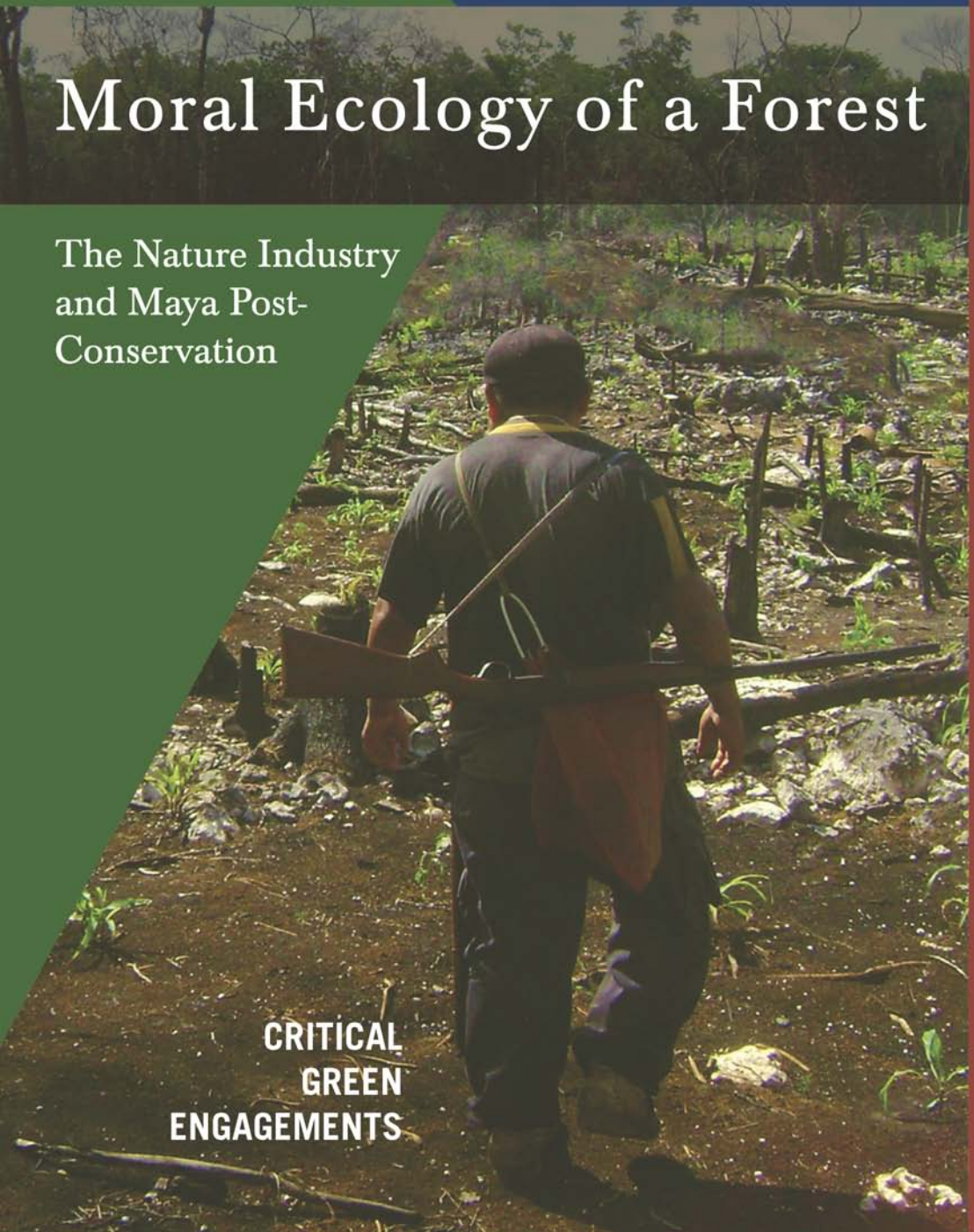
José E. Martínez-Reyes

Moral Ecology of a Forest

The Nature Industry and Maya Post-Conservation



CRITICAL GREEN ENGAGEMENTS

MORAL ECOLOGY OF A FOREST

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Investigating the Green Economy and Its Alternatives

James Igoe, Molly Doane, Dan Brockington, Tracey Heatherington, Bram Büscher, and Melissa Checker

SERIES EDITORS

JOSÉ E. MARTÍNEZ-REYES

MORAL ECOLOGY OF A FOREST

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MORAL ECOLOGY OF A FOREST

INTRODUCTION

THE MAYA FOREST AND THE NATURE INDUSTRY

Like all humans who have inhabited the world, you are a living question . . . you are a walking interrogation . . . looking for answers without end.

GREGORIO PECH (COCOM PECH 2001)

FORESTS ARE LIVING QUESTIONS: filled with rich, biologically complex life-forms and the interrelationships of multiple species and materials. Forests are also political-economy questions: filled with power dynamics and ideological perspectives over who controls, uses, takes advantage of, exploits, or preserves those life-forms and landscapes. And, forests are cultural and moral questions: carrying symbolic meanings, forms of knowledge, and obligations that people from different backgrounds, ethnicities, and classes have constructed in relation to them. The Maya Forest of Quintana Roo is a historically disputed place in which these three questions come together. To paraphrase Maya elder Gregorio Pech, looking for answers to these living questions might go without end, but the pursuit of these questions is vital, given the importance and global implications of maintaining bioculturally diverse regions in this moment of history.

My journey of trying to unravel the human dimension of biodiversity conservation and the changing Maya Forest began in October 2001. I arrived in the Masewal Maya[1] town of Tres Reyes shortly after the tragedy of the September 11 attacks in New York City and Washington, DC. The Maya call their friends and relatives by nicknames; thus, soon after my arrival, and aided by the fact that I wore a goatee beard, I earned one of three nicknames: "Jose Bi'in Laden" (with the extended pronunciation on the "Bin"). The other two

were "Jose Bu'ul," for my love of beans, and "Jose Gringo," as they call most foreigners, even Mexicans from other regions (particularly light-skinned ones), gringo (or *ts'uul*, or *guach*). "Gringo" was tough on me, since I'm Puerto Rican and an advocate of Puerto Rican independence from the United States. I thought that being called a gringo was the ultimate insult. I kept telling them, "I'm *not* a gringo," but they laughed at me. "Maak a chi,' gringoech" (Shut up, you are a gringo), they always replied, followed by laughter as it became a long-standing joke between us. This also became a positive reality check for me, because I *was* an outsider. I was the foreigner asking the questions and wanting to learn more about their culture and their everyday struggle to survive in the forest. It didn't matter if I came from Europe or Mexico City, in their eyes I was a gringo. At that moment in time, it would make sense if they were wary of me. Luckily for me, my presence was allowed in this region in which the locals are distrustful of foreigners with good reason. For many years, outsiders have been encroaching on something that is fundamental to the Masewal Maya: the forest.

For the Maya, the landscape in which they live, the *k'aax* (forest), has a *moral ecology*. It is the place where they feel "at home in the world," where they are situated in an everyday engagement with their environment. It is also where their history, identity, spiritual beliefs, communion with other species, and ultimately their survival are rooted. The ethnic boundary that they made with me, although it might seem funny or even trivial, is a marker of their identity as a group tied to a territory. While they continue to make a livelihood in the forest, a *nature industry*, led by gringos, debates what they should and shouldn't do with their land. Some of these foreigners include government bureaucrats, environmental NGOs, private entrepreneurs, conservation biologists, biosphere reserve managers, and even anthropologists. This book offers an ethnographic account that captures a decade of interactions between the Maya and foreigners over the fate of the Maya Forest. It is another chapter of ongoing and "unfinished conversations," as anthropologist Paul Sullivan labeled them in 1989, between Mayas and foreigners. But they are more than just conversations: they are also interventions in their relations with nature and a struggle over how the Maya Forest ultimately should be preserved, or how it can be exploited as a global commodity, and thus over the fate of the Masewal who call the forest their home.

Ultimately, foreign interventions in the Yucatan Peninsula are global in scope, whether it is a matter of extracting timber or capturing tourism dollars.

Their objective has been expanding global exchange by the use of Maya labor and their forest resources and the alteration of landscapes. The Maya Forest has a long history of foreign interventions. As will be discussed in chapter 1, it began with the conquest of the Americas, which paved the way for the later consolidation and control of territories and peoples but also generated resistance to them. Present-day central Quintana Roo was the heartland of an independent region occupied by the Maya rebels of the Caste War of Yucatan in the nineteenth century (1847–1901), one of the most successful indigenous rebellions in the Americas, and the last frontier to be conquered in what today constitutes the boundaries of modern Mexico. Today, its inhabitants, descendants of the rebel Mayas, continue to struggle over their place within the forest as they have since the pacification campaigns began in 1901.

Present conflicts stem from the advent of a series of global designs of modernity (Mignolo 2000) that fall under the category of what I call the "nature industry," which consists of the neoliberalization of nature and biodiversity conservation primarily seen in wildlife conservation projects, tourism, forest privatization schemes (land grabbing), and climate change mitigation in the forest around the Sian Ka'an Biosphere Reserve. Embedded in the nature industry is a certain *mentalité*, or way of thinking, that characterizes the relations of Mayas and foreigners with regard to nature. They can be traced to the condition of what I call the "coloniality of nature," in which the history of colonial relations subordinates place-based, indigenous traditional knowledge while privileging Western institutionalized ways of knowing nature. This book documents how Maya moral ecologies of the forest support their continuous resistance amidst all of the pressures and global schemes of the nature industry and opens the possibilities of a post-development conservation, or *post-conservation*, a practice based on indigenous autonomy that challenges the normalizing expectations of Western biodiversity conservation of the Maya Forest. It highlights the experiences of the Masewal Maya living around the Sian Ka'an Biosphere Reserve in the community of Tres Reyes in the state of Quintana Roo, Mexico, that I observed from 2001 to 2013. During this time, biodiversity conservation strategies ranged from incorporating Maya communities in conservation and economic development projects to more recent climate change mitigation strategies such as ecosystem services and carbon sequestration.

Nature reserves or natural protected areas have become commonplace in many parts of the world (Brockington, Duffy, and Igoe 2008) and are a key component of the nature industry. Increasingly, in the last three decades, they

have been used as a strategy to preserve biological diversity, or biodiversity, which continues to be threatened by deforestation, carbon emissions, species extinctions, and multiple sources of pollution by modern society. While this may seem like a sensible strategy by environmentally minded institutions and individuals concerned with the natural environment, among which I count myself, I am bothered by the way it promotes the separation between nature and culture and how it has been implemented, particularly in the forests of the so-called Third World. The problem is *how* biodiversity conservation strategies are put into place and what happens to the people who inhabit and depend on such places for their livelihood and identity. A second, related problem is what happens to the forest as privatization schemes are implemented in the name of conservation. Using reserves as a key environmental strategy places the burden of ecological conservation on changing and controlling indigenous peoples' livelihood practices, rather than on changing and controlling insatiable Western consumption.

Following the global model established by UNESCO, Mexico established their first biosphere reserve in 1978 in Montes Azules, Chiapas. In 1986, Sian Ka'an became the fifth biosphere reserve. In 2006, UNESCO announced that it would add twenty-five new biosphere reserves; eighteen of them were in Mexico. This shows how prevalent the creation of biosphere reserves has become as a conservation strategy, where worldwide there are over six hundred biosphere reserves. Mexico has forty biosphere reserves and 70 percent of its total protected land is in these reserves. At the time of its founding, Sian Ka'an became the largest reserve in Mexico. Today, Sian Ka'an, which stretches over 1.3 million acres, is the third largest protected area in Mexico (after El Vizcaino in Baja California and Calakmul in Campeche).

The Sian Ka'an reserve is one of the most vital coastal ecosystems in the state of Quintana Roo, with approximately one-third comprised of tropical forest, one-third wetlands and mangrove swamps, and the remaining one-third coastal and marine habitats. It is also one of five sites in Mexico declared a World Heritage Center by the United Nations. This designation gives prestige to the area and fosters more financial assistance from the United Nations, development agencies such as USAID, and international NGOs such as the World Wildlife Fund (WWF) and the Nature Conservancy. The creation of Sian Ka'an had an enormous impact on the municipality of Felipe Carrillo Puerto, because once this land was declared a reserve, the *municipio* lost approximately half of its territory.

Conservationists and biologists identified the area that today is Sian Ka'an as a potential reserve according to the principle of "biodiversity," which operationalizes such concepts as intraspecies diversity, diversity of species, and ecosystem diversity. While there is a biophysical component to the term biodiversity, it has also become an ideology that carries normative connotations and prescribes what it deems the proper way to identify the existence of biodiversity and protect it. Western conservation has historically neglected or downplayed the role that indigenous people have played in biological diversity. It is also intolerant or ignorant, at best, of moral ecologies that are based on mutually constituting rather instrumental relations with nature. Therefore, interventions in conservation projects produce confusion and conflicts about the objectives, expectations and projected outcomes. It was in this context that I found myself as I arrived to do ethnographic research in the community of Tres Reyes.

CONSERVATION IN THE LAST EJIDO

The community of Tres Reyes holds the last designated commonly held *ejido* land, established in 1983, in the state of Quintana Roo. The ejido is the land tenure system implemented in Mexico after the Mexican Revolution of 1917, providing for land with set boundaries held in common by members of a community. Ejido members, known as *ejidatarios*, have title to land, which is predominantly used for farming, agroforestry, and, most recently, conservation. Once farmers had ejido land rights, they could pass them on to their children. For most of the twentieth century, ejidos could not be privatized, until the constitution was amended in 1992 in preparation for the passing of the North American Free Trade Agreement (NAFTA) in 1994. The anticipated repercussions of this change led to massive mobilizations throughout Mexico, including the armed insurrection by the Zapatistas in the state of Chiapas. The impacts in the state of Quintana Roo and in the Maya Forest would not be far off, as I will discuss in chapter 3.

The ejido is located within the borders of the Sian Ka'an Biosphere Reserve. I had arrived with the intention of conducting a long-term ethnographic study about human-environmental relations in a region called the Zona Maya (known in English as the Maya Zone; see fig. 1), as it has the largest concentration of Maya communities in the state. This place has held my interest since reading a little green book (with a drawing of a Mexican soldier running for

his life on its cover) while I was an undergraduate student. It was the Spanish translation of Nelson Reed's 1964 classic, *The Caste War of Yucatán*.[2] This fierce and bloody war was a clash primarily between Yucatecan white elites[3] and mestizos and the Maya of the peninsula, with the British Empire in Belize (then British Honduras) playing a crucial role in supplying weapons and ammunition to the Maya. The war was not, strictly speaking, between "all whites" and "all Mayas." There were mestizos and light-skinned Yucatecans who adopted the Maya language and integrated with them, and there were also natives who fought for the other side. Nevertheless, the war was framed in the newspapers of the time as a conflict between "white civilization" and "barbaric Indians." The Maya rebels took refuge in the forest and maintained sovereignty over their territory until 1901. Most inhabitants of the territory are descendants of those rebels and are very proud of their history. Repercussions from the war continue to this day, as I will discuss later.

The first morning after my arrival, I was woken up by the son of my host family, saying, "Ko'ox, Jose" (Let's go, Jose). After breakfast, I assumed that we would go work in my host family's *milpa* (cornfield). But when people began to gather in the center of the community, they brought some unexpected (to me) gear, like binoculars, along with guides to identify birds and notebooks to be used as logbooks. Instead of going to the milpa, I found out that we were going to divide into groups to monitor birds along four paths in each corner of the community that led into the k'aax (forest). What stood out for me, other than the misunderstandings of the novice ethnographer trying to grapple with learning the Yucatec Maya language and adapting to new circumstances, was the kind of "work" that we were embarking on. From a previous short visit to the community, I was aware that it was involved in conservation activities such as clearing trails and growing a variety of orchids along them, with the goal of entering the busy ecotourism economy by opening the trails to tourists. This didn't surprise me, because since the creation of Cancún in the 1970s, the Yucatan Peninsula has, and continues to be, a mecca for tourism. However, as one of my group members handed me a clipboard with pictures of different birds and their scientific names, I was a bit nonplussed as we headed out.

All morning, we continued our monitoring walk through the forest, gazing around us, taking notes, listening to the sounds of birds, and trying to identify which were making what sounds. We also climbed one of several rustic observation towers built in tall chicozapote trees (*ya'*), which produce the chewing-gum resin (chicle), binoculars in hand, looking over the canopy to count how

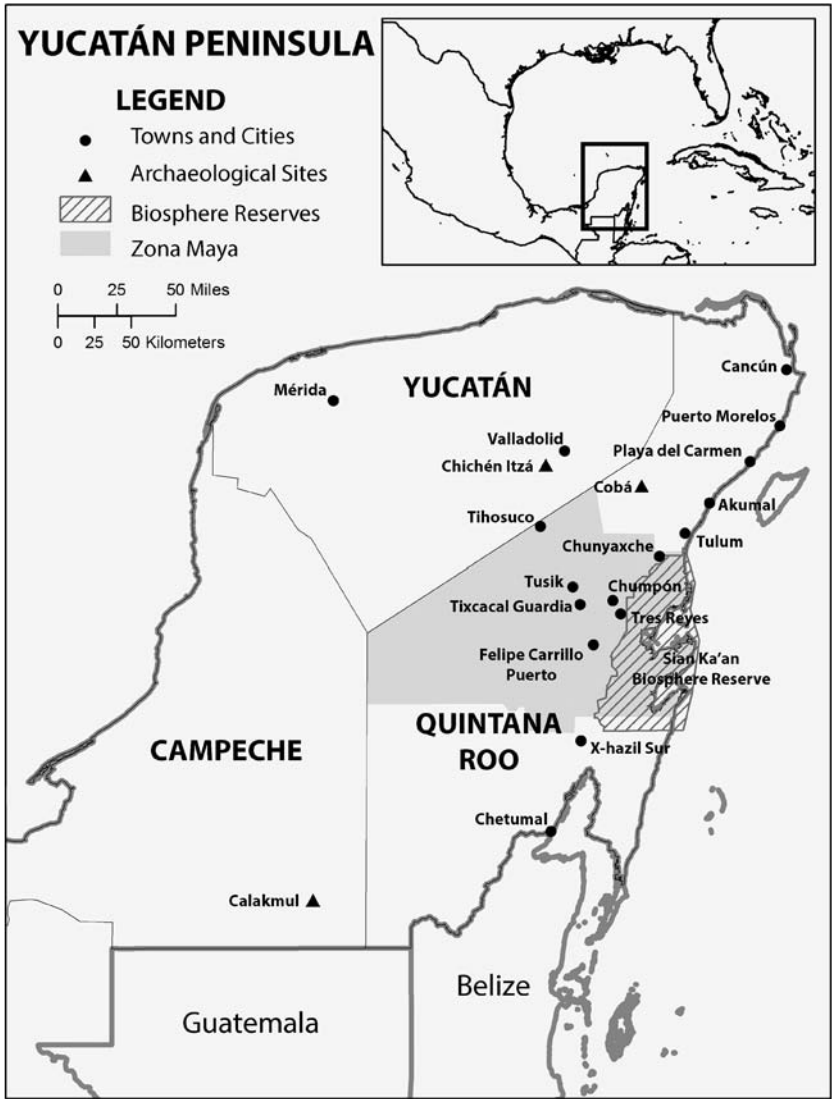

FIGURE 1. Yucatan Peninsula.

many parrots or flocks were seen. When birds were heard, a few people from my group imitated the whistling of parrots to see if they could locate them and confirm what kind of birds they were. After three hours of walking along the trails and looking, smelling, listening, and sensing the forest, the groups met back in the community. They compared notes and logs were returned to the person in charge of the monitoring. Groups got back together again at 3:00 p.m. to do another monitoring session. This one was shorter and lasted about an hour. Later in the evening, people gathered in the central plaza, as they did every day, to talk about working in the forest or to tell stories about hunting or to complain about how the conservation projects were unfolding. As my first day of fieldwork came to an end, I continued to ponder the details of this unexpected activity. The enthusiastic participation from the group made me wonder if this was indeed one of the model cases of effective participation for conservation.

The bird-monitoring project, as I later found out, was part of a larger project funded by the United Nations Development Program (UNDP) to promote "sustainable development" within the communities that surround the Sian Ka'an Biosphere Reserve. These projects purported to offer local indigenous communities opportunities and alternatives to their traditional ways of engaging the environment. By monitoring birds, particularly the native parrots (family Psittacidae), in their commonly held forest ejido, the Tres Reyes community were led to believe that the NGO (nongovernmental organization) that was training them to become field biologists would help them secure permits that would enable them to receive a quota from the state to sell parrots in the tourist and pet markets to generate income. One reason the monitoring was done was to guarantee that there were enough parrots to make this market economically sustainable, but also to develop Western scientific monitoring skills and become efficient in managing wildlife. At least, that was the intention of SEMARNAT (Secretaría de Manejo de Recursos Naturales), the Mexican federal agency in charge of natural resource management and protection, which in the 1990s launched an initiative to promote wildlife management projects throughout Mexico. Ironically, CONABIO (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad), another conservation agency under SEMARNAT, which had been established prior to this project to promote biodiversity conservation, has a logo that features an idealized rendering of an indigenous person and a parrot in peaceful and harmonious relation. While CONABIO's initiatives did not involve parrots, this provides an example of

how government agencies use and promote notions of indigenous peoples as congruous with nature, rendering their activities as part of an idealized past at the same time as they seek to control their means of subsistence.

It wasn't long until it became increasingly clear that conservation projects were generating many tensions between the community and the NGOs helping them. There was also tension between community members, both as to the purpose of all the different projects and as to whether they would have any positive outcome for their everyday struggle to survive. There was dissatisfaction over the fact that they had to rely on the guaches' government institutions and on NGOs' time frames and frameworks to be able to carry out projects that SEMARNAT had offered them as solutions to improve their living conditions. While the community did its best to protect areas around the reserve, they saw few advantages from their efforts. As one Maya community member reflected, "The guaches come with projects, but we never see the benefits. Our grandparents would have gotten rid of them." This comment alluded to a Maya history when they had control over the area and its resources, and controlled who could access them. In the past, guaches had brought schools and promises of development, but then relegated the Maya to being a subaltern group in society.

In addition to the problems with the parrot conservation project, the Maya were also critical of the ways that the government promoted conservation by coercion, specifically the practices of the agency in charge of enforcing environmental laws, PROFEPA (Procuraduría Federal de Protección al Ambiente). Hunting was one of the main disputes. For Maya men, hunting means livelihood, engagement with other species and the environment, and a source of community-making through both the actual act and the subsequent storytelling. Yet for local environmental NGOs and certain reserve managers, hunting is an activity that is barely tolerated; they are always admonishing the community not to overexploit the resources. For agencies like PROFEPA, the practice of hunting is considered a much more serious undertaking; in their case, this practice is perceived as a crime. They are always on the lookout for people who are hunting illegal species and will arrest those who sell any portion of game on the road.

Despite a long delay for permits that made the community unable to earn income from the parrot project, regulating bodies had little regard for nor understanding of the needs of the community. At a meeting with the UNDP parrot project evaluators, the president of a local organization from Tres Reyes was asked why the Maya kept selling game they had hunted on the road, which

had nothing to do with the parrot project but which was seen as unacceptable behavior from the perspective of environmentalists and reserve managers. The community leader explained that this was one of the ways they got cash for emergencies, as they did not have other options. During my fieldwork, it became clear that they consume most of what they hunt, though at times they leave aside a portion that could be sold on the main road or to neighbors from the community. Selling portions of game is a practice that was documented by the first ethnographic study of the region, based on observations in the 1920s and early 1930s (Pacheco Cruz 1934, 34). Because of this perceived "infraction," the Maya community of Tres Reyes did not receive an extension of funds for the following year from the UNDP.

In light of this decision, the president informed evaluators that he would hold a meeting with the community to try to convince its members not to hunt and sell on the road, as a form of compromise, since it might hurt their chances of obtaining the permits. In essence, he was arguing for the abandonment of a Maya practice that had nothing to do directly with the parrots, nor the project, an abandonment being forced on them by an agency that was insensitive to their dependence on the activity. In my own conversations with community members, one pointed out how he thought these agencies should conduct their job: "They should give advice instead of making surprise raids to arrest people. They should capacitate and provide technical assistance." Another local Maya said, "They should learn that the *masewalo'ob* [common folk or peasants] need more to sustain our families." Another observed, "Sometimes we do things that seem wrong to PROFEPA, but it is because of need."

An episode that highlights these tensions occurred one morning in March 2002. I heard a small commotion outside my *palapa*, the traditional Maya house I was staying in. People were urging me and others to hurry to the entrance of the community, which is about one kilometer from the main federal road. The PROFEPA agents had just put up two signs, one on each side of the road, in front of the entrance of the community. The signs read: "It is prohibited to buy or sell endangered animals. If convicted, you will serve up to six years in jail" (see fig. 2). People took offense to the signs. There was indignation and a sense that their space had been violated. The following morning there was a spontaneous direct action in response to the provocation. Both signs were knocked down and left with several heavy rocks lying on top of them (see fig. 3). By the end of the week, the authorities stood them up again. Two days later, the signs were brought down yet again. They stayed down because the

FIGURE 2. PROFEPA signs before. Photo by author.

FIGURE 3. PROFEPA signs after. Photo by author.

PROFEPA agents came back and realized that such signs were not going to be tolerated by the community. They took the signs with them, but not before meeting with the authorities of the village, the *sub-delegado municipal* (village delegate) and the *comisariado ejidal* (ejido commissioner), trying to find out who had perpetrated the actions. They told the villagers that they were going to be very vigilant and strictly follow the law and make arrests if necessary. The identity of the perpetrators was never revealed.

Events such as these show that the management regime that is established around the reserve is not working as it should, and signal that there are other ways to approach, engage, and learn from indigenous peoples about forests and conservation. It also shows that the history of inequality and the tensions from the Caste War continue, albeit in other forms, into the present. If the pursuit of extractive economies of forest resources based on gum and timber was, at the beginning, chiefly responsible for continued colonization, the tourism boom of Cancún has played, and continues to play, a significant role in perpetuating the condition of coloniality.

Conservation interventions exemplified by the discussion above have been put in place by the actors that emerged alongside the conservation era: NGOs. Conservation NGOs have been responsible for implementing project-based conservation programming that is deemed part of a new local participation paradigm (Schultz, Duit, and Folke 2011; MacDonald 2010) with the stated goal of integrating conservation and development (Brockington, Duffy, and Igoe 2008; Haenn 2005). As Doane (2012) argues, in Mexico, this process that began in the 1980s coincided with a loosening of state control in several domains of social life, the emergence of independent unions and NGOs, and the rise of neoliberalism. However, the role of the state in Mexico was not one of disappearance but of fragmentation and hierarchization (Lefebvre 2009), in which its power has been redeployed (Haenn et al. 2014), through, for example, new agencies and the enforcement of environmental legislation.

Since the Sian Ka'an Biosphere Reserve was established, NGOs have actively promoted initiatives aimed at altering or even ending traditional livelihood practices of the communities surrounding it. The proposed changes in inhabitants' engagement with the forest stem from an assumption that Western scientific concepts must be the primary and final arbiter applied to regulate how people use natural resources—in every case, with disregard to the ways local inhabitants have contributed historically to increasing and managing bio-

diversity, or may in fact have overexploited resources (Peet, Robbins, and Watts 2011; Escobar 2008). While conservation NGOs insist that these changes benefit the overall society, they often also impose extreme hardship on local cultures and communities. Despite the incorporation of a discourse of inclusive local participation, often, as demonstrated in this book, participatory initiatives designed from above have failed to incorporate local worldviews, such that their implementation has engendered a clash of viewpoints grounded in unequal power relations that have consequences for local communities and for biological conservation efforts. In effect, NGOs at times behave as brokers with a corporate mentality that work to facilitate market processes (Bebbington, Hickey, and Mitlin 2008) and capitalist logics (Brockington and Duffy 2010), rather than as the alternatives to such processes and logics—accompanied by social justice and empowerment—that they proclaim themselves to be.

It is through conservation NGOs that the agenda to link development and neoliberal practices with biodiversity conservation comes together (MacDonald 2010). Molly Doane calls this process "accumulation by conservation," when environmental organizations appropriate land that is well preserved and alter its meanings, so that the conservation area becomes "symbolic property of the conserving institution" (2012, 20). In doing so, NGOs promote biodiversity conservation by drawing upon a model that advocates the preservation of biological diversity, but think of livelihoods as exchangeable. Moreover, they incorporate the ecological knowledge of those who inhabit conservation areas in only a cursory way, if at all.

Conservation NGOs around Sian Ka'an want communities to give up their primary livelihood strategies (the milpa and hunting) and become either conservationists who monitor flora and fauna, or ecotourism operators or workers. However, these communities have relied on working the *monte* or forest by shifting between agriculture, hunting, and household gardens for centuries as a "collective enterprise of survival" (Farriss 1984). While working on the milpa does not guarantee a successful harvest every year (Sullivan 1983; Hostettler 1996; Martinez-Reyes 2004), it continues to provide a substantial amount of food and security to many families. In trying to alter livelihood strategies, the NGOs produce new consequences that the Maya must negotiate from an unequal power position. These strategies have the potential to offer opportunities, but as the NGOs operate on a weak definition of participation, they have at times made the situation more rather than less precarious for the Maya, and

less rather than more democratic. This ultimately perpetuates continued, albeit altered, colonial relations, ones that help to constitute insider-outsider boundaries.

More recently, the Maya face the new challenges of climate change and land grabs. These challenges have begun to be major concerns for several communities. On the one hand, they must cope with adapting to the effects climate change has on their agriculture. On the other, they need to remain vigilant in regard to the privatization of their commonly held ejido land—which is well underway (see chapter 2)—as new "green" land-grabbing schemes are emerging under the guise of NGOs that serve to hide attempts by private entities to take Maya land in order to reap the benefits of carbon sequestration programs and ecotourism projects. This book focuses on some of the implementation problems, but also seeks to understand how NGOs could collaborate with the Maya to develop real opportunities that truly benefit both the environment and communities.

