Fleshing out Conservation: Performative Ecologies and Embodied Practice in Chilean
Temperate Rainforest Management

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ABSTRACT

This dissertation brings recent theories of embodiment, practice, and performance to bear on community-based conservation in the temperate rainforest region of Southern Chile. The goal of the project is to respond to a problem that conservation scientists often call the "implementation crisis." Essentially, we have abundant knowledge of conservation models, strategies, and best practices, but yet we still struggle to implement effective community-based projects on the ground. Political ecologists have tried to address this issue by unpacking the cultural politics of conservation, explaining the fate of projects in relation to, for example, competing understandings of community, conflicts around gender and social difference, or clashes between different knowledge systems. Problems occur, it is argued, when conditions on the ground do not conform to pre-given categories, such as when the lines between "local" and "expert" become blurred, or when complex and unbounded social relations contradict our notions of bounded, homogeneous communities.

This dissertation works to challenge and extend these critical perspectives by "fleshing out" environmental practices in Chile. I argue that in emphasizing contentious cultural categories, practitioners and scholars alike have tended to neglect the everyday lived experiences of making conservation happen. The dissertation draws on fieldwork conducted with two projects based near the town of Valdivia, Chile: a newly formed private reserve that was partnering with local communities on conservation and development projects and a firewood certification program working with small landholders on sustainable forest management. The focus of my research is on the actual *performance* of conservation. I start not with cultural categories but with the material interactions that make projects tick. For example, I trace the movements of actors as they negotiate project work, study skills as they are learned and practiced in the field, examine collaborations as they take form, and explore how everyday misadventures can turn into creative solutions. To support my claims, I draw on a growing interdisciplinary body of research that addresses the creative, corporeal, and emergent nature of practice, including non-representational theories in geography, practice theories from sociology and anthropology, theories of embodied cognition from the cognitive sciences, and materialist feminisms. These literatures all contend that social processes are not just the outcome of competing ideas and representations, but also emerge from the actions of people physically engaged in their environment.

Each chapter explores a different way in which practice plays a significant role in conservation projects. Chapter 2 presents a re-examination of the environmental politics of vision and representation by showing that vision is much more tied to bodily movement than has previously been assumed. Chapter 3 considers another central area of political ecology critique: the politics of environmental knowledge, especially clashes between "expert" scientific and "local" indigenous knowledge. Political ecologists claim that one of the problems of community-based conservation is that too often it involves imposing scientific modes of understanding on local groups whose indigenous forms of knowledge are not equally valued. I argue that what often gets ignored in these discussions is the role of embodied skill in constituting environmental know-how.

Chapter 4 examines how collaboration works in conservation projects. Although there has been considerable discussion of the problematic use of the term community within grassroots conservation initiatives, I argue that these conversations too have tended to neglect the embodied, relational aspects of practice. As an alternative to the logic and counter-logic of community, I suggest developing a performative understanding of togetherness which I call "associating." While chapters 2-4 all emphasize the novel and serendipitous qualities of conservation practice, Chapter 5 addresses repetition. I show that mundane, routine, and habitual aspects of conservation work are important for instilling the sensitivity and awareness to unspoken aspects of environmental projects. Moreover, I show how such tedium actually contributes to the creative process, rather than, as we might assume, introducing complacency in conservation. I conclude by reflecting on what is gained by developing a more "fleshy" understanding of conservation and environmental management.

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AIFBN   Forest Engineers for Native Forest
Agrupación de Ingenieros Forestales por el Bosque Nativo

ACTUAR   Community-Based Rural Tourism Association of Costa Rica
Associación Costarricense de Tourism Rural Comunitario

ASPALECO   The Ecological Association of Paquera, Lepanto and Cóbano (Costa Rica)
Asociación Ecológico de Paquera, Lepanto y Cóbano

CBC/
CBNRM   Community-based Conservation/Community-based Natural Resource
Management

CONAF   Chilean Forestry Service
Corporación Nacional Forestal

FORECOS   Central Foundation for Native Forests
La Fundación Centro de los Bosques Nativos

GEF   Global Environment Facility

RCV   Valdivian Coastal Reserve
Reserva Costera Valdiviana

SES   Social-Ecological System

SGP   Small Grants Program (of GEF)
Programa de Pequeños Subsidios

SNCL   National System of Firewood Certification
Sistema Nacional de la Certificación de Leña

TEK   Traditional Ecological Knowledge

TNC   The Nature Conservancy

UNDP   United Nations Development Programme

WWF   World Wildlife Fund

CHAPTER 1: INTRODUCTION

The successes and failures of [Community-based Natural Resource Management] theory and practice have been extensively debated....There is an excellent understanding within the academic and research fraternity of the criteria that foster positive outcomes and limit constraining ones. However, this wealth of knowledge and understanding is insufficiently used in planning and implementation of CBNRM programmes on the ground. Why this is so remains unclear (Editorial Board 2010, 3).

1.1 Enter a Bridge

Crossing the Chaihuín River by car is a relatively benign event. The road bends to the right and then ramps upward slightly as you approach the river. You will feel the car bounce as you cross from the loose gravel of the dirt road to the smooth cement of the bridge, the steady rattle of the wheels shifting to a sort of hollow drone. Staring ahead, the bridge seems incongruously straight and rigid, a strange juxtaposition against the fluid contours of surrounding landscape. To your left, the river cuts through sloping hills of deep green forest before disappearing out of sight around a bend. To your right, the tangled river estuary fans out around sand dunes and patties of grass, eventually converging with the straight blue horizon of the Pacific Ocean (figures 1.1-1.2). In the brief minute it takes to cross, you might see a few people walking along the pedestrian lanes on the side of the bridge. Likely there will be wooden fishing boats painted bright red and yellow tied up on the river bank below. Cows will be wading in the estuary, their tails swinging back and forth lazily, while white birds peck around underfoot. Before the scene even fully registers you will feel a jolt, the cement of the bridge ending as abruptly as it started. The rattle of gravel will again ring through your ears as you speed along

down the road, dust kicking up from behind the car as you gently climb out of the river valley.

Figure 1.1: Bridge over the Chaihuín River. The view here is from the northern bank. The headquarters of the Valdivian Costal Reserve are visible to the left, at the far end of the bridge. The estuary can be seen in the upper right of the photo and beyond it the Pacific Ocean.

Figure 1.2: Looking upstream from the bridge with fishing boats in the foreground.

The Chaihuín River bridge now seems like a permanent and unquestioned feature of this rural landscape, but this was not always the case. Even the improved gravel road that runs down the coast is a relatively recent addition. The road was built in the mid-1990s by the Chilean government as part of a project to connect the entire length of Chile's coast and provide a scenic alternative to Route 5—the main north-south highway

that runs inland down the center of the country. For years the government had been

promoting the increased connectivity and economic development that the coastal route

would bring. But in the south, where much of the coast is blanketed in dense forests and

dotted with rural communities, the highway project became a focal point of conflicts over

development, environmental protection, and rural livelihoods. In contrast to the

government's claims, environmentalists argued that the main motivation for constructing

the road was not to benefit rural communities, but to encourage the exploitation of forest

resources and give large timber companies access to new terrain (Solís 2002).

The small community of Chaihuín was one of the many places where tensions

regarding the highway and the future of forest exploitation ran high. South of Chaihuín

was an extensive private property that contained vast areas of coastal temperate forest

and was home to many rare and endangered species. The property had been owned by a

series of forestry companies that had been slowly penetrating deeper into the hillsides,

working south from Chaihuín and replacing native primary-growth forest with plantations

of exotic tree species.[1] Still, vast areas of relatively intact forest had yet to be converted

and environmentalists had their eye on protecting the property from further exploitation.

The highway was slated to run right down the middle of this stretch of forest and if

completed it would surely mean the continued expansion of plantations. Moreover the

road itself would cause habitat fragmentation, erosion, and impinge on the rights of local

landholders who had little say in the construction plans. Pitted against these activists

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[1] The property, known as Chaihuín-Venencia, had been selectively logged throughout the 20th century but still contained tremendous biodiversity and important habitat. Forest companies were able to justify substitution (clear-cutting and replacing with plantations) by claiming that the existing forest was heavily degraded—a claim that was disputed by environmentalists.

were many local leaders and area residents who felt that a coastal route was the answer to a region struggling with poverty and out-migration and they welcomed the project with open arms.

These tensions came to a head over the construction of the bridge across the Chaihuín River. The bridge was a critical step in continuing the Southern Coastal Highway into the remote forests further south and it also had practical benefits for the communities leaving near the Chaihuín River valley. This was particularly true for people living in Huiro, a small community about 6 km south of Chaihuín whose residents had to cross the river to access services in Chaihuín and to reach the regional capital of Valdivia. Not surprisingly, many residents there took a pro-bridge stance. However, in Chaihuín where there was presumably less to be gained by the bridge construction, a strong community coalition organized in opposition. Not only did they feel the project would lead to the wholesale logging of the area and continued marginalization of rural livelihoods, but also they protested what they felt were inadequate assessments of the environmental impact of the construction. Foundations of the bridge, for example, would disturb valuable banks of shellfish on the river bottom that were an important source of income for Chaihuín residents (Ojeda Gallardo 2003). Dissenters went as far as lying down in front of bulldozers in a futile attempt to prevent construction.

By the time I began fieldwork in the area in 2003 the conflict over the construction had died down somewhat, and the bridge was a taken-for-granted element of daily life. Further construction on the road south of the bridge had been temporarily halted, due largely to an international campaign launched by environmentalists that put

pressure on the Chilean government to look for alternative routes. Tensions between community members, however, had not entirely healed. In my early days of field work I would often ask residents to reflect on the period of unrest surrounding the highway and bridge construction and the residual animosity that these had left behind. Many of these conversations led to similar sorts of analysis: competing visions for rural development mixed with long-standing family conflicts and dirty politics on the part of forestry companies had made for toxic community relations and contentious local politics (see Chapter 4). In short, Chaihuín and the surrounding villages had been caught in exactly the types of cultural and ideological clashes we have come to expect in environmental conflicts.

Yet a chance encounter with a different telling of this story would eventually set the direction for the research that appears in this dissertation. On a visit to Chile in 2006, I was interviewing Andrea, a woman who lived in Huiro, about debates around forestry and community development. I asked her why the bridge project had caused so much conflict between residents of Huiro and Chaihuín. Instead of giving the sort of diagnosis of local politics I had come to expect, she responded simply that the clashes between community members occurred because "they [the residents of Chaihuín] lived on the other side." By this she meant the other side of the Chaihuín River, the side that was closer to services and connections, the side that had a health post and a bus terminal, the side that was ever so slightly better positioned in the world simply because residents there had one less river to cross on the way to markets, schools, and hospitals.

Andrea then began to describe what life was like prior to the bridge. She explained that when her daughters were small she would have to row back and cross the river in the morning to drop them off at the school in Chaihuín and then do the same in the afternoon to pick them up and return to Huiro. She described the fierce pull of the water when the river was high from rain and how her arms and back would ache at the end of the day. As she talked, she ran her hands along her shoulders as if feeling her exhaustion anew. She said that sometimes a storm would come in and she would not be able to get back across the river to pick up her daughters in the afternoon. They would have to stay overnight in Chaihuín and she would be sick with worry until they returned home. She also described the labor of bringing goods and supplies across the river by ferry, sometimes loading and unloading supplies in the pouring rain. Community members would even put cars tenuously on the flat platform of the ferry hoping they made it to the other side without trouble.

There was a palpable emotion in her storytelling. I could imagine the sore shoulders and pull of the oars against the water. I could almost hear the sound of pounding rain on the rooftop and the rising sense of worry. But her story was also very matter of fact. There was no romantic longing for days gone by, no rejoicing in how the bridge had improved her life, and no appeal to enduring cultural traditions. Nor did her account easily align with the ideological debates that had so framed the conflict: forestry versus conservation, rural development versus environmental protection, jobs versus local rights. Rather her story expressed ways of making sense of the bridge, the construction project, the river, and rural ways of life that could not be reduced to

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ideology alone. For Andrea, meaning and signification was at least in part located in a set of bodily practices, material convergences, and everyday performances that were lived and felt. Her opinions about the bridge project were constituted through "manifold actions and interactions" (Anderson and Harrison 2010, 2), so much so that when asked to recall the political turmoil of conflict she focused not on the narratives or symbolic renderings that had so come to frame the various actors and interests involved, but on a recollection of bodily fatigue, emotional attachment, and environmental affects.

This conversation would stick with me as I set out to investigate a new wave of conservation projects that had entered the Coastal Range of southern Chile. The property south of Chaihuín had, in a rare victory for environmentalists, been turned into a private reserve. Many small-scale conservation projects were also taking shape, piggybacking off the successful defeat of the road project. My initial interest was in how clashes of power and knowledge were complicating efforts to create "community-based" projects that not only benefited the environment but also brought much needed development to rural communities. Up until then, I had been working to untangle the messy web of institutions, ideologies, and economic forces that entwined conservation efforts in the region. If I could understand the cultural battle lines and political maneuvering behind particular projects and approaches, I assumed, I might be able to paint a picture of why conservation there was succeeding or failing to deliver on the twin promises of rural development and environmental protection.

I soon discovered that my approach was incomplete. While I could readily trace the contentious environmental politics of particular projects—in part because the

Chileans I worked with had already given much critical thought to these issues—I was struggling to account for the everyday processes through which conservation unfolded. To grasp why projects succeed or failed in creating meaningful environmental change, I realized that I needed a much better understanding of how conservation worked in *practice*. This meant not just understanding the theories of how conservation *was supposed to* function, but actually examining the material conditions of project work— how people and things get from place to place, how paperwork is filled out, how meetings take shape, and how bodies feel after a long day in the field. In short, it was precisely the type of lived, physical experience Andrea had described in relation to the Chaihuín River that I needed to grasp in order to develop a more complete picture of conservation projects.

Curiously, much of the literature on the politics of conservation was surprisingly silent on how environmental projects were actually *performed*. Conservation and resource management literature had much to say about the factors that were known to help and hinder projects and how to best design conservation with these in mind. Social science literature had much to say about the cultural politics of conservation and the contested nature of social and environmental categories. However, neither provided well-developed accounts of the embodied practices and lived processes of conservation work. For the rest of the chapter, I will describe some of the limitations I encountered in conservation and political ecology frameworks and why these led me to explore emerging "non-representational" approaches in developing my research. From there I will move into a discussion of the specific projects that were the focus of my research, situating

these in relation to economic and environmental changes that have shaped southern Chile over the past four decades.

1.2 Community-based Conservation: Complexity, Implementation, and Models

Arguably the two most significant trends in conservation and resource management over the last quarter century have been the shift toward complex systems thinking and the incorporation of participatory approaches. Globally, there has been a move away from planning for specific resources and environmental threats to planning for integrated social-ecological systems (SESs). Terms like landscape-level conservation, adaptive management, ecosystems management, and resilience have all been part of the growing vocabulary used to depict complex interactions between institutions, actors, capital, knowledge, and ecological processes. Academic journals like Conservation Ecology, Biodiversity and Conservation, and Conservation Biology are filled with intricate conceptual diagrams showing the looping pathways, nested scales, and feedback loops involved in ecosystem management at any given site (see Appendix A). The logic behind such diagrams and ecosystems-based management in general is that so called third-generation environmental problems—climate change, the loss of biodiversity, securing ecosystem services—lack simple cause and effect mechanisms that can be addressed in isolation from broader systems interactions. To carry out effective conservation, therefore, requires sophisticated network thinking and the ability to integrate multiple spheres of management, disparate stakeholder perspectives, and diverse methodological approaches.

Concomitant to the expansion of social-ecological systems thinking—and the primary focus of this dissertation—has been a realization that enlisting the help of citizens who depend on the resources in need of protection is essential to creating positive environmental change. In the second half of the twentieth-century, "top-down" styles of conservation management emphasizing expert knowledge, centralized decision making, and the exclusion of human activities faced increasing criticism. [2] This was especially true as environmental agendas expanded in the developing world where the livelihoods of rural and indigenous peoples were often closely tied to resource extraction. Not only did environmentalists come to realize a moral responsibility to include affected and marginalized groups in decision making, but they also saw that grassroots support was needed for effective environmental programs. Local groups could undermine projects by refusing to respect management regimens (through trespassing and illegal poaching for example) or by outright protest of environmental agendas. Conversely, these groups often held important knowledge about local ecosystems which could be an asset for conservation initiatives. Thus there was a shift toward "bottom up" approaches emphasizing the participation of local groups, the support of development alongside conservation, and the decentralization of management activities. These approaches have been alternatively called community-based conservation/nature resource management, community forestry, integrated conservation and development, collaborative conservation, and participatory conservation. Regardless of name, these strategies are largely consistent with the systems thinking described above (and often applied in tandem

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[2] The importance of including community groups in the conservation process gained recognition in the early 1980s with the publication of the IUCN World Conservation Strategy and World Parks Congress of 1982.

with them) but further emphasize social justice and the empowerment of marginalized groups.

Although systems thinking and participatory approaches are by now common-place within conservation and resource management, they have not necessarily brought about the hoped for changes. There has, for example, been extensive debate about what exactly has been accomplished under community-based paradigms and whether or not the promised synergies between environmental protection and community development have panned out (Agrawal and Gibson 1999; Balint and Mashinya 2006; Berkes 2004; Blaikie 2006; Dressler et al. 2010; Fabricius et al. 2004; Guijt 2007; King 2007; Klooster 2000; Leach, Mearns, and Scoones 1999; McCarthy 2006; Nelson 2010; Rodary 2009; Selfa and Endter-Wada 2008; Virtanen 2003). The subsequent chapters of this dissertation each explore specific critiques raised in this literature, but a review of recent analyses of the community-based paradigm reveal some broad underlying concerns.

First, observers have noted that we lack the type of intricate, multidisciplinary, and context specific knowledge needed to design successful collaborative projects. To put this another way, we got so excited about the promises of community-based approaches that we failed to adequately account for the complexities of the SESs in question. This is precisely the concern raised in a special issue of the Proceedings of the National Academy of Sciences devoted to the topic of panaceas in the governance of SESs. In their opening article, Ostrom et al. define a panacea as "a blueprint for a single type of governance system that is applied to all environmental problems" (2007, 15176) and argue that the search to create sustainable SESs has relied too heavily on formulaic

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approaches that are naively applied to disparate situations without sufficient attention to the specific social and environmental nuances in play at a given place and time. In the same issue, Berkes (2007) presents an incisive critique of community-based conservation as such a blueprint, a sort of cure-all for conservation that is now so ubiquitous across the globe that it is often difficult to gain legitimacy and funding without at least paying lip service to community involvement. This has led to a watering down of community-based conservation design and practice and resulted in failed projects. What is needed, these authors suggest, is a pluralist approach that better takes into account multiple objectives and manifold partnerships, beginning with a deliberate assessment of the demands for and interests in 'the commons.'

These concerns are echoed in a 2010 themed issue of the journal *Environmental Conservation* reflecting on the past three decades of community-based natural resource management (CBNRM). The editors suggest that, in particular, we need to better understand how specific projects line up in relation to several key questions: who has the power and is driving CBNRM processes; who controls the resources involved and how are use rights negotiated; who benefits from CBNRM programs and are the benefits distributed equitably; what is the nature of the management strategies involved; and, who implements and monitors these management strategies. At the heart of their analysis is a call to better account for complexity in conservation projects, a claim that makes perfect sense in light of the growing influence of systems thinking I mentioned above.

Accounting for complexity, however, only seems to be half the battle. According the many scholars, implementation is another fundamental problem of community-based

approaches. For example, the editors of the special issue on CBNRM (2010, 3) also cite

the "classic research-implementation gap"—the failure to transfer theories and finding

from researchers to practitioners—as one of fundamental reasons that CBNRM has not

lived up to expectations. Likewise Biggs et al. (2011, 169), reflecting on their successes

and failures with community-based conservation, see the core of the implementation gap

as a "the failure to achieve the necessary collaboration among typically diverse

stakeholder groups to translate conservation assessments and plans into sustained on-

ground outcomes for conservation." For them, the problems of CMNRM are less about a

lack of understanding of complexity within conservation, and more about a failure to

communicate complex ideas to others. Some have gone so far as to say that conservation

planning generally is plagued by an "implementation crisis" characterized by the endless

"pursuit of ever-more precise information" while in reality "few academic conservation

planners regularly climb down from their ivory towers to get their shoes muddy in the

messy, political trenches, where conservation actually takes place" (Knight, Cowling, and

Campbell 2006). These are harsh words, and aimed at conservation scientists in

particular, but the same sentiments have echoed around the CMNRM management

literature. While most admit there is no single cure-all for the implementation crisis,

better communication, improved training of practitioners, and more actionable research

agendas are all seen as part of the solution.

     Implicit in the accounts of both types of problems—a lack of knowledge about

complex SESs and the inability to implement that knowledge—is a sense that effective

conservation functions largely through the application of *pre-given* plans, theories, and

conceptual frameworks to existing socio-environmental problems. Resource managers, for example, are expected to follow a logical multi-stage process from project conceptualization to development, implementation and review (see for example Howard 2010; Rodriguez-Izqueirdo, Gavin, and Macedo-Bravo 2010). To improve conservation outcomes, it is assumed, we need to more effectively translate between the conceptualization and action stages.

This logic is exemplified by the emphasis in the literature on improving conservation by creating better models. For example, the editorial board of Environmental Conservation framed the central question facing community-based conservation as follows: "how and what can we learn from the past theory and practice to develop a new generation of flexible, locally responsive and implementable CBNRM models, and what are likely to be the attributes of such models" (Editorial Board 2010, 1)? Similarly, others have suggested that we can improve our understanding of the roles and abilities of various stakeholders by quantifying and diagramming their "attributes" including things like power, capacity, motivation, and mandate (Castillo et al. 2006). Or we can close the research-implementation gap by designing more effective "operational models" that integrate "rigorous systematic assessments with the normative processes of implementation strategy development and stakeholder collaboration" and thus create a "foundation for effective conservation action" (Knight, Cowling, and Campbell 2006, 416). We can even investigate "mental models" (internal cognitive structures that are the basis of reasoning, decision making, and interpretation of the world) held by stakeholders

for clues as to how to create effective collaborative decision making (Biggs et al. 2011; Jones et al. 2011).

While surely models are helpful tools, the underlying assumption that conservation works by *first* building accurate conceptualizations of environmental problems and solutions and then translating these to the case in question was at odds with what I observed on the ground in Chile. There projects seemed to have a momentum of their own, carried along by *ever evolving* constellations of materials, practices, ideas, attachments, and institutional constraints. Even the most rigorous theories and the most sensible operational systems did not seem to guarantee success for the various groups and actors I observed. Instead, people involved in conservation seemed to rely heavily on learning-by-doing, tacit skills, and embodied practice as they navigated the fluctuating complexities of project work. While they certainly used mental models and structural diagrams in their work, these were always in close conversation with hands-on activity. Indeed, it often it seemed as if practitioners would try to fit their activities and interactions into accepted schematics *after the fact,* suggesting that conceptualization followed action rather than the other way around.

While there is certainly an acknowledgement in the literature that experiential practice is important to conservation, save for a handful of articles (see Chapter 3 for examples) the role of practice remains a "black box" and lacks the type of theoretical and empirical attention that has been given to "formal" management processes and techniques. Moreover, there is also a tendency to dismiss hands-on performative processes as ad-hoc, chaotic, time consuming, and risky compared to more rigorous

scientific procedures (Lynam et al. 2003). It is not surprising then that as I was

formulating my research, I found no entirely satisfactory conceptual tools within the

conservation and resource management literature for digging into the messy lived

practices that I was eager to explore.

1.3 Political Ecology Approaches

I came up against parallel sorts of limitations in geographic and social sciences

literature, particularly in political ecology which had been a primary influence on my

earlier investigations of environmental politics in Chile. [3] As with the conservation

scholarship described above, political ecologists have been concerned with the successes

and failures of conservation programs and they too have focused on developing a better

understanding of the complexities of community-based initiatives. What has been further

emphasized in political ecology literature, however, is the need to disrupt taken-for-

granted concepts and categories that have framed environmental problems. Rather than

accepting things like community, nature, and resource as given, political ecologists have

examined how these categories are constructed and imbued with meaning through

language, media, and cultural practices. This often means positioning such categories in

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[3] The field of political ecology synthesizes ecology, sociology, and economics to look at how environments
and social systems mutually influence each other (Peet and Watts 2004; Robbins 2004; Zimmerer and
Bassett 2003). The approach seeks to bridge gaps between human and ecological sciences, often applying
the natural and human sciences in combination.[3] Early studies in political ecology focused on ecological
degradation and the marginalization of social groups in third world, seeking to put these problems in
context within larger economic and political processes (Blaikie and Brookfield 1987; Harvey 1974; Smith
1984; Watts 1983). Thus political ecology represented a significant advance from deterministic ways of
thinking which blamed environmental decline on growing populations, without taking into account the
politics involved or the technologies that mediate nature-society interactions. Since the 1980s, political
ecology has diversified beyond the agrarian third world to new types of environments (cities, oceans, the
first world) and production processes (fisheries, surbanization, energy development).

relation to larger political and economic processes such as colonialism and neoliberalism, thereby exposing a far more complex suite of relationships than at first meets the eye. To give just one example, scholars have shown that while community-based conservation is often associated with efforts to 'decentralize' or 'devolve' state control to local actors and communities, the outcomes of such strategies are often paradoxical, heterogeneous, dependent on local circumstances, and complicated by legacies of political oppression. Institutional roles and political goals become blurred and flexible through the complex interfaces among diverse organizations and the sometimes contradictory notions of sound natural resource management. It can become difficult to tell where communities begin and end, and even harder to determine just where power lies in any given project. Therefore devolution, while well intentioned, rarely accomplishes the intended transfer of authority to the local groups it was intended to benefit (Cousins and Kepe 2004; Larson 2004; Meynen and Doornbos 2004; Nemarundwe 2004; Nygren 2005; Oyono 2004; Sundar 2001).

This type of problematization of the basic assumptions of community-based approaches has been facilitated by a theoretical focus on the way symbolic meaning is created within environmental projects. Political ecologists have brought much attention to discursive and representational politics involved in reproducing normative notions of marginalized groups, legitimating certain forms of power and knowledge, and 'naturalizing' social and ecological categories (Castree and Braun 2001; Latour 1993; Whatmore 2002).[4] For example, some studies have pointed out how dominant narratives

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[4] These approaches have been heavily influenced by the 'cultural turn' in the social sciences inspired by feminist studies, cultural theory, and science studies among others and which brought about a renewed

of landscape change and environmental degradation can lead to misrepresentations of traditional land uses and to negative portrayals of local groups (Campbell 2002; Escobar 1998; Klein 2002; Nygren 2000). Other studies have looked at the use of symbols in legitimizing community-based conservation efforts, for example, how charismatic fauna can be used to evoke sympathy from funders and citizens who may have little familiarity with the conditions of marginalized communities (Fortmann 2005). Or how maps, although seemingly factual accounts of the landscapes, subjectively represent conservation projects in ways that reflect dominant scientific perspectives (Hodgson and Schroeder 2002; Kull 2002; Rocheleau 2005a; Topatimasang 2005).

In all, political ecology has done much to expose the "naive realism" of some environmental accounts and has brought an important critical perspective to the study of conservation. The problem I encountered in Chile, however, is that many of these modes of explanation were at once self-evident and yet disconnected from the actual ways that conservation was unfolding in the area. People involved in conservation were well aware of the complex and contingent nature of socio-environmental categories and exploited these in their politics. They were quite clear that such complications could and did disrupt the smooth functioning of projects. But a better, more nuanced "positioning" of

interested in cultural processes that had been deemphasized under political economic trajectories. The mode of analysis that perhaps most dominated this turn in the 1980s and 1990s was social constructivism, which looks at how symbolic orders and representations construct meaning and value in the world in ways that legitimate some forms of knowledge and power above others. A primary assumption of social constructivism—and one that is brought into question is this dissertation—is that cultural meaning is distinct from embodied practice. Or as Anderson and Harrison (2010, 5) put it, "epistemologically…'action' is *not* in the bodies, habits, practices of the individual or the collective (and even less in their surroundings), but rather in the ideas and meanings cited by and project onto those bodies, habits, practice and behaviours (and surroundings). Indeed the decisive analytic gesture of social constructivism it so make the latter an expression of the former."

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actors, intuitions, and environments in relation to identity politics, knowledge systems,

power conflicts, and economic constraints did not necessarily help me make sense of the

everyday interactions through which projects took shape. Nor was problematizing the

symbolic orders of environmental projects sufficient for making sense of the often

fleeting and improvised quality of conservation activity.

1.4 Fleshing Out Conservation

All this is not to say that political ecology has ignored embodied practice

altogether. Indeed the word practice is scattered everywhere in the literature. However,

as I will elaborate throughout the dissertation, practice is all too often described as

something that *transmits* culture and knowledge rather than being constitutive of them.

As a result, the lived, physical dimensions of project work remain under-theorized. This

dissertation works to extend critical perspectives in the conservation and political ecology

literatures by "fleshing out" the everyday, lived experiences of environmental work. To

do this I draw on a growing interdisciplinary body of research that addresses the creative

and embodied nature of practice, including for example, practice theories from sociology

and anthropology, non-representational theories in geography, theories of embodied

cognition from the cognitive sciences, and materialist feminisms. These literatures all

contend that social processes are not just the outcome of competing ideas and

representations, but also involve the actions of *people physically engaged in their*

environment.

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My approach follows calls within geography and other social sciences to "enliven" our socio-environmental theory by making it more embodied, more animate, and more attuned to the way environmental issues are *enacted* (Carolan 2009; MacNaghten 2003). Throughout the dissertation, I place the term 'practice' at the center of my analysis, although I conceptualize this term somewhat differently than in the literature previously cited. In environmental discussions 'practice' typically refers to standard procedures and ways of doing things, such as specific techniques used in agroforestry or the 'best practices' for sustainably harvesting timber. As such it is often portrayed as the means by which we execute or implement plans and ideas, or as the outward expression of inner cultural norms and beliefs. In this dissertation, in contrast, practice refers to the general quality of being in action, *of doing,* and is theorized as an *open-ended, creative* activity (Merleau-Ponty 2006 (1945)). Practice is itself a way of making sense of the world in that perception and cognition are embedded in "the practical contexts of people's ongoing engagement with their environment in the ordinary course of life" rather than locked away in a private realm of thinking and sensing (Ingold 2000, 167). Theorizing practice this way puts emphasis not just on formal procedures, systematic steps, and established rituals but also on mundane and everyday doings that may be fleeting or seemingly inconsequential. Conservation projects, it turns out, are full of all sorts of happenings that rarely get mentioned in formal dialog or public accounts. But as any practitioner knows, much of what goes on in conservation work and much of what makes projects tick, resides in everyday activities and serendipitous encounters that go unrecorded and can indeed even be difficult to describe.

To insist on the importance of practice necessitates three parallel conceptual moves, all of which are implicit in the subsequent chapters. The first is to affirm human embodiment and to recognize that the experience of *being* a body is fundamental to the way in which we understand and relate to the world (Clark 1998; Diprose 2002; Gallagher 2005; Latour 2004; Longhurst 2000; Todes 2001). Perhaps one reason that practice is under-theorized in environmental accounts is that human bodies are relatively absent from many studies within both conservation and political ecology. Certainly you can find people, stakeholders, men, women, experts, locals and so on featured prominently in the literature. Yet all too often these people are depicted as disembodied rational agents or cultural subjects who are driven to action first and foremost by a set of (rather narrowly conceived) intellectual capacities (Noë 2009). Once we acknowledge, however, that bodies are implicated in thought, perception, and judgment, it becomes quite difficult to investigate conservation projects *without* studying the embodied aspects of environmental work. We begin to see the agents of conservation as physical beings complete with sore backs and achy knees, skilled hands and sharp ears, bodily fatigue and energy—all of which matter deeply to how environmental management gets worked out.

Despite the importance of embodiment, practice is not delimited by the boundary of the body but spills over into the surroundings, whatever those might be. Thus the second conceptual move is to recognize that practice is always *in-relation,* meaning that our actions are continually adjusting and calibrating according to the opportunities and conditions offered by the environment (Crouch 2003; Ingold 2000, 2006; Jones 2009; Lorimer 2006a; Thrift 2008). As Anderson and Harrison (2010, 7) put it:

> The root of action is to be conceived less in terms of willpower or cognitive deliberation and more via embodied and environmental affordances, dispositions and habits. This means that humans are envisioned in constant relations of modification and reciprocity with their environs, action being understood not as a one way street running from the actor to the acted upon, from the active to the passive or mind to matter, but as a relational phenomena incessantly looping back and regulating itself through feedback phenomena such as proprioception, resistance, balance, rhythm and tone; put simply, all action is interaction.

This formulation emphasizes the constitutive role of the "more-than-human" world in generating the very activities we classify as *human* practices (Bennett 2004; Whatmore 2006). To use the basic activity of walking as an example, despite our desire to walk at a certain pace or with a particular style, our stride will in part be dependent on the environment we are moving through and will adjust differently depending on whether we are walking down a carpeted hallway, climbing uphill through a forest, or charging down a city street against the wind. While conservation and political ecology literatures certainly acknowledge feedback loops between human action and the environment, the emphasis tends to be on the conscious and rational aspects of those feedbacks, like when, for example, stakeholders make deliberate decisions to adjust practices for an observable change in the environment. In this dissertation, I suggest that the *tacit* feedback between human bodies and the material world are also important to how actors make their way through conservation projects. Practice, I argue, is particularly important to study precisely because it draws our attention to socio-environmental relationships that are difficult to quantify or replicate and thus are often ignored in formal analysis. Moreover, as a surge of recent literature on the affective and emotional dimensions of social life confirms (see Chapter 4), the relational qualities of practice are often *felt* and *sensed* in ways that cannot be reduced to logical reasoning (Anderson 2006, 2009; Blackman 2008;

Clough 2008; Damasio 1999; Pile 2010; Thrift 2003b). That is to say, practice is not just

in-relation with concrete material things, but is also immersed in the circulation of

intangible moods, memories, potentials, and feelings.

Finally, to insist on the importance of practice is to take seriously the continual

coming into being of new properties and new interactions and to emphasize *process* over

finite existence.[5] Neither human bodies nor the more-than human environment are

static—the only constant in relational practice is change. Therefore the third conceptual

move I pursue is to acknowledge the continual emergence and creativity of life. This

perspective may at first seem counter intuitive. Is environmental management not about

creating replicable procedures and standardized systems? Are environmental actors not

creatures of habit following established patterns and ingrained routines (many of which

need to be uprooted in order to create new forms of conservation)? I argue that even as

we attempt to create stability and permanence in conservation, projects develop along

much more unexpected, indeterminate, and imaginative lines than we assume. In the

conservation projects I observed, success seemed to come not so much from an ability to

stick to prescribed guidelines, but from an ability to negotiate, through practice, the twists

and turns of project work. This is not to say conservation is a chaotic free-for-all or that

it lacks order. Rather, I contend that order *emerges in* the interaction of the diverse

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[5] The themes I outline here are important to the theoretical perspective I develop in this dissertation, but I
do not want to suggest that these represent unified conceptual stances within the literature. Quite the
contrary, the various authors and literatures I put into conversation in the chapters that follow are not
always in agreement. In particular, there is some disconnect between more humanist practice-based
theories inspired by traditions such as phenomenology, ethnomethdology, and symbolic interactionism and
"non-representational" approaches which draw more heavily on poststructuralist thinking especially actor-
network theory and Deleuzeo-Guattarian philosophies. Currently, there is considerable debate as to just
where the theoretical synergies and antagonisms lie in the heterogeneous literature on practice,
performance, and relationality (for a discussion see Anderson and Harrison 2010).

elements of conservation projects rather than being imposed through external structures, procedures, models, or ideologies. My perspective is consistent with recent attempts in social theory to think of creative change in terms of the continual differing of relational systems. This has been formulated in several parallel ways within the literature.[6] Some studies use the concept of performance to emphasize the way social life gets worked out in the actual happening or doing of things (Latham and Conradson 2003; Thrift 2003a; Thrift and Dewsbury 2000). Other studies emphasize 'the event,' or the surprising and contingent ways in which materials, bodies, and ideas converge in any given moment and thereby change the course of what will follow and the perspective on what has passed (Dewsbury 2000; McCormack 2004). While I borrow from various strands of this literature, ultimately I pursue a conceptual emphasis on change and emergence in order to bring attention to the creative potential of social-ecological systems and to rethink how possibilities for environmental change come about. A project that takes emergence seriously is crucial in a place like Chile where the dominant environmental politics have been so overtly focused on *foreclosing* opportunities for all but the corporate elite.

1.5 Communities and Forests in Southern Chile

Empirically, this dissertation focuses on two environmental initiatives that are novel in the context of Chilean conservation: a national firewood certification program

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[6] Much of this work draws on Gilles Deleuze's philosophy of immanence. Deleuze contends the world is open to itself and is continually self-organizing. He rejects transcendent ontologies which assume a pre-given order and foundational bifurcations between, for example, human and nature, god and man, mind and body, subject and object. For Deleuze, all being is that of 'becoming'—there is no existence outside of relationships (Deleuze 1994; Deleuze and Guattari 1987).

and a private coastal reserve. It is impossible, however, to understand the approach and

significance of these initiatives without first painting a broader picture of the social and

environmental changes in southern Chile in recent years. A useful starting point for this

story is 1973, the year the socialist government of Salvador Allende was violently

overthrown and replaced with the military dictatorship of Augusto Pinochet. The US-

backed coup that brought Pinochet to power also facilitated perhaps one of the most

spectacular neoliberal experiments of the 20th century, and one that brought radical

transformation to nearly every sphere of Chilean life (Fischer 2009; Winn 2004). This

experiment had particularly dramatic and visible effects on Chile's forests.

Although industrial forestry had been growing steadily throughout the 20th

century, the sector expanded rapidly as Chile's economy was reoriented from import-

substitution to export-led development under Pinochet (Armesto, Rozzi, and León-Lobos

1995; Collins and Lear 1995; 2007; Herrmann 2006). Large sections of the forestry

sector that had been under state or joint public-private ownership were privatized and

sold at wholesale prices to industry. Private firms were given financial incentives

including subsidies and tax breaks while industry regulations were kept to a minimum

(Carruthers 2001; Clapp 1995; Klubock 2004; Silva 2004). The expansion of the forest

industry was based on the substitution of monoculture plantations of pine (especially

Pinus radiata) and eucalyptus (*Eucalyptus spp*.)—both species that grew rapidly in

southern Chile's wet and temperate climate—for native forest. By the end of the 20th

century, the forest industry accounted for 13% of the total national income from exports,

the vast majority of which came from the export of pulp and paper (Hernández, De la

Maza, and Estades 2007). Not surprisingly, the expansion of plantations came with

heavy social and environmental costs. Clear-cutting, extensive use of pesticides,

expansion of roads, habitat loss, the establishment of new, highly polluting paper mills,

union busting, and the exploitation of forestry workers were just some of the negative

effects (Klubock 2004; Neira, Verscheure, and Revenga 2002).

These problems were acutely felt by the approximately one-half million rural

inhabitants living in southern Chile. With the expansion of the forest industry, many

small and medium landholders were pressured (or forced) off their land, compelled to

relocate to more marginal lands or to urban areas (Armesto, Smith-Ramírez, and Rozzi

2001). For communities that remained, encroaching plantations meant that residents had

diminishing access to forest resources and to grazing land for domestic animals.

Moreover, many communities had to deal with problems caused by pesticide use and

clear-cutting practices such as contaminated drinking water, die-offs of aquatic resources,

loss of flora and fauna used for subsistence, and soil erosion (Catalán et al. 2005). All

this came on top of growing rural poverty. Strong rural labor movements in the 1960s

had achieved agrarian reform and improved economic conditions for rural residents, but

these were quickly undermined once Pinochet took power. Small landholders lost

income from forestry activities as they were unable to compete with highly subsidized

and mechanized industrial producers. And where they could once find work on private

estates dedicated to forestry production, when these came under corporate ownership

rural workers were increasingly replaced by low wage, temporary labor from other parts

of the country (Klubock 2004).

As forest loss became more extreme and visible, as Chileans became more vocal about the effects of forestry, and as data about the unique ecology of the temperate rainforests became more available, national and international NGOs became increasingly involved in efforts to protect native forests and ensure the well-being of rural residents. Although conservation organizations had been present in the region since the 1970s, the 1990s saw a proliferation of institutions interested in temperate rainforest protection (Silva 1996). In a 2000 issue of *Nature*, Myers et al. (2000) included Chilean forests in their list the 25 most important biodiversity hotspots, a designation that helped amplify international attention in conservation there.[7] Many environmental NGOs recognized a need to work with rural residents in these efforts and indeed saw community involvement as one of the most pressing concerns for conservation (Catalán et al. 2005). This is not entirely a surprise given the shift to participatory conservation approaches described above. But in Chile there was also recognition that a significant amount of remaining native forest not yet converted to plantations or preserved in parks belonged to small landholders.[8] Finding ways to help rural residents remain on their land and to exploit their property in a sustainable manner was regarded as an essential conservation strategy (figure 1.3). While the new wave of interest in conservation and sustainable resource

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[7] A biodiversity hotspot must contain 0.5% or 1,500 species of vascular plants as endemics and have lost at least 70% of its primary vegetation. The Chilean forests are considered unique in that they have an exceptionally high level of species endemism for a temperate ecosystem: nearly 90% of woody species are found only in Chile (Rozzi et al. 2000). The high levels of endemism are thought to be caused by the relative isolation in which Chilean forests evolved (the Andes mountains to the east and the Atacama desert to the north create geographic barriers for migrating species) as well as patterns of extinction caused by glacial expansion and retreat (Armesto, Rozzi, and León-Lobos 1995; Donoso 1993).

[8] A related issue is that although Chile has a relatively well established national park system with approximately 18% of its land under protection, much of that includes "rock and ice" parks in the far south and many of the most diverse and vulnerable ecosystems are not protected under the national system (Armesto et al. 1998; CONAF 2002; Pauchard and Villarroel 2002). Environmentalist have been concerned with achieving greater ecological representativeness in protected areas and also with creating wildlife corridors between the state protected areas.

management has helped to slow the expansion of industrial forestry somewhat, many communities of the south are still struggling to gain a foothold in the neoliberal landscape of post-dictatorship Chile (Haughney 2006).

It next section, I describe the two projects that were the focus of my fieldwork and which have attempted, each in their own way, to navigate a more environmentally and socially just road to development than the path promoted by the state. For the purposes of this introduction, I will describe the projects and the organizations involved much in the way they present themselves to the public and to collaborating institutions. In other words, what follows is a sort of prescribed narrative of what these initiatives are all about, although this is merely a point of departure. It is the precisely these types of accepted descriptions that I will attempt to suspend and problematize in the rest of the dissertation.

Figure 1.3: A small landholder in the province of Valdivia surveys his land. The hills in the distance are covered with pine plantations and his land—a mix of pasture and forest—appears in the foreground. If the landholder is unable to continue earning a living from his property, his land would most likely be swallowed up by the surrounding industrial operations.

1.6 The Valdivian Coastal Reserve

The first project involves the property south of the Chaihuín River which I mentioned at the start of this chapter. In 2003, the last of the forestry companies to own the land, Bosques S.A,. went bankrupt and their property was sold at public auction. In November of that same year The Nature Conservancy (TNC) acquired the land for US$7.5 million, a deal that was arranged with help from the international environmental community, local environmental organizations, and FleetBoston Financial Corporation, the largest creditor of Bosques S.A. In 2005, the 275,000 acre Valdivian Coastal Reserve officially opened to the public (figure 1.4).

Figure 1.4: Map of the Valdivian Coastal Reserve (Image courtesy of the Valdivian Coastal Reserve)

For environmentalists, this was an almost unheard of change of fate for a landscape that had once seemed destined for eucalyptus plantations. And while many were relieved to see the land come under protection there was also a great deal of uncertainty about the long-term goals of the Reserve. This was The Nature Conservancy's first major conservation initiative in Chile and there was no road map to follow.[9] At the time of my research, the Valdivian Coastal Reserve (RCV) was still very much in the formative stages. A dedicated staff of Chilean nationals had been hired to oversee park operations and plan the long-term management strategy. There were several formative challenges on the agenda. One was simply dealing with the logistics of managing the extensive acreage—much of which is remote and inaccessible—with limited resources. A second major issue was figuring out what to do with the approximately 11,000 acres of the Reserve that were covered in eucalyptus plantations.[10] A third concern was managing the growing stream of tourists who were making their way to the Reserve despite relatively little infrastructure for visitors. Finally, there were issues of how to best accommodate the needs of neighboring residents, some of whom were insistent on continuing their long-standing practices of grazing cattle and cutting wood illegally within park boundaries.

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[9] The project ended up paving the way for TNC's wider involvement in Chile and throughout the Southern Cone.

[10] The ideal plan for these areas is to restore native vegetation but eucalyptus is very difficult to eliminate from the landscape. Trees that are cut send up shoots from the stump and most strategies for preventing growth are expensive and labor intensive. Just what should become of the eucalyptus sectors has been a point of contention among the wider community. Some local residents are eager to see these areas harvested, as this could generate jobs at least temporarily. Forestry scientists are interested in using these sectors to experiment with new management and restoration techniques. The Nature Conservancy has received criticism for their strategy to hold off on any action until they can gather more information.

The specific focus of my research was the efforts to encourage conservation and economic development beyond the park boundaries. From the beginning, TNC has been vocal about extending benefits of the Reserve to the surrounding rural communities. Through a partnership with the World Wildlife Fund, they helped secure financing through the GEF-UNDP small grants program for several conservation/development projects in the area. At the time of my research, specific projects were underway in four communities (table 1.1) all located along the Southern Coastal Highway in the municipality of Corral (figure 1.5). Each project entailed collaboration between a specific community group (often with just a handful of active members), a staff member from the Reserve charged with overseeing community projects, and outside technical consultants. In addition, staff from the World Wildlife Fund and UNDP-Chile oversaw the projects and administered funds.

Community	Project Title	Types of Activities Included in the Project
Los Liles	Territorial Organization in Los Liles	-Forest restoration and the development of forest management plans -Advancing infrastructure and services for ecotourism
Huape	Recuperation and Conservation of Environmental and Cultural Heritage in the Community of Huape	-Construction of a greenhouse for growing native plants -Forest restoration -Construction of a kiosk for selling local products and food -Apiculture -Training and environmental education
Chaihuín	Shoreline and Hydrobiological Resource Conservation in the Chaihuín River Estuary	-Constructing kiosks sale of local seafood -Shoreline restoration -Initiating plans for shellfish farming in the Chaihuín River estuary
Huiro	Women artisans and Non-Timber Forest Products in Huiro	-Developing a product line of herbal products and handicrafts made from non-timber forest resources -Design and construct a traditional Mapuche dwelling to use for cultural and tourist events.

