is, what it needs, and why it matters, as suggested by the three questions Birgit posed. From this perspective, the wetland is not merely something to be protected or somewhere the environmental maintenance work is conducted, but also shapes people's environmental actions and awareness through its configuration, needs and ecological significance.

In the same email, I also asked several other contextual questions about the work. One detail in Birgit's response that drew my attention was her correction of my use of the word "weeds" to "plants":

Yimin: Was könnte passieren, wenn man das trockene Unkraut und Schilfrohr am Weiher nicht beseitigt würde und dies Gebiet einfach im Stich lassen?

Birgit: Wie oben schon beschrieben, das Gebiet würde verlanden und verbuschen und nicht mehr seinem ursprünglichem Zweck dienen. Wenn die Pflanzen (nicht Unkraut :-)) die gemäht auf der Fläse liegen bleiben, haben die Pflanzen die im Frühjahr spriesen möchten, Schwierigkeiten durch das Mähgut zu kommen und die Fläse würde auf Dauer verarmen.

(Yimin: What could happen if the dry weeds and reeds around the pond were not removed and the area were simply left alone?)

Birgit: As described above, the area would become land again, overgrown with shrubs and would no longer serve its original purpose. If the plants (not weeds :-)) that are mowed are left in the area, the plants that want to sprout in the spring will have difficulty getting through the mowed stuff and the area would become impoverished over time.)

Birgit's rejection of the word "weed" can be read as a subtle but telling signal of her perception of the volunteer-nature relationship not as a conventional form of stewardship, but a less hierarchical, collaborative relationship. The category "weed" implies unwantedness and disturbance, which is essentially a human-imposed hierarchy. As Mabey (2012) points out in the book *Weeds: In Defense of Nature's Most Unloved Plants*:

Given the impact of weeds on the planet, it's not always obvious that they are plants whose reputation – and therefore fate – is, in the end, a matter of this kind of personal judgement, that it's in our gift to demonise or accept them.

Challenging this hierarchical framing, Birgit distances herself from an anthropocentric hierarchy, which, I further argue, distances her view from the stewardship model of human-nature relationship. As scholars agree, the "human as the steward of nature" relationship sits at the boundary between anthropocentric and non-anthropocentric perspectives, leaning more towards the former (see Calderón Moya-Méndez et al., 2022; de Groot, 1992; Raymond et al., 2013; van den Born et al., 2001; van den Born, 2006a). As the sense of responsibility toward nature underlying stewardship originates from the perception that humans are part of and dependent on nature (Muradian & Pascual, 2018), this responsibility is ultimately directed toward humans. Within the stewardship model, it is humans

who decide what counts as desirable. By rejecting the human-imposed category of “weeds”, Birgit appears to step outside this anthropocentric frame and perceive their maintenance work as serving not primarily people but nature. Challenging the value-laden term of “weed”, she positions the volunteers not as judges of nature, but more as mediators – those who work with flora and fauna, attuning to their inherent needs, autonomous interactions and capacity to affect, to support biodiversity and landscape diversity.

Returning to an ethnographic moment from this *Aktioun fir d'Ëmwelt* session, I came to realise why referring to the grass as “weeds” would be unfair, even though they had been mowed. At the end of the work session, the group left several piles of grass on the land (Figure 43). Maria told me that they would later discuss whether to contact nearby farmers to help transport the heaps to the composting site using tractors. One of her fellow volunteers pointed to a smaller pile and noted that it would also be a good idea to leave some piles on-site, as they could serve as ideal winter habitats for hedgehogs:



FIGURE 43: A pile of grass. © 2023 Guy Klein.

They like to hide in there. They like to sleep in the winter. They go inside, they sleep in the winter. That is a good idea, to make- yeah.

This brief moment reveals that the mowed grass was not perceived as waste or nuisance, but was acknowledged for its potential to meet non-human needs as habitats. As such, a collaborative and relational view of the grass and the maintenance work, as demonstrated in Birgit's response to my questions, is not an isolated linguistic instance, but a perception that other members of the section Nord may share. This suggests that the group worked *with* and *for* nature, which constructs a collaboration frame entailing attentiveness to nature's needs, recognition of the values of those nature elements that are often marginalised in traditional environmental stewardship discourse, and a willingness to let nature shape human practices.