TOURISM AND LANDSCAPE TRANSFORMATIONS

While biodiversity conservation projects influence particular uses in the forest, the industry that has had the most impact in the Maya Forest is without question tourism. It plays a major role in promoting land-use change and assigning new meanings to landscapes, creating inevitable repercussions for places, nature, and people. Decades of extensive tourism development in Quintana Roo prompted the transformation of the region, its natural resources (forest and coastal), and how indigenous people are portrayed, in order to accommodate tourists and tourism infrastructure (Brown 1999; Fedick 2003). In the 1960s, Mexico actively pursued tourism as a tool for economic growth. This tourism boom permitted the Mexican state to consolidate its presence in the region, which had been relatively autonomous before becoming a federal state in the early seventies. The rush to take advantage of economic gains to be made through tourism opened the gates to land speculation, rapid deforestation, and political corruption as politicians and others bought land cheap and sold it for a premium (Martí 1985). The creation of Cancún in the 1970s spearheaded the growth of Quintana Roo, which today is one of the fastest-growing states in Mexico, economically and demographically. The population doubled during the period from 1990 to 2000 due to migration from other states. Since then,

the massive tourism industry has profoundly transformed the ninety kilometers of the coast between Cancún and Tulum by creating new tourist spaces along virtually every beach. This area is now referred to as the "Riviera Maya" by the tourism industry for promotional purposes. Cancún is also considered the gateway to the "Mundo Maya" or "Ruta Maya," a tourism project sponsored by the governments of Mexico, Guatemala, Belize, and Honduras to create a sort of Maya theme park in the Mesoamerican region (Daltabuit and Pi-Sunyer 1990; Castañeda 1996; Brown 1999; Fedick 2003). Through the capitalization of Maya cultural symbols and the natural areas themselves, the government and developers have created a new landscape in order to attract a particular tourist market. Because further expansion of this area southward is limited by the presence of the Sian Ka'an Biosphere Reserve (see fig. 1), the state of Quintana Roo and the town of Felipe Carrillo Puerto began to develop alternative ecotourism along the periphery of the reserve, as well as identifying potential places to explore for future development in the Zona Maya. Redefining landscapes based on the attractions provided allows the developers to profit from a variety of tourism market sectors. On the one hand, they have the "Riviera Maya" to fulfill the sun and beach requirements. On the other hand, minutes away lies the "Zona Maya," with its biosphere reserve, archaeological ruins such as Tulum, and traditional Maya population, all fulfilling the "eco-archaeo-historic requirements" of the Ruta Maya tourist initiative.

Although economically successful in the eyes of the government, the development of Cancún and the "Riviera Maya" has had enormous repercussions, particularly on the local Maya population, migrating laborers from inland communities (Re Cruz 1996; Castellanos 2010), and the environment and Maya nutrition (Pi-Sunyer and Thomas 1997; Juárez 2002). The consequences are not only economic and environmental, but also extend to issues of negotiating culture, identities, and "being Maya" (Hervik 1999; Pi-Sunyer and Thomas 1997), as well as the inclusion and exclusion of local indigenous communities within the Mexican national space (Brown 1999). While the Zona Maya landscape is being inscribed with new images and meanings in order to promote tourism, social and cultural conflicts have arisen because the actors have divergent, even antagonistic understandings and expectations of conservation and tourism. The question that remains is whether the Maya of central Quintana Roo will "sustain" their place, environment, language, and culture as they negotiate the discourses and practices of both tourism and biodiversity conservation, along with other pressures that are coming to a head in the region.

More recently, new land-speculation pressures have arisen due to changes in the Mexican constitution that took effect in 1994, because NAFTA forced Mexico to agree to the privatization of ejido lands. This change has caused tensions within Maya communities between people who want to continue the current system of communal land tenure and those who sell their ejido rights to make quick money, making the land available for development or conservation. These transformations, along with increasing periods of drought associated with climate change, are placing deeply felt pressure on Maya resources, including the forest, forest wildlife, and traditional agriculture, and making the Maya more vulnerable. They have implications for Maya food security, conservation, and political autonomy. Local leaders continue to question what the future will look like for future generations. The Masewal have endured profound struggles to protect their autonomy, including extended years of war, and their resiliency and the moral ecology of the forest continue to be tested in new ways.

THEORETICAL PERSPECTIVE: INTERWEAVING POSTCOLONIALISM, ONTOLOGICAL POLITICAL ECOLOGY, AND GREEN LAND-GRABBING

In light of changes that are taking place between the Maya, NGOs, the private sector, and the state around the Sian Ka'an Biosphere Reserve and in the Maya Forest in general, many questions surface as to what is being managed and conserved. Is this landscape a forest, is it nature, or is it a tourist destination to be consumed visually? Is it a management unit, a dwelling place, a guardian of spirits and memories, a production place for raw materials? Is it just a place with biological resources and raw materials and oxygen? Is it a hunting ground? Is it the creator and shaper of knowledge? Does it have a history? Importantly, who gets to define it, and what kinds of meanings are ascribed to it? Who has the right to use it and for what? Should it be developed or should it be preserved? Or is it possible to do both, and, if so, in a just and fair way? This multiplicity of questions gives us an idea of the dilemmas that the Maya Forest faces today.

I argue that the conflicts in the forest of Quintana Roo, from the Caste War to the present day, guide conservation disputes, and that they stem from the clash of two distinct ontologies that orient how we understand the forest and the place of humans in relation to the natural world. These ways of seeing, as Hinchliffe argues, "are more than ways of seeing, they are ways of in-

tervening and engaging, and they perform their objects differently" (2007, 20). These clashing perspectives continue to coexist and develop in communities surrounding Sian Ka'an. My main contention is that a critical mass of the native inhabitants of the Maya Forest, people who live in Maya villages and maintain an intimate relation with the forest and their communities, are engaged in a "beyond human" *moral ecology of the forest*. The k'aax (forest) as a whole has a moral ecology which permeates the everyday lives of the Maya in deep and meaningful and effective ways. It blends ecosystems, history, identity, spiritual beliefs, communion with other species, and making a livelihood with the milpa lifeworld, their socio-ecological model of traditional gardening and hunting practice. This moral ecology is continuously challenged by a Western-led, global modernist project of development that I call the nature industry, which is grounded in the belief in the commoditization and neoliberalization of nature. Although in recent decades neoliberalism as a political ideology has taken central prominence, the state in Mexico plays a key role in advancing the nature industry. As the nature industry dialectically confronts and interacts with the moral ecology of the Maya Forest, a new practice has emerged as a form of resistance. I call this outcome *post-conservation*, and it is a reaction to the innate conservation-development ideas disseminated by the nature industry. Maya post-conservation is grounded in the moral ecology of the forest and the socio-ecological model of the milpa, but incorporates elements of their experiences with Western-led conservation. In other words, they incorporate aspects of Western science that they have learned and see as compatible with their moral ecology, and discard the ones that do not fit their lifeworld.

The complexity of the conflict between this moral ecology and the nature industry in the Maya Forest is difficult to make sense of with a single model or theory of explanation. In *Negative Dialectics*, Theodor Adorno (1973) devised the concept of constellation to talk about the need for a combination of ideas, models, and concepts in order to apprehend, or make sense of, things (or the object) that are incapable of being represented by a single concept. To think about these questions, I focus on a constellation of three broad theoretical domains—Postcolonialism, Ontological Political Ecology, and Green Land-Grabbing—to understand the intricacies of the Maya Forest (see table 1). These three theoretical perspectives are intertwined and play prominent roles in the disputes between the nature industry and Maya post-conservation. The next section will explore these ideas by defining the moral ecology of the forest and its relation to an ontological political ecology. It also explores the idea of the nature industry and its connection to green land-grabbing and neoliberal

TABLE 1. Theoretical perspectives

MAIN CONFLICT	THEORY/DEBATES	POSSIBLE OUTCOMES
Moral Ecology vs. Nature Industry	• Ontological Political Ecology (Political Ecology, Ethnoecology) • Green Land Grabs (Neoliberal Conservation) • Post-colonialism (Coloniality of Nature, Post-development)	• Post-conservation • Indigenous Autonomy • Decolonization

conservation. I end the section by elaborating on postcolonialism and post-conservation, focusing on the idea of coloniality of nature and how this idea is key to unraveling the legacy of colonial relations in Quintana Roo.

MORAL ECOLOGY OF THE FOREST AND ONTOLOGICAL POLITICAL ECOLOGY

The idea of a "moral ecology"—as opposed to the more well-known "moral *economy*," a theoretical construct made popular by E. P. Thompson (1968, 1991) and later by James Scott (1976)—has been recently developed by anthropologists Michael Dove (2011) and Kristin Norget (2012) to account for the environmental dimensions of food production and environmental conservation that were not contemplated back then. E. P. Thompson's original use of the idea of the moral economy was to explain the emergence of direct-action protests during the food riots in seventeenth-century England. In his words, these riots were "grounded upon a consistent traditional view of social norms and obligations, of the proper economic functions of several parties within the community, which, taken together, can be said to constitute the moral economy of the poor" (1991, 188). This moral economy "taught the immorality of . . . profiteering upon the necessities of the people" (1968, 67), and when these moral assumptions were violated, it became "the usual occasion for direct action" (1991, 188). Thompson also indicates that a key characteristic of the moral economy of the

poor was that it was based on a localized "subsistence-economy" (212) that was now facing the rise of the laissez-faire global market economy. This market economy, Thompson argues, masked itself as being benign and protecting the interests of the nation and its communities, but ended up being the antithesis of the moral economy.

Scott's classic study, *The Moral Economy of the Peasant*, drew inspiration from Thompson's work but expanded his analysis, not only away from Europe and to the global south, but adding other important dimensions to the analysis, such as the question of land tenure and the importance of subsistence over surplus extraction. For Michael Dove, moral ecology is in turn influenced by Scott's moral economy, and is based on the principle that it "guarantees the basic sustainability of both society and environment through an investment in exchange relations of great time-depth and spatial breadth" (Dove 2011, 115n20). Norget utilizes the concept of indigenous moral ecologies in the context of environmental conservation in Oaxaca. She emphasizes the "sacred dimensions of a lived, embodied moral ecology" (2012, 88) that is deeply connected to the landscape.

When I refer to the moral ecology of the forest, I build upon Dove and Norget's ideas in looking at the profound, historical, human-nature exchanges and the spiritual dimensions in which the Maya engage, but I also extend it to include the Maya's ontological principle of life *within* the forest. A life in which people, k'aax (forest, including all its lifeforms), and *yokol k'ab* (universe) come together in relations of mutuality and interdependence with the species of the plant and animal world—relations that provide moral imperatives, as the Maya see what lies outside or comes from outside *their* territory, including the schemes that outsiders continue to pursue to take away their land.

Moral ecology, and the practices of post-conservation that are later developed, enact knowledges and practices that are contrary to neoliberal and modern visions of the nature industry and provide an *alternative* to it. As Escobar argues, movements such as these destabilize the epistemic order of political modernity (Escobar 2010a). They are not new alternatives, but they become disruptive when they persist, in spite of the attempts at colonization and of land-grabbing within their territory. They become more evident when Mayas migrate and work in the tourist regions of Cancún and the Maya Riviera. I've encountered several Maya who have gone out, seen and experienced what modernity had to offer them, and yet came back to the difficult yet humble life in the forest to plant their milpas and reengage in a reciprocal relation with their lifeworld.

My ontological political ecology perspective is inspired, in particular, by the discussions of Hinchliffe (2007) and Blaser (2010). An ontological political ecology makes this work as an environmental anthropology, one that combines ethnoecology with ontological and dialectical concerns of place, nature, and landscape, and with a critical reading that political ecology provides. My understanding of ontology coincides with Hinchliffe's, who defines it simply as "ways of being, or enacting what is" (2007, 21). In other words, ontology is how people apprehend and enact the world around them and how it constitutes a totality that makes sense to their existence. Ontologies, as anthropologist Mario Blaser succinctly puts it, "must be understood as the total (i.e., including discursive and nondiscursive) enactments of worlds" (2010, 3). Such enactments are constituted within landscapes to which people attach diverse meanings. Some of these meanings are guided by engagements with the environment (Ingold 2000) that constitute ontologies of nature (Descola 2013; Blaser 2010). The contestation of these meanings, which Blaser calls "political ontologies" (2009, 2010), is key to understanding the social dynamics of the conservation entanglements of the Maya Forest. I believe, following Hinchliffe, that ontological politics is about the multiple versions of nature that are at play and simultaneously contested by people in different positions of power. This leads to the possibility of "forests that can be enacted differently, depending on . . . both the knowledge *and* the politics of forest inhabitation." At the same time, it is also a politics that is more than human, one that "involves trees, elephants, soils, ants, mountains, water, ocean currents as much as and often more than human beings" (Hinchliffe 2007, 21).

The question of *power* over natural resources, which is precisely what political ecology focuses on, expands the possibilities of ontology. Political ecology examines the complex interactions between humans and the environment in regard to access to and use and distribution of natural resources, and the power relations and cultural practices that mediate such interactions, from local knowledge to global ideologies (Escobar 1999; Martínez-Alier 2002; Biersack 2006; Leff 2008; Peet, Robbins, and Watts 2011). More specifically, the political ecology of conservation examines the political, cultural, and economic processes involved in environmental degradation or in the implementation of conservation programs (Haenn 2005; Li 2007; Doane 2012). As Peet, Robbins, and Watts argue, "Political ecological work has revealed . . . that many efforts at conservation . . . have been inattentive to these underlying forces and have instead drawn upon dated, indeed frequently colonial, models of environmental management" (2011, 27). Within political ecology, I argue that there is a need to problematize the question of dialectics, which has been central to critical

thought throughout the twentieth century, but which has been mostly absent from any discussion within political ecology. The dialectical perspective, particularly the one inspired by Adorno (1973, 2008) and the critique of the rise of modernity via the domination of nature, would help an ontological political ecology to highlight fundamental dialectical contradictions encountered in society as a consequence of developments in conservation and environmental thought, and enable reflection about how these might be politically resolved.[4]

Moral ecologies are the essence of the body of knowledge about the environment. It includes what anthropologists refer to as traditional ecological knowledge (TEK) and also the ethos of peoples' relationship with their environment that grounds and guides who they are and how they act within it. Ontological ecologies challenge modern notions about ways of knowledge construction and human-nature relationships that have been marginalized or not recognized by resource managers as legitimate. In this case, the focus is on the Yucatec Maya. To explain this perspective, I have been inspired by the work of Mexican ethnoecologist Victor Toledo (2002), and by a little-known book in the English-speaking world titled *Muk'ul T'an in Nool* (*Grandfather's Secrets*) by Maya writer Jorge Cocom Pech (2001). In this work, Cocom Pech shares the stories and ancient teachings told him by his grandfather, Gregorio Pech. Gregorio received these stories from his own grandfather, who learned them during the Caste War when the Maya were under threat by the white population of the peninsula. The Maya saw that there was a need to pass on their cultural wisdom to younger generations in order to preserve it. These stories reveal essential aspects of Maya ontology, which contribute to our understandings of their human-environmental interactions.

THE NATURE INDUSTRY: NEOLIBERAL CONSERVATION AND THE EMERGENCE OF GREEN LAND GRABS

> *What its defenders imagine is preserved by the culture industry is in fact all the more thoroughly destroyed by it.*
>
> THEODOR ADORNO (1991, 103)

In 1965, German social theorist Theodor Adorno gave a lecture at the University of Frankfurt on "The History of Nature," telling his listeners that "if you think of the role played by nature today, in the ordinary sense of nature in

a landscape as contrasted with our urban, industrial civilization, you will realize that this nature is already something planned, cultivated and organized. It is gradually turning into a nature reserve (if I may exaggerate somewhat)" (Adorno 2006, 121).

Adorno's assertion about nature reserves does not seem an exaggeration today. Little did he know that nature conservation would become an industry in and of itself. In Paris in 1968, only three years after his statement, UNESCO initiated the first intergovernmental biosphere conference with the lofty aim of examining how to reconcile the conservation and use of natural resources. It was because of this conference that the organization's Man and the Biosphere Programme was begun in 1970, with the goal of creating a global network of nature reserves containing the highest potential number of genetic species, so that the uppermost level of biodiversity possible could be maintained. By creating such a network, UNESCO claimed that genetic resources would be protected and that research on ecosystems as well as monitoring and training work could be carried out. These sites were to be named "biosphere reserves."

The last couple of decades have also seen the emergence of the so-called green economy, which focuses on the commodification and neoliberalization of nature through green land grabs, ecosystem services, carbon credits, and other financing mechanisms (Igoe and Brockington 2007; Corson, MacDonald, and Neimark 2012; Osborne 2012) designed not only for saving nature and natural resources, but also for trading in them and accumulating capital (Sullivan 2012). This economic trend operates by enacting a variety of neoliberal market schemes that diminish the land access of indigenous peoples, leading to what Harvey calls "accumulation by dispossession" (2003), a concept Doane refined, to account for conservation practices, to "conservation by dispossession" (Doane 2014). The reach and speed by which this green economy is moving into the Third World has gotten the attention of environmental and agrarian scholars because of the social and environmental consequences that it has for rural and indigenous livelihoods. Although the focus has been on the implementation of neoliberal ideology in different settings, we must also be aware of the dynamics and roles that not only the financial sectors play, but also the roles of the state and the grassroots actors (Haenn et al 2014).

The way that the green economy has expanded and been implemented in many parts of the Third World has turned it into an industry in itself: a nature industry. This is an industry not in the sense of manufacture, but of the standardization or normalization of a process, as Adorno argues (Adorno 1991,

100–101). The nature industry is influenced by what Adorno has named the "culture industry" (Adorno and Horkheimer 1979; Adorno 1991). The culture industry concept was a social critique of various processes of commoditization in the culture sector (particularly in the arts and media), but also of everyday life in early mid-twentieth-century capitalism. According to Adorno, the culture industry gives the impression (or illusion) of freedom of choice, when, in reality, capitalism and the market make the choices. In the end, the effect of the culture industry is that it "becomes mass deception and is turned into a means for fettering consciousness. It impedes the development of autonomous, independent individuals who judge and decide consciously for themselves" (Adorno 1991, 106). Thus, it becomes another obstruction to any truly democratic society, or any other emancipatory potential.

Just as the "entire practice of the culture industry transfers the profit motive naked onto cultural forms" and makes them lose their "autonomous essence" (Adorno 1991, 99), we can argue in similar fashion that the nature industry transfers the profit motive onto natural forms, erasing any previous form of autonomy while giving the illusion of sustainability. In his late work, Adorno became critical of the commoditization and transformation of cultural landscapes into objects of beauty for the tourist industry (Adorno 1997, 68). In this case, in addition to tourist landscapes, new forms of commoditization have emerged, such as the privatization of the ejido. This current expression or deployment of the nature industry doesn't focus on mass production of commodities and reification, but instead on alienating territories with new forms of reification.

Adorno's philosophy of negative dialectics rests on a provocative understanding of modern society and late capitalism, as revealed in some of his published lectures (Adorno 2006, 2008) and in recent interpretations relating his work to the environmental question (Biro 2007, 2011; Cook 2012). Dialectical thinking brings to the table a *starting* point for an analysis of the contradictions created by the new environmental order. Adorno's negative dialectics has relevance for an ontological political ecology, as it is founded on an immanent critique of modernity, which is grounded on the human domination of nature. For Adorno, the "identity" concept is the label that is given to a particular aspect that represents reality but hides other fundamental aspects that constitute its opposite, or what he calls the "nonidentity." For instance, in this case biodiversity conservation acquires an identity in terms of how it should be implemented. Within the emergence of that identity, it fails to include particular qualities (e.g., Maya traditional ecological knowledge and their ontological

relation to the forest) that should be inherent to it but are consciously or unconsciously ignored, suppressed, or just failed to be grasped. This suppressed aspect becomes the nonidentity, which is the negation of the identity. The way that the identity is reproduced is through communicative and ideological practices known as discourse.

Since Adorno never lived to see the more recent consequences of the domination of nature—the rise of neoliberalism, massive deforestation, mass extinction, climate change—nor the kind of reactions, resistances, and strategies of concretely creating an alternative modernization that overturn the threats of current modern ontology, he didn't provide or assess concrete alternatives. However, his oeuvre provides three clues that offer a starting point for understanding possible solutions to this challenge. First, he was clear that "for a seriously liberated vision of society that includes the relationship between man and nature, the relation to the domination of nature has to be changed" (2008, 59). Second, the key for this would be the transformation of relations of production based on the market exchange principle: "technique is said to have ravished nature, yet under transformed relations of production it would just as easily be able to assist nature and on this sad earth help it to attain what perhaps it wants" (1997, 68). Third, he argued that, in order to attain a liberated vision of society and nature, "only rationality . . . would be capable of eliminating that domination" because of its dialectical character, "one that dominates nature and one that conciliates it" (Adorno 2006, 157). By conciliate, he means that, potentially, rational thinking could be used to oppose the "dark side" of modernity.

Picking up where Adorno left off, philosophers and social theorists have taken the critique of reason and applied it to the environmental question in the hopes of rescuing a rationality that is capable of reconciling nature domination (Plumwood 2002; Leff 2004; Schmidt 2013). Given the particularities of the situation in Latin America, the work of Enrique Leff, a Mexican political ecologist, sheds light specifically on how capitalism and the dynamic of capital work in favor of the nature industry and against the commons in Latin America.

> One decisive question for political ecology in Latin America is the clash of strategies between the techno-capitalistic exploitation of nature and the cultural re-appropriation of the ecological patrimony and ethnic territories of the peoples. Today, this confrontation is exemplified by the invasion of transgenic crops through the etno-bio-prospection and intellectual property rights of trans-

> national enterprises transgressing the common property rights and the natural resources of nations and peoples in the South. (Leff 2012, 11)

It is precisely this confrontation that continues, although it plays out via diverse forms and dynamics throughout Latin America. Leff argues that this exploitation can only be contained by implementing an alternative environmental rationality that takes into account decolonized forms of knowledge and promotes biocultural diversity (Leff 2012). In the next section, I elaborate on the importance of the debate over colonized and decolonized forms of knowledge and how they are part of the central debates over the future of the Maya Forest.

POSTCOLONIALISM (COLONIALITY OF NATURE AND POST-DEVELOPMENT)

Postcolonialism is a large body of scholarship that has influenced the way we think about the legacy of colonialism not only in the global south but in former European powers as well. In this book, I narrow the scope to the Latin American experience and particularly to the debates on modernity/coloniality as articulated by a group of Latin American scholars (Mignolo 2000; Moraña, Dussel, and Jáuregui 2008; Escobar 2008). Under postcolonial theory, coloniality/modernity and development/post-development debates bring to the fore Western modernity's continued dominance in Latin America. My understanding of Western modernity and rationality is influenced by the work of Theodor W. Adorno and Michel Foucault. These two theorists offer, with overlaps between them but also distinctive approaches, insights on how the West deployed particular forms of rationality based on the domination of nature (Adorno) and the deployment of biopower (Foucault 2010) into particular forms of domination. Anthropologist Arturo Escobar (highly influenced by Foucault) has captured the details and offered a formidable critique of modernity and development and how they operate in the global south with the advent of biodiversity discourses.

For Escobar, loss of biodiversity has been identified as the problem that has become a catalytic target of many conservationists. Shaped into a particular definition, this problem

> has thus resulted in an increasingly vast institutional apparatus that systematically organizes the production of forms of knowledge and types of power, linking

> one to the other through concrete strategies and programs. International institutions, Northern NGOs, botanical gardens, universities and research institutes in the first and third worlds, pharmaceutical companies, and the great variety of experts located in each of these sites occupy dominant sites in the network. (Escobar, 1998, 56)

This institutional apparatus, with its "expert" knowledge, proceeds by naturalizing what Escobar refers to as "globalocentric" resource management, which "is based in a particular representation of the 'threats to biodiversity' that emphasizes loss of habitats, species introduction in alien habitats, and fragmentation due to habitat reduction, *rather than underlying causes*; it offers a set of prescriptions for the conservation and sustainable use of resources at the international, national, and local levels" (Escobar, 1998, 56–57; my emphasis). I emphasize "rather than underlying causes" because, in essence, this detail often lies at the heart of the failure of globalocentric resource management. When agents do look for the causes, oftentimes locals are blamed for the misuse of resources. An institutional perspective does not take into account the wider political economy, nor consider the local knowledge and history of people's uses of natural resources. In other words, cultural diversity and practices are overlooked.

The deployment of the exclusive biodiversity "identity" with its globalocentric perspective creates the conditions of the *coloniality of nature* (Martinez-Reyes 2004; see also Escobar 2008, 120–21), which underscores that there is a particular structure to subalternizing peoples' relation to the environment that they inhabit and depend on for a livelihood within a postcolonial context. As Joel Wainwright argues in his book *Decolonizing Development*, "postcolonial studies show that colonial knowledges have outlasted formal colonialism and live on in the present, constitute the present as such, and have ongoing political effects" (2008, 14). It is not surprising, then, that the roots of what we know today as "conservation" can be traced to colonial practices and a particular view of the domination of nature in the nineteenth and early twentieth centuries, arising out of concern about the depletion of game animals in the colonies in Africa (Adams 2004).

In this vein, and borrowing from the idea of "coloniality of power" developed by Quijano (1997) and Mignolo (2000), the coloniality of nature is the condition in which an essentialized notion of nature as wilderness, outside of the human domain, becomes a new form of domination of a landscape that has its origins in the subalternization of indigenous knowledge in the colonial

era (Mignolo 2000). Through the violence of colonization a new Western European system became *the* dominant form. As Adorno reminds us, "Even the assaults of the conquistadors on ancient Mexico and Peru . . . murderously advanced the expansion of rational bourgeois society—irrationally for the Aztecs and Incas—all the way to the conception of 'one world' [in English] teleologically inherent in the principle of that society" (Adorno 2001, 295–97).[5] The underlying assumption is that the only way that nature can be managed is by the "one world" ruled by Western expert knowledge, based on the principles of two fundamental practices: neoliberal capitalism as the logic of exchange, and the use and application of the science of ecology as the sole source of knowledge. This form of knowledge becomes dominant and, as a consequence, subalternizes all other forms of knowledge, particularly, in this case, local knowledge about the environment and ontological connections to place.

The consequences of the coloniality of nature are the creation and maintenance of a system of difference and inequality in which indigenous people are kept in a subordinated position in society—for example, by excluding or subverting their participation in the decision-making process of the management of the reserve. Furthermore, as the environmental regulations set by reserves constrain the movements of indigenous people to certain places and restrict their appropriation of nature, by doing so they impose regulation on their sense of place and their engagement with the environment. At the outset, the idea of biosphere reserves was to be "inclusive" of indigenous peoples and take their welfare into consideration because they depend on the natural resources for their cultural and biological survival. Yet, this book will show that this has been severely compromised because of *how* they are included and *how* for the most part they receive prescriptions, rather than engagement and dialogue, about how to carry out sustainable practices.

Thus, the coloniality of nature reveals a great irony, in that many government, development, and environmental agency documents portray the Maya as bearers of great knowledge and stewards of nature. Furthermore, they have been praised for maintaining their "traditions" and successfully preserving the forest until today so that their children could have a secure future. Nevertheless, as scientists and NGOs position biodiversity loss as a crisis, Western epistemology is declared the point of departure for the future management of resources, one that trumps traditional ecological knowledge. The coloniality of nature dictates that *this* is *the* way that we will "manage" the environment from now on in order for conservation to work, giving the Maya a *passive* role when

all their lives they've had an active role. Thus, the coloniality of nature actively produces new environmental *subjects* (Agrawal 2005).

Post-development theory emerged in the 1990s as a critique of modernity and development practice in the Third World (Escobar 1995; Rahnema 1997). Although not a homogenous body of theory, most of it is interested in "what new forms of social organization arise from the breakdown of or the disillusionment with the institutions of the development era" (Ziai 2007, 12). Defining the possibility of a "post-development era" meant for some post-structuralist theorists that "development would no longer be the central organizing principle of social life" (Escobar 2008, 171). Addressing his critics, Escobar had already conceded that, given the state of our world that continues to be under the hegemony of global capital, "it is not unreasonable to think that post-development is wishful thinking" (Escobar 2007, 29). However, in the later text just quoted, he goes on to argue that "this notion could be restated today in terms of the construction of forms of globality that, while engaging with modernity, are not necessarily modernizing or developmentalist, precisely because they are built from the colonial difference" (Escobar 2008, 171). In many ways, biodiversity conservation has been the crystallization of the blending of conservation and development and has followed the same prescriptions, the same top-down approaches that lead to the creation of environmental subjects by virtue of peoples like the Maya simply "being there," but marginalize their knowledge and meaningful collaborations through the coloniality of nature.

In his sweeping analysis of and reflection on the current sociopolitical crisis in Latin America, from states to social movements, titled "Latin America at a Crossroads," Arturo Escobar asks some poignant questions about the possibilities of challenging Western-centric models of dominance that are highly relevant to the conflicts between the nature industry and Maya moral ecology.

> Can non-liberal logics (e.g. "communal") reach a stable expansion of their non-capitalist and non-state practices? Can the practices of economic, ecological, and cultural difference embedded in relational worlds be institutionalized in some fashion, without falling back into dominant modernist forms? Can communal and relational logics ever be the basis for an alternative, and effective, institutionalization of the social? Can the new non-statist, post-capitalist and post-liberal worlds envisioned by the Zapatista, the World Social Forum, the Oaxacan and many other social movements be arrived at through the construction of local and regional autonomies? And can these alternatives find ways to co-exist, in mutual

> respect and tolerance, with what until now have been the dominant, and allegedly universal, (modern) forms of life? (Escobar 2010a, 47)

These questions situate the "communal" at center stage and are the very ones that I have been asking about Quintana Roo. As has been highlighted, the Maya communities in this region have confronted many challenges to their communal way of life and have struggled to ensure its survival, yet the onslaught of the commodification of nature is incessant and perpetuated and institutionalized by powerful moneyed interests as well as by the state, NGOs, and conservationists. It remains to be seen what kind of outcomes will emerge from these processes, and how the Maya respond.