Table 1.1 Four community-based projects near the Valdivian Coastal Reserve underway in 2007-2008.

Conservation and development through small-scale community grants were not new to these communities, and many had participated in similar projects before. What was different, however, was the partnership with the RCV and an emerging vision of rural development based out the ecotourism and conservation potential of the park. Ecotourism was well established in many areas of the country and was seen as a viable development option by many community members, funders, and local officials. There was much talk, for example, of how to develop and market an ecotourism route that would follow the coast and incorporate many of the rural communities along the road to the Reserve. Representatives of the community projects and the RCV even traveled to Coast Rica to learn about models for combining conservation and ecotourism (see Chapter 4). While there was excitement about the future possibilities for this coastal region, the community projects I observed were continually struggling to balance these visionary aspects against the everyday needs of the community members—jobs, income, reliable health, education, and transportation services. Transforming the coastal route into an ecotourism destination was still at best a dream.
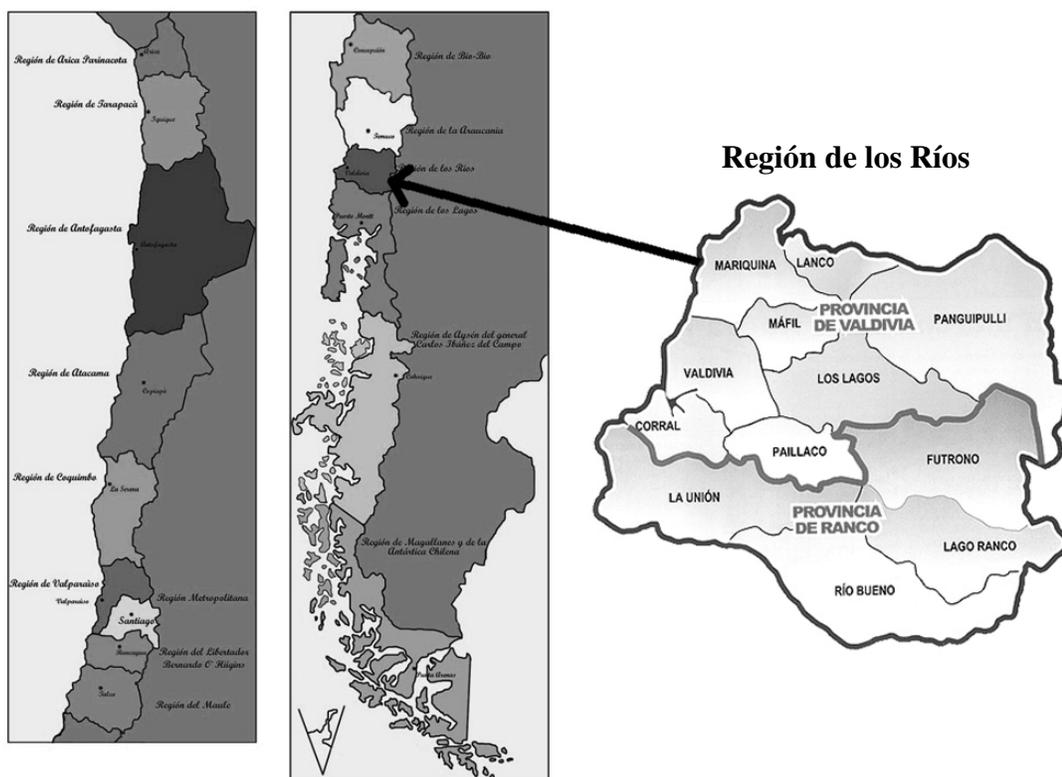
Figure 1.5: Map of the Región de los Ríos. Corral is one of twelve municipalities in the Región de Los Ríos (Region 14). It is bordered by the Pacific Ocean to the West, the Municipality of Valdivia to the North, Paillaco to the West, and La Unión to the South (Image from Intendecia Regional).

1.7 The National System of Firewood Certification

The second project relates to an innovative firewood certification program called the National System of Firewood Certification (SNCL). Firewood is the third most dominant energy source in Chile behind gas and oil. Many Chilean households burn firewood for home heating, and in the south as many as 90% do (Burschel, Hernández, and Lobos 2003). The firewood market is largely unregulated which leads to a variety of social and environmental problems. Most notably, without regulation of firewood production, native forests in rural areas have slowly degraded as wood is extracted—

legally and illegally—for sale to urban consumers.[11] SNCL is attempting to address this problem by creating a voluntary market of sustainably harvested firewood. Certification works at the level of firewood vendors who must comply with strict standards for environmental and social responsibility in order to sell wood that is approved under the system. Consumers pay a premium for certified wood but get a higher quality product in return.

The project was started in 2007 by a Chilean NGO called Forest Engineers for Native Forest (AIFBN) with funding from the European Union. While it now operates throughout Chile, at the time of my research the headquarters of the project were in Valdivia and the project was most active in the south where firewood consumption is the highest. As with the Reserve, I was most interested in how this initiative was impacting rural communities in the area. One of the supplementary programs of the certification project was to work with small landholders and to integrate them into the certified firewood market. Many rural households earn supplementary income by harvesting wood from their property and selling it to firewood vendors who then sell to consumers. The profit margin for the producers is often quite slim as vendors take a large cut, which leads to overharvesting and degraded forests over time. The goal of the certification program is to help these rural producers develop a management plan which will ensure long-term sustained yields and which allow them to sell their wood on the certified market thereby fetching a higher price. To this end, AIFBN employs small teams of

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[11] The other significant problem addressed by the system is urban and indoor air pollution. Wood burning in southern Chile has been linked to rising rates of asthma and produces visible levels of smog in many areas. One of the problems is that vendors, in an effort to earn a quick profit, sell wood that has not been thoroughly dried and which therefore creates more pollution when burned. For a vendor to be certified on the SNCL they must sell wood that with a humidity content of less than or equal to 25% of dry weight.

forest engineers to consult with landholders and help them with the technical and

bureaucratic aspects of forest management, as well as to generally promote development

and advocate for rural community members. AIFBN even helped found a cooperative of

small-scale firewood producers who pool their harvests to sell directly to consumers

thereby eliminating the middleman entirely. For the Valdivia office team, at the time of

my research these efforts were focused on the municipalities of Corral, Valdivia, and

Mariquina (figure 1.5).

Like with RCV, the forest certification program was in a formative stage during

my fieldwork. In fact, some staff of the AIFBN were dubious at first of allowing an

outside researcher to potentially jeopardize the somewhat tenuous relationships that were

being built with rural landholders. This meant that I had to tread cautiously, and there

were still many parts of these projects that I did not gain access to. Thus the account

offered in this dissertation should not be read as an evaluation or critique of these

projects, but simply an effort to better understand the practices involved. This is in part

why, in the chapters that follow, I don't attempt to trace either project in its entirety or to

narrate the initiatives from front to back, as I have done in a reductive manner above.

Rather, the chapters jump from place to place and moment to moment, following the

happenings of conservation work rather than any presumed temporal, spatial, or social

ordering. My goal is to advance an understanding of conservation as a criss-crossed

network of practices rather than as a procedure or process that moves linearly from start

to finish. I am also interested in the *qualities* of conservation practice that are ubiquitous

across different projects and not isolated to any one style of initiative or type of activity.

I should also note that even though I refer to the RCV and SNCL as "conservation" or "natural resource" "projects," they do not fit those titles in any simple way. Rather these terms are shorthand for much more complicated assemblages of ideas, motives, actors, and processes that are overlapping, contradicting, and perpetually changing. The goal of the dissertation is precisely to complicate the ease with which we label and categorize socio-environmental practices.

1.8 Outline of the Chapters

Each of the following chapters takes a thematic slice into the role of practice in conservation. I begin in Chapter 2 with a re-examination of the politics of vision and representation in conservation projects. An important contribution of political ecology has been in developing sustained critiques of the visual culture of environmentalism, showing that the images through which we depict environmental struggles are never neutral and always reflect cultural biases. I attempt a different spin on this critique by asking what happens when we think of visual culture not just as a set of representational debates, but as an embodied practice. I go on to show that it is quite difficult to separate out visual politics from the physical activities of people engaged in the environment. In particular, it forces us to develop a politics of vision that is much more tied to embodied *movement* than has been previously assumed. In Chapter 3, I bring another central area of political ecology critique into the discussion: the politics of environmental knowledge, especially clashes between "expert" scientific and "local" indigenous knowledge. Political ecologists have argued that one of the problems of community-based

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conservation is that too often it involves imposing scientific modes of understanding on local groups whose indigenous forms of knowledge are not equally valued. While there has been extensive debate about the relationship between power and knowledge in conservation, what often gets ignored in these discussions is the role of embodied skill in constituting environmental know-how. I argue in Chapter 3 that what we *do* is intrinsically linked to what we *know*. Following the skillful activities of people involved in conservation not only complicates the categories we use to distinguish one type of knowledge from another, but calls into question our very understanding of how environmental knowledge is formed.

While Chapters 2 and 3 are generally focused on what might be considered capabilities of the individual, Chapter 4 looks at how collaboration works in conservation projects. Although there has been considerable discussion surrounding the problematic use of the term community within grassroots conservation initiatives, I argue that these discussions again have neglected the embodied, relational aspects of practice. Using the example of an international fieldtrip from Chile to Costa Rica, I develop a performative understanding of togetherness which I call "associating." Many critiques of community-based conservation do not go far enough in disrupting the problematic logic of community with its normative, transcendent tendencies. Paying closer attention to the relational and emotional qualities of practice allows us to conceptualize collaborations not for or against particular understandings of community, but rather as the on-going working out of togetherness. Finally, Chapter 5 addresses a quality of practice that is given little acknowledgement in the earlier chapters: repetition. Chapters 2-4 all

emphasize the novel and serendipitous qualities of conservation practice, stressing the ways in which projects often disrupt our preconceived ideas. In contrast, Chapter 5 deals with the mundane, routine, and habitual aspects of conservation work. It speaks to the sometimes frustrating tedium of trying to move projects forward. Using the concept of the refrain from Deleuze and Guattari, I explore how such tedium is actually part of the creative process of conservation. Indeed it is precisely the backdrop of routine that allows for new, generative possibilities to emerge. I conclude with a discussion of the limitations of, and future possibilities for, embodied practice approaches to conservation and resource management.

CHAPTER 2: SEEING

2.1 Troubling the Gaze

Numerous critiques of the visual culture of conservation and environmental management have emerged in geographic literature over the last fifteen years. Scholars across the social sciences have convincingly shown that representations of peoples and environments, whether from scientists, environmental advocates, or media spectators, are imbued with power. Conservation's visual culture, they argue, not only normalizes ideal environmental subjects—pristine natures, benevolent locals, and expert scientists—but it also contributes to the exclusion of marginalized groups from the conservation process when they lack access to representational technologies of their own (Braun 2002; Kosek 2006; Wainwright and Bryan 2009). Undoubtedly, we have gained a great deal from the study of how we see and represent the environment. Visions of the earth and its inhabitants—romantic forest scenes on the back of tourism pamphlets, NGO propaganda infused with pictures of "authentic" indigeniety, remotely sensed images depicting the "facts" of land management—can no longer circulate free from scrutiny. A generation of scholars well versed in visual methodologies has seen to that.

The concern of this chapter, however, is what we might also be missing in our vision-centered approaches. In particular, I suggest that in advancing critiques of vision and representation within environmentalism, scholars have tended to neglect everyday mobility and active engagement in the environment and to reinforce misconceptions of vision as static and passive. The visual has overwhelmingly been critiqued for its *distance* from lived reality—the fact that images tend to be fixed and partial, freezing

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time and space in an abstract two dimensional plane vulnerable to subjective ideological biases, manipulation, and hegemonic agendas. What is sometimes ignored, however, are the physical and material conditions that make seeing possible in the first place. The most basic of these physical conditions—the simple fact our eyes are implanted in our skull which is attached to a living, breathing, and *moving* body—has been especially overlooked. Recent work on active perception in the cognitive and social sciences, however, has convincingly shown that this decoupling of sight from embodied movement is rarely if ever possible. Seeing is not, as we often assume, simply a mechanistic faculty through which light is translated into mental pictures—our eyes are not just instruments of the perceiving brain. Rather vision is a type of active attunement to the world, a physical exploration of the lived environment (Ingold 2000; Noë 2004).

This quite simple observation opens the door for rethinking visual politics of the environment. Instead of conceptualizing visual culture as a series of ideological claims and power bids transmitted via images and along lines of sight, we can think of seeing as an *event* through which social life takes shape. By event, I mean a performative encounter in which humans and non-humans, ideas and materials, skills and affects interact in real time. While many scholars of the visual have unpacked the material conditions *around* seeing—the technologies, spaces, and subjects involved—they fail to materialize the act of seeing itself and thereby portray the moment of the gaze as a static, one-dimensional operation, much like a light turning on or off (see for example Braun 2002). In contrast, this chapter attempts to better understand acts of seeing themselves. The formulation I advance draws particular attention to the way that perception happens

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through movement. In fact, these are so intertwined that environmental projects might be best understood as functioning through a "visual-mobile complex" rooted in bodily acts of seeing and the everyday mobilities—walking, driving, riding on a bus—that people use to get around. One of the most surprising findings of my research was just how peripheral (no pun intended) visual culture and representational politics were to the everyday functioning of conservation projects. Not because seeing was not important—it was of course everywhere present in the interactions I observed—but because the visual did not exist as a separate realm that I could unravel with visual methodologies alone. Vision was everywhere tied to *doings* and to *goings* of project participants as they interacted with environments, materials, each other, as well as ideas, beliefs and cultural norms.

In advancing this analysis, I do not suggest that we should altogether ignore the ideological polemics or representational politics of conservation. Rather I propose taking a cue from non-representational theory and mobility studies and infusing the mainly "static ontologies" of visual critique with a metaphysics of eventfulness and movement (Anderson and Harrison 2010; Frello 2008; Massumi 2002; Urry 2007). This also means displacing what Wylie (2006, 519) refers to as the "spectatorial conception of vision" dominant in Cartesian and Kantian thought, which assumes a detached seeing subject with a more contingent, emergent understanding of sight. In short, I attempt to suspend ideological debates around how we *view* what is right and good for the environment, and ask questions instead about just *what and how* we see when we do conservation work.

Using examples from community initiatives associated with the National Firewood Certification System and the Valdivian Coastal Reserve (see Chapter 1), this chapter challenges our understanding of the relationship between visual culture and environmental projects. As a jumping off point, section 2.2 reviews scholarship on visuality that came to the fore during the cultural turn in the social sciences and examines the impact of that scholarship on environmental thought. Section 2.3 then complicates those perspectives by looking at the performance of visual culture within a community-based conservation project located near the Valdivian Coastal Reserve. I look at how the visual culture of conservation is intimately intertwined with everyday "acts of seeing" that emerge within the life of the project. In section 2.4 I further explore the embodied, performative nature of vision by examining theories of active perception. Here I show that rather than distancing subjects from lived realties, vision actually ties body, mind, and world together and dissolves boundaries between each. Armed with a new outlook on vision, section 2.5 interrogates representations themselves and challenges the idea that material images are stable repositories of knowledge and ideology. I turn to the use of satellite imagery within the firewood certification project, and show how representations are themselves performed, their meaning fluctuating in relation to the happenings of the project. In section 2.6, I explore how rethinking representations also helps move us away from an overstated emphasis on subjectivity of observers. Finally, I conclude with some thoughts as to how attending to the performative visual culture of conservation can help move us way from the paralyzing image wars of environmentalism.

2.2 Environment and the Centrality of Vision

Why did vision become so central to the way we understanding the culture of conservation? The answer to that question goes back perhaps as far as the emergence of an ocularcentric Western philosophy and the rise of the rational perspective during the Enlightenment (Fyfe and Law 1988). Since then, although challenged by various philosophical traditions, the primacy of vision and specifically of Cartesian perspectivalist sight has dominated understandings of perception (Levin 1993). There is a common sense assumption in our society that vision is the master sense, the one that most influences how we find meaning in the world (Jenks 1995). Naturally then, vision would be the obvious starting point for any analysis of environmental projects as what we understand about the environment, conventional logic goes, is largely influenced by what we can see (Rorty 1980).

Implications of this ocularcentricism for environmental politics have come into focus more recently however. A few decades back, the social sciences went through a cultural turn in which taken-for granted assumptions, beliefs, and practices of social life began to be scrutinized in new ways. The sphere of culture expanded to include previously neglected domains such as discursive constructions of identity, representational politics, and systems of knowledge production. Visual culture was of particular interest given new types of media and technology—personal computers, high resolution TV, computerized mapping, satellite imagery—that were arguably making everyday life more saturated by representations and turning all of society into a what Virilio (1994) calls a "vision machine." One of the critical insights of this turn was that

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vision is not a neutral point of access to the world, but rather is tied to systems of cultural production and exchange which are invariably imbued with power. Gillian Rose (2001), who was at the forefront of the visual revolution, has this to say about vision:

> We are, of course, surrounded by different sorts of visual technologies—photography, film, video, digital graphics, television, acrylics, for example—and the images they show us—TV programmes, advertisements, snapshots, public sculpture, movies, surveillance video footage, newspaper pictures, paintings. All these different sorts of technologies and images offer views of the world; they render the world in visual terms. But this rendering, even by photographs, is never innocent. These are never transparent windows on to the world. They interpret the world; they display it in very particular ways. (2001, 6)

Methodologically, Rose proposes examining three sites of visual culture: the site of the production of the image, the site of the image itself, and the site where the image is viewed by an audience. Each of these sites, she claims, is surrounded by various "social and political relations, institutions, and practices" as well as technological and compositional strategies. Seeing therefore is always constrained and altered by the "scopic regime"—the cultural and ideological constructs—that are in place at any given time (see also Crary 1990; Jay 1988).

Much of the scholarship on visual culture has been concerned with the specific political effects of these scopic regimes as they come into contact with new visual technologies and representational practices. To mention just a few themes in the literature, vision has been shown to order the world according to specific scientific logics (Latour and Woolgar 1986; Lynch and Woolgar 1990; Pauwels 2006), to discipline citizens along institutional and state agendas (Foucault 1977), to perform a "God Trick" that allows for the illusion of seeing from nowhere and everywhere at once (Foster 1988;

Haraway 1991; Rorty 1980), to reinforce masculine, heterosexual claims to power (Lewis 1997; Rose 1986), to normalize ideas of beauty and body image (Balsamo 1992; Jacobus, Keller, and Shuttleworth 1989), to create distorted Orientialisms and reproduce colonial orders (Alloula 1986; McClintock 1995; Mitchell 1992; Said 1978), and to extend dominant imaginaries of race, ethnicity and whiteness (Golden 1994; Read 1996). In short, scholars have quite successfully unpacked what Haraway (1992) calls the "political semiotics of representation" within historically specific regimes of vision.

Many of these lines of analysis have overlapped with scholarship on the environment. The cultural turn in the social sciences coincided with a wave of critical accounts of environmentalism. The environmental movement of the 60's and 70's had lost much of its shine and scholars were beginning to paint a more muddy and complex picture of "save the earth" paradigms. Political ecology became the gathering place for many of these accounts and in searching for new ways to decipher environmentalism's cultural influence scholars turned to the emerging visual methodologies. And rightfully so. Environmentalism was and is waist deep in the type of representational politics that visual methodologies are adept at untangling. We might loosely classify three primary approaches scholars have taken in attempting to unpack environmentalism's visual culture.

First, scholars have looked at media and popular imagery surrounding the environmental movement (Adam, Allan, and Carter 2000; Anderson 1997; Gunster 2004; Smith 2000). For example, Dunway (2008) points out that new types of representations emerging around the first Earthday in 1970 had a profound influence on attitudes toward

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the environment and instilled a set of visual icons in mainstream America. He focuses on three types of images—the comic strip *Pogo*, photos of people wearing gas masks, and images of the Ecological Indian—that were important in popularizing environmental concern. He also argues that in emphasizing individual moral conduct, this visual iconography tended to water down more radical messages about structural change and social difference. Imagery of gas masks on mothers and children, for example, contributed to a new "visual lexicon of environmental apocalypse" (74) in which the end would come through a gradual polluting of the environment. Although this brought connections between the environment and individual bodies into popular consciousness, photos primarily depicted white people and families. Audiences were encouraged to perceive pollution as a generalized threat and to ignore the unequal distribution of contamination thereby reproducing ongoing racial and social injustices. More recently, the internet and social media have allowed the types of iconic images discussed by Dunway to spread further and faster so that environmentalism increasingly operates in a global visual field. Environmental NGOs, for example, are adept at using images of charismatic species and pristine environments and to enroll donors and project their own image as benevolent guardians of nature (Doyle 2007; 2011). Moreover, new global environmental problems such as climate change have brought both emotionally charged representations (stranded polar bears, melting glaciers, withering fields) and scientific visualizations (charts, graphs, animations) together to influence public opinion about the "real" state of environmental affairs (Doyle 2009; Rutherford 2011).

A second major area of concern regarding the visual politics of the environment has been the evolving technologies used to see and order nature. Halsey (2004), for example, argues that way we see nature is heavily influence by the modern "industrialization of vision." Discussing the polemics of forest conservation in Australia, he describes this industrialization as follows:

> What it is possible to see…has been usurped by the power residing in the arrival of successive ocular prosthetics. First came binoculars (bringing distant and hazy images into focus), then surveyors' instruments (leading to 'the gridding of Nature'), then microscopes (enabling 'Man' to see the very 'essence' of forests as conglomerations of cells, lignins, fibers and the like), then aerial photography (establishing 'beyond all doubt' the lines which divide one forest type and growth stage from another), and finally satellite imagery (contributing to the capacity to watch growth rates, effects of fire, impacts of surrounding land use, and so forth…). (37)

A similar approach is taken by Demeritt (2001) who argues that statistical picturing of US forest resources during the Progressive-era justified new forms of environmental governance. A push to quantify forest resources and depict all of US forest resources as one finite entity represented a particular "enframing" of these resources as threatened by traditional timber practices. This led to the use of mathematical management techniques like sustained yield and also gave legitimacy to the political claims of conservation of the day (see also Boyd and Danson 2005; Mitchell 1991). In relation to more contemporary regimes of visualization, geospatial technologies have been shown to reproduce hegemonic control of landscapes by claiming a "seductively objective view of the world" (Dodge and Perkins 2009, 498). At the same time, these technologies have arguably led to the democratization of cartography and have been harnessed by community groups and indigenous peoples to visualize "alternative" claims to the environment—a processes

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often referred to as counter- or participatory- mapping. Just where power lies in conservation mapping practices is a complex question (see for example Colchester 2005; Hodgson and Schroeder 2002; Rocheleau 2005b). Still there is little doubt that these technologies have a profound effect on how we view the environment and how, subsequently, resources are ordered, exploited, and protected (Wainwright and Bryan 2009).

Finally, a third area of concern is how images of nature, whether contemporary or historic, have reproduced colonial power and led to the "othering" of peoples and environments. Some authors (Driver and Martins 2005; Miller and Reill 1996) take a historic approach and examine the legacies of early explorers bringing visions of exotic landscapes and cultures back to centers of colonial power—gazes that had important effects for building empires and subduing unfamiliar environments. Post-colonial studies, meanwhile, has generated abundant literature on the ways in which these same visual tropes continue to produce hegemonic narratives about how nature is managed and by whom (Braun 2002; Slater 2002; Wainwright 2008). Sioh's (1998, 2004, 2010) work on environment, development, and colonialism in Malaysia is characteristic of this genre. She has shown linkages between the possession of land, the proliferation of state violence, and the production of images, both in the sense of visual representations and discursive imaginaries. Sioh argues that Malaysia's colonial history and subsequent military struggles have not only led to vast physical reconfigurations of the Malaysian landscape, but have also instilled symbolic regimes which were and are used to legitimize violence against marginalized groups and exploitation of resources. This symbolic

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reordering has included efforts by colonialists to take what was considered an uncontrollable space, the jungle, and render it visible through "gridding"—mapping discrete sections of forest that could be brought under military control (2004). Echoing an on-going theme in the literature, Sioh's analyses bring attention to the ways in which visual techniques can be used to impose "grids of intelligibility" or specific discursive orderings of reality that facilitate domination and oppression (see also Foucault 1994).

All the studies mentioned here have contributed greatly to the way we think about environmental politics and the visual culture of things like conservation, resource management, and eco-tourism. Not only do they show that the visual techniques of environmentalism are never neutral, but they also show how historically specific material conditions around vision—technologies available, image format and circulation, position of subjects in relation to a visual field—influence what and how we see. However, in critiquing the visual they have tended to make two reductive moves which have perhaps led to oversimplifications of the cultural politics of the environment. The first reductive move is to accept rather too naïvely the biological underpinnings of vision, and in particular the relationship between the perceptual system and interpretive mind. Even though many of the authors cited above critique the simplistic Cartesian view that our bodies—including our optical systems—are merely the infrastructure for the rational mind, vision is nevertheless generally assumed to follow the story we all heard in eighth grade biology: light refracts through the lens of the eye, a replica of the outside world is projected upside-down on the retina, and the resulting image is sent to the brain for processing and interpretation, which then leads to behavioral "outputs" (actions). In this

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model, culture works on the front end in influencing what sphere of reality enters the field of view and on the back end where images are interpreted and acted upon. However, the middle section where images are formed (inside our head as the story goes) is largely left as a black box. So while cultural representations are given critical scrutiny, the biological "facts" of perception are accepted rather unquestionably.[12] This simplification is of course quite ironic given that a central concern of many of the critiques listed above has been to disrupt taken-for-granted conceptualizations of "nature."

New research on vision and perception has brought conventional models of perception into question. Purves and Loto (2011, 14), researchers in neuroscience and ophthalmology, contend that "despite extraordinary knowledge about the anatomy and physiology of the visual system, the way in which we generate perceptions remains deeply uncertain…why we see and what we do remain in many ways as puzzling today as it was for the natural philosophers who thought about these issues centuries ago." Although currently there are many competing theories of visual perception, research on "active perception" has been gaining significant traction of late. As I will discuss in section 2.4, this research shows that perception relies on active, embodied engagement in the environment to a far greater degree than previously assumed. Not only do these findings complicate the perceived banality of perceptual physiology, but they also bring

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[12] Note for example the common convention within the literature of distinguishing vision from visuality. According to Foster (1988), vision refers to human optics, the actual process of seeing and perceiving, whereas visuality is the cultural construction of vision—the framing of what and how we see (see also Rose 2001).

attention to residual misconceptions of vision as the static processing of the outside world that plague studies of visual culture.

The second and related reductive move is to bracket out vision from the performative lifeworlds of seeing subjects. Analyses of visual culture tend to sideline the phenomenological aspects of seeing—the actual looking, watching, reading, and examining that happen in particular moments and particular places. For example, I might analyze how a map portrays normative claims about a cultural group and highlight the visual features that reproduce such claims (territorial boundaries depicted as fact when they are actually contested for example). I might also discuss how people come to see this map and what that means for the way it is read and by whom (for example whether it is displayed on a website or in a gallery, whether it is easy or hard to access, and so on). Both of these modes of analysis would be very different, however, from interrogating the actual experience of seeing the map. How I understand the map at any given moment might be influenced by what else is going on the in room, where it is positioned in relation to me and my movements, who else is looking at it, how good my eyesight is, and whether or not I can touch it, click on it, or turn it upside-down. That is to say, seeing involves a set of bodily practices that are not solely artifacts of cultural production.

The end result of these two forms of reduction is that seeing subjects, even as they are positioned in relation to ideological terrains and embedded in cultural life worlds, are distanced from actual physical terrains and experiential life worlds. The viewer is situated outside the visual field rather than in it, the gaze a motionless pathway between

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the interpretive brain the real-world environment. That is not to say things like practice,

embodiment, and active engagement in the environment are ignored altogether in the

literature of visual culture under discussion. On the contrary, you will find many

references to things like visual practices (Rose 2001) or embodied subjects (Haraway

1991; Rose 1986). The difference however is that these bodies and practices are often

portrayed as corollaries to, and effects of, already existing ideologies or systems of

cultural production. For example, the embodied practices involved in map making—

surveying, recording GPS points, manipulating spatial data—are understood first and

foremost as the outward expression of preexisting cultural and ideological tendencies—

scientific reasoning and Cartesian notions of abstract space—rather than as open-ended

processes through which ideas and culture take form. Embodiment becomes important

insofar as it reproduces or challenges certain pregiven understandings of gender, rather

than as a generative condition of lived encounters. This is not to say that we should reject

the cultural politics of vision as advanced by the scholars discussed here. Rather, in

conversation with other recent studies (Büscher 2006; Dewsbury 2003; Roth 2009; Wylie

2006), I explore how we might infuse those politics with an understanding of vision as

active, moving, contingent, and open-ended and to imagine what this might offer for

environmental projects. It is to these topics that I now turn.

2.3 Acts of Seeing

*On the recording I hear two overlapping rhythms: the pat of boots on loose
gravel—crunch, crunch, crunch—and above this the steady in and out of mildly exerted
breath. Both sounds have a beat, a pulse, but the breath is more constant and flowing
whereas the footsteps are interrupted, one from the next. The effect of the dual rhythms is*

mesmerizing; the sound draws me in and folds around me. There is something steady and grounded about it, almost comforting, but at the same time there is a sense of advancement, of proceeding forward and being pulled along: the going somewhere of boots, the climbing uphill of breath.

After awhile I hear the voice of a woman faintly in the background. She interrupts the walking noises with a question, "What's this?"

A man's voice responds, "That is…that is…a…it's called espinillo.*" The voice is loud and present. By the sound of it he is middle-aged or a slightly older. He goes on, "the fruit isn't edible. And it also has dangerous thorns. It's really not useful for anything at all. Look here at this…look at the thorn it has!"*

The woman speaks again. "What about the animals, do they eat it?"

"Well, maybe the birds eat the fruit. I guess it could be good for that."

I hear her laugh softly, amused with the idea. Then the walking continues. Crunch, crunch, crunch…. The recording has an ethereal quality. Wisps of sound float in and out of focus. Insignificant noises are amplified. Voices are sometimes loud, sometimes muted. Distance is distorted.

A minute passes and then over the sound of walking I hear a low whistled weeh every fifteen seconds or so. Just a single note, one clear tone.   Perhaps a bird is sending a warning. Perhaps it calls for its mate. Soon two other voices come into earshot. They are men's voices. They sound deliberate, purposeful, youthful.

"Did you notice what time it was when we left?" asks one.

"12:05" says the second. They chat for a minute about how long the walk will take. The first one discusses the GPS unit and seems to be having trouble connecting to the satellite. He suggests that maybe the batteries are low.

Abruptly their conversation is gone, carried off down the trail. The older man is walking again. He coughs a little. "We'll be back at 3:00…2:00 more or less" he mumbles, as if thinking out loud.

A minute passes and then he speaks again. This time the words are more of a struggle as his breath has become heavier, more labored. "This is canelo*. Since I've lived here, I've noticed that this tree grows really fast. It seems to be one of the fastest growing trees. And look…over here is a fern. A while back, when we were working on our first project, a gentleman from the forest service came to visit this property. He told us there were more than 30 species of fern here. We—those of us who live here—don't really pay too much attention to these species because we see them all the time. But when someone comes and sees them for the first time…."*

2.3.1 Los Liles

The soundscape above depicts an ordinary encounter in the life of a conservation

project. The scene took place in a small coastal village called Los Liles, which is one of

the four communities working with Valdivian Coastal Reserve to implement conservation and development projects. As the crow flies, Los Liles is not far from the regional capital of Valdivia, a bustling town of about 150,000, but it often feels worlds away. Most households in Los Liles get by through a mix of livelihood practices: harvesting local resources including forest and marine species, small-scale agriculture and livestock production, and seasonal wage labor. Fishing was once more dominant in the local economy, but the last several decades have seen declining marine resources (due both to industrial and artisan overfishing) and households have had to adjust either by migrating to cities or by finding new, creative ways to make a living on the rural landscape. Small-scale conservation and development projects have been important to developing new infrastructure and skills for diversifying rural livelihoods. In communities like Los Liles, many residents are now accustomed to applying for various grants, initiatives, and development schemes supported by national and international funding agencies and aimed at alleviating rural poverty.

At the time of the recording transcribed above, a group of about seven households in Los Liles that had organized into a community cooperative were participating in a conservation and development project. The goal was to restore degraded forests on local properties and implement strategies for generating income via tourism. The hope was to capitalize on the growing stream of tourists who were traveling through Los Liles en route to the Valdivian Coastal Reserve. If they could persuade tourists to visit the small community and sell them goods and services, it would mean added income for the community and less pressure on the local natural resources. At the same time, a goal of

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the project was to restore and manage the local environment to provide both the 'nature' that visitors would expect and resources for producing artisan goods. To this end, the cooperative had used funds from the project to set up a carpentry shop where they could make furniture from local timber to sell to tourists.

Don Patricio, the older man on the recording, was one of the leaders of this project. His property sat on a steep hillside next to the road and was well poised to become a wayside tourist stop. His land was a mix of grazing pastures, orchards, and remnant native *olivillo* forest, a long-lived tree species that grows primarily on the rugged slopes of Chile's southern coasts. Circumventing the property was a well-established walking path that passed through lush groves of *olivillo* and gave outstanding views of the coast (figure 2.1). He and his family could offer guided tours of the land and serve homemade refreshments to visitors. If other members of the community did the same, they could establish a small network of rural tourism. Participants in the project were in close collaboration with staff from the Reserve as well as other outside consultants who could give technical advice on forest restoration and ecotourism marketing.

Figure 2.1: View of the coast as seen from the *mirador* or scenic overlook along Don Patricio's hiking trail. His homestead is visible below.

The main purpose of the hike described above was to explore Don Patricio's property and exchange ideas about the potential direction of the community-based project. The two younger men on the recording, Gustavo and Mauricio, were students of tourism and forestry respectively at Austral University in Valdivia and were doing an internship at the Reserve. They were eager to assist Don Patricio and apply their areas of study to a real community project and thus came full of ideas and insights. They had also offered to collect GPS data and to make a map for Don Patricio of the hiking path that he could use in promotional materials. Don Patricio in turn was happy to get the free help. He was keen to see the project succeed but did not always know the best way forward nor did he have tools like GPS at his disposal. He also enjoyed showing off his land to visitors and was always full of stories about rural life on the coast.

2.3.2 Envisioning Conservation

In a symbolic sense, one could argue that the gaze of spectatorial vision infused many aspects this community-based project. The hike described above culminated in a *mirador* or scenic overlook with outstanding views of the *borde costero,* the coastal rim, where deep green forests meet the vibrant blue of the ocean (figure 2.1). Indeed the success of the project in many ways rested on selling this visual spectacle to passersby, commodifying a view of physical terrain and the unique ecology it contained. Tied to this was the idea of giving visitors a brief window into the rural life of the coast, a life that looked tidy and quaint when seen from above and distanced from the complex realities—alcoholism, illness, intra-community feuds, crime, abuse—that burden life in Los Liles. Metaphorically, vision was also a running theme throughout the development of the project. In meetings and workshops there was much discussion of how to make the project visible to public, and how to portray the combination of forest management and tourism they were implementing. There was also much talk of how funders would see the project when they came to examine and evaluate progress. What visible signs of forward momentum would they have to show? How might building new infrastructure, purchasing tools and supplies, or preparing maps and plans give the impression of advancement? How would the project look to outsiders? Finally, there were a smattering of representational objects that might give clues as to how the project was imagined by participants or how various subjects envisioned their role and identity. For example, at the community building in Los Liles where most of the meetings were held, a large banner advertising the project hung by the side of the road. The primary image on the

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banner was an aerial view of the Reserve (a good ten miles from Los Liles) showing a

famous beach and lagoon that symbolized the broad vision for development and

environmentalism along the coast (figure 2.2). There was also a pamphlet advertising

rural tourism in Los Liles, which had been designed with funds from a previous grant.

The pamphlet depicted Los Liles as an idyllic tourist destination where visitors could

"observe and participate in farming activities and hike through captivating olivillo

forests," a claim that normalizes the often awkward and problematic tourist-host

relationship. Lastly, there was an array of digital photos and power point presentations

scattered among the personal computers of various collaborators, which were perused

from time to time but mainly gathered virtual dust.

Figure 2.2: A banner that hung outside the community building in Los Liles advertising the community-based project. The background photo shows an aerial view of the Valdivian Coast Reserve, a view that has come to symbolize development based on environmental protection.

Despite all this, if you went looking for a political semiotics of representation in

this particular conservation endeavor, you would be quite disappointed. Although visual

culture was present, it did not define the initiative. In fact, the discursive types of

envisioning described above are better understood as emerging from the performative

happenings and activities of the project. For example, although visitors were attracted to

hike by the promise of a scenic overlook at the end, the vista was not simply an isolated,

static visual occurrence. The overlook was attached to an active endeavor, a hike. The

looking out on the landscape was influenced by bodily states as tired legs reached the top

of the climb, the weather patterns that day against the contours of the vista, and the state

of the vegetation in the particular time of season. Community meetings were complex

emotional and affective events, almost ritualistic ceremonies in which various bodies

gathered in the small wood community center and sat on benches drinking tea and eating

bread. Discussions of seeing and being seen arose in relation to particular conversational

threads within the meetings, themselves influenced by who was in the room, the time of

day, and the mood of the group. When representatives from a funding organization came

to evaluate the project they didn't just *look* at the project from a detached vantage, but

roamed around the scene, touching tools, walking over the landscape, tasting local dishes,

and immersing themselves in the "feel" of the place. Even representational objects such

as the banner or the pamphlet were significant not so much for their representational

qualities but for the way they were enrolled in particular encounters. The banner hung

day in and day out by the community building and was mainly ignored except when

visitors came and it became a point of discussion, a way to start conversation with

strangers. Copies of the pamphlet too sat tucked away in a box until they were needed

for a particular display or event, their visuality "activated" in relation to the goings on of the project.

In short, visual culture was not floating in some separate representational realm, not statically transmitting the ideological perspectives of image producers and viewers, but was actively emerging through the everyday working out of the project. The visuality of conservation here was not a series of signs and symbols awaiting subjective interpretation from positioned audiences, but rather a succession of visual *processes*—lookings, watchings, noticings, glimpsing, and gazings. It is precisely this eventfulness of seeing that is missed by the critiques of vision discussed in section one. Of course, one could argue that the particular nature of this project in Los Liles lends itself to a more experiential type of visual culture. The project was small-scale, low budget, and relatively unnoticed beyond a small group of participants. Therefore it lacked the type of representational warfare common to media-saturated environmental campaigns and high profile initiatives. While I would agree that this case is particularly impoverished in artifacts of visual culture, that does not mean seeing here is somehow more experiential than in other cases. All vision is an enactment of some sort. High profile projects may generate a greater amount of polemic imagery, but those images are equally tied to practical activity, even if that activity is as seemingly benign as staring at a computer screen.

So far I have been arguing that acts of seeing are performative events, emerging from the activities of the projects. In positioning sight *within* active life worlds, this begins to disrupt the notion that vision is a mechanical pathway between seeing subjects

and their *outside* environments. In the next section, I want to push this argument further

by taking a closer look how perception functions. I will begin by leading us further down

the Los Liles hike but then detour into the black box of our perceptual brains, showing

how the *doing* and *going* of the hike has much more do with sight than we might

otherwise assume.

2.4 Active Perception

…His voice trails off and I hear footsteps again. Walking. Climbing uphill now. Above the footsteps a second bird chimes in on the same note as the first and the pair begins calling back and forth. Then abruptly, as if coming around a turn in the trail, I hear the two younger men again. They are midstream in conversation.
"This is tupa rosada… Lobelia bridgesii,*" says the first one. His voice has a theatrical ring, as if he is presenting to an audience or a classroom. "It's in the same family as the one with red flowers, if you know that one:* Lobelia tupa *or devil's tobacco." There is some chatter back and forth about the seeds and life cycle of the flower and then they are off again, some unknown agenda hurrying them along.*
In the quiet, I notice a new sound which had only registered as a background noise under the conversation: running water. It is unmistakable, a complex liquid gurgle that seems like many sounds in one, hundreds of separate water strands taking their own musical path. For a minute the water is loud and it overwhelms the recording—crossing a stream or passing by a waterfall—but then the sound fades.
The older man speaks again. There is excitement in his voice, "Look over there! An ulmo *is flowering. No, up there…you can just see it. Do you see? That's the flower they use for…."*
"Honey!" The woman's voice interrupts, finishing the sentence. There is pause. She formulates a question, "Have you worked in honey before?"
"No never, but I would like to try it," the man responds, breathing steadily. "I like any kind of work. I'm serious, any work at all. Agriculture I love…I love carpentry, furniture making, raising livestock, tourism…even fishing. I used to be a fisherman. I loved being on the ocean…fishing was such a joy for me. Some people only like to do one thing. I like to do a little of everything. To live in the campo *a person has to do a little of everything. You can't just do one thing." The tone is declarative and absolute, as if his statements could make the world less complicated than it actually is. "Look how pretty the* ulmo *is…," he concludes, his attention returning to the tree.*
I hear the rhythm of breath again but no footsteps. The path has changed from gravel to soft dirt and the boots are muffled by the soil. Soon I hear a new noise: thack, thack, thack—the unmistakable swish of a machete whacking back plants. Likely the espinillo *has grown over the trail, the long spiny shoots claiming the space on the*

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hillside. For the next several minutes I hear nothing distinct, just background noises I can't quite make out. A car passing by on a dirt road? Broken words from a distant conversation? A buzz. A click.

Finally the older man speaks again. "Here's a garbage can" he says. "We made that in the workshop. The wood is canelo.*" He sounds satisfied. This is important. A sanitary detail accounted for with careful craftsmanship.*

"Que bueno*" says the woman, "how nice." Something about the background noise suggests a pause in movement. Perhaps they are resting, catching their breath from the climb.*

The man goes on, pointing out something new. "This species only grows about as big as it is now, only about so high."

"What is it?" asks the woman.

"It's called picha picha. *When the wood is green it's really soft, but when it's dry it is hard as a bone. It's really strong…it is good for making handles for tools. This wood was really useful for the older generations, it was essential for making hand tools because it is so strong."*

The woman asks if also makes good walking sticks and the man affirms, "yes of course." The two younger men suddenly join in the conversation, as if they have walked up from behind, and they chat about the walking sticks and whether this would be a good idea for a product to sell to tourists. One young man says, "Ya, I see people arrive at the Reserve all the time with walking sticks, and not just a stick they've found somewhere, something they've bought…you can tell the stick has been crafted. Yes, this would be a good idea—walking sticks with the name Los Liles engraved on the shaft."

The older man interrupts, "This year we're going to work on making artisan goods to sell to tourists." Then he walks on, leaving the announcement at that. Thack, thack. The machete continues. I can hear shuffling sounds, the small rustles of clothing and packs on moving bodies. The group seems compact, close on each other's heels. The older man starts talking again, "One fruit that we have in abundance is mora. *The fruit is really delicious, good for making jam. "*

"Where do you grow mora*?" asks one of the young men.*

"No, it just grows naturally all over the place."

"It's an introduced species, a non-native."

"Yes, I know." The older man agrees and then continues, "This is one of the few campos *around here where* mora *grows. It doesn't grow down in Chaihuín. Here on this* campo *we must have some of the greatest variety of species. And it's easy to get here, very accessible. To get to the Reserve you need a vehicle, it's really far, and you also need to go with a guide. We are much closer. There are a lot of things we would like to do but we lack resources. We can't devote all of our time to working on this project because we have to work to survive, this is an inconvenience that all of us who live in the area face. Everything takes time and resources. You need machines, tools, and chainsaws. And sometimes we take wood from way up there on the hill. We have to carry it out on our shoulders, you can't bring oxen up there…."*

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Without pausing he changes topics, something new catching his eye, "Look at the board on this bench. It's not right. It is starting to twist from exposure to the sun. We'll have to change it…."

2.4.1 Rethinking Vision

Figure 2.3 shows a model of visual perception as it is conventionally understood by geographers and cultural theorists. Here perception is depicted as a linear process in which messages from the environment are filtered through the senses (the implication is that vision is our primary sense) and then transmitted to the brain for processing. In the brain, factual information about the real world mixes with subjective biases that come from individual personality and "culture," including things like attitudes, values, and ideology. The brain then forms "distorted" cognitive images of the world based on this mix of subjective and objective information, which in turn influences behavior (Knox and Marston 2010, 221). This model is entirely coherent with approaches advanced by scholars of visual culture. It acknowledges that there is no neutral access to the world, what we perceive is always translated and filtered through our cultural lenses and individual identities. This model also supports the implicit notion that the gaze is a sort of linear pathway, a computational translation that connects the world, eyes, and brain, all of which are assumed to be operationally *separate* (Clark 1998).
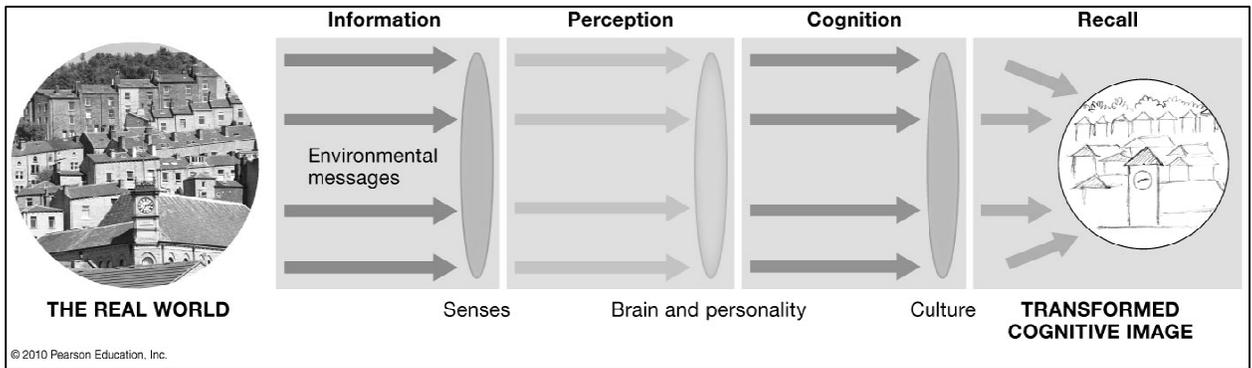
Figure 2.3: This model of visual perception, which appears in an introductory human geography textbook (Knox and Marston 2010, 221), depicts the conventional understanding of vision as sensory mechanism that transmits information from the environment to the brain for processing.