In February 2024, I visited the section Reed Marsh and shadowed Neo, whose task for the Aktioun fir d'Ëmwelt session was to install two relatively large nest boxes for owls in an overgrown meadow orchard near the wetland reserve. Compared to the nest boxes for smaller birds such as tits and nuthatches, the boxes for owls are much larger, with a length of nearly one meter. Such nest boxes cannot be hung on the tree trunk but must be securely placed between the main branches. Therefore, before setting up the boxes, Neo had to saw off limbs to create enough space for the boxes. He also needed to prune smaller branches to ensure the nest box was placed stably.

Neo leaned the ladder against a sturdy tree and climbed up with a saw in his hand. His fellow volunteer, Paul, stands under the ladder (Figure 44). My recording only captured Neo's speech clearly since he was wearing the only collar microphone, while Paul, speaking from a distance beneath the tree, was often inaudible.



FIGURE 44: Neo and Paul preparing to install the box.

At the beginning of the work, Neo and Paul discussed how to trim the branches to make space for the nest box.

| Paul: Mol kucken fir en hei eraus ze kréien.

| Neo: Jo. A wanns du wëlls géff mir eng Kéier d'See, ech machen den mol direkt fort hei.

| Paul: De Mëttelsten den hënnert op jiddefall.

| Neo: Ah jo.

| [...]

| Neo: Dat Holz ass och... Okay. Geet awer. Hält dat heiten dann eppes aus?

| Paul: Sou dropsetzen an.

| [...]

Paul: Oder, den do an do ofgeseet, op der Héicht wou d'Këscht dropläit, dann mam Hënneschten op dem hei, an dann do, an dei kleng hei eran.

Neo: Den heiten ofgeseet?

Paul: Nee den aneren.

Neo: Den doten?

Paul: Jo, dass se do an [xxx].

(Paul: Let's see if we can get it off here.

Neo: Yes. And if you want, give me the saw, I'll take it away directly.

Paul: The middle one needs to be cut off anyway.

Neo: Ah, yes.

[...]

Neo: That wood is also... Okay. [...] It works, though. Does this hold anything?

Paul: Just put it down like that.

[...]

Paul: Or, cut this one and that one, at the height where the box is placed, then the bottom on this one, and then there and the little one here.

Neo: Cut this one?

Paul: No, the other one.

Neo: The one over there?

Paul: Yes, so it's [xxx].)

Having trimmed the scattered branches, Neo placed the nest box among the limbs. He descended the ladder, looking up to assess whether the box was securely positioned (Figure 45)



FIGURE 45: Neo checking if the nest box is securely placed.

Paul: T'ass zwar schif. [laugh]

Neo: Sou, no hannen. Kritt ee vläit awer nach e bëssi. Oder ech schneide nach e bësse mei.

(Paul: *It's leaning though.* [laugh])

Neo: *So, towards the back. Maybe I still get a little more. Or I can cut a bit more.*)

Neo and Paul found that the angle of the nest box was slightly tilted and not completely horizontal, with the rear being higher than the front. Neo climbed up the ladder again to trim a protruding branch beneath the rear of the box and adjust its position. He sawed the base of a side branch. Then, he repositioned the birdhouse and sought Paul's feedback from under the tree. Since they still thought that the nest box was not completely stable, Neo continued to saw through the thicker branch stub.

| Paul: [xxx] nach e bëssen.

| Neo: Sou?

| [...]

| Neo: Oh, t'ass, oh t'ass 'lo och net vill besser muss ech soen oder?
Ech kann awer nach e steck erofhuelen, oder mengs du dat et gudd
wier?

| Paul: [xxx]

| Neo: Gelifft? Oh, ech kann d'Spëtzt nach bessi forthuelen.

| Paul: Jo. [xxx]

| Neo: Jo. Ech maach so nach.

(Paul: [xxx] still a bit more.