OVERVIEW

This book tackles how the nature industry in the Sian Ka'an Biosphere Reserve and the Zona Maya are emblematic of the problems inherent in the question of nature in the global era, and examines the challenges and resistances offered by the moral ecology of the Maya Forest. The introduction presents how the Zona Maya of eastern Quintana Roo came to be, as a consequence of the *longue durée* of Spanish colonization and the Caste War of the Yucatan. I highlight the historical links between colonial relations, land grabs and loss of commons, conflicts over land and access to resources, and the politics that provoked the armed rebellion and its link to the condition of coloniality. After the main battles, the rebel Mayas took refuge in what today is the heart of the Zona Maya, while outsiders gradually took control and exploited forest resources. This was followed by a boom in the market for chicle, the resin gathered from the chicozapote trees that are abundant in the Maya Forest. These events set the stage for the conservation era that was initiated with the establishment of the Sian Ka'an Biosphere Reserve.

Chapter 1 describes how state institutions and NGOs interact with, and want to define, the Maya in the community of Tres Reyes through particular conservation projects, aimed at the Maya as a form of "alternative" development and form of livelihood. My investigation is an attempt to open up the possibility of understanding that there are multiple ways of seeing different issues regarding conservation projects, that expert knowledge is not always the only knowledge, or the best, and that by sharing different knowledges we begin

to clear the hurdles to solving problems without those solutions being conditioned by what I will discuss as the coloniality of nature.

Chapter 2 shows how the concept of a nature industry helps us to view the neoliberal turn and privatization schemes that are being implemented as green grabbing and forming a direct challenge to the milpa as a socioecological system. I endeavor to explain how the Maya perceive nature and landscape through the actual engagement in milpa agriculture, to illustrate what is at stake in further enclosures. I build upon an established critical ethnoecology framework, based on Victor Toledo's work, to describe the process of the traditional agriculture called the milpa—as a strategy of survival but also as a lifeworld—and its importance both to biodiversity conservation and to how the Maya are coping with the effects of climate change.

Chapter 3 explains Maya human-animal engagement through hunting as another facet of the more-than-human moral ecology of the forest. Most often, this practice and knowledge goes unnoticed and/or unappreciated by state and NGO conservation promoters. Such marginalization of traditional knowledge abets the coloniality condition, since local actors should have a say in conservation projects that are ostensibly going to change the ways in which they make their livelihood and lifeworlds.

Finally, chapter 4 interrogates the question of autonomy of indigenous people. There is a form of post-development conservation that is being promoted by several Maya leaders in the Zona Maya, and elsewhere in Mexico, and I evaluate its potential for creating more just forms of conservation.

This book is not an argument *against* conservation. I am persuaded that *reformulated* protected areas are one of many avenues to pursue in confronting environmental crisis. However, in their current formulation, they often put the burden on indigenous peoples, while Western countries continue in their same patterns of production and consumption. In the end, what is of utmost importance is the decolonization of relations that inhibit locals and make their traditional ecological knowledge subaltern. By creating more autonomous and intercultural spaces for the Maya and sharing knowledge in a nonhierarchical way, we could, together, lay the foundations for a more just conservation.

1

FOREST COMMONS, LAND GRABS, AND CASTE WAR

Historical Ecology of the Yucatan

Eighteen years of bloody battle, we have been sustaining a relentless war against the insurgent Indians who are protected, not by their valor but by the immense forests that facilitate their incursions, cover their actions, and make inaccessible their remote shelters.

"LA GUERRA DE CASTAS" [NEWSPAPER EDITORIAL], AUGUST 25, 1866 (REPRODUCED IN REINA 1998, 396; MY TRANSLATION)

The war they were now carrying on was to recover their lands, which had always belonged to their ancestors.

JOHN CARMICHAEL, ON A VISIT TO CHAN SANTA CRUZ, 1867 (RUGELEY 2001, 84)

WHILE REVIEWING DOCUMENTS related to the Tres Reyes ejido, searching for information about the community's dealings with environmental NGOs and government authorities, I was struck by the words inscribed in its official seal: *Esta raza vencerá* (This [ethnic] race will triumph). Was it simply a nostalgic battle phrase? Or did it still have relevance today? And to whom was it directed? Did this mean that they still wanted to battle the *dzulo'ob* (whites), or was it just some meaningless motto? Although the answer seemed obvious, I still felt compelled to ask. One day, I brought it up with one of the original ejido members. "What do you mean by 'Esta raza vencerá'?" He looked at me, a little surprised. "What do you mean?" he responded. "Here"—I pointed at the document—"'Ejido Tres Reyes: Esta Raza Vencerá.'" "Aaahhh," he whispered. "Well, you know, there was a war. Our grandparents lived in a period of slavery and they had to fight to

free themselves from the Mexicans." "Uh-huh," I whispered. "Even though we don't use rifles anymore, we still fight the dzulo'ob every day," he said. "So, which race will triumph?" I asked. "Our race: masewalo'ob. That's what our grandparents say." The notion that the Maya are still fighting the dzulo'ob, as rhetorical as it may seem, might just be justified thanks to the high level of tension that still exists because of conflicts over resources.

The Maya who dwell in today's Zona Maya of central Quintana Roo are, for the most part, descendants of the rebels who took up arms against Yucatec whites and ladinos (people of mixed white and indigenous descent) in one of the most important events in Mexican history, the Caste War of Yucatan of 1847–1901 (Reed 2001; Lapointe 1997; Dumond 1997; Bricker 1981; González Navarro 1979; Careaga Viliesid 1998). This event has been regarded as "the most successful Indian revolt in New World history" (Bricker 1981, 87) because of the Masewal Maya's success in establishing complete autonomy from Yucatec and Mexican governments from 1847 until 1901, when Mexican troops arrived in the region's political and religious capital, known as Chan Santa Cruz to Mexicans, or Noj Kaj Santa Cruz Balam Ná to the Maya.[1]

This region has been a source of conflict between Yucatecan elites, the Mexican state, and the Maya since the conquest.[2] During the war, the Maya were able to successfully resist continued attempts by the Yucatecan elite to take over the region for over half a century. A central part of the conflict was Mexico's attempt to control and tame the rebel Maya in order to exploit the zone's rich natural resources, as well as to expand and consolidate its frontier further toward Belize. After 1901, Mexicans regained control of the region, and logs and chicle became important commodities for the expansion of capitalism. It was also believed that the export of these products would bring progress and development to a region otherwise labeled as "backward" and "barbaric" by Yucatecans.

In order to understand the current conflicts over conservation and how the Maya of eastern Quintana Roo relate to their environment, it is important to contextualize them by looking at the region's environmental and political history. The Zona Maya, as it is presently configured, is the product of long-term ecological, economic, sociocultural, and political processes that have transformed the landscape in profound ways, and the repercussions of these drastic changes are felt today. The local emergence of capitalism, including Maya incorporation into the world economy through timber and chicle trade, the Caste War, and the more recent regimes of mass tourism and the nature industry have

greatly impacted land tenure, the subsistence economy, and Maya engagement with their environment. By examining conflicts over access to and appropriation and uses of natural resources, we are offered a deeper understanding of the current power relations, land distribution, and ethnic relations. We cannot understand the relation that the Maya have with their landscape today if we don't understand the outcomes and consequences of important historical events such as the Caste War in the nineteenth century, the agrarian reform spearheaded by the Mexican Revolution in the first part of the twentieth century, and the rise of the Cancún–Riviera Maya tourist economy and the nature industry in the late twentieth century. Today, in the face of all past and present events and with the continued hope of improved circumstances, the Maya struggle to make a livelihood. Of central importance is their battle to maintain the right to their land, which is an important part of what constitutes being Maya. This chapter explores the tumultuous relation between global schemes and the subaltern through history, nature, coloniality, and the forceful implementation of development through three great land-grabbing events: the Spanish colonial land grab, lasting from the conquest to independence; the Yucatec elite's post-independence land grab in the nineteenth century, which led to the Caste War; and the corporate concession land grab after the war. The repercussions of these are essential to understanding what comprises the Zona Maya and its natural environment today.

HISTORICAL POLITICAL ECOLOGY OF THE MAYA FOREST

The history of human-environmental conflicts in this region is essential to this study because it shows how long, difficult, and unjust the struggle for land has been for the Maya. This chapter is influenced by Alf Hornborg's historical political ecology, a perspective that "seeks to highlight how such changes are distributed in space. It acknowledges that humanity is not a single 'we' but deeply divided in terms of reaping the benefits versus carrying the burdens of development" (2011, 45)."This perspective sheds light on the tensions associated with the rise of the modern world and the role that the dialectical relations of colonialism play in both the constitution of society and "how environmental burdens have been distributed" (ibid.). As environmental historian David Arnold puts it, environmental history is "the story of human engagement with the

physical world, with the environment as object, agent, or influence on human history" (1996, 4). The task when constructing an environmental history is to learn "how ideas about the environment have been socially constructed and have served, in different ways and different times, as instruments of authority, identity, and defiance" (ibid., 3). Thus, the environment becomes an arena in which different ontological ecologies come into conflict in a particular space and at a particular time. As Arnold asserts, the "environment has been not just a place, but also an arena in which conflicting ideologies and cultures might become locked in bitter contention" (ibid.). This bitter contention manifests unequal power relations between the groups in conflict, particularly in a colonial encounter. Marx tells us that the history of mankind has been the history of class struggle, but environmental historians are likely to say that a *great amount* of the history of humans—in order not to risk making a similarly totalizing argument—is the history of struggle between different groups (classes, ethnic groups, genders) over access to and control and appropriation of natural resources, and thus a history of who carries the burdens and who reaps the benefits, to paraphrase Hornborg.

For example, when the people who have come to be known as Maya became a complex, stratified society more than a thousand years prior to the Spanish Conquest, a nonproducing class justified its power by pressing lower classes to produce surplus food and a quota of goods, as taxes, to all upper strata (nonproducing classes) such as scribes, priests, warriors, and kings for the construction and maintenance of public works, armies, and religious centers. Once the Spaniards arrived, a clash of cultures and ecologies took place. A different worldview and knowledge about nature emerged, along with the seeds, plants, animals, and diseases that have had an everlasting impact on the ecology and power relations in the Americas. This reorganization of nature subordinated the knowledge of the native population and the ways they engaged with their environment by enacting a new colonial order and system of domination. As Arnold suggests, "Amerindian societies were not destroyed by smallpox alone, however virulent it may have been, nor by pigs and cattle, destructive though they could undoubtedly be to preexisting systems of land use, but by the imposition of a completely new way of life and a new way of exploiting and refashioning the environment" (1996, 129).

After a brief overview of the Yucatan under Spanish colonialism, I will turn to the independence period, to the Caste War, and to its aftermath as they each relate to people's use of and access to natural resources. I will also look at the ways the rebel Maya tried to maintain an independent territory, with the aid

of the British, in the colony of British Honduras. Next, I look at the rise of development discourses and their relation to timber and chicle exploitation as Mexican troops began their occupation and pacification campaign in the early 1900s. I discuss the occurrence of the chicle boom soon after the Mexican revolution exploded and the impact it had on land tenure among the Maya. I examine these changes by looking at the ethnographic case studies of the village of Tuzik, studied extensively by Alfonso Villa Rojas in the 1930s (Villa Rojas 1945, 1978), and in a follow-up study by Paul Sullivan in the late 1970s (Sullivan 1983) that sheds significant light on changes during the twentieth century prior to the conservation era in Quintana Roo, the creation of Sian Ka'an, and the advent of the nature industry.

THE YUCATAN: LAND TENURE AND ENVIRONMENT AT THE TIME OF THE CONQUEST

Prior to the arrival of the Spanish, the Maya had created a livelihood based on an intimate engagement with the environment. This relationship led them to develop sophisticated systems of appropriating nature, such as the shifting agriculture method commonly known as milpa. The cultivation of corn became central in the Maya diet and thus became highly regarded in their culture. Although corn is the principal crop, the milpa is an ecologically and nutritionally diverse garden system (as will be discussed in detail in chapter 2). The Maya also became intimate with the tropical forest by hunting medium and small game and by cultivating its natural resources. The forest provided materials for building, cooking (charcoal), eating, and healing. By domesticating plants and animals and by giving them particular meanings, they connected the natural realm to their religious and cosmological beliefs. More importantly, because of this engagement they became part of the world of living things, joining all plants and animals in the same lifeworld. Coexisting with this lifeworld was a tributary mode of production (Wolf 1982) which required ordinary people to pay tribute to sustain their elites. This surplus was collected—in the form of such goods as cotton, corn, turkeys, wax, beans, ropes, and honey—once or twice a year and helped to spur the explosion of construction of religious centers throughout the peninsula and Mesoamerica.

Archaeological studies and the written history recorded by the Maya in their glyphs show that struggles between religious centers erupted (Schele and Freidel 1992). It has been documented that there was a decline in their construction

and that many of the Classic and Post-Classic Era religious centers were abandoned hundreds of years before the arrival of the Spaniards. There are several theories that point to the ecological conditions and severe droughts that led the Maya to reach the limit of their carrying capacity, which in turn led to the outbreak of war (Webster 2002). Since the splendor and sophistication that characterized the Classic Era had declined by the time the Spanish arrived, often people think that the Maya had completely collapsed and disappeared. The reality was far from that. While the level of centralization, building, and control of some polities declined considerably, they were able to carry on as a culture regardless of the apparent decline. A central change was the breakdown into smaller polities throughout the Yucatan peninsula that continued to rely on shifting agriculture within a common-property regime.

The Yucatan that the Spanish encountered was a complex society in terms of socio-spatial and political organization, land tenure, and environmental use. The peninsula was divided into sixteen autonomous regions or provinces (*cuxkabal*) that had once been dominated by Mayapan, the last centralized kingdom prior to Spanish arrival (Roys 1957, Bracamonte y Sosa 2003). The provinces had three forms of social organization: (1) centralized under the rule of a *halach uinic* (supreme ruler), (2) a confederated form, under the leadership of regional leaders called *batabs*, and (3) independent *kajo'ob* (villages) that operated autonomously without any form of rulers, only coming together when needed for common defense of their lands (Roys 1957). In effect, this last category shows that there was always a spirit among the Maya of people living autonomous political lives without hierarchical social structures.

Early colonial documents written by missionaries, encomenderos (crown-licensed "protectors" and spiritual guardians of natives who were forced to provide tribute and labor in exchange), and Christianized Maya shed some light on the dynamics of social organization and the initial impacts of the colonial process. One of the most important, the *Relaciones Histórico-Geográficas de la Governación de Yucatan* of 1581 (de la Garza [1581] 1983), attempted to describe all the villages of the province, including geographical descriptions, population, flora and fauna, and beliefs. While the colonial gaze did not find the precious metals that central Mexico had, it saw that the Yucatan had land, natural resources, and a potential labor force. The conquest constituted the first large-scale land grab by the Spaniards. It brought about changes to the property regime, organization of space, and access to resources. As noted in one of the entries of the *Relaciones*, "all the lands in these provinces were commons and

there were no markers to note one province from another, and for this reason it is believed that there was less hunger, because they planted in many places, if it was not in one place it would be in another. This tradition is being lost since this land was populated by the Spaniards" (Alonso de Rojas, "Relación de Dzudzal y Chalamte" [de la Garza (1581) 1983], 430; my translation). Spanish colonialism altered Maya forms of autonomy and common property by consolidating them into tighter conglomerates in order to control and evangelize more effectively (Hanks 2003). Despite the subsequent colonization by the Spanish, Nancy Farriss shows in her seminal account, *Maya Society Under Colonial Rule: The Collective Enterprise of Survival* (1984), that the Maya were able to continue to live in communities, or *kaj*. They displayed a moral ecology where land was held in common and they shared the "collective enterprise of survival" by reciprocal relations and mutual aid between families and by a continued engagement with the forest which provided the resources they needed for their survival.

> Most of the land within the jurisdictional boundaries of a particular community was owned in common. Even the nobility, to whom private ownership was customarily restricted, did much of their farming, and the *macehuales* [commoners] did all of theirs, on lands belonging to the community. There were no permanent boundaries within the commonly owned lands because of the nature of swidden agriculture. The right of usufruct allocated to each family lasted only the life of the milpa, which would yield maize for only two or three years at a time and then reverted to the community to be reassigned after the appropriate period of fallow. (Farriss 1984, 273)

However, the Spanish brought cattle and other grazing animals, which required more land. More specifically, *cleared* land. Additionally, the encomenderos established large landed estates (haciendas) where they planted sugar and sisal (henequen) for export. As the Spanish set fixed notions of property ownership, they restricted the cycles of rotation necessary in shifting agriculture. Having less land left insufficient fallow periods, which were critical for sustainable agriculture. Intensive cultivation in the same territories is detrimental, leading to erosion of the soil in addition to threatening the biodiversity of critical habitats.

The forest extractive economy was implemented early on. The first global design scheme (see Mignolo 2000) for export involved the logwood tree (*ek'* in Maya), which would continue being exploited well into the eighteenth century

(Joseph 1974). The Maya used it for construction and as a medicinal plant, but primarily as a dye that could produce a range of dark colors, especially black, but also shades of blue and purple. This caught the attention of Spaniards. One of the *Relaciones* mentions that "in most parts of this land, there are two trees in vast quantities, one is called *eque [ek']* which means black, which gives black, blue, and purple dyes and has been taken in vast quantities to Spain" (de la Garza [1581] 1983, 430; my translation). To give a better idea of how vast a trade this was, a Yucatec historian provided some numbers: "One of the first exports was the logwood and indigo plants (añil). They were desired for their dyes, logwood producing a black dye and the indigo plant producing a blue version. In 1577, the export of 30,000 *quintales* [1 quintal = 46 kilograms] within eight years was recorded. *Encomenderos* were in charge of providing a labor force comprised of native labor" (Molina Solís 1904, 1:158; my translation).

As logwood became the first large-scale project that relied on native forced labor, other consequences of colonization began to appear: epidemic outbreaks. The *Relaciones* reveal in several passages the decline of the indigenous population due to smallpox. The encomenderos tracked how many tributaries they had under their rule in each town; for instance, the encomendero in charge of the towns of Tabi and Chunhuhub reported in the *Relaciones* that when he took charge, Tabi had four hundred tributaries and Chunhuhub had three hundred. By the time he made his report in 1577, the number had dropped to a hundred and fifty in Tabi and eighty in Chunhuhub. In addition to the encomendero reports, the other evidence mentioned in the *Relaciones* is a decline in baptism records and confirmations.

However, this drop in numbers can also be explained by a letter that Fray Francisco Toral sent to the king in 1561 stating that, having visited the town of Bacalar in the eastern part of the peninsula, he found that the natives had fled deep into the forest to avoid being converted to Christianity and paying tributes to the encomendero (Molina Solis 1904, 115). The region north of Bacalar also became a region of refuge and served as the heart of the rebel Maya territories three centuries later during the Caste War. The *Relaciones* also noted episodes of natives avoiding and escaping the Spanish. "The reason for the [population] decline in this province, according to the Indians, is the treatment [by Spaniards] towards them, strict in everything, because when they were under [the rule of] their own nobility, strict as they were in punishing their vices, they let them live and be on their own free will, like people without God or reason" (de la Garza [1581] 1983, 428–29; my translation). The mention of how the masewalo'ob lived under the rule of a halach uinic or batab, that they "let them

live and be on their own free will," reveals a very different attitude about who could access forest resources.

The Spanish colonization not only changed attitudes, but also was a brutal enterprise. It sparked turmoil, uncertainty, and six local or regional rebellions (Farriss 1984; Jones 1989). One of them, the Canek uprising in 1761, became a truly colonial rebellion (Farriss 1984; Patch 2002, Bracamonte y Sosa 2004). When Spanish rule altered the principle of the commons by slowly introducing private property, land became something that could be alienated, bought, and sold; in other words, a commodity. Environmental repercussions ensued as land was used for ecologically more harmful practices such as cattle grazing and monocropping. While the crown would occasionally recognize the ownership of land by selected Masewal, they were vulnerable to selling land for cheap to the upper classes, particularly during times of need. In fact, most colonial records in the Yucatan document land transactions (sales) between individuals, or, through wills, owners transferring the ownership to family members, and primarily to children. Matthew Restall's *The Maya World* examines the Maya's changing relation with their environment between 1550 and 1850 by a careful analysis of archives and documents of land transactions written in Maya. Restall details the emergence of property transactions for people who lived within the boundaries of colonial rule. The documents described the location of places using Maya geographical terminology, which he shows was very complex. Maya land terminology was divided between land types, classifications of tenure, and descriptive qualifiers (Restall 1997, 209). For Restall, as well as Farriss, the kaj was the central form of sociopolitical organization that facilitated the engagement of the Maya with their surrounding environment. In addition to a new property regime, the colonial experience created a new category of land, turning land that had been considered commons into *terrenos baldíos* (barren land, but also denoting unused land). This would become a source of conflict after Mexican independence, signaling that that political transition (independence from Spain) did not represent any significant improvement in the lives of the masewalo'ob.

SECOND GREAT LAND GRAB: THE ORIGINS OF THE CASTE WAR AND ITS ENVIRONMENTAL CONSEQUENCES

In 1821, the short-lived Mexican Empire gained independence from Spain. This event impacted the Maya livelihood system as it altered labor and land tenure

systems as well as economic relations with other regions. Among other things, and suddenly, the Yucatan lost commerce with Cuba, which was still a Spanish colony. Imports of rum and sugar stopped and now the white Yucatecans began to invest in producing sugar. However, as Victoria Bricker puts it: "Sugar cane did not grow well in the cattle-raising areas, where the soil was thin and there was little rainfall. The best land for sugar cultivation lay to the east and south, where the Maya were not tied as laborers and debtors to the *haciendas*. Before independence, these lands were controlled by the Crown and were closed to plantation agriculture" (Bricker 1981, 88).

Even though Bricker argues that these "open" frontier lands in the eastern part of the peninsula were "controlled by the Crown," they were, in fact, inhabited by independent Maya who lived within the forest in scattered rancherias, and thus avoided paying tribute or working for the Spanish. For the ruling elites, it was a wild forest, or *terreno baldío*, whereas for the Maya the forest was their lived space. Several alcaldes reported to the central authorities the abandonment of settlements in the main towns by families dispersing throughout the forest (Patch 1991). Later, they would fiercely resist any attempts to colonize when the government planned to build a road from Campeche to Bacalar (ibid.).

However, with the new status, Yucatecans changed these prohibitions and began creating plantations in this "new" frontier region, causing a rapid expansion of sugar plantations on traditional Maya land (Cline 1948). This engendered a clash of rationalities, worldviews, and knowledges as plantation sugar production, a monocrop peonage system, encroached on the milpa, which is based on multiple crops and land rotation. Sugar production is labor intensive and required more attention than the milpa. The milpa was criticized as a primitive and inefficient way to produce food (Bricker 1981, 89). This, among other reasons, would plant the seeds of the rebellion that would eventually take place twenty-five years later, the Caste War.

Historians cite several reasons for the war. Using letters written by Maya leaders, Victoria Bricker has compiled the five causes that were mentioned most (ibid., 93). They were: "*contribuciones*," or taxes;[3] fees for the performance of religious ceremonies such as weddings and baptisms; the debt peonage system that continued to reproduce dependence on hacienda owners; the private, race-based ownership of land; and the physical abuse that the Maya were subjected to by hacienda owners. A detailed letter sent by the rebel leaders Jose Maria Barrera, Pantaleon Uh, Francisco Cob, Jose Isaac Pat, Calixto Yam, and Apolinario Dzul to Father Jose Canuto Vela on April 7, 1850, stated:

> We are fighting so that there will never again be a contribution whether they are Whites, Negroes, or Indians and that baptism [will cost] three *reales* whether they are Whites, Negroes, or Indians, that marriage [will cost] ten *reales* whether they are Whites, or Negroes, or Indians, and whatever debts there are, the old debts are not going to be paid, whether they are Whites, Negroes, or Indians and *the forest will not be purchasable*: Whites are going to farm wherever they please, Negroes are going to farm wherever they please, Indians are going to farm wherever they please. There is no one to forbid it. (ibid., 93, emphasis added)

In this quote, the rebel Maya demand equal access to land regardless of race or ethnicity. Also of importance was the demand to stop the sale of forest land, the k'aax. The k'aax was ruled by the *yuntzilo'ob*, spirit lords of the forest, who gave permission to cultivate the land. Selling land was not acceptable in the moral ecology of the Maya. The leaders' letters show that there was a crisis, as the Maya lacked access to appropriated land for their sustenance. Bricker references another letter describing the effects of the sugar plantation expansions to the east, which appropriated lands that the Maya used for the milpa. Given the Maya's rotation system, it is possible that many whites interpreted that the lands that lay fallow were not used by the Maya, when, in fact, the local farmers were letting these fields rest for future use. It has been documented that many of the Maya who rebelled lived on the periphery of haciendas and plantations, and that their relative independence was being jeopardized by plantation and hacienda expansions. Access to and control of resources were crucial factors for the initiation of armed rebellion.

There were several conflicts between 1835 and 1847 that preceded the outbreak of the war. Maya were recruited to participate in several uprisings led by ladinos who promised them the elimination of taxes and protected land rights. When Antonio López de Santa Anna became president of Mexico, he declared himself a "centralist," which meant that the Mexican states would lose power to a centralized Mexican nation-state. The president of the Republic would appoint the governors of the states and only the top elite would be able to participate as candidates for the remaining elective positions (Reed 2001, 49). Santiago Imán, a ladino merchant and property owner who had served in the military, emerged as a leader opposing the Santa Anna's centralist government. In order to dispute the loss of power by the state of Yucatan to Mexico, Imán recruited Maya peasants and other poor rural folks. This was done via the intermediary figures of the batabs, who were Maya political leaders in local communities.

Imán enticed them by promising to eliminate the much-hated church taxes. In 1839, he and his followers began raids in several Yucatec towns, claiming independence and breaking ties with Mexico. This rebellion, today referred to as the Imán Revolt, was important in Yucatan's environmental and political history because it prompted radical changes in the way land was distributed. Historian Terry Rugeley has studied the prewar years in detail and indicates that the outcome was that 460,000 hectares of *terrenos baldíos* (public lands believed not to be in use by anyone) became private property: "Imán's revolt precipitated one of the most audacious land grabs in Mexico's history, one which succeeded in wresting several hundreds of thousands of acres from peasant production, all in the space of seven years. The privatization of the terrenos baldíos would form a central event in the emerging rural conflict" (Rugeley 1996, 124).

In 1842, President Santa Anna sent troops to stop the separatist revolt and reclaim the peninsula for the Mexican state. An army of two thousand Maya assembled, including soon-to-be leaders of the rebels of the Caste War. Mexican troops were defeated in part because Maya were armed and had become more knowledgeable about war tactics and strategy (Reed 2001). Following this outcome, a new agrarian policy was enacted that introduced two laws that caused further detriment to the legal claim to land that the Maya depended on for their survival. According to Patch, this new policy "was designed to bring progress to Yucatán by introducing modern capitalism, a system in which property rights are less restricted and land [is], in fact, a commodity" (Patch 1991, 56). The first of these laws limited "the size of community ejidos to one square league centered around the village church." This ruling "eliminated whatever legal basis the peasant farmers might claim for maintaining *milpa* outside a limited confine" (Rugeley 1996, 124). It also opened the gates for a massive land grab, as everything outside the one square league was declared terreno baldío. The second law legitimated paying veterans of the war against Mexico with land instead of back wages, because the president of Yucatan, Miguel Barbachano, claimed there was not enough money to pay them in cash. This exchange of land for military service provided soldiers (and others who participated, including priests and landowners) with terrenos baldíos (ibid., 225). This form of payment was requested by filing a document called a *denuncia*. Priests and landowners had to be repaid because they had helped by loaning money to carry out the campaign. Rugeley has documented that 459,923 hectares were appropriated from the public domain. The majority of the land ended up in the hands of large private landowners, including Santiago Imán. Patch (1991)

suggests that this was in fact a scheme by land elites to accumulate more land, since most soldiers granted land sold it immediately to large landowners.

In addition to these new laws, a tax was also enacted that called for peasants who used terrenos baldíos for milpa agriculture to pay for the use of each *mecate* planted (a mecate—the term derives from Nahuatl—was a measuring unit of approximately twenty square meters). Maya did not have enough land to rotate the milpa, so they had to use land considered baldío for their milpas. It is, of course, very likely that some of the land that was considered baldío by the Yucatecan elite and Mexicans was or had already been used by the Maya. Land that lay fallow, regenerating for several years until it could be used again, was now considered off limits, and taxes would have to be paid if the Maya wanted to farm on it once more.[4]

As has often been the case, indigenous groups had been manipulated into participating in nation-state formation. The Maya were given false promises of rights to land in order to induce them to rebel against the centralist government and defend the peninsula from Mexican attacks. In the end, when all was said and done, they had less land than before. These events had a profound effect on Maya peasants and would set the stage for the key event that would lead to the emergence of what today is the Zona Maya.

THE CASTE WAR

The "official" start of the war began with a rebel attack on the town of Tepich on July 30, 1847 (Reed 2001). There were, however, several incidents that preceded this that highlight the coloniality of power relations in this region. The incidents included fights over land tenure, politics, taxes, and interethnic and social class relations that occurred after Mexican independence, Yucatecan independence, and the Imán Revolt. These events helped shape the social dynamics that led to armed rebellion.

In 1846, former president Barbachano was governor of Yucatan. By December, circumstances began to change again on the peninsula. Domingo Barret, a political leader from Campeche, called for the independence of Yucatan yet again, stating that if they remained under Mexican rule they would end up fighting in the war against the United States of America along the northern frontier. He said he would declare himself provisional governor and promised to reduce personal taxes if the rebellion succeeded. The manifesto provoked a

division between the leaders of the Imán Revolt of six years before. South of Valladolid, in the towns of Peto and Tihosuco, the former Imán rebels sided with the Barret uprising under the leadership of Antonio Trujeque and Vito Pacheco. North of Valladolid, in Tizimín, the Maya remained loyal to Governor Barbachano, including Santiago Imán and his lieutenant, Pastor Gamboa. By this time, Imán had already benefited from the denuncia land grab and did not feel the need to subvert the current government. There were attacks on Peto in which Cecilio Chi, a future prominent leader of the war, was said to be leading a group of Maya. Bonifacio Novelo, who later became a leader of the Maya rebels, participated in an attack on Valladolid. During this battle he became an officer under the command of Trujeque.