This model of vision, however, does not quite square with the vignette of the hike above. Paradoxically, by removing the visual from this narrative and *listening* to the sounds of the event we actually begin to get a sense of how visual perception works. First, the sound of bodily movement—boots on the trail, breath going in and out—is everywhere present. It seems that the scene is unfolding according to the rhythm of walking and pausing, pausing and walking. Second, although the actors are making deliberate observations about various landmarks, what they see is determined by where they are. Attention is cast about in the immediate surroundings, darting almost whimsically around. There is not a prescribed order to what is seen and when, rather seeing is directed along the lines of moving. Third, thoughts, memories, and conversational interactions emerge as bodies and objects come into contact. A memory surfaces as a plant comes into focus. A small fact or question becomes relevant to the objects at hand. These "recalls" in turn point back to the environment, urging the actor to move onward or to shift their attention somewhere else when the thought has passed. There is continual feedback between the environment and the person. Finally, the scene

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is characterized by a sort of distortion—we can't really tell how far the actors have gone

or where things are relative to one another. The picture is incomplete and warped; it is

always relative to the moving.

In short, the going and seeing here are intimately intertwined. This intertwining

is not merely incidental, rather it points to what some scholars claim is the fundamental

nature of vision. The anthropologist Tim Ingold for example, in his work on indigenous

livelihoods, makes the case we have gone wrong in assuming vision happens from a

position of rest, with the world around laid out as a spectacle for the gazing eye. Ingold

(2000, 257) states that "far from starting with incident radiation and finishing up with a

mental image, the process of vision consists in a never-ending, two-way process of

engagement between the perceiver and his or her environment. That is what we mean

when we speak of vision, colloquially, as 'looking' or 'watching'." For Ingold, vision is

not about spectating but about participating, not about information *coming in* but about

being out in the world (see also Gibson 1979; Merleau-Ponty 2006 (1945)).[13] He claims,

therefore, that we cannot consider visual culture without considering actual acts of

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[13] Ingold draws heavily on James J. Gibson's theory of ecological psychology. For Gibson (1979, 147),
perception is "not mediated by *retinal* pictures, *neural* pictures, or *mental* pictures" but consists of the
process of "information pickup that involves the exploratory activity of looking around, getting around, and
looking at things". Gibson also develops a notion of "affordances" which is often cited in studies of active
perception. Affordances are opportunities for action offered by the environment relative to the unique
animal in that environment: "an important fact about the affordances of the environment is that they are in
a sense objective, real, and physical, unlike values and meanings, which are often supposed to be
subjective, phenomenal, and mental. But, actually, an affordance is neither an objective property nor a
subjective property; or it is both if you like. An affordance cuts across the dichotomy of subjective-
objective and helps us to understand its inadequacy. It is equally a fact of the environment and a fact of
behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the
environment and to the observer" (ibid 129).

seeing: "what we see is always a function of how we see, and how we see is always a function of the practical activity in which we are currently engaged (Ingold 2000, 260)."

This account is consistent with the arguments of Alva Noë (2004), a cognitive scientist and philosopher doing work on "active perception." He contends that the connection between doing and seeing is not only politically correct, it is more scientifically accurate than conventional understandings of how vision works. In standard scientific approaches, he argues, the relationship between movement and perception is overly simplified resulting in an artificial division between the two. For example, science has tended to think of visual perception in terms of a photographic model. When the eyes/lenses open, light filters in and inscribes a static image of reality on the retina which is then interpreted by the computational mechanisms of the brain. Just like an actual photograph, this mental image is frozen in time and also represents the world as evenly distinguishable across a particular focal view. In this conventional version, movement is only instrumentally related to perception: "[moving] is like the relation between the lugging around of a camera and the resulting picture. The lugging is preliminary to and disconnected from the photograph itself" (ibid, 2).

Noë rejects this model for vision. He claims that the actual imagery we generate while seeing is quite different from a photograph. First, we do not perceive static, isolated representations but rather a continual stream of images. This is referred to as "optic flow" and is more comparable to a movie than a photograph. Second, these images are uneven; they blur towards the periphery of one's field of vision and catch details in some areas while generalizing in others depending on where focus is directed.

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They can also contain gaps, blind spots, and disparities. Finally, we do not take in a whole scene in one photographic instant but only take in small, isolated pieces at a time.[14]

This by itself is not particularly novel, but the next part of his theory is. It is typically assumed that the reason we see the environment around us as stable, clear, and continuous (as well as right-side-up) despite our distorted, patchy sensory inputs, is that the brain is able to fill in the gaps. By translating or processing the imagery inside our heads, we can assemble an accurate picture of the world. Noë also rejects this idea. He claims that this assumes seeing happens only with the eyes and brain, rather than with the *whole person* actively exploring their environment. Instead of arranging and translating pictures inside our heads, we see by visually probing the world through our actions—our eyes dart, our head tilts, we lean to the side to get a view, we walk to the other side of the room. The reason we do not make internal brain-based generalizations from partially formed images is that we rely on tacit practical sensory-motor understandings, what Noë calls skillful bodily activity, to access the content of the world. We continually take in focused bits of visual information as our physical activity necessitates. In this way, perception happens not all at once in a snapshot instant, but streams *in concert with our movement*. For Noë, even when we are at rest, the subtle tilting of our head and darting of our eyes keep this active streaming happening—vision for him is never a static endeavor.

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[14] At any given moment, the human eyes see less than 0.01 percent of the visual field in high resolution. We use "visual saccades" at a rate of about three per second to scan the field and gather information. The pattern of these visual saccades will vary depending on the type of information we are seeking to complete the task at hand (Clark 1998, 29).

From an evolutionary perspective, the strategy of visual streaming Noë describes makes sense. It is far more efficient, both in terms of speed and energy required, to take necessary information as needed from the environment rather than to continually store extensive representational data inside our heads. Another philosopher/neuroscientist working on the embodied aspects of cognition and perception, Andy Cark, explains that the latter strategy would create a "representational bottleneck" in the perceptual system (1998, 21). Our information processing centers would quickly be overwhelmed if we were constantly building symbolic models of the world in our brains and then sending signals to our bodies to respond. Instead, he suggests, our predominant strategy for everyday activity is to sample needed information from the environment and "sensitize" ourselves to the conditions we find through much simpler adaptive routines and feedback loops. He uses the example of a baseball player running to catch a ball to explain this (27). The player does not, as we might assume, anticipate the arc of the ball and deliberately place himself at the appropriate spot along this arc to intercept the ball. Instead, the player simply runs and unconsciously adjusts their speed and direction so that the angle between their gaze and ball does not increase, which will lead to an intersection (see also McLeod, Reed, and Dienes 2001). The latter strategy is computationally much simpler and faster.

Although the baseball player example deals with a very simple task, the general principle, that our perceptual system responds in intimate, tacit communication with our surroundings, applies to complex activities as well. I should also note that Clark does not

altogether reject the idea that we build representational models.[15] We use different

perceptual and cognitive strategies depending on what is needed for the task at hand,

including, at times, building mental models. Nor is he arguing that our behavior is

simply a rote reflex to environmental stimuli. We are still making conscious and

unconscious choices relative to what is happening in the environment. What he does

reject, however, is the idea that our brains operate like a disembodied "central planner"

rationally deliberating over vast amounts of symbolic information. Rather, we use

decentralized action-oriented circuits or feedback loops that are distributed across bodily,

mental, and environmental systems (see also Varela, Thompson, and Rosch 1991).

Perception, therefore, is not bounded by the biological organism but crosses into the

world. As Wylie (2006, 522) puts it, gazing is an "eventful actualisation and distribution

of selves and landscape."

The theories described here match with the soundscape depicted above. Although

we do not know what is happening inside the heads of the hikers, there are some clues

that they are actively engaged in their surroundings rather than busily building mental

models. First, there is a continual outward reference to things in the environment (like

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[15] Recently, Clark (2011) has critiqued strong versions of active perception like those developed by Noë (2004). Clark very much agrees with the basic premise that perception is active and embodied, but he thinks Noë dismisses rather too quickly the role of "cognitive labor" in determining our perceptual experience. He points to recent research suggesting that there might be dual perceptual streams, one geared towards action and another geared toward conscious visual experience. This does not necessarily mean that action and perception are separate, rather that the relationship between these streams is both more complex and more fragmented than proponents of strong active perception acknowledge. Clark concludes that "appeals to embodiment, environmental structure, and action need to be handled with care" (2011, 195). These issues, however, are by no means settled in the literature. There is in fact a vibrant debate involving neuroscientists, psychologists, philosophers, AI researchers and others about the nature of perceptive experience and about which theory, active perception or dual streams, is more accurate (see Gangopahhyay, Madary, and Spicer 2010). While I cannot claim to have all the details worked out here, my main argument that the relationship between perception, action, and environment is more complicated that is often assumed within cultural studies of vision certainly holds.

the flowering *ulmo*) including, it would seem, a physical grappling to get their eyes on objects, even as they discuss these in more abstract discursive terms. As Ingold contends, this suggests a reciprocal process of engagement between the perceiver and his or her environment. Also, rather than the hikers simply directing their ideas onto the visual field, the surroundings *elicited* their attention. Bits of activity would catch someone's eye here, or something else would get noticed there. Finally, all this happened not from a static vantage, but in sync with their hiking, pausing, and moving. There were not singular visual tropes that persisted throughout the hike, rather visual details sometimes fell away just as soon as they came into view taking the threads of conversation with them.

To sum up the viewpoints discussed here, brain, body, and world are not separate links in the perceptual chain, brought together along linear pathways of vision, but are always already in communication within a field of practical activity. Table 2.1 compares the qualities of active perception with understandings of vision implicit within scholarship on visual culture. Although these two columns are not mutually exclusive, they do suggest different ontological approaches to vision. Whereas the column on the left emphasizes how meanings are *translated through* visual signs and symbols, the column on the right foregrounds the ways in which meanings *emerge from* visual events. This latter formulation more closely matches the visual politics I observed in the Los Liles project and throughout the conservation projects I studied. Visual culture was very much tied to the field of practical activity in which people were engaged and thus was

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ultimately more complex, fleeting, nuanced, and contingent than what is portrayed in environmentalism's culture wars.

So far, however, I have been focusing on *acts of seeing*, the actual visual process, and have said little about *representations* themselves—the material maps, images, paintings, pages of text, and graphs that are an integral part of conservation projects. Surely these representational objects serve to stabilize meaning and align ideological perspectives? Surely technologies of seeing fix particular visual acts and events in time and space? In the next section I look more closely at representations and explore whether even these might be more active than we assume. To do this, and to compare a different set of visual events, I will move to the other project explored in my fieldwork, that of the forest certification system run by Forest Engineers for Native Forest.

Culture Studies of Vision	Theories of Active Perception
Disembodied: body is only instrumentally related to perception	Embodied: perception is a whole body activity
Emphasizes static positions	Emphasizes movement
Symbolic: tied to fixed signs and symbols	Eventful: tied to performative happenings
Distanced, spectatorial gaze	Embedded in a field of practical activity
Interpretive mind	Practically engaged mind

Table 2.1: Active perception draws attention to the eventful and embodied qualities of seeing as compared to the disembodied, symbolic qualities emphasized in cultural studies of vision.

2.5 Technologies of Seeing

On a cloudy February morning, I met two staff members of the Chilean NGO Forest Engineers for Native Forest at their central office in Valdivia. Blurry-eyed and grasping cups of coffee we piled into a red jeep that belonged to the NGO and drove toward the edge of town. For the forest engineers, this was typical excursion to the field. We were headed north of Valdivia, to a sector known as Llenehue. We were meeting a

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family there which was interested in developing a management plan for their

approximately 90 hectares of land. Iván, the staff member taking the lead on this project,

had visited the property several times before to conduct initial appraisals. Our task today,

however, was to conduct a forest inventory, a systematic sampling that involved

recording the quantity, size, and type of trees within a specific plot. These data would

later get entered into a computer program, extrapolated to the rest of the property, and

used to develop a comprehensive management plan.

We had a few supplies with us on the journey: tape measures, tree calipers, cans

of spray paint, snacks, and importantly a manila folder containing paperwork. Most

critical in this folder were several 8.5 x 11 inch sheets of satellite imagery that Iván had

pulled from Google Earth and printed off his computer back in the office. The paperwork

was tucked in his backpack and sat unnoticed for most the journey, bouncing around with

the other clutter in the jeep. Iván knew his way to the property and the satellite imagery

did not cover most of the drive. The trip took about an hour and half of winding through

dirt roads and snaking around the hills and ravines of the Coastal Range. When we

finally arrived at our destination¸ we were greeted by a small pack of barking dogs.

Coming over a rise we could see them running at us out of the mist that hung heavily

over the landscape. In the distance, we could barely make out the jagged edge of the

coast. In the foreground, long rows of drying firewood were awaiting sale to the first

vendor who came by offering a decent price.

We pulled up to the small two-room house and were greeted politely by five

family members and invited inside for tea. We sat inside for a bit, exchanging

pleasantries with the family before turning to business. Iván carefully explained the inventory process and why this step was necessary for the eventual goal of creating a formal management plan for the forest. To illustrate the how the process worked, he pulled out the satellite images and the other paperwork in the folder, including an incomplete management plan he had begun to draw up for the property. There was scant discussion of the specifics of the paperwork. The family well understood the purpose of the management plan and they were more concerned with probing Iván for information about the emerging certified firewood market. [16]

After we had finished talking, we headed up the hill to where pasture gave way to forest. We had recruited two brothers to help with the inventory and the plan was to divide into two separate groups and each survey four, 25 meter square plots of forest distributed along a transect with 70 meters between each plot. At this point, Iván pulled the satellite imagery from his backpack again and presented it to the team. With the pictures splayed on the hood of the jeep, we now took a closer look at the view they presented (figure 2.4). The images showed a patchwork of textures and shades of green created by forests of different compositions and degrees of intervention. Sections of mature primary forest and heavily exploited secondary forest had a slightly different look

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[16] Chilean law mandates that a formal management plan must be on file with the government anytime wood is harvested from a forest, even on private property. In theory, management plans ensure forest sustainability in that they regulate how much wood can be extracted from any given hectare, and a trained forest engineer is needed to draw up these plans. However, many small landholders lack the financial resources, social connections, or motivation to consult with a forest engineer and simply harvest wood without a management plan, which is technically illegal although they rarely face punitive actions. Or as is also common, landholders may simply not follow their management plan and harvest as they see fit. The firewood certification program discussed here is doing important outreach work in that they provide technical consultation free of charge and also develop on-going relationships with landholders. This tends to make for better forest management practices both on the part of the landholders and the consulting engineers as they can collaborate in working through specific economic, social, environmental constraints.

in the image. Pastures, clearings, white ribbons of road, and tiny grey square buildings

stood out from the patches of green forest. Also visible were topographical features:

valleys, streams, hills, and flat ground.

Deciding where to place the transects was crucial. We wanted a representative

sample of the forest, and wanted to avoid having to return for more data later. Studying

the images, Iván discussed the property in detail with the brothers. He had a rough idea

of where the transects should go based on previous visits and had even recorded GPS

points to mark potential starting points. Still, there was much talk of exactly how to

negotiate the terrain, what landmarks to look for, and how the satellite photo compared to

the ground view we would encounter as we headed out to survey the forest. Heads

together, Iván and the brothers poured over the maps for fifteen minutes or more. They

turned the paper this way and that, tracing features on the image and then turning to look

back at the forest, pointing in particular directions on the landscape. There was a

collaborative, problem-solving feel to this discussion, a piecing together of bits of visual

information and previous knowledge. It also became clear from the conversation that

there was no one definitive reference that could steer the inventory. Neither the satellite

image, nor the prior knowledge of landscape, nor even the GPS data points gave an

absolute "picture" of how the inventories would eventually take shape. As we headed

into the forest, we would need to make judgments based on what we saw and adjust our

plans accordingly.

Figure 2.4: Iván and the landholder pour over satellite imagery in preparation for the forest inventory. This scene is typical in the forest management work carried out by Forest Engineers for Native Forest.

2.5.1 Immutable Mobiles Remobilized

How are we to interpret the representational politics of the satellite image here? As I mentioned in section 2.2, a central concern within the literature on the visual politics of conservation and environmentalism has been the use of maps and mapping technology to reproduce hegemonic and counter-hegemonic understandings of environment. At first glance, the use of satellite imagery by the forest engineers above might be considered a prime example of a visual technology used to extend and instill a particular type of forest management knowledge and ideology (that of the scientific expert) on the landscape and the 'local' who lacked comparable technologies. The image itself allowed flattening, simplification, and abstraction thereby making complex real world systems—a network of hardware and software used to produce Google Earth images, an actual physical forest—legible and translatable according to the goals of the expert. The image also

served to stabilize particular 'facts' about the property—boundaries between forest types and the size of particular plots became visible in new ways. In short, the image could be argued to reproduce certain truths about the forest and the conservation process at hand.

Except that it did not exactly work like that. First, the satellite images were largely useless without time spent on the ground verifying what had been downloaded on the computer back in the office. This was true of this property and of virtually all the properties I visited with the forest engineers. It took extensive physical negotiation, extensive moving about on the terrain to make sense of the different textures, patterns, shadows, and shades that appeared on the two dimensional image. Even to find the exact imagery of the property and pull it from a database often meant going to the property first and deciphering which landmarks would be distinguishable from above. Thus from the beginning, engagement with satellite pictures was intertwined with practices of moving and going. Second, the images never stood alone in a static isolation from the embodied movements of the viewers. The images were always put into play in accordance to where viewers were going and what they saw as they went—the meaning of the representations emerged within the field of practical activity.

Compare, for example, the different ways the satellite image was *looked at* in the scene above. Sitting inside the house, the image was brought out among other paperwork to illustrate a process. The image was significant not for visual data it contained, but because was in a manila folder dedicated to the on-going development of management plan for that property. It was bought out briefly and shuffled around with other papers. Eyes perhaps glanced over the image, but it was not the object of sustained focus.

Viewers did not, in that moment, connect the image to the actual forests in any meaningful way. Later by the edge of the forest, the satellite photo was seen very differently. At this moment, with the forest in view and a team of workers gearing up for a practical task, a very specific set of visual details about the landscape came into view. The details of shadow and color on the image became a central focus of intense visual concentration. The piece of paper itself was touched and poked at length. Eyes darted from the image to the landscape and back again. It was not just that the viewers were *interpreting* the image differently, or that were producing a new *discursive reading* of the map, but their ways of actually *looking and engaging* with the image had changed.

As we headed out into the forest, the printout of the image itself was picked up and toted along as the group walked around. The image was used not so much for finding our way (the landholder's guidance was much more useful for that), but rather as a sort of talking piece. For example, we would notice a particular burn and refer the satellite image to see if it was visible, which might lead to a discussion of the age of the patch of forest. We might at times make marks on the map, noting features that we saw but which could not be deciphered from the satellite view. Not only were we re-inscribing the two-dimensional satellite data with embodied knowledge of the landscape we garnered from moving about in it, but we were actually using the image to help guide our visual practices. We were seeing the map differently based on our doings in the world, and doing differently based on what we saw on the map. Thus as we went, the boundary between the map, the physical environment, and the seeing subject was made fluid; all worked in an assemblage made possible by the practices of forest inventory.

This analysis concurs with Büscher's (2006) characterization of how landscape architects assess a site for proposed developments. She contends that despite professional norms which emphasize objective visual assessments of particular sites, landscape architects rely on embodied movement in the field to make sense of the plans and maps they generate. She describes the on-going (and often very difficult) process of translating designs generated in the office using high-tech software to actual field sites. While the designs often incorporate sophisticated visual representations that take into account the nuances of the terrain, it still requires extensive physical negotiation of the landscape to put these representations to work. At the same time, the maps and plans serve to orient architects in the field and provide clues as to which path to follow or vista to analyze. Büscher claims that this mobility and materiality of ground work is often neglected by architects and scholars who prioritize disembodied visual interpretations of the landscape and thus "accept the facticity of visualism perhaps a little too quickly" (282). To be clear, her rejection of visualism's facticity is not predicated on a critique of the cultural politics of visualization, but rather on its false assumption of disembodiment.

Pushing this idea further, Lisle (2011) makes a compelling case that our embodied encounters with images are more nuanced then we might assume. Discussing photographs from a Second World War photojournalist she argues, after Massumi (2002), that engaging with images is a multi-layered encounter, one that doesn't map easily onto our political expectations:

> Photographs are never 'still' repositories of meaning which autonomous viewers can simply cannibalize for the purpose of supporting a pre-existing ideological claim. Something much more unmanageable, unknowable and perplexing occurs in the moment of encounter—something that cannot be explained or rationalized

by unidirectional understandings of how meaning is produced and circulated. (2011, 141)

In challenging the stillness of photographs, Lisle rejects the separation of human viewers endowed with a capacity to animate the world with cultural interpretations from immutable material objects. She claims instead that the material image is always in relation with the embodied viewer. Rather than separate subjects and objects, there is a "photograph-viewer assemblage." Meaning within this assemblage is never stabilized or bound within ideological frameworks alone; the assemblage contains emotional and affective excesses that spill out and disrupt expectations.

She pays particular attention to what she calls the "pre-interpretive" moment of the encounter, an instant of physical, sometimes even visceral, reaction that may contradict or complicate subsequent reflective interpretations. Contrary to some claims within studies of visual culture, Lisle argues that this moment of being affected is not a stopping point, not a rote freeze-frame reaction. Rather it is an opening in which new emotions, thoughts, ideas, and affects emerge and change. Images demand an active response, they reach up and "touch" viewers. As the image-viewer encounter continues, affects and ideas morph and realign and in the process inspire actual physical movement—we shift in our seats, step forward to get a better view, or move away in boredom. Thus there is a continual movement and circulation—material, ideological, affective—within the photograph-viewer assemblage. This is not to neglect a "conscious plane of interpretation" (ibid 150) that is also in play, but this analysis challenges the assumed fixity and finality of interpretive registers, reframing them as partial and fleeting constituents of the assemblage.

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This flexibility is sometimes missed in studies of visual culture and the environment that point to Bruno Latour's concept of the "immutable mobile" to explain how representations reproduce and stabilize dominant symbolic orders (see for example Braun 2002; Eden 2009).[17] Often this concept has been used to call attention to the abstraction, calculability, and enframing that inscriptions (representations) allow. Yet Latour, especially in later work (1999, 2005), emphasizes the *practices* through which immutable mobiles are transported and transformed, often *starting* with the actual drawing of a map or the lugging around of a book. Indeed he asserts that there is no abstract, ideological, representational realm separate from those practices: "Following the making, fine-tuning, the dissemination, and upkeep of immutable mobiles will not for one second take us away from the narrow galleries of practice" (Latour 2005, 227). For Latour, inscriptions do not imply straightforward access to knowledge or culture; they don't represent the frictionless circulation of ideology. Rather inscriptions are always situated in more complicated assemblages of actors, objects, and ideas.

In light of these arguments, we can conclude that just as there is no spectatorial gaze floating in isolation from embodied movements and activities, images too cannot be filtered out into a separate representational plane. Nor does the content of the image simply spring forth into the ideological registers of viewers. We encounter

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[17] Latour (1986, 1987) argues that the expansion of technoscientific knowledge has been facilitated by representational objects—maps made on paper, graphs on pages of a textbook, printed photographs—that are mobile (easy move and carry around from place to place) and also immutable (they retain information as they move). Real world elements that are too big and cumbersome to control or conceptualize directly—populations, forests, territories—can be mastered at a distance through the use of inscriptions of those same elements e.g. population statistics, satellite imagery, or territorial maps. The full name he gives to this concept is the "immutable and *combinable* mobile," a phrasing which, I feel, puts more emphasis on the *active* process of reworking and rewriting inscriptions.

representational objects as whole people engaged in the world. To see an image, therefore, is always to be in the act of looking at it, and just how this looking happens matters to the eventual effect that image will have. Even if certain scientific images become durable and ordered over time, they are simultaneously made fluid again through interactions between image, viewer, surroundings, and other objects. Even if images are mobilized to a particular instrumental or ideological end, there can be unexpected and explainable "excesses" that complicate our attempts at meaning making (Massumi 2002, 215). This helps explain why, in the projects I observed, there seemed to be relatively few fixed representational devices in play. The visual field was characterized more by its *transience* than its permanence—new visual details were continually coming into focus and moving away, and old representations were being reinterpreted in new ways.

2.5.2 Observation and Benign Seeing

The arguments above also bring to attention benign ways of seeing that are not easily situated in relation to cultural subjectivities. Numerous studies have addressed the ways in which social position and historical circumstances produce certain types of seeing subjects—that what and how we see is a product of political and cultural conditions. Braun's (2002b) analysis of the visual politics on the West Coast of British Columbia is characteristic of this approach and worth reviewing here. Braun explores the work of two landscape painters, the iconic twentieth century artist Emily Carr and a contemporary artist named Lawrence Paul Yuxeluptun, in the context of a joint exhibition at the Vancouver Art Museum. The thrust of Braun's analysis is to examine the degree to which these painters uphold or contest dominant narratives about state

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power, indigenous people, and territory. There has been much debate, for example, about whether Carr's paintings represent a romantic version of "authentic" native life frozen in the past and abstracted from the present-day realities, or whether her art suggests a more radical view that counters the hegemonic ideas of her era. Braun, in trying to tease out the subtleties of this debate and also to examine how Yuxeluptun's work should be read alongside Carr's, takes pains to position each artist as *observers* within a historically specific set of material, technological, and ideological circumstances. In the case of Carr, for example, he carefully analyzes changing transportation technologies on the West Coast; the growing tourism industry; relationships with other artists, art movements, anthropologists and collectors; stylistic shifts in the chronology of Carr's work; and her own reflective writings on her art for evidence of how we might position her paintings in relation to dominant discourses on nature and Natives. Braun concludes that, in the case of both artists, the "optics of colonialism" continue in present day visuality—there is no easy break from the politics of domination of the past. He also points out that visuality on the West Coast is "fractured and political" and cannot be read and positioned in any simple way (237).

Braun's account of vision is especially helpful in deciphering how places and scenes become objects of vision in the ways that they do. Carr did not just choose *any* scenes to paint and nor did Yuxeluptun, their views were mediated in significant ways by historical and material conditions. These culturally mediated ways of seeing are important to understand, especially when interpreting representational objects. However, in conservation work, actors come to know the landscape through many benign practices

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of seeing that are difficult to decode according to techniques of observation alone. Take, for example, the scene depicted in figure 2.5 below. I took this photograph out the back window of the jeep used by Iván and other forest engineers to visit landholders as part of AIFBN's rural outreach work. Given the remote locations of many properties, a considerable amount of time was spent traveling to and from field sites. This scene is characteristic of the messy and fractured fields of view often encountered when doing forestry work. You can see from the photo that the window is splattered with mud making it difficult to distinguish what is beyond the glass. Squinting you can just make out a figure of a woman on horseback riding along the side of the road with what looks to be a backdrop of forest behind her.
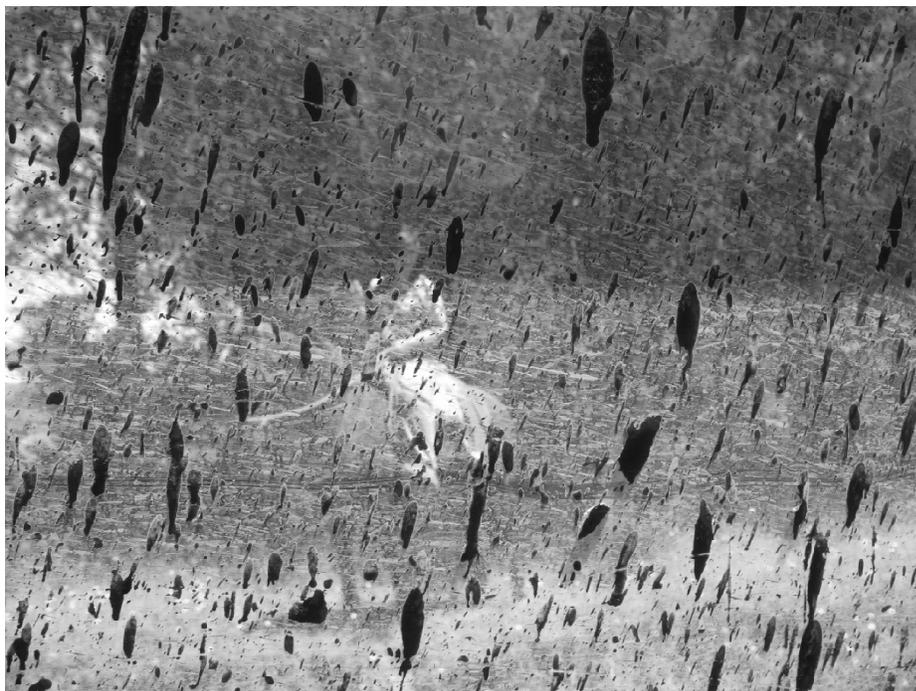
Figure 2.5: Typical view of the "the field" as seen out the back window of a mud-spattered jeep. As eventful and active, visuality here is not easily reduced to the positionality of seeing subjects.

One of the insights of the visual turn has been that as researchers we should be critically reflexive of our own biased ways of seeing (Rose 2001). Along those lines, my subjectivity as an outside *gringa* researcher certainly played a role in framing the view depicted above. My affiliation with AIFBN gave me access to transportation that may not have been readily available to the woman on horseback and thus afforded me distinct views of the landscape.[18] Conversely, my status as an outsider meant that I was often relegated to the backseat where my view was muddier (literally) than if I had been in the front. But while my subjectivity was certainly complex, figure 2.5 cannot be read as a result of my subjectivity alone. My view was mediated by the physical interaction of the jeep, the window, the road, the mud, and the surrounding landscape. This is true too for the figure on horseback. She is looking back at the jeep, but it is difficult to say what she might be seeing. Perhaps from her vantage she can make out my face pressed up against glass of the rear window. Perhaps she sees only the reflection of sun from the outside surface of the jeep. Perhaps her attention is barely directed at the jeep as she keeps an eye on her horse.

As opposed to the way Carr chose the scenes for her paintings—intentionally and in accordance with cultural registers of the era—I took the picture in figure 2.5 out of boredom. We were paused on the road and I began snapping photos of the interior or the jeep to fill time. As I did, I became interested in what I could see—or rather could not see—out the window. Although I took this photo while we were momentarily stopped, you can imagine how it might have looked had we been moving at full speed. Or if we

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[18] The rise of "modern transportation" has been associated with detached, panoramic ways of seeing which (Braun 2002; Schivelbusch 1986)

had been bouncing violently, as we often were, from the bumps and ruts in the road. Nor

are the types of cloudy and muddled views depicted in figure 2.5 limited to mud-

splattered jeeps. Imagine a forest so thick with underbrush it is difficult to move about.

Or a conference room packed to the brim with bodies, tables, and chairs. Or a

management plan printed from a cartridge that was nearly out of ink, the lines of text on

the page fading in and out. Much of the seeing involved in these cases would likely be

benign and unmemorable, but would nevertheless inform actors about the places and

landscapes they work in. The fields of view of conservation are fractured and subjective

not only in the types of culturally-mediated techniques of observation Braun describes,

but also in accordance with the mundane materialities of everyday visual acts.

2.6 Conclusion: Embodied Seeing and the Fractured Field

*…Now the conversation begins to drifts off. The voices on the recording sound
increasingly distant and muted. The background noise is becoming louder as if the wind
has picked up and is catching the microphone. Likely they are nearing the top and the
trail is more exposed. Sentences drift away. Only the occasional word breaks through
the static on the recording with clarity. I can hear occasional breath sounds. They are
more crisp and punctuated, the pace has quickened. Minutes pass. The older man seems
to be having a conversation with the woman but it is mainly unintelligible. Something
about harvesting seaweed? A question about fishing? Several more minutes pass. An
abyss of wind and white noise sprinkled with occasional bits of sound that are out of
context and hard to place.*

*Then, as if he turned out of the wind slightly, the older man's voice is audible
again, "Here, you've made it to the* mirador*…it's your first time? She's been here before.
The famous* mirador. *On a clear day you can see all the way to the point of Chaihuín…"*

*Faintly I hear one of the young men "It's not bad even with the clouds, very
pretty…" The rest of his sentence is carried away as the microphone is overwhelmed by
a rush of wind. The seconds on the recording tick by and turn to minutes. I hear only
white noise. The static of air.*

We sat on the worn couches in the cramped living room of Don Hernán's small wooden house. It was late morning and we had just been welcomed inside by a landholder named Don Hernán, out of the buzzing flies of mid-summer. Jan, a forest engineer and a colleague of Iván's, was talking with Don Hernán about his property and the status of his firewood harvest. Don Hernán was already participating in the certified firewood market, following the necessary procedures so that he could sell his wood to certified vendors. A management plan was in place for his property and Jan was helping him determine which sector to harvest next. One factor in this decision was a proposed road that was likely to be built in the coming year. At present, Don Hernán's property was accessed by a rudimentary trail that was passable with four-wheel drive in the summer. In the winter the route flooded and the only way in or out was on horseback. The new road would give much needed connectivity to this remote area but would likely cut through Don Hernán property. Just where it would pass had a significant bearing on how to proceed forward with harvest plans.

Jan began asking detailed questions about the planned route and as Don Hernán tried to explain, the two men fell deep into discussion and began to trace the surrounding landscape in the virtual space of the living room. Both on their feet, they turned this way and that carving out hillsides and valleys of the rugged terrain in the air with their hands as they reenacted the path of the road. Going up over hills and down around curves they would physically spin their bodies to orient and give directionality to their motions. As someone unfamiliar with area, I was completely lost. But Jan and especially Don Hernán had a sense of the landscape. They had walked, driven, and ridden horseback, back and

forth across the nearby properties. Together they were able to piece together the projected

route of the road. Importantly, however, they did not access a complete mental image of

the landscape, a bird's eye representation of a territory frozen in time onto which they

could mentally inscribe the path of the road. Rather, as their gestures indicated, they

"saw" the landscape by reenacting bit by bit in gesture and along paths their bodies

would take as they moved from place to place.[19] Moreover, their view was incomplete.

At moments they "lost their way" and could not remember the contours of a particular

valley, or were unsure of how certain obstacles would affect the engineering of the road.

As they finished their conversation, their gestures quieted. They had acted out an

unresolved and fleeting picture of the yet-to-come road, one that continued to shift and

change as they proceed to climb into the forest behind Don Hernán's house and mark out

sections of the property for harvest. There the twist and turns of the landscape pulled at

their vision in new ways. Different contours and topographic details came into view and

were followed by gestures in the air: pointing, looking, watching.

I want to conclude by suggesting that the scene above is perhaps an apt metaphor

for the visual politics of conservation. While environmental issues may well involve

clashes of totalizing representational and visual regimes, the everyday functioning of

conservation work might be better characterized as an active, piecemeal, gestural

assembling of real-time perceptions, snapshot images, and bodily recollections. As I

traced the actors and activities of the conservation projects I observed, I was surprised to

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[19] Presumably they were also recalling mental images of the landscape and perhaps even of maps or plans they had seen. But it would seem, from the active animation of their bodies during this conversation, that a bodily sense of moving about helped them assemble these mental images along the pathway of the proposed road.

find very little of the types of calculating and enduring visual politics I had come to expect in environmental projects. The visual was everywhere, but I was unable to tease it apart from the continual stream of action and movement that connected environments, actors, objects, and ideas. Literature on the visual politics of the environment often points toward the multiple and fractured visual *subjectivities*, but I also found that acts of seeing themselves are physically fractured, incomplete gestures that 'flirt' with rather than 'capture' the spaces of environmental work (Crouch 2010).

My goal in this chapter has been to complicate our understanding of the visual culture of conservation, but this need not diminish the critical insight that visual practices are historically situated and tied to techniques of power and knowledge. Rather, we should be reminded that vision and representation are not *only* artifacts of those cultural domains. This means opening our visual methodologies to the everyday embodied practices and mundane moving that make seeing possible. The reasons for doing so are not merely theoretical. For environmental projects like the ones discussed in this dissertation, acts of seeing are implicated in nearly every aspect of how people understand the conservation work they engage in. Yet too often the subtleties of these ways of seeing are abstracted along two-dimensional visual planes and narrow ideological lines of sight, reducing the visual politics of conservation to polemic representational debates. Attending to the intricate practices of watching, observing, examining, looking, discovering, envisioning, and representing involved in environmental projects may bring attention to areas of misunderstanding in our collaborative processes. Or we might find that there is more common ground in our ways

of seeing than we think. Either way we may open up new lines of communication about what and how we see.

CHAPTER 3: SKILLING

The paradigm shift in conservation away from top-down, 'nature-centric' strategies to more locally-based and people friendly programs was accompanied by novel conjunctures of diverse types of knowledges. As NGO and development agency mandates called for projects that could wed environmental protection with the empowerment of marginalized peoples, "experts" and "locals" of all sorts were thrust into collaboration. As I have already mentioned, however (see Chapter 1), this new paradigm did not necessarily live up to expectations. For every successful locally-run initiative, there were many failures—projects that turned to dust when funding ran out, that became paralyzed by the gridlock of local politics, or that expired in isolation from much needed access to clients and markets. Among the many dimensions of such programs that scholars and practitioners began to interrogate for clues of what was going wrong, was the sticky intersection between traditional or local environmental knowledge on the one hand and scientific or expert knowledge on the other.

At the time, this was a much needed intervention. The legacies of development programs built on naive assumptions about the legitimacy of certain forms of knowledge (western, scientific, verifiable, replicable) over others (indigenous, practice-based, mystic, emotional) frequently blighted even well-intentioned community-based conservation initiatives. Technical advisors armed with the latest conservation and environmental management sciences were all too often detached from the realities of local conditions to effectively guide communities in the conservation process. Difficulty translating between practices and routines of locals and the required formulas and grids

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of funding agencies created unwieldy partnerships and miscommunication on both sides. These predicaments prompted abundant questions about the nature and origin of conservation knowledge: what makes an expert, what makes a local, what constitutes the knowledge of each, and how can distinct ways of knowing be used in concert?

These questions, which I will explore more systematically in the next section, are far from resolved, but the concern I want to raise in this chapter is whether the ongoing emphasis on *knowledge* has, much like the central position of vision, inadvertently distracted us from the *practices* involved in community-based conservation. Specifically, I wonder if we have been giving sufficient attention to the types of hands-on skills and experiential know-how that are fundamental to creating small-scale collaborative projects. I am talking about things like the trial-and-error process of trying to grow a particular tree species in new location, an afternoon when a landholder demonstrates how he fells trees on his land, or a workshop where community members experiment with a new table saw. While practices such as these are often *implied* in discussions about local and expert knowledge, they often receive little explicit attention. In the final write-up, representational and linguistic forms of knowledge (things we associate with the brain) receive more explicit attention, while skills and abilities (things we associate with the body) tend to be merely assumed—buried underneath disembodied renderings of conservation that focus primarily on the exchange of ideas.

Although conservation scholars readily acknowledge that there is no easy way to separate knowing and doing, I argue that the centrality of bodily skill in community-based conservation projects has not been given adequate attention in the literature. Nor

for that matter in conservation policy and practice. The goal of this chapter, then, is to explore how learning to do things with our hands and bodies contributes to the knowledge necessary for carrying out conservation. I will use a formulation of skill developed by the anthropologist Tim Ingold, which has been widely cited in geographic studies on practical know-how (Barratt 2011; Franklin et al. 2011; Grasseni 2004; Harrison 2000, 2009; Lea 2009; Lorimer 2006a). Ingold (2000) proposes that we think about skill in new ways—not just as a mechanical process through which representational knowledge is applied to a particular problem, but rather as a type of know-how that emerges out of and develops through lived encounters between materials, environments, bodies, and minds. He places emphasis on the *mutually contingent* nature of bodily skills and "higher order" cognitive processes such as reasoning, judgment, and symbolic thinking. Indeed, Ingold views the latter as a result of the former—it is our practical activity that allows us to make conscious, rational decisions and to engage in symbolic reasoning and not the other way around.

Ingold's approach echoes many recent accounts which demonstrate the interdependence of minds, bodies, and environments in the making of knowledge (Barsalou 2008, 2010; Clark 2011; Cohen 2010; Gallagher 2005; Marchand 2010b). I should note that while I draw on and sympathize with these accounts, in this chapter I do not claim to get to the bottom of the extensive and complex debates about the nature of the human knowledge, for example, whether there is an ultimate difference between "knowing that" (propositional knowledge), "knowing how" (procedural knowledge), and "knowing of" (knowledge by acquaintance) (Bengson and Moffett 2011; Danka 2009;

Dreyfus 2007; Ryle 1949/1990; Stanley 2011; Stanley and Williamson 2008; Varela, Thompson, and Rosch 1991). Or the degree to which we are or are not experiential learners (Dewey 1910/1997; Kolb 1984). The question of whether or not *all* knowledge is ultimately practice based, or whether we should retain a distinction between symbolic, "neural cognitive" reasoning and bodily skill is very much up for debate.[20] Thus my goal here is a bit more modest. I simply want to suggest that in actual conservation projects the boundary between thought, action, and environment is less clear than it often comes across in studies of conservation knowledge. My hope is that the discussions which follow will spark debate about how we understand, study, and describe environmental knowledge.

I begin the chapter by reviewing how scholars have characterized the types of knowledge exchange that take place in community-based conservation and resource management initiatives. Using examples from AIFBN's forest certification project, I then explore how knowing is constituted through skilled practice within a relational field, calling into question the assumptions about knowledge implicit in conservation literature. From there I focus on processes of *enskillment¸* or the embodied and relational ways we come to know what we do. Finally, I will move to an example from a women's cooperative near the Valdivian Coastal Reserve to suggest that placing skill at the center

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[20] A range of terminology is used in the literature. Symbolic, representational, theoretical, neural cognitive, linguistic, propositional, rational, reflective, instrumental, schematic, abstract, intellectual, and higher-order are all descriptors used to identify knowledge commonly associated with internal, brain-based cognition. Bodily know-how, in contrast, is often described by terms like skill, hands-on knowledge, experiential knowledge, procedural knowledge, motor cognition, motor-sensory cognition, operative reason, or practice. Debates within philosophy, cognitive science, psychology, and social sciences cover the degree to which these two types of knowledge are mutually constituted; which type of knowledge comes first (i.e. do actions follow from cognitive representations or the other way around); and whether or not it even makes sense to distinguish one type of knowledge from the other.

of analysis also brings new attention to gaps, frictions, and experimentations inherent in conservation knowledge.

3.1 A Meeting of the Minds

Literature on community-based conservation and natural resource management often describes the intersection of "traditional" and "expert" environmental knowledge as a sort of meeting of the minds whereby various parties exchange ideas and express their viewpoints. [21] In the past, this coming together of knowledge was viewed unfavorably in that traditional knowledge was seen as an obstacle to the application of superior scientific techniques. Conservation discourses tended to regard local peoples' understanding as backward and detrimental to the proper care and management of landscapes. Likewise, experts thought that by holding on to naive conceptions of how to utilize their environments for economic gain, local peoples stood in the way of their own development. More recently, the value of traditional ecological knowledge (TEK) for conservation has become readily accepted, so much so that it is now an almost taken-for-granted concept in projects that seek to collaborate with local communities. Thus there is now abundant literature on how scientific knowledge can be combined with TEK making the meeting of the minds a positive encounter for both sides. Brook and McLachlan (2008), for example, analyzed publications from 360 ecology and conservation journals

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[21] There are relatively few formal accounts of intersections of local versus expert knowledge explicitly in Chilean conservation (one exception is Skewes 2004) The work on this topic that does exist typically focuses on indigenous Mapuche understanding of the environment, especially their ethnobotanical knowledge and nature-centric cosmovision. Local knowledge of non-indigenous rural peoples in Chile has received little attention, which supports Nygren's (1999, 270) observation that anthropological traditions have a tendency to study "intact cultures" and that non-indigenous peasants or migrant groups are portrayed as "incomplete others" whose complicated knowledge systems are overly contaminated by westernization.

between 1980 and 2004 and found a substantial increase in the number of studies

incorporating TEK. Kimmerer (2002, 432) even recommends that TEK be integrated

into biological and ecological science curriculum as it represents an important "body of

knowledge that has potential significance to contemporary science and policy."

However, the literature also describes downsides to this trend in collaboration.

Whereas in the past traditional knowledge was disregarded, now local peoples are

frequently portrayed as the new heroes of holistic ecology and TEK recast as a wellspring

of information for scientists and bioprospectors alike—a representation which is perhaps

equally detrimental to the environmental priorities of marginalized groups (Nygren

1999). Likewise there is an overwhelming tendency to evaluate TEK in terms of its

scientific efficacy. Some commentators even bluntly disregard traditional knowledge

that does not conform to scientific rigor:

> We take strong issue with [the] suggestion that the 'primary goal' of any study
> that involves the application or collection of LEK [local ecological knowledge]
> should be to 'empower communities'….In the realm of wildlife management for
> example, the purpose of collecting LEK is not to satisfy political agendas or
> appease the politically correct….The purpose of collecting LEK in a wildlife
> management context is to seek out and apply any sources of reliable data,
> including information collected independently from western science, to help make
> more informed wildlife management decisions. (Gilchrist and Mallory 2007)

What is interesting about this passage, besides its tone of scientific superiority, is that the

knowledge in question—both scientific and traditional—is valued first and foremost as a

source of "data" that can be "collected" and "applied" as if it were a discrete object. By

omitting any mention of embodied skill from their account, the authors imply that skill is

not a necessary condition for formulating the types of "reliable data" they emphasize.

Indeed it is precisely the degree to which we can abstract knowledge from subjective

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circumstances and inscribe it in Western scientific terms that renders it useful (and according to these authors leads to the empowerment of local groups because once armed with scientific data they can engage in mainstream debates).

This formulation of knowledge as abstracted from the people and places involved is common even in accounts which adopt a more sympathetic view. For example, Fernandez-Gimenez (2000) describes the TEK of herders in Mongolia and identifies key components of pastoralists' indigenous knowledge such as the classification of pasture resources, knowledge and use of plants, and perceptions of ecological change especially interannual climate variation. These forms of knowledge, she argues, can be very useful in developing effective rangeland management plans. Although Fernandez-Gimenez has rich ethnographic data concerning the perceptions and viewpoints of pastoralists, throughout the article she describes the TEK of herders as something they 'possess', 'share', 'use' or 'apply' in the context of living on the landscape and interacting with other communities. At several points she refers to the practices used to effectively maintain herds, but she depicts these as "nomadic strategies" by which pastoralists adjust their actions based on their theoretical knowledge of environmental change. She also relies heavily on interview data—what the herders describe they do—rather than actually observations of their activities as evidence of their knowledge. As a result, whether intentional or not, the study reinforces the assumption that TEK consists of primarily of representational modes of understanding that can be examined in isolation from the actual material practices and skills involved.

There is a similar tone in the approach used by Pierotti and Wildcat (2000) in which they emphasize the spiritual and ethical components of TEK. Studying Native Americans of North America, they argue that indigenous worldviews based on the interconnectedness of all living things leads to various tactics for living in balance with the natural world and "requires people to rearrange the customs and habits of their daily life" (1335). But the customs and habits they are concerned with belong not to actual practices grounded in the material world but rather to the cognitive representations of that world. For example, they state that one tactic for living sustainably "involved representing sound ecological management in strongly ethical (or religious) terms and developing a view of the environment that stressed specific concrete bonds between nature and the human community" (Ibid). They then go on to analyze the ways in which this framework is compatible with Western ecological notions. This approach has merit especially for finding conceptual overlap between cultural systems, but once again it relies heavily on the idea that belief systems (whether traditional or scientific) can float in isolation from bodily interactions in the environment. Here the authors stress the representational framework through which indigenous peoples *interpret* their tactics for living in balance, rather than on the actual tactics and "concrete bonds" themselves.