Neo: Like this?

[...]

*Neo: Oh, it's, oh, it's still not much better now, I have to say, right? I can take
another piece off, or do you think it would be good?*

Paul: [xxx]

Neo: Pardon? Oh, I can cut off the top a bit more.

Paul: Yes.

Neo: Yes. I'll do it this way)

Having finally placed the box in a balanced position, Neo secured it to the tree with straps, and Paul gave him advice and assistance under the tree. Finally, Neo shook the birdhouse box forcefully to check whether it was securely fastened to the tree.

In the process described above, where Neo installed the nest box for owls with Paul's assistance, I would like to draw readers' attention to a perspective that may seem uncommon or unexpected: how Neo and Paul treated the tree. The above description and transcripts show that Neo and Paul engaged in careful discussion about how to trim the branches to support the nest box. Rather than indiscriminately clearing all scattered branches without consideration, Neo's action was based on a joint assessment and informed decision-making aimed at consciously minimising interference with the tree. As such, the tree was not treated merely as an instrumental support for the nest box. Although it was inevitable to cut off its branches, the intervention was carried out in a deliberate and restrained manner. Admittedly, this moment may not fully and strongly exemplify a collaboration with the tree, as it would be overreaching to claim a responsiveness directed toward the tree or co-agency with it. However, it is reasonable to suggest that Neo and Paul shifted away from a top-down stewardship model and engaged in an implicit negotiation with the tree. Viewing this ethnographic moment alongside other ethnographic data, it contributes to our grounded understanding of the nuance between managerial stewardship and a more relational, collaborative way of relating to nature in environmental engagement.

In this section, I analysed the ethnographic moments from fieldwork sessions conducted with the LetzEarth local sections City, Nord and Reed Marsh. These moments exemplify how participants are involved in environmental engagement in mundane yet diverse ways. In their environmental volunteering activities, participants come into close physical contact with nature, actively reflect on their interactions with it, and demonstrate a delicate understanding of the human-nature relationship. Moving away from a classic stewardship model, participants express a willingness to adapt their practices according to nature's rhythm and needs, challenge the notion of nature as inert, reject human-imposed hierarchy over nature, and show an eco-centric mindset characterised by care, attentiveness and responsiveness toward nature. As such, they position themselves not as top-down stewards of nature, but as collaborators with it.

Toward a Human-inclusive Naturalness

At the outset of the section *Defining Nature and Human-Nature Connection*, I clarified that the term *nature* is used in a broad sense throughout this book, depending on the ethnographic context, encompassing specific species, natural or semi-natural landscapes, and larger-scale concepts such as flora, fauna and ecosystems. This conceptual clarification, however, seems to fail to answer some provoking questions emerging from the ethnographic moments: are the community orchards, where the fruit trees were planted and tended by people, nature? Are the *artificial habitat structures* (Watchorn et al., 2022), such as nest boxes, part of nature? Are practices like planting non-native trees and clearing dried grass in a wetland considered “natural”? To address these questions that delve into the relationship between human actions and nature, “the concept of nature as a category of things loses its concreteness” (de Groot, 1992, p.213). We need a “conceptualisation [that] takes not *nature*, but *naturalness* (or wilderness, or self-ordering, or spontaneity) as its point of departure” (ibid., emphasis in original). The concept of *naturalness* is often understood in an inverse relation to human influence. For example, van den Born and de Groot (2009) define “(degree of) naturalness [as] (degree of) being or happening without human interference” (p.48). There are also alternative notions that do not exclude human activity from naturalness. For instance, naturalness is conceptualised as “the degree to which species have established themselves spontaneously and maintain themselves, irrespective of what human activity may be the cause”, or as “the degree to which human influences remain within natural dynamics” (de Groot, 1992, p.219).