In January 1847, Pastor Gamboa, who had served in the Imán Revolt, went to the town of Tabi following a battle with the forces of Barbachano. Following this visit there was a massacre, including the killings of the town's *batab*, *alcalde* (mayor), and *escribano* (scribe). The exact number of victims is unknown. Gamboa was tried in court but found innocent. Rugeley suggests that this episode had an effect on both Cecilio Chi, batab of Tepich, and Jacinto Pat, batab of Tihosuco, as they could suffer the same fate if they did not listen to their white leaders.

Governor Barbachano surrendered and went into exile in Havana in February 1847. Barret took power but not without opposition. Soon after, there was a revolt by Barbachano loyalists, who included José Dolores Cetina, Felipe de la Cámara, and Imán himself. They proclaimed that if they regained power, they would void all land denuncias not adjudicated by April 15, 1846 (Rugeley 1996). If this had happened, several batabs would have been left without land. For example, Jacinto Pat had made his denuncia in October 1846 and would have been left out.

On July 20, 1847, the mayor of Chichimilá discovered a letter that had fallen from local Maya leader Manuel Antonio Ay's hat. The letter was sent to Ay from Cecilio Chi, advising him of the planned attack on Tihosuco and asking if Ay had had any success in recruiting people. Ay was tried and executed on July 26. Arrest warrants were made afterwards for Jacinto Pat and Cecilio Chi. Pat convinced the authorities that he had nothing to do with the revolt. The authorities then went to Chi's hacienda in the town of Tepich, where they found only women and children (Reed 2001, 67). Ten days later, Chi launched the attack on Tepich and all non-Maya were killed. Only one of them was able to escape to Tihosuco to spread the news of the attack. Later, the rebels took

Tihosuco and Ichmul and several other towns. They burned towns, sugar plantations, and books with records of Maya servitude (ibid., 85). Jose Maria Barrera emerged as a leader in the assaults on Tihosuco. He would later have a prominent role in the establishment of Chan Santa Cruz as the capital of the rebel territories.

In April 1848, Yucatecans and Jacinto Pat conducted peace negotiations in the town of Tzucacab. The agreed terms were: first, the abolition of personal taxes on indigenous peoples; second, the reduction and equality of baptism and marriage fees; third, that the Maya would have free use of their ejidos and terrenos baldíos, without rent or threat of seizure; fourth, freedom from debt for indebted servants; fifth, that Barbachano would be named governor for life, because he was the only (white) Yucatecan trusted by the Maya; sixth, that Jacinto Pat would be made governor of all the Maya; seventh, that all twenty-five hundred weapons confiscated from the Maya had to be returned; and eighth, that taxes for distilling aguardiente (rum) were to be abolished (ibid., 98, citing Baqueiro [1878] 1990, 2:313–14). The third condition was very critical because it highlights the importance of common access to land for the Maya without fear of being penalized. Dumond argued that land was important but not a crucial issue (Dumond 1997, 63). However, other historians of the Caste War agree that access to land was equally important as the calls for the elimination of unjust taxes (Bricker 1981; Reed 2001).

In the end, Jacinto Pat's peace treaty was never implemented. Cecilio Chi challenged it—especially the offer made to Pat to become chief of all Maya. Once the treaty was broken, several new offensives broke out. The Maya were on the verge of taking Mérida, the capital city, and of overthrowing the Yucatecan government. It has been documented that remaining Yucatecans were ready to abandon Mérida by boat if the final offensive had occurred. Others had already fled to Mexico City, Florida, and Cozumel. Taking over Mérida could have led to the establishment of the first indigenous republic in the Americas, one that would possibly have equaled the Haitian revolution and the establishment of the first republic of freed slaves. However, the attack on Mérida never happened.

There is a lot of speculation as to why the Maya did not finish the job. One argument is that Maya were, first and foremost, *milperos*; that is, traditional farmers who had a moral ecology and a profound relationship with their environment. Their priority was to plant their milpa, as they did on a yearly basis. February and March are important months in the agricultural cycle, a time for

preparation of the fields that involves measuring, cutting, and burning, in anticipation of the rainy season set to begin around the month of May, when they plant their corn and other crops. In *People of the Serpent*, archaeologist Edward Herbert Thompson reports (1932, 70–71) that he interviewed Leandro Poot, son of Crescencio Poot, leader of the rebel Maya from 1864 to 1886, who explained the decision to end the offensive this way:

> These words, O White One, are true words, for I, Leandro Poot, speak them to you and know of what I tell. When my father's people took Acanceh they passed a time in feast, preparing for the taking of T'ho [Mérida in Maya]. The day was warm and sultry. All at once the *sh'mataneheeles* [winged ants, harbingers of the first rain] appeared in great clouds to the north, to the south, to the east, to the west, all over the world. When my father's people saw this they said to themselves and to their bothers, "Ehen! The time has come for us to make our planting, for if we do not we shall have no grace of God [corn] to fill the bellies of our children. In this way they talked among themselves and argued, thinking deeply, and then when the morning came, my father's people said, each to his batab, "Shickanic"—I am going—and in spite of the supplications and threats of the chiefs, each man . . . started for his home and his cornfield. . . . Thus it can be clearly seen that Fate and not the white soldiers kept my father's people from taking T'ho and working their will upon it.[5]

The season of the year may have been an important factor given the centrality of the milpa to the Maya lifeworld. It would have been as intuitive for the masewalo'ob to do this as for any other farmers waiting for nature to give them the signal that the rainy season is approaching. The importance of the beginning of the rainy season for the Maya was noted by archaeologist Thomas Gann: "When the first rains of the wet season begin, the archaeologist will find that his Indian labourers grow uneasy, and depart, one by one, to their *milpas*; nor will even double or triple wages tempt them back to their work till the *milpas* are finished" (Gann 1926, 132).

Reed argues that the reasoning at the time was that "as far as they were concerned they had defeated the *dzul* [whites], taken thousands of rifles and loot beyond counting, and now it was time to plant their corn" (Reed 2001, 111). The retreat from Mérida coincided with the beginning of the rainy season, so it is very possible that timing was at the center of their motivation to end the rebellion. Gann also concludes similarly:

> [T]he first rains came on rather earlier than usual, and the army began to melt rapidly away. Every night a few hundreds would disappear to their distant villages and settlements in the bush, drawn even from the great patriotic undertaking of freeing their country, recovering their ancient land, and revenging themselves for centuries of oppression, by the lure of the *milpa*—the thought of the gentle rain falling on the cool, fertile *chacluum*, or red earth, and no one there to plant the corn and beans which meant life to the family during the coming year. (Gann 1926, 131)

There are other theories and speculation on why the Maya retreated after coming so close to a total military and political victory. A second argument is that the Maya did not have enough supplies and were hungry, so they decided that they had to return. Another interpretation is that Maya living close to Mérida sided with the Yucatecans instead of joining the rebel Maya (Bricker 1981, 102). In fact, the town of Huhi did not surrender to the rebels. These two explanations are possible, but there is not much evidence that it happened that way.

Once the Maya rebels retreated, the Yucatecans began little by little to take back several towns. They received military supplies and money from Cuba, Veracruz, and New Orleans. The rebel Maya retreated to the forest east of Tihosuco. Two other significant events were the assassinations of leaders Jacinto Pat and Cecilio Chi in 1849. Pat was killed by a subordinate officer while on his way to British Honduras to purchase weapons from the British. Chi was killed by his secretary. The death of the leaders marked the end of the first phase of the war and the birth of the second phase: the establishment of Santa Cruz and the emergence of a revitalization movement around the alleged "cult of the talking cross" on the eastern frontier of the Maya forest.

ESTABLISHMENT OF CHAN SANTA CRUZ, THE CULT OF THE TALKING CROSS, AND THE RISE OF COMMERCIAL LOGGING OF THE FOREST

The rebels took refuge in the tropical forest on the eastern side of the Yucatan peninsula in a territory that would later be called Quintana Roo. They established the town of Noj Kaj Santa Cruz Balam Ná. It was at Santa Cruz that a talking cross was said to appear as the rebels settled in the midst of the dense jungle. The appearance of the cross led to the creation of a new religion by the

rebels, known by outsiders as the Cult of the Talking Cross. Essentially, it was a syncretic religion that incorporated elements of Christianity with Maya cosmology, revolving around the veneration of a cross that spoke. The cross was said to give messages to two of the rebel Maya, Juan de la Cruz, who interpreted its messages and prophecies, and Manuel Nahuat, who was the "ventriloquist" who gave voice to the cross. The rise of this religion has been interpreted as a revitalization movement at a time when the masewalo'ob offensive had declined and they were facing extreme conditions, having had to wait longer for the production of the first corn harvest. Just like the motto "esta raza vencerá," the message of the cross was a rallying one of hope that the Masewal would triumph over the whites. Excerpts of the messages from Juan de la Cruz in 1850 read as follows: "the time has come to rise and fight my Indians, against whites," "our father has told me, my creatures, that the enemy will never triumph and only the crosses [*cruzo'ob*] will triumph, and for this, my beloved Indians on earth, I will not abandon you [and let you fall] to the enemy" (Letter of Juan de la Cruz, in Reina 1998, 408–10; my translation).

Although the cult gave the Masewal a certain religious cohesion, they also had another important resource at their disposal. In order to keep their region as independent as possible, the rebels used the rich resources now under their control to their advantage. They gave concessions to exploit logwood and mahogany to British Honduras on their southern frontier in exchange for weapons and tools. The Maya had the forest under their control while the British had weapons, gunpowder, and other supplies at a time when the demand for precious hardwoods, particularly Honduran mahogany, was growing in Europe.[6] As Arnold reminds us, "deforestation turned nature into a commodity, timber for ships' masts and spars, hardwoods like mahogany for furniture-making. Europe, profligate with its own woodlands, found in America a seemingly ceaseless sawmill able to keep its ships afloat and its dressing rooms supplied with elegant tables, chairs, and writing desks" (Arnold 1996, 124). On the other side of the peninsula, global schemes continued as the Yucatecans contemplated the exploitation of wood resources in the east between Bacalar and Chetumal. In 1852, the logging company Young, Toledo and Company of British Honduras signed a contract with the Yucatec state government for the rights to cut mahogany in the eastern part of the peninsula. Just when Yucatecan elites got interested in the exploitation of this zone, they encountered an obstacle to their plans: the rebel Maya who had taken refuge in the region.

Once established in Santa Cruz, the Maya rebels put in place a theocratic political-military structure in which leaders had military ranks such as general, captain, lieutenant, and corporal as in any European army. They clearly saw themselves in a continued state of war against the Yucatan. Common people went about their regular activities, but they had a military duty called *guardia*, or guard duty, for a period of fifteen days four times during the year. In the guardia, they would work on the defense of the territory and perform voluntary work to produce commodities (like hammocks) to exchange with the British. When they participated in raids against enemy places, they benefitted from goods captured in the booty (Sullivan 1998).

Accounts suggest that they spent two months performing the guardia, but what they did the remaining ten months is not discussed in books nor in studies about the war. Such documents focused, as do most war accounts, on attacks, who won the battles, and so on. The remaining months the rebels spent producing their livelihood by engaging with their environment, the world of the k'aax, by working their milpas, and hunting. Women and children spent most of the year in these activities, and when their fathers and husbands were on guardia duty would also take care of the maintenance of their milpas as well as their *solares* (gardens).

During the half-century that the war lasted, there were periods of intense attacks, raids, and ambushes. The stress of war manifested through internal struggles within the leadership. Nevertheless, the rebel Maya remained independent, and had land on which to freely carry out their subsistence activities.[7] They did not have to pay church taxes, and there was no debt peonage among the rebels—although captured Yucatecan soldiers were kept as prisoners of war and performed forced labor, including the building of the Balam Ná church at Chan Santa Cruz. This status lasted until the ambitions of new president Porfirio Díaz were set into motion and led the country in a new direction.

In the 1870s, Díaz wanted to consolidate his power over the territory. He created the Geographic Exploratory Commission as a political and economic tool (Craib 2004) that could secure and map Mexico's resources for their exploitation, including in the territory of Quintana Roo. New peace talks were also initiated. The Maya were willing to agree to some offers as part of this attempt at peace (ibid.). There were three proposals that were most significant for them. First, they would keep control over the eastern part of the peninsula. Second, they would be ruled only by people "of their own race." Lastly, their

territory, now part of the Mexican Republic, would respond directly to Mexico City and not to Yucatan or Campeche, their original enemies (ibid., 27). However, these talks were never successful.

In 1884, another round of peace negotiations took place. After the two sides reached an agreement and signed it, a Mexican negotiator insulted one of the Maya leaders, Aniceto Dzul, and the Maya broke their end of the treaty. As negotiations with the Maya broke off in 1887, Mexico and the British were negotiating the demarcation of the frontier between Belize (British Honduras) and Mexico. This resulted in the Mariscal-Spencer Treaty (named after each chief negotiator), but the treaty was not ratified by Mexico until 1897. In this treaty, Britain and Mexico agreed on Rio Hondo as the frontier, with Mexico giving up claims to Ambergris Caye. A key component of the treaty for Mexico was that the British would suspend the arms trade with the rebel Maya. Once the agreement was made, and knowing that the British would not intervene, Porfirio Díaz had cleared the way to "pacify" the Maya by a war of attrition and by regaining control of their territory. This also opened the eastern frontier for a massive land grab, principally via concessions to American and British-Belizean capitalists (Konrad 1991; Lapointe 1997; Wells and Joseph 1996). In the end, the Maya were not defeated by combat, but by diplomacy.

In 1901, General Ignacio Bravo's troops arrived at Noj Kaj Santa Cruz. The masewalo'ob knew they were coming and had already abandoned the town for other communities to the west and north. After the military occupation, Porfirio Díaz designated the eastern part of the peninsula as the "federal territory" of Quintana Roo, and not part of the Yucatan state government, meaning that all orders would come from Mexico City. This did not sit well in Mérida because the ruling elite were counting on having access to the forest once the region was pacified and were already planning several land-grabbing schemes. Díaz's designation of Quintana Roo as federal territory put a halt to these plans.

While the Mexican strategy was to expand its sovereignty to the rebel territory in order to make sure it was safe to exploit its resources, they had another mission parallel to the land grab: the annihilation of the masewalo'ob. General Bravo, who had fought in the Yaqui Wars, sent a letter to Díaz in 1901 affirming that the masewalo'ob were "a race that for humanity's sake must be extinguished, because they will never amount to anything good," and that "the only way to guarantee the interests of the zone in general is to finish off the race" (Bravo, cited in Wells and Joseph 1996, 46). This mentality echoed that of the Yucatecos, who by calling the war one of "castes" framed it as a Manichean

conflict of civilization versus barbarism. A year after the conflict started, a Mérida newspaper declared, "The Indian race cannot be mixed . . . with any other. That race has to be severely subjugated, or better yet, expelled from the country. . . . Their ferocious instincts have to be smashed with a firm hand. Humanity and civilization require us to do so" (*El Fénix* [Mérida], November 15, 1848, quoted in Reina 1998, 369; my translation).

Despite pernicious attempts, the region was not completely pacified. As Wells and Joseph argue, "the national blueprint's twin objectives—development and pacification—were never realized" (1996, 52). Although the Mexican authorities portrayed their arrival as a military seizure of the town, while doing fieldwork I often had conversations about the war, particularly with Maya elders, who described it differently. An elder from Chumpón told me that the real story was that, when Bravo's troops arrived, there was absolutely no one in Santa Cruz: "only a lost hen" is what they found. The Maya knew that the invasion was likely, and thus had sought refuge in the forest around Noj Kaj Santa Cruz, bringing with them the sanctuary of the cross to its new home in the town of Tixcacal Guardia.

The Masewal continued to carry out a low-intensity armed resistance as much as they could. It was not only directed at Bravo's troops, who continued to harass and burn their villages, but also at the concessions working in the forests. For example, Arnold and Frost (1909) alleged that General Bravo only had effective control of the region around Santa Cruz. From Tulum to Cabo Catoche he had "no more authority than the man in the moon," and during his rule "the subjection of the Indians will never be an accomplished fact" (158). Arnold and Frost wanted to survey the famous archaeological site of Tulum, but the problem was that "the Indians are encamped there, and, thanks to the brutal treatment they have received, they shoot white men at sight" (183).

Notes from other archaeologists at Tulum a few years after provide evidence of the Maya's continued resistance. The archaeologists this time entered but didn't stay long, because they feared they would be attacked. Field notes by Samuel K. Lothrop (1916) show how their territory was deemed off limits: "South of the great wall minor ruins extend for some distance according to the report of travellers who have landed at a beach some distance away from the great enclosure. Across the swamp is terra incognita inhabited by Indians whom it was deemed best to avoid" (4). At this time, the ruins were still used by the Maya. Surveying them, the archaeologists found evidence of recent religious use by the Masewal: "In room b of the castillo one of the ancient beams has recently

FIGURE 4. Chumpón Guardia in 1922. Peabody Museum, Harvard.

been replaced—probably by the Indians, who still burn incense in this room" (12). "Opposite the door is an altar in front of which is a low step. Incense has recently been burned in this temple" (28). In 1922, Lothrop and his partner, Sylvanus G. Morley, made another expedition and were greeted by the guardia from Chumpón (see fig. 4). Guard duty was continued in the region even after the arrival of the Mexican army. In his diary, Morley describes the encounter as tense because the Maya suspected that they were felling bush to build a Mexican town, and they would not permit that to happen (Sullivan 1989).

There was a lot at stake: the continued Maya resistance was a fight for survival. Opposing ontologies clashed, too, as white Yucatecans and Mexicans considered the landscape of eastern Yucatan occupied by the masewalo'ob as wild, savage, barbaric, and thus in need of being tamed or controlled. The same landscape for the Maya, on the other hand, the k'aax, was a place that had owners and guardians (i.e., deities called *yuntzilo'ob*), and was a source for their livelihood and identity. Losing this land to Mexican or Yucatecan elites would mean a return to slavery and to a foreign way of exploiting the environment, losing the freedom to engage with the forest as they had done for years.

THE THIRD LAND GRAB: AGRARIAN REFORM, FOREST CONCESSIONS, AND THE DISCOURSE OF DEVELOPMENT

As mentioned earlier, the Spanish colonial period can be considered the first land-grab phase. Farriss refers to the Spanish landowners as "land-grabbing *hacendados*" (1984, 375) and argues that "crasser forms of land grabbing awaited emancipation from Spanish rule" (281). A second land grab took place after independence. While Rugeley calls this "one of the most audacious land grabs in Mexico's history" (Rugeley 1996, 124), I argue that pacification enabled the third great land grab and put the forest at the disposal of foreign (mostly British and American) capital.

The first quarter of the twentieth century brought drastic changes to the territory of Quintana Roo via two very different sources: trees and revolution. The area became a prime region for the exploitation of yet another global scheme in the Maya zone: the chicozapote (*ya'*, in Maya) tree. Chicozapote produces the resin (chicle) used in making chewing gum, and it became a major commodity for the world market (Konrad 1991). It also became key to social control. Other species like mahogany and cedar were considered precious hardwoods and were in high demand for building and for fine furniture and cabinetmaking in Europe and North America (Anderson 2012). Since the occupation of 1901 had consolidated control over the territory of Quintana Roo, the gates were now opened to colonization, exploitation, and "primitive accumulation" via concessions to Mexican and foreign corporations to exploit such desired commodities. Between 1905 and 1910, eleven forest concessions were made (see table 2). These concessions were mainly foreign. For example, London companies established the Mexican Exploration Company, while the Compañía Colonizadora de Yucatán was Mexican but financed by the Bank of London and Mexico (Higuera Bonfil 1997; Redclift 2006). These corporate concessions were met by fierce resistance by the Maya. Arnold and Frost (1909, 158) witnessed an attack on chicle woods in Puerto Morelos and noted that the Compañía Colonizadora de Yucatán could only effectively work within an area of fifteen square miles due to what they describe as aggressive actions of the natives.

As exploitation of the new Maya forest frontier began in earnest, the Mexican Revolution (1910–17) began to shake the country. The revolutionary forces arrived in Santa Cruz in 1912 and informed General Bravo that his rule had

TABLE 2. Forest concessions between 1905 and 1910

CORPORATION NAME	FOREST CONCESSION IN ACRES
Compañía Colonizadora de Yucatán	1,700,702 (northern territory) 1,729,737 (southern territory)
Angel Rivera	1,092,766
Quintana Roo Development Company	1,559,970
Mexican Exploration Company	776,995
Spyor Company	776,995
J. Plummer	790,734
Rafael Peon	736,074
J. Plummer (2nd)	782,033
Rodolfo Reyes	650,232
Mengel Brothers Company	173,714
Stanford Manufacturing Company	474,440

SOURCE Higuera Bonfil 1997, 124–25

ended. After a brief period, they allowed the general and his subordinates to escape to Mexico City. The new revolutionary governor of Yucatan was a socialist by the name of Salvador Alvarado. In 1915, after an unsuccessful attempt to establish peaceful relations with the Maya, he ordered the move of the capital from Quintana Roo to Chetumal and returned Santa Cruz to the Maya leaders. Just when the Maya had been liberated from Bravo's harsh rule, a smallpox outbreak in 1915 and 1916 decimated a significant portion of the Maya population, particularly elders and young children (Villa Rojas 1945).

In 1917, there was a new leadership among the Maya. Generals Francisco May from Yokzonot and Juan Bautista Vega from Chumpón were able to secure chicle concessions from the revolutionary government. This led to some internal turmoil about who controlled the earnings of the trade among other Maya communities (ibid.). The broader impact of the revolution on the territory of Quintana Roo began when President Lázaro Cárdenas started to make profound changes in the patterns of land-reform redistribution. It was not until 1935 when the first ejidos were created as a measure to have greater control of

the zone, that the impact was felt. The previous year, the Mexican Secretaría de Hacienda (Treasury Ministry) had published a report titled "El Problema Económico de Quintana Roo" ("The Economic Problem of Quintana Roo"). The long subtitle gives us a summary of the purpose of this report: "Study by the Federal Commission that was Designated to Visit the Region and Propose the Most Efficient Measures for its Economic Development and its Administrative and Political Communication with the Rest of the Country." From this subtitle, it is clear that the beginnings of the modern discourses of progress and development were penetrating the zone. The top-down approach of "proposing the most efficient measures"—involving a team of experts who were to tour the zone, conduct several interviews, and present their findings—is typical practice, supported by these new discourses, to enable the state to access and control resources. Ultimately, their findings portrayed the Maya as isolated, inactive, and in a state of misery. This description justified, in the eyes of the Mexican state, the "need" to intervene politically and economically to "civilize" them.

A letter signed by eighty-seven Maya men was sent to the president of the commission, Ulises Irigoyen, making three main requests. The first appealed for an exemption from paying forestry agents for the rights to plant their milpas, since this was how they sustained themselves and their families. The second request was to not have to pay taxes in advance for the exploitation of chicle, as was established in 1932. They were willing to pay the taxes, but only after they got paid for their products. Lastly, they called for lifting the restriction to collecting chicle in just one place as stipulated in the agreements. Sometimes they had to walk great distances because their communities were distant from the actual plantations that they had to work in.

During the 1930s, the Maya were still resisting incorporation into the Mexican nation-state. Mexico was interested not only in subsuming the Maya, but also in benefiting from taxes from the chicle boom and logging. The zone was mapped according to how resources were to be exploited (see map 2.3) by the Colonization Commission of the Ministry of Agriculture in 1935. The eastern part is set aside for chicle production, the center around Santa Cruz for mahogany and cedar, with chicle to the south as well. Also, the map indicates that vegetation was thicker in the southwest, while the northwestern part of the peninsula seems to have been cleared of natural vegetation due to the henequen plantation boom of the early twentieth century.

The Mexican state envisioned incorporating the Maya into the rest of the nation by the implementation of land reform laws and the creation of roads to improve transportation and communication. The agrarian reform of 1934–35

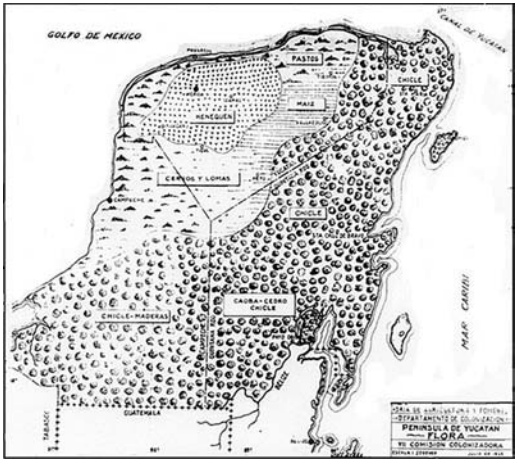

FIGURE 5. Flora of the Yucatan. Ministry of Agriculture, Colonization Commission 1935.

had an enormous impact on the land tenure system throughout Mexico. Land reform gave land rights to people who had been landless and exploited for hundreds of years. In this sense, the land reform was a tool for social justice. Yet, for the Maya of east central Quintana Roo, it ironically became a tool for restricting access to their land. The Maya already had de facto control over their forest as a consequence of their autonomy from Yucatecan and Mexican authorities during the second half of the nineteenth century and the beginning of the twentieth. However, now, while they would receive legal rights to some of their land, it would be restricted to the boundaries of the ejidos. As Paul Sullivan notes, "The application of the agrarian reform in this region served principally to create a bureaucratic and administrative framework for the regulation of agricultural activities and for the promotion of agricultural development and commerce in tropical forest products" (1983, 67).

This explains to a certain extent why in the 1930s some Maya leaders were still trying to buy weapons and build alliances with the Americans and the British in order to build up and continue the resistance against the Mexicans (Sullivan 1989). Nevertheless, once the Mexican military established its presence in Santa Cruz, the path was cleared for the establishment of economic concessions to outsiders for the exploitation of *their* natural resources. The demand for chicle

rose in the early twentieth century, especially in the United States, where chewing gum was issued to U.S. army soldiers beginning in World War I (Konrad 1991; Redclift 2004). Chicle concession companies promoted immigration from other Mexican states and from Belize into Quintana Roo. It had been a long-standing intention of the government to promote immigration from other parts of Mexico to colonize the forest and serve as a labor force (Fort 1979). The presence of these concessions and laborers infuriated the Maya, who saw their forest land being violated. There were even complaints that the immigrant workers stole from the milpas. As a consequence, Mexican general Rafael Melgar, governor of the territory, promised to return some forest reserves to the Maya leaders if they allowed the construction of the road between the town of Peto and Santa Cruz. However, those designated to carry out Governor Melgar's pledge could only make this acceptable by couching it as a gift from a superior people who were saving a group of "miserable" "human residue." Melgar also vowed to improve their condition by building schools (Rosado Vega 1940, 245).

As mentioned earlier, there was a division in the leadership of the Maya that became evident as concessions to exploit chicle increased. They were divided into two regions, one under General Francisco May and the other led by General Juan Bautista Vega. May exported his chicle from the port of Vigía Chico and Vega from Chunyaxché. One of the first ejidos to be established was in Chunyaxché (see below), because Vega wanted to have control over the territory surrounding Chumpón. The establishment of the first ejidos occurred in part because years before General May had been granted authority over twenty thousand hectares of forest, with the exclusive rights to use the railroad from Santa Cruz to the port of Vigía Chico. In the end, these concessions served to co-opt and divide the leaders, and helped pave the way for pacifying the rebels by giving their leaders relative power to control chicle within their region. It is worth mentioning that not all Maya were pacified. Even May resorted to attacking chicle camps of forest concession holders that were extracting the resin in his territory (Villalobos González 2006). Other masawalo'ob opposed General May and were open to continuing resistance, as Sullivan (1989) has skillfully documented.

It was during the tumultuous years of 1935 and 1936 that a young Mexican anthropologist, Alfonso Villa Rojas, began doing fieldwork in the community of Tuzik as part of the Carnegie Institution's Maya research under the guidance of Sylvanus Morley and Robert Redfield.[8] Villa was a Yucatecan teacher who was hired by Redfield to be his assistant during his fieldwork in Chan Kom, as

he was well acquainted with the Maya language. Redfield later invited Villa to pursue an advanced degree in anthropology at the University of Chicago and suggested a long-term study of the rebel Maya of Quintana Roo. The results of that ethnography were published in a series of articles in Spanish (Villa Rojas 1939, 1941) and in the book *The Maya of East Central Quintana Roo*. In the latter, Villa explains how the people of Tusik felt about land and land reform:

> Land is the communal property of the entire subtribe. Buying or exchange of land has for the native no meaning. When the federal government announced its policy of granting ejidos, the natives became angry, not only because this exercise of authority was considered interference in their affairs, but because it also seemed to them wrong that land should be divided as if it were something which could be privately owned. This latter idea persisted even after they were willing to accept the ejido. (Villa Rojas 1945, 68)

With regard to the settlements themselves, Villa says,

> Within the village itself land is also communal. House lots are not privately owned and anyone may make his house where he wishes but the house itself is individually owned. Cultivated plants belong to the man who sows them. Houses are not sold or rented, nor are fruit trees. The absence of the owner diminishes in no degree his rights of property; his house continues to be his and he may harvest the fruit trees whenever he wishes. (ibid.)

Once they accepted the ejido, other problems emerged as several community settlements were lumped together into one allotment. On paper, all of them had the same right to work the lands, but some settlements had claims for places others had used previously for their milpas and thus perceived as theirs. Villa notes that this situation caused conflicts between several communities. However, as troublesome as it was for the Masewal to divide the forest into ejidos, and as imperfect as it is as a tenure system, it did offer them a guarantee of access to land in a new political reality.