Attempts to move beyond the supposed dichotomy between local and expert knowledge altogether, by instead considering the situated nature of all knowledge, do not necessarily paint a clearer picture of how we can account for skill. Nygren (1999), for example, studied migrant peasants in Nicaragua in a buffer zone of a biological reserve and found that the dualisms between different types of knowledge—expert and client,

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local and universal, traditional and modern—did not reflect the heterogeneous and multidimensional interaction of different actors and institutions. Knowledge in this case was difficult to categorize and always specific to the particular encounters involved: "It is impossible to work with sharp boundaries between people's science and scientists' science. Local knowledge repertoires are a result of knowledge encounters in which local and global, and traditional and modern are intricately intermingled. A critical question is rather the relative status of the different components in these knowledge encounters" (Nygren 1999, 282).

This focus on the contingency and mutability of knowledge is an appropriate intervention in a conversation that has sometimes tended to reproduce simplistic binaries. However, in proposing alternatives Nygren remains focused on the "positionality" of her subjects in relation to cultural and political dynamics of the buffer zone and how this leads to contingencies in the knowledge repertoires of different individuals. Take for example this passage explaining how "local" knowledge of migrant peasants is actually an amalgamation of different knowledge systems:

> Their agricultural knowledge included practices of traditional slash-and-burn agriculture mixed with modern agribusiness, pre-Columbian metaphors of the earth as a symbol of life mixed with postcolonial resistance to Western images of local people's affinity with nature, traditional concepts of soils as hot and cold, mixed with modern insights of soil mineralogy. Don Sefarino had constructed his healing practices from heterogeneous matrices: from his uncle who was an excellent healer, from the Catholic monks in Chontales, from the indigenous herbalists in the Atlantic Coast, when assisting in a rural health project financed by USAID, in the training courses organized by the Ministry of Health, when serving as a guide for foreign ethnopharmacologists and bioscientists, and when practising as a healer in the local communities. His medicinal knowledge consisted of a complex repertoire of native herbs and vines, cultivated medicinal plants and 'modern' medicine, with their discrepant epistemologies (Ibid 278).

This account provides a more nuanced rendering of the partiality and hybridism that characterizes ecological knowledge. It also hints at how expertise develops through particular material encounters. You can almost picture Don Sefarino tromping through the jungle with ethnopharmacologists or sitting in a rural medical station. But not quite. Throughout her article, the practices and experiences that are reported to shape knowledge systems are obscured behind the discourses of positionality and subjectivity. The concern is with placing subjects and their knowledge within a cultural matrix, albeit a non-dualistic one, rather than with how their knowledge comes about and why that might matter for resource management in the buffer zone.

The studies reviewed here are indicative of a common disjuncture in the literature. On the one hand, practice is frequently *acknowledged* as an essential ingredient of traditional knowledge. Fernandez-Gimenez (2000, 1318) defines TEK as a combination of "biophysical observations, skills, and technologies as well as social relationships, such as norms and institutions, that structure human-environment interactions." Likewise, Kimmerer (2002, 432) states that "traditional ecological knowledge refers to the knowledge, practice, and belief concerning the relationship of living beings to one another and to the physical environment." But on the other hand, practice is rarely described with the same richness and attention that is dedicated to the cognitive representations, classifications, and analytical frameworks of ecological knowing (two notable exceptions are Eden 2008; Lauer and Aswani 2009). And it often seems as if these cognitive frameworks are somehow brought to the table pre-formed, having been gathered elsewhere and beforehand and then applied to immediate circumstances. If

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practice is described at all, it is often only abstractly or mechanically, detached from the physical processes of actually managing resources or making conservation projects function.[22] Likewise "experience" (which is sometimes used synonymously with local knowledge), seems to accrue over time through some intangible and mysterious process—the summation of multiple trips, each leaving a tiny mark in the memory log of the mind which eventually add up to form a general wisdom, depth of knowledge, or set of attitudes. Meanwhile the processes through which these forms of knowledge come to take hold happen out of sight, performed behind the scenes and on a separate stage. Despite how much we *claim* to be talking about practice, we are hardly talking about it at all.[23]

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[22] Hinchliffe (2000, 575) gives a nice summary of Western epistemology, which, I am arguing here, implicitly informs conservation sciences and practice: "Traditionally, epistemology has led to particular conceptualisations of knowledge and action. To gain knowledge is to produce and possess an internal representation of a situation or setting. Meanwhile, to use knowledge effectively is to order and evaluate those representations, before using them to direct action. Two issues follow from this conceptualisation of knowledge and action. First, it is premised upon an abstraction and privileging of mental processes, implying that all acts are secondary to the processing of (or even deliberation over) knowledge as representation. As this suggests, actions are merely regarded as the consequences of thoughts. An actor processes the available representations of a situation, and then acts in accordance with the knowledge that his or her representations make possible. Second, and as a consequence of the privileging of mind over matter, a hierarchy of representational and thereby knowledge systems is set up. In terms of Western epistemology, and as is well known, this has led to the valuing of knowledge that is considered to be devoid of emotion, bodily interference, and political commitment."

[23] Marchand, an anthropologist, makes the following observation about what is lacking in the study of knowledge in his field but his comments readily apply to geography, political ecology, and conservation sciences: "Despite decades of meticulous study about the ways in which knowledge is articulated and made manifest in innumerable contexts, the majority of anthropological analyses stop short of providing satisfying explanation (or approximations) of how learning, knowing, and practice actually occur, take shape, and continually transform *with* situated bodies and minds. Fieldworkers customarily record *what* their subjects know, but they are less inclined to delve into questions of *how* we come to know as humans" (2010a, S3).

3.1.1 Experiential Approaches

Recently, Fazey et al. (2005; 2006a; 2006b) have attempted to unpack the black

box of experience and to clarify the role it plays in conservation. In particular, they are

interested in what they call "expert experiential knowledge"—that is practice-based

knowledge used by professionals and researchers—and how it can be used in concert

with scientific applications and evidence-based approaches to conservation (Fazey and

Martonl 2002). Their characterization of experiential knowledge is compelling, and is

worth reviewing here. First, they claim that there are three types of knowledge developed

from experience: explicit (knowledge that has been articulated); implicit (knowledge that

has not been articulated, but can be); and tacit (knowledge that cannot be articulated)

(Fazey et al. 2006a, 1). They also distinguish between expert and non-expert experiential

knowledge based on the amount of acquired practice (e.g. years spent practicing a

particular craft). Note that unlike in the discussion above, what makes an expert is not

access to one particular system of knowledge over another, but rather the *accumulation* of

know-how. Beyond these classifications, Fazey et al. explain more precisely how

knowledge is derived from experience. They claim that we all hold "mental models"

based on observations, social norms, experiences, etc. which influence how we interpret

the world. Experiential learning happens when we adjust the mental model (both

consciously and unconsciously) based on our experiences, which in turn prompts us to

reinterpret our world, ask new questions, and change our behaviors. New behaviors will

then cause us to re-evaluate our models and so on.[24] As the authors point out, this type of

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[24] Such models of experiential learning (which I call 'spiral' models) draw heavily on the work of the
organizational behaviorist David A. Kolb (1984 see also Kolb's website: learningfromexperience.com) and

feedback-loop model has many parallels with adaptive management techniques that are currently popular in conservation and which emphasize an iterative cycle of conceptualizing, planning, implementing, and evaluating environmental projects (see Chapter 5).

Fazey et al.'s account is helpful in three regards. First, they emphasize that not all environmental knowledge is explicit.[25] The authors state that "people are often unaware of how much tacit and implicit understanding influences their research and the decisions they make" (2006a, 6). Although conservation scholars and practitioners would likely agree with this view, tacit knowledge has not received much explicit attention in the literature discussed above. As a result, discussions of environmental knowledge tend to reproduce the assumption that knowledge is readily accessible for delivery or exchange, simply by opening up the file-drawer of the mind and pulling out the appropriate contents. Second, rather than focusing on the final end result of knowing, they give attention to the *process* of knowledge formation (e.g. through iterative cycles of doing and reflecting). As opposed to Nygren (1999), this does not just involve the articulation and re-articulation of different epistemologies, but also happens through the physical working out of problems. Finally, they assert that experiential and tacit knowledge can sometimes give equally correct information about complex systems as sophisticated

are also prolific in educational fields. This model of experiential learning as functioning through a stepwise process of direct experience, followed by reflection, followed by learning has been heavily critiqued by educational and cognitive sciences (for thoughtful discussions see Hinchliffe 2000; Michelson 1996; Seaman 2008).

[25] The importance of tacit knowledge has been recognized by economic geographers, especially Michael Polanyi who draws a distinction between codified knowledge (transmittable in systematic language and representations) and tacit knowledge (knowledge that relates to direct experience). His approach is helpful in calling into question Cartesian notions of rationality, but his formulation of tacit knowledge is more focused on cognitive processes and less embodied skill than what I develop in this chapter (Gertler 2003; Howells 2002; Polanyi 1958, 1967).

scientific models but in a fraction of the time, thus verifying the legitimacy of such knowledge.

Despite these contributions, Fazey et al. remain overly fixated on cognitive processes and describe experiential knowledge as if accumulating first and foremost in the brain. Mental models almost surely play a role in how we come to understand our experiences and translate them into new ways of acting, but this also seems like a rather narrow representation of how expertise is derived from practice. Their rendering of experience fails to capture the nuances of feeling and physicality that so often gives practice its weight—the stiffness of one's back after time spent in the field, the frustration of learning a new skill, or the finesse of doing a task just so. In trying to codify the experiential process they have removed much of its liveliness and animation. Moreover, they describe tacit knowledge as if were simply of set of mental representations ("models") trapped in our subconscious which we can shape and change by applying experiential inputs. In this formulation, tacit understandings seem detached from the particular material conditions of experiential encounters and embodied involvement in the world. In the following sections, I will explore how we might begin to think differently about experience, skill, and knowledge within conservation projects.

3.2 Knowledge as Skillful, Situated Practice

The path was steep and it was raining lightly but steadily. With each step we had to search for footing on the muddy ground. I started to sweat under my raingear and was relieved when we stopped to catch our breath. From our position on the path we could

peer over the edge of a steep drop off. Don Hernán, the property owner introduced at the

end of Chapter 2, explained that he would use this drop to get logs down the hill. With

his oxen he could pull trunks over to the drop, unhitch the logs, and slide them the rest of

the way down. We backed away from edge as he explained, imagining ourselves

plummeting down the muddy bank to the river below.

Don Hernán's property is nestled in a small valley in an area of coastal forest that

had been heavily transformed by the forest industry. On one side of the river, a

patchwork of forest, trails, and pasture that included Don Hernán's property covered the

hills rising up from the river bank. Across the ravine, rows of plantation pine, all of even

height, created a dense wall of green. Jan, a forest engineer, was in the process of

helping Don Hernán develop a management plan for his forest through AIFBN's

firewood certification program. Don Hernán owned about 30 hectares of native forest

which he had maintained despite persistent pressure from the encroaching forestry

companies that would have eagerly added his property to their holdings. Don Hernán and

his family live mainly off the land, raising cattle and harvesting firewood from his

forests, although they supplemented their income with outside work. The management

plan he was working on with Jan was a form of selective harvest, where each year low-

quality trees would be removed from particular sectors, leaving high-quality trees to

maintain the forest. The harvest would rotate every couple of years so that the forest

could regenerate and establish new seedlings. The reason for Jan's visit this particular

day (he had made many previous visits) was to help Don Hernán "mark" a section of

forest—that is, walk through the woods and pick out individual trees for cutting, which they would indicate by spray-painting a red dot on the trunk.

Our climb finally approached the section of forest that we would work in that day. Beside the path we could see the bright exposed wood of several freshly cut stumps. Jan inspected them for a red dot below the cut line, evidence that Don Hernán was abiding by the management plan and cutting marked trees. Eager to begin work, Jan and Don Hernán each took a can of red spray-paint out of Jan's backpack and started into marking. Jan guided the process, but consulted with Don Hernán frequently, asking his opinion about the health of a certain tree and the likely quality of the wood. They collaborated in making the final decision as to which tree would receive a red dot. The talk was casual between the two. Often they should exchange a few words and then continue working. Sometimes Jan would pause to explain a particular management concept, for example, when we found a particularly big standing dead trunk that he suggested Don Hernán leave it as a "perch" for cavity-nesting birds and other animals. Don Hernán would likewise offer details about the landscape that added to the process—how wet it had been that season, how this patch of forest compared to others on his property, where to find another individual tree of the same species.

In many ways this encounter could be considered a meeting of the minds, Jan exchanging his "expert" knowledge of forest management with Don Hernán's "traditional" knowledge of the landscape. Presumably, both Jan and Don Hernán were using their various cognitive capacities to interpret the forest and to generate a new technical ordering of the trees therein. For example, Jan might have recalled formulas,

procedures, and models of selective harvest he had learned in school. Before going into

the field he referred to the management plan and its specifications for how many trees to

harvest per unit of forest. Don Hernán, meanwhile, might have drawn on memories of

how a certain patch of forest had changed over time. Or he might have estimated the

number of cubic meters of firewood a particular tree would produce and how this might

translate into a sale price. Likewise, both men likely had differing pre-held beliefs about

what creates a healthy forest, what purpose a forest serves, and indeed what constitutes a

forest in the first place. We could also unpack how cultural and identity politics played a

role in the way knowledge was articulated, for example, how Jan and Don Hernán

perceived their own expertise and how their knowledge was influenced by the larger

history of forestry sciences within Chile and beyond. Finally, we could track how all

these factors resulted in particular actions of the two men and specific material

outcomes—some trees marked and not others.

The path of analysis, were we to continue down it, would likely lead to a rich and

nuanced account of the knowledge involved in this exchange. However, as with the

literature described in section 3.1, such an analysis would rely heavily on assumptions

about the privileged role of disembodied intellectual constructs, cognitive schema, and

cultural processes. While not incorrect per se, such a formulation of knowledge does

serve to exclude a large part of the dynamic that was unfolding in this scene. First,

throughout the encounter Jan and Don Hernán were consumed by activity. Much of their

conversation was oriented to the task at hand. They would exchange short phrases that

served to keep their work on track: "hand me the spay can," "no this tree is bad," or "let's

go over here next." More conceptual conversations certainly arose, like when Jan explained the concept of a perch tree, but these too were triggered by something unusual encountered in the forest. To pick out *only* these reflective moments as characteristic of the scene would be overly reductive and bracket out the more mundane bantering about practical nuances of their activity. Second, all of this activity happened in an environment and was calibrated, so to speak, to the surroundings. As they looked for appropriate trees, they moved this way and that, climbing over logs and pushing aside branches. They trampled small shrubs and knocked vines out of the way. In deciding whether a tree was appropriate for harvest they would walk their eyes up and down its height, rub their hands over the bark, bend down to look at the base, push their weight against the trunk, and kick at the soil nearby. Often Jan and Don Hernán would have to change positions to grasp the whole tree or to view it in relation to its neighbors. And Don Hernán sometimes pressed his body right up against a trunk to view the path the tree would take when it fell, making sure there were no obstacles in the way. In short, there were many embodied, physical processes at work beyond what was captured by formal reflection. Finally, the outcome of this process was ever evolving. Even if the management plan theoretically provided parameters for the process, exactly which trees got marked was equally a result of what path the two men took as they made their way through the forest, how hard it was raining, their own physical fatigue, and even the amount of paint left in the spray can.

3.2.1 Skilling

Could we not argue, however, that these embodied and environmentally situated elements of the scene are simply the backdrop on which the rational deliberation played out? Conservation scholars would certainly not deny that there is practical activity at work here. But at the end of the day, isn't this activity simply a *means by which* we apply theoretical knowledge and then formulate new cognitive schema in return? Aren't we just talking about two parallel processes: practical activity on the one hand and reflective thought on the other? According to Ingold (2000), the answer would be "not quite." He contends that much of what we commonly consider "knowledge" is actually skill, which he refers to as "the embodiment of capacities of awareness and response by environmentally situated agents" (2000, 5). With skill it is difficult to determine where cognitive reasoning stops and bodies and environments begin—they are always *in-relation* to one another. In developing his approach, Ingold sets out to critique the modernist idea that cognitive reason, operating through bodily mechanisms and material objects, is the driver of design and technological innovation. He argues, for example, that the form of a woven basket is not the result of the mechanical application of preconceived design as is often assumed in conventional social and cognitive science. Rather, the basket takes form through the rhythmic movements of skilled hands as they interact with raw materials:

> According to the standard view, the form pre-exists in the maker's mind, and is simply impressed upon the material. Now I do not deny that the basket-maker may begin work with a pretty clear idea of the form she wishes to create. The actual, concrete form of the basket, however, does not issue from the idea. It rather comes into being through the gradual unfolding of that field of forces set up through the active and sensuous engagement of the practitioner and the material.

> This field is neither internal to the material nor internal to the practitioner…rather, it cuts across the emergent interface between them. Effectively, the form of the basket emerges through a pattern of *skilled movement*, and it is the rhythmic repetition of that movement that gives rise to the regularity of form. (ibid 342)

Ingold does not reject the idea of abstract cognitive formulas or schema but he claims that it is wrong to think these operate like computer programs; they are not sets of code locked away in our brains that determine our actions and modes of reasoning. These schema alone do not constitute knowledge. Rather knowledge is formed from the sum total of relations between mind, body, and world. He claims that this is true even in the case of language. While we often assume language consists of a series of symbols that correspond to meanings we store in our brain, he argues instead that language is meaningful because it is tied to practical activity. I associate the word "apple" with a red fruit not because I have it programmed into my brain that "apple" = red fruit, but because I inhabit a world in which the relationship between "apple" and red fruit is continually being demonstrated in the environment and in the social interactions around me. In a sense, language is part of the environment that we engage with everyday. That this language environment is relatively stable (I can typically count on the association between "apple" and red fruit), leads to the misconception that linguistic knowledge is somehow programmed into our brains rather than available to us through our practical activity in the world (see also Clark 2011; Noë 2009). This formulation leads Ingold to reject the "acquisition" model of learning common in conventional cognitive science (as well as in social and educational sciences). The acquisition model assumes that learning happens by acquiring bodies of knowledge in the form of rules, schema, and representations. He suggests instead that learning is a process of "enskillment" (2000,

416) in which we come to familiarize ourselves, through practice, with the lived-in world (see also Dreyfus 2001).

Although Ingold's discussion is focused on knowledge as it relates to producing and designing material artifacts, his formulation is consistent with the forest management scene presented above. For Jan and Don Hernán their management "plan" was dependent on the particular characteristics the patch of forest they worked in—the tilt of trees, the density of underbrush, and the stability of the mud underfoot. The encounter came about through the interaction of particular possibilities offered up by the trees, the landscape, and the perceiving bodies of the men. Abstract concepts from forest management and from the firewood production business production did certainly play a role as well, for example in the decision to leave standing deadwood or in the assessment of the value of a particular tree, but that knowledge only came to matter within the particular dynamics of the encounter—it was not necessarily ready-formed, an a priori bundle of knowing awaiting technical application (Lorimer and Lund 2003).

The following example further illustrates this point. In one section of forest Jan had leaned down to mark the base of a tree that had seemed, at first glance, suitable for harvest. But as he moved closer he saw that the tree looked unhealthy around the base, indicating the wood inside might be bad. As he stepped away from the trunk he noticed other trees had similarly unhealthy looking bases. But higher up in the canopy the trees were lush and robust. Jan seemed puzzled by this disparity. "These trees shouldn't be like this," he noted. There was something that seemed out of place to him but he could not quite put his finger on it. This prompted to starting explore the landscape in detail,

moving from tree to tree to examine their condition (engaging in, I should note, exactly the type of active perception described in Chapter 2). Don Hernán and I both stood there and watched. Soon he noticed that nearly all the trees in the section had faint vertical scars on the side facing up hill. Then and only then did he propose that perhaps a fire had come through the spot at some point in the past.

Next he went on to explain his theory to Don Hernán and me. Fires travel uphill and as they do so flames hit the downhill side of the trunk and then split and curl around to the back. A sort of vacuum is created on the uphill side and the flames loop around and get sucked in. Jan told us that if you looked at the cross section of the trunk you would find dark fire scars visible as distortions in the annual tree rings on the uphill side. As he explained, Jan demonstrated these concepts on the trucks themselves, pointing to how the air and fire would flow. This led to an extended conversation between Jan and Don Hernán about tree rings, how they compared among different species, and how they were used in forest science to gather data on landscape ecology. Jan promised to take Don Hernán to the university next time he was in Valdivia and show him the collection of cross-sections from different native trees. They also decided to leave most of these trees unmarked, as they were healthy and well spaced.

In this example, it is impossible to know what was going on inside Jan's brain. Perhaps once he noticed the discrepancy in the trees he started flipping through possible solutions to the puzzle in his brain—could it be insects, lightening, fungus, drought—and then eliminating them one by one. Perhaps in school he had learned a specific procedure for assessing the health of the tree—first examine *a*, then *b*, then *c*—which led him

logically to his conclusions. But a skilled practice explanation is equally plausible and better matches with my observations. Jan was first presented with a puzzle in the environment. Then he skillfully explored the landscape (perhaps while simultaneously conjuring up facts about forest ecology). Finally, he gave a detailed explanation of the forest ecology involved. This last stage of explicit discussion was not so much reflective of his own skillful way of solving the puzzle of the trees as it was *an extension* of this skill. In order to satisfy the curiosity of his companions, he demonstrated (orally and through gesture) forest ecology processes that were not immediately available for observation in the environment. Importantly, Jan's abstract knowledge of forest ecology was actualized according to the needs of the situation. The particular manifestation of the forest and his skillful attentiveness to its peculiarities allowed an opening through which fire ecology concepts could flow and through which the forest management process unfolded.

Laurer and Aswani (2009) make a similar point about environmental knowledge. In examining the "indigenous" ecological knowledge of Roviana fishers in the western Solomon Islands, they became convinced that discussions of TEK are overly biased toward cognitive explanations. The authors refer to a field project aimed at mapping marine resources and habitats around the islands. They used GIS techniques and also worked extensively with Roviana fishers who have sophisticated systems of marine habitat classification. At one point, the researchers asked a group of "expert" fishers to draw maps of the marine environment near their village with the hopes of recording data that they could integrate into their study. But the maps turned out to be very rudimentary

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and provided little useful information. The authors were struck, however, that when

villagers were actually out fishing they demonstrated far more detailed knowledge of the

environment than what they could explain from memory alone. As a result, the

researchers changed their methodology and instead of recording fishers' knowledge back

in the village, they brought them out on boats and asked them questions about what they

saw—a strategy that led to a far richer account of the marine environment. They

concluded that for Roviana fishers, knowledge is not a discrete category removed from

practical activity. Knowledge is instead a way of *doing*:

> Roviana ecological knowledge challenges models of knowledge that distinguish
> cognitive aspects from other modalities of knowing….Roviana fishers tend not to
> separate knowledge about the marine environment from the changing contexts of
> everyday human activity such as navigating and fishing. Instead, knowledge is
> based in the sensitivities, orientations, and skills that have developed over one's
> lifetime through actual engagement in and performance of practical activities.
> (318)

Based on the exchange between Jan and Don Hernán we might add that it is not only

"locals" whose knowledge is tied to situated practice. While Laurer and Aswani very

convincingly show that native Rovianas do not distinguish between skilled practice and

abstract knowledge, they do not attempt to challenge this distinction in their own

"scientific" ways of knowing. Such an analysis, however, might lead to similar

conclusions about the ways in which "expert" knowledge is based in practice thereby

further dissolving distinctions between "scientific" and "indigenous" knowledge systems.

I should also point out that the types of skilled practice I have been describing are

not limited to moments in "the field." You might argue that marking a forest or fishing

are relatively task-oriented activities to begin with, and ones that explicitly involve

interaction with the landscape. Surely sitting in a meeting room discussing future directions of a project would require a type of conceptual, discursive knowledge exchange quite different from the skilled practice I describe above. If we follow Ingold's logic, however, the answer again would be "not quite." First, the meeting room is also an "environment." There, as in the forest, people are engaged in situated, bodily activity although the tools, techniques, and forms of embodiment will differ. In the meeting room, you might find people writing in a notebook, shuffling papers, looking up numbers on a cell phone, and conversing with others. You would also find different sorts of tools and technology in play: computers, diagrams, charts, and timelines. In a meeting room setting, emotions, group dynamics, and communication practices would also play a significant role in shaping the knowing (see Chapter 4).[26] But still, it would be wrong to think that in a meeting room people function solely as disembodied logisticians, deliberating with their minds alone. Such a view would hardy account for the fact that meetings—especially the many that I observed over the course of my research—often seem to have a chemistry all their own. Agendas, diagrams, internal goals, institutional rituals or cultural identities, as determining as they might seem, are always coupled with the skillful practices of creating order, meaning, and momentum within the meeting space at hand (Garfinkel 1967, 1986).

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[26] These sorts of dynamics are addressed in the literature on "communities of practice," a concept developed by Jean Lave and Etienne Wenger (see Lave 1988; Lave and Wenger 1991; Wenger 1998). Lave and Wenger claim that knowing and learning happen through shared engagement in activity. Tribes learning to survive, surgeons exploring novel techniques, business managers helping each other cope, and community-based conservation participants meeting about futures directions of a project are all examples of communities of practice. Like Ingold's approach, the communities of practice literature emphasizes knowing in action and situated practice, but gives more attention to interpersonal interaction and communication specifically within organizational and managerial contexts. The concept has been widely used within business and management disciplines (see Amin and Roberts 2008 for a helpful critical review).

By now we have begun to paint a more complex picture of knowledge than is often presented in studies of TEK, one that takes seriously the way that skill emerges from "tightly coupled assemblages" of minds, bodies, and environments (Lea 2009, 466). In the next two sections, I want to explore additional implications of this approach to conservation knowledge. First, I will look at the process of learning to be skillful, using another example from the forest certification project. Second, I will move to an example from a women's cooperative near the Valdivian Coastal Reserve to suggest that placing skill at the center of analysis also brings new attention to gaps, frictions, and experimentations inherent in conservation learning and knowing.

3.3 Becoming Skilled

On the drive home from visiting a landholder, I once asked Iván, a colleague of Jan's, how he learned to do forest management outreach, particularly how he learned to work with small properties and degraded forests where the interactions with landholders often required much sensitivity and finesse. His first reaction was, "I don't know, I just figured it out." I then asked if he felt more skilled and knowledgeable in his work than when he started over a year ago. He replied, "Of course…when I started I was just a *pollito*," literally a little chicken, it means a beginner, sort of a greenhorn. Probing further I asked about his training and any mentors who had helped him. Iván explained that his training in the university had given him technical information but it did not prepare him for actually practicing forest management in real-life scenarios. When he started to work with AIFBN there had been some basic training, but one of his colleagues

who had been working with communities for many years had given him good advice. He had told him to out into the field and meet with the landholder and to sit down and drink a *mate* with the family, and that he would "get it", that he would start to sense what the process was all about.

I got a taste of this "getting it" the day we went to help a landholder named Don Lele mark a section of his forest. When we arrived at his house we honked several times but there was no answer. As we were deciding what to do we heard in the distance a faint metallic *ting…ting… ting*. Following the sound, we turned onto a narrow dirt road and soon pulled into an open pasture alongside a long stack of split wood stretching about thirty meters across the grass. At the far end, we could see Don Lele's lean body poking up behind a jumbled pile of trunks and splintered wood debris. He was swinging a sledgehammer against a metal wedge in an attempt to split a log, which accounted for the sound we had heard. He paused as he saw us walk up, setting down the sledgehammer that seemed like it could weight almost as much as he did.

With tools and wood scattered about it was a rather irresistible moment—the materials seemed to beckon hands to work. Iván shyly asked Don Lele if he could try splitting a few trunks, explaining that he had not split wood this size before (figures 3.1-3.2). The trunks had already been cut to one meter lengths but they were still round, about a half a meter across, and needed to be split into quarters. Iván started in on a trunk that Don Lele had already halved, the inner heartwood splayed open like a book. We could see it was punky, overly red and soft on the inside, but still fine for firewood once it dried. Iván placed the splitting wedge in the center of the log and picked up the

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sledgehammer, moving it around in his hands so has to get the feel of the tool. He began

with first careful swing, so as to sink the wedge. Then he took stronger hits, lifting the

tool to shoulder height and then letting it fall, which widened the crack slowly. As he

went, Don Lele watched patiently and instructed him when to move the wedge. It didn't

want to split. The soft wood was difficult to separate. Iván suggested he take one more

hit, which was just enough and Don Lele was able to finish by cleaving it open with an

axe and finally kicking it apart. Iván's second attempt was more satisfying. Don Lele

used the chainsaw to make a notch in the end of a large round trunk. This was for the

wedge to rest. Iván picked up the sledgehammer again and shifted around the piece of

wood, trying to find the best angle. He took three strong swings and then Don Lele

placed a second wedge further down the crack. One more hit on this and the trunk split

suddenly with a loud pop. Iván seemed pleased and after trying a couple more logs, the

two men set down their tools and began make a plan for the afternoon of marking trees.

Figures 3.1-3.2: Don Lele showing Iván how to split wood with a slitting wedge and sledgehammer (left).
Don Lele's wood pile (right).

How are we to interpret this exchange and what does it have to do with

conservation knowledge? Ingold claims (2000, 416) that learning is an "education of

attention" wherein we come to notice how things feel, become attuned to subtleties and details that the novice cannot see, and develop a sense of where to look for answers. Certainly we can recognize that there is a task-based type of "education of attention" going on here. Very few words were exchanged as the two men interacted. Much of Iván's learning was simply about getting a "feel" for the objects involved. In the first couple of minutes, the semi-awkwardness with which Iván maneuvered the tools and wood was notable as compared to Don Lele's smoothness, but as he went he developed a sense for the task. He became better attuned to subtle changes in the quality of the wood, the particular angles of each piece, the positions of knots and holes, and the relationship between material forces and his own dexterity.

Although we could interpret this scene as an analogy for how skilling works in conservation, it is not *just* an analogy. Iván was actually learning how to do his job as a forest manager, *through* the process of learning to chop wood. In this scene Iván was becoming attuned to subtle details within the complicated assemblage of bodies, labor, techniques, objects, environments, and contexts that he must negotiate in his job. For example, he got a sense of the labor involved with splitting volumes of wood by hand. He developed a better awareness of the quality and character of the wood on this property. He also became attuned to Don Lele's ways of communicating and explaining tasks, to the rhythm of talk and exchange that were familiar to the landholder. In short, engaging in the act of splitting wood, Iván was receiving impressions of the materials, his companion, and the unfolding scene that would allow him, in future encounters, to act and relate differently (Malabou 2008). When I asked Iván about the activity later that

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afternoon he said that it had been "fun" and "interesting to work with wood like that," but he did not give the event a specific value or connect it with any particular advance in his own learning or in the forest management process. Recall, however, that Iván had trouble pinpointing just how he had become skillful in his job.

Yet as an outside observer studying practice is was clear Iván tacitly incorporated the types of sensibilities developed in the splitting wood exchange into his management work. When collaborating with landholders, he used metaphors to make connections between forestry processes and practices familiar to rural residents. He asked insightful questions about their day to day labor and habits on the land. He even adjusted his tone, word choice, and rhythm of speech to match landholders' ways of speech. These strategies, when pointed out, would be obvious to any number of forest engineers and consultants I observed in Chile. They also would not hesitate to indicate that being skilled comes as much from experience as from a conceptual understanding of management concepts, from years spent in the field working through the tangled terrain of conservation and management projects. But often when I pressed practitioners for details on just how they learned to make their way through projects I would be met with answers like "I used my intuition" or "I figured it out as I went."

So what is missing here? Certainly this speaks to the tacit dimension of enskillment and the fact that we know (can do) more than we can tell (Polanyi 1967). Skillfulness exits on the "edge of semantic availability" (Harrison 2000, 498) in the rapid-fire world of exchange and real-time sensation. As Wager (2001) explains "most of what happens in what we call communication or relating happens too quickly, demands

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too immediate a response, to have an actual correspondence with any of the descriptions that might be made of its 'meaning'" (quoted in Thrift 2008, 166). Moreover, even if we *could* make our skillfulness explicit, we only have time and energy to reflect on a portion what we do in everyday activity. Harrison (2000, 497), drawing on Michel Serres, points out that the "noise of the everyday" would be deafening if we did not let some of it drop away, into the background of activity, habit, emotion, and even curiosities that impel us through our lives. Finally, this example points to the porous and experimental nature of conservation knowledge in that it is developed in part through "unauthorized" moments of playing with tools and tinkering and exploring.[27] Even as Don Lele and Iván worked on marking trees later that afternoon, they often stopped to explore the forest and "play" with the environment around them—getting the sweet juicy seeds out of a chupón plant or climbing a tree to harvest edible mushrooms off the trunk. This tactic of exchanging skills "on the side" or in between more formal skill building exercises—explicit trainings or acquired certifications— is characteristic of the skilled exchanges I observed in conservation projects.[28] Often they emerged serendipitously and although they were not explicitly tied to project goals or objectives, they were highly valuable in educating the

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[27] Burbules (2008, 669) has a formulation of tacit teaching and learning that is helpful here. He claims that it is "difficult to identify exactly *how* or *when…*tacit knowledge is learned. It is 'picked up' over time, learned through a combination of observation, imitation, correction, and involvement with some ongoing pattern of practice into which a novice practitioner is initiated. It is, to use a common slogan, 'caught' rather than 'taught'. Yet this is not entirely correct, because while there may not be a simple or direct process of teaching at work, teaching does occur: an error is identified and corrected, a particular rule is explained, an exemplar is pointed out or identified as a model to be emulated. This is teaching in the ordinary sense, but it does not happen continuously or systematically. Moreover, even instances of overt teaching are accompanied by a much wider set of activities and interactions that are more implicit in their nature and influence…. what is meant to be taught is not all that is taught—and sometimes what is not meant to be taught is the more enduring and important influence."

[28] Lave and Wenger (1991) call this "legitimate peripheral participation." Novices in a community of practice engage in low-risks tasks which help them grasp the organizing principles, methods of communication, skills and sensibilities needed for expertise in their realm of practice.

sensibilities of collaborators. The take-home point here is that in following the

"education of attention" in conservation projects leads us toward a host of tacit and

"peripheral" ways of knowing that are easily overlooked when we focus on

representational, reflective, and cognitive knowledge. Even Fazey et al. (2006a), who

acknowledge the importance of tacit experiential knowledge (see section 3.1.1), miss

some of the nuances of this processes in that they are overly fixated on *a priori*

understandings of "relevant" and "expert" knowledge.

3.4 Kitchen Experiments and Other Partial Crafts

Ingold tends to present enskillment as a smooth process through which we

gradually leave behind the mental representations and rules that guided us as novices,

slowly becoming more skillfully engaged our life-world to where we can intuitively

negotiate the twists and turns of practice:

> The novice becomes skilled not through the acquisition of rules and
> representations, but at the point where he or she is able to dispense with them.
> They are like the road map of an unfamiliar territory, which can be discarded once
> you have learned to attend to the features of the landscape, and can place yourself
> in relation to them. The map can be a help in the beginning to know the country,
> but the aim is to learn the country, not the map. (2000, 415)[29]

Ingold is right to highlight the way that representational knowledge can fall away as we

become more skilled in our practice and our lived world. However, the process may not

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[29] Ingold's view is influenced by the Dreyfus model of skill acquisition which proposes that learning involves passing through five distinct stages: novice, advanced beginner, competent, proficient, and expert (Dreyfus and Dreyfus 1986). As a novice we adhere to learned rules and plans, with little discretionary judgment, and high level of conscious focus on the task or problem at hand. As we become more skilled, we transcend those rules and come to rely less on rational, analytical processes and more on instinct. Therefore novices exhibit "minimal or 'textbook' knowledge without connecting it to practice" whereas experts have an "intuitive grasp of situations based on deep, tacit understanding." This model has been critiqued by Clark (2011) among others.

be as smooth as he describes it. Nor can we count on a regular progression from novice to expert. This is especially true for the conservation projects I observed which were often characterized by precarious blends of expertise, competency, and artfulness mixed with inexperience, awkwardness, and experimentation. Indeed it was difficult to see where one started and another began. One of the difficulties of bringing the vocabulary of skill to bear on conservation knowledge is that it does not necessarily allow for more clarity as to the nature of those practices or of the conservation process in general. Practical skills are often highly dependent on particular situations and they can be confusing both for participants and observers.

Take, for example, the following encounter. The Kutralhue Artisans are a group of about ten women in the community of Huiro near the Valdivian Coastal Reserve who at the time of my research were working on a project involving the production of crafts and non-timber forest products for local sale (see Chapter 1). One of their ideas was to dehydrate plants, fruits, and nuts collected from the forest, which they could develop into a line of natural teas and infusions. To this end, they had used some of their funding to purchase a custom-built wood-fired food dehydrator. There were numerous logistical complications involved in the securing the dehydrator—which was not a common household item—and they had waited for months for it to arrive. When the dehydrator was finally installed in May, the women came together at their community building for a training session.

The dehydrator consisted of a metal box which held drying racks and had various doors for ventilation. The box sat above a double-combustion wood-fired stove that was

ventilated out a chimney. The ambient heat of stove would rise through the box and

slowly dry the produce sitting above. The group had arranged for a woman named Heidi,

one of the few "experts" on wood-fired dehydrators in the area, to give a training on the

use of the equipment. On the day of the training, the Kutralhue women gathered about

the dehydrator while Heidi gave some basic guidelines: the produce should be clean and

fresh before being dehydrated; position slower drying products closer to stove, open the

side doors to achieve additional ventilation. After twenty minutes or so of lecture they all

agreed the next step was to simply try the system out (figures 3.3a-d).

Now, none of the women had dehydrated produce before, much less worked with

this piece of equipment. According to Ingold's model then, one might expect them to

approach the unknown terrain of the dehydrator as a novice might: clumsily, with

awkwardness, and with mechanical attention to rules (Ingold 2000, 357). But that is not

exactly what happened. First, the women were both skilled and unskilled at the same

time. They had a great deal of know-how when it came to making a suitable fire in the

stove, a fine art which involves knowing different types of wood and how they burn. Yet

each stove has its idiosyncrasies and it takes experimentation to get fire to burn just so,

which is exactly what the women did—tinkered with vents and monitored how the fire

progressed. Likewise, the women were skilled in the collection of the non-timber forest

products (which I had witnessed on other occasions) as well as in chopping and preparing

of those products. But they did not know how they needed to prepare the products for

drying. Should they be cut thinner or thicker? Should the stems be removed or not? So

in a similar manner as with the stove, they tinkered and experimented with the materials.

Second, there was a combinatorial effect as different women contributed insights about the process, brought details to the attention of the group, and experimented in different ways—"try this," "do it this way," "no, I'm sure that won't work."[30] Indeed, it seems as if the process of skilling was spread out across bodies, networked through and between them. Finally, there were interruptions, dead ends, moments of boredom, and failures in the process of enskillment. Some of these left "holes" in what particular participants learned, while in other cases the gaps and failures themselves added to the enskillment of participants by creating time for reflection or allowing new ideas to come forth.

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[30] This experimentation would fall under Massumi's notion of "operative reason." He describes operative reason as "analysis in action" and "the experimental crafting" that is "pragmatic rather than analytic" (Massumi 2002, 111-112). Operative reason does not seek an exhaustive knowledge or total control of a system, but rather it attempts to "tweak" a system and to develop a pragmatic sense of the responses to those experiments. Massumi suggests that operative reason is closer to intuition than reflective thought (212). It is also characteristic of Deleuze and Guatarri's notion of "nomad" or "minor" science (Deleuze and Guattari 1987).

Figure 3.3a-d: In the Kitchen. Clockwise from upper right: a) discussing shelving arrangements; b) inside the dehydrator; c) chopping vegetables for experimental drying; d) results of the first round of drying: a bag of mixed dehydrated fruits.

Perhaps if I had stayed in Chile for another couple of years I would have watched as the womens' skills had smoothed out, their areas of inexperience catching up to their areas of experience as they learned the intricacies of the stove, the way particular plants harvested at particular times of the year responded to drying, and how different products tasted and smelled when mixed together. But if this project proceeded like others I

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observed, then enskillment would not be so tidy.[31] Practice is messy, incomplete, misplaced, and contingent (Anderson and Harrison 2010). It can leave us hanging, pulled in different directions, or unsure where to go next. As I watched collaborators negotiate the conservation process, there was no clear line where intuitive expertise began and awkward experimentation stopped. Participants were at once always novice and always skilled, their capacities intermingling and breaking apart in complex ways. While Ingold would likely not disagree with this characterization, his examples emphasize what at times seems like an effortless relational integration into skillful life-worlds. Such a model does not always fit with conservation projects where the ground is so often shifting under one's feet as funding is given and taken away, as participants drop in and drop out, and as equipment and materials are hung up in logistics. Taking skillful ways of knowing seriously, then, does not mean romanticizing embodied involvement in the world as pure and holistic. Rather, it means that we should continually call into question the ways we become skillful.

3.5 Conclusion: Strange Brew

I began this chapter with a claim about the lack of explicit attention to practice and skill in accounts of conservation and resource management knowledge. Although

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[31] Here I am drawing on studies that compare Deleuze and Dreyfus on skill (Lea 2009; Reynolds 2006), with Ingold's approach being somewhere in the middle. Lea (2009, 467) claims that "Although Dreyfus and Deleuze both…utilize the metaphor of an intimate fit between body and world, the nature of this fit differs. The difference is not so crude that for Dreyfus the body directs the world and for Deleuze the world directs the body. Rather, for Dreyfus, the fit is between a structured technical body and a repeating world, and for Deleuze the fit is determined by the adaptive body and differing world which are joined at an intimate level such that they are inseparable…Deleuze exhorts the learner to develop a fidelity to the particular situation, meaning that they must always be a beginner, ready to take themselves apart rather than relying unquestioningly on a bodily schema that determines a particular end point."

there has been much critical debate about the politics of environmental knowledge, too often these discussions have bracketed out lived, skillful ways of knowing. Where I would like to end this chapter, however, is with a formulation of environmental knowledge as more like a strange brew that lies somewhere between craft and cognition, practice and reason, bodies and codes, tacit and reflective, experiential and neurological. To arrive at such a formulation it is first necessary to radically question the prevailing cognitive models that assume knowledge is located *first and foremost* in the inner circuits of our neurological systems with the body and environment acting merely as externalized structures on and through which our reasoning plays out. Once we accept the central place of situated bodily skill in knowing, our eyes are opened to a far wider array of learning and thinking processes than we might otherwise acknowledge. If I had not had practice and skill firmly in my field of view while observating conservation projects, I would have missed many of the important yet subtle dynamics that shaped what and how people came to know. Yet that does not mean that we should abandon efforts to better understand how cognitive processes and representational knowledge influence conservation. Our neural systems are, of course, implicated in complex ways in all that we do.

By strange brew I do not mean that all ways of knowing are blended together in some amorphous soup. Rather we pick and choose—usually at the pre-cognitive level—from a range of knowledge strategies in order to best accomplish the goals at hand. The point is we do not have to, and we *must not*, pick one type of knowing and attempt to explain the richness of our lived experience in those terms alone. The debates about just

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where the boundaries lie between one type of knowing and another, or indeed if there are any boundaries at all will remain, I suspect, at the forefront of social sciences, cognitive science, and philosophy in the years to come. Hopefully such debates will be increasingly taken up within conservation fields and will lead to a "deeper, better-informed questioning about knowledge, and stimulate interdisciplinary approaches to the study of learning, thinking, and practice" (Marchand 2010a, S2).

I also think this strange brew of knowledge is actually more akin to what the people involved in conservation *sense* is going on community-based projects. At a conference on forestry management I attended in Chile one of the keynote speakers started his talk by proclaiming that the goals of the seminar would be better served if everyone could just "put on their boots and head out into the field"—a proclamation that was met with nods of approval from the audience. Forest engineers, community members, and practitioners of all sorts attach a great deal of weight to the knowledge that comes with experience. Likewise they devote extensive time to refining, reforming, broadening, deepening, and experimenting with and through practice. And within projects, collaborators are continually reflecting on lessons learned from hands-on processes. But these reflections are cut short by the limited vocabulary and methodology we have for understanding more-than-cognitive ways of knowing. Too often the intricate, lively, and fleshly ways of knowing are not given their due and are obscured behind the language of rationality and reason. Bringing skill to the forefront, would, I hope, open new possibilities for how we teach, learn, and practice conservation.

CHAPTER 4: ASSOCIATING

Laughter is released by the outbreak of incoherence in discourse, the breakup of meaning, by awkward, bungling efforts, and by goals that collapse when one has laboriously reached them. The peals of laughter hold on to the moment when the past that gave drive and skill to movements breaks off, when the future that gave sense and purpose to words and actions disconnects. There is just left the present, the naked and meaningless things, the thrashings of bodies—and the excess energies of one who laughs. The energies ricocheting off the raw things fuel the peals of laughter. At the same time laugher is contagious, a force that passes through the boundaries of individual entities (Lingis 2004, xi).

This chapter explores the intersection of practice and emotion in relation to notions of community in environmental projects. As I mentioned in Chapter 1, over the last several decades, community has emerged as a fundamental concept in conservation. While this "community turn" has led to an increased awareness of how power is distributed within conservation, working with local groups often turns out to be far more complicated than collaborators assume. Unwieldy combinations of interpersonal dynamics, community politics, cultural idiosyncrasies, institutional arrangements, and fickle funding streams can lead to the dissolution of many promising projects. Others might muddle through with short-term benefits and modest gains, but the ideal of cohesive community groups seamlessly collaborating towards a common goal is rarely achieved.

These realities have prompted some scholars to question whether community is indeed the panacea for environmental management it was hoped to be. Critical accounts in political ecology in particular (Agrawal and Gibson 1999, 2001; Becker 2001; Black and Watson 2006; Brosius, Tsing, and Zerner 1998, 2005; King 2007; Kull 2002; Mulrennan 2008; St. Martin 2005; Sundar 2001) have shown that the turn to community

has created unrealistic expectations for the development of bottom-up environmental solutions. Community, they claim, is a fundamentally problematic concept riddled with normative assumptions and abstracted from the social and political realities of local places. They argue that conservation might be better served by moving away from the notion of community to focus instead on networks, institutions, or specific collaborations.