If I were to answer the previously raised questions solely based on my field experience, my response would be affirmative to all three. Participants evidently perceive the orchards as a valued natural environment. According to an outreach publication by LetzEarth, traditional community orchards, in Luxembourgish “Bongert”, are “particularly valuable biotopes” and “habitat for at least 3,000 wild species”. As for the nest boxes, the fact that almost every box contains a bird nest suggests that these artificial structures have been incorporated into nature – with the birds’ approval. The volunteers perceive their intervention practices as facilitating rather than disturbing nature. Scrutinising these intuitive impressions and my ethnographic data through the lens of naturalness, I find

that participants' discourses challenge the notion that naturalness should be negatively correlated to human practices, and embrace a conceptualisation of human-inclusive naturalness. As the above analysed ethnographic moments showcase, participants ground their informed intervention practices – such as installing and cleaning nest boxes, planting and tending fruit trees and handling dry grass on wetlands – in direct engagement with nature, situated learning and contextual knowledge, and an emotional sense of curiosity, appreciation, respect and care. These practices are recognised as forms of support for nature and reciprocal human-nature connections, rather than being perceived as threats to nature's authenticity. Based on this finding, I propose the conceptualisation of *human-inclusive naturalness*, which acknowledges human-nature interactions as integral to nature itself. Such interactions should be guided by an awareness of co-agency with nature and align with a collaborative, relational orientation, rather than adhering to a hierarchical relation model that positions humans above nature. One instance from my ethnographic data that supports my proposal is Birgit's perception of human influence as both the diagnosis and treatment for the Anthropocene. In this view, human activities have long been entangled with nature, and, therefore, a human-exclusive naturalness should not be taken as the norm.

Yimin: Manche glauben, dass nur die Natur ohne Menschen und menschliches Eingreifen wirklich „Natur“ ist, und wir sollten die Natur in Ruhe lassen. Was halten Sie davon?

Birgit: Das stimmt Heute leider nur mehr bedingt. Der Mensch hat in der Zeit wo er auf der Erde ist, die Landschaft dermassen verändert dass wiederum der Mensch eingreifen muss um die verschiedenen Biotope zu erhalten, dass ALLE Lebewesen eine Überlebenschance haben

(Yimin: Some believe that only nature without humans and human intervention is truly “nature”, and that we should leave nature alone. What do you think about that?

Birgit: Unfortunately, this is only partly true today. Since mankind's existence on Earth, humans have changed the landscape so much that now, in

turn, humans have to intervene to preserve the various biotopes, so that ALL living beings have a chance to survive.)

I would like to conclude this conceptual discussion section by illustrating the concept of human-inclusive naturalness with a bird nest and a nest box that impressed me in the fieldwork. Figure 46 shows a nest that Jenny found in a nest box in the orchard where she planted the fig trees. She pointed to a fleck of orange fibres in the nest and asked me if I had any idea where the colourful flecks could come from. To my surprise, those fibres are not “natural”: the bird collected them from the carpets hung out to dry by residents nearby.

You do know from where the colours came? From the carpet from the neighbours. They put, here is tradition to put the carpet in the garden to, that to – wéi nennt een dat? Fir ze léften. Um sie zu belüften. Und die Teppiche werden geknuppt raus, der Staub net ze hunn. Und da sind Vögel, die gehen zur Wolle und die haben meistens Lieblingsfarben. Hier ist das orange. Im Park ist eine Meise die immer nur die blauen und violetten Tupfer holt aus der Wolle von den Teppichen. Die haben so Lieblingsfarben die Meisen. Das ist eben von den, wenn die da Teppiche aushängen.

([...that to –]How do you say that? To air them out. To air them out. And the carpets are taken out and beaten to get rid of the dust. And there are birds that go for the fibres, and they usually have favourite colours. Here it's orange. In the park, there's a tit who always picks the blue and purple flecks from the carpets fibres. The tits have their favourite colours. That's just how it is when the carpets are hung out.)

While this nest offers a compelling example of how nature itself has actively integrated human traces, the nest box that the volunteers from the Nord section showed me provides a vivid illustration of how people proudly inscribe their environmental practices into nature. Figure 47 shows a nest box that was made 25 years ago by a boy whose name is Robert. The volunteers told me that it was a tradition of their section, that children carve their names in the nest boxes they help to make. In this way, the names of Robert and his friends have been accompanying the birds in the forest for decades.