Anthropologist Paul Sullivan revisited Tuzik in the mid-seventies to carry out a follow-up study on Villa Rojas's study. His goal was to explain the causes of the apocalyptic prophesies of the Masewal Maya. His study documented changes that had occurred with respect to land. He attributed their prophesies

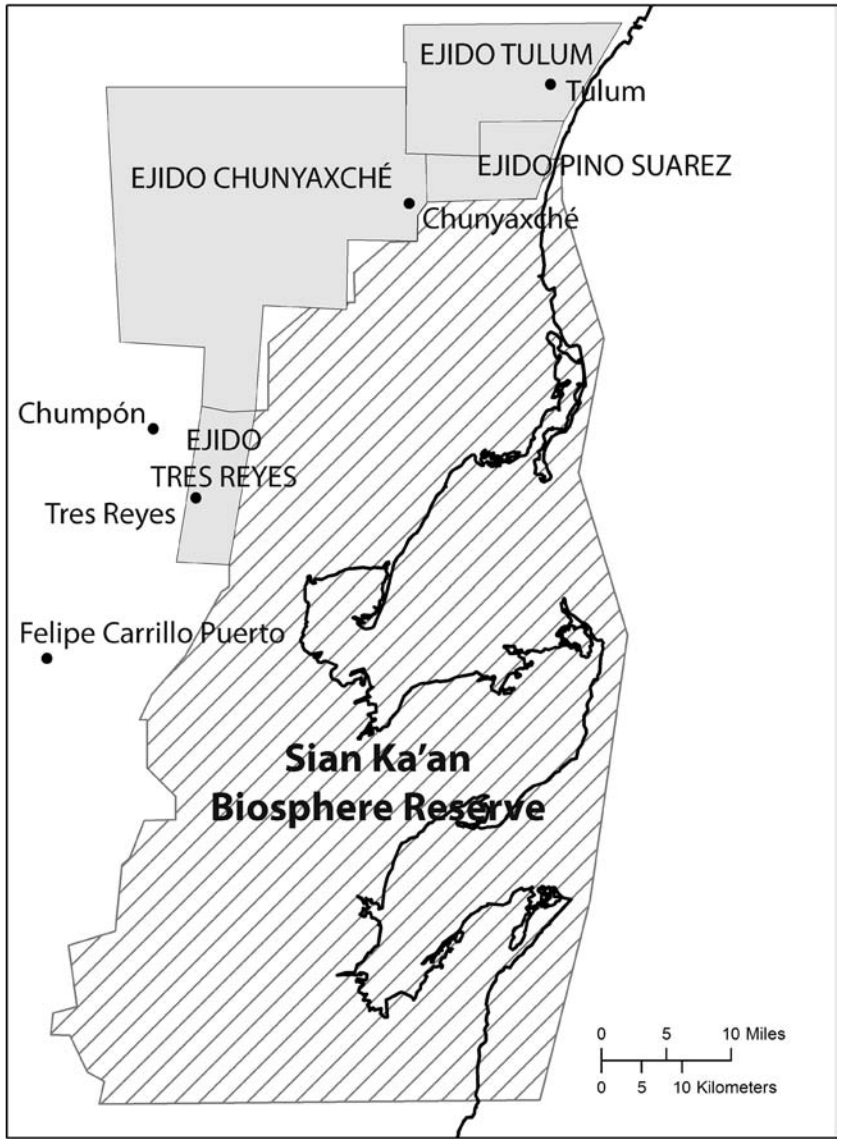

FIGURE 6. Tres Reyes and Chunyaxche Ejidos around Sian Ka'an.

to "the increased inability to make for themselves the kind of living they know best—to farm and to hunt in the forest, market some if its product and subsist off the remainder—and their increasing obligation to submit to a foreign people's law" (Sullivan 1983, 169). He also documented Maya observation of ecological degradation in the forest. They confirmed that the forest was not as tall as it used to be, land was not as fertile nor did it provide enough yield as it did before, hunting was in decline, chicle production was lower and not as lucrative as it once was, and the ejido could not provide enough land to all the ejidatarios (Sullivan 1983).

Meanwhile, the state promoted agricultural development projects for intensive cultivation with the intention of providing families with extra income. Sullivan documented several of the projects in 1984 (Sullivan 1987). One had the objective to grow fruits and vegetables such as tomatoes and watermelons. These required water irrigation systems powered by a pump. Sullivan describes how the people from Tuzik encountered problems when it was time to sell the watermelon, tomatoes, and peppers because they were one of seven towns with the same crops, and they had to lower their prices (ibid., 50). This provoked the eventual decline of such projects. The only activity resulting from development projects that actually provided extra income and continues to be practiced extensively in many Maya communities is beekeeping. Honey-producing co-ops were established and there is good production; however, prices are volatile and create a lot of uncertainty from year to year.

The land tenure changes forced some of the Maya to migrate to the central towns around Felipe Carrillo Puerto, some to become agricultural workers in the sugar industry, while others labored in road construction in the new tourist industry and in the building of tourist sites along the coast around Cancún. Others decided to move to a place where they could keep living the life that they knew and maintain access to land as a legitimized member of an ejido. This is the case of the community of Tres Reyes, which became the main site for my research.

THE LAST EJIDO: TRES REYES

In 1974, Quintana Roo ceased being a federal territory and was given statehood status, coincidently with a new mega-plan to build a tourist resort town in a low-populated, marginal region called Cancún. It cannot be understated how

the creation of Cancún has radically transformed the social, political, and environmental life of the Yucatan peninsula. It went from a tropical forest enclave to a "post-industrial tourist place" (Torres Maldonado 1997). It redefined the economy of the state and became a magnet for labor not only from Maya communities in Quintana Roo and the larger Yucatan peninsula, but from many other states of the republic. PRONADE, the Programa Nacional de Desmontes (National Deforestation Program) was established, and between 1975 and 1982 over ten thousand hectares of forest were cleared in Quintana Roo alone for development of agriculture to supply Cancún.

At around the same time, in the mid-seventies, the Masewal village of Tres Reyes was established as an offshoot by some families from Tuzik, the same village studied by Villa Rojas in the 1930s and Sullivan in the 1970s. Concomitant with Sullivan's description of the grim economic situation at the time, the settlers were having a hard time producing sufficient milpa, and along with others who were not able to become members of the Tuzik ejido, they moved to a place off the main highway thirty kilometers north of Carrillo Puerto and established a rancho or small settlement on federal land that had not yet been zoned as ejido land. The area had been exploited previously as a chicle camp and hunting ground, but there was no permanent population when the founders of Tres Reyes arrived. Since it was still federal territory, they petitioned the government to become an ejido, and their request was granted in 1983. This was the last ejido established in the municipality of Felipe Carrillo Puerto as well as in the state of Quintana Roo. Once established, the village worked the land around their ejido. They were able to continue planting their milpas and to hunt. Some also worked seasonally in the tourist economy of Playa del Carmen, Tulúm, and Cancún. The location of the community, one kilometer away from the Carrillo-Tulúm highway, made it easy for people to use public transportation to work in other places if necessary.

From figure 6, we can see that the ejido is located south of the Chunyaxché ejido adjacent to the Sian Ka'an Biosphere Reserve. At the same time that the people of Tres Reyes were getting their ejido rights, there were feasibility studies being carried out by a group of biologists and social scientists for the establishment of the reserve. The Centro de Investigaciones de Quintana Roo published the results of the studies in 1983 (César Dachary and Arnaiz Burne 1983). In 1986, the reserve was officially established by presidential decree. Its creation was possible due to an emerging ideology of conservation of natural resources that resulted in the creation of protected areas.

Little did the Masewal know at this time that they would become a target not only of rural development projects but also projects to promote conservation of resources, all of them ingrained with the spirit of coloniality as their guiding principle. At this point, we see the beginnings of the joining of these seemingly opposing ideas—development and conservation—that form the basis of the discourse of sustainable development and open a *new era* in the history of the use and appropriation of the natural resources of the Maya of Quintana Roo that would challenge the slogan, "esta raza vencerá."

2

COMMUNITIES, ENGOS, AND THE NATURE INDUSTRY IN SIAN KA'AN (1986–2009)

The Sian Ka'an Biosphere Reserve, founded in 1986, in Quintana Roo, is a good example of a well-managed natural area based on local participation.

LANE SIMONIAN, *DEFENDING THE LAND OF THE JAGUAR* (1995)

The president of the Republic established Sian Ka'an and they took away some of our ejido land without asking us. They didn't compensate us either because they claimed it was federal territory.

ESTEBAN POOT, RESIDENT OF CHUMPÓN (PERSONAL INTERVIEW)

WHEN TRES REYES EJIDO celebrated the legalization of their right to commons in 1983, little did they know that what they thought would be a better life (albeit along with the hardships that living in the forest entails), in which they would have the liberty to decide how to use and manage the forest, would be subject to a new development idea, based on conservation, being implemented in its new neighbor, the Sian Ka'an Biosphere Reserve. The quotes above show clashing views over the establishment of the reserve, which created a set of conflicts over land use, nature, and the future of the forest, despite the discourse of participation that exists at the academic or managerial level. These clashes have continued until today and are clearly seen in the dynamics between environmental nongovernmental organizations (ENGOs) and local communities.

In Mexico, ENGOs have been instrumental in implementing projects for what Mexicans call the *aprovechamiento*—the idea that local populations should "take advantage of" and "benefit from" natural resources. Before the current state

of conservation practices, aprovechamiento centered on economic development or an economic benefit. In today's nature industry, it has tilted discursively toward sustainable development, and has become the mantra of development and conservation in Mexico. It presupposes both the sustainable use of the environment and ensuing monetary resources for development of local communities. Since the establishment of the biosphere reserve—but particularly between 1993 and 2006—all new projects seemed to be titled "aprovechamiento," whether the resource was honey, timber, or orchids. These initiatives and programs stemmed from a perspective that often conflicted with the Maya moral ecology, and their implementation engendered a clash of viewpoints grounded in the condition of coloniality of nature.

By 2009, after three decades of collaborating with various ENGOs and Mexican natural resource agencies on conservation projects, the community had had enough. As a local community leader told me in 2009, "We had to kick all the [ENGOs] out of here. We don't want to know any more about aprovechamiento or conservation." What would prompt the community's drastic decision to collectively declare independence from ENGOs and state intervention? From this leader's point of view, the decision had nothing to do with being against conservation or protecting the forest. Rather, the extensive time and effort the people of Tres Reyes had spent working on initiatives with different ENGOs were perceived to have resulted in few, if any, benefits to the community, because government bureaucracy, environmental agencies, and ENGOs pushed for the implementation of ineffective projects that were participatory in name rather than effect.

After looking at the circumstances that led to the establishment of the reserve, this chapter focuses on the dynamics of the nature industry and ENGOs as powerful brokers in creating and monitoring conservation discourses and practices. It also makes clear that not all ENGOs are the same, and their goals and missions can seriously impact the well-being of communities. I compare the experience of two ENGOs that worked with local Maya communities in the Zona Maya of Quintana Roo, Mexico, primarily in the village of Tres Reyes, but also in two other neighboring villages that I frequently visited, Chumpón and Chunyaxché. These two villages share the ejido called Chunyaxché. The two different ENGOs represent what I call "institutionalized" versus "localized" ENGOs. The institutionalized ENGO, Amigos de Sian Ka'an, was created first with the aim of lobbying for the creation of the reserve and then went on to help provide support in its management. Later, a smaller, localized

ENGO, U Yool Ché, was founded by former employees of Amigos because of differences in approaches to community participation. I show the weaknesses of the projects and how they eventually failed, causing the community to break ties with ENGOs and open the possibility of post-conservation. By looking at these dynamics, we see how ENGOs deployed environmental discourses and Western rationality and how reserve managers and conservationists' views subjugated those of the local Maya.

THE TRES REYES EJIDO

Today, Tres Reyes is located eight kilometers from the original *kaj* (village). The community moved the settlement to its present location because of the discovery of a well that provided easy access to water. They eventually built a well and a dirt road around a central plaza. The families planted a *pich* tree, which has high symbolic value to the Maya as a sacred tree. The ejido's land surface is 10,550 hectares, out of which fifty hectares were designated for house lots, twenty hectares for schools, twenty for horticultural use, and the rest divided by ejido members for agriculture, agroforestry, forest reserves, and other sustenance and commercial activities. At the time of the founding in 1976, there were twenty-six families that came from Tuzik, the same village studied by Villa Rojas (1945) and Sullivan (1983). By the year 2000, additional in-migration had raised the number of ejido families to thirty-five.

The town has no electricity, unlike other Maya towns in the region that are closer to the municipality of Felipe Carrillo Puerto. There is a corn grinder that works with a gas-powered generator. In 2000, the Mexican water authority supplied a water pump and tubing that pumps well water to households that each have a fifty-gallon, Rotoplas brand, plastic water tank. Every Tuesday and Friday, the person in charge of the pump runs it until every household has its tank filled. Water was also collected every morning from the well in the central, unpaved plaza by children, mostly girls, who hauled it in buckets to their own household units. In 2001, most houses were traditional *palapas* made of wood and thatch roofs (called *huano*). Later, the government supplied materials to lay concrete foundations. Before, most palapas had bare dirt floors that were leveled and always clean from daily sweeping. By 2009, the government was supplying materials to build one-room concrete houses intended to replace traditional housing and provide better refuge from the storms and hurricanes that

frequently threaten the region. This led to most house lots having two structures, one traditional and one concrete. Families opted to continue living in the traditional house because the concrete houses capture too much heat in tropical weather, but can serve as refuge when hurricanes threaten. The cement building is also often used for storing corn and valuables.

A typical day begins with dueling roosters crowing before sunrise. The coolness of the morning and sound of birds singing give an air of peace and tranquility. Firewood starts burning in each household, for boiling water and heating the flat iron pans used for making fresh corn tortillas. Families begin everyday tasks early, with children hauling water from the central well and bringing buckets of corn to be ground by the only mill, powered by a single community generator. Breakfast consists of tortillas (*waj*) with black bean (*bu'ul*) soup and mashed habanero pepper (*ik'*). Sometimes accompanied by eggs (*je'*) or leftover game meat like deer jerky. Oftentimes breakfast consists of only saltine crackers and coffee or the fermented corn drink called *atole*. After breakfast, children go to the town school and women tend the gardens, feed house animals, and do other chores. Men go to their milpas to inspect the status of the crops and search for signs of insects or other unwanted intrusions. They also weed, do general maintenance, water beehives, and hope to find game animals along the way or in the fallow cornfields (where vegetation is still low).

As there is no electricity, most households have battery-operated radios. There are two stations that can be heard on the AM dial, which are XECPQ_, a commercial radio station that covers local, national, and international news in the morning, and Radio Xenka, which is an indigenous radio station run by the government-led Commission for Indigenous Rights (Comisión de Derechos Indígenas, or CDI). Radio Xenka has cultural programming in Maya that includes traditional Maya Páax music, stories, and public service announcements. Both stations are listened to, although XECPQ_has an edge in the mornings with the news coverage. Listening to this radio station, I heard the daily news and learned about mostly local, but also international events. One of the first things that stood out to me was when the newscaster announce the time followed by the comment, "hora rebelde" (rebel time). For example: "Six-thirty in the morning. Hora Rebelde. Hora del Sol. Hora de Dios" (Rebel time, Sun's time, God's time). When I inquired the reason for the label *hora rebelde*, people from the community explained that politicians in Cancún and Chetumal wanted to observe daylight saving time during the summer to accommodate tourists so that they are on the same time as the eastern United States. I was

asked, "José, can you change the time? Can you talk to the sun or fast-forward the earth or what? Nobody should change the time, only God sets the time." Twelve years later, they continue to go by the hora rebelde in central Quintana Roo, even though the rest of the state observes daylight savings time, including on public transportation.

In the western part of the central square there is a church. It is the size of a traditional house, but it has limestone rock walls and a thatch roof. The altar has three crosses covered with *huipiles*, the traditional Maya dress. An image of the Virgin of Guadalupe, nine gourds, and several candles sit along a table. There are four rows of benches and several individual chairs. Almost every Maya community has ties with one of the five sacred shrine-center communities of the Talking Cross Church, based on proximity. In this case, Tres Reyes has become a satellite to the church of Chumpón. This means that people from both communities attend the annual ceremonies and cultural events in Chumpón that last for a week in May. Tres Reyes also has a week-long celebration around December 12 to honor the Virgin of Guadalupe, Mexico's patron saint, which people from other towns visit to pay homage and to celebrate.

There is one elementary school in town, with two teachers who cover material for the equivalent of first to sixth grade. The school is bilingual in Maya and Spanish. Once students fulfill the educational requirements of sixth grade, they have two options: stop going to school and start working for their families, or go to the town of Chumpón, thirty-eight kilometers away, to attend the Telesecundaria, which covers the equivalent of seventh to tenth grade. If they want to complete a high school degree, the only option is to go to the capital of Felipe Carrillo Puerto, which also gives them the opportunity of higher education with the Tecnológico, or "Tec," which offers several undergraduate programs. The last two options are very costly for households, so only in rare exceptions do Maya pursue high school or college degrees. Young males, in particular, often try their luck in the Riviera Maya, working temporarily in construction or service industries as waiters or cooks. Eventually most return and work in the milpa and beekeeping with a new appreciation of what living in the forest means.

For those who migrate and return, as well as for the people who remain, living in the ejido entails working not only in their respective fields but also in their immediate surroundings. As the community grew, it increasingly had to deal with its new neighbor after 1986. The establishment of the Sian Ka'an Biosphere Reserve changed the course of the people in its neighboring territories.

It entangled Tres Reyes's history with the nature industry's larger projects of biodiversity that followed the biosphere reserve's creation.

NATURE INDUSTRY AT WORK: ESTABLISHMENT OF THE RESERVE

In the early 1980s, a team of researchers from Mexico City carried out extensive preliminary research on the eastern Quintana Roo region. They surveyed its habitats, geology, climatology, and wildlife in order to make a case for the high level of diversity of its ecosystem. They also surveyed the productive activities of the local populations, including ethnobotany and hunting. The research was funded by the World Wildlife Fund (WWF) and by the Mexican National Council for Science and Technology (CONACYT); the findings were published in 1983 (César Dachary and Arnaiz Burne, 1983). As a result of this study, the Sian Ka'an Biosphere Reserve was established by presidential decree in 1986. In contradiction to the original documentation, communities were neither asked nor consulted about the creation of the reserve. Proponents of the reserve asked permission of the *presidente municipal* (mayor) as well as of the owners of the private lots along the coast of Sian Ka'an, but not of the local Maya.

Locals reacted with mixed feelings to the reserve. In some instances, they barely knew about the existence of it even three years after it was established (César Dachary and Arnaiz Burne 1989). Some Maya opposed the reserve while others were skeptical, but still followed the proposed guidelines. Still others, when faced with an influx of visitors who promoted the benefits for the community and them as individuals, got involved in development projects under the banner of sustainability but were also curious to see if such projects would bring economic benefits as promised. On the one hand, many Maya agree that "we should leave resources for the next generations" (one of the lines most frequently used by the Maya when asked about the reserve and sustainability), while, on the other hand, many argue that they still have to make a livelihood and it is virtually impossible at times to implement all of what the conservationists want them to do.

Despite the different levels of enthusiasm for the initial projects, there was a shared feeling among the residents that the government and ENGOs came up with new projects as fast as they discarded previously proposed ones. They would show up and make their proposals for improving agriculture, beekeeping,

logging, etc., but the local Maya didn't see the benefits of these projects because when the funds ran out—often before any results had materialized—the agencies abandoned the communities. This is the experience that the community of Tres Reyes had with Amigos de Sian Ka'an, the ENGO that was largely responsible for advocating and pushing for the creation of the reserve, and why they did not want to work with them in the end. They felt that the ENGOs just wanted the money they received from funding agencies and would move from community to community, starting projects in pursuit of funds and not following up on their previous activities. U Yool Ché was created as a consequence of this problem: its members, once members of Amigos, broke ties with them because they wanted to follow up with development projects even when there was no more funding in the hope that eventually they could procure more in the future in order to continue their work.

An elder from the community related examples to me of how people from different development groups and universities visited the community and how their projects were either abandoned or flawed to begin with. He told me how a group from UNAM (National Autonomous University of Mexico) came and showed the Maya community various planting techniques for house gardens, but the project was abandoned. In another example, he shared how some "gringos" came to demonstrate the use of pesticides for their crops. He told me that he avoided using their products because the animals and insects would become stronger and resistant to them. He said to me, "to the insects, [giving pesticides] is like drinking alcohol: once one starts to drink, eventually one will be able to resist more and more." The overwhelming shared wisdom was that the majority of development projects lacked positive outcomes and resulted in the community becoming increasingly skeptical about foreigners' intentions.

In 1987, the reserve received the distinction of being designated a Heritage of Humanity site by UNESCO. With this recognition came the possibility of receiving funds for community projects within the reserve. The government agency in charge of the management of the reserve is the Department of Environment and Natural Resources (Secretaría de Medio Ambiente y Recursos Naturales, or SEMARNAT). It is also responsible for working in cooperation with communities and promoting development projects like the ecotourist co-op in Chunyaxché and a rustic furniture co-op in Chumpón and Tres Reyes (discussed below). It is also interested in environmental education. For example, during one of my fieldwork stints, SEMARNAT representatives visited communities and schools, and broadcast a show about nature and wildlife via

the regional Maya-language radio station, Radio Xenka.[1] Speaking with reserve employees, I felt their sincere interest in helping the communities around Sian Ka'an. Although these employees had good intentions, they lacked an understanding of the social dynamics within the communities and also of how to promote inclusive community participation. These limitations eventually played a role in why so many projects failed.

While several ENGOs are still working with communities living around the biosphere reserve to help carry out its mission to preserve biodiversity and to include local communities in the process, many of the efforts ended up being attempts at regulating the locals' activities. To assess the intervention by the ENGOs, I present two of the groups that worked in the western part of the reserve between the towns of Tulum and Felipe Carrillo Puerto. Although both had similar objectives, their size and form of operation differed. I show the marked difference between Amigos de Sian Ka'an and U Yool Ché, which I refer to as "institutionalized" and "localized" ENGOs, respectively, and how they implemented their projects from *their* views of proper biodiversity conservation.

INSTITUTIONALIZED ENGO: AMIGOS DE SIAN KA'AN

Amigos de Sian Ka'an was established the same year as the presidential decree that formed the reserve. The Nature Conservancy promoted the creation of the organization in order to ensure the presence of an independent group that would be able to help support the conservation activities of the reserve. They are in essence a product of the nature industry. Amigos was assembled by "experts" representing different sectors of society: conservationists, businessmen, and academics. The group is mainly composed of people with backgrounds in the biological sciences. At the time of this study, the only local Maya involved was the one person who worked in their research office in Carrillo Puerto, the heart of the Zona Maya. The organization has grown substantially and its mission transcends its original scope. Amigos is what I refer to as an institutionalized ENGO because it has created a large and successful apparatus that receives substantial funds and donations from international foundations, institutions, and individuals, and because it is fully bound up with the global discourse of conservation rather than local discourses of place. It also promoted and succeeded in the creation in 2006 of another protected area between the Sian Ka'an Biosphere

Reserve in Quintana Roo and the Calakmul Biosphere Reserve in Campeche. It was named Balam K'aax, and the main argument for its creation was to serve as a "biological corridor" between Sian Ka'an and Calakmul. Additionally, Amigos is involved in impact assessment studies for the development of the "Costa Maya" corridor in the southeast of Quintana Roo, funded by the United States Agency for International Development (USAID). This agency has become a powerful broker in the business of producing nature and biosphere reserves and determining what development can coexist with that nature.

Amigos had several ongoing projects and research activities in the reserve that were overseen from its regional station in Felipe Carrillo Puerto. In order to understand its modus operandi, I also observed two of the communities in which Amigos worked. The first one was in Chunyaxché, where Amigos worked on the creation of an ecotourist co-op. The other was in Chumpón, where it had a nine-person team working on organic apicultural production, organic agriculture, and rustic furniture.

Chunyaxché is located approximately thirty kilometers south of Tulum and hosts the ruins of Chunyaxché and two lagoons that are part of Sian Ka'an; one goes by the same name as the ruins and the other by the name of Muyil. Because of the spread of tourism in the region, an ecotourism co-op, created to provide boat tours and kayak rentals, was initially funded by the Instituto Nacional Indigenista (INI) and SEMARNAT. Amigos agreed to help in the implementation of the project. Initially, this co-op was intended to benefit the community, but at this time only two brothers and their children were involved. I visited the community various times while doing fieldwork in Tres Reyes. On one of these occasions, it was a rainy day and the only place in which I could take shelter from the torrential rain was in the house at the entrance to the ruins. There were three rented cars parked at the entrance. The ruins of Chunyaxché are not visited nearly as much as Tulum even though there are only thirty kilometers between them. No tour buses arrive in Chunyaxché, just rental cars and small groups that drive with tour guides from Playa del Carmen or Cancún to see the ruins. Alejandro, one of two people in charge of security for the ruins, was inside the house. He worked for the National Institute of Anthropology and History (INAH), a federal institute responsible for the management of archaeological ruins in Mexico. There were three other people from the community with him. They were doing some landscaping work at the ruins, as people from the community are hired to do occasional maintenance. When I arrived, all four were taking a break because of the rain.

We began to chat, and eventually the conversation turned to the ecotourism co-op project, which they told me got started because one of the employees of Amigos had invited people from the community to an organizational meeting with people who were interested in starting the co-op. However, one of the conditions to work in the co-op was that people had to work near the community. Thus, those who were working in the milpa could not work with the co-op, because if a client came, the worker would then have to be located in the milpa, which in some instances is located several kilometers away. One resident told me that after he found out about these stipulations, he decided not to participate in the co-op because it was more important for him to work in his milpa.

Later that same day, a passenger van arrived. It had an Eco-Tours logo on the side. One man got out of the van and began to set up some kayaks on the edge of the lagoon. Curious, I asked him what he was doing. He told me that he worked for the Eco-Tours business in Cancún, and he was getting the kayaks ready because he had a group that would be coming in a couple of hours. His job was to set up everything so that when a group of customers arrived, everything was ready for the tourists to begin kayaking. I also noticed that he had two coolers filled with drinks, mostly bottled water, for the tourists coming down.

After ambling about the ruins, I walked over to visit a family that runs a kayak and boat rental in the community, but there was no one visible at the entrance where they kept kayaks, paddles, life vests, etc. There was a sign that read, "kayak and boat rental and tours." Several posters calling for the protection of the environment were hung on the building. Soon, a Maya woman I had met on previous visits came out and recognized me. She said that the ecotourism business was not doing well. I told her that I had just seen a group that was coming to kayak on the lagoon, and she said that that was precisely the reason that it wasn't doing well. She now had competition from tour operators from Cancún and Playa del Carmen that offered package tours that bypassed their business.

Later, when I was ready to head back to Tres Reyes, I went and waited for the local bus. As I was waiting, I saw eight jeeps pull into the community. They had logos from Xel Há, the aquatic park north of Tulum. After getting out of their jeeps, tourists and their guide began to walk around and take pictures and several of them even entered people's homes. The guides thought they were showing the tourists "real Maya" life. I noted that there were no monetary exchanges and the locals did not sell anything. After ten or fifteen minutes, the tourists got back in their jeeps and drove away. The community could not com-

pete against a well-established tourist industry where resorts and ecotourist businesses have access to the tourists right where they are staying and thus are able to sell tour packages with ease. Amigos had helped them set up a business, but did not realize the unevenness of the competition between tourist industries in Cancún and a local community with close to no resources to compete. They also had driven away community members from potential involvement by making participation dependent on giving up working in the milpa.

The second community where Amigos worked, the village of Chumpón, is one of the shrine centers of the Caste War (Reed 2001). They have a reputation in the region for being defiant to intervention from outsiders on matters relating to their resources and to their ejido. An employee of the Secretaría de Reforma Agraria, the agency in charge of all matters related to agricultural legislation and land disputes, told me that his organization had not been able to implement the PROCEDE legislation in this community.[2] The Ejido Chunyaxché was the only one in the state of Quintana Roo that had not complied at the time (INEGI 1999). Another employee commented that every time they go to the village to set up a meeting, "they kick us out." It is not surprising, since the people are very zealous about their land. There is not enough land as is, and they want to protect what they have. They do not want to have another situation like Sian Ka'an in which they were not consulted about the use of the area, as was told to me by several residents. Eventually the community complied because of the constant threats from the authorities.

Even though the locals were still very protective of their land, some individuals were open to alternatives for generating income. With the intention of involving the community in sustainable practices, Amigos began working in Chumpón in the early 1990s, when they first received a grant from the Ford Foundation to promote projects for the "aprovechamiento" of natural resources. They supported these kinds of projects because, as an Amigos employee told me, "they [the Maya] depend on the forest for everything." The intention of these projects was to try to diversify sources of income and convince the Maya to engage in practices that are seen as "less destructive" than traditional practices such as milpa agriculture and hunting.

In 1994, Amigos promoted the production of rustic furniture using wood from the ejidos. Initially, the project involved the communities of Tres Reyes, Chumpón, and Chunyaxché. The idea was that Amigos would train them to build furniture and then the communities would organize into cooperatives to sell it. Amigos gave them tools, but, according to the community members,

the classes they took were not necessary since they already knew how to make the furniture. They also carried out an inventory to determine the availability of species used for furniture (Amigos de Sian Ka'an 1997). The study concluded that the activity of extracting wood for furniture would not have a negative impact on the ecosystem because the main species were still abundant. Usually the ejidatarios (ejido members) were the ones who sold timber to the furniture makers. However, as the project got underway, competition formed between the groups that had formed that resulted in the overuse of a particular species. Amigos' intention was to help diversify the economy, but they stimulated so much interest that they did the opposite. When they came up with this new project, other groups from other towns wanted to present the project to additional communities (that is, only people from Tres Reyes and Chunyaxché were originally invited). This multi-community outreach, however, created too much competition among the locals. One of the Maya workers told me that, "instead of working together and setting a price, we ended up selling cheaply and that didn't work. If we had worked together as a cooperative everyone could have benefitted." He also conveyed that, once Amigos became concerned about the overuse of one of the species, called *mahaua*, they wanted to organize an ejido membership meeting so they could convince them to look for an alternative. This failed project is an example of the limits of proposing top-down projects that are poorly planned and then abandoning them when things don't go the way they were "supposed" to.

The problem here of competition and poorly designed projects echoed an earlier project that Tres Reyes worked on in the early 1990s, with the Sociedad de Ejidos Forestales (Society of Forestry Ejidos), a collective body that enabled the ejidos to negotiate production and prices for trees harvested to make railroad ties. The Tres Reyes ejido eventually stopped producing for the Society because residents felt that there was too much competition among participants in the Plan Piloto Forestal (Pilot Forestry Plan). Despite the recognition by local communities that the tree harvesting initiative wasn't sustainable, the Society was showcased as a success story of sustainable forestry and received Smart-Wood certification by the Rainforest Alliance (see Bray 2001). Participants also told me that, given the lack of proper equipment for harvesting and processing the wood, the return for their hard labor was not worth it. For them, it made sense to focus on other activities.