Although these have been important critiques, I argue that they do not go far enough in disrupting the problematic logic of community that causes difficulties for collaborative conservation in the first place. Specifically, political ecologists have rejected idealist notions of community on materialist grounds, claiming that the actual conditions of collective life rarely match expectations of bounded, cohesive, and homogenous groups. However, their materialist critiques stop short of grappling with the actual practices of togetherness—the laughing, eating, driving, meeting, fighting, building, studying, cleaning together—that constitute group life in all of its messiness. Moreover, they fail to account for the emotional currents that emerge from and generate such practices and thereby function as a key register for understanding collective endeavors. This oversight stems from the fact that much of the scholarship on communities and conservation moves, in my opinion, backwards—starting with concepts and assumptions of community life and showing how these are disrupted on the ground. Instead, I propose that we heed Latour's (2005, 27) call to begin in the middle, with the practices of coming together and moving apart, of associating and disassociating that actually make conservation happen.

This chapter proceeds as follows: I begin by looking at critiques within geography and related disciplines of the "community turn" in conservation. My goal is to explore how insights from this literature must be weighed against limitations for moving beyond normative understandings of collective life. Next I apply a similar sort of community critique to one of the community-based projects associated with the Valdivian Coastal Reserve and evaluate the degree to which this method is helpful for making sense of community on the ground. From there I begin to develop an alternative account of togetherness which I term "associating." I use the example of an international fieldtrip and theories from Latour, Schatzki, and Nancy to explore ways we can move beyond problematic community logic. Finally, I argue for the importance of including emotions in an account of associating, in that they function as a key registers through which we understand processes of collectivity.

4.1 Environmental Politics and the "Complex Community Critique"

Critiques of the notion of community within political ecology tend to follow a similar pattern: they expose the material complications and idiosyncrasies which undermine the tidy categories—group, community, participant—we use to make sense of collaborative action. Much of the analysis has converged into something I call the "complex community critique." Simply put, communities are far more complex than we expect them to be and this causes all sorts of problems when it comes to implementing

just, meaningful, and effective conservation.[32] While there are a nearly endless variety of ways this theme is put to work in the literature, each strain adding a slightly different conceptual nuance and empirical testing ground, here I would like to address a few examples that are indicative of the reasoning behind such critiques. My purpose is to show that although we have made significant progress towards developing a careful and reflective understanding of the concept of community within environmental projects, our thinking around community remains trapped within a conceptual revolving door. Just when it seems like we are about to disrupt politically inert and problematic notions of community we get pushed back into the same theoretical space we were trying our best to exit.

One strain of the complex community critique addresses the fact that rural and indigenous communities are never the tidy, intimate, and cohesive social units we expect them to be. Or as Agrawal and Gibson (2001) put it, they do not consist of "small spatial units" with a "homogeneous social structure" and a set of "common interests and shared norms." Black and Watson (2006), in an insightful piece about land and water management in Ethiopia and Mozambique, show that such stereotypes work on both a social and spatial level in conservation efforts. First, they found that assumptions about 'traditional' communities in water management programs have led to disjunctures in the collaborative process. Managers assume that 'authentic' indigenous institutions operate in a local vacuum, outside the realm of broader political struggles and thus are surprised to find in 'local' institutions a complex web of power dynamics heavily shaped by

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[32] Helpful explanations of why we have certain expectations of community as bounded, homogeneous, steadfast units of societal good based on the genealogy of the concept within Western thought are given by Agarwal and Gibson (2001), Watts (2004), and Creed (2006).

legacies of colonial domination and resource conflict. According to the authors, "when

the development organizations realize the complications involved in working with these

institutions, the possibility of working in partnership with them is rejected for not living

up to an ideal which it is unlikely that they, or anyone, could ever fulfill" (276). Second,

assumptions about the territoriality of traditional institutions and communities—i.e. that

they control fixed, bounded space in the same way that governments or other "non-

traditional" institutions do—lead to a mismatch between local resource practices and

management zoning. As a result, for rural residents, "attempts to promote community-

based [natural resource management] on the basis of demarcation of 'community' areas

has led to a good deal of both skepticism and fear" (278).[33]

Whereas Black and Watson focus on one side of the complex community

problem—how naïve and simplistic ideas of community cause unintended difficulties for

collaboration and project implementation—Li (2002) takes up the inverse problem: how

the need to continually simplify communities along normative lines limits possibilities

for generating alternatives to hegemonic environmental control. Li points out that some

simplifications of community are necessary in order to effectively assert the needs of

rural people in policy agendas and to capture political support. Thus there can be

"strategic value" (2002, 266) in reducing complex local issues into specific axioms and

clear directives for action, especially when these counter negative stereotypes of, in this

case, rural indigenous peoples. However, she finds that in practice such simplifications

best serve those who conform to ideals of conservation-minded forest communities

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[33] Related arguments are presented in: (Agrawal and Gibson 1999; Becker 2001; Black and Watson 2006; Blaikie 2006; King 2007; Kull 2002; Leach, Mearns, and Scoones 1999; St. Martin 2005; Sundar 2000)

existing in relative autonomy from the state. Those who do not fit this norm may "find themselves re-assigned to a marginal economic niche that corresponds poorly to the futures they imagine for themselves" (Ibid). These cultural inventions and simplifications also tend to reproduce notions of community as oppositional to the state and the market rather than co-constituted with them, the latter being what Li proposes as a more accurate model of the complex intersection of intuitions and economies which comprise community-based natural resource management.

This thread of exposing the complexity of state-market-community relationships as well as their inevitable imbrications is especially prevalent in the literature. McCarthy (2005), for example, argues that community forestry in the US is highly consistent with neoliberalism and can best be understood as a hybrid of these two categories (see also McCarthy 2006). He notes that both neoliberalism and community forestry rely on parallel notions of public participation—captured by the terms civil society and community respectively—which are based on the idea of unified, bounded, democratic, coherent social groups acting as "ideal compliments to free markets" (2005, 1008). McCarthy is quick to point out the diversity of forms which community forestry, neoliberalism and their hybrids can take, but he argues that such diversity and complexity serves to *sustain* as well as challenge power structures:

> Hybrid neoliberalisms introduce normative complexity. The supplementary relationship between community and capitalism in general, and between community forestry and neoliberalism in particular, is complex. Ideas of community often serve to express and refine dissatisfaction with capitalist relations and genuine desires for noncapitalist relations. Yet they can also serve to articulate the two, mediating and maintaining their difficult coexistence and so contributing to the maintenance of hegemony. (Ibid 1009)

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McCarthy's argument is both thoughtful and original, but it is nonetheless a variation of the complex community critique. Reviewing the overarching themes of his article we find that: a) neoliberalism and community forestry both rely on normative ideals of communities which do not exist in reality; b) there is a lack of understanding of the complex relationship between community forestry and capitalism; and c) the unique idiosyncrasies of hybrid neoliberalism and community forestry on the ground create challenges and opportunities for shaping alternatives. All of these themes are consistent with the complex community critique.

Taking a broader political ecology approach, Watts (2004, 2006) makes parallel arguments.[34] In his work on the postcolonial petro-state of Nigeria, he identifies three "antinomies" (read complexities) of community: the fact that community-making can fail, that communities contain *both* reactionary and emancipatory aspects, and that multiple communities are produced simultaneously at different scales and are navigated by people in complex and sometimes contradictory ways. He unpacks these complexities in relation to three overlapping community spheres in Nigerian petro-politics: chieftainship, indigeneity, and the nation, and finds that each of these communities "is imagined, so to say, through and with oil—the communities are 'naturalized'—but they produce forms of rule and identity that are fragmented, unruly, and often violent, thereby threatening the very idea of community itself" (2006, 106). This line of reasoning is by now familiar: communities are complex and even their relationship to hegemonic

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[34] While I have been focusing on the conservation and natural resource management literature, it is important to note the complex community critique is ubiquitous across social science genres (see for example Amit 2002; Brydon and Coleman 2008; Creed 2006; Joseph 2002; Kelly and Kaplan 2001; Rose 1999).

capitalist forces—which we naively assume to be a sort of one-dimensional antagonism—is not as simple as it appears, and may in fact be downright unruly.

The take-home message of these critiques is that communities are always fractured, always turning up unforeseen complications and disrupting ideals. This is especially true, the literature reminds us, for marginalized groups in the developing world that are all too often painted in simplistic light by outsiders. Although there are many variations beyond what I have cited here, they tend to follow a parallel logic: they challenge idealist notions of community by showing that the actual material conditions of collective life are far more complex than assumed. In reading these accounts, we are reminded not only to ask critical questions about how particular institutions, governments, economies, social groups, ideologies, ethnicities, genders, kinships, landscapes, and resource materialities interact in producing or disrupting understandings of community, but also to always try to situate actors (including ourselves) in relation to such variables. The consequences of not doing so, we are repeatedly told, can be "calamitous" (Watts 2006, 135) for peoples and environments. In short, we have made significant progress in understanding "the various ways community is deployed and what work it does in different contexts" (Creed 2006, 6), and in so doing we have proved again and again that community is a deeply flawed but ultimately unavoidable concept.

The problem, however, is that we have been so captivated by the abstract language of identity and institutional politics with their problematic categories and contingent renderings, that we seem to be not much further along in understanding how conservation actually gets worked out collectively—about the physical coming together

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and pulling apart, the sitting, talking, driving, walking, eating, laughing together, that is part of collaborative work. Of course, practice is *implicit* in much of the analysis of community, and because it is often a core focus of fieldwork many social scientists will claim that they have been looking at practices all along (Brosius, Tsing, and Zerner 2005; Joseph 2002; Li 2001). While this may be true, there seems to be little follow-through in analyzing how practice *in and of itself* matters for the way togetherness emerges. At the end of the day, when results are written up, it is the logic of representation that tends to dominate. Collective practices are either relegated to the interstitial spaces of the text or else treated as if they were already enrolled in the production and reproduction of community, rather than examined on their own performative and affective grounds.

A second problem with the complex community critique is that for all of our unraveling of complexities, we are left with the same conundrum, put well by Brosius et al. (2005, 7): "Is the concept of community the bedrock of social justice or a misleading rhetoric of rural romanticism, ethnic chauvinism, or imperial control?" This either-or scenario means that we are continually hashing through a sort of cost-benefit analysis of community (table 4.1), constantly weighing the pros and cons of its deployment. This becomes a logical dead-end in which our only options are to go round and round, abandon community entirely, or throw up our hands and announce our conclusion: that community is always a paradox of inclusion and exclusion, homogeneity and diversity, revolution and status-quo. Because there appears to be no way out of this trap, community relentlessly haunts the margins of our alternatives, clandestinely working its way into our efforts to suggest something new. But could there be other options? Before

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I answer that question, I think it will be illustrative to put the complex community approach to the test in Chile and examine its merit for thinking about collectivity in actual rural conservation projects there. Perhaps applying it on the ground will yield new insights about not only why the complex community critique has become so dominant but also why it falls short.

Benefit		Cost
Generates alternative imaginings of social change.	versus	Co-opted by capitalist systems of production; supplement to capital.
Group belonging and inclusion.		Loss of internal differentiation and diversity; exclusion.
Ubiquitous and therefore inspires democratic participation.		Becomes meaningless with excessive use; is an empty signifier.
Emancipatory.		Reactionary.

Table 4.1: The complex community critique tends to produce understandings of community as a paradoxical mix of cost and benefits.

4.2 Complexity on the Coast: A Portrait

People involved with conservation and forest management in Southern Chile are well aware of the complex community critique. Take for example the community of Chaihuín.[35] Chaihuín is a coastal village, a *caleta* as it is known in Spanish, with a population of approximately 300 located southeast of the regional capital of Valdivia. In recent years it has been home to a host of different small-scale resource management and development projects. These have included everything from building cold frames for household gardens and installing infrastructure for shellfish farming to apiculture and cultural heritage projects. During my fieldwork, the Chaihuín fishers' union—the

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[35] In conventional usage, the term "community" has overlapping territorial and social indicating (often simultaneously) both specific places and social groups. Commonly in Chile small villages or hamlets are referred to as *communidades* (alternatively *localidades, pueblos,* or *caletas*). Thus the "community of Chaihuín" refers to a place that can be located on a map as well as the people who live in that place.

sindicato—was hosting a project titled "Shoreline and Hydrobiological Resource Conservation in the Chaihuín River Estuary" in which they were working to restore and reforest a section of bank so as to eventually reestablish populations of *choro zapato*, a lucrative shellfish species whose populations had dwindled in recent years. As part of the project they were also building small kiosks along the road for community fishers to sell products directly to tourists and passersby.

On a hot summer day in January, we gathered in Chaihuín to celebrate the opening of the kiosks. Among the attendees were local dignitaries, representatives of cooperating NGOs, members of the *sindicato* and friends from Chaihuín and surrounding communities. It was a festive event. Inside the meeting house of the fishers' union, tables were lined with seafood delicacies and drinks were chilling on ice. After listening to a presentation on the project goals and objectives, we headed outside for the official ribbon cutting ceremony (figure 4.1). Glancing around the crowd, it was easy to feel a sense of community. I saw friendly faces who had turned out to celebrate this small milestone in community development. The event was about the collective sharing of an accomplishment and also an opportunity to show support for the emotional and physical labor of bringing something new to the community.

Figure 4.1: Inauguration of *sindicato* kiosks in Chaihuín.

Flash forward to an overcast day in June, near the end of the project timeframe. A group of about ten gathered just down the shore from the kiosks to complete one of the last remaining tasks of the project—planting approximately 1,200 trees along the bank to prevent erosion and restore estuary ecology. This event had none of the fanfare of the prior scene. A few dedicated individuals were diligently planting trees; a few others were watching the progress. The turnout was rather smaller than expected. One member of the *sindicato* arrived and loudly criticized the project, causing a stir among the group. A volunteer who had been facilitating the planting left in frustration, disappointed that people were bringing up complaints now, in the last moments, when there had been ample time to do so earlier. After planting three-fourths of the trees, the work group eventually dissolved, drifting away unceremoniously. Although the day was a success in that a large part of the work got done, the event was not the collective rally it was expected to be. The spirit of community that had defined the inauguration of the kiosks was almost entirely lacking.

Community-based conservation and resources management projects in Chaihuín invariably confront the extremes of cohesion just described. The ubiquitous challenges that accompany projects—participation, logistics, agreeing on a course of action, creating a lasting impact—are rooted in or exacerbated by the complexities of community there. The logic of the complex community critique would tell us that to understand what is at stake in community conservation efforts in Chaihuín it is essential to dissect and situate the variables that might account for these messy politics of collective action. In the following paragraphs I attempt to do just that, and to examine the merits of such an approach for understanding common practices within conservation.

I will start with the *sindicato,* as they were the designated community partners in the shoreline and estuary project. Artisanal fishing and shell-fishing are an important source of income for residents of Chaihuín and the use and management of marine resources not only takes up significant time and energy, but also shapes community relationships. Recent changes in fishing culture in particular have left an imprint on the social dynamics of the area. In 1991, due to concern with the over-exploitation of marine resources, new zoning regulations were passed under the Chilean Fishery and Aquaculture Law. This law ushered in a policy of "co-management" for artisanal fishers in which registered groups could apply for exclusive rights to harvest shellfish on the sea floor in designated zones near coastal communities. Within these "management areas" fisher unions—*sindicatos*—were free to harvest as long as they worked with biologists to develop and adhere to a management plan for their area that ensured long-term viability of stock (Castilla 2010; González 1996; Schumann 2007). Lucrative species such as *loco*

(*Concholepas concholepas*) became nearly impossible to sell if they were not harvested from within a management area. Thus once the law was enacted, membership in a *sindicato* was, for all practical purposes, obligatory (Gelcich, Godoy, and Castilla 2009; Gelcich et al. 2008). The result of the policy is that up and down the coast of Chile, *sindicatos* have become central organizations within the community life of *caletas*; whether they wanted to be or not, artisanal fishers became institutionally bound to one another.

In Chaihuín, the fishers' *sindicato* is a force within the community. The approximately 40 members meet regularly in a community building perched along rocky shore at the mouth of the Chaihuín River. They collect dues and work on issues of marine production including strategizing how to market their products, holding trainings, and organizing harvests. The officers of the *sindicato* are visible public figures, representing the union at professional functions and taking leadership on any number of initiatives (Díaz 2006). To outsiders, the operations of the group can seem guarded and even secretive. This is in part because the politics of fishing are sticky—not only are there interpersonal dynamics internal to the *sindicato* but also unions participate in regional and national associations that work to influence policy around fishing rights, quotas and regulations, and marine conservation. Understandably, *sindicatos* tend to keep a close reign on their organizations. Livelihoods are at stake; if sensitive information about their management plans, methods, or strategies were to end up in the wrong hands, it could compromise delicate social and economic relations. At the same time, the unions are often vibrant institutions in communities that must continually fight

against marginalizing political, economic and cultural forces. In Chaihuín, the *sindicato* sponsors community events and initiatives and provides social support for residents.

For collaborators working with the Chaihuín *sindicato* in the shoreline and estuary project, the complexities of fishing politics and the sometime fierce opinions and interests that drive the organization inevitably come into play. One must develop at least a cursory understanding of the procedures and social norms of the institutions—a task that requires careful and deliberate rapport building over an extended period of time. But even so, understanding the dynamics of the fishers' union—its role in community livelihood, its impact on social relations, and its institutional configuration—is only one piece of a much larger puzzle of community in Chaihuín. For one thing, as much as life there is highly oriented towards the sea, politics on land are equally influential and complex.

Recall that in Chapter 1, I opened with a story of the conflict around the proposed Southern Coastal Highway and the construction of the Chaihuín River Bridge. These conflicts had come on the heels of already existing tensions around forestry. Beginning in the 1980s, forestry corporations (first Terranova Forest Products S.A. and later Bosques S.A.) began converting the forest south of the community (a property referred to as Chainhuín-Venencia) to monoculture plantations of eucalyptus. Although couched as much needed economic development for a depressed rural area, the forestry activity brought few benefits to locals aside from a handful of jobs and miscellaneous "gifts" to the community from the companies. Chile's lax environmental laws and protection of corporate interests meant that these operations were particularly sloppy. For example, the

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companies ignored requirements to leave a buffer of vegetation along riparian zones and planted eucalyptus along the steep banks of the Chaihuín river, causing sedimentation and, according to locals, affecting shellfish populations in the river and estuary (Ojeda Gallardo 2003) (figure 4.2). There were multiple other impacts. Groundwater around Chaihuín was polluted from the chemicals used on tree plantations. Residents of the area recall times when ash from the massive fires used to clear the land for plantation would rain down on the community, soiling clothes hanging out to dry. Some people were directly displaced, forced to move when property limits were enforced and plantations expanded. These impacts caused significant discord within the community. Whereas some people were in favor of forestry activity, others began to mobilize against it, partnering with local NGOs and scientists and even organizing an activist group called the Committee for the Defense of the Chaihuín River which worked to block forest exploitation.

Figure 4.2: Eucalyptus illegally planted on the steep banks of the Chaihuín River.

When Bosques S.A. filed for bankruptcy in 2002 and The Nature Conservancy acquired the Chaihuín-Venencia property at auction in 2003, it did not simplify the already tense community relations. The idea behind the purchase was to turn the property into a park that, although it would maintain private ownership, would be founded on collaboration with local environmental NGOs, scientists, and community groups from the surrounding areas. As TNC laid the groundwork for the project, however, disagreements emerged about park design, governance, and purpose. By the time the park was inaugurated in 2005 under the name The Valdivian Coastal Reserve, significant rifts were beginning to develop. Organizations that at one time pictured themselves collaborators in creating the park, including the Committee for the Defense of the Chaihuín River, had become almost entirely estranged from the project. At the same time, staff at the Reserve were deeply committed to developing ties to surrounding communities despite the fact that the project was a sensitive issue for many nearby residents. The Reserve was a principal partner (along with a branch of the World Wildlife Fund based in Valdivia) in the estuary restoration project described above.

Add these politics of forestry in Chaihuín to the dynamics of fishing and the *sindicato* and our picture of community `becomes highly complicated and politically volatile. Yet this is still not the whole story. It is difficult to discuss rural complexity and discord in Chile without understanding the political-economic shifts that transformed the countryside with the turn to neoliberalism. After all, the expansion of forestry around Chaihuín was largely a consequence of the shift to neoliberal policies beginning in the 1970s under Pinochet that prioritized the exploitation of natural resources by private

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corporations for export (Clapp 1995, 1998). Problems with overfishing too, and the

squeeze this put on rural communities, were exacerbated by the neoliberal model

(Gelcich et al. 2008). Kurtz (1999, 2004), for one, has convincingly argued that the shift

to market-based strategies under Pinochet's authoritarian rule had a particularly dramatic

impact on rural, as opposed to urban, Chile. He claims that social aggregation,

organizing, and collective political articulation were undermined by the deregulation of

land, labor and commodity markets, which in turn created increased instability and

individualism in the countryside:

> Neoliberalism unmade the peasantry as it remade rural politics. The fierce
> repression of the first few years of military rule had brought nearly a decade of
> mobilization and broad-based peasant organization to a standstill, a
> depoliticization that later became permanent as neoliberalism removed rural
> issues from the national political agenda, replaced negotiated public provision
> with private markets across the spectrum of agrarian activity, and destroyed the
> historical foundations of peasant society. In creating markets, peasants were
> expelled from their parcels and homes, communities were razed to create
> individual farms, and geographic mobility became more the norm than the
> exception. As markets were created, so were *individuals*: shared interests and
> collective action were replaced by organizational decay, conflicts of interest,
> social differentiation, and the emergence of a peasant *homo economicus*. Neither
> an end to repression nor a return to economic growth has stemmed the decline in
> peasant self-organization and political expression (2004, 52, emphasis in
> original).

Although Kurtz's analysis is focused on agrarianism, this passage brings up several

aspects of community complexity that ring true for the case of Chaihuín. First,

authoritarian repression left lasting imprints on rural places. Residents in Chaihuín and

surrounding communities would often tell me that animosities between families and

individuals who were on opposite sides of the political struggles during the dictatorship

(i.e. on the left versus the right) are still present today. These are exacerbated, I was told,

by the intimate interactions within small villages where adversaries often see each other on a daily basis, continually reminding each other of past wrongs. Moreover, many of the residents of Chaihuín lived through a time when participation in organizations was dangerous. People kept their heads down and fear was everywhere. This continues to foster wariness of community-based organization today. Second, the politics of land—who has tenure and access, and under which rules of law—is a continual source of instability and conflict. Sometimes this manifests in rather mundane ways, for example, in discussions between neighbors about where animals graze, or where tourists are allowed to camp. Yet, as the case of Chaihuín-Venencia shows, land politics in the Chaihuín sector can also involve powerful actors and transnational interests with the potential for sweeping transformations (Pliscoff et al. 2005). Finally, the increased mobility that Kurtz mentions is ever present in community life in Chaihuín. This mobility takes several forms: seasonal labor outside the community especially for men; general increased accessibility and access to transportation; greater influx of tourists and other visitors to the area; and exodus of youth to urban areas. All of these have brought new pressures on families, institutions, and cultural practices of community. In sum, the lethal combination of neoliberal policies and a repressive authoritarian regime sparked profound economic and social changes that introduced, and continue to introduce, yet more complexities in our understanding of community.

As important as these changes were, they still do not provide us with the whole picture. Asking residents of Chaihuín why the community comes together at certain moments and not others and why it contains the particular divisions and alliances it does,

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I was met with interesting answers. Some insisted that individual personalities were at the heart of the issue. Some people get along and others do not, I was told, and different people just have their own particular way of seeing things. One person put it quite bluntly: "some people are just difficult." Accompanying these no-nonsense explanations, however, were insights into a host of other dynamics in the community. One person emphatically told me that to understand Chaihuín you have to understand *las familias*—the families. He explained that community alliances center around the particular family groups that settled in the area. Each family group (he identified four dominant families, recognizable by last name) looks out for their own interests and has a distinct way of doing things, which can sometimes make it difficult to work together. In relation to developing community projects in particular, many people discussed the problem of *patronismo*—the supposed attitude among some rural residents that they are both inferior to higher classes and also inescapably dependent on them for their well-being, a term harkening back to landlord-peasant relations on large agricultural estates characterized by reciprocal social and economic exchange. This attitude, some claimed, paralyzed community members from being proactive in developing initiatives because they lacked confidence in their abilities and expected that changes could only come from above, while simultaneously feeling entitled to social and economic support from governmental and non-governmental institutions. Conversations about community would also sometimes touch on the darker sides of life in Chaihuín —alcoholism, domestic violence, depression—problems that are unfortunately all too real for an economically marginal region. Finally, for any observer the above configurations and dynamics are

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complicated by a crisscrossed network of community organizations. These include, for

example, a women's group, an association of neighbors, a sports club, an agro-tourism

association, and an association that works on issues of drinking water—all of which

create nodes of collaboration and dissent within the community. The implication here is

that to understand community in Chaihuín, besides considering the politics of fishing,

forestry, and neoliberalism, we must also look at patterns of settlement, religions

practices, social psychology, domestic life, and probably myriad other dynamics I have

failed to identify. Such a project, were it even possible, would be highly useful for

understanding social relationships in Chaihuín. Indeed, those who have tackled pieces

(Godoy 2003, for example), have given invaluable insight into the politics and history of

the region.

　　　But would such an approach be sufficient for understanding togetherness in

Chaihuín? I suggest that it would not be. In an interview with a marine biologist who

works closely with the Chaihuín *sindicato* we discussed some of the challenges he has

encountered in helping to facilitate projects and management plans. Our conversation

turned to the various complexities of the *sindicato*—the family groups, the history of the

organization, the social norms. He posed a rhetorical question, "How do you even

understand this all this when you arrive and start working on conservation? How do you

understand their ways of organizing and working? You can't. It's impossible." From

the rest of our conversation it became clear that this biologist does indeed try to

understand the complexities of Chaihuín and the *sindicato*, and is an ardent observer of

the social politics of the area. Yet he readily admitted that total community

comprehension was unattainable and moreover that this was not his main goal. Rather he described doing the best he could in the everyday interactions with the group—trying to help particular meetings go well, working to balance different needs and demands of members, showing up to events and being an active participant. A second reason that the complex community critique is inadequate is that after all this accounting of complexity we still have very little sense of the actual everyday workings of collective practices in Chaihuín. What events draw people together and how? What is the spatiality of interaction there and what sites are important? How do people engage one another, what norms are apparent? Whereas the complex community critique seems to remain at an abstract level, these questions are rooted in the actually physical, active world of groups—a groundedness that seems important for understanding togetherness.

4.3 Materialism Reimagined

Part of the problem with the analysis I have given above and with complex community approaches more broadly, is that they are not as "thoroughly materialist" (Anderson and Wylie 2009, 319) as they could be. While they undoubtedly invoke physical processes, concrete spatiality, and tangible substances, they typically describe these as a ground or substrate on and through which social organization—such as the formation of groups—plays out. Physical practices too are often portrayed as *already inscribed* in discursive formations, identity politics, and political interests. So while the materiality of, say, human mobility (Li 2000; Watts 2004) or resource extraction practices (Black and Watson 2006; Leach, Mearns, and Scoones 1999) is explained, it is

done so relative to preconceived notions of community. The actual matter in question—trucks, saws, bodies, fish, trees—is given attention only to the degree which is disrupts or upholds these preexisting ideals. The result is that many political ecology accounts remain trapped within the very idealism they seek to escape. Even as community is critiqued in all its normative and idealist simplicity, it is paradoxically reinforced as an ideal, although never fully realized, condition of social life.

The type of materialism described above is what Anderson and Wylie (2009) refer to as "substantialist" materialism, which tends to emphasize grounded, concrete things, processes, and spaces. This is not wrong per se, but Anderson and Wylie suggest another way of imagining materiality, which we might call emergent materialisms. For them, matter is not just a collection of physical traits and properties that shape immaterial social processes. Rather, it is the very process of the world unfolding—matter "takes place" rather than simply exists (319). There are several implications of this perspective relevant to our discussion here. First, even seemingly durable, static substances are actually intermediate mixtures of order and disorder, singularity and multiplicity. After Serres (1995), Anderson and Wylie use the idea of turbulence to describe how materiality inherently crosses states: "Imagining matter from the state of turbulence offers the exhilarating sense that the assembling of materialities can only be a continual *process* of gathering and distribution" (321). Second, they suggest that matter is "interrogative" in that there is a continual relational provocation of materials and senses. This rather abstract point essentially challenges the division of the world into sensing subjects and passive objects. Instead, the authors suggest, there is an ongoing entwining of

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"materiality and sensibility, the world and the self, things and words" through reciprocal calls to action that emerge in specific encounters as bodies and things come into contact (325). Finally, the authors show that matter always necessarily contains excesses or potentials that exceed its concrete thingness. Matter presupposes a possible, yet to come dimension, an "overdetermined excess that is the medium of processes of emergence" (330, see also Massumi 2002). Therefore, what we think of as immaterial affective realms that attach themselves to matter *after the fact* are actually internal to matter from the beginning.

This formulation of materiality might very well extend the complex community critique developed in political ecology literature. Whereas substantialist materialism with its emphasis on durability and ground is more easily hijacked by idealist notions of social order, emergent materialisms push us to think about social order*ing* as an ongoing, performative process that has always already disturbed our classifications (Law 1994). Rather than thinking of the material realities of environmental projects as a set of complicating variables for preconceived notions of community, we can instead ask how the matter of these projects takes place and what sorts of associations emerge. If material life is already understood as turbulent and messy, how do sticky moments of togetherness surface and fall apart? How might particular encounters call forth, or provoke, collective action? And what affective and emotional excesses are generated in the tumultuous unfolding of togetherness? For the rest of this chapter, I want to explore these questions in relation to a particular case. To do so, I have to go beyond discussions of emergent materialisms, which offer little guidance for thinking through particular, lived encounters.

Specifically, I will argue that practice and emotion are two key mechanisms and registers through which collective life takes shape and is understood. Both are material and emergent in the sense that Anderson and Wylie describe, and both help move us further away from normative assumptions of community. I use the term "associating" to distinguish the framework I am developing here from community logic.

4.4 Never Arriving: The Common, Practical Field

Our trip seemed doomed even before we left. It was early May in Valdivia and a light, steady rain had been falling all afternoon. Fog rolled through the treetops and buildings. In the van, a hushed nervousness hung about the passengers. We were on our way to the airport just outside of Valdivia. From there we would travel to Santiago, Panama City, Panama and then finally land in San Jose, Costa Rica for the start of a week-long tour that would take us across the Costa Rican countryside to visit small-scale conservation and development projects underway in various communities. Officially it was a *gira técnica,* a professional fieldtrip to exchange information and learn about conservation strategies that could be replicated in Chilean communities. In particular, we would be visiting rural Costa Rican communities working on sustainable development projects that were linked together through an ecotourism cooperative called The Community-Based Rural Tourism Association of Costa Rica (ACTUAR). The cooperative was comprised of 40 groups across the country and maintained a centralized staff that booked tourists, advocated for funding, and coordinated the network.

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This fieldtrip had been arranged through the cooperation of the Valdivian Costal Reserve, WWF Valdivia, and The Central Foundation for Native Forests (FORECOS), a research group at the nearby Austral University. Our group of eleven consisted of representatives from these three organizations as well as from the municipality of Corral. In addition, there were six community members; one from each of the community-based projects affiliated with the Reserve (see Chapter 1) and two from elsewhere in southern Chile. The then president of the Chaihuín *sindicato* was among the group, as was Don Patricio from the hike described in Chapter 2. Many months in the making, the fieldtrip was a climatic event and a break from the everyday tedium of trying to make headway on projects. Traveling internationally was novel and exciting. For some it was their first time leaving Chile, first time on an airplane. For most it was their first time traveling to a tropical country.

At the airport, we piled out of the van as darkness began to set it. Once inside the small airport lobby we gathered and exchanged introductions. We took group photos and checked our luggage, getting increasingly more excited as the reality of the trip came to life. As we got close to boarding, however, we noticed signs that things were not right. Outside the rain had gotten heavier. Jaime, one of the coordinators, had slipped away and was urgently talking on his cell phone. When they finally announced our flight had been canceled, we were not surprised. The airport in Valdivia was not equipped with the technology needed to safely land and take off in foggy conditions. In the winter months, fights there are frequently grounded and we had bad luck that night. What came next, however, was a series of chain-reaction events that tested our patience and almost

paralyzed the trip. Jaime had been thinking fast and had arranged for a van to take us two

and half hours south, to the airport in Puerto Montt, where a flight for Santiago was

leaving later that evening, and where the runway technology was more advanced. We

unchecked our bags and sped off. It was a tight timeline and the driver was reluctant to

speed given the difficult driving conditions. Fortunately we arrived minutes before the

flight was due to depart, but there again our luck ran out. The flight out of Puerto Montt

was delayed due to weather and we had to wait over an hour before getting off the

ground. When we finally arrived in Santiago, we had missed our flight to Panama,

sending our whole itinerary into a tailspin. We spent a restless night in the airport,

waiting for the start of airport business hours so we could leverage airline management

and arrange a new flight.

While all this was happening, our group was stuck in a sort of limbo. We were

too tired and anxious to engage in much conversation. Since the future of our trip was

uncertain there seemed to be little will to form relationships. Several people suggested

that we just turn back, that it was not meant to be. To fill the time we read and re-read

the newspaper. We idly snapped photos, not sure if our adventure was worthy of

documentation or not. We tried to catch some sleep on the airport benches. We noticed

the idiosyncrasies of our group mates—those who could sleep through anything, those

who paced the halls, those who became easily frustrated, and those who were patient.

We were just there, together, in an indefinable and uncertain waiting period.

4.5 Associating

What is interesting about this story so far is that although community in the normative sense was central to the premise and goals of trip, it was impossible to "locate" any particular solidified community. We were an ad-hoc group, temporarily assembled, with limited collective past and a highly uncertain future. We ranged in age from 17 to 50. We were men and women. We were "locals" and "experts," indigenous and not. Besides the fact that the NGO representatives were the unspoken leaders, our roles and positions in relation to one another were unclear and sometimes even awkward. Our common purpose, if indeed there was one, was also vague. We carried mandates to represent our communities and institutions back home, but these responsibilities were intertwined with personal needs, attitudes, and perspectives. We were aware of the official goals of the trip—to exchange knowledge and garner practical ideas—but how these abstract objectives would actually manifest was unknown, as was the degree to which our collective engagement mattered to the journey ahead. To what extent would we need to cooperate, interact, and share? To what degree would we simply be fellow travelers filling slots on a group roster? Despite all this, we were also fiercely connected by a common set of circumstances. Trapped in the airport in Santiago, waiting for the restaurants to open so we could order breakfast, we reflected in amazement about how we had gotten to our present position. We noted any small change would have set the course of the trip in a different direction—if the fog had been a little lighter in Valdivia, if the airport technology would have been slightly more advanced, if the uncooperative airlines had been more understanding and sped us along.

The point of this example, which I suggest typifies collective encounters in conservation even if the scene presented here—an international fieldtrip—is novel, is that collectivity is not just a grouping of norms, identities, and political conditions but that it *happens in and through an actively changing world.* As the scene illustrates, as our journey was getting underway, togetherness (or lack of it) was shaped most acutely by the *happenings* and *doings* of the event—van tires as they worked to gain a grip on the wet road, the slipping away of battery life in cell phones as we called for logistical support, and the movement of airplanes as flight schedules played out. The mundane practices through which we "coped" with our environment—waiting, wandering, chatting, sleeping—created momentary attachments and separations. Whether we chose to trade stories of our lives, discuss our upcoming adventure, type on our computer, or sit quietly by ourselves depended as much on the particular physical entanglements of the site and moment—where we sat, how tired we were, and what technology was at hand—as it did with our motivations, interests, or role in "the group."

Importantly, this emergence never ceased even as the trip settled into its intended course. Landing in Costa Rica, we met our guides and loaded on a tour bus that would be our home for the next week as we traveled from project to project, weaving in and out of the sites, institutions, and communities that generously hosted our tour. We visited community-run operations of every shape and size, involved in operations like ecotourism, stainable harvest of non-timber forest products, watershed preservation, cooperative fishing, adventure guiding, and the production of artisan crafts. At each stop we were amazed by a new innovation or strategy—lodges built with local materials,

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solar-powered ovens, artwork made from indigenous seeds, collective forest management. Time and again, our hosts poured their hearts out about the struggles they had endured to get their project off the ground. As we went we hiked, swam, and ate. We dripped with sweat in the coastal heat, drenched ourselves in the mountain rains, and crackled through the brittle leaves of a dry forest.

All of these events and encounters caused the process of the associating to shift and ripple. There were moments of collective tiredness, angst, and joy. Disagreements emerged, as did friendships and camaraderie. There were various manners in which individuals "opted out" by physically removing themselves from the group (to go take a nap for instance), or by simply not being "present" in the activities at hand. These processes were not confined to the group of Chileans, but also incorporated the various people and places we met along the way. For example, we visited an artisanal fishing cooperative on the coast of Costa Rica's Nicoya Bay whose members gave us a tour of their facilities and took us out fishing. During the course of the afternoon, a sort of insider camaraderie emerged among the Chileans and Costa Ricans with the strongest ties to fishing livelihoods. Moving around the site, detailed discussions broke out among them about harvesting cycles, fishing regulations, the types of nets used, and other intricacies of the trade. Adela, the president of the Chaihuín *sindicado* seemed more at home that she had been all trip and was even reacquainted with a friend she had met at an international artisanal fishing conference years ago. For this afternoon guests and hosts were organized in part around certain ways of engaging in conversations about fishing

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and expressing expertise—*practices* of communication—brought about both by memories of past fishing experiences and the material encounters at the site.

The organization of togetherness through practice that I am describing here is perhaps counterintuitive. Is it not true, for example, that the Chileans were officially registered members of a fieldtrip with documents that represented us as such and thus were already enrolled in a recognizable, coherent group? Were we not situated in relation to a set of political variables, already socially constituted as a collective entity? While this may be true at one level, *practically* our collective engagement was a series of piecemeal stops and starts that emerged as we navigated the events of our travels. Paperwork and itineraries certainly bound and enumerated *ideas* of our collective being, but these ideas were always subject to the actual happenings of the trip and often played out in contradictory ways.

To give just one example, at a stopover in Panama City on our way home, we learned at the last minute that our plane to Chile was overbooked and the airline had selected (apparently at random) two members of our party to be left behind. Despite our urgings, we were not able to complete the last leg of journey together. Our paperwork and itineraries meant little to the airline. If the idea of group had held any weight at all, it was made fragile by the ideas held by airline staff and their ways of working which pressed against the material realities of space on the plane. Togetherness in this case was not just a grouping of norms, identities, and political conditions (even if we had paperwork that said otherwise), but rather *happened in and through an actively changing world.*

In sum, associations were always shifting, forming and reforming in relation to the events and encounters of the journey. The short timeframe of the trip and the condensed itinerary accentuated these processes and made them more visible.[36] Even in the final days, when one might expect that we had "solidified" as a group, we were already anticipating the unraveling that would come at the end of our journey and were shifting yet again to our inevitable disassociation. As real and tangible as our collective entanglements were throughout the trip, there was no point at which we fully "arrived" as a group. There was also no clear starting point, no logical "center" to our collective engagement. Like with the community of Chaihuín, any attempt to find such a starting point would quickly lead us into an overwhelming tangle of institutions, political unfoldings, and contradictory meanings.

4.6 Theorizing Associating

The characteristics of togetherness that I am describing here—emergent associating without a core essence, developing within a field of relations—are consistent with recent attempts to theorize groups in ways that avoid the traps of community thinking. In the following paragraphs I will describe several approaches that I think are helpful in advancing ideas of associating. Interestingly, these approaches are not part of an integrated conversation in their own right (and indeed are not always in agreement)

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[36] In conservation projects interactions can be quite extended in time and space. Sometimes weeks can pass between events or meetings. Likewise, project activities may be spread out geographically. Thus the practical, material processes of associating and disassociating can at times be imperceptible, or only seen in a sort of freeze-frame snapshot. This makes it all the easier to rely on abstract concepts—community, identity, participation—to make sense of collectivity and all the easier to render practices extraneous.

but rather remain somewhat disparate in the literature. By bringing them together here I intend to highlight the theoretical symmetries and show how they are complimentary in developing practice-based accounts of collectivity.

Latour (2005), in his work on actor-network theory, has advanced the idea that terms like society, group, individual, organization and class are arbitrary starting points for understanding collective life. He argues that while we continually debate which of these terms is more accurate, real, or politically correct, we ought instead to put our effort into studying the *practices* that emerge in group formation: "Either we follow social theorists and begin our travel by setting up at the start which kind of group and level of analysis we will focus on, or we follow the actors' own ways and begin our travels by the traces left behind by their activity of forming and dismantling groups" (2005, 29). The meaning here is that social categories are always secondary and partial in relation to the actually happenings of the event. He goes on to discuss some of the ubiquitous practices involved in group formation—speaking for the group, determining who are the "others" (or "anti-groups" as Latour calls them), and defining and delimiting group boundaries. This work is carried out by spokespeople, scientists, journalists and a host of what he calls mediators and intermediaries—objects and actors that transport and transform meaning. What Latour proposes, therefore, is that we move from an "ostensive" definition of group to a "performative" one. Whereas the former stresses that which is objectively present, the later indicates that collectivity is always coming into being and never fully formed—a distinction which is tidily summed up by Latour's slogan that there is "no group, only group formation" (2005, 28).

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The complex community critics reviewed above might be sympathetic to the emergent, performative definition of collective life that Latour proposes, yet they themselves do not push far enough away from the ostensive logic of community.[37] Although they are clear in pointing out the difficulty of trying to pin down groups under particular labels, they are still grasping for the "anti-community"—the visibly demonstrative formation or identity that we can point to as contradiction to community. In Latour's thinking no such anti-community is possible because processes of group formation are impossible to pinpoint or encapsulate with (arbitrary) categories—they extend beyond our ability to name them. Latour insists that the only way we can get a sense of how group formation actually works is by tracing the elements and controversies involved, locating them in particular sites and interactions, even if those interactions always "*overflow* with elements which are already in the situation coming from some other *time*, some other *place*, and generated by some other *agency*" (2005, 166).

While Latour takes assemblages of human and non-human phenomena as the ontological basis of group formation, Theodore Schatzki believes sociality starts with *human* practices (Simonsen 2010). Schatzki (1996, 2002, 2010) contends that social theory has long pivoted around two master concepts: that of the totality (i.e. society) and

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[37] That being said, there has been a growing call to incorporate actor-network style analyses in social studies of conservation. Li has made an interesting shift in this regard. Moving beyond the complex community critique I described above, she has recently argued for an "analytic of assemblage" in studying urgent environmental issues such as community-based forest management (Li 2007). Here she draws on Foucault and Deleuze and Guattari but her approach is very much coherent with Latour's actor-network theory. Li gives three reasons why assemblage thinking is helpful: a) it draws our attention to the work of bringing disparate elements together; b) it helps us become aware of practices that are often implicit in environmental governance (for example, she identifies "forging alignments" and "rendering technical" as ubiquitous environmental practices); and; c) it helps us recognize the material and contingent qualities of agency. Li's assemblage approach is a welcome intervention in social studies of conservation, however, as I will explain in the next section, assemblage thinking alone is not sufficient for thinking through togetherness in conservation.

that of the individual. Within the social sciences much energy has been spent attempting

to move beyond these. For example, Schatzki points out that "contemporary opponents

of the concept of social totality insist on the preeminanece of the particular, local, and

transitory in social existence. In their eyes, treating the intricate and complex tangle of

phenomena that constitutes social life as neatly tied up in a system and governed by

systemic principles neglects the contingent, shifting and fragile relations among social

phenomena that weave them into everchanging constellations" (1996, 2). These

opponents also claim that "social theory is adequate to reality only if it registers in its

concepts the tangled and unevenly propagating mosaic that is social existence" (Ibid, 3).

Opponents of individualism, on the other hand, challenge the ontological primacy of the

individual and attempt to destabilize notions of the subject.

Schatzki goes on to show that neither body of critique is adequate for escaping the

ontological grip of the totality versus individual binary because, he contends, social

theory remains trapped within the master concepts it condemns. He turns to practice as a

way out and asserts the ontological primacy of active doing. In particular, he advances

something called "site ontology" which he weaves together from diverse influences

including Heidegger, Laclau, Mouffe, and Bourdieu. The following passage outlines the

basic tenants of site ontology:

> On my account, the site of the social is composed of nexuses of practices and
> material arrangements. This means that social life inherently transpires as part of
> such nexuses. By practices, I mean organized human activities. Examples are
> political practices, cooking practices, educational practices, management
> practices, shop floor practices, and design practices. Any practice is an organized,
> open-ended spatial-temporal manifold of actions. The set of actions that composes
> a practice is organized by three phenomena: understandings of how to do things,
> rules, and teleoaffective structure. By rules I mean explicit formulations that

> prescribe, require, or instruct that such and such be done, said, or the case; a teleoaffective structure is an array of ends, projects, uses (of things), and even emotions that are acceptable or prescribed for participants in the practice. (Schatzki 2005, 471)

There are two helpful elements in this rendering of group formation. First, Schatzki emphasizes that social life is a "mesh of practice and arrangement" (2005, 472). What he means is that real-time performances unfold in relation to "arrangements," or "assemblages of material objects—persons, artifacts, organism, and things" (2006, 1864). This is not unlike Latour's approach in that it stresses the interconnection of elements in a "field" which are not reducible either to individual elements nor generalizable as a totality.[38] This implies that associating is not just something we formulate based on ideas, or levels of participation in particular institutions, but is something that we *work out in relation to our surroundings.* Associating is also inherently spatial; the way we bump against other bodies or engage with particular objects or spaces matters for whether groups come together or not. Second, like Latour, Schatzki conceives of social relations as emergent, "open-ended" processes. However, he also emphasizes the "organized"—or in later writings "ordered"—quality of practice.

At first this may seem like a contradiction: how can open-ended practices emerging in a field of arrangements also be *organized*? For Schatzki "organized" means

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[38] Schatzki and Latour differ as to their views on the ontological basis of sociality. As Schatzki (2002) puts it, the difference is between "arrangement" and "practice" theorists. Arrangement theorists include, for example, Foucault, Deleuze and Guattari, Latour, and Callon. They take arrangements of entities—e.g. a network, apparatus, or assemblage—to be the principal compositional features of social life. Practice theorists meanwhile generally consider sociality to be formed through a nexus of human practices—e.g. knowledge, meaning, human activity, science, power, language, social institutions, and historical transformation—although they acknowledge participation of the non-human world (Schatzki, Knorr Cetina, and Savigny 2001; Simonsen 2010). According to Schatzki, Bordieu, Wittgenstein, Charles Taylor, Hubert Dreyfus and Anthony Giddens are examples of this category. Schatzki himself is a practice theorist although he is not always clear on the extent to which he agrees and disagrees with arrangement theorists.

that the formation of groups depends not just on the working out of things in the present, but also on prior arrangements, experiences, memories, rules, etc. The elements responsible for this order are at times clearly identifiable: institutional rules, shared norms of behavior, or recognizable emotions. But they can also be more nebulous "affects" to which we are subtly attuned. Importantly, these organizational elements are not properties of individual minds that are simply put into communication during collective engagement, but rather "are features of the practice, expressed in the open-ended totality of actions that compose the practice" (2005, 481). So for example, a memory of a experience or an understanding of a specific goal may incorporate elements from the past, but these surface in particular ways during practice and in so doing become part of the common field. A consequence of organization for Schatzki is that practice has the ability to "inject a deep dimension of commonality into social life" (2005, 480) as participants engaged in an activity can share in the ordered doing of practice even while holding widely diverging viewpoints, identities, and motivations.