FIGURE 46: Orange carpet fibre woven into a bird nest.



FIGURE 47: Child's name carved in the nest box.

These two examples effectively exemplify my proposal of human-inclusive naturalness. Like the carpet fibre woven into the bird nest, human traces have been integrated into nature by both people and nature. As

such, I argue that the concept of naturalness should encompass responsiveness, co-agency and the mutual shaping processes between humans and nature, rather than reinforcing a separation, or even a dichotomy, that casts human as the antithesis of nature. This concept offers us an alternative narrative on human-nature co-existence, moving beyond the dominant crisis discourse of the Anthropocene and suggesting a perspective that may foster reciprocal human-nature connection and mutual influence.

Nature Awakes with Agency

I have discussed how nature plays an active role as a guide and participant in people's embodied, intellectual and emotional engagement with it. I also expounded how the environmental volunteers adapted their practices to follow nature's needs and rhythm, thereby challenging the conceptualisation of nature as merely instrumental and inert. These findings gesture toward an aforementioned concept: the agency of nature. In the section *Niche Concepts for Everyday Relational Values*, I presented how environmental historians and educators have challenged the notion of agency as an exclusively human attribute. Their interrogation resonates with the new materialist understanding of agency, which "no longer privileges human action" but instead perceives agency, namely the "capacity to affect and be affected" (Deleuze & Guattari, 1988, as cited in Fox & Alldred, 2022, para.10) as "a feature of all matter: human and non-human, animate and inanimate" (Fox & Alldred, 2022, para.10). The agency of nature is thus understood as its inherent capacity to shape the world, including human practices and perceptions, even in the absence of an "ability to convert ideas into purposeful actions" (Nash, 2005, p.67) or "causally efficacious mental states and events" (Schlosser, 2019, para.1).

Participants' awareness of the agency of nature can be discerned in the ethnographic moments where they let nature guide and shape their environmental volunteering activities. Integrating situated learning about nature into environmental management work, participants do not treat nature merely as a passive object to be acted on or cared for, but as an active participant in the process of their coming to know about nature. They appreciate nature for being expressive, interconnected and resilient, and incorporate this attentive perception into their practices by adjusting their

actions in response to what nature is, what it needs and why it matters. In participants' explicit or implicit negotiations with nature, it is no longer treated as a passive backdrop or inert entity subject to human-induced consequences or awaiting human salvation, but as an active and agentic guide, participant and collaborator, with the capacity to influence, express and self-organise.

In addition to these ethnographic moments, participants' awareness of nature's agency also emerges in their accounts of experiences with nature during interviews. Let us revisit some meaningful experiences that Michael, Eric and Bob cherish in their lifelong engagement with nature. In Michael's career in environmental education, snails' innate ability to secrete protective mucus shielding them from sharp surfaces transformed children's perception of the animal from an unpleasant pest to a capable creature worthy of amazement. For Eric, a fieldfare that happened to visit his childhood garden played a crucial role in sparking his curiosity and enthusiasm for ornithology. For Bob, species' natural life cycles prompted his reflections on the meaning of human-nature relationship and mortality. In these instances, as well as in the ethnographic moments examined in this chapter, nature – the animals, trees, bird nests, and land – does not act with intention or consciousness, or in Schlosser's (2019) terms, with "causally efficacious mental states and events". However, it shapes people's experiences and perceptions from embodied, intellectual and emotional perspectives, which constitutes the expression of its agency.

My findings based on ethnographic data suggest that nature shapes people's embodied, intellectual and emotional engagement with it. They also indicate that people are aware of and recognise the agency of nature in mundane interactions with it. This recognition does not imply perceiving nature as capable of thinking or making conscious decisions – this idea may still feel overreaching for many. Rather, it emphasises a willingness and awareness to let nature influence, guide, and participate in our practices and process of meaning-making. It is indeed possible to embrace a new materialist understanding of the agency of nature in everyday engagement with it, which prompts a step outside the human-above-nature hierarchy and toward a collaborative, reciprocal human-nature relationship.