In 1997, the initial funds that Amigos received from the Ford Foundation ran out. They subsequently applied for and received a grant from the Johnson &

Johnson Foundation, with aid from the Nature Conservancy. The grant was for work related to health and the environment. While overseeing the operation of other projects that it was already involved with, Amigos continued to add new ones. This new project was to produce and promote the use of traditional medicines in order to comply with the "health" component of the grant (Amigos de Sian Ka'an 1997). Specifically, Amigos promoted an ethnobotanical garden so that the *j-men*, Maya traditional healers, could grow and teach the youth about medicinal plants. This initiative was started but failed in the recruitment of young people to participate because it overlooked the fact that knowledge about medicinal plants is transmitted to younger people directly from their elders without intermediaries. The project was designed by trying to meet the interests of the funder rather than from an actual need in or relevance to the community.

Institutionalized ENGOs are constantly in a grant-crisis cycle. They continually woo donors who often come with very particular stipulations and also may have an end goal in mind that they want their dollars to achieve. Many institutionalized ENGOs accept the donors' money along with their rules and don't contest the stipulations in any profound way. In other words, they often play "yes-men." This grant cycle leads to projects that are not well thought out in relation to those who they are supposedly helping, nor are community members "thought with," as in participatory design and decision-making. If ENGOs thought of the Maya as collaborators rather than recipients, they would be much more successful. They did not really want to understand the complexity of Maya actual practices with their environment because, operating from a coloniality *mentalité*, they saw them as inferior or problematical. The end result led to the disjuncture and a sense of confusion or disinterest that the communities conveyed to me over and over.

Amigos recognized that, in the area of environmental education, they had been the least successful: "Hemos tenido poco impacto" (We've had little impact), an Amigos employee candidly told me when asked about the success of their projects in Maya communities. One of the field coordinators told me that while Amigos was interested in presenting and exchanging ideas about projects, they noticed that, when the organization announced workshops, many people went the first day but then did not show up for subsequent sessions. He said the reason was that people thought they were going to get money or assistance, as is the case when the government gives money for the establishment of different projects that promote economic incentives for peasant farmers. However, the community did invest in the project. The ejido organization gave Amigos

permission to use a lot in the village for the construction of a house to be used as a site to train people in such areas as the use of compost in organic farming. In the end, the project never really took off because the Maya preferred to use the milpa method for their fields and gardens. The field coordinator, however, reported that some Maya adopted organic practices in agriculture with success, while others attended the workshops but never implemented the method.

The realization by field workers that they've had "little impact" is at odds with the perception from the outside, given that Gonzalo Merediz-Alonso, the executive director of Amigos, received an award from the Whitley Fund for Nature in 2005 for the organization's work in Maya communities:

> By encouraging the use of traditional skills and development of economic activities such as embroidery, furniture carving, medicinal plant use and honey making, Gonzalo and his team are helping the Mayan culture survive whilst developing income generating activities that do not harm the environment. By consolidating the market for locally made products, and improving quality control, Gonzalo is supporting the Maya's activities, and promoting an information exchange between producers that is allowing the Maya to diversify and improve their profits. (Whitley Fund for Nature 2005)

Thus, as an *institutionalized* ENGO, Amigos has been successful in project-making and raising international and national donations, but less so at a local level with the people who they take credit for helping. This is the result of the growth of the nature industry, its reliance on "spectacle" in promoting conservation, and its disconnect from the local (Igoe 2010). The evidence of this disconnect is how Amigos was congratulated abroad, while Tres Reyes had cut ties with them in favor of trying a different approach. One of the Maya leaders of Tres Reyes confessed to me that he was tired of being invited to showcases in Cancún for fund-raisers organized by Gonzalo, and that Amigos was not welcome anymore in the community. The community opted instead to work with U Yool Ché, a localized ENGO.

LOCALIZED ENGO: U YOOL CHÉ

U Yool Ché is a local ENGO situated in Felipe Carrillo Puerto. At the time of my initial fieldwork, it was composed of three people who had originally

worked for Amigos and left because of "differences" in management styles, as one of the members told me. Two of them come from other parts of Mexico, where they were trained as biologists. The other member is native to the Zona Maya. U Yool Ché was founded in 1999 with the purpose of promoting aprovechamiento, but with the goal of maintaining a close relationship with the communities until they were able to do conservation work themselves. Their initial approach was more effective than Amigos' in involving the community. Conflicts arose once in a while, but the organization had been able to keep working with the Tres Reyes community even when they had run out of project funding. This style of a close and reliable working relationship had earned them the respect and trust of the community. Don Florentino, an elder of the community, told me that U Yool Ché at times had worked for free; sometimes it had been the community that actually had given them something to eat while they were doing workshops, etc. "They [UYC] work 'for free' as we do, sometimes we feed them and we don't charge anything. That's how we are," said Florentino, while working several hours making nets used to catch, identify, and release butterflies for a project discussed below.

In 2000, Tres Reyes received a $30,000 grant from the United Nations Development Program (UNDP) to assist in conservation work around the reserve. The community created a grassroots organization called Tuukul Otsil Máak, A.C. The organization was an SPR (Sociedad de Producción Rural, or Rural Production Organization), part of a larger network that operates in Mexico that was created to work cooperatively in agricultural production and conservation projects. The "A.C." at the end of the name stands for Asociación Civil (Civic Association), which is a legal standing. The group had to be a legally recognized entity in order to be awarded a grant, which was part of a larger one from UNESCO given to support community conservation programs. In all, ten projects and institutions received grants, including U Yool Ché. The regional coordinator of UNDP said in an interview that "the program's objective is to support community participation in initiatives with their residents carrying out actions in favor of biodiversity conservation" in which there is "direct and democratic participation by the communities." (*Por Esto!* [Quintana Roo], December 30, 2000, p. 15; my translation).

The main goal of the SPR, according to its president, was to become independent from U Yool Ché and continue to carry out conservation projects so that the ENGO could leave to work in other communities. At the start of the relationship there was a dependency in terms of the planning of activities, like

follow-ups on monitoring and organizational meetings. However, it was likewise intended by U Yool Ché to finish training people in Tres Reyes so that they could move on. They also intended that the people from Tres Reyes would become "experts" in Western sustainable practices so that they could share their knowledge with other villages. In this important sense, U Yool Ché was promoting cooperation and eventual autonomy among communities, rather than competition, as had often been the case with Amigos and other agencies.

A community member told me that they liked to be connected with U Yool Ché because the group continued to work with the community, not only with the projects but also in doing other work that was not necessarily related to their core mission. One of the members had even established kinship ties with a local family by way of *compadrazgo*, or co-parenthood, similar to a godfather relationship. The feeling of many of the community members was that Amigos, by contrast, had undertaken projects and then abandoned them, and that they had not cared about the community.

U Yool Ché focused on bridging the gap between externally driven projects and community participation by attempting to avoid the mistakes made by Amigos. They worked with Tres Reyes primarily on two biodiversity conservation projects, parrot and butterfly wildlife conservation. As a *localized* ENGO, they tried to overcome the challenges presented by the structure and discourse of the nature industry, but also succumbed to some of them.

THE PARROT PROJECT

Since pre-Hispanic times, Mesoamerican cultures have traded parrots. They kept them as pets, for their colorful feathers, and have also been known to consume them (Sahagún 1981). Prior to the eventual ban on trade in parrots in 2008, which I will discuss below, some people in Tres Reyes captured parrots to keep as pets and, if approached, would sometimes sell them without permission from SEMARNAT. Amigos de Sian Ka'an had begun working with Tres Reyes on an exploratory study of parrots in the mid-1990s. This exploratory research was done by an Amigos employee who was using the findings for a Master's degree thesis for a university in central Mexico. In 1998, a national initiative started by SEMARNAT's research arm, the National Ecology Institute (Instituto Nacional de Ecología, or INE), for the conservation, management, and aprovechamiento of Psittacidae (parrots) began to perform feasibility studies.

The project was an attempt by the state to enact the principles of sustainability of the nature industry based on the assumption that nature can be protected and commercialized at the same time.

Once scientific studies were conducted certifying the status of each of Mexico's twenty-two parrot species, SEMARNAT would grant annual quotas for some species to select communities, to generate income through sales in the pet market. SEMARNAT released the results of their efforts in a report by the Secretaría de Medio Ambiente, Recursos Naturales y Pesca and the INE entitled, *Proyecto para la conservación, manejo y aprovechamiento sustentable de los Psitácidos en México* (SEMARNAP 2000). In Quintana Roo, Tres Reyes was the only UMAS, or Unidad de Manejo Ambiental Sustentable (Sustainable Environmental Management Association), a SEMARNAT bureaucratic designation required to be involved in the project, for which it received a $30,000 grant from the UNDP's COMPACT program.

In 2000, INE began to implement the plan. While both ENGOs, U Yool Ché and Amigos de Sian Ka'an, originally collaborated on the study of parrots (Psittacidae), U Yool Ché took over the project. Despite the prior existence of similar environmental projects, the INE approach to managing wildlife was presented as novel in its participatory focus. Early sustainable development projects had been criticized by community members, academics, and independent evaluators for the absence of local participation, and a key goal was to improve this.

Although the community had had its share of negative experiences with development projects, they were interested in collaborating on this new project. It was hoped that the newly created Tuukul Otsil Máak would enable better coordination for conservation-related work. The new organization had a president and a treasurer, and one person headed each of five committees dedicated to activities Tres Reyes had been working on for several years as part of its involvement with conservation: orchid gardens, mammals, parrots, other birds, and butterflies. Each committee met once a month to report on their activities. The orchid project was abandoned in order to focus more on the parrot and butterfly projects.

When the SEMARNAT initiative on parrots emerged, many community members embraced it because it seemed like a viable project now that they were working with an ENGO to which they related well. To some of the elders in the community, however, the parrot project seemed a strange idea. One of them pointed out jokingly the irony that the parrots at one time gave them food, and

now "we [will] protect them and give *them* food." Nevertheless, as the project was explained to them, they made the collective decision to go forward with it.

As a condition of the project, economic activities had to be conducted based on scientific data. One of the first tasks was to train community members to become field biologists so that they could monitor birds, particularly the native parrots in the ejido. Of Mexico's twenty-two parrot species, four inhabit the Sian Ka'an region (see table 3). At this time, two of these (*Pionus senilis* and *Amazona xantholora*) were considered threatened species by the CITES agreement (Convention on International Trade in Endangered Species of Wild Fauna and Flora), of which Mexico is a signatory. The two non-threatened species were the birds that Tres Reyes would sell.

The idea of the project was that once the community of Tres Reyes secured the permits and a quota from the state, participants would be able to capture, raise, and sell parrots in the pet market to generate income. Data gathering and monitoring were to be done both to demonstrate that there were enough parrots to make the market economically feasible and to become efficient in keeping track of the populations with the idea of managing wildlife without detrimental impact. Thus, participants began by constructing observation towers inside their ejido for monitoring and by clearing several paths along the border of the reserve to make monitoring trails. They would earn their quota by monitoring and subsequently presenting the results to the ENGO, which would help them complete the necessary paperwork for SEMARNAT.

As mentioned in the introduction, I participated in several of the monitoring sessions, which were performed in the morning and afternoon, three days a week. It was clear that the community was putting a lot of hours and effort into this particular project. In the first year, they received permits to sell in the market and the community was pleased with the progress of the project.

TABLE 3. Parrots of the Yucatan

NAME IN SPANISH	NAME IN MAYA	SCIENTIFIC NAME
Perico pecho sucio	X-k'ili'i	*Aratinga nana*
Loro frente blanca	X-katzim	*Amazona albifrons*
Loro yucateco	E-xik'in	*Amazona xantholora*
Loro corona blanca	X-kulich	*Pionus senilis*

FIGURE 7. Monitoring parrots. Photo by author.

However, the next year, no permits were granted by SEMARNAT. The community continued with the monitoring portion of the project, providing data to the state, and raising parrots, which they had permits to do. They were, however, not able to sell in the market this year as they had done previously. Nonetheless, they continued, as they were told the hold on permits would be temporary. As the delay in obtaining the permits extended, it became a source of contention between the members of the community and U Yool Ché. One Tres Reyes community elder expressed these frustrations during a focus group:

> They [SEMARNAT] squeeze us. We request the permits [to sell parrots] and wait, and wait. In the meantime, we are running out of corn, then we have to go

> out on the street to try to buy some corn, or cooking oil, or whatever we need. They receive their salary every two weeks without delays. Why don't we switch places? They work in the forest, and I will do their job, put on a tie, drive a car. Then let's see how we are doing within a month, them working on the milpa and me getting my check. Our grandparents of Maya blood were not civilized, but they would not permit any guaches [outsiders, enemies] to come in. They would take out the machete or the rifle. Today, there is more knowledge, but we are sleeping. We pay for the permits and they don't arrive. Guaches still rule this land.

This elder expressed clearly and eloquently the inequalities that the nature industry perpetuates, and who actually benefits the most from conservation. It echoed the feelings of many people in Tres Reyes of dissatisfaction about having to rely on government institutions and ENGO timeframes and frameworks to implement projects without recognition in return that the communities need to survive. The projects were always presented as solutions to improve their living conditions, but often became more about improving the condition of the reserve or the global environment. He also expressed frustration that the community continued to allow the guaches—what the Maya called their enemies in the Caste War—to come and bring their promises that continually went unfulfilled, as so often in the past. By reminiscing about their past solution for dealing with guaches, he spoke to wanting the community to refuse these inequalities. The fact that the Maya continue to call people from SEMARNAT guaches is also telling. People in the community do not distinguish between those who "pacified" the region, bringing in capitalist concessions to exploit their forest, and those who now regulate natural resources through conservation. They recognize that a coloniality of nature continues today, by referring derogatorily to outsiders who have the power to regulate how they use their resources.

Regardless of the difficulties with the UNDP, Tuukul Otsil Máak continued to try to obtain a permit and quota to sell parrots in the market. Years went by with no permits, until they were allowed a brief opportunity in 2006. A community member told me that the window of opportunity was directly related to gaining favor for candidates in the Mexican presidential elections. The difficulties of obtaining permits to sell parrots came to an abrupt end for the Maya of Tres Reyes in 2008 when Mexico signed a law banning the capture and export of all wild parrots. The bill was introduced after lobbying by the international organization Defenders of Wildlife and the release of the report *The Illegal Parrot Trade in Mexico: A Comprehensive Assessment* (Defenders of Wildlife 2007)

by the Mexican environmental organization Teyeliz, A.C. Ironically, the person who had led this study was among the expert group that recommended SEMARNAT's 2000 implementation of the parrot project.

The report certainly showed that other states had many problems with trafficking. During my field research there was one incident when a member of the UMAS violated the rules and sold some parrots illegally. Although this was a direct result of the delays in obtaining permits, he was expelled from the organization, ostracized, and finally moved from the community to Carrillo Puerto. Once the national law was in place, however, there was nothing U Yool Ché could do to intervene. The community was left with years of unpaid labor and questions as to why those who were promoting and supposedly collaborating with Tres Reyes organizations knew nothing in advance of the legislative action. While Tres Reyes waited in vain for permits, international and national politics dictated the demise of the program. In the Mexican congress, it was argued that once the ministry issued permits, it had little control over the trade. The law, lauded by professionalized environmentalists, had the unintended consequence of making the Maya of Tres Reyes acutely aware of their disadvantaged position in dealing with the state and international ENGOs.

The events surrounding the conduct and demise of the parrot project expose the fissures and hierarchical nature of the conservation enterprise. The state, ENGOs and international governance organizations don't operate as a unified body, often undermining each other as they vie for power in national and global conservation structures. In this case, a localized ENGO promoted sustainable trade to enable local populations to deal with the loss of access to resources because of the biosphere reserve, while national and international ENGOs lobbied against this strategy. The trade ban impacted many communities across southern Mexico, despite a combination of conservation and trade once being promoted by the national governmental organization, SEMARNAT. Although environmental agencies and organizations claim to be inclusive of local communities and aware of the difficulties they face, the evidence in Tres Reyes suggests there is more top-down prioritization and decision-making with little regard to impact on communities. Until the last moment, when legislation was passed, Tres Reyes community members did not know they had labored in vain on the parrot project. This event sealed the fate of all conservation efforts with U Yool Ché. In response, Tres Reyes temporarily dissolved Tuukul Otsil Máak and ceased collaborating with any ENGO on conservation issues, while choosing the Masewal way of conservation.

MAYA WOMEN AND CONSERVATION: THE BUTTERFLY PROJECT

The parrot project was organized simultaneously with another project that would engage women in conservation activities. Contemporary conservation strategies, like earlier development strategies, are typically aimed at women and men separately, thus opening questions of gender with regard to the use and appropriation of natural resources in local indigenous communities (Sundberg 2004; Radcliffe 2006; Elmhirst 2011). Prior to the establishment of development strategies, traditional gendered job roles were quite rigid; most women had little choice of roles or opportunities unless they migrated to tourist towns to work in the service economy. Even in that circumstance, a married woman would still be expected to perform most of the household labor. This is true of Maya communities, where women have performed duties mostly related to household ecology. These responsibilities have included home gardening, cooking, and childcare. At times, Maya women have undertaken activities related to the milpa as well, including cutting vegetation, planting, and harvesting.

The Tres Reyes conservation projects aimed at women shared the goal of sustainably using natural resources—supported by scientific data—in order to generate income. However, as Juanita Sundberg (2004) shows in her work in Guatemala, conservation projects impact not only land-use practices but also identity. She examines how participating in conservation projects also constitutes "identities in the making." The division of labor between women and men and gendered identities were reconfigured within Maya communities along the Sian Ka'an border during the course of the conservation projects I observed. Women were increasingly visible as they became more involved in public community activities, producing a conservationist identity for Maya women who could equally *aprovechar* the environment. Thus, they actively participated in the reshaping of their status in the communities as they expanded their domain of action out from the home.

Prior to the initiation of the kinds of environmental projects discussed here, women in communities of Quintana Roo were involved with a number of development initiatives and their sponsoring institutions. For example, in the neighboring community of Chumpón, two female groups of *bordadoras* (embroiderers) had been simultaneously organized when men began to produce furniture with the help of Amigos de Sian Ka'an. The idea was that they would

sew the cushions for the furniture. The women made designs of animals from the forest, such as toucans, jaguars, and deer, and then experimented with images of flora, such as the sacred ceiba tree (*ya'ax ché*), and of traditional practices, such as making tortillas and gathering well water. Problems arose when the women could not agree on pricing for the cushions, leaving the males to produce the furniture by themselves without cushions. One group of women who continued, however, presented their work in various expositions around the peninsula and were able to sell some of their pieces. When I finished fieldwork, these women were in the process of making contacts in the tourist markets north of Tulum. The outcome was unclear, since some husbands would not allow their wives to go outside the community and they did not have a distribution agent to present their wares. Nonetheless, some women had managed to become micro-entrepreneurs despite the constraints.

In Tres Reyes, by contrast, women were organized, with the encouragement of U Yool Ché, as an entity within their SPR as part of the COMPACT initiative. This meant they were able to manage their own projects, organizationally and economically. During the period of my fieldwork, the main project that they worked on was the aprovechamiento of butterflies with the help of U Yool Ché. The concept was to learn and develop ways in which they could utilize butterfly wings for handicrafts to be sold in the tourist economy. In addition to the UNDP's COMPACT program, one Mexican governmental institution that contributed funds to women's projects, including this one, is the Dirección General de Culturas Populares (DGCP), through its Programa de Apoyo a las Culturas Municipales y Comunitarias (PACMYC). PACMYCs mission is to aid Mexican indigenous communities in preserving their cultural traditions. This organization had a biennial grant competition, to which Tres Reyes applied with the help of U Yool Ché in order to advance the butterfly initiative. The initial proposal was rejected because butterfly crafts were not considered to be part of the "tradition of the Maya." A Maya member of U Yool Ché, however, appealed the decision and made the case that Maya culture is not static, so that helping the Maya with current activities reenforces Maya culture. PACMYC approved the project in 2001.

Having been told by U Yool Ché of a similar project run by a women's group in Chiapas, the women of the Tres Reyes SPR decided that butterfly crafts were a good possibility, considering the large number of butterflies killed along the Tulum-Carrillo Puerto road, about one kilometer away. As in the case of the parrot project, in order to aprovechar butterflies, the women first had to carry

out monitoring studies for species identification and gauge the prevalence of each species in the area. Thereafter, they were required to request permits from proper authorities to use the species, regardless of the fact that many specimens they proposed to use were killed by passing cars.

One of the first required activities was a three-day workshop conducted by three graduate students from ECOSUR (a higher education institution that focuses on studies about ecology and the environment in the states of Chiapas, Quintana Roo, Campeche, and Tabasco). The instructors were paid by grant money. Likewise, grant money paid for the materials to make and assemble nets and butterfly traps. The workshop, involving twenty women of Tres Reyes and some children, focused on explaining how butterflies reproduce, on identification of species, and on examples of crafts made by Maya in the Montes Azules Biosphere Reserve of Chiapas. The samples included ashtrays with a butterfly in the middle covered with glass, and framed silhouettes of ancient Maya warriors. After the workshop, the women divided themselves into teams of three. They had decided to go forward with the project, choosing to make the framed silhouettes and tailoring them to their environmental purposes by electing to make silhouettes out of species that were neither endangered nor of national significance.

Some men, although not involved directly in the project, attended the workshop. All had their notebooks ready and appeared eager to learn. As the instructors began to teach about butterflies, a man from the community leaned over to me and commented on how much they already knew about butterflies. One of them told me about a butterfly called *cha' cha'ak* (same as the rain ceremony) because its appearance signals the coming of the rainy season. His wife sitting next to him nodded and told me that her husband was correct and that they already knew most of the information provided. While the Maya were enthusiastic to learn and participate, they were as keen to convey their own wealth of knowledge about the local environment. In trainings by outside experts, they would be sure to convey to me how much they knew about their environment and how important this knowledge was to their daily lives and survival. Paradoxically, what they told me was not told to the instructors—perhaps because they wanted go along with the projects, or felt that their knowledge was unequal to the formal, scientific knowledge of the instructors in determining the project.

After the workshops, on several occasions I accompanied women as they caught, identified, and released butterflies inside the ejido and picked up dead

FIGURE 8. Collecting butterflies. Photo by author.

butterflies from the road. The women could not collect any living ejido butterflies, however common, in the absence of a permit from SEMARNAT. The goal was to collect some of the most plentiful live butterflies, especially those needed for the particular color of their wings. On some days, the women gathered together at the group's president's house before going to the highway with their plastic bottles to collect butterflies killed by vehicles. Half would walk down each side of the road, often traveling three to four kilometers. Once back in the community, they met at the village school to pool all the butterflies for identification and group them by species. Thereafter, they met at the village church to assemble frames and cut silhouettes of the chosen animal or bird of the forest, which they picked from a book they had on Mexican fauna. They

meticulously filled in the silhouettes with butterfly wings to make a final product reproducing the actual colors of the birds or animals depicted. These sessions generally lasted several hours. Although some males participated, the majority gathered outside to talk. At times, men would pointedly joke that they were starving and could not eat because the women were working with butterflies instead of cooking. The women were very invested in this project; to some degree, it allowed them to prioritize other activities over their traditional roles. The women's group had a good reputation in the community. The president of the women's group wanted all the women who could benefit from the project to participate and actively worked to remove barriers to involvement. For example, one woman, who was not participating because she had a newborn, joined after her mother-in-law was enlisted to take care of the baby. The women in this group actively worked for inclusivity.

The women planned to sell their artwork but were unsure about pricing and distribution. On an occasion when my wife was visiting, she told me that the women had asked her how to price their work. Unsure of how to answer, she had resorted to trying to calculate profit based on a simplistic model. She asked them how many women were working on the project, how much time they had spent creating the work, how much they had spent on materials for the mats, tools, and framing. She realized that, given their costs, the number of women involved, and the amount of time they had invested, it seemed unlikely that they could make a profit. Not knowing what to say, she had trailed off into an awkward silence, wondering if this had come up before. It became increasingly clear that there were no clear guidelines on how to make this project benefit them monetarily. This does not negate the other benefits of the project, but questions remained about the capacity of ENGOs to think through and implement projects that have a positive economic benefit for communities, particularly as they try to meet the demands of the institutionalized ENGOs and the state bureaucratic institutions.

In the spring of 2002, the regional coordinator of COMPACT convened a meeting of project evaluators to consider renewing all regional programs funded by the UN, including the butterfly aprovechamiento project. The evaluators included biologists from a Mexican university, ECOSUR, and the director of the Sian Ka'an Biosphere Reserve. These scientists adjudged success and failure and identified those projects that had potential for future funding. The president of the Tres Reyes SPR presented a report on all their projects' activities and ex-

penditures. When he reported on the butterfly project, a biologist evaluator was outraged about the use of butterflies. The president responded to this outrage by assuring them that the women were making crafts with butterflies picked up on the road after they had already been killed by passing cars. He later told me that he did not understand why the biologist was so opposed to the use of butterflies that were already dead. In less than an hour, the biologist trivialized the project and erased the labor, the art, and the empowerment it had produced, and convinced the evaluation group to deny further funding. Even though the SPR president was permitted to make his argument before the panel, he was not part of it and not really able to engage in a participatory debate. The power differential and coloniality of nature was on display as the board of "experts" had the final say. In essence, they became the judge and jury regarding what constituted conservation and appropriate use of resources.

At the conclusion of my fieldwork, the women of the community gave me two of their framed works as a gift. Both were intricate silhouettes of birds from the region, shaded and perfectly colored by the wings of butterflies. At that time, they had not begun to sell them. Although U Yool Ché had been committed to continue working with the butterfly project, when I returned in 2009 it was no longer active and no women's projects were running in Tres Reyes. Although possibilities for new gendered spaces and identities had been created by the implementation of conservation projects such as the butterfly initiative, these were cut short because of the termination of relations with the ENGOs. The women chose not to continue on their own because the PACMYC funds had run out, it would have required additional time and effort, it was uncertain they would get permits, and there was little guarantee of monetary returns.

CONCLUSION

ENGOs increasingly have become important actors, mediating between locals and a government that continues in the tradition of Western ontological ecology and that has great impact on the ENGOs' effectiveness (or lack thereof) in promoting their ideals of conservation. By becoming institutionalized, Amigos de Sian Ka'an lost the perspective of local communities. Having headquarters in Cancún made it easier to connect with other global institutions and donors, but placed this organization farther away from the communities that they

wanted to help. Even the field coordinators, as well-intentioned as they were, did not seem to connect well. They often only visited key people and then left. There was limited or no interaction with community members outside of the domain of any intended project.

Moreover, the projects often led to division in or between communities, often related to having to compete for funds or markets. At times the project designers underestimated or didn't consider the barriers for small communities to participating in a global tourism market. Part of this was either because the projects were determined by the grantee, rather than by what made sense to the community, or because of the viciousness of the grant cycle itself, which left projects either in the lurch or competing with additional projects being added to get new funding. Many grants are intended to initiate programs, but it is harder to find ones to sustain them, since sustainability is supposed to be designed into the project. Often, projects are not sustainable without continued support, because of unanticipated consequences or findings that emerge during implementation.

The case was different, for a while, with what was a localized ENGO, U Yool Ché. In Tres Reyes, villagers had more access to members of U Yool Ché. Moreover, they developed friendships, and some were engaged in compadrazgos (co-parenthood relationships), which created ties very much like kinship relationships with the community. When they were done for the day with conservation activities, members of U Yool Ché spent the rest of the afternoon playing volleyball or baseball, leisure activities which were as important to the locals as monitoring birds inside the ejido. U Yool Ché did not pressure the community to choose the conservation projects over their traditional substance activities. They also strove to be inclusive and worked equally on the two projects. Although they were limited to some degree by the grant cycle, they often worked with the community despite lack of funding. Community members frequently voiced their appreciation of these differences to me.

Despite the more effective relationship with this ENGO, it all ended abruptly when the harsh news about the termination of the parrot project reached the community. The frustration of working on a project for several years and having the rug pulled out from under them, so to speak, before the community saw any benefits, was palpable. Anger rose even higher when rumors circulated that an employee of the ENGO was caught selling parrots illegally, although I was never able to confirm this accusation. Regardless of the rumors, tensions

ran very high at this point and the patience and trust the community had for conservation ENGOs had run its course. Although U Yool Ché tried to overcome the most difficult aspects of the nature industry, it could not circumvent or hurdle it entirely.

The delay in seeing the benefits of such projects put pressure on some families. They believed that they had worked hard for conservation initiatives, but had not seen improvements in their lives. Here lies one of the paradoxes of conservation. There is a marked difference in expectations with regard to time. Conservation can't give immediate results, but waiting an indeterminate amount of time for some of the benefits promised by outsiders is very difficult for locals, particularly since it takes a considerable amount of time away from their current livelihood strategies. Even though ENGOs subsist from grants, there does not seem to be a reciprocal understanding of the need for sources of subsistence in these communities.

This led to discord in the community. Accusations of misuse of money were common. For example, when it was announced that the community was receiving funds, its members never saw the actual money. It was placed in a bank and most of it was used to pay for conservation activities, including paying outside professionals to give them workshops, for materials used in those workshops, etc. Questions began to be raised: "Where is the money? We got all that money and we didn't see the benefits," commented one member from Tres Reyes. The SPR meetings ended many times with the raising of these kinds of questions. Other community members were convinced that the benefits would come in the future and appealed for the maintenance of unity. A member of the community told me how he had worked to prepare an ecological interpretive trail with several species of orchids. He went on to explain that there were some internal tensions about how to carry out and manage projects, but that the objective was to make things for the benefit of the community.

People from Tres Reyes were active in the conservation projects, and were really hoping that the projects would pay off. In the end, it was not a success story in terms of participation, as many reserve managers claimed. The knowledge of such managers was still undermined by the coloniality of nature, because it relied solely on Western scientific knowledge production and didn't try to incorporate any of the extensive knowledge that the Maya have about the forest. Moreover, the Maya were still in a subaltern position. ENGOs offered projects, but they did not try to disrupt the hierarchical structure of the

reserve and its management. It was never considered, nor even suggested, that the Maya take part in decision-making about policies or reserve management practices that directly affected their livelihoods.