In sum, Schatzki's site ontology has many parallels with Latour's performative conceptualization of group, but he adds the additional element of *organized* practice into the conversation. Taken together these two approaches provide a solid foundation for understanding the emergent, performative, and practice-based qualities of group formation. However, I would like to conclude this section with one other theoretical perspective that can help us solidify the differences between community and associating. Whereas Latour and Schatzki generally avoid the language of community, preferring instead to talk about groups, organizations, or the social, the philosopher Jean Luc Nancy

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(1991) articulates his theories specifically in relation to community. This is helpful in that it allows us to better pinpoint deficiencies in community logic and reinforces the distinctiveness of alternatives. Like other critics of community, Nancy begins by rejecting nostalgic myths built on either liberalist ideals of individualism or communitarian ideals of a united totality. In either case, community is seen as fashioned together or produced through collective, rational action—a view that he critiques. For Nancy, community is not a fusion at all but rather an *in-common* that does not belong to a larger, generalizable substance; community for him is not something that is made, but rather that is experienced (1991, 31). Along these lines, a crucial distinction for Nancy is between *common being* and *being-in-common*:

> I start from the idea that such a thinking—the thinking of community as essence—is in effect the closure of the political. Such a thinking constitutes closure because it assigns to community a *common being*, whereas community is a matter of something quite different, namely, of existence inasmuch as it is *in* common, but without letting itself be absorbed into a common substance. Being *in* common has nothing to do with communion, with fusion into a body, into a unique and ultimate identity that would no longer be exposed. Being *in* common means, to the contrary, *no longer having, in any form, in any empirical or ideal place, such a substantial identity and sharing this* (narcissistic) *"lack of identity."* (Nancy 1991, xxxviii)

Although this formulation is rather abstract, it is clear that for Nancy there is no idealized, identifiable whole. Nor, if we continue with his logic, can we reduce being-in-common to singular, atomized beings. Rather, Nancy argues that there is an "originary or ontological 'sociality'" and that being-in-common is the fundamental and irreducible condition of life (he mentions in passing that this originary sociality might also extend to the "inhuman" world) (1991, 28).

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An interesting part of Nancy's theory is his formulation of being-in-common as the "sharing of singularities," or the mutual sensing of each other's boundaries—something he calls "compearance" (1991, 28). McMahon (2008) points out that Nancy predominantly uses metaphors of touch to describe this sharing of singularities. Touch does three things for Nancy. First, it allows him to describe mutual being that exposes limits or finitude, but simultaneously allows for new communication. As McMahon put it, "Spoiling the hygiene of atomized identities, touch communicates a passionate trembling on the edge of being, tracing the fragile sharing-in-common of that being. In place of fusing, touch denotes a separation or spacing between singularities, disrupting any myth of communion" (2008, 192). Second, Nancy stresses that being-in-common is not a type of social bond, as is often assumed by the term community, because this would assume pre-given subjects who are somehow put into "intersubjective" contact (Nancy 1991, 29). Touch is an apt metaphor here in that it indicates not a mutual attachment or bond, but rather an exposure that is already taking place, a being-in-common that precedes intersubjective attachments. Finally, touch allows Nancy to implicitly retain some of the sensual, felt implications of the term community that he feels are productive for political action. He is sympathetic to the implicit sense of sharing that is invoked by community but he argues that in order to advance political projects we need to recapture that sharing under notions of being-in-common.

It might seem that Nancy has taken us far from the practice and site-based ontology of Latour and Schatzki, but there are significant points of overlap among these three approaches. First, all subscribe to a non-essentialized, emergent view of being-in-

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common, or in my terminology, associating. Second, all agree that associating can

neither be reduced to individual parts nor generalized to a whole. Finally, they all stress

that associating happens through localized points of contact which we may think of as

sites, nodes, or points of touching. Combined, these theories represent a significant

departure from the logic of community (see table 4.2). Community, insofar as it can

manifest as a conceptual object, lends itself to debates over representation and belonging.

Associating on the other hand inspires questions about the "mesh of practice and

arrangements" in which we are actively engaged.

Community	Associating
Being in	Being with
Common being	Being in common
Has an essence	Without essence
Belonging	Impossibility of belonging
Existing	Becoming
Guarantee of identity	Impossibility of identity
Ostensive definition	Performative definition

Table 4.2: The logic of community versus associating. While I have polarized the two categories to highlight the distinctions, they are intertwined in theory and practice.

So far I have been arguing that togetherness happens through doing-in-common,

but I have had little to say about how people come to understand these practices. In the

next section I take up this issue and argue that emotion is centrally tied to both the

formation of the collective practices and to how we make sense of these at a bodily level.

Not only are practice and emotion nearly impossible to separate, but emotions help make

doing-in-common intelligible.

4.7 Associating as Heartwork

Jan told me he felt like he was getting an ulcer. This was after I asked him how the project in Tres Chiflones was going. Tres Chiflones is a small community tucked up in the hills east and inland of the Valdivian Coastal Reserve. Like Chaihuín, at the time of my research it was hosting a small community conservation project under a small-grants program. The two projects could not have been more different, however. With its strategic location along the coast and adjacent to the Chaihuín-Venencia property and later the Reserve, Chaihuín had been the target of numerous development projects over the years. This, combined with the fact that it was an increasingly sought-after tourist destination, meant that residents there were relatively accustomed to collaborating with outside institutions and hosting visitors. Tres Chiflones on the other hand was a forgotten community. Although it is in the same municipality as Chaihuín and the Reserve, it is completely isolated from them, accessed by an entirely different road corridor and unreachable from the coast. Tres Chiflones is also almost entirely surrounded by industrial forest plantations. Driving along the dirt road that bisects the community you see undulating hillsides in different stages of production. To one side of the road are tenuous rows of knee-high pine trees thinly filling a massive, lawn-like clearing. On a distant hill you can see the thick, uniform blanket of green where adult pines have filled in. Coming around a bend you are met with a view of chaotic upheaval—slash piles strewn about on bare ground that has become dry and hard in the sun. Needless to say it lacks the scenic appeal of the coastal route. Without tourist potential and large tracks of non-industrial land, the community has been largely neglected by government programs.

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This meant that when Jan and his colleagues AIFBN began working with Tres Chiflones on a project titled "Restoration of Biodiversity, Soil, Water Sources and Native Forest in the Community of Tres Chiflones" they quickly found that the community had little experience in initiatives of this sort.

When Jan made the comment about his suspected ulcer, we were driving in a jeep on the way to his office. It had been close to month since I had seen him and I had been convinced that he was blowing me off, not wanting the interference of a pesky researcher. What I learned, rather, is that he had been deeply immersed in the Tres Chiflones project—a project that up until then I had only heard about second hand. He went on to describe the long, intense, emotional meetings he had been having with community members over the past weeks. He explained the absolute exhaustion and stress he felt trying to open communication with them and get the project off the ground. He confessed to the anxiety he felt in trying to establish trust. Because this type of project was new there, each detail had to be explained delicately and sifted through by community members. There was no script for how to do it and no clear way to avoid the powerful emotions he was feeling.

In the following months, I observed the Tres Chiflones project at a distance, talking frequently with Jan, and with his colleague Pilar who came to take the lead in coordinating the venture. Due to delicate nature of the negotiations with the community in the early phases of initiative, I spent little time in the community myself. However, it was informative to watch the two coordinators navigate the emotional landscape of the project. Sometimes I would sit with Pilar in her office and she would discuss different

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problems she was having or uncertainties she felt about the way she was handing things.

I was happy to listen, and through these conversations I came to realize that the emotional

intensity of collaborative conservation is one of its defining features. It also became clear

to me that a better understanding of this emotional component was necessary for moving

away from the logic of community and developing a productive account of associating.

4.8 Emotions and Feeling-in-Common

It is difficult to mention "community-based" or just "community" without

implicitly conjuring up deep sentiments about how it *feels* to attempt common endeavors.

Even someone who has never set foot in a forest or collaborated on a conservation project

would likely recognize that the types of practices I have described so far—establishing

rapport with a group, celebrating a community project, planting hundreds of trees on

common property, and traveling internationally with a group—are ripe with emotive

potential. It would likely be hard to describe practices of togetherness without using

emotional language—love, hate, anger, happiness, sadness, annoyance. Despite this,

emotion is seldom brought into the debates about community and conservation. The

underlying reason for this is rather predictable: dualities between heart and mind, reason

and emotion, science and craft in Western thought that continue to plague even social

sciences which are otherwise critical of entrenched dualities. But there is more to it than

that.

A side effect of the complex community critique has been an implicit attempt to

purge the romantic, sentimental baggage that comes with the term community from

critical accounts of conservation. Authors have pushed against stereotypes of cohesive, bounded, localized groups by advocating that "local" people are themselves political tacticians, judiciously navigating currents of power, culture, and knowledge (Li 2002). This has been an important intervention, but as a result the main alternative to idealistic communities are contingent, calculating groups who deftly pursue their interests in the face of irrational categorizations. The alternative to noble indigenous communities in harmony with nature has become strategic, rational actors who advocate for their needs. And we have substituted isolated, bounded community groups for savvy networks of environmental tacticians integrated in complex markets and resource governance systems (Agrawal 2005).

In rejecting problematic caricatures and bringing cultural complexity and nuance to light, these critiques have unintentionally reinforced ideals of rationality and economic logic. In recapturing the *agency* and *smarts* of conservation participants they have simultaneously pushed aside their *feeling*. Although scholars readily acknowledge the passionate and creative workings of collaborative conservation and indeed draw on these for their own scholarly inspiration, in order to firmly separate critical accounts from normative ones, these passions are either left out entirely or only talked about in generalized ways. For example, in the edited volume *Communities and Conservation: Histories of Politics of Community-Based-Conservation* (Brosius, Tsing, and Zerner 2005)—which includes many thoughtful pieces about community politics in conservation—the word "knowledge" is mentioned 71 times, whereas "emotion" and

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"feeling" combined are mentioned just six. In working so hard to be "against the romance of community" (Joseph 2002) it seems that we have become against romance in general.

For Jan and Pilar working on the Tres Chiflones Project or for the fieldtrip travelers previously described, however, emotions not only helped shape the course of events but also helped people understand practices as shared. As we register frustration, excitement, and weariness in our own bodies and in the bodies of others, we come to acknowledge the process of sitting side-by-side through an unfolding experience. Emotions help make our doing-in-common more intelligible. To be clear, I am not making a case for the role of emotions in generating a sense of belonging. Plenty of authors have explored this topic in relation to, for example, emotional attachments to nation or to specific political groups (see for example Anderson 1983; Ho 2009). Nor is my purpose to interrogate whether emotions themselves are collective, individual, or somewhere in-between. Rather, I will explore how emotions provide corporeal, representational signposts that help us navigate associating.

My approach is similar to Ahmed's (2004) discussion of collective feelings.[39] For Ahmed, collectivity is formed through emotional intensities that emerge when bodies

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[39] Recapturing emotion has been the explicit goal of recent work in geography (Ahmed 2004; Davidson, Bondi, and Smith 2005; Smith et al. 2009). A reoccurring theme in this literature is the spatial nature of emotions. For example, Smith et al. (2009) claim that emotions have their own geography in that they can connect distant places (as in an emotional attachment to a faraway homeland) and add contour to particular landscapes. At the same time, emotions are difficult to map and pin down to any one location: "they are, paradoxically, both inordinately diffuse and all pervasive and yet also heart- and gut-wrenchingly present and personal" (3). This characterization is remarkably consistent with thinking about associating as both phenomenologically present yet also elusive in its ongoing emergence. Moreover, according to Smith et al., space is never the emotional vacuum Cartesian rationalism would have us believe—even abstract imaginary space has its own emotional connotations, although these are rarely discussed as such. We have already established that associating is spatial and site specific. Thus it is intrinsically imbued with emotionality—the inevitable feelings that arise from being-in-common *space or place.*

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come into contact. She claims, and I would agree, that emotions "do work" in that they

allow for affinities between bodies—attachment happens "through being moved by the

proximity of others" (27). She describes emotions as tied to the ways we dwell with

others: "emotionality is a responsiveness and openness towards the world of others."

While she does not specifically refer to practice we could infer that shared practices entail

this type of emotional openness in that they involve bodies coming into contact. Ahmed

also claims that emotions work to "surface" particular subjects and objects—the

individual, the collective, the other—thereby making them legible and exposing their

boundaries. Here, however, my approach differs. First, because she is concerned with

the work of emotions in individual and collective subject formation, there is little room in

her account for thinking of togetherness as open-endedly social, that is, not tied to any

specific ostensive subject but rather as always *becoming social*. Second, and related to

this, Ahmed (2004) tends to characterize collectivity as an external construct that both

proceeds and is an effect of emotions coming into contact: "It is not just that we feel for

the collective (such as in discourses of fraternity or patriotism), but how we feel about

others is what aligns us with a collective, which paradoxically 'takes shape' only as an

effect of such alignments" (27). Here "the collective" stands apart as a discursive object,

which is different than the analytical thrust I am pursing.

        To explain this further I first have to describe what I call the "practice-affect-

emotion spiral"—the cycle of practice, affect, and emotion cause and effect that loops

through unfolding associations. It functions like this: as practices and material

arrangements unfold they produce affects, understood as virtual potentials that are rooted

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in, but excess to, actual material conditions (Massumi 2002). So returning to the airport scene, the intersection of the rain, darkness, luggage, airport benches, and bodies created a certain "atmosphere" (Anderson 2009) to which we were attuned but could not entirely know or sense. As embodied beings, we were necessarily open to the affective conditions of the scene, always sensing and perceiving the environment around us (Ingold 2000; Merleau-Ponty 2006 (1945)), yet the affects themselves were autonomous—they escaped confinement to a particular material or body (Massumi 2002, 35),

At the same time, affects give rise to material, bodily expressions and practical capacities. In sensing the world, bodies "capture" affect and in so doing transform it (it ceases to be affect) into bodily states, feelings, and emotions. These can directly inform practice—I feel angry so I go take a walk—and they give rise to new affects which produce new feelings and so on. This spiral is not a conscious or willful process, not something we can turn off and on with a switch (although it is not necessarily entirely unconscious either). The very condition of being alive and acting in the world means that we are emotional (Anderson 2006; Damasio 1999). Because of this, our practical entanglement in the world, our doing-in-common with others, guarantees a life of feeling. Of course, not all feelings manifest in discernable, knowable ways; some may remain pre-conscious and non-representational. Thus it can be difficult to tell where practice ends and affect or emotions begin, difficult to see the translation from one to the other and back again.

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Despite this, affective capture also readily gives rise to discrete, nameable sensations—goose bumps, happiness, unease, excitement, laughter—all the things we commonly associate with emotions. These can be focused in some people and not others, or harnessed in particular ways by charismatic individuals (Law 1994). While much of the practice-affect-emotion spiral may be non-representational, it is punctuated by representational moments along the way—a burst of rage, a loving embrace, a look of serenity. These readily recognized expressions and exchanges help us register what others are feeling and in turn make us feel in new ways. They allow us to grasp, in a bodily sense, the contours of shared practice and even help us generate symbolic and discursive interpretations.[40]

Latour, Schatzki, and Nancy, each advance an understanding of associating that accounts for some degree of affectivity, but they fall short in their treatment of emotion. Latour (2004) has described how bodies become attuned or sensitized to the world through practice thus recognizing the body's role in mediating affect. Schatzki discusses the role of teleoaffective structures in group formation and although he defines these as

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[40] Perhaps surprisingly, there are parallels with recent accounts of emotion emerging in the biological sciences. Conventional understanding would have it that emotion is separate from higher reasoning—that it is an impediment to rational, objective thought. Even though modern science tends to locate emotion in the neuro-chemical workings of the brain (rather than in the soul or body as earlier thinkers did) it still remains an irrational excess to be overcome either by self-discipline or by a medical retuning of inner body chemistry. Damasio (1999) has a different perspective. Based on research in cognitive science, he argues that emotion is a fundamental part of bodily functioning and that it is a necessary ingredient in higher reasoning rather than an externality to it. For him, emotion helps our organism maintain homoeostasis in a dynamic environment—it helps us calibrate to the world around us and thus is primary foundation for decision-making and higher reasoning. Emotions then are not a primitive holdover from ancestral eras, but rather are the very things that make us advanced humans. Damasio also points out that from a biological perspective we are deeply attuned to reading emotions in other people. We can intuitively "sense" how others are feeling based minute changes in body language or subtle shifts in tone. In sum, what Damasio is asserting is that emotions are far more important to thought and action—and we can also add collective action—than conventionally assumed.

concrete matters of fact—rules, procedures, and norms—he also acknowledges that teleoaffectivity can have an indistinguishable, nebulous aspect. This latter sense is consistent with how I am characterizing affect here. For Nancy, mutual sensing creates what we might call an "affective" in-betweenness, although he does not use that term. All three thinkers speak to the open-ended excess implicit in group formation, a formulation that is very much coherent with affect understood as virtual potential. Despise this, Latour, Schatzki, and Nancy have little to say about emotion explicitly, and generally avoid reference to specific felt experiences such as anger or sadness. (Schatzki does mention that emotions and moods are part of the teleoaffective structure, but his elaboration of their functioning and importance is minimal.) This is not entirely surprising in that emotions are sticky business; they are difficult to explain and can represent a Pandora's box of conceptual complexities.

The neglect of emotion, however, limits these otherwise insightful theories of group formation. First, it sets us up to think rather mechanically about practices. Although neither Latour nor Schatzki conceive of practice in mechanical terms, there is a residual sense in their accounts that practice is somehow without emotion, as if it were a sort of technology of action. Second, people involved in collective endeavors spend a great deal of time talking about and observing their emotional processes. This is certainly true in the conservation projects I observed, and it likely applies to numerous other encounters as well. Much of this dialog is so mundane that it is hardly noticed. Everyday phrases like "I'm tired of this," "he is bothering me," or "thanks for your help" can indicate profound and nuanced emotional entanglements that are very much part of

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the landscape of associating but are difficult to place in terms of practice or affect alone. Thus we need the vocabulary of emotion (despite many problems with that vocabulary) in order to articulate processes of group formation, communicate our experience of collectivity with one another, and help us understand events as shared. Armed with this expanded understanding of associating, I want to conclude with one brief example that illustrates how practice, emotion, and place are intertwined in the real-time unfolding of being-in-common.

4.9 Laughter

Peals of laughter billowed from the open-air lodge and dissolved into the black of the cloud forest below. Under the tin roof of the lodge, candlelight flickered off the rosy faces of weary travelers. In the distance, the hoots of howler monkeys echoed around the valley. The monkeys seemed uninterested in our jokes, which was their loss because the comedic entertainment was unbeatable. We could barely handle ourselves, our bellies aching from jubilant contractions and our cheeks sore from smiling.

It was the last night of our fieldtrip in Costa Rica and we sat in a mountain-top lodge nestled in the forest highlands of the Nicoya Peninsula. The lodge belonged to a cooperative of local residents, going by the acronym ASEPALECO, who were working to protect their watershed by buying up land and generating revenue though tourism. The source of our laughter was Julio and Víctor, the two Costa Rican guides who for the last six days had been leading us through the countryside. We had just finished dinner and were gathered around the dinner table, listening as the guides enlightened us to the Coast

Rican art of joke telling. You see, they explained, in Costa Rican Spanish the word *chile*,

besides referring to the spicy vegetable or a nation in South America, also means 'joke.'

They come in two kinds: *chiles rojos* and *chiles de la mesa*, literally 'red chilies' and

'table chilies,' or 'dirty jokes' and 'clean jokes' respectively. The fact that our country of

origin was synonymous with 'joke' had given Julio and Víctor endless amusement. They

had been gingerly slipping various gags and puns into conversation all week, but it was

not until this last night that they really took off. Loosened by rum and with the weight of

our demanding itinerary now behind us, Julio and Víctor launched into a terrific show.

They rolled from one hilarious joke to the next, perfectly improvising their routine, and

getting progressively more vulgar as they went. Laughter swelled around the lodge,

rising and falling to the rhythm of their voices. We were helpless, caught up in some

clandestine show that had both nothing and everything to do with the environmental

agendas we professed to be forwarding.

The laughter in itself was significant here. All week we had been hearing stories

from our Costa Rican hosts about their efforts to protect a patch of forest, generate an

income without sacrificing ecological integrity, gain respect from the neighbors, and

wade through labyrinths of policy and regulation. These were heart-opening and heart-

wrenching stories, filled with joy and hope but also failure and uncertainty. Either way

there had been little to laugh about in these accounts—the realities of life on the margins

of development and conservation were all too familiar for the Chileans. Although we had

casually discussed our experiences in free moments on the bus or during a pause of

activity after dinner, these had been partial, disjointed conversations. The laughing

functioned then, not just as a release from the cumulative emotion of our journey, but also as a way of communicating with each other—a way of saying "we have just lived though something together." This is what Thrift means when he says that emotions are a type of "corporeal thinking" (2008, 187). It would be incorrect to think of this joyous communication as a coping mechanism that simply materialized spontaneously among the group, a view that would suggest emotional displays can be attributed merely to shared physiological states. Rather this interaction emerged from the embodied practices of the journey itself, particularily in the hour preceding our dinner in the lodge. Let me rewind and explain.

Our evening of comedy had begun on a less cheerful note. We had arrived at the entrance to the conservation area in early afternoon, hungry for lunch and exhausted from being on the road. Julio and Víctor had informed us that the hike up to the lodge was about two miles uphill from the park entrance. It was pouring rain. We decided to have lunch and wait it out. It was late afternoon when the rain finally lifted, and we picked up our bags and headed out. The wooded trail was dark under the forest canopy and the wet air felt heavy all around us. We had to concentrate on the muddy path and we walked mainly in silence, pausing here and there for Julio to point out an interesting plant or insect. As the terrain got steeper, the group began to dissolve. One woman fell off the pace and someone was sent back to walk with her. Another woman took a nasty fall, got scuffed up, and rested on the trail. Some people went to check out a waterfall and swim in a lagoon. Others contemplated the forest. We were together yet not, going in the same direction but at different speeds and with different diversions along the way.

There are two points of interest here. First, the physical spreading out of the bodies on the trail is metaphor for how we might think about the performance of collectivity. Associating is an always ambiguous process. It is disjointed and filled with stops and starts. If you try to locate the group, it is never quite where it is supposed to be. Someone has fallen off the back. Someone else took a side trail. Second, this splitting up and coming together happens in an environment, here along a trail through the woods. The ups and downs, the footing and humidity, the steps and stones all mattered for how we come together or don't. Knees, lungs, and blistered feet also play a role as people make their way towards or away from each other. These physical and embodied processes are part of the "site" or "field" that Latour and Schatzki describe. Importantly, within this field not all of the relationships that influence the group can be known. Some are fleeting, some barely felt, some unable to be mapped—the slight increase in heart rate that signals it is time to slow down, the unexpected loss of balance that causes a fall. Thus group making here relies not only on asserting one's interests or attitudes about group life—what we often assume to be the primary driver of community formation—but also on a sort of skilled coping with the field, a physical feeling out of the terrain.

After a couple hours the front group of hikers reached the final section of the trail. This consisted of steep steps built into the earth with concrete blocks. As we climbed, the sun began to break through the clouds. Birds fluttered in the branches. By now we were exhausted, sore, and drenched with sweat. We arrived at the lodge fragmented physically and emotionally. As the rest of the group trickled in anger flared up. Some were mad because the hike had been more than they expected. Others were upset by the sleeping

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arrangements. Arguments broke out. There were heated discussions among the leaders

about whether or not to hold a group debrief of the trip after dinner and what that process

would look like. Critiques about how the trip had gone so far surfaced. Judgment and

blame were passed around. The light began to fade. Generators kicked in. Bats took

flight.

This was a notable point of convergence in our day. The emotions caused added

stress, but were not entirely unexpected. We were tired. We had been together intensely

for several days. What was more curious was the way the mood seemed to circulate

around the group, even among those who made a point to stay out of the heated

discussions. We might think of this in terms of Ahmed's description of being moved by

other bodies, or Nancy's notion of mutual sensing. Because bodies have an openness to

the world there is always the possibility for emotions to spill out and emerge, for affect to

circulate and mix as people and things come into contact. The hikers coming off the trail

were vulnerable and tired, with the typical norms and courtesies worn away by physical

activity. It seemed as if there was greater permeably and sensitivity to the emotional

fluxes at play.

By the time we assembled in the lodge for dinner the anger had subsided

somewhat. Still the mood was rather somber and we ate our beans and rice in relative

quiet as darkness settled into the forest. After the dinner plates were cleared, one of the

NGO representatives got up and explained that she would like everyone to go around and

reflect on what they had learned from the fieldtrip and explain what they might be able to

apply back home. The purpose of this go-around, as it had been hashed out in

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discussions earlier that evening, was for each group member to contemplate the journey

and generate some practical conclusions—in other words to *rationalize* the trip and its

meaning in relation to future conservation work. Interestingly, what actually emerged

was a heartfelt exchange in which the various group members expressed appreciation, for

the chance to go on the trip and for each other, as well as inspiration, hope for the future,

or simply an aliveness they felt from having been on this journey. Intimacy and openness

infused the group.

And then finally the jokes. If we had not been so tired, if we had not fought with

each other that day, if our legs had not been so sore and our feet so achy, I am not sure

we would have arrived at that point of total silliness and folly. Nor would we have ended

the trip with the same sense that being together has its frustrations *and* its joys. When we

hit the tarmac in Chile two days later, after multiple flights and airports, the trip had

already taken on a dream-like quality. The group had scattered and it was unlikely that

we would all be together again. We had very little tangible proof of our accomplishments

and even fewer guarantees that the trip would lead to real change. Yet being together that

night in the lodge had left us with the impression that we had done something important,

something worth laughing about.

4.10 Conclusion

In this chapter I have attempted to disrupt essentialized, normative notions of

community in conservation by placing practice and emotion at the center of

understandings of collective life. My argument required a series of analytical moves.

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First, I pointed out that despite efforts within political ecology to rematerialize community they have not pushed far enough away from the idealist notions they disparage. As a result, "community" still lurks in the margins of otherwise insightful analyses, rather cunningly framing our ideas of what togetherness can and should be. Second, I argued that rethinking collective life around notions of practice elaborated by Latour, Schatzki, and Nancy helps us better understand the continual unfolding of togetherness—the surfacing and falling apart of associations. Finally, I looked at the way emotions are tied to these practices through the "spiral" of materials, excesses, and bodily captures that characterize lived action. I also suggested that because emotions contain representational content, they help us make sense of our doing-in-common.

These have been complex and imperfect moves to make. Practice and emotion are difficult to pin down and ambiguous both in their conceptual formulation and material effects. This is especially true when looking at collective entanglements, which in their knotty complexity can exasperate scholars and practitioners alike. The analysis presented here also sits in uneasy tension with empirical encounters, as I hope my scenes from the field have illustrated. Narrating togetherness is always a problematic and partial endeavor. This is, I believe, all the more reason to put practice and emotion at the center of analytical approaches to group life in that they allow us to "read the little, the messy and the jerry-rigged as a part of politics and not just incidental to it" (Thrift 2008, 197).

I also see no reason to abandon the notion of community and the normative idealism it provokes. Community is powerful concept, one that we need very desperately in conservation and environmentalism. We need it for its familiarity, common-sense

meaning, and ability to quickly encapsulate notions of the common. We need it to continue invoking ideals of solidarity, peace, and empathy. We need it for its tacit, affective capacity to connect, inspire, and rally. We need it too for its complexity and because it incessantly propels us to ask challenging questions about who is considered in and out, about how we identify and represent groups, and about who has the power to decide the fate of collective endeavors. But I also think we urgently need to supplement community with a better understanding of what I have called in this chapter "associating."

To take associating seriously in conservation work, we may need to radically suspend the politics of community, which we are so accustomed to fighting for and against, in order to reflect on the lived experience of being-in-common. In places like Chaihuín and Tres Chiflones, where the effects of corporate expansion and capitalist policies are so distressingly blatant, this can be difficult to do—these forces have left all those involved awash in an indelible polemics. But observing community-based conservation projects in southern Chile I became convinced such reflection was invaluable to collaborative endeavors. Moments of synergy often emerged when people were able to move beyond their well-rehearsed patterns of critique and complaint and to ignite a curiosity for each other and for the process at hand. Indeed one of the strengths of small-scale projects is that despite their difficulty and sometimes uncertain outcomes, in their intimacy they allow for unexpected realizations about what it means to work, live, and feel in common.

CHAPTER 5: INHABITING

Prelude

Apiculture is thought to be good for sustainable rural development. Funders offer small grants. Beehives are cheap and easy to build. They are painted bright white, yellow, and blue, stacked in a shady corner behind the house. Queens are bought from Puerto Montt in the south. Experts are brought in to show how, give tips for tending and maintaining. The bees go buzzing around. They are good for the forest with all their pollinating. Or so the story goes. Hopefully they land on the ulmo, *a native tree with large white flowers. Makes the best tasting honey, gives it that native flavor. Visitors come to look at the hives. Are impressed with the smoke gun, the protective gear, the honeycomb. Unexpectedly, colonies die. No one understands. There is talk of a fungus. A virus. Poor genes. Scientists are investigating. Some lucky hives survive and novice beekeepers harvest honey in earnest. A shiny metal hand-powered centrifugal extractor is purchased and set up in the yard. Tired arms take turns cranking it around and around. Bees get everywhere. Some fly in the house. Someone gets stung multiple times but is ok. Gradually honey drips down the side of the extractor. Flows out a spigot at the bottom, is collected in jars. Sweet honey golden nectar pure. Later to strain, to bottle, to label, to sell. At markets and in local shops. A Mapuche name is choosen. It means "earth and sea." According to the pollen analysis 27.8% of the honey comes from* tiaca, *17.3% from* avellano. *This too is printed on the label. So exact. Someone likes the looks of this jar against all others on the shelf. Money changes hands. A very small amount. Down the road, another community receives a grant. More hives are built. More bees die. More flowers are pollinated. More tea is sweetened. Rural poverty does not end. The forest is not protected indefinitely as an indispensable source of not-timber wealth. Apiculture is still thought to be good for sustainable rural development. But funders are trying a new strategy. This year they focus on desertification. (after Cook 2004)*

5.1 Making Change

In trying to make sense of the complexities of conservation and resource management, political ecologists have been increasingly drawn to notions of assemblages and networks. Loosely based on the post-structuralist philosophies of people like Bruno Latour, Manuel De Landa, Gilles Deleuze and Felix Guattari, assemblage thinking emphasizes how heterogeneous elements come together in diverse and often

unpredictable ways to create temporary stabilizations that are always in flux. Scholars

have shown, for example, that many taken-for-granted components of environmental

work, such as resources, forests, institutions, and communities, are not simply pre-given

"things," but are "ineluctably produced in and through relations in a dynamic fashion"

(Escobar 2008, 25). Even seemingly concrete entities such as spaces and territories are

composed of various materials, processes, ideas, affects, and practices that are always

getting "worked out" as new elements change and come into contact. Assemblage

thinking tends to foreground the "emergence, multiplicity, and indeterminacy" of social-

spatial relations (Anderson and McFarlane 2011, 124) and stresses "eventful, disruptive,

atmospheric, and random juxtapositions" (McFarlane 2011, 651).

Assemblage thinking has been implicit to the arguments advanced in this

dissertation so far. One of the goals has been to show that despite well-made plans, we

can never fully predict or control the interplay of people, materials, knowledge, and

nature within environmental initiatives. Conservation projects are themselves

assemblages and the people involved rely on "skillful coping" to maneuver their way

through the twists and turns of environmental work. To highlight this, I have purposely

stressed the contingency and novelty of conservation activities. Chapters 2-4 emphasized

specific encounters, tracing the unfolding actions of people and things as they come

together in real time. It has been necessary to hone in on discrete and seemingly isolated

events—specific hikes in the field, particular days spent examining the forest, or

moments of group togetherness—in order to portray the fine-grained detail of

conservation as embodied performance and to draw attention to the disruptive, relational character of practice.

The trouble with assemblage thinking, however, both as I have developed it in this dissertation and as it has been taken up by political ecologists is that it can at time seem at odds with the very regular and habitual ways we live and work. Although we are always entangled in unfolding assemblages, these unfoldings are often expressed in concrete sorts of patterns and rhythms— regular commutes to and from work, routine sequences of steps when examining a forest, periodic gatherings and meetings. Observing conservation projects in Chile, such regularities of practice seemed quite important to the way environmental initiatives happened. Despite the overt goals of creating change and innovation, projects often relied on predictable processes and mundane *cycles* of activity to give form, meaning, and momentum to conservation work. Casual conversation too revealed strong attachments to the "ways things were always done" or frustration that "things never change." If environmental projects are assemblages of fluctuating relations and emergent elements, then why does conservation work often seem so regular, habitual, and disciplined? Moreover, what is the nature of the routines common to environmental work and what can be gained by reflecting on them?

For Deleuze and Guattari, the concrete habits of life and work are not at odds with assemblage thinking. In fact, they are quite cognizant of the way practices repeat and reoccur and how these repetitions spiral in and through fluctuating assemblages, a process they describe in terms of the refrain or *ritornello.* Their idea of the refrain is

developed most explicitly in their book *A Thousand Plateaus* (1987) but the thinking

behind it threads though much of their other writing, as well as Guattari's later solo work.

For Deleuze and Guattari, refrains are basic building blocks of social and political life.

They work to bring stability and order to the world against the always encroaching forces

of chaos (Grosz 2008). Unlike common-sense understandings of habit or repetition,

however, Deleuze and Guattari do not consider refrains to be a reoccurrence of the

same—which would imply fixed states and internal rigidity. Rather, refrains always

entail a transformation: "a refrain clearly involves an element of recurrence. But

recurrence is neither mimesis nor simulacra. It is not a repetition of the same or a copy of

a copy without original, but a positive production that is singular—*a repetition with*

difference" (Coonfield 2009, 13). While we often assume that repetition precludes

innovation and change, for Deleuze and Guattari refrains are fundamentally *creative*.

They serve as a basis for new possibilities and potentials to emerge allowing us to "join

with the forces of the future" (Deleuze and Guattari 1987, 311).

In this chapter, I explore how habit, ritual, and routine matter to the assemblages

that constitute conservation. My goal is to extend notions of practice developed in the

dissertation so far through an examination of Deleuze and Guattari's notion of refrain.

This chapter itself works as a refrain in that it reflects on and revisits themes developed in

previous chapters. However, here I focus on how practices become rhythmic and how

these rhythms bring order and sense-making to the conservation process while

simultaneously providing openings for novel processes to unfold. Specifically, I examine

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the multiple and overlapping ways that refrains shape the practical field, including for example:

a) Orienting practice: refrains give direction and bearing to experiential processes.

b) Composing practice: refrains bring different activities and modalities of practice into relation according to aesthetic sensibilities.

c) Creating new practice: refrains allow for fresh potentials and innovations to emerge, in part by working as a platform for experimentation and reflection.

I will begin by introducing Deleuze and Guattari's notion of the refrain using an example from the Valdivian Coastal Reserve. I then draw out three ways in which refrains were at work in the projects I observed, exploring the interplay between routine, systemization, and creativity in conservation practice.

5.2 Multiple Territories of the Refrain

When seen from a satellite view, the tangled dirt roads of southern Chile are useful landmarks among the sometimes indistinguishable topographic ripples and unmarked polygons of the rural landscape. From the ground, these roads are lifelines, creating passages for people and things through what would otherwise be nearly impassable terrain. They are, moreover, corridors of activity, movement, and conversation—pathways that allow the passage from one realm of activity to the next. Chile's dirt roads have already received much attention as a backdrop to the movement practices that constitute conservation work (Chapters 2 and 3). But as conduits roads (as

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well as trails, paths, and tracks) also allow for *refrains* of movement that structure conservation in interesting and significant ways.

The director of the Valdivian Coastal Reserve, Alfredo, split his time between two residences. During the week, he lived in a cabin at the park headquarters which was located just across the river from the village of Chaihuín. Here he was immersed in the workings of the park and the goings on of the rural communities nearby. He was always "on duty" so to speak, and deeply entangled in his professional role as the director of a 250,000 acre reserve. His main residence, however, was in Valdivia where his wife and son lived. Valdivia is a drive of an hour or more, depending on the weather conditions, but it can sometimes feel like a very faraway place. It is urban and relatively cosmopolitan compared to the tiny community of Chaihuín. Alfredo went home most weekends and sometimes made the trip to town during the week for meetings or other engagements. All told, a significant part of his work routine involved driving back and forth from Valdivia to Chaihuín.

In an interview discussing the challenges of his job, I asked him specifically about this commute. I inquired both about the time "lost" to travel and the complications of maintaining a geographically separate work and home. He responded that he did not altogether mind the drive because it gave him a "chance to think" and an opportunity to reflect on his life. It helped him make sense of the transition from work to home and back again, and helped him feel grounded in each location. He also commented that he noticed things on the drive. There was, he said, "always something interesting to see." He mentioned the weather patterns which are continually shifting along the coast and said

he liked to watch the different colors and lights wash over the ocean and sky. At the same time, however, he talked about how difficult it was to be apart from his family during the week. He sometimes felt that he was missing out on events in his son's life and was at times torn between the two worlds. The physical practice of commuting—the habitual coming and going between his administrative and domestic worlds—was wrapped up in these emotional registers and reflections.

The general and rather opaque definition of a refrain given by Deleuze and Guattari is "any aggregate of matters of expression that draws a territory and develops into territorial motifs and landscapes." To make sense of this we must first understand that for Deleuze and Guattari, a territory is not a place or a delimited area of the earth such as we commonly understand in geography. Rather territories are assemblages or open-ended processes of arranging and fitting together forces, materials, ideas, bodies, and qualities (Deleuze and Guattari 1987). These are always coming together and falling apart, what Deleuze and Guattari refer to as territorializing and deterritorializing. Refrains, then, are caught up in this process—they both participate in the forming and reforming of territories and also give expression the way these changes come about.

According to Deleuze and Guattari, refrains are made up of three components that are simultaneously present but which manifest in different intensities for different cases. First, refrains construct a "point of order or inside", what we might think of as a home or nest—a place that temporarily provides stability, reassurance, and safety (Grosz 2008, 52). The example Deleuze and Guattari give is of a child singing softly under his breath to comfort himself and keep fear at bay (Deleuze and Guattari 1987). This component of

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the refrain is an *infra-assemblage* in that it fixes "a fragile point as a center" (Slack 2003 quoted in Coonfield 2009)   For Alfredo, the repetition of the commute had a similar effect. It was a grounding and comfortable routine that kept chaos in check. His regular observations of the land, the sky, and the ocean as seen from the familiar window of his jeep enabled sense-making and place-making against the wild unpredictability and disorienting tendencies of his professional work. However, the ritual of the drive also helped Alfredo demarcate different fields of practice and differentiate between his work and personal life. This corresponds to the second aspect of refrains, which for Deleuze and Guattari is a delimiting effect. At the same time as creating a home or center, refrains function as circles of control that define a flexible inside and outside; they create borders or walls between one territory or assemblage and the next (an *intra-assemblage*). For Alfredo, the commute generated certain professional and domestic territories— conceptual and practical boundaries between city life and rural life were worked out in the routine rhythm of the drive. The commute helped him register the differences between each space and the physical distance of the drive gave him chances to process the emotional distances between his multiple roles.

Finally, refrains also allow for a movement outside of territorial limits, what Deleuze and Guattari call a "line of flight" (or an *inter-assemblage*). A line of flight is a "path of mutation precipitated through the actualization of connections among bodies that were previously only implicit (or 'virtual') that releases new powers in the capacities of those bodies to act and respond" (Lorraine 2010, 147). In other words, as refrains bring order, sense, and finitude to assemblages they also become platforms allowing for new,

creative directions to emerge which move into or toward other assemblages. Think of a standard jazz tune that becomes the basis for improvisation. Or a jogger who explores new side-trails after becoming bored with a well-worn route. For Alfredo, his drive to and from the Reserve allowed time to think creatively about the conservation endeavors he oversaw. The mundane quality of the commute meant that the activity at hand (driving) could drop away, allowing space for "creative mutations" (Guattari 1995) in the form of reflective insights which might in turn propel a different course of action. To be clear, the line of flight in this case is not simply the cognitive process of thinking or rethinking, but rather encompasses the entire assemblage of the driving body, the mind, the road, the surroundings, and so on which create the conditions of possibility for thought.

In this example, disruption and mutation of the refrain is happening from within the assemblage, but deterritorialization can also happen from without. Although Alfredo described his commute as tranquil and grounding, it was clear that the normalcy of his routine was always potentially being disrupted. To get from Valdivia to Chaihuín you have to cross the Valdivia River and the quickest route is to take a car ferry across the wide bay where the river enters into the Pacific. The other option is to follow the back roads upriver to a point where you can drive across, but this adds an hour or more of driving time. The trouble is that although the car ferry presumably follows a schedule, it is notoriously irregular, coming and going seemly at whim. And if you miss the ferry, you likely will wait for the better part of an hour for the next one to arrive. Alfredo told me that he used to call the ferry landing before leaving Chaihuín or Valdivia, so he could

time his trip and not be delayed. But even then he found that the captains would not stick to the timing they had indicated. Now, he says, "he just finishes his work and goes." If the ferry is there, great, but if not then he chooses whether to drive around or wait for the next boat.

These small inconveniences disrupted the rhythm of his travel, jolting his routine into other trajectories and routes. But the unpredictably of the ferry crossing also created lines of flight into other *emotional* territories, beyond the affective horizons of home and work. Despite the persistent banality of the ferry crossing—the waiting, the dead minutes while crossing to the other shore—there are occasional moments of danger and fear. Alfredo described times when he had caught the last ferry out before the crossing was shut down due to high winds. Those times, he said, "you can *feel* why they are closing down the bay." He commented that the crossing was much more dangerous than people realize. The ferries often carry heavy equipment back and forth and he has seen big pieces of machinery not properly tied down, rocking ominously with the waves. Alfredo says he does not trust the captains, who have a tendency to cut corners and not follow safety protocol. Binnie et al (2007) note that the mundane realm:

> Offers conditional possibilities for certainty and security, allowing us to order our everyday life-worlds with a necessary degree of predictability and comfort. Yet in constant and productive tension with the routine is potentiality and possibility: mundaneity is always potentially otherwise, slipping out of kilter, disrupted and rent asunder through unforeseen occurrences and unfamiliar conjunctions. (167)

This is precisely the nature of Alfredo's commute. Here we have a mundane refrain that is always potentially otherwise, evading strict divisions between the ordinary and the unexpected just as it "evades strict spatio-temporal delimitation" (Guattari 1995, 16).

Thus while ordinary commutes are not typically recognized as substantive of conservation projects per se, they create ways of inhabiting the physical and emotional territory of environmental work. Alfredo's mobility refrain is performed in three "layers," simultaneously producing a home, a set of boundaries, and paths into unknown territories, all of which work to assemble his role as the director of the reserve.

While I have described this refrain in relation to a single figure, Alfredo, it would be wrong, according to Deleuze and Guattari, to think of refrains as bound to the fixed and stabilized subjects in the way that we typically think of habit as an outcome of the internal states and tendencies of the individual. Rather, subjects are expressed *through the refrain,* or more specifically, they are *expressions of territory* organized by the refrain (Coonfield 2009, 12). For example, we can think of the Valdivian Coastal Reserve as a conservation assemblage comprised of various institutions, ecological processes, mandates and technologies which work together to constitute the physical and discursive territory of the Reserve. Professional subjects like Alfredo emerge from this assemblage in part through their particular habits and routines, while at the same time remaining *polyphonic* subjects in their own right (Guattari 1995).[41] Alfredo comes to inhabit his professional role as a Reserve director by territorializing, through the refrain, the chaotic vibrations of the surrounding world. Thinking of subjectivity in this way reverses the normal dialog about stakeholders as individuals or groups who presumably cling to particular interests and ways of behaving in relation to a conservation issue or project.

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[41] An "individual" subject is polyphonic in that they are constituted through multiple, complex refrains each of which is itself pre-individual. The subject manages to maintain a sense of unity because the refrains fix a certain "existential territory of self" (Guattari 1995, 17). Or to put it more simply, we come to understand our "self" through our habits.

We could instead view stakeholders as *held* in place by overlapping territorial refrains, whether these are mundane work routines, customary ways of interacting, or practical habits. In other words, our practical habits are basis for, rather than the outcome of, subjectivity, identity, and ideological positions. So far I have used the example of Alfredo's commute to introduce the refrain and to show how Deleuze and Guattai conceptualize it in territorial terms. In the next three sections, I will further explore how refrains work to bring order, stability, and creative opportunities within the conservation projects I observed.

5.3 Ritualistic Gastronomy: Edible Refrains of Trust

It is customary in rural Southern Chile that if you are visiting someone in their home, you will be offered food or drink. This is especially true if the purpose of the visit is "official," as in meeting about a conservation project or discussing a forest management plan. A visit might proceed as follows. The "outsider"—a technical advisor, project coordinator or the like—will arrive at the home and be invited into the kitchen or dining area. They would be offered tea and bread while the family members involved would join in general small talk before turning to the topic at hand for the day. The tea would be black, often Ceylon, and the bread would typically be a type of flat white biscuit called a *hallulla.* Any fieldwork to be done would come next, and if it was extensive—say hours out inventorying a forest or planting seedlings—the group would go back in the house after the labor was finished. At this point, the visitors would be offered something more substantial, perhaps a hot bowl of *cazuela,* a traditional Chilean

soup, or maybe homemade apple cider called *chicha* served with toasted ground wheat. If the guests were not hungry they might be expected to stay and drink some *yerba mate*—a stimulating tea-like beverage prolific throughout the Southern Cone of South America. Finally, if the friendship between hosts and visitors was particularly strong, they might be offered something for the road—a kilo of homemade cheese, some honey harvested from the property, or a bottle of *chicha.* To refuse any of these offerings would be in bad form, or at the very least create an awkward moment between visitors and guests.