6. Conclusion

The present research investigates how ordinary citizens construct and perceive their connections with nature in everyday life, and what kinds of human-nature relationships are valued in these connections. To this end, I conducted participant observation and ethnographic interviews with a group of environmental volunteers affiliated with the Luxembourg-based nature NGO, LetzEarth. Drawing on the Grounded Theory Method (GTM) and informed by the theoretical lens of *relational values* (RV), this study addresses the following research questions:

- Which perspectives do participants consider important for initiating and deepening connection with nature?
- What views of nature and human-nature relationships are embedded in participants' engagement with nature from these perspectives?

Participants emphasised three dimensions integral to developing meaningful connections with nature: embodied experiences, intellectual engagement and emotional resonance. From an embodied perspective, participants highlighted the importance of direct, physical interactions with species and landscapes, treating nature not as an abstract entity or an invisible substrate, but as a concrete and tangible interaction partner. In terms of intellectual engagement, they underlined the value of relational learning about nature, namely acquiring nature knowledge through social networks, recognising ecological interdependencies and cultivating a sense of connectedness. Emotionally, participants expressed that aesthetic appreciation and intuitive empathy foster enduring bonds with nature. Positive affective responses, including hope and optimism, were valued both as motivational forces sustaining a lasting connection with nature and a significant outcome of their nature engagement.

Participants' engagement with nature through these perspectives reveals a nuanced understanding of human-nature relationships. In their experi-

ences, nature is not a passive backdrop or an inert object to be managed and to project knowledge and emotions onto; rather, it is foregrounded as an active guide, participant and collaborator in their environmental learning and volunteering activities. Through these interactions, participants demonstrated an awareness of nature's agency, which encompasses its resilience, expressiveness, self-organisation and capacity to affect human actions, perceptions and emotions. Moreover, they embrace a notion of *human-inclusive naturalness*, valuing human interaction with nature guided by the awareness of co-agency with nature not as a threat to "naturalness" or "wilderness", but as a meaningful way to cultivate reciprocal human-nature relationships. Their appreciation of nature's agency and human-inclusive naturalness suggests a shift away from hierarchical, human-dominant paradigms toward a more collaborative model of human-nature relations.

The findings of this research offer heartening implications for re-establishing human-nature connections from three aspects. First, they reveal a variety of accessible, everyday entry points for engaging with nature, grounding the notion of "connection" in concrete actions and emotions that are both feasible and relatable to the general public. Second, the findings highlight the diversity of environmental epistemology embedded in everyday human-nature interactions – specifically, what is considered knowledge about nature and where such knowledge originates. By valuing hands-on practices, informal experiential learning and intuitive emotional connections, the discourses of these environmental volunteers challenge the axiological scientism and point toward a relational, everyday way of knowing nature. Third, this research demonstrates that ordinary individuals can develop nuanced understandings of human-nature relationships through their daily engagement with nature. This further supports the idea that meaningful connections with nature are attainable for the broader public through embodied interaction with nature and relational learning about nature. In response to the growing call to reconnect people with nature, this study offers practical implications for environmental policies and education. It indicates the importance of facilitating physical access to nature and promoting relational approaches to environmental education. Such approaches prioritise learning about ecological interconnections through both direct experiences with nature and social connections, thereby fostering a holistic view of the closely intertwined human-nature relationship.

The finding that participants value nature's agency challenges the instrumental view of nature, which conceptualises it primarily as a resource and form of capital. This utilitarian perspective, often reflected in environmental policy discourses advocating for reconnection with nature as crucial for human livelihoods and sustainable development (see Díaz et al., 2018; United Nations, n.d.; UNESCO, n.d.a, n.d.b), has been critically examined in previous empirical studies such as Pounds (2021) and Thekaekara (2021). While the instrumental framing raises awareness of the urgency of reconnecting with nature, it ultimately positions nature as a passive object to be utilised or managed. As such, it risks reinforcing the exploitative logic that underlies the contemporary human-nature alienation and the resulting environmental crisis. In contrast, the recognition of human-nature co-agency revealed in this study underlines the importance of reconnecting with nature from a more relational perspective – one in which nature actively shapes human knowledge, emotions and ways of acting. This form of reconnection goes beyond material survival that is emphasised in instrumental framings, and moves towards *nature-inclusive eudaimonia*, namely a flourishing life in which nature is an integral part (Knippenberg et al., 2018). Such a perspective marks a critical step away from human-dominance models and toward more reciprocal and collaborative human–nature relationships.