This led to hopes in the community of continuing projects on their own, which would result in what I refer to as post-conservation. These hopes were also made more prominent because of the contesting of their engagement with the forest through milpa and hunting, which play a pivotal role in forming the moral ecology of the forest. The next two chapters explore the ontological ecology of the Maya in Tres Reyes through their engagement.

3

THE ANTINOMY OF THE NATURE INDUSTRY

Green Land Grabs Against the Milpa

I have to tell you that this magic seed knows us and knows the path of our destiny, because we are made from its grains. The knowledge it carries inside was written a long time ago by our ancestors.

GREGORIO PECH (COCOM PECH 2001; MY TRANSLATION)

AFTER BREAKING TIES WITH THE ENGOS IN 2007, there was hope in Tres Reyes that they would work autonomously and seek alternatives that would not require ENGOs acting as middlemen, as, for instance, they do in honey production. Their plan also entailed continuing to work the milpa, growing their sacred corn, and hunting, as well as other activities. "It's hard work," an elder and teacher [to me] used to remind me once in a while. "The forest gives you life, but you have to work [for] it." This phrase captures the moral ecology of living in the Maya forest. Many recognized that their work in the forest, although difficult, usually resulted in better and more stable benefits for the community. However, hopes of autonomy began to fade as two interwoven challenges that had been brewing slowly on the back burner took central prominence. The first challenge was a de facto green land-grab scheme that reduced even further their access to land. The second challenge was climate change, both in its ecological impact and in the conservation strategies being implemented in the face of it.

The forest around Sian Ka'an continues to be highly desired by outside forces that see it as a space to be controlled and commoditized, especially as it sits below one of the prime tourist destinations of the world, the Riviera Maya. One of the ways that developers have continued to privatize this land is to "go through the back door." This is done under the façade of the green economy of the nature industry, in which private capital buys individual ejido rights and

eventually changes the composition of ejido members from farmers to absentee owner(s). Understanding these new forms of the commodification of nature is essential, considering what is at stake for the Maya. It is not only the loss of communal land tenure, but also loss of a culture, a way of life, and a moral ecology that revolves around a profound relationship with land. In regard to the green economy, Fairhead, Leach, and Scoones argue that "conceptualizations of ecological and human-ecological relationships, and of interconnectedness in systems, give way to the notion that their components, facets and attributes can be separated as ecosystem 'services' and so sold: not just resources for provisioning, but also their regulating and even aesthetic dimensions" (2012, 244). A clear example of this is the milpa, which is a total socio-ecological system that is threatened with being "separated," with the intention of only selecting the components that can be sold for ecosystem services.

The second challenge is climate change, which has already impacted milpa agriculture and other forest-related activities, and also influences how the Maya interpret and make sense culturally of changes in the ecology, which are seen by some of them as signs of cultural decline and apocalypse. Global climate concerns have sparked a new wave of policies that attempt to tackle and mitigate the impacts in forests around the world through mechanisms, such as the United Nations' Reducing Emissions from Deforestation and Forest Degradation (REDD+) program, that try to account for external costs of capitalism—but often on the backs of the poorest of people.

These colliding forces compel us to ask, what consequences, possibilities, and/or resistances are opened? What new challenges do the land grabs present for the Maya? What happens to the livelihoods based on land if they are dispossessed? In other words, what will be lost if the privatization schemes continue? In order to understand the magnitude of what such a process would represent, I trace the rise of a land-grabbing scheme in Quintana Roo put into place through the discourses and policies of conservation and climate change, as part of the green economy of the nature industry. This is contrasted with Maya ways of engaging with the forest through the milpa and how the milpa informs their moral ecology. This includes men and women. Women also participate in the milpa cornfields and in the household ecology and gardens which are a critical component of the socio-ecological system. I show how the Maya's engagement with the forest and their surroundings, environmentally and culturally, informs how they understand and adapt to climate change through a variety of strategies. By doing this, we don't only get a sense of what would be lost, but also

a hopeful note that shows their resilience and continuous resistance amidst multiple global and local forces.

LAND-GRABBING AND THE NATURE INDUSTRY: CONSERVATION AS MASS DECEPTION

Land-grabbing in the name of conservation represents a new dimension of biodiversity conservation in Quintana Roo. It doesn't mean that previous efforts didn't have market intentions. As seen in the previous chapter, the Sian Ka'an alternative projects were intended to incorporate the Maya into the market via conservation. What is new is that, rather than trying to alter Maya engagement with nature, the new scheme strips their land from them outright in the name of conservation, which is made easier by taking advantage of the vulnerable economic situation that the Maya are facing.

When I returned in 2009 to Tres Reyes after a few years of absence, I became aware that several families had moved away to the regional capital of Carrillo Puerto (the former Chan Santa Cruz). I was told that they had sold their ejido rights. These sales had only become possible as of 1992, the moment of the official "neoliberal turn" in Mexico prior to the passing of NAFTA, with the changes to Article 27 of the Mexican Constitution. These changes ended the legal right of Mexican citizens (primarily peasants and indigenous people) to make claims to be granted access to land, and, secondly (with the greatest detriment to the people who depend on land for their livelihood), legalized the privatization of ejido land, which opened the gates for a new enclosure of commons. I was quite taken aback to hear this news, as in the past the Maya of the region had resisted any attempts to comply with PROCEDE (Program of Certification of Ejido Rights and Titling of House Plots). The program's mission was to survey and delineate all ejido boundaries. It also required the identification of land use by zones for agriculture/agroforestry, conservation (forest reserves), housing lots (parcels), and urban (commercial) development. Moreover, within these zones, they would need to identify and delineate who owned what and the specific amount of land that each ejidatario had access to.

As Anderson (2005, 45) noted in 2005, not even one percent of the ejidos in Quintana Roo had been parceled out by 2000. This was the case for the Chumpón and Tres Reyes ejidos next to Sin Ka'an, and others in the Zona Maya as well. As descendants of the Caste War rebels, they had historically

been very zealous of their land. When I was doing fieldwork in 2002, ejidatarios would force out any SAGARPA (Agriculture Secretariat) employee for just trying to *initiate* the surveys. Crowds would surround and block pickup trucks until they turned around and exited the village. SAGARPA continued trying to convince people, assuring ejidatarios that the surveys didn't mean privatization, and that they just wanted to them to comply with the law in order to protect *their* land tenure. This was an interesting turn of events for the region, because, as Villa Rojas (1945) and Sullivan (1989) argued, the Masewal initially refused the ejido system in the 1930s because it was *their* forest and one could not willy-nilly divide it up. Now they were trying to protect their land from government intrusion in the ejido system. However, I supposed it was just a matter of time before the authorities would convince ejidatarios to comply, either by gaining actual consent or by more punitive actions, such as when they threatened to withhold future PROCAMPO (Programa de Apoyos Directos al Campo) agricultural subsidies. By 2006, almost all of the state, including Tres Reyes, had registered with and been surveyed by PROCEDE. However, only the bounds of ejidos had been surveyed, with no interior parceling out—at least, not yet.

My attempts to find out exactly what had happened proved unsuccessful for the first few days. I asked around, but not much was said. There was an aura of mystery about it. All I could find out was that the eight existing land rights had been sold to just one person. Three of the eight had been held by families well known to me. Out of these three families, two had moved to Carrillo Puerto; the third remained in Tres Reyes, now owning only the title to their house lot. I couldn't learn enough details about the person who bought the land, to better understand their intention, and my curiosity was getting the best of me. It seemed very strange and frankly suspicious that one person would buy all eight ejido rights. I continued asking for a name, but people wouldn't or couldn't provide it: "Oh, some guy from Mérida," or "We really don't know him that well." I even was told, "We don't know if he is a drug dealer or not." Whoever he was, he did not reside in the community. They said he would come visit once every other Sunday when the ejido members meet for *fagina*, which is community labor in favor of the ejido, usually cleaning and weeding the common areas of the community between 8:00 a.m. and noon. It was particularly troubling when I found out that two Maya families had moved out of town because they were never given ejido rights, even though they had tried for years, albeit they were permitted to plant their own milpas. One of them was headed by a *j-men* (traditional Maya healer) and had moved to Tulum; the other moved to Carrillo

Puerto. Similarly, a small group of families that lived in a small rancho (a non-incorporated settlement) called Santa Amalia, located within the boundaries of the Tres Reyes ejido, were permitted to work the land but were not given ejido rights.[1] Given the vulnerability of families who don't have access to land, this privatization seemed particularly harsh. That strangers with money were being privileged over people who needed it for their security seemed an affront.

Finally, the mystery began to unravel. A friend confided that it was Roberto Hernández, former owner of Banamex, one of Mexico's biggest banks, who bought all eight shares. Hearing this name struck a chord in me. While doing background research, I had come across news of a conflict north of Tres Reyes, in the ejido of the town of Tulum, now one of the most attractive tourist destinations in the Riviera Maya. There was also a similar situation south of Tulum, in the Ejido Pino Suarez, involving Hernández. Those situations didn't garner as much surprise from me for two reasons. First, their proximity to a growing tourist hotspot made them desirable for privatization. Second, most of the ejidatarios in Pino Suarez were not native Maya but migrants who came from other Mexican states, mainly Veracruz and Tabasco, to the region to work in the chicle industry and later benefitted from the colonization policies in Quintana Roo that granted ejido lands (Fort 1979). Given their more recent acquisition, they didn't have the same historical connection to the land as the Maya. Most were not milperos. They were originally there to work the chicle, which has already declined in the region. However, the sales in Tres Reyes shocked me.

Upon further investigation, I found out that the sales were part of a land-grabbing scheme set up by Hernández, who was one of Mexico's wealthiest men. He was buying ejido rights from individuals residing in and around Tulum and extending to ejidos surrounding the northern region of Sian Ka'an Biosphere Reserve. The scheme worked through a group of individuals called *prestanombres* (literally, borrowed names) who were family members or had close ties with the ex-banker. Hernández and his associates disingenuously convinced local rural folks to sell their land rights by promising thousands of pesos, taking advantage of their difficult economic situation, a scenario that has also been played out in other parts of Mexico (Anderson 2005, 45). He also simultaneously lured agrarian government officials into approving such transactions. The local press caught on to the practice and there were several pieces in the local and national news.

Privatization doesn't occur automatically. When prestanombres buy an ejido right, they become ejido members, subject to the rules of the ejido, which is a

semiautonomous governing entity. It is the ejido that determines how much land is allocated to the member. Each has its own internal rules, but it also must follow SAGARPA statutes. In order to make any significant change in land use (e.g., building a permanent structure, changing an area from forest reserve to pasture, outright purchase of land), ejido members have to vote. If a group of owners has a majority they can proceed to make changes. In Pino Suarez, Hernández's group reached a majority, and they have been trying to expand the ejido territory to reach the coast, just south of Tulum and within the boundaries of Sian Ka'an, ever since.

Hernández, along with his wife, created a conservation trust called Fundación Claudia y Roberto Hernández with the purported intention of "protecting the Maya Forest." They created the Alianza Selva Maya (Maya Forest Alliance) in 2010 to develop conservation projects to "preserve the natural abundance of the Yucatan peninsula"[2] by bringing together ENGOs, government, private capital, foundations, and ejido representatives in order to develop strategies for conservation, including promoting ecosystem services (carbon capture credits). This is in line with programs and policies being supported by the REDD+ program for climate change mitigation, which Mexico has been promoting through CONAFOR (Comisión Nacional Forestal, or National Commission of Forestry). Ultimately, Hernández's buying ejido land for conservation and creating a conservation trust scheme is a de facto privatization of nature. Nevertheless, his group has other intentions as well.

On one of the fagina Sundays, the "mystery guy" appeared, and I was introduced to him by a group of ejido members. I introduced myself as an anthropologist who had been working in the community for quite a few years focusing on conservation projects. He appeared to be in his late twenties or early thirties and his name had no "Hernández" in it. In an informal conversation about the ejido, he revealed that he belonged to a "group" that was interested in conservation. I asked him directly if he worked with Roberto Hernández and he said yes. I inquired about the type of conservation projects they were interested in. His answer offered a vague notion of protecting the forest with the use of ecosystem services. I asked for his contact information, since he didn't reside in Tres Reyes. His last name is not very common, so a few days later a local newspaper search revealed several pieces that listed him involved as a prestanombre in the Pino Suarez ejido and in Oxcun, Yucatan, where in 2007 ejidatarios had protested the appropriation of some of their land for a tourist complex and airport construction (Diggles 2008).

Each ejido member in Tres Reyes has access to approximately 400 hectares of land. While it is a large amount of land, most of the ejido is in forest cover, and traditional agricultural practice only requires that a few hectares be put in production each year. Meanwhile, if one person has eight ejido rights, he will have right to use approximately 3,200 hectares. Thus, the prestanombre scheme: accumulate land, and pronounce that it is protected forest. This opens the way to taking advantage of the economic programs for ecosystem services that the government is running, particularly through CONAFOR (the National Forest Commission), the government agency in charge of coordinating such programs in Mexico. If this is indeed the intention, and it seems it may be, Hernández's foundation would benefit while disenfranchising the Maya, yet at the same time going *against* the intent of REDD+. As the United Nations has declared on their website, "REDD will require the full engagement and respect for the rights of indigenous peoples and other forest-dependent communities" (UNEP 2004).

In an ejido meeting, Pedro (a pseudonym), the mystery prestanombre, asked the members when they would decide whether to divide the ejido among them. Under PROCEDE, ejidos now have the option of segregating into individual parcels or keeping it communal, without artificial boundaries. In 2006, PROCEDE was replaced with the Fondo de Apoyo para Núcleos Agrarios sin Regularizar, or FANAR (National Registry for Unregulated Agrarian Nuclei) under the Procuradoria Agraria (Agrarian Attorney General). Even though it is an option, keeping it "communal" is discouraged both overtly and covertly. For example, there is the name of FANAR itself: it is a registry for "núcleos agrarios sin regularizar," giving the impression that unregistered or unregulated is a bad thing. The tendency is to facilitate privatization, and it is no surprise why Pedro was pushing for dividing up the ejido.

The speed at which changes were happening created concerns, and some of the ejidatarios expressed them, because they had seen what happened to the people who sold their ejido rights. As people opened up to me, it seemed as though the initial secrecy had been from a sort of shame for selling, and now the people saw the consequences and were regretting what had happened to the people who sold their rights. I visited one of them in Felipe Carrillo Puerto and things were not going well. He was unemployed and was drunk in the middle of the day. This is one of the sad consequences. People are in a desperate situation and are tempted by the money, then the money is gone, and they have no land and their situation is even more desperate. Facing this array of difficulties, local leaders, including the Maya dignitaries associated with the Church

of the Talking Cross, continue to question what prospects look like for their future generations.

The concerns of Maya leaders are coming to fruition in the Ejido Tres Reyes. They lament that land that was supposed to be for use by Maya farmers, "land that God has given us," will soon disappear. Hernández took advantage of a dire economic situation (in particular, the extreme difficulty of growing enough food in their cornfields) and enticed farmers with thousands of pesos, which they saw as a panacea that could take care of their immediate needs. However, by selling their ejido rights, they essentially gave away their rights to land for a small price. In Tres Reyes, the prices paid varied. The first person sold his for seventy thousand pesos (approximately six thousand dollars), then purchased a pickup truck and spent the rest of the money rapidly. Others requested more money, seeing that the buyer was willing to pay more. Nonetheless, they now find themselves in a position in which they have no land to work. Having land, even if used as a backup plan, provides a safety net for Maya families. From talking to people in the region, it was clear that a substantial number of them had worked in the tourist industry at some point in their lives. When there were cutbacks due to low seasons or when they couldn't find jobs, they would come back to the area. They knew that having land served as a reserve strategy. If privatization becomes more prevalent, it will lead to further marginalization of the masewalo'ob and the demise of their main source of livelihood: the milpa. Some are starting to regret what they did. One Maya from Tres Reyes told me that some of the people who sold their rights are asking permission to use some land ("necesitamos tierra pa chambear" [we need land to work], they told him) so that they can plant milpas.

THE MILPA UNDER THREAT

Opposing the nature industry in central Quintana Roo is a millenarian tradition. The milpa is a socio-ecological system known as *kol* by the Maya. It is their principal livelihood strategy and embodies all the dimensions of the moral ecology: spiritual, ecological, and social. This system is under threat of disappearing if the privatization into the hands of absentee owners continues. This section describes the milpa system in today's Quintana Roo and why it is such an important element not only in challenging the nature industry, but in creating spaces of autonomy and post-development conservation.

ENCOUNTERING THE MILPA

After several weeks in the community, I became aware of a ritual. Whenever a person walked past a home, I often heard someone they were passing call out, "Tu'ux ka bin?" (Where are you going to?), followed by the automatic answer, "Mix tu'ux" (Nowhere). However, if the person had a machete strapped to his belt and or a rifle slung over his shoulder, the answer to the question changed to "Chen ximbal k'aax," meaning, "Just walking into the forest." The one asking the question realized that the person was headed to work on their milpa. "Ximbal k'aax" (walk in the forest) refers not only to what it literally conveys, but also to the first step in the process of creating the milpa (kol) in which the individual takes a walk into the forest to select the area to be prepared to carry out farming for the following two or three years. Ingold and Vergunst (2008) suggest that walking is a social activity and also a principal technique for experiencing one's senses, creating local knowledge, engaging with the environment, providing for storytelling, building memories, constituting ideas of nature, and, finally, performing upon the landscape.

As the Maya walk, they are able to discover their world around them and its interconnectedness. As Cocom Pech relates, "I remember that the knowledge that my grandfather had about the passage of time . . . consisted in interpreting the shadows of the trees; in listening to the singing of birds, either day or night; in closely observing the marching of ants and how the spider spins its web; in reading the colors on the halo of the moon, during a full moon; and in discovering other languages of nature that only my grandfather would deposit in the wisdom of the universe" (2001, 75–76; my translation). The act of walking, nonetheless, has been neglected in ethnographic writing. However, these walks in the forest—and the agricultural system associated with them, milpa farming, that has sustained the Maya for thousands of years—face a new threat under the nature industry, with the near-constant push by conservation organizations to alter, limit, or end their traditional agricultural practices.

Maya communities recognized both that biodiversity is threatened and that the reserve is potentially a good tool to protect the forest for future generations. They were also willing to participate in many of the alternative development projects. However, they grew disillusioned with conservation as is because, as we have seen, the majority of the projects were ostensibly created to make the Maya depend less, or not at all, on the milpa. Conservationists believed that the alternative projects would replace milpa farming and ultimately conserve

biological diversity in the region. However, as we have seen, the projects have been ill-conceived and sporadically funded, creating less than ideal outcomes. The Maya communities have found out that, at best, the benefits of these projects will be realized in the long term, while most are unlikely to have any at all. Second, regardless of their willingness to participate and their hopes that it would provide some remuneration, they never thought they would have to, or agreed to, give up or neglect the milpa, which sustains them on many levels, both culturally and physically. Both the milpa and hunting are seen as detrimental to diversity by conservationists. However, the Maya know that their practices and multispecies engagements actually contribute to biodiversity by feeding fauna and planting trees in abandoned cornfields as they rotate cyclically, among other practices.

The threats to the forest have been primarily due to the demands of global capital and its appetite for natural resources—such as mahogany, cedar, chicle, timber for railroad ties—that have been harvested extensively in the region for more than a century. Additionally, resource-intensive tourism development and consumption have spread throughout the state as the driver of the economy. The milpa became a scapegoat for what is actually threatening biodiversity. When practiced correctly, it does the opposite, enabling biodiversity to flourish. Since many of the projects have failed, the Maya have reason to be wary of changes that restrict their traditional practices, because of possible cultural loss but also because it threatens their community's food security.

At this juncture, the crucial questions facing communities in the Zona Maya are: Do present conditions allow for the continuation of this practice? Is biodiversity conservation a threat to the milpa? Should communities try to work with ENGOs or should they forge ahead with strategies of autonomy? Do they continue to try to straddle these two worlds or are they incompatible? Is it time to shift to another way to make a livelihood? How will new privatization efforts affect the composition of their ejido? To consider these questions, we need to reveal the moral ecology of the forest by understanding how the Maya engage with and perceive the environment around the reserve. In other words, how do they engage with their natural resources and at the same time create a sense of identity and place? In the previous chapter, I showed the logic and practice of conservation by ENGOs, and the privatization associated with the nature industry and the modern Western knowledge system dealt with in the chapters before. I will now focus on two activities—farming (this chapter)

and hunting (in the following chapter)—that are central in Maya multispecies engagement with the forest. The goal is to show how a critical ethnoecology firmly grounded in an ontological sense of place might help us answer these questions facing the Maya under the threat of privatization. In addition, I look at how the Maya's relationship with their environment creates a place-based politics that helps defend their lifeworld from outside threats. Thus, this critical landscape ethnoecology will provide the grounds for a critical reading of the Maya forest.

MAYA CONCEPTS OF NATURE

For the Maya, the k'aax is a part of a lifeworld and a moral ecology in which place, memory, knowledge, survival, source of life, cosmology, and the practice of enskilment (Ingold 2000; see below) are woven together into a spatiotemporal engagement with the landscape (Cocom Pech 2001). They don't have a concept of nature equivalent to the Western idea of nature per se. I asked people, "Bix u ya'alal '*naturaleza*' ich maya? (How do you say nature in Maya?), and I got several responses: k'aax (forest), *lu'um* (soil, land), and *yokol k'ab* (universe). When I asked how I could make sense of all the responses, I was told by one elder in Spanish, "José, la naturaleza esta aquí [pointing at himself], en el monte [pointing toward the forest], y en la tierra [circling his finger in the air]." Then, switching to Maya, he said, "'Te'elo' (1)e kajo,' (1)e k'aaxo' yeetel yokol k'abo.'"

If there is such a concept, it lies in this continuum of yokol k'ab, k'aax, kaj, and all its lifeforms. *Yokol k'ab* is used to refer to the "universe," which hosts the material world that includes the forest (k'aax) and the town in which people dwell (kaj) (see fig. 10), but also includes the cosmological world of ancestor spirits and deities. This combination of kaj, k'aax, and yokol k'ab is what circumscribes Maya ontological ecology. The distinction is not a division between two different categories. Kaj is conceptually *within* the k'aax but also apart. When they refer to their source of life, they talk about the forest. The elder's definition went from the self to the universe. Within the spectrum, there were different layers of protector spirits and spirit-winds that were present and mediated those domains.[3] These might take the form of guardians (protector spirits): (1) *ah kanul* (guardians) are guardians that protect each person's space (*iknal*), house, and garden; (2) *balam-kaajo'ob* (jaguars of the village) are protectors of

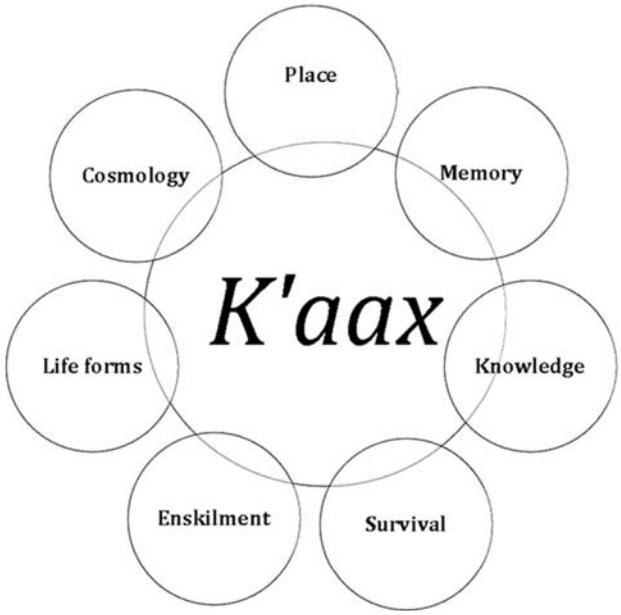

FIGURE 9. K'aax (forest) life-world and moral ecology.

the community; (3) *nojoch balamo'ob* (great jaguars) are protectors of the milpa. These guardian spirits can intercede between the Maya and the *yuntsilo'ob*, which are the owners and caretakers of the forest and animals. Ceremonies like those addressing the *yum k'aax* (see Fig. 10) are performed before clearing and planting a milpa. There are also evil spirits like Kisin (Devil) and Arux, who are tricksters who can do good or bad, depending on whether they're properly rewarded with offerings. Spirits move through the wind, which makes geographical space and cardinal locations important in choosing where one places and how one orients shrines and in how the milpa is positioned.

The Maya make themselves "at home in the world" in the k'aax and kaj. One of the principal ways that they engage with it is by working on the kol (milpa), and their pet pach and solares (house gardens), with the understanding that they are part of a larger yokol k'ab. Time and the calendar year are measured by the phases of agriculture, whether clearing, planting, or harvesting. Religious ceremonies are also tied to the cycle of the milpa. Although some Maya

don't practice the religious ceremonies as often as they did in the past, it doesn't mean that they do not continue to feel the same attachment to their environment, nor that they have suspended their beliefs. The k'aax is still considered a holy place (*saanto k'aax*) guarded by the yuntzilo'ob.

Threats to the forest and, above all, loss of access, are always a concern for the Maya. I once posed a hypothetical question to various people in the community: What would happen if for some reason you lose access to the forest? The most common answer was, "We die," and as someone told me, "I will work on the milpa until I have no more energy left in my body." These responses say much about the importance of the forest to them. As I continued to ask about the significance of the forest, the most common answer was that it means "survival" and "source of life." When the Maya assert that "el monte da vida, pero hay que trabajarlo" (the forest gives life, but you have to work it), they recognize that nature is not a category but a relationship from which a particular morality is constituted. The forest exists, but by dwelling in it and engaging it, it gives life and the Maya ecology comes into being.

FIGURE 10. Yum k'aax ceremony in Tres Reyes. Photo by author.

ETHNOECOLOGY

Despite claims to the contrary, development and conservation workers simplify and often vilify the practices of the Maya. They also rely on many coercive and hostile policing acts to enforce their conservation system. For example, every week PROFEPA pickup trucks would drive inside the village for their routine surveillance. Cars with the logo of the Sian Ka'an Reserve would also visit frequently. I was told of instances in which reserve personnel would inspect reserve buffer zone areas, looking for any signs of use within the reserve. They use resources to promote and police their conservation system, but don't try to understand another system or how they might work together. Those in favor of the nature-reserve model and climate change carbon markets have denigrated the milpa and thought of it as an exchangeable "occupation." Given Western notions of exchange, private property, and science as the sole arbiters of knowledge, it is not surprising that they have found ways of denigrating the milpa.

Ethnoecology offers tools with which to understand how the Maya perceive and appropriate their environment and potentially shed light on the conflicts and misconceptions that people involved in development and conservation (e.g., reserve managers, ENGOs) have about the people with whom they purportedly want to work, but who they more often try to discipline. They don't recognize the contribution that the Maya make to the biological diversity of the forest because in the nature industry biodiversity is seen as a "natural" process that is devoid of years of human interaction and intervention. This simply is not true. It became clear to me through walking with the Maya in the milpa that they have contributed significantly to the biodiversity of the forest as they pointed out trees they had planted or saved.

While ethnoecology can help in clarifying the practices of the Maya for the conservation field, it has been under much internal scrutiny by its practitioners (Nazarea 1999; Ellen, Parkes, and Bicker 2000) because of the politics of documenting knowledge. These debates are principally related to epistemological, methodological, and ethical concerns (see also Leff 1998, chap. 19).[4] Nazarea suggests that we go beyond these debates and look in other directions—for instance, at issues of distribution, access, and power relations (including class, gender, and ethnicity)—that influence systems of ecological knowledge and practice.

There have been several studies about lowland Maya ethnoecological knowledge, and as a consequence there is an immense literature on the subject. It

ranges from Roys's classic *The Ethno-Botany of the Maya* (1931) to Alfredo Barrera Marín et al.'s *Nomenclatura etnobotánica Maya* (1976); these works, however, are primarily a list of plant classifications. More recent studies, in addition to listing species, contextualize the social and economic components of the milpa (Sanabria 1986; Zizumbo-Villarreal and Simá-Polanco 1988; Terán and Rasmussen 1994; Hostettler 1996), the forest (Gómez-Pompa 1992; Atran 1993), house gardens (Barrera Vásquez 1980; Vargas Rivero 1983; Anderson 2005), and medicinal plants (Ankli, Sticher, and Heinrich 1999). There are also several taxonomical studies of the flora and fauna of the Zona Maya that were part of the preliminary studies required prior to the establishment of the Sian Ka'an Biosphere Reserve (see CIQRO 1983). These studies have helped to document the vast amount of knowledge that the Maya have about habitats and geography. Therefore, the task ahead is to make sense of and contextualize this knowledge, its meanings, and how it affects their daily life in the context of unequal power relations in Quintana Roo. Several anthropologists have started making important contributions to this endeavor. E. N. Anderson (2005) and Nora Haenn (2005), for instance, have taken this analysis further, using a political ecology perspective to problematize the implications for resource management.

However, one dimension that has not been dealt with adequately in Maya studies is the ontological question of place, nature, and landscape, a topic which has been prominently taken up by geographers and anthropologists in recent years in order to capture the affective aspects and importance of how people create and contest place (Feld and Basso 1996; Ingold 2000, 2011), especially in an era where globalization has undermined the importance of the local.[5] Understanding the Maya ontological ecology will expand our appreciation of the milpa agriculture in the Yucatan peninsula and shed light on why developers and capitalists ignore and denigrate this system of knowledge.

TOLEDO'S ETHNOECOLOGY

As my goal is to develop an ethnoecology framework to understand Maya ontological ecology, I turn to Mexican ecologist Victor Toledo's framework, which I will outline before tweaking his framework by making several alterations. Throughout his career, Toledo has been at the forefront of ethnoecology, especially in Mexico, where he has done most of his research and publishing. He is a leading figure in the fields of political ecology and biocultural diversity in Mexico (Toledo 1999; Toledo and Barrera Bassols 2008). Toledo also has

been a prominent advocate for indigenous people's movements and political autonomy, specifically as it pertains to land tenure as the foundation of a peaceful coexistence with the Mexican state. This foundation rests upon traditional ecological knowledge.