"It is odd," remark Deleuze and Guattari, "how music does not eliminate the bad or mediocre refrain, or the bad or mediocre usage of the refrain, but on the contrary caries it along, or uses is as a springboard" (Deleuze and Guattari 1987, 349). They go on to say that "childhood or bird refrain, folk song, drinking song, Viennese waltz, cow bells: music uses anything." It might seem odd, almost silly even, to delve into the rituals of food and drink for insight into environmental projects. Food rituals are of course intensely interesting in their own right, but presumably far beyond the scope of conservation work. Yet in my fieldwork I could not help but think that conservation and resources management in Southern Chile were not to be separated from habits of food and drink. The reoccurring flavors of *yerba maté* and *chica*, and a hot steaming bowl of *cazuela* served with gratitude after a cold rainy day in the field seemed as tangible and pertinent as any formal management technique or project plan. According to the logic of the refrain, however, there is perhaps some sense to this observation. Just as music folds disparate sounds and rhythms into new compositions, not discriminating between bad and

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good so much as making aesthetic choices, conservation projects also reterritorialize bits and pieces of social life. Informal refrains are brought in alongside prescribed procedures, using these as springboard to produce new rhythmic effects—trust, confidence, understanding—and new territories of collaboration.

Establishing trust is one of the most formidable challenges to working with landholders in rural Chile. Marginalized repeatedly and violently from the political system, forgotten, and sometimes living on the edge of legitimacy according to state views of land tenure and the "legal" use of resources—rural residents have no reason to assume that others are working in their best interest. Conservation projects have to tread carefully and delicately to generate rapport with landholders. Small rituals of eating and drinking are helpful in this regard. As a forest engineer sits drinking *yerba maté* with a family (itself a ritualized practice of drinking out of a shared cup which is tended by one server who rhythmically refills the hot water), time is created for small talk. This idle conversation is often woven into discussion about the property or about the formalities of a management plan. There is common ground created in the practice, both through the everyday familiarity with the custom and through the physical sharing of the drink. But there are also lines being drawn. Drinking gives time to size each other up. The forest engineer surveys the house, notices the water damage on the ceiling, the small TV with clothes hanger antenna, the plastic used in place of glass on the windows. The family, likewise, watches the forest engineer for small signs of awkwardness, hurry, or judgment. Subtly and tacitly, the conditions of working together are being negotiated.

Over time, these small refrains of eating and drinking help to form well-worn pathways of trust that crisscross conservation work. Forest engineers go out of their way to visit a household because they especially like the bread that is served. Doña Maria makes sure she has homemade cheese on hand because she knows it will please her visitors. The recent harvest of *murta*—Chilean guava—becomes an excuse for women to gather and gossip. They sit around a kitchen table picking stems off the tiny red berries. These interactions become recognizable notes, marking out the melody of conservation work. But they also become lines of flight, spiraling outward into the larger orders, programs, and territories of conservation. The cooperative of small-scale firewood producers was considering renting a kiosk in Valdivia where they could sell preserves, honey, crafts, and produce from their land. They wanted to build their cooperative potential beyond the sale of firewood. If successful, edible refrains and household production systems would have a new point of intersection with local markets. The forest engineers could act as conduits, shuffling goods into Valdivia from their field visits. Or at least this was the idea. Similarly, the women's cooperative in Huiro was developing a catering business assembled from already existing bits and pieces of habits, materials, and skill (Levi-Strauss 1962), alongside new experimentations with cuisine. Their repertoire of menu items prominently featured their locally famous *empanadas de murta*—bite-sized pastries filled with a burst of sweetness. In the days before catering an event, the women would gather for long hours in the community building, churning out *empanadas* by the dozen. Assembly-line fashion, they would pass circles of dough from one woman to the next, filling, folding, and finally pressing the edges of the pastry

together with the tines of a fork. The process was full of purpose and was tangibly productive—the accumulating rows of pastries helped the women understand the larger intent and direction of their cooperative.[42] In both cases, the cooperative and catering business, already existing habits of food and everyday refrains of trust became the raw material for plans to expand and grow the initiative.

5.4 *Mensura Forestal* and the Creative Aesthetic of the Refrain

One bright and sunny summer day, I accompanied the forest engineers Iván and Jan into the field for a routine visit to a rural property, the landholders of which were beginning the process of creating a management plan for their forest. We got a late start and then had to detour to pick up a stranded colleague whose jeep had broken down. By the time we arrived at the property it was nearly two in the afternoon so we decided to have lunch and make a plan. The forest engineers determined it was too late in the day to begin a formal forest inventory, which involved plotting out transects and gathering various types of silviculture data. While we ate our ham and cheese sandwiches, they debated what to do instead, and eventually decided to walk around and survey the property informally so as to get a better sense of how to proceed with inventories on their next visit.

It was clear, as they discussed the matter, that they were weighing their choice against an established process—a regular series of steps that led to the creation of a management plan. They were very aware of how their activities that day would or would

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[42] The women involved in the Huiro Project also said that paid catering gigs were helpful in justifying the cooperative to their husbands, who often pressured them to abandon the project. According to the women, many of their husbands viewed the cooperative as wasted time and a distraction from household duties.

not allow them to accomplish a future task. But when I asked Iván and Jan directly as to what these steps were, they were hesitant to answer. First they said that the process varies depending the property. When I pressed further, asking if there was at least a generalized procedure even if it changes, Jan eventually laid out five broad steps: diagnosing the forest; conducting inventories; generating a management plan based on the inventory data; getting the management plan approved by CONAF (the forest service); and finally applying the management plan to the landscape. Jan explained that much of the details of this process are laid out in the *Mensura Forestal*, a technical handbook that describes the math and science of silviculture and delineates exact procedures. Jan said that in the beginning, when he was first working as a forest engineer, he tried to follow all the steps explained in the *Mensura Forestal,* but he quickly found that this was far too cumbersome and time consuming. Now he has the process paired down to the essential tasks and is more flexible in his methods. He knows when to take shortcuts and when to be exhaustive.

Looking back, perhaps Iván and Jan's hesitancy to spell out the steps of forest management was a fear that I might judge them for not going by the book. Or perhaps they were hesitant to give a simplistic answer to what was clearly a more complex and nuanced process. But as we continued to work that afternoon, weaving in and out of the different sections of forest, at times getting lost in the tangled underbrush, Jan explained that beyond the technical procedures, "silviculture is an art." He said that there is creativity in knowing just how to read a forest and diagnose what should get done. You have to learn to "see" the forest and to match a given landscape to the principles and

parameters of forest management. But Jan also revealed that the "real art" is working

with the landowner. You could be in the field marking trees, Jan explained, and the

landholder might ask for "a little more red" (referring to the red mark on trees that were

designated for cutting)—pressing to harvest a little bit more, to get a few more dollars in

their pocket. The creative part was figuring out how play with the rules and how to *be*

playful in articulating the parameters of forest management to collaborators, purposely

leaving details open-ended to allow for negotiation in the management process. There

was no procedure for these compromises in the *Mensura Forestal*, no codified step the

defined the give and take art of working with landholders. Different engineers would

each develop their own style to how they negotiated these grey areas—some tended to be

more strict, other more lenient, some might be more concerned about leaving standing

dead wood, others would be fine with harvesting most of this away.

For the forest engineers the *Mensura Forestal* has territorializing effects, it is a

coded script that cycles through their job, framing possibilities and delineating sequences.

But in the performance of the script, in the repetition of it, there is the introduction of

alterity, a "bifurcation beyond pre-established schemas" (Guattari 1995, 107). This is not

unlike, for example, a style of dance that has codified steps and rhythms. We might

focus on these codes when we first learn the dance, or when we are trying to refine some

aspect of our performance. But the more we dance, the more we turn our attention to the

aesthetic nuances of the movement. We still generally operate under the rules and

constraints of the dance form, but we might take liberties and bend the rules. We might

try to negotiate the outer edge of style and form. Likewise, the forest engineers let the

background refrain of the *Mensura Forestal* drop away—were in fact hesitant to position

themselves in relation to it—and concentrated instead on the creative aspects of their

work. The point here is not so much that there is art in science or aesthetics in schema,

but rather that we continually play with the differences between these realms.

Established procedures keep us on rhythm while providing a springboard for creative

improvisation. Indeed, for Delueze and Guatarri they operate in a creative-expressive

dimension; they are bound to style and art more than to instrumentalist cycles of decision

making or linear scientific methods (Coonfield 2009; Guattari 1995; McCormack 2002).

5.5 Temporalizing Refrains

What holds things together?", the clearest, easiest answer seems to be provided by a formalizing, linear, hierarchized, centralized arborescent *model. (Deleuze and Guattari 1987, 327)*

It was February and the project in Los Liles was behind schedule. Badly behind

schedule in fact. It was difficult to say what exactly had gone wrong. In meetings and in

casual conversation, people involved in the project tried to determine the underlying

issues. One problem was that the first forest engineer serving as a technical consultant

had not been as committed to the project as he had promised. He had not followed

through with commitments, which had resulted in delays. There were also differences of

opinion among the members of the community cooperative who were hosting the project.

Some participants were concerned that the project would not benefit all members equally.

Then, a stroke of bad luck, tools and equipment were stolen from the community which

led to accusations and blame and further damped morale. Finally, in retrospect it seemed

that the goals of the project had been too ambitious from the start and that the design was not entirely realistic. Regardless of the cause, the lack of forward progress meant that the funders (UNDP Small Grants Program) had put the project on probation. They would not release more financing until the initiative was reformulated. The project needed a new direction quickly or it was in danger of falling apart entirely.

The cooperative decided to start by hiring new forestry consultants. A meeting was held in the community building of Los Liles to select the technical advisors. Various candidates presented their areas of expertise and asked questions about the level of commitment involved. After a vote by members of the cooperative, two young and eager forest engineers were chosen. They seemed willing to help breathe life back into the project and had smart ideas for getting it on track. In the days that followed, the new consultants collected the data and reports that had been produced so far—analyses of the various properties included in the project and diagnostics of forested areas targeted for restoration. They met with the individuals who had been most active in the project and gathered ideas of what was working well and not so well. They researched forest management options and consulted with peers in the field. By the end of the month, the forest engineers had reformulated the project. They met with the cooperative to walk through the detailed chronology of when each outstanding activity would happen. March and April: revise and submit management plans to CONAF. May and June: build fences (to keep sheep and cows out of the areas to be restored) and buy seedlings. July and August: plant seedlings. This revised timeline was presented to the funders and approved.

Despite the formality of the newly structured project, the unspoken understanding, at least among the community members and their consultants, was that the plans on paper would have minimal bearing on reality. Inevitably the project would move off track somewhere along the way, there were simply too many variables involved. A major area of uncertainty, for example, was obtaining the appropriate plant material for the areas designated for restoration. Very few nurseries in Southern Chile produce native tree species in any quantity. And even if you succeed in finding native trees, there is a serious risk that they will not survive transplantation to the coastal slopes like those around Los Liles, where wind and salt spray combine to make inhospitable conditions. Young plants raised in the relative tranquility of a greenhouse or an inland nursery may need to be buffered by other plantings in order to endure the transition to coastal microclimates. Or they may do just fine. The science of forest restoration for Chile's unique coastal slopes is full of uncertainties; planting seedlings is always a gamble. And beyond finding appropriate plant material there are a host of other logistics that could speed or impede a project activity: coordinating schedules, dealing with weather and transportation, balancing the budget, and so on. Timelines that definitely declare when specific activities will take place are taken with a grain of salt by project participants and advisors. Everyone does their best to stay on track but knows the process of moving a project forward is fraught with complications.

If all this uncertainty is understood (although rarely admitted), then why go through all the trouble of making detailed timelines? Certainly in the case of Los Liles creating formal agendas was necessary to comply with the stipulation of funders. But the

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timelines served a purpose beyond the compulsory. In the Los Liles project and in others

I observed, charting and chronologizing conservation activities *were themselves*

important practices which helped the people involved make sense of the evolving scope

and direction of initiatives. Making a timeline served as a means of reflection and

inflection—participants could look back on where they had come and then bend the

trajectories of their projects, warping them into new shapes and forms. Particularly

important was the practice of *revisiting* timelines. It is not just that chronologies were

produced once and then discarded, it was that they continued to serve, either implicitly or

explicitly, as a point of reference. In Los Liles, when the group met to discuss the

project, they would reopen the excel file with the timetable and discuss whether or not

they were "on track," if they should shift the order of different activities, or what they

might eliminate altogether. Each time the group revisited the spreadsheet it was with

new insight about a detail that would need to be folded into the chronology, or about a

potential future logistical conflict that was likely to transpire. Although the spreadsheet

was a representational refrain in its own right—a familiar image that reappeared, again

and again—it also facilitated a revolving conversation about progress and project design.

The chronology allowed for repeated expressive acts of articulation, questioning, and the

habitual reordering of activities. Deleuze and Guattari claim that the refrain is:

> A prism, a crystal of space-time. It acts upon that which surrounds it, sound or
> light, extracting from its various vibrations, or decompositions, projections, or
> transformations. The refrain also has a catalytic function: not only to increase the
> speed of the exchanges and reactions in that which surrounds it, but also to assure
> indirect interactions between elements devoid of so-called natural affinity, and
> thereby to form organized masses. (Deleuze and Guattari 1987, 348)

Timelines work as crystals in this sense, repeatedly extracting order from the chaos surrounding an emerging conservation project. They help catalyze new exchanges, interactions, and sensibilities.

Such temporalizing practices, however, are often lost within the inscriptions of conservation. After the fact, when final project reports and records of activities are submitted, the mundane details of how actors established, tweaked, reformulated, and revisited their working model are written out in favor of an account of the procedural steps and institutional arrangements. The effect is that in *retrospect* projects appear tidily linear, and change appears to have occurred by moving sequentially through a formalized process that can be abstracted into a model or prototype for future work. This leaves the impression that projects can and should "apply" pre-existing templates developed elsewhere to give order to a new initiative and to generate efficient "progress."[43] Refrains, on the other hand, bring attention to *ordering,* or the way that the past and future is crystallized through routine habits. We extract order from chaotic life by way of the refrain which allows us to move forward with a deliberate orientation to the future (Shapiro 2009). This sets us up to think differently about the temporal models of conservation. Rather than timelines organizing conservation activities, practices give

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[43] Massumi (2002, 71-72) captures this point well in his discussion of how the rules of soccer have been applied after the fact to a fluid field of play: "In the history of sport, as with virtually every collective formation, the codification of rules *follows* the emergence of an unformalized proto-sport exhibiting a wide range of variation. The formal rules of the game capture and contain the variation. They frame the game, retrospectively, describing its form as a set of constant relations between standardized terms…If the rules are ex post facto captures that take precedence, what do they take it from?: from the process from which the game actually emerged, and continues to evolve, to the extent that circumstances arise that force modifications of the rules." It is important to note, although Massumi doesn't explicitly make the point, that part of "process from which the game actually emerged" is the refrain—physical bodily habits, team rituals, regular positions, etc. Rules become a codified version of the refrain, but also allow new patterns to emerge in the game—the whistle blow of the referee, the back and forth running of the linesman, the ever returning penalty kick.

meaning and stability to indeterminate chronologies which are always getting reworked

and remained.

5.6 Conclusion

Change is not just willed by us humans but comes about equally through the materialities of the world in which we are just a part, and which, through habit, we encompass in the everyday, ever changing, assemblage of thought, intensity, and matter (Dewsbury 2011, 153)

The examples in this chapter all stress iterative cycles of practice in which

repetition with difference gives rise to new, creative possibilities. In each case there is a

productive tension between order and chaos, structure and experimentation, predictability

and novelty, or in the terms of Deleuze and Guattari, between territorialization and

deterritorialization. The participants in conservation projects I observed in Chile often

assumed that change worked at the moment a new, objective technique was introduced

into a community, or when formal systems and procedures were brought to bear on

resources and institutions. Projects were often structured according to a very linear,

outcome-driven logic exemplified by timelines, chronological objectives, and the

assumption of orderly transitions from one phase of activity to another. To read any of

the funding proposals for the projects mentioned in this dissertation, for example, would

give the impression that conservation results could be achieved by working from front to

back through a series of activities that built plausibly on each other. Yet this formal,

linear logic often seemed contrary to the rhythms of actual conservation practice, which

tended to be dominated by habitual activities, routine processes, and recurring steps—

regular commutes to and from work, routine sequences of steps when examining a forest, periodic gatherings and meetings. Projects seemed driven forward not just by logical advancements from beginning to end but also by mundane *cycles* of practice that gave form, meaning, and momentum to conservation work. Change seemed to emerge delicately and subtly from these cycles, and through the looping feedbacks of practice, observation, and reflection. These refrains are nuanced, textured, intimate, lively, material, and embodied. They exceed our ability to discuss and analyze them neatly within conventional discourses of conservation. But yet we feel them. Even as we attempt to optimize decision making and map out the most effective institutional arrangements for community-based decision making, we can hear the hum of rhythmic activity around us and we inevitably tap our feet in time.

CHAPTER 6: CONCLUSION

The central goal of this dissertation has been to explore how community-based conservation and resource management projects emerge from embodied, situated practices. This approach was based on the observation that despite how much practice gets talked about in conservation and social science literature, and despite a common-sense appreciation of the role of "experience" in generating successful projects, the treatment of practice in environmental accounts is all too often one-dimensional and devoid of life. Part of the problem, I have argued, is that practice is generally described as a corollary to representational exchanges and processes. In focusing on the complex environmental politics of images, diagrams, symbols, discourses, classifications, models, identities, beliefs, and cultural constructs of all sorts, we have unintentionally bracketed out the complex lifeworlds that *also* bring form and meaning to our endeavors.

Throughout the dissertation, I have attempted to "flesh out" the ubiquitous embodied activity that is continually shaping what we come to see, know, and feel but which we often take for granted in our everyday lives. Each chapter explored different aspects of practice as they relate to debates within conservation and environmentalism more broadly. Chapters 2 and 3 took a parallel approach, each questioning the Cartesian assumption that perception and knowledge are primarily functions of the brain. I argued that political ecologists have developed sophisticated accounts of the relationship between vision, power, and knowledge, but have failed to fully examine how these relationships are grounded in physical movement and bodily skill. Similarly, in Chapter

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4, I showed that critiques of cultural constructions of community have tended to neglect relational practices of associating and the emotional registers that accompany those practices. As a result, these critiques have not pushed far enough away from transcendental, idealistic notions of community which they seek to undermine. Finally, in Chapter 5, I explored how everyday rhythms and refrains of practice bring order and structure to environmental initiatives and also create opportunities for creative innovation. While by no means a complete account of the way conservation endeavors take shape through practice, each chapter has worked to breathe life into conservation narratives, infusing cultural politics of the environment with a "concrete force of the lived" (Coonfield 2009, 9).

But what, if anything, has been gained from all this fleshing out? An embodied practice approach has several strengths in light of current and future challenges of community-based conservation and resource management. First, as I mentioned in Chapter 1, commentators have observed that a central problem with collective environmental endeavors is that we do not always have an adequate understanding of site-specific complexities and dynamics in the places we work. Methods, procedures, and designs that are effective at one site, may not work at another. One way to confront this problem is to gather more data at finer scales on the objective components of social-ecological systems, and to use these to build better operative schema for implementing projects. Another approach is to develop more nuanced "decodings" of the cultural subjectivities and ideologies that influence environmental endeavors, thereby bringing attention to potential areas of uncertainty and discord. A third way, and one that I believe

is complementary to the other two, is to enhance our sensibilities and skillful awareness by immersing ourselves in practical lifeworlds and thereby cultivating a "generous pragmatism" (Rose 2010) toward the events we encounter. In dealing with emergent complexity we might endeavor to *become more skillful at becoming.* In other words, we might build our creative capacity and learn to thrive in new ways. This approach puts the focus not on analyzing, mitigating, or deconstructing complexity as such, but rather on the artful ways we live and act in a complex world.

A second strength of an embodied practice approach is that it compels us to think more carefully about the assumption that environmental projects succeed through the successful implementation of preconceived designs or models. Not because models are wrong per se, or because they represent the imposition of one knowledge system over another, but because we cannot easily separate a plane of representation, theory, and design from our practical activities in the world. As I have attempted to show in this dissertation, images, timelines, and even our mental models are never simply free-floating constructs, but are always already entangled with practice in interesting and complex ways. We might then think of conservation processes more as imaginative collective *experiments* in which "an education of awareness" is the sought-after outcome, rather than as a means to produce particular social and environmental results. Conservation and resource management programs are increasingly adopting adaptive, flexible strategies which embrace uncertainty and emphasize iterative cycles of learning. If adaptive management consists of open-ended, experimental techniques for learning to cope with complex, self-organizing systems (Gunderson and Holling 2002), then is a

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better understanding of relational, emergent practice not complementary to this project? So far these bridges have not been built. Although adaptive management literature in all its various guises is full of sophisticated renderings of social and ecological complexity, human actors are still overwhelming portrayed in disembodied terms with an emphasis on rational decision making and other cognitive processes.[44] This is true even of studies that take more "humanist" approaches (see for example Berkes, Colding, and Folke 2000; Westley 2002). Bringing non-representational and practice-based approaches into conversation with adaptive management might help to extend the way flexibility, learning, and experimentation are conceptualized within conservation and resource management, and could lead to productive synergies for both sides.

Finally, an emphasis on embodied practice leads to more sophisticated conversations about the "intangible" aspects of collaborative conservation, especially the emotional, affective, experiential, and creative processes that are often difficult to pin down but which are critically important in creating meaningful change. I have argued throughout this dissertation that practice cannot be entirely captured by reflective thought—that it is invariably tacit and pre-reflective to some degree. But this does not mean we should not try to make to our practices more explicit—the very *act* of having these conversations can open up possibilities for collaboration and learning. In conservation projects, there is much to be gained in communicating the tacit details of our experiential and performative processes. Even in the face of perceived ideological

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[44] See for example (Allen et al. 2011; Benson and Garmestani 2011; Gunderson 1999; Gunderson and Holling 2002; Holling 1978; Keith et al. 2011; McCarthy and Possingham 2007; McFadden, Hiller, and Tyre 2011; Oglethorpe 2002; Olsson, Folke, and Berkes 2004; Rehme, Powell, and Allen 2011; Tyre and Michaels 2011; Walters and Holling 1990; Williams 2011).

divides, we might find common ground in our shared habits or in the practical ways we approach problems. Articulating our ways of doing might also inspire us to look with fresh eyes at the taken-for-granted procedures we rely on to guide us through the tangle of collaborative work. We might become alert to surprises, differences, and disconnects lurking beneath the surface of our everyday activities. We might also be prompted to ask simple yet provocative questions about how we spend our time, how we learn in the ways that we do, and how we interact with one another.

To some, the arguments in this dissertation will seem entirely obvious. *Of course* we are embodied beings who make sense of the world through physical activities. *Of course* meaning, sense, and order emerge from the experiential realm. To others, my claims will seem far-fetched. Is practice *really* so potent that we should question our common-sense ideas about how we know and structure the world? Can we *really* claim that embodied practice is as important as symbolic orders and rational design? To both camps I would reply that the devil is in the details; there is still much to sort out in how we understand practice. In the cognitive sciences, for example, the relationship between neurocognitive processes and bodily activity is very much under debate. Within the field of embodied cognition and active perception, while generally in agreement that brain, body, and world are intimately interrelated, researchers are nevertheless divided about the degree to which neurological processes can be separated out from sensorimotor ones. Proponents of "strong" versions of embodied cognition contend that all perception is based in direct bodily activity, whereas middle of the road approaches concede to independent cognitive streams that work alongside active perception (Clark 2011).

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Meanwhile, both camps are in debate with mainstream cognitive sciences, which tend to assume that learning, knowing, and acting are rooted in the inner workings of our neural systems. Likewise, within geography and social sciences, there are theoretical inconsistencies and divergences that need more exploration. For example, in this dissertation I at times glossed over differences between humanist, phenomenologically inspired approaches (Ingold and Schatzki being prime examples) and non-representational, Deleuzian theories (see also note 7 Chapter 4). The former look to the boundaries and capacities of fundamentally *human* subjects for explanations of how practice is performed, whereas the latter group insist on a "wider and wilder sense of life" in which agency and activity are distributed across relational processes (Anderson and Harrison 2010b, 12). Resolving the nuances of these conceptual differences is a matter for further study.

Conceptual debates aside, one of the biggest challenges will be to put theories of embodied practice to work in the field, wherever that might be. This will require that we adopt new methodological tools and strategies that can better get at the affective complexities and textures of real-time activity. Over the course of my fieldwork, I became increasingly convinced that to adequately describe practice in contexts where verbal communication is often secondary, we need more creative and risky ways of doing ethnography. The tried and true techniques of participant observation and interviewing do not push us far enough into the unknown territories of embodied, qualitative research (see Appendix B). Several recent studies (Downey 2005; Grasseni 2004; Harris 2007; Marchand 2010a; Pink 2009) have called for apprentice-style ethnography in which we

learn alongside our research subjects and collaborators in an attempt to more skillfully navigate complex encounters in the field. Through apprenticeship, researchers are "exposed viscerally to the learning environments and livelihoods of fellow workers, craftspeople, and athletes; and they are able to interact more competently within the multiple mediums and nuanced forms of communication that are employed in the transmission of skills and comportment" (Marchand 2010a, S10). In other words, apprenticeship is a way of becoming more astute students of practice, and of training our senses toward the subtleties of ethnographic research encounters (Pink 2009). Such an approach could be complimented with innovative uses of audio and video recording. My own curiosity about practice and my frustration with my representation-centric training in qualitative techniques led me to play around (rather clumsily at times) with image and sound equipment, as well as with the ways I interpreted recorded material. I tinkered with capturing peripheral, muddy, and awkward moments in the field, as these often provoked new questions about how I understood practice. These experiments in turn led me to consider conservation efforts in Chile in wider and more dynamic terms than my earlier political ecology explorations. At the same time, I recognize that practice-based approaches need not foreclose representational politics (Cresswell 2012; Rose 2010). As I have insisted throughout the dissertation, there is still much to be gained in studying community, identity, discourse and the like. The challenge before us is to bring non-representational and practice-based approaches into conversation with other intellectual traditions in meaningful and productive ways.

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APPENDIX A: CONCEPTUAL MODELS OF SOCIAL-ECOLOGICAL SYSYTEMS & COMMUNITY-BASED NATURAL RESOUCE MANAGEMENT

The models below depict various ways of conceptualizing conservation and social-ecological systems. While helpful tools, the assumption underlying many of these diagrams is that we can improve the outcomes of environmental projects by creating more sophisticated and accurate models and then better applying these to specific cases. One problem with this approach is that it deemphasizes the creative and generative role of the embodied practices in conservation projects and SESs. For example, in figure A.1 below, practices are depicted as the transfer of knowledge from an institutional sphere to a detached landscape/ecosystem sphere. How might the figure change if we thought of practices as both constitutive of ecological knowledge and enmeshed in the landscape?
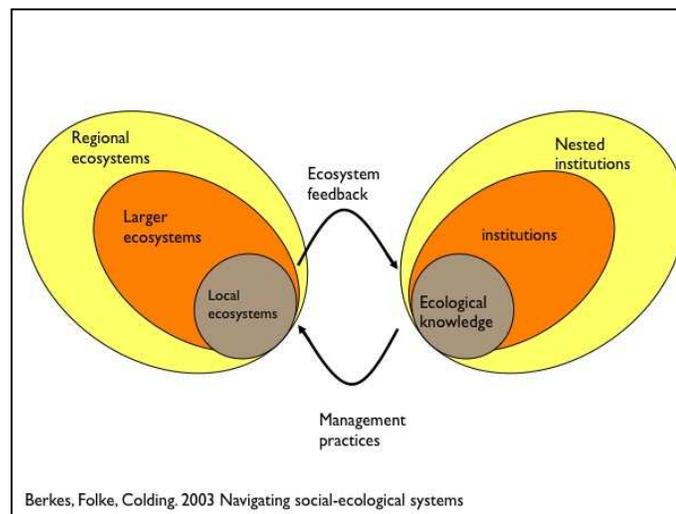

Figure A.1: Schematic of a socio-ecological system (Berkes, Colding, and Folke 2003).
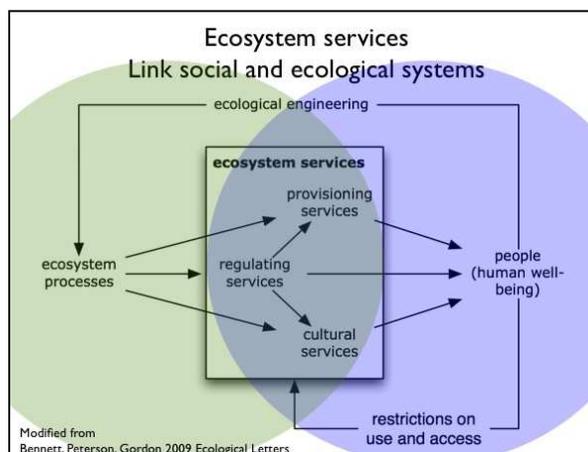
Figure A.2: Diagram showing how ecosystem services link social and ecological systems (Bennett, Peterson, and Gordon 2009)

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Fig. 1. Key institutional linkages facilitating the activities of the *Arapaima* conservation project, Guyana. Arrows show information and financial flows; thicker lines indicate stronger interactions. [Reproduced with permission from ref. 16 (Copyright 2004, University of Manitoba).] The figure was prepared by Damian Fernandes (Natural Resources Institute, University of Manitoba, Winnipeg, MB, Canada).

Figure A.3: Hierarchical institutional linkages for a conservation project in Guyana (Berkes 2007).
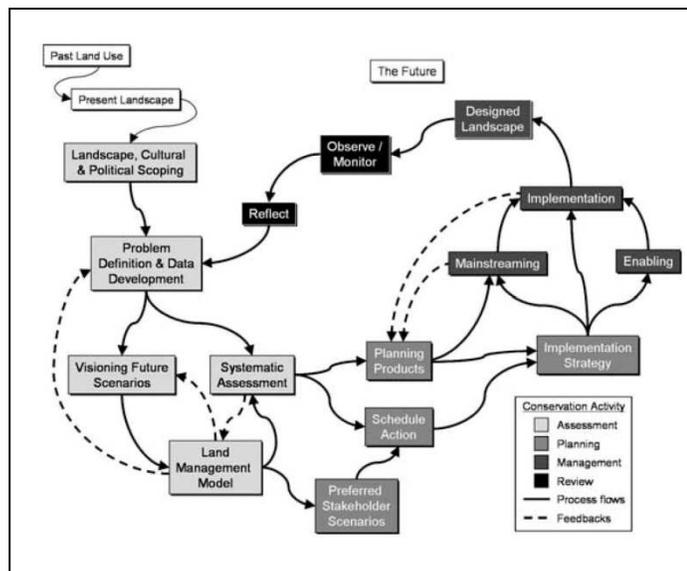

Figure A.4: An "operational model" that reflects the "complex, heuristic, web-like structure" of conservation planning (Knight, Cowling, and Campbell 2006)

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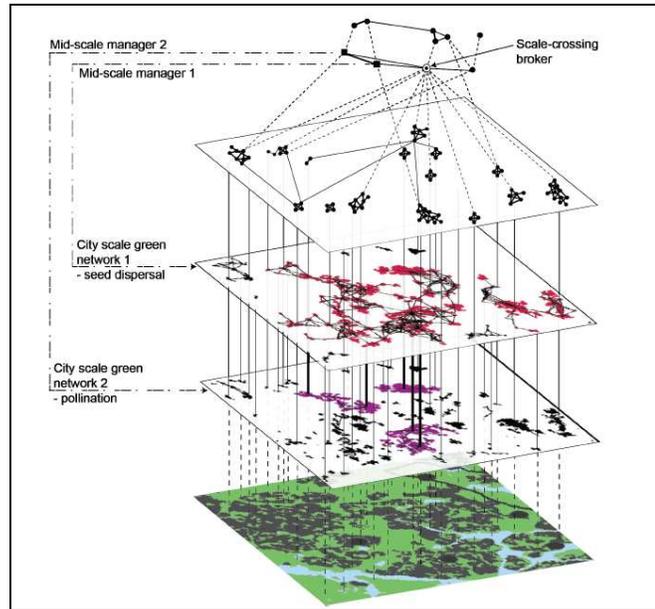
Figure A.5: Diagram showing how urban governance can better match the scale of ecosystem processes by using "scale-crossing brokers" who connect social actors across broader social governance networks (Ernstson et al. 2010).
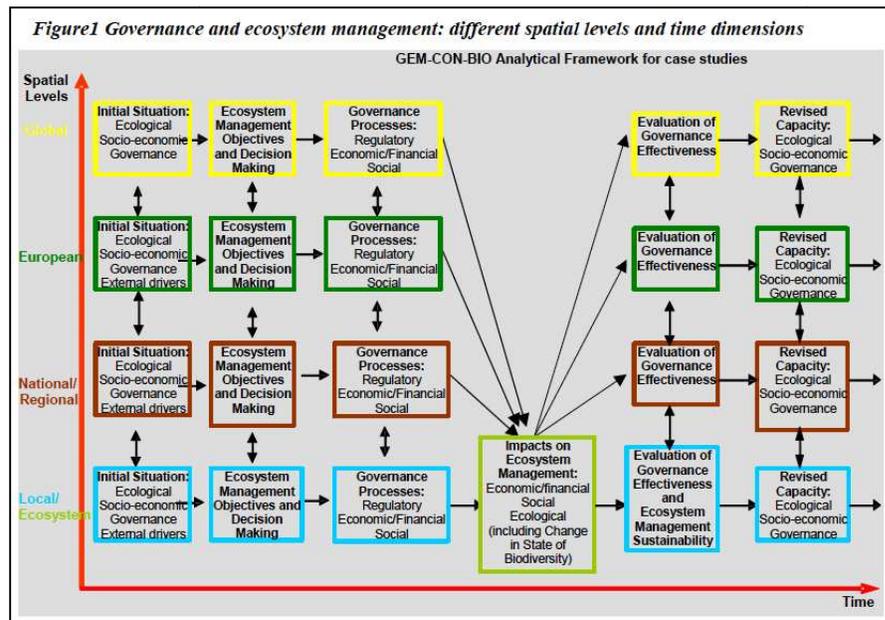

Figure A.6: Analytical framework for conservation projects used by the European project Governance and Ecosystems Management for the CONservation of BIOdiversity (GEM-CON-BIO) (GEM-CON-BIO 2008).
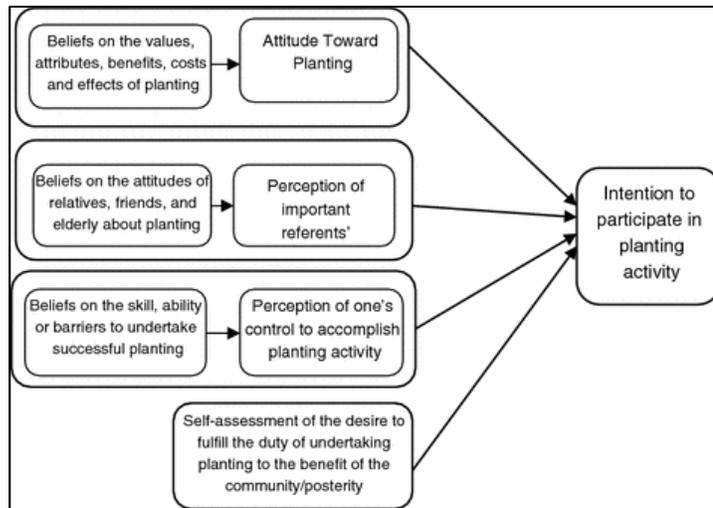
Figure A.7: Conceptual model of factors determining participation in forest management and planning activities in Southern Ethiopia (Tesfaye, Roos, and Bohlin 2011)
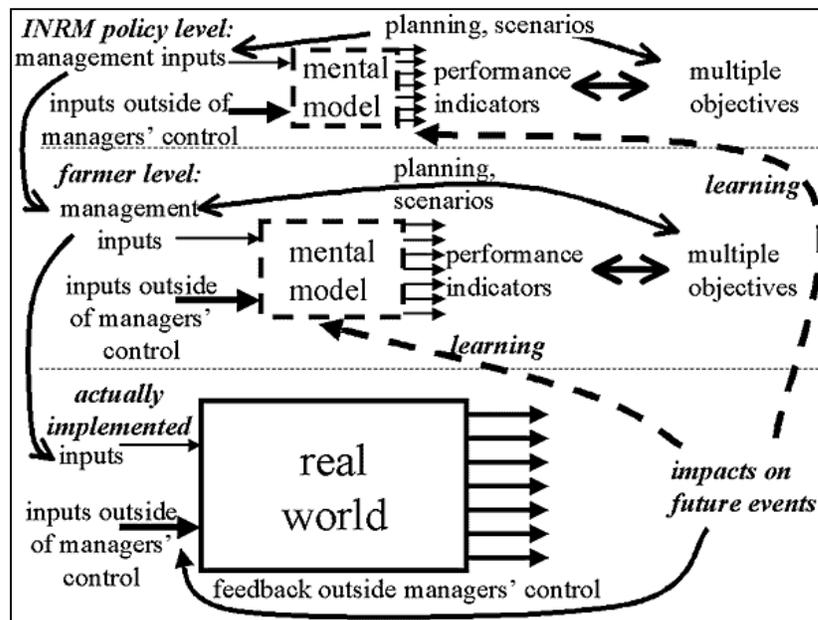

Figure A.8: "Management of natural resources involves a mental model of how the real world responds to influences by the manager (thin arrow), as well as influences outside the managers' control (thick arrow), and how this overall response is reflected in performance indicators that will (partially) satisfy a set of multiple objectives. The contrast between the expected system performance and objectives may lead to a change in the managers' inputs into the real-world situation. Actual experience may lead to learning, in the sense of modifying the mental model, and changing the scenarios and plans. Because the real world involves many layers of 'managers,' there will be considerable feedback outside of the managers' control. The diagram shows a 'national

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policy' management level superimposed on a 'farmer' management level, superimposed on the real world" (Noordwijk, Tomich, and Verbist 2001)"
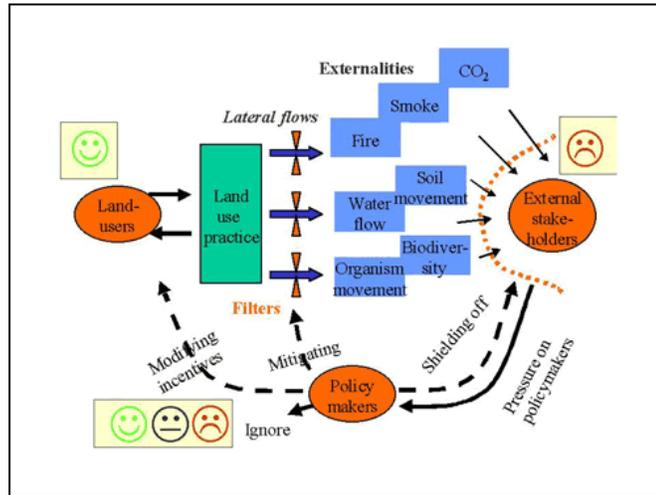
Figure A.9: How "lateral flows" of resources complicate interactions between land users, external stakeholders, and policy makers in integrated natural resource management (Noordwijk, Tomich, and Verbist 2001)
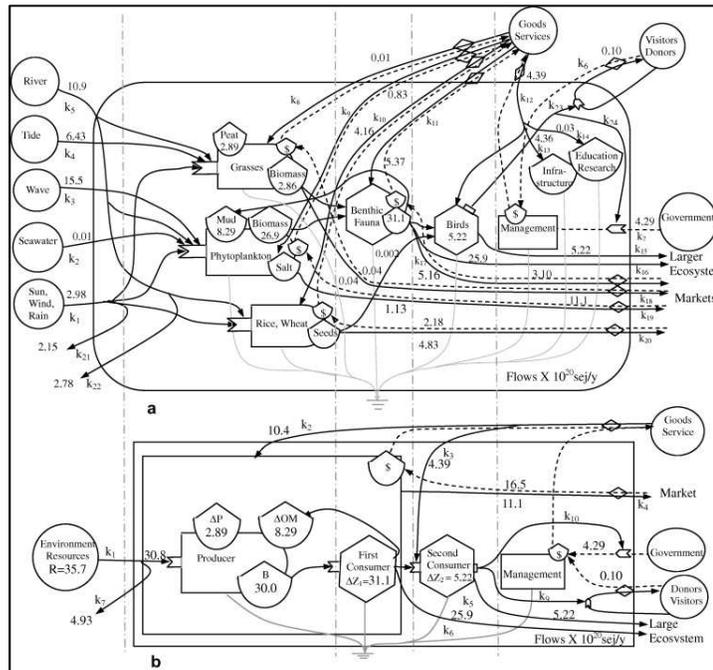
Figure A.10: A systems model of the Yancheng Biosphere Reserve in China with inflows, outflows, and storages. A full detailed model is shown above and a simplified version below (Lua et al. 2007).
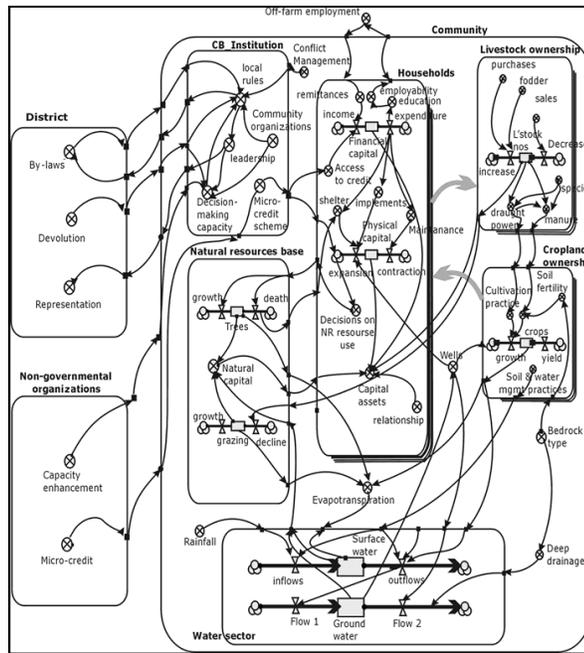
Figure A.11: A conceptual model of a integrated natural resource management project in Chivi, Southern Zimbabwe (Campbell et al. 2001).
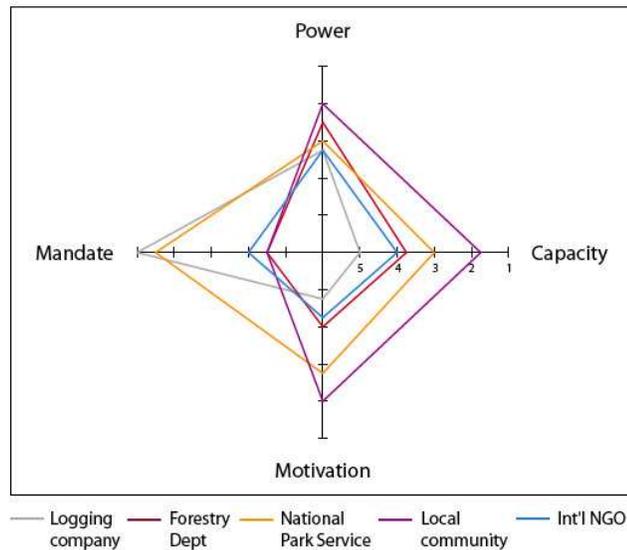
Figure A.12: An example of using a radar diagram to locate actors along axes that represent qualities needed carry out successful natural resource management (Castillo et al. 2006).
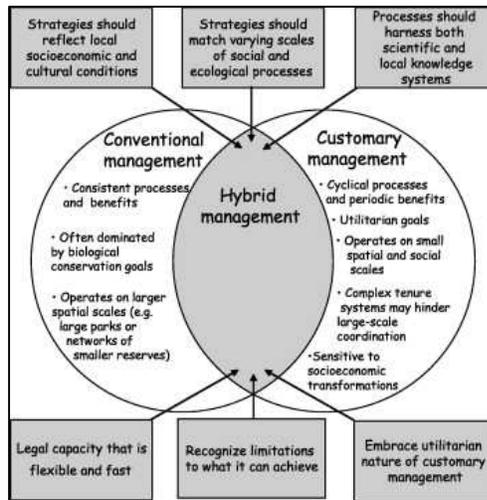
Figure A.13: Diagram showing how customary (traditional) management can be combined with conventional management to create a hybrid for of management that integrates both spheres (Cinner and Aswani 2007)

APPENDIX B:
ON METHODS, OR THE MAKING OF *FLESHING OUT CONSERVATION*

We will need to teach ourselves to know some of the realities of the world using methods unusual to or unknown in social science research. For example? Here are some possibilities. Perhaps we will need to know them through the hungers, tastes, discomforts, or pains of our bodies. These would be forms of knowing as embodiment. Perhaps we will need to know them through our 'private' emotions that open us to worlds of sensibilities, passions, intuitions, fears and betrayals. These would be forms of knowing as emotionality or apprehension. (Law 2004, 2-3)

Researching then, whatever the methodology, has always been and is always about ever trying and ever failing: the difference of a performative approach is that it relishes this failure, 'no matter', and uses it to mount a serious political critique of the restrictions that methodological protocols might impose on what can count as knowledge. It therefore advocates resolute experimentalism—'try again, fail again, fail better.' (Dewsbury 2010, 321)"

An innovation, reconstructed a posteriori, *can be revisited any number of times. But every invention, cast on the spur of the moment, where each time is the first, can only happen once. To read creativity 'forwards' is to find it in the moment-by-moment inventiveness of practice—that is, in its improvisatory quality—as it carries on, in the midst of things, always responsive to what is going on in the surroundings. (Ingold 2011, 7)*

Methodological Messes

From the very conception of this project, I was aware that I would be up against significant methodological challenges. I had some degree of confidence in the theoretical merit of my research agenda. Emerging conversations in scholarly literature about the importance of non-representational processes convinced me that I was not alone in wanting to pay attention to human embodiment and material interactions. I was also quite convinced that embodied processes mattered to how forest conservation worked (or didn't) in southern Chile. Master's and pre-dissertation research had helped me recognize the importance of the everyday rhythms of environmental projects, the role of hands-on knowledge, and the ever-evolving social threads that knitted institutions and

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communities together—all of which I came to think of as the intangible habits and aesthetics of practice.

Despite these assurances, I had very little confidence in how to best capture the practices I was seeking to study. How could I align my intuitive sense of what I needed to look for with a formal methodology and research program? What objective steps should I outline? What procedures could I reference? What techniques were appropriate? I recall putting together my research proposal prior to going in the field. I scoured qualitative methods text books and journal articles for ideas of how to construct a "non-representational" methodology suitable for studying practices, tacit skills, emotions, and in general the messy and contingent world of lived experience. Although the literature was full of well-meaning suggestions, I found no silver bullet advice. In the end, I collected various techniques from ethnography and phenomenology and wrote them up as best I could so that they sounded like a "real" methodology. I knew full well, however, that this best-guess approach would have very little to do with how I would actually spend my time in the field.