Participants' recognition of *human-inclusive naturalness* further illustrates their explicit relational valuing of nature. Rather than being entirely committed to the notion of nature's intrinsic rights and moral worth independent of humans (see Elliot, 2025; Muradian and Pascual, 2018), they foreground the interconnection and inseparability between people and nature. This finding confirms the necessity of the relational turn in valuing nature, which argues that reconnecting people with nature requires grounding our understanding of nature in everyday, tangible relationships rather than abstract philosophical conceptualisations. By anchoring the notion of *human-inclusive naturalness* in real-life human-nature interactions and personal thoughts, this research provides concrete examples of how people value “preferences, principles and virtues associated with *relationships with* and *responsibilities towards* nature” (Muradian & Pascual, 2018, p.8, emphasis in original) in everyday life. In doing so, it offers a grounded answer to de Groot's (1992) question: “what are the values, the desirable qualities, specific to the people-nature relationship?” (p.531). The findings of this research suggest that human actions

in nature should not be entirely demonised – especially in the context of today’s environmental crisis – and that enforcing a strict human-nature dichotomy may not be the most effective remedy. Instead, we should encourage human-nature interactions that reflect a collaborative orientation and recognition of human-nature co-agency.

By challenging the instrumental view of nature and foregrounding a relational perspective, this research not only affirms the relevance and practical significance of the relational value framework, but also contributes to the growing body of empirical studies on relational values. As discussed in the section *Researching Relational Values*, there remains a scarcity of qualitative research exploring how relational values are enacted in ordinary people’s everyday interaction with nature. This study takes a step toward addressing this gap by illuminating the perceived benefits, preferences, and beliefs people hold about their connections with nature in daily life. Moreover, while the concept of relational values serves as a conceptual bridge between people and nature, previous studies reviewed in the literature chapter have primarily centred on human experiences and social constructs, such as sense of community, identity, eudaimonia, and place attachment (see Bataille et al., 2021; Cundill et al., 2017; Kaltenborn et al., 2017; Klain et al., 2017; Kleespies & Dierkes, 2020; Knippenberg et al., 2018; Pratson et al., 2023; Saito et al., 2022). Few have examined relational values in terms of how people perceive nature itself and the meaning of “naturalness”. In this context, the findings of this study suggest that a relational approach to interacting with nature fosters nuanced perceptions of nature, particularly the recognition of nature’s agency and humans as integral to naturalness. Therefore, this research conceptually expands the relational value framework by illustrating how relational values can encompass not only human-centred meanings but also perceptions of nature per se.

In addition to the practical and conceptual contributions, this research also expands the scope of empirical inquiry within environmental ethnography. By amplifying the voices of ordinary citizens and exploring their everyday connections with nature through ethnographic methods, this study addresses the need for an ethnographic exploration of mundane, non-crisis-based encounters with nature. The findings showcase that the small and routine interactions with nature can foster meaningful connections between people and nature. These interactions, although they often

remain invisible in activism or crisis narratives, have the power to motivate environmental engagement and shape nuanced environmental perceptions among ordinary people. As such, this study offers an alternative perspective for studying human-nature relationships – one grounded in everyday experience and framed through a lens of hope.

Situated within the interdisciplinary field of Environmental Humanities, this research employs the Grounded Theory Method to elicit environmental discourses rooted in real-life human-nature interactions. By attending to participants' language use that articulates their arguments, ideas, concepts and categories related to their interactions and relationships with nature (Hajer & Versteeg, 2005; Mühlhäusler & Peace, 2006), this study also adopts a discourse-oriented approach. Thereby, it contributes two novel perspectives to applied linguistics research on human-nature connections. First, it introduces *value* as a key dimension in studying the role of language in shaping human-nature relationships, complementing existing emphases on *knowledge* (Harrison, 2023) and *ideology* (Stibbe, 2015). By focusing on how ordinary people articulate their personal preferences, beliefs and principles regarding their connection with nature, this research sheds light on individual foundations that inform broader social and cultural orientations toward nature. In doing so, it helps identify practical *leverage points* – “places in complex systems to intervene to generate change” (Ives et al., 2018, p.1389) – for fostering public reconnection with nature. Second, this study demonstrates the potential of ethnographic methods in advancing environmental discourse research. As discussed before, much of the existing literature in this field relies on textual analysis of media, policy documents, and literary works. In contrast, relatively few studies have examined environmental discourses as they emerge in real-time, everyday interactions. This is a gap that ethnographic methods, such as participant observation and ethnographic interviews, are well-suited to tackle. Compared to the relatively stable and fixed nature of textual data, the heterogeneous and context-dependent nature of ethnographic linguistic data poses challenges in both data collection and analysis. However, the dynamic nature of ethnographic data enables the capture of complexity and nuance grounded in lived experience. This research embraces this challenge and offers grounded insights into how human-nature relationships are articulated and negotiated in real-life discursive practices.

This ethnographic case study, conducted at an environmental NGO in Luxembourg, opens new avenues for future empirical research on human-nature relationships. As most participants are senior citizens, their discourses often reflect a sense of “nature nostalgia” – a retrospective sentiment for the more nature-connected ways of life in earlier decades, characterised by less technological intrusion and slower paces of life. This nostalgia is often accompanied by a lament over the younger generation’s lack of interest in and direct experiences with nature. However, it is important to recognise that younger people are navigating a distinct set of social, cultural and political contexts and challenges, which likely shape their perceptions and experiences of connection – and disconnection – with nature in different ways. Future research could therefore illuminate the lived experiences with nature of younger generations and elevate their voices in articulating what nature means to them. Moreover, this study focuses on a group of environmental volunteers whose relationships with nature are largely non-consumptive and reciprocal. To develop a more comprehensive understanding of the diversity and complexity of human-nature relationships, it would be valuable to explore communities whose practices with nature may initially appear extractive, such as hunters, fishermen and loggers. Their perspectives may reveal the role of nature in cultural traditions, insights into sustainable human-nature coexistence, and tensions between people and nature, as well as between community values and environmental policies. Overall, this ethnographic inquiry demonstrates how attending to people’s lived experiences and personal values can shed light on the multifaceted issue of human-nature connection. By embracing this approach, future research can uncover the diversity embedded within this connection and help identify common ground for fostering more harmonious coexistence between humanity and nature.

At the very end of this book, I invite readers to revisit my main findings and arguments in a non-conventional format: a poem co-created by Michael and myself. The lines of the poem are drawn from the interview with Michael, previously cited in Chapter 5. In rearranging his words and shaping them into a poetic form, I aim to highlight once again the insightful and heartfelt lessons shared by my participants: meaningful connections with nature can be cultivated through seemingly small actions and everyday moments. Nature, through its expressiveness and agency, never stops being a part of human life. In reconnecting with it, we are not only

working to prevent further environmental degradation, but also searching for sources of relief, resilience, and hope.

*We must be grounded, in contact with the soil,
so when the voltage runs too high,
the Earth protects you – you won't die.*

*Deers in the forest, birds in the garden.
Collect fruit, make jam.
My grandpa, my father:
We can get food from nature,
we can be in harmony with it.*

*With the children, barefoot in the woods,
with blindfolds covering their eyes.
Hand in hand, we stand together,
Feeling the forest with our feet.*

*“What did you feel?”
“A spider going down near me.”
A bee flying by, leaves rustling.
These are all the things,
that we must feel in the woods.*

*Feel the trees, they are our friends,
embrace it with closed eyes.
The beech has a smooth trunk,
The oak wears grey bark.*

*We are not grounded anymore.
There must be contact with the soil.
When the voltage runs too high,
the Earth protects you – you won't die.*

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