Part of the problem was that many of the methodological accounts I read focused on techniques of gathering data *about* practice without adequately explaining how these techniques were themselves practiced. It is one thing, for example, to discuss the merits of video recording for understanding lived experience, to explain the steps and the equipment needed, and to reflect on the ethics and research politics of using video. It is quite another thing to talk about the relational and emergent qualities of actually *doing* the filming, analysis, and translation into text—to discuss how it feels to hold a camera or

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to pour over endless hours of shaky video, and to critically examine what and how one learns in the process. Hidden in the first approach are implicit assumptions that practice exists as a *thing* that can be known (if only partially and subjectively) given the application of suitable methodological techniques and procedures. The second approach, meanwhile, brings attention to the *process* of coming to know (or maybe imagine is a better word) within the ever-evolving circuits of practice we seek to study.

For me, finding non-representational methodologies was less about discovering the proper protocols and technologies to "access" the non-representational realm (although it is important to contemplate issues of access) than it was about reconsidering what it means to be doing research. This is precisely the conceptual shift that Law urges in his book *After Method: Mess in Social Science Research* (2004). Law argues that social scientists have a very difficult time getting at the messy and fleeting qualities of social life. Standard research protocols inherited from 20th century social science tend to generate reductions, simplifications, and fallacies of stasis based on underlying normative ideas of objectivity and standards of rigor. This is true, he claims, despite considerable intervention from cultural studies, feminist studies, post-structuralist philosophies and the like, all of which have worked to expose the partiality and contingency of knowledge and research. The problem, he argues, is that when social scientists sit down to talk about method the conversation "still tends to summon up a relatively limited repertoire of responses" (3). All too often we revert to discussing procedural matters rather than paying attention to the sensibilities and contingencies at play in research practice. So

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while we may question the value of particular sets of research rules and procedures, the

overall need for rules and procedures is taken for granted.

At the same time, Law does not doubt the efficacy of the textbook procedures we

have all learned in methods classes:

> It cannot be the case…that standard research methods are straightforwardly
> wrong. They are significant, and they will properly remain so. This is why I say
> that I am after a broader and more generous sense of methods, as well as one that
> is different….I want to argue that while standard methods are extremely good at
> what they do, they are badly adapted to the study of the ephemeral, the indefinite
> and the irregular…This implies that the problem is not so much the standard
> research methods themselves, but the normativities that are attached to them in
> discourses about method. (4)

In other words, Law is arguing that social scientists have the proper tools to understand

the world as complex, emergent, and contingent, but these tools are often put to work

under the faulty premise that they can somehow help us find clarity and order within the

mess of social life. The problem lies not necessarily how we do research, but in how we

think and talk about what we do.   Instead of thinking of methods as a set logical

procedures ordered by a systematic rationale that are applied a particular phenomena in

question, we should understand methods as a means to *enact* the complex worlds we are

curious about, and in so doing, to create imaginative possibilities (see also Dewsbury

2010; Law and Urry 2004). This can only happen, he claims, if we "divest concern with

method of its inheritance of hygiene" (9).

Finding Methods, Finding Voice

Although I did not discover Law's book until after I completed my fieldwork, as

my project developed I intuitively began to shift towards the ways of thinking about

methods that he describes. This was, in part, due to the manner in which I found success in negotiating practical worlds of forest conservation I intended to study. My research gains did not come through discovering or mastering any specific set of appropriate methods or protocols (it was much more productive to fumble around with "wrong" ways of doing things!), rather they came through continued experimentation and the development of my own sensitivity to the performative processes I was trying to understand.

Throughout this dissertation I have described the people involved in conservation as undergoing an "education of awareness"— developing sensibilities that allow them to negotiate the twists and turns of environmental work, a processes that is not reducible to formal procedures and prescribed avenues of action or thought. I would argue that a similar type of process is precisely the foundation of a non-representational methodology. My time in the field was largely about coming to be aware of the lived dynamics around me in new ways. It was about becoming attentive to the unspoken interactions I observed. And it was about continually searching for new "vantages" that could expose habits of practice which, in their banality, were often difficult to see. So while I went into the field wary of my lack of formal methodology, I came back home with a sense of ease about how I had practiced my research. Still, it was not until much later that I was actually able to describe just what I did in the field.[45]

In retrospect, my methods should have been discussed much earlier and more prominently in the body of the dissertation, but their absence cannot be blamed on

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[45] In fact, it was not until I was pressed on my methodological systems in my dissertation defense and was directed to write this appendix that I began to systematically articulate my methodology! I am grateful to my committee for prompting this reflection.

oversight alone. There are several reasons why it was difficult for me to articulate my research practices until after the fact. First, I feel that my training in research methods gave me a fairly narrow idea of what counts as proper methodology. Although I had some excellent research methods instruction as a graduate student, I often felt my job was to emulate the processes and practices of the "experts"—which in the context of a graduate seminar was usually the professor or published authors we read. While it is fine to learn by following in the footsteps of others, in my experience not enough emphasis was placed on active experimentation followed by reflective evaluation of what worked and didn't work—as students we were not encouraged to take risks.[46]

Moreover, seasoned researchers often have difficulty expressing, beyond systematic procedures and ethical considerations, just how they navigate the field. Many of their "methods" are deeply ingrained in their habits of working and thinking and are taken-for-granted by the scholar themselves. Thus the novice researcher comes to believe that they need only follow *explicit* research techniques, and all the other

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[46] I would contend that this is one of the reasons many graduate students flounder when they go into the field. They are taught in methods classes to follow certain steps and habits of working, but in the field they are often forced to *reinvent* these steps and habits from the ground up. Take interviewing for example. Students learn that there are certain ways (protocols) of doing interviews—structured versus semi-structured, ethnographic versus oral history, etc—and each comes with a set of considerations, advantages, and limits. Students are then encouraged to select *a priori* the type of interview process that will best achieve desired research results, with the understanding that adjustments will need to be made in the field. In my experience, this is a wrong-headed way to think about interviewing. Interviews rarely take the same shape or form twice. Each interview encounter elicits is own unique ethical, cultural, interpersonal, procedural, logistical, and technical dilemmas. Although it is critically important to weigh possible approaches before engaging in an interview, by in large the researcher must negotiate these dilemmas as they go, drawing on their own particular skills, past experiences, habits of communication, and goals. In essence, each interview encounter is actually a *reinvention of the thing we call an interview*—it is the continual transformation (becoming) of the interview. So what students perhaps need more than textbooks full of methodological procedures are the skills to negotiate methodological *invention.* This means leaning how to take risks, how to confront and evaluate failure, and how to continually disrupt accepted methodological pathways—all things that are discouraged in many methods classes. (This aversion to risk is compounded by institutional review boards, which in their overly formal and formulaic approach to ethics review often pigeonhole students into prescribed ways of doing research.)

intangibles of methodology can be addressed through the reflective process—often with

an emphasis on positionality, power dynamics, and other cultural/ethical concerns. What

I began to recognize, however, is that qualitative research—unsurprisingly—involves

complex material skills that are not always easy to describe, but are also not simply

products of a cultural position (more on this below).

The second reason why I found it difficult to articulate my methodology is that I

could not find the appropriate language. While the non-representational turn with its

emphasis on embodiment, performance, and practice had begun to infiltrate social

science perspectives, it had not yet taken hold within in-depth methodological accounts,

which are often published on the heels of theoretical and empirical pieces. The

qualitative methods resources I relied on were thick with language about representation,

visual analysis, interpretation of texts, and conducting and interpreting interviews.

Although bodies were frequently mentioned, these bodies were often treated as artifacts

of the politics of race, class, or gender—fleshy substrates through which cultural

processes took form.[47] I found few accounts that treated the researching body engaged in

material interactions with the same kind of rich kinesthetic, corporeal, and sensuous

detail that was emerging in the non-representational and practice theory literature

(although Crang 2003 represents an early intervention). In retrospect, I can see that this

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[47] Several important early interventions on the theme of embodied ethnography came out in the late 1990s
and early 2000s (see for example Nast 1998; Parr 1998, 2001). These interventions tended to focus on the
politics of the body as related to ethnography, that is how the body is a site where political and cultural
difference is negotiated. Since I set out to do my fieldwork, however, the conversation has developed
significantly. Later interventions have focused on the *embodied nature of politics*, or the ways that political
and cultural differences emerge from bodily doings including ethnographic doings. Several helpful
volumes and articles (DeLyser et al. 2010; Ingold 2011; Longhurst, Ho, and Johnston 2008; Paterson 2009;
Pink 2009) now give explicit attention to how methodology takes shape through the bodies and senses and
how it is physically enacted and performed.

rift in the literature contributed to a problematic split in my own thinking. While I developed new skills and sensibilities for understanding the activities of others, when I turned my attention to my own research practices, I inadvertently narrowed my focus. I was quick to discount my own intuitive and tacit ways of working because they did not represent objective techniques or steps—my own research practices were not recognizable to me as methods.

Finally, methodology was hard for me to articulate because it is difficult to know where "methods" end and other practices and habits begin. Ethnographers frequently describe how formal methods can become deeply intertwined with the rhythms of living in a community as close relationships are formed with research subjects and places. What is often emphasized is the way these close-knit research encounters trouble distinctions between insider and outsider, researcher and subject, home and field. In my experience, however, there is more going on in this confusion than just a renegotiation of cultural closeness and difference. As researchers become immersed in the routines and schedules of their collaborators—playing bingo with local villagers, participating in a harvest, engaging in the everyday spaces of meals and family life—they enter into perplexing spaces of *practical and bodily* confusion. In inhabiting new regimes of practice, ingrained ways of moving and gesturing, gastronomic likes and dislikes, physical abilities and limitations, skills and know-how get reworked at a material and bodily level—the researcher comes to smell, see, hear, and feel differently.

For me, it was often in these spaces of bodily confusion where I developed the sensibilities necessary to do my research. For example, in traveling back and forth from

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my home in Valdivia to my research site at the Valdivian Coastal Reserve, I took dozens of trips on the ferry boat that connected and southern and northern shores of the Valdivia River. On these journeys, I started to absorb at a bodily level what it means to live on the coast with limited access to transportation. I saw families laboring as they loaded supplies onto the boat, watched as small children were bundled up against the cold winds of the bay, and felt in my own body the precarious rocking of the boat in rough weather or the sense of peace out on the water at sunset. In feeling my way through these lived encounters, I came to understand my research site at a corporeal level and became attuned to the physical and emotional experiences of research "subjects." Yet in the midst of activity I would have been hard pressed to articulate how such encounters informed my fieldwork. They were just part of being in a place, getting around, and engaging with people.

What this suggests is that, after John Law, we should think more broadly about what counts as methods. If we take methodology to be a guiding logic and strategy that provides a "rational" structure for research, then it is easy to evaluate encounters in the field only in terms of their purpose towards a predetermined methodological end. But if we consider methodology to be the process through which we develop the capacity to explore, inhabit, and imagine the world in new ways, then we avoid throwing out experiences that don't fit neatly within our accepted methodological paradigms. We bring attention to a much wider set of practices through which our research comes to have meaning. That doesn't mean methodology just magically springs forth from lived experience (as it sometimes seems to in some non-representational accounts), but it does

bring attention to the way that tacit, bodily, and emotional transformations are as much part of research "logic" as any set of discursive questions or strategies.

If all this has sounded quite abstract so far, in the next few sections I want to explore more concretely what these practices looked like for me in the field. I will focus on issues that led to significant learning and growth for me as a researcher, specifically the challenges of studying non-verbal interactions, tacit kinesthetic skills that shaped my methodology, and the use of digital technology in practice-based research. I will end with a reflection on methodological futures.

Without Words

It became clear early on in my research that I would have to radically rethink the degree to which I could rely on spoken testimony to account for practice. I always imagined that my research would lean heavily on observation, but I expected informants would also be able to describe the practical ways they negotiated conservation projects. I was surprised, therefore, to find a significant and ubiquitous rift between the realm of practice I observed second hand and first-person testimonies I heard. I would often ask people how they learned to do things a certain way, or how they came to know what they knew. Time after time, I was met with vague answers: "I figured it out as I went," "I just followed my intuition," or "I learned through trial and error." These responses often came from experienced practitioners who, from my observations, clearly had skilled ways of managing both the technical parts of their jobs (carrying out forest management procedures, dealing with paperwork, developing formal project plans) as well as the

interpersonal aspects (developing trust and rapport, facilitating discussions, working across cultural difference). In other cases I found that people talked in scripted ways about their conservation practices, explaining their activities in terms of formalized models or standard protocols that were prevalent in their field. Although understanding how practitioners made sense of their work and how they related to professional conventions was certainly an important part of my research, these scripted explanations often did not seem to fully capture the complexity and richness of the practical interactions I observed. There seemed to be more going on in the actually doing of things than what people could describe.

As I argued in the body of the dissertation, a principle reason why we struggle to put words to our actions is that a considerable part of practice is tacit, habitual, bodily, and taken-for-granted. For most people, it would be difficult to explain how they learned to ride and bike and what makes them stay up-right on one now. Riding a bike is just something you have to get the feel of (although there are certainly strategies that help initiate the process).[48] The same is true of all sorts of activities we engage in on a daily basis. However, as I came to understand over the course of my fieldwork, another part of the problem is that we are not *accustomed* to articulating our own practices. Most of the time there is no need to dissect our habits of working (we are too busy getting things

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[48] Although consider the explanation an average bicyclist would give as compared to a professional cyclists who has studied and measured every biomechanical detail of their performance and can tell you just how their center of gravity, power output, and wind resistance changes as they alter their position on the bike. Imagine if this professional cyclist was also a trainer and was in the business of instructing others how to ride optimally. I bet she could provide a pretty good explanation of the practice of bike riding. To say that knowledge is tacit does not mean it is *impossible* to articulate, often we just lack the sensibilities and language necessary.

done) and so we find it difficult to pause and explain just how we maneuver through the world of lived activity.

Over the course of my fieldwork I did figure out some tricks to elicit reflection and conversation about tacit elements of practice. Indeed, if I set out to do similar research now I would be much better at drawing out these reflections. One trick is to ask people to reflect on the practices of others who do similar types of work. For example, I might say to one informant that I noticed so-and-so always does such-and-such when they are in the field. Or I might say that I've observed lots of people doing a certain activity in a certain way. Then I would ask the informant if they also do things this way, or if they do something different. In contemplating the differences and similarities between their own practices and the practices of others, I found that informants often were able to articulate their habits with far more detail and complexity than if I just asked them directly about what they did.[49] This technique usually involves some poking and prodding to get beyond an opinion-based answer (so-in-so just likes to do things that way, whereas I like to do it a different way), but it often led to rich comparative conversations.

A second trick, and one that should not come as a surprise, is to have people teach you to do what they do. I came to think of this as operating in an apprentice, as opposed to an explanatory, methodological mode. Formal apprenticeship has been used as a

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[49] I don't entirely know why this works, but my guess is that it has to do with the porous and intersubjective nature of practice. Practice is always in-relation; we are responding to, mimicking, and synergizing with other bodies and materials around us. It is therefore not entirely sensible to think individualistically about practice—people don't possess practices in the way they hold opinions. Perhaps asking questions in such a way so as to put activity into conversation with other activities, bodies, and materials more easily follows of the contours of how we maneuver through practice.

viable methodology in the social sciences (see for example Marchand 2010b). But even without an official apprenticeship, I found it useful to cultivate a similar dynamic informally. Putting myself in the shoes of a novice student attempting to learn from a skilled practitioner changed the way I asked questions and made observations. I focused on the process at hand and traced activity in the careful way one does when they are trying to learn it for themselves. Once again the level of explanation and practical detail I received from informants in these learner/teacher interactions was typically much richer than when asking people directly about their practice. Not only that, but playing the role of novice often seemed to put others at ease. Conversations in this mode take on a tangible and concrete tone which diminishes the perceived threat of hidden agendas or manipulation. In general, operating in this apprenticeship mode primarily involved a shift in my own mindset. I didn't make my approach explicit to informants because at the time I wasn't entirely cognizant of what I was doing. In the future, however, not only would I be explicit, but I would push this technique further—I would spend far more time asking informants to *teach* me rather than to *tell* me.

While both of these techniques were helpful in getting people to talk about their practices, ultimately I relied heavily on non-verbal methods to paint a more nuanced picture of how conservation is performed. Finding ways to observe, describe, and make sense of bodily movement was fundamental to my methodological approach as practice is rooted in, and expressed through, the body. Again there were very few protocols that I could turn to for guidance. [50] I ended up inventing many of my methods as I went along

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[50] I recently read about a technique used in psychology research which could be very effective for practice-based research (Mehl et al. 2001). The technique involves using an Electronically Activated Recorder

and often my breakthroughs came quite by accident. As it turns out, however, I had a

whole set of tacit skills that provided a foundation for my experimentation and likely

drew me to this sort of practice-based research in the first place. With the risk of being

overly autobiographical, in the next section I want to consider how these tacit skill sets

shaped my fieldwork and how they helped me interpret practice, bodily movement, and

experiential processes.

Tacit Methods and Kinaesthesia

How do we study embodiment and the fleeting movements of everyday activity?

The philosopher Maxine Sheets-Johnstone has written extensively on the connection

between human movement and consciousness. Using evidence from developmental

biology, cognitive science, and philosophy, she argues that all humans intuitively

understand the world through movement, and we have an innate capacity to "read" bodily

movement, gesture, and expression in others (Sheets-Johnstone 1999). In her view, we

are always already talking about embodiment; we cannot *not* attend to kinesthetic

dimensions of life. She calls kinaesthesia, which she defines as our sense of self-

movement, the sixth sense and claims that it is even more fundamental to our existence

than vision, hearing, touch, smell, or taste (Sheets-Johnstone 2011).

Given this view, it might seem that qualitative research based on observation and

active engagement is always inherently dealing with embodiment. While this is likely

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(EAR) to sample sound bites as a participant carries out their daily activities. The EAR can be programed
to capture, say, 30 seconds of sound every 12 minutes, thus providing an acoustic log of a person's day
which can then be analyzed in terms of verbal and ambient sound components. This technique has potential
for recording the benign auditory soundscapes of practical activity and might provide insight into the world
of everyday interaction.

true, it is not necessarily the case that we make these embodied, and often tacit, dimensions of our research explicit. We may intuitively pick up on the gestures and movements of others, but to deliberately isolate and describe these within the stream of activity flowing around us does not just happen naturally. One the one hand, it takes willful commitment to prioritize a certain type of observation and description. For example, it is difficult to watch movement and action when you are focused on propelling an interview forward. But it also takes a particular sensibility toward, and awareness of, embodied practice—an ability to synthesize and describe bodies in action. Reflecting on my research, I realized I had been cultivating such sensibilities for many years. Although largely taken-for-granted as part of my everyday worldview, they nevertheless informed my methodology. Three specific areas of development specifically contributed the way I conduced my research.

The first was dance. I started taking dance classes at the age of three. A dance teacher in my neighborhood had started a children's dance company modeled on the philosophy of Isadora Duncan.[51] What was unique about this teacher was that she was trained in modern dance as well as a technique called body-mind centering (BMC) which combines dance therapy, movement analysis, anatomy, and meditation. The goal of the technique is to reach a deeper sense of awareness about workings of the mind-body and learn to listen to your own unique corporeal "voice." It all sounds like new-age

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[51] Duncan (1877-1927) is considered to be one of the founding contributors of modern dance. She rejected the codified precision of ballet and embraced "natural" movements. Dancing barefoot and in Grecian-style tunics, her approach to dance was radical for her day. Duncan also believed that dance should emulate the free and harmonic movements of children and she thought dance education needed to start with youth. She founded three dance schools for young women and toured with a group of her students who came to be known as the "Isadorables."

mythology to me now, but as a kid I simply learned that one makes sense of the world through bodily movement.

I danced with this studio through most of my youth and have continued taking occasional dance classes of all sorts as an adult. Not only has dance honed my own somatic self-awareness, but I also learned that there is a certain fluidity between movement and discursive modalities. As a child, we were often asked to take words and translate them into movement, composing dance "sentences" that captured the emotionality of language. We even performed popular children's stories—our teacher choreographed dances that conveyed not so much the actual storyline as the sentiment of the narrative. The dance studio was also filled with objects, toys, and musical instruments (including a plastic model of a human torso with removable organs and a model skeleton used for learning the anatomical basis of movement). We played with moving to different sounds and rhythms, and we experimented with using props—chairs, balls, scarves—to shape our dance. I learned that language, narrative, concepts, and even materials were connected to the kinesthetic realm, and I became attentive to the corporeal dimension of ordinary problems and interactions—everything, it seemed, had an analogue in movement. Although I did not explicitly use my dance training in my research, it undeniably influenced the awareness I brought to observing and describing interactions in the field.[52] The primacy of movement was something I took for granted,

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[52] After returning from the field, I was curious as to whether I could find a more rigorous way to integrate dance with qualitative research methods. This led me take a course in the dance department on Laban Movement Analysis (LMA), which is a system for analyzing and notating human movement. In LMA, movement is described according to four qualitative categories: body, effort, shape, and space. Body describes the physical angles and patterns of the body while in motion. Effort has to do with the intention of the movement—whether it strong, direct, sustained, free, etc. Shape describes how a body is in-relation

and I unconsciously paid attention to the corporeal "choreography" of interactions. I often used dance metaphors to help me think through the encounters I observed and I intuitively honed in on bodily rhythm, pattern, and form.

Beyond dance, my research has also been heavily influenced by athletics. I have long been involved in a variety of sports and like with dance these activities have shaped my own kinesthetic self awareness. But athletics have also taught me about how to isolate and articulate specific elements of an activity. These lessons have come primarily from coaching—both being coached and coaching others. In coaching (and I am talking here about instruction that involves refining the actual act of doing the sport, not about designing general fitness or competition strategies) one needs to find ways to simplify complex activities, making them intelligible in new ways. A variety of techniques can be used to do this. One is to find metaphors and analogies that help make sense of kinesthetic dynamics, for example, comparing a complex skill to a simple act like walking or throwing a ball. Another is to use technology to visualize movement in new ways, such as filming a sprinter and watching the video in slow motion to analyze body position. Or another way is use physical drills to isolate and engage particular components of an activity, bringing new aspects of the skill into focus.

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with other things and bodies, for example moving internally with a lack of awareness about the surrounding environment versus being in an interactive duet with one's surroundings. Finally, space refers to the way a body moves through space, which is conceived as a three-dimensional crystal. All movement happens along the axes of different crystalline forms and each axis of movement has different qualities. LMA is used in a variety of fields beyond dance and can be used to analyze everyday movement (one of our assignments in class was to use LMA to interpret the gestures of politicians running for office). LMA is a actually a *more* precise tool than what I needed for the purposes of my research, but it did influence how I interpreted some my video footage from the field and I could envision using it in future projects.

All of these techniques involve a close coupling of activity, explanation, and observation. The coach has to observe the athlete in action, pick out the elements of an activity that need work, explain or visualize these elements in ways that make sense to the athlete, and then watch if the necessary adjustments have been made. The athlete in turn has to translate instruction into action and self assess as they "get the feel" of the activity. Coaches and athletes thus develop a skill set around kinesthetic analysis, communication, and translation. While the goal of my research was not to analyze physical activity per se, my habits of kinesthetic observation and communication cultivated far from my research site were enrolled in the way I made sense of the performative practice. I often found myself paying attention to bodily form and movement not because I had set out to examine these elements of practice from the beginning, but because I was simply in the habit of doing so.

A final area of influence has been working as a field instructor for Outward Bound, an outdoor experiential learning program with schools across the US and the around the world. Outward Bound was founded in 1941 by an innovative educator named Kurt Hahn who along with John Dewey and Paulo Freire is considered one of the founders of experiential education. The connections between non-representational/practice theory and Outward Bound/experiential education are multiple and worth theoretical attention (see Hinchliffe 2000), but here I will forgo such a discussion in order to focus how my work as a field instructor affected me personally and influenced my approach to research.

The majority of my work with Outward Bound involved co-leading groups of 7-10 teenagers on canoe trips in northern Minnesota and Canada for 7-30 days. Unlike conventional education which assumes knowledge is passed from the teacher to the student, experiential education is based on the idea that students learn through active problem solving. The teacher helps to choreograph the learning experience, but the lessons themselves evolve from within the activity and the intended "outcomes" are often open-ended. An Outward Bound course, as I have come to think of it, is simply a series of problem solving encounters linked together by play, reflection, and rest. The problems confronted on a typical course are often simultaneously physical, technical, and interpersonal. Outward Bound courses are also based on a deliberate progression in which instructors are heavily involved in teaching and decision-making early on, but then gradually step back until by the end of the course students are largely independent. This format ensures that there is continual challenge and learning—there is little chance to sit back and simply go with the flow.

Instructing for Outward Bound involves the type of kinesthetic skills related to coaching that I described above, as much of the day-to-day activity on course is based in physical movement. But it also involves an ability to decipher how and what students are learning as they make their way through course activities. On a long day of hiking, for example, students engage in all manner of encounters with each other, the terrain, the weather, their equipment, and so on. An instructor's job is to critically observe as these encounters unfold and to continually assess what might help the group with their future learning. Sometimes they might need help with a technical problem, other times they

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might need facilitation to resolve an interpersonal conflict. Or sometimes an instructor might decide not to intervene at all, that the best learning will come if the students are allowed to grapple with events on their own terms. These skills of observation and assessment take practice as well as a learned sensitivity to what we might call, after Schatzki (1996) the "field of practical activity." As a new instructor I often failed to "see" what was going on with a group. I intervened when it was unneeded and stepped too far back when the students could have benefited from my guidance. But over time I became cued in to signals of how the experiential process was unfolding. I became attuned to subtle nuances of behavior, expression, gesture as well as to weather, terrain, and environment.

I recall, for example, a significant learning moment on a summer paddling trip in Northern Minnesota. It was a standard travel day early in the course and my co-instructor and I were in the lead boat, with three student boats following behind. We had been paddling leisurely all morning and fishing as we went, but as we neared our next portage we noticed a strong swift in the channel in front of us, pushing water towards our boats. My co-instructor, who was a novice field instructor at the time, acknowledged the swift but paid little heed. For experienced paddlers such as himself the swift was easily navigable not to mention that he was eager to keep casting in the moving water. But I read the situation differently. I knew that our students would have trouble and I immediately began to survey the scene—watching for the position of the other boats, looking for down-stream obstacles in the water, considering the mood of the students, the

weather, and my own energy level. All the while my paddle was in the water, feeling out the strength of the current and its direction of push against the boat.

These split second "thoughts" were really more like pre-reflective hunches, I took action even before I made a conscious plan. I suggested to my co-instructor that he might want to put his fishing pole away and focus on the situation at hand, and I told the students to give each other space as they entered the current. I did not, however, take radical steps to have the group avoid the swift. It was warm day and the scene presented few significant risks. As I expected, one of the boats got turned sideways and capsized. This caused some momentary chaos before we all regrouped on the downstream shore.

This was a classic experiential education scenario. The capsize brought immediate and tangible consequences and redirected the trajectory of the day. In this case the outcome was positive. The students learned that even seemingly benign current can be quite powerful. They also learned, after sizing up the wet gear and lost items, the importance of waterproofing and securing their equipment. My co-instructor, for his part, recognized the need to stay attentive and not over-estimate the abilities of new paddlers. For my part, I was happy with how the event turned out. Although as a group we are inconvenienced by the capsize, the value of the lessons outweighed any harm done. It would have been quite different, however, with colder weather, a storm approaching, a more dangerous downstream runoff, or any number of other complicating factors at play.

So what does this example have to do with qualitative research? There are three points of intersection. First, the ability to observe and assess experiential processes was

important in my research. Even though forest conservation in southern Chile is a world away from a Northern Minnesota paddling trip, the skillful attentiveness I cultivated in the latter influenced what I was able to see in the former. To use an analogy here, after taking an ornithology class and studying bird calls with some intensity, it is almost impossible to walk into the woods without hearing the sounds of the forest differently. Focused attention to auditory details creates particular habits of listening and hearing that come into play even when identifying bird calls is not the end goal. The same is true of the attentiveness to lived events that I cultivated working for Outward Bound. I developed my capacity to "read" experiential encounters and habitually tried to anticipate how events would unfold.

Second, working intensively with students and fellow instructors on trail helped me recognize the development of practical expertise in others. On course after course, I had the opportunity to watch as group members transformed from novice to competent wilderness travelers, becoming sensitized and aware of their surroundings and circumstances in new ways. This helped me cue into the learning process of the environmentalists and community members I interacted with in Chile. I watched for signs of skillful progression—subtle adjustments in behaviors, levels of ease and discomfort with particular activities, the ability of others to see and anticipate what would come next in a chain of events.

Finally, Outward Bound taught me that decision making not only happens with mind, but with the body. In the example of the capsize, the physical feedback I received from the paddle in the water as well as the general feeling I had of the moment at hand,

was central to how I evaluated the scene. This bodily knowledge is something that Outward Bound instructors take for granted; our job explicitly relies on our felt understandings of our surroundings. Similarly, in Chile I could see that there was more than just cognitive deliberation at play in the way decisions are made over the course of the environmental projects. Not only would I observe practitioners using their bodies— touching, listening, and watching—to make sense of places and situations, but they also articulated having a "sense" or a "feel" of events that helped guide decision-making process. Whether we choose to call it experiential knowledge, skill, know-how, or judgment, these ways of knowing involve a complex mix of bodily, cognitive, and emotional faculties that could be as important in conservation as they are on an Outward Bound course.

In this section I have described some of my own journey and practical influences, but there are two more general points about methodology to conclude from this narrative. The first is that, whether we care to admit it or not, as researchers we bring a diverse and sometimes eclectic set of skills, sensitivities, and experiences to our methodological practices. Methods are not just somehow formed and developed within the confines of our "research." They are not codified procedures written onto the blank slate of the researching body. We pick up useful techniques on the side, as we are doing other things. Our methodological practices have corporeal and emotional histories, as well as continual futures formed through exploration and creative interaction in the field, wherever that might be. While most ethnographers would agree with this point, we are often temped to describe methods from a freeze-frame vantage, as steady-state techniques

that we can pick up and set down like tools on a shelf. Such descriptions feed our "hygienic" misconceptions of research practice, sterilizing methods of their tacit undertones, their sensuous qualities, and their ongoing renegotiation. Examining our own methodological histories, including how we develop into researchers and what experiences were influential, is an important step in articulating a richer version of methodological practice and learning.

Second, my narrative suggests that non-representational and practice-based research might benefit from more extensive cross-pollination with fields outside the social sciences. I have talked here about skills I garnered from dance, athletics, and experiential education, but theater, art, music, social work, various health fields, and professional crafts of all sorts have much to offer in terms of developing the awareness necessary to understand embodiment, practice, and lived experience. One the one hand, we may look to borrow specific methods from these disciplines, emulating their techniques of observation, description, and analysis. But perhaps more importantly, we might attempt to develop in ourselves the sensibilities, skills, and tacit know-how that are cultivated in these fields. Within the non-representational turn, scholars have certainly been looking to fields such as dance and theater for creative inspiration, but often these engagements have an empirical and theoretical focus rather than a methodological one. Scholars have turned their attention to the stage or the dance studio for insight into how non-representational processes work, but rarely do scholars go to the stage or the dance studio in order to train themselves to examine other phenomena entirely. Such an

endeavor, although seemingly tangential to a typical research trajectory, might help us become more skillful researchers, or at least more creative ones.

Digital Experiments

The tacit skills described in the last section were ever-present in my fieldwork, analysis, and writing, operating in the background as a sort of intuition as I made my way through the research process. But layered on top of these tacit skills were explicit research activities and dilemmas which occupied much of my day-to-day energy. Chief among these was how best to translate the world of practice I was participating in and observing into the representational realm, and specifically into written documents that would become the basis of my dissertation. As described above, this was especially challenging since I was researching many non-verbal processes which could not simply be transcribed from oral to written form.

Field notes provided a good starting point for performing translations between representational and non-representational modes. While conducting my research I always had a notebook and pen at the ready. Although the notes I took in the midst of activity often amounted to little more than chicken scratches, the process of typing fieldnotes into my computer and adding my reflections after the fact, something I did nearly every day, was a fundamental part of my research process. These daily habits of writing were of course critical for making sense of my research encounters and developing the conceptual frameworks that would structure my dissertation (see Emerson, Fretz, and Shaw 1995). But fieldnotes were also the place where I first

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grappled with translational conundrums. How *can* I narrate the "feeling" of an event?

What sensory detail helps bring an encounter to life? How can I give this scene motion

and life in its written form? I only began to answer such questions in the fieldnotes

process and typically it took several rewrites to produce a satisfactory description. Thus,

my narratives continued to evolve throughout the writing process.

Despite the importance of fieldnotes, I found several limitations to writing. First,

trying to write while engaged in activity is quite difficult. More often than not, my

research took place while walking, driving on bumpy roads, working on a project, or

eating meals with others—all situations in which note taking is awkward and

cumbersome. Second, in terms of capturing lived practice and activity, writing is simply

too slow and reductive. There is no way to keep pace with the fleeting and transitional

quality of movements and moods, gestures and emotions that stream continually through

research encounters. Nor is it possible to get down on paper enough sensory detail to

adequately portray a scene. Finally, in my research area, writing comes with its own set

of cultural sensitivities. Many rural residents in southern Chile, especially older

generations, have limited access to education. While most read and write, not all feel

comfortable with paperwork and texts and the colonial processes they represent. Thus

the very act of scribbling notes, especially when it is a foreign researcher doing the

writing, can make people feel uncomfortable.

To make up for these deficits, I increasingly turned to digital techniques

especially digital video, photography, and sound recording. These are not novel

technologies in qualitative research, but I was surprised to find that engaging with the

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digital realm affected my methodology in unexpected ways. Although there has been a growing interest within cultural geography in the potential of digital techniques, particularly film, for understanding the fleeting world of practice and embodiment (Knoblauch et al. 2008; Lorimer 2010; Simpson 2011), what is often debated is the degree to which these technologies can help "capture" the non-representational realm. Take film for example. On the one hand, film clearly provides a multi-sensory, real-time record of an event in a way that writing or still photography does not. In allowing for a richer, more detailed, and multi-sensory portrayal of lived experience (even if footage is subsequently translated into writing), video seems a natural method for researchers interested in practice. This is especially true given the increasing accessibility of video production hardware and software. But on the other hand, video techniques still have limitations—emotional and affective processes can get "flattened" by the camera in some cases or over exaggerated in others often in relation to seemingly benign choices about camera angle and position (Simpson 2011). Indeed cultural geographers have been quick to draw on the insights of media and cultural studies to point out the inherent distortions and subjectivities of moving image technologies.

In turning to digital techniques, I had assumed these debates about the documentary potential and biases of film and other media would figure prominently in my methodological choices. I would need to focus, I thought, on getting the right mix of audio and visual material to allow me to describe with fidelity the moods and movements important to conservation work, at least as they could be seen on the faces of research subjects and read in recorded scenes. And I would need to analyze the limitations of

these approaches for representing the non-representational. In short, I was originally most concerned with the type of "outcomes" I could achieve from expanding my methodological repertoire.

While these issues were certainly present in my research, I found that my methods were shaped more by the *practices* of making digital fieldwork happen—the material, bodily, and emotional processes of figuring how to use and manipulate new technologies. As my research progressed, it became routine to head into the field with a haphazard assortment of lenses, notebooks, memory cards, mircrophones, cords, and battery packs. I recall many days dressed in full rain gear and rubber boots, climbing a muddy path through the woods with my various camera bags bouncing uncomfortably off my hip. My fumblings with this equipment were often awkward, tentative, and experimental. I played with where to attach microphones, how to physically move around to capture a scene, how to keep equipment dry, and how to balance talking, recording, interacting, and observing. This experimentation happened at a bodily level. I moved and maneuvered differently in the field as I watched for camera angles and began to notice how the interplay of light, shadow, and sound would impact filming. I also organized my time differently, often going back to film or photograph objects and details that I had missed in the initial recording of a particular scene.

One consequence of these experiments is that I produced a lot of "extraneous" material that was not at first glance relevant as "data." Because I was not entirely proficient with the equipment and because I was often engaged in activity while filming, my default mode was to simply keep recording and sort out what was important later,

usually back home in front of the computer. This meant that my recordings were especially raw—video footage that was shaky to the point of being unwatchable, barely audible conversations, poorly lit scenes, and minutes upon minutes of tape in which nothing of interest seemed to happen. In sifting through audio and video recordings after the fact, my first instinct was to hone in on salient and intelligible moments and ignore or edit out superfluous and blurry material. This often meant a long and tedious process of scanning through the "junk" in order to find the places of interest on the recording. The more I did this, however, the more I became curious about this junk in its own right. I began to see that many of the moments I had dismissed as "empty" actually depicted subtle but significant elements of an activity—shakiness in the camera that indicated a particularly vigorous moment, the sounds of rain and wind which made the audio muddled but which were also a testament to the dynamism of the weather, or idleness in the video footage that spoke to the tedium of conservation work.

The soundscape of the hiking scene presented in chapter 2 came about in this way. My intention in the field that day was simply to record Don Patricio's stories about the landscape, his property, and the hiking trail. Because it would have been cumbersome to stop and start the recording as we hiked along, I got permission from Don Patricio to attach a mic to him and just keep it running. I knew I had hours of recording time on my digital voice recorder and fresh batteries that would last the duration of the hike. I assumed that later I would edit out the noise and transcribe the pertinent exchanges. But my initial attempts to recreate a linear conversation out of the recording quickly proved frustrating. I had downloaded the recording on my computer and I spent

several hours scanning forwards and backwards through the audio material trying to piece

together relevant verbal material, skipping through dead minutes of background noise,

partial audible pieces of conversation, and the broken chatter that comes with physical

activity. I eventually became discouraged, decided there was not much of interest on the

recording, and tucked it away on my hard drive. Several months later, as I was

contemplating how to portray the dynamics of practical activity, I suddenly had a hunch

about the recording. What if I simply transcribed the "noise" that I had been skipping

over? What if these sounds actually tell us something about how we make sense of space

and place? Revisiting the recording with these new questions in mind, I found a wealth

of relevant audio data. The sounds of footsteps, breathing, wind, and scattered pieces of

conversation told an interesting story in their own right.

The lesson for me in this process was that digital technologies, despite their

ability to document lived processes with uncanny fidelity and detail, are equally

important in the way they create inexplicable excesses and remainders—coded material

that is part of lived experience but also beyond it, in an aesthetic realm all its own. This

lesson became more salient for me as I spent time processing and organizing the digital

material I generated in the field. Although I had no intention of producing edited audio

and visual material that would stand on its own (my recordings were for my own research

use only), I nevertheless began tinkering with photo and video processing software. On

the one hand, these programs helped me order and make sense of my digital material as

they have functions for labeling, bookmarking, and culling digital material. But it was

also fun to simply play around with images, sounds, and video, and to experiment with

creative applications for manipulating digital files. As I did, I began to discover novel

potentials in the coded material stored on my hard drive. The pixels that made up digital

photographs and video were not merely a record of events and encounters, but a

malleable canvas on which to reinscribe my transposed and recombined feelings and

thoughts. In the ways I chose to color balance, vignette, and sequence image and sound, I

could manipulate affects and moods. These recombinations in turn cycled back to my

bodily habits of recording in the field. I became intuitively attuned to the rhythms of

digital processing, adjusting my techniques with an eye toward future compositional

arrangements and with a knowledge that the content of my research would unfurl slowly

as I revisited and reworked my digital files.

My methods of digital processing emerged not so much as a series of systematic

steps (my material was too heterogeneous and my experience with the software too

formative to allow for a regular procedure), but rather as a set of habits and attachments

around my burgeoning digital skills. I experienced the disappointment of technical

failure and the joy of an artful recording. Sorting, transcribing, cataloging, and

processing became part of the rhythm of doing fieldwork. I would find comfort in

navigating the familiar digital file folders of photos and videos neatly organized on my

hard drive. I would sift through and relive scenes from the field, and new emotions

would take shape as I noticed details and angles that I had previously missed. Thus the

narratives that emerged from my fieldwork in Chile were compiled through the repeated

sequencing and sampling of image and sound—codes, thoughts, sensations layered one

on top of another.

For me, digital techniques were far more material and far more open ended than I had assumed. They came to alter how I made sense of my research not just because they allowed for new forms of methodological capture, but also because they opened new corporeal and affective spaces of research engagement. This observation resonates with recent scholarship that has pointed to the affective, emotional, and embodied dimensions of the digital realm. Mark Hansen (2006) claims that our entanglement with digital technologies changes the very bodily schema and affective spaces with which we engage the world. For him, reality is always mixed—there is no clear line where bodies end and technologies begin. Brain Massumi (2002), in turn, argues that although digital formats provide "more opportunity for resonance and interference between thought, sensation, and perception," they always circuit into "analog" sense modalities (140). The digital itself, he says, is "electronic nothingness" it is our felt and intuitive relationships with coded material that bring about actual effects. And it is our bodies, he claims, that act as transducers between code, sensation and action. Based on my experience, I would argue that the ability to change our capacity as bodily transducers is one of the most significant consequences of turning to digital techniques, yet this dimension has been given relatively little attention in methods discussions. I suspect that increasing overlap with media studies and human-technology geographies will broaden the discussion of digital qualitative methods in the years to come.

Ethnographic Revisions

In the end, the term ethnography best captures what I did in the field. According to O'Reilly (2005), ethnography is:

> Iterative-inductive research (that evolves in design through the study), drawing on a family of methods, involving direct and sustained contact with human agents, within the context of their daily lives (and cultures), watching what happens, listening to what is said, asking questions, and producing a richly written account that respects the irreducibility of human experience, that acknowledge the role of theory as well as the researcher's own role and that views humans as part object/part subject. (3)

While this passage is a good starting point for describing the way I conducted my research, the narrative I have presented in this appendix also goes beyond O'Reilly's characterization. I have made a point to emphasize the performative, practice-based, and corporeal nature of my methodology, presenting what I hope is a more embodied account of methods than what is sometimes found in some accounts of ethnography. Most skilled ethnographers would likely recognize in their own process many of the research practices I have described, and even if they do not always make their bodily habits of enacting ethnography explicit, their performative processes are often perceptible between the lines of their methodological descriptions.

At the same time, many ethnographers are embracing more corporeal approaches. Ethnography has always represented a flexible and shifting methodological space, one that has been subject to numerous revisions over the years. The theoretically engaged, ethically reflexive, and politically responsive ethnography that emerged out of the critical revisions of the late 20th century are (thankfully) a far cry from the pioneering cultural anthropological studies of the early 20th century. Although it may be too soon to tell, my

hunch is that we are in the midst of another significant ethnographic revision. Not coincidentally, the two notable areas of development resonate with themes highlighted in this narrative: new emphasis on and theoretical understanding of practice, body, feeling, affect, and performance (Inckle 2010; Kontos and Naglie 2006; Longhurst, Ho, and Johnston 2008; Nairn, Munro, and Smith 2005; Paterson 2009; Pink 2009; Sparkes 2007); and the increasing use of new digital techniques, especially film, for expanding ethnographic method (Crang and Cook 2007; Dicks et al. 2005; Dicks, Soyinka, and Coffey 2006; Fele 2012; Mondada 2012; Murthy 2008).

These revisions do not mean that we should abandon prior insights about positionality, research ethics, and the cultural politics of ethnographic method. Although I have not emphasized these in this account, such issues were central to my methodological choices. I was doing my fieldwork at the end of Bush's second term and a radical anti-US sentiment had taken hold in Chile and throughout Latin America. Combined with the typical skepticism of foreign academics, these politics profoundly impacted who was willing to collaborate with me. In the first few weeks after arriving in Chile, for example, I contacted a friend who had been a key informant on previous research trips. I was expecting that he would enthusiastically update me on the developments in forest conservation projects and politics in the area, as he done on past visits. I was surprised, therefore, when he gave me a cold shoulder and refused to return my calls. I eventually got him to sit down for a conversation and I tried to find a reason for his change in attitude. Eventually it came out that he had had a falling out with some individuals associated with The Nature Conservancy in Chile. These interpersonal issues

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were combined with a deep resentment of US imperialism and in the growing influence of foreign environmental NGOs. Because I was in contact with the The Nature Conservancy, and because I was from the US, he assumed I was "on their side." He confessed that he could no longer trust me and it would compromise his work to be associated with someone from the US. As difficult as this experience was both logistically (I had one less key informant) and emotionally (the loss of friendship and mentorship was also painful), this was the type of research dilemma I had *expected* to encounter in the field. Ethnographic and fieldwork accounts are full of similar stories of cultural, geopolitical, and personal impasses. Having read many such stories, I felt that I at least had the language and intellectual tools to make sense of this research challenge— a testament to the ongoing importance of the ethical discussions that have emerged in qualitative research over the past two decades. The same was not true of my trials and frustrations with trying to study practice, where I was often left wanting for comparable examples in the methods literature.

While we should continue to embrace past ethnographic revisions, there is also reason to be wary of the new trends, particularly, I feel, of the turn to embodiment. It is easy to toss around terms like practice, emotion, affect, and body without giving serious theoretical consideration to the ontological shifts these terms signify. Likewise it is easy to attach the lexicon of embodiment to our methodological accounts (after all we have *always been* doing research of and through the body) without radically examining how our corporeality makes a difference in our research and in the world. As Maxine Sheets-Johnstone (2011, 119) puts it:

It is extraordinary that in this pivotally focused age of 'embodiment', in which virtually all human faculties are academically qualified as being embodied—as in 'embodied mind', 'embodied language', 'embodied self-awareness', 'embodied agency', 'embodied experience', 'embodied cognition', 'embodied emotions' and even (believe it or not) 'embodied movement'…—kinaesthesia is nowhere on the map. In each instance, the qualifier 'embodied' is pasted on whatever faculty is being considered and the faculty is thereby given a real place in the world. But the term 'embodied' and its derivatives are in fact no more than lexical band-aids covering over a still suppurating three hundred and more year-old wound. In using the term, scholars are actually perpetuating a divide that has not healed and will never heal so long as they ignore the realities of our basic animation.

Sheets-Johnstone is right on the mark in stating that to simply put "emotional" or "embodied" in front of a description does not mean we have the sensibilities to describe corporeal processes in a rich and profound way, nor do these words cover up the ontological divides that continue to haunt our thinking. I have read all too many papers and seen too many research presentations in the past several years that are guilty of a hollow treatment of embodied life and practice. They use all the right language but lack the analytical complexity to back them up. One solution to this problem is to encourage deeper theoretical engagements and discussions at all stages of the research process. But it is also critical to expand our methods *practices* to meet the demands of corporeally engaged investigation. It is all too tempting to continue methods as usual without fully challenging ourselves to *do* research differently. This is especially true when up against funding groups and institutional review boards that do not look favorably on "avant-garde" qualitative approaches. To truly change our research I feel we will have to crawl deep inside of our own skin, probing the remote interstices of our own corporeality as we simultaneously hurl ourselves into research spaces that may at first feel uncomfortable,

unpromising, and downright strange. In my experience, these are the spaces where

interesting things happen.