In Toledo's opinion, ethnoecological studies should be grounded in material conditions in order for the researcher to base the work upon concrete conditions. As he argues:

> The key is to place the concrete process through which the informant (with their family, community or cultural group) produce and reproduce his material conditions in the center of the analysis instead of linguistic terms, cognitive structures, symbols, perceptual images or useful species and techniques. In other words, the key is to explore the connections between the entire repertory of symbols, concepts and perceptions on nature, and the set of practical operations through which the material appropriation of nature takes place.
> (Toledo 2002, 513)

While material conditions are important, my main contention is that outside processes and discourses that influence how "the material appropriation of nature" takes place are also crucial to this discussion. We must be careful not to look only at the organic relationship between the individual and their environment as if it had never been influenced by any outside forces. Ethnoecologists have often overlooked this third factor. We must think beyond a narrow approach, as it leaves a good part of the story out. For example, it is not Maya peasants who initiated the use of herbicides and pesticides, nor the use of genetically modified seeds as part of their agricultural practices. There were a series of processes and discourses that influenced these practices to make them part of their agricultural strategies. A wider, more complex perspective is able to consider these dimensions when it comes to the processes of material appropriation. The same can be argued about sustainable development discourses and the programs set forth by ENGOs that promote, for example, the initiative to use compost for organic agriculture, or other programs that look for alternatives to the milpa because this practice is seen by some as potentially hazardous for protected areas such as the Sian Ka'an Biosphere Reserve.[6]

There has to be a balance between the mental (e.g., ideal, symbolic) and the material, between the process of appropriation of nature and the ideas and discourses that influence cognitive processes that enable such appropriation.

Although Toledo's framework is materialist in principle, it attempts to strike a balance between what he calls Kosmos (religious beliefs), Corpus (local knowledge), and Praxis (material practice). The articulation of these three domains is what Toledo argues should be taken as a whole when doing ethnoecology. He calls this the KCP complex.

The KCP complex calls for an interdisciplinary ethnoecology in which the researcher looks at how the individual as well as family and culture appropriate nature through the three main domains, and an interdisciplinary approach in order to provide us with a better assessment of how humans engage with their environments. In the analysis of the Kosmos, Toledo proposes that we look at the sacred aspects and beliefs of indigenous peoples in terms of their relationship to the environment. While this is not a new approach, it is important to continue to look at the importance of religion and ritual because these factors still influence people's relation with the land.[7] Land, for many indigenous peoples, has a sacred element in which there is a reciprocal bond. This association or sacred aspect makes humanity part of the earth or nature and forms a reciprocal relationship. The way that indigenous peoples express this relation is by performing rituals that incorporate elements of nature, in which petitions are made in order to get something in return, such as a plentiful harvest, successful hunts, etc. An example of such a ritual for the Maya is the *cha' cha'ak* or rain ceremony, which I will elaborate upon below.

Of course, religious rituals and symbols are not used strictly to get something in return. People give meanings to other living things, for example, trees, which become highly symbolic to their cultures (Rival 1998). The Maya have trees that are important symbols of their religion and culture. This sacredness is seen when, for example, Maya lieutenant Zulub of the town of Dzulá wrote a letter to archaeologist Sylvanus Morley in 1935 complaining that outside Mexican seasonal laborers were working in the chicle trade in their "holy forest," preventing the Maya from working on the chicle and other forest products (Sullivan 1983, 193).

Toledo's concept of Corpus includes the element of knowledge about the environment, that is, local knowledge about the flora and fauna as well as the cognitive aspects of that knowledge that have been acquired through generations of active engagement with the environment. For Toledo, indigenous ecological knowledge is "normally restricted to the immediate environments and is an intellectual construction resulting from a process of accumulation of experiences over both historical time and social space" (2002, 516). While I agree with

this definition to a certain extent, I would caution that it is difficult to establish that ecological knowledge is restricted to a specific environment. How can we prove that this is the case? The "process of accumulation of experiences" often relates to, but is not restricted to, a specific environment. Humans are capable of learning by other means as well. The fact is that Maya have been subjected for decades to development projects in which they are presented with new ways of working the land in order to improve the output, or have been led to focus on growing particular crops for the market. Sometimes they incorporate these suggested projects and sometimes they do not. What may seem to be traditional knowledge to outsiders may in fact be "foreign" to indigenous peoples.

Another way of looking at this problem was proposed by Paul Richards in "Cultivation: Knowledge or Performance?" in which he argued that we should be careful in characterizing everything that indigenous people do regarding agricultural practice as "indigenous knowledge," because all of their practices are not necessarily part of an a priori knowledge system but are "rather the product of a set of improvisational capacities called forth by the needs of the moment" (1993, 62). Moreover, he argues that there is a need for a more precise ethnography of what he calls "performance skills." Cultivation is a performance that definitely requires prior basic knowledge, transmitted culturally, but also requires improvisation and creativity when one selects the land, chooses the seeds, plants them, and harvests the products or adjusts to different weather patterns. Such performance, he argues, is "part of the wider performance of social life" (ibid., 72). The claim that indigenous peoples do not separate production activities from other aspects of their lifeworld is not always true, but this sometimes goes unnoticed by outsiders. Richards's critique is well taken and should be considered by ethnoecologists when making classifications, but also by managers and government officials who work on issues of conservation.

Praxis refers to the actual material and mental engagement of indigenous people with their natural environment. This engagement is characterized by a series of exchanges that are ecological in nature. These exchanges are predominantly for use-value and not exchange-value as dictated by the capitalist economic rationality. They are also part of a "multi-use strategy" and mode of subsistence that Toledo argues "results in maximum utilization of all the available landscapes of the surrounding environments, the recycling of materials, energy and wastes, the diversification of the products obtained from ecosystems and, especially, the integration of different practices: agriculture, gathering, forest extraction, agroforestry, fishing, hunting, small-scale cattle raising, and handicrafts." (Toledo 2002, 517). At the same time, he argues that this multi-use strat-

egy promotes biodiversity because of the fact that natural disturbances help new species to regenerate in a specific area (ibid., 518). One of the problems that the Maya face is that the people who intervene via biodiversity conservation projects neglect to see how their multi-use strategy promotes biodiversity. Western human-nature relations that have tended to rely on the dualism of no use or mono-use have failed to appreciate and understand the benefits of multi-use, other than in very limited situations.

It is through the praxis that the process of enskilment (Ingold 2000) takes place. Enskilment, as Ingold has established, means that "learning is inseparable from doing . . . both are embedded in the context of practical engagement in the world—that is, in dwelling" (416). At the same time, enskilment facilitates the acquisition of the Kosmos and the Corpus. For example, when young Maya begin to learn about the milpa or the house gardens, they are taught to engage with their landscape, by walking (*ximbal*), by *doing*, and at the same time conversing with their elders. Eventually they build up knowledge that will constitute the cognized model of the Kosmos and Corpus but also the ontological elements of place, nature, and landscape.

One shortcoming of Toledo's KCP complex model is that it neglects the political ontology of the milpa. In order to include this dimension, the work of Descola (2013), Ingold (2000), Escobar (2008), and Blaser (2010) is useful because it enables us to better understand the conflicting ontologies in central Quintana Roo, which collide over practices such as hunting or the milpa. For instance, Ingold points out that "through the practical activities of hunting and gathering, the environment—including the landscape with its fauna and flora—enters directly into the constitution of persons, not only as a source of nourishment but also as a source of knowledge" (2000, 57). Practices such as hunting and milpa agriculture in and of themselves constitute the landscape of the region, the Zona Maya, and its inhabitants. In the process, not only does the milpa constitute human beings, but also their ontological world and their moral ecology, as these individuals perceive and develop knowledge in a multispecies engagement with the forest.

LANDSCAPE ETHNOECOLOGY IN THE ZONA MAYA: ONTOLOGY, PLACE, PERCEPTION, AND TIME

In order to explain the complexity of how the Maya engage with their environment in the era of the nature industry, I start with Toledo's framework but depart from it by adding two dimensions that are not explicit in his analysis:

ontology (the question of being) and place (how the Maya create a sense of place or attachment to their multispecies lifeworld). Humans build their ontologies in relation to a landscape. They give meaning to their habitats and, through this process, they *become* places (Johnson and Hunn 2012). By adding these dimensions, the framework can expand what we know about Maya ethnoecology and contribute to the understanding of the place of the milpa as a central element in Maya engagement with their lifeworld, which goes beyond simply knowledge about the environment and extends into their moral ecology. I agree with Edward Casey when he states, "Local knowledge is at one with lived experience if it is indeed true that this knowledge is of the localities in which the knowing subject lives. To live is to live locally, and to know is first of all to know the places one is in" (1996, 18). This understanding of local knowledge means that Maya ethnoecology is *grounded* in the locality; that is, in place. It is also grounded in the profound temporal relation that they develop with other species of the natural world. Cocom Pech also adds a temporal dimension to the knowledge embodied in the natural world, in this case in corn, when he divulges what his grandfather, Gregorio Pech, told him: "I have to tell you that this magic seed knows us and knows the path of our destiny, because we are made from its grains. The knowledge it carries inside was written a long time ago by our ancestors" (2001, 55; my translation).

A central element in the engagement with the lifeworld and in constituting a sense of place is perception. Perception by our senses is how we constitute place. As Ingold reminds us, it is through perceiving that we create an ontology of dwelling and at the same time a unique intentional world. The Maya often expressed their love for their land and how it was central in their lives. A community member from Tres Reyes who had worked on and off in the tourist towns conveyed to me, "I left the community to work for several years in Tulum and Playa [del Carmen] and returned. I am not going back because I love the smell of the k'aax and the soil. I like to work on the milpa. That is what I know best. It is hard, but I don't have a boss. It is a humble life we live and I don't want to change that." A connection to land is the key element of the dwelling perspective. The Maya attachment to place and their relation with their environment are what assert their identity as Masewal. The daughter of my host family in Tres Reyes, who married and left for Playa del Carmen because her husband works as a cook for a restaurant, visited Tres Reyes every weekend that her husband had off from work and expressed often how much she liked life in the village surrounded by k'aax. I visited her and her family in Playa a couple

of times, and each time I went, her mother always gave me something for her daughter that would remind her of life in the community. One time I even delivered a cooked shoulder and leg from a deer that her father had just shot that morning. Her daughter and husband (who is native to the Zona Maya as well) were so excited about the deer, and it struck me how identity and place are also tied to the food that we consume. It was not just the taste of the meat, but also knowing that the deer came from their homeland, that was important to them. Whenever they visited, the husband worked in his in-laws' milpa or went hunting. He told me that he likes his work as a cook, but the monte (k'aax) is part of him and he always has to come back.

ONTOLOGICAL ECOLOGY OF THE MILPA

Life in the Zona Maya revolves around the annual cycle of the milpa. All their activities center around the processes, activities, and rituals associated with this agricultural practice. To outside observers, which include environmentalists, ENGO personnel, state managers, or even some anthropologists, the process of the milpa appears simple: the Maya farmers select a plot of land, then "cut the forest, burn it, plant it, weed it and harvest it" (Kintz 1990, 120). But upon closer scrutiny, the process is much more complex. The simplicity of this model hides the complexity of the Maya ontological ecology. Once, I asked a long-standing member of an ENGO working in the region to explain what Maya agriculture in the region entails: "En que consiste la agricultura roza-tumba-quema practicada en la Zona Maya?" He replied, "Consiste pués en preparar la tierra, tumbar la maleza y árboles en la época seca, quemarla y luego sembrar en la [época de] lluvia" (It consists of preparing the land, cutting down trees and tall grass during the dry season, burning it and then planting during the rainy season). This outline, although technically correct, misses the finer details and processes that take place, each having its own name and meaning for the Maya ontological ecology. The Maya version, with many details filled in, looks more like the one presented in figure 11.

Cocom Pech remembers how his grandfather describes the milpa: "In April, the forest opens itself to the cut of the machete, and falls merciless to the warm earth. Freshly felled forest, by bidding farewell to life, blesses us with the gift of soft smells that come from the trunk of the trees. . . . Later it burns with prayer, that comes from the mouth of the milpero with enchantment, in search of the messages to appease the scorching heat." (Cocom Pech 123; my translation).

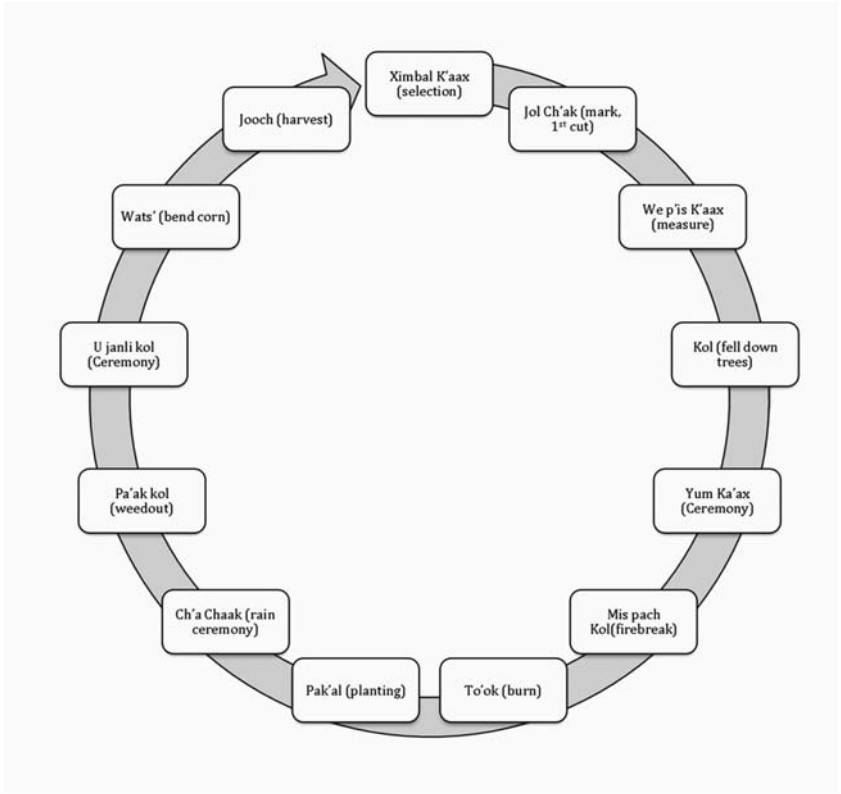

FIGURE 11. Cycle of the milpa from the Maya point of view.

I had the chance to visit quite a few milpas and gardens in Tres Reyes and Chumpón, but I spent the most time in Don Florentino's milpa in Tres Reyes. The time that he took to patiently describe and explain to me what the work on the milpa entails and the reasons why they perform certain practices was invaluable for learning the details of this intricate process.

The first step is ximbal k'aax, in which the person takes a walk into the forest to select the site for the new milpa. This is usually a day-long activity. The farmer walks around, surveying his ejido land, and then selects the area for its potential for a milpa, based on the size and quality of the vegetation. The Corpus enters this process as knowledge about the environment is invoked to select

a place for the milpa. The presence of specific plants and trees indicate to the Maya whether the land has good soil. For example, they look for the *cheechem* (black poisonwood), *ox* (ramón), and ya' (chicozapote).[8] They also look at the quality of the soil and whether there are large amounts of rocks or limestone. The current soil classification falls into two categories: red (*chak lu'um*) and black (*ek* or *box lu'um*).[9] The ek lu'um is considered the most fertile soil, and thus it is preferred. The Maya also look for the presence of water sources, most likely natural wells and sinkholes (which are found sparingly throughout the forest). Other considerations are the location of the milpa and its proximity to the community and to the already established trails inside the ejido. Nevertheless, if they have to go farther away from their community or from the trails, they will do it. Distance does not mean that they are not familiar with the terrain. It is not unusual for Maya to have milpas several kilometers away from the community. As is well known, they build ranchos, or small, rustic, temporary houses, near the milpa that they are working on when they know they will need to remain several days in order to perform whatever labor is required. (Ranchos are used also to store corn after the harvest, because it is difficult to carry all the corn at once.)

The next step is the *jol ch'ak*, which is the process of clearing around the site with a machete to form a small path around the selected area in a rectangular shape in order to mark this clearing and to facilitate its subsequent measuring. Before the Maya start the clearing, they make sure that they place themselves in the path of the rising sun and proceed to cut from east to west (moving in the direction of the sun) and then from south to north. It is well documented that the Maya are spatially conscious and place a great deal of importance on geographical placements, not only in setting up the milpa, but also in participating in everyday conversations and interpersonal relations (Hanks 1991). It is important to know how articles are placed because it is believed that some positions will be more favored than others. Don Florentino thus was very meticulous and careful with the work of the milpa. He told me there are two kinds of people who work the forest. The milpero or *kool k'aax*[10] is the person who works the milpa and takes advantage of all the resources (he says "*tulaakal*" [everything] with emphasis) for his own consumption, including woods, the huano leaves, the ramón, etc. This approach is what Toledo refers to when he talks about multi-use strategy. While he does take from the forest, the kool k'aax also takes good care of the forest, because he lives from the monte, and the monte

has its owners, called *yuntzilo'ob*. So they are careful in giving back, replanting trees and plants where needed. If the kool k'aax abuses the monte, bad things can happen. This moral ecology is shared by many of the Maya.

The third step, *we p'is k'aax*, is the process of measuring the size of the milpa by *mecates* or *p'isik'aan*, which is done by two people with a rope approximately twenty meters long. Don Florentino and his son showed me how to prepare the site of the milpa while I helped them cut and weed the terrain. While one person holds one end of the rope, the other places a marker, called *mojonera* or *xu'uk*, to mark each mecate. One mecate will measure twenty square meters. The number of mecates will give them a rough idea of how much time they will need to prepare the site for the burning. The average size of the milpa is forty mecates (eight hundred square meters).

The fourth step is the kol, or the felling and cutting of vegetation inside the selected area. It takes place at different times of the year depending on the size of the vegetation, that is, on whether the milpa is in its first, second, or third year. The kol in which I participated took place in the month of April, prior to the burning season. For a couple of weeks, we left at around six a.m. to go to the milpa, which was located two kilometers away from the community. To get there, we followed a dirt path that was wide enough for cars to drive on it.[11] Throughout the walk, I noticed the different levels of trees, from dense and tall vegetation to smaller patches that showed the signs of a recent milpa. During these walks, Don Florentino showed me the different kinds of vegetation, as seen in table 4. If the selected area is considered primary, or tall forest, this process will begin in August of the previous year.

Not all of the vegetation is felled and burned. Several species are preserved for their medicinal, practical (i.e., for construction or cooking), or religious uses. Other species are cut down to about three feet tall so that they can flourish again. This is particularly important for the regeneration of the forest once it is abandoned for the fallow phase.[12] For example, species that are preserved are the ya' (zapote), for its fruit, which is consumed by forest animals like deer. The ramón is another species that is protected for its use in religious ceremonies. Its leaves are also consumed by deer and other species. The huano (*sabal japa*) is also preserved for its value for construction. It is the preferred roof material for their houses. It is also highly sought by tourism developers for the roofs of cabañas and hotels featuring their "traditional Maya" aesthetic. Other hardwoods are preserved for their economic value even though, at this time, the Tres Reyes

TABLE 4. Phases of the Milpa

CATEGORY	SUBDIVISIONS	TEMPORALITY
Pakal		
Pach Pakal (home gardens)		
Kool	Kool	1st year
	X Sak' Been Kool	2nd year
	Saka X Sak' Ben	3rd year
Sak'ab Hubche'	X Lab Sak'ab	0–3 years
	Behu	3–6 years
	Hubche'	6–10 years
	Kelem hubche'	10–20 years
K'aax	Kool K'aax	20–30 years
	K'aax	30–40 years
	Nojoch K'aax	40–plus years

SOURCE Palma Gutiérrez (1993), corroborated by farmers of Tres Reyes

ejido had decided not to sell any more of their wood resources. Other trees that are good for construction are set aside and brought back to the community at some point later in the year.

The Kosmos enters somewhere between phases two and four. People might perform a religious ceremony in honor of the yuntzilo'ob (guardians or *señores*). For this ceremony, j-men (from the towns of Felipe Carrillo Puerto, Chumpón, or Chun Yá, which have well-respected *j-meno'ob*) are often hired to conduct it. Others perform this ritual on their own. It is undertaken to ask permission from the yuntzilo'ob, and in this case the yum k'aax (guardian of the forest), to use the forest and for protection when using it. Don Florentino told me that this ceremony is performed only when the Maya are about to begin a milpa in high vegetation, or '*hubche*.' They seek protection because the hubche' might be more dangerous to fell than in the second or third year milpas, in which there is better visibility and more ease in cutting it down. This ceremony also shows

the temporal character of the occupation of a space for the milpa. When the Maya leave a plot fallow, it is "given back" to the owners of the forest so that it can regenerate.

One way to understand how the Maya relate to their natural world is to comprehend how they interpret the forest. We know that Maya categorize humans, animals, and plants as beings in the same domain; that is why they use the marker "*tuul*" when they refer to them (more on classifiers in next chapter). This categorization shows why the Maya take such care with the forest. For them, cutting down trees is killing a living entity that belongs to a yuntzilo'ob. In fact, Mexican historian Alejandra García Quintanilla (2000) tells us that the Maya used to call the people who worked the milpas "*ah kinsaj k'aax*"; literally, he who kills the forest. For this reason, the Maya, knowing that they were about to kill a living entity, performed religious ceremonies to justify the cutting and burning and planting of their milpas. People who did not perform these rituals, or who cut indiscriminately, would have to face the consequences of their actions. Although the term *ah kinsaj k'aax* is not used anymore, the idea is still present: the word that the Maya use for milpa is "*kool*," which also means "to take away by force" (Barrera Vázquez et al. 1995).

After felling the vegetation and spreading it so that it burns evenly (*p'uyk'am che'*), the next step is the *mis pach kol* (firebreak, or *guardarraya* in Spanish). People clear an area one to two meters wide around the milpa prior to the burning in order to prevent the spread of the fire to other areas of the forest. One of the main criticisms by critics of the milpa is that the burning puts the biosphere reserve in danger from spreading fires and endangers the biodiversity that they are supposed to protect. For this reason, the people in the community will form a group of five or six to monitor the firebreaks, just in case the fire spreads to other parts of the reserve.

When it came time to burn, they showed me how to make the guardarraya. We cleared the area around the milpa down to the ground. Then we swept the area with special brooms made out of tree branches. As the vegetation was cleared for the guardarraya, the conversations between Don Florentino and his son revolved around stories of burning and how a good guardarraya is all a person needs to prevent fires. "The problem is that some people, the less experienced, don't know how to make it the correct distance before they burn." Another thing he noted was that, when it is time to burn, the members of the ejido should supervise the fire (as agrarian law stipulates).

The next step is the *tok* or burning of the milpa. This takes place during the months of April and May, just prior to the rainy season when warm winds are blowing in the area. The fire is set in a corner where the wind favors it so that the fire spreads toward the center of the milpa. The burning that I observed was done by Don Florentino and his son. Two others were present to control the burn. They walked along the guardarraya and lit several areas until they reached the other side. Don Florentino preferred to burn when there was a full moon because that is how the *nojoch tatao'ob* (*los abuelos*, or elders) used to do it.[13] Other Maya do not think it is as important and do the burning when the selected area is very dry. Villa Rojas (1978) documents that in central Quintana Roo there were burning ceremonies performed in order to get a good burn. These ceremonies were aimed at another yuntzilo'ob called Cacalmoson-ik who guards the wind and the fire and helps to provide a good and even burn. They offered him the traditional drink called *saka'*. Although this ceremony is less common today, it is still practiced by some, especially by the older people.[14]

The ashes will help to provide the topsoil with nutrients; once they have settled, it confirms the condition for planting (*pak'al*). For a few days prior to this, people gather the seeds that they have accumulated throughout the year and engage in a final selection of corn seeds. The women in the household actively participate in this task by contributing the knowledge that they have accumulated for years about selection. Children are also taught how to select the best seeds for planting. Once the Maya have selected the seeds, they mix the corn with the beans, *ibes* (lima beans), and pumpkin seeds. These will be put together in a gourd (*lek*) or bag that an individual planter will have with him or her. Some women help out in the planting of the milpa, although not to the degree that they plant in their home gardens.

During the planting season, I participated in a session with Don Florentino. He showed me how to poke a hole with the planting stick (*xuul*) that one carries in one hand. The planter uses their other hand to take several seeds (maize, beans, lima beans, and pumpkin) from the gourd or pouch strapped around their shoulder. It is by sense of touch that they select the number and kind of seeds that they will plant. Then they lean a little bit forward, and with the seeds held by the tips of their fingers, they let them drop with such precision that none fall outside the hole. The hole is then covered with soil by using the xuul. The Maya did this in such a graceful manner that it appeared effortless.

However, when I tried to emulate this planting procedure, it seemed almost impossible. Most of the seeds fell outside the holes despite many concentrated attempts. I was so inaccurate that in order to be effective in helping them, I had to practically kneel down so I could get as close as I could to the hole. It was then that I realized that this was not an easy task. It is only by engaging in practice, what Ingold calls enskilment, that one is able to learn with precision how to trust one's senses (i.e., touch) to carry out this job effectively.

At some point after the planting, some members of the community perform the cha' cha'ak, which is the traditional rain ceremony. I indicate "some" members because not all Maya perform it. While I attended one of these ceremonies, it was brought to my attention by several Maya dignitaries and priests that the decline in cultural values—and the decrease in rain and corn harvests—were due to the fact that there are fewer people paying their respects to the yuntzilo'ob, and that this decline is a sign that the end of the world is near. Sullivan (1983) documented the apocalyptic prophesies of the Maya and how they help them to cope with the drastic changes that have taken place throughout the twentieth century. Regardless of such prophesies, the Maya continue to work their milpas. Even though there is an apparent decrease in the performance of this particular ritual, the Maya who don't perform the ceremony still perform individual acts to protect the milpa from predators and to ensure a successful harvest. The ceremony was conducted in the communities I studied through both individual prayer and the placement of wooden crosses in the cornfields.[15] In Chumpón, the ceremony was communal and took place in the town church. Individuals in both communities also made independent offerings so that the yuntzilo'ob would keep animals away from the milpa.

The next phase, the *pa'ak kol* (weeding), consists of the milperos clearing the weeds that are growing at the same time as the corn. It is also considered taking care of the land, so that light and nutrients are able to reach the crops. Weeding requires the arduous (and dangerous) job of working close to the ground with machete in hand. One has to be careful not to get cut with the machete or to cut the beans, squash, or corn that are growing. Although it is hard work, it is highly satisfying as an aesthetic practice for the Maya. After spending two days weeding, Don Florentino, his son, and I sat down to rest and drink water before heading back to the community. He asked "Bix a wilik?"—literally, "How do you see it?," meaning, "What do you think of it [the milpa]?" "Jats uts (Very good)," I replied. Then he went on to say how beautiful the milpa looked and how happy the plants should be. The landscape of the milpa, once it is growing

well and thoroughly weeded, makes them hopeful that there will be a good harvest. The weeded landscape is pleasing to them aesthetically, and they feel it appeals to their crops as well, as they will be able to grow better without the weeds.

In the month of October when the corn matures, the Maya of Quintana Roo perform another ritual called *u janli kol*, or *primicia*. This ritual is done as a way of giving thanks to God, the yuntzilo'ob, nojoch balamo'ob (great jaguars, guardians of the milpa), and the *aruxo'ob* (tricksters). In it, they reciprocate to the gods by offering (*matan*), the products from the first harvest, to give thanks for letting them use the forest. The new corn (*a'nal*) is cooked in the *pib'* (earth oven) and placed at the altar. Meanwhile, the j-men leads the reciting of prayers and then the food is shared communally. This ritual is an example of the degree of embeddedness of the Kosmos within Maya relations with their forest and environment.

Once the corn grows its cobs and before these cobs are dry, the milperos perform the *wats'*, which is the process in which the stems of the corn are bent to protect the cobs so that when it rains water drops out and does not get trapped inside the corn. This usually takes place three or four months after the planting. Wats' also speeds up the drying of the corn by cutting the water and nutrient flow from the stem. It also provides protection from birds. They have to be careful not to bend the stems too low because animals might eat them or the moisture from the ground might rot the crop. They also think that the wats' should be performed during full moons to provide more protection.

Once the wats' has taken place and the corn dries, it is time for the *jooch nal* (harvest). In October we see the first harvesting of corn, the most important harvest. Harvesting in the milpa will actually last until the following March, April, and May when the *ib* (lima beans) and the squash are harvested. The corn is stored after the cobs are divided between the *i'nal*, which are the best of the harvest, and the *alnal*, which are considered to be of lesser quality. The alnal will be consumed first and also will be used for feeding animals in the solar. The i'nal is either stored in the rancho located close to the milpa or at home if the milpa is too far away. The harvest for other crops will last up to five years, including the root crops like *camotes* (yams) and *yucca* (cassava). Sometimes, when the milpas are supposedly in the fallow stage, the Maya are in actuality still harvesting root crops from them for three to five years. It has been argued by Terán and Rasmussen that this strategy was created by the Maya in order to survive during years of bad harvests (1994, 246).

During the month of April, I went to pick squash with David and his two sons, ages eight and four. We walked to his milpa, and the corn and beans had already been harvested the year before. The forest was beginning to regenerate. We gathered the squash and put them in a pile. Despite their age, his young sons worked very hard. By this time, they are already learning to engage with the forest. They are taught to perceive it with their senses by walking through it and to appropriate it; hence, they are creating a sense of place and dwelling that will continue to ensure the survival of Maya engagements with their environment.

PET PACH AND SOLARES

While men predominantly work the milpa, women do engage with it at times. Sometimes they work in planting and harvesting, but, as mentioned, they also influence it by selecting seeds. They have a much more prominent role in cultivating the pet pach and tending solares, two additional ways of engaging the forest, which contribute to Maya subsistence and well-being and are part of their moral ecology. Both practices diversify their diet and complement the milpa. The pet pach are small to medium-sized garden units located near the surroundings of the village. The solares are smaller gardens located near the household. Both men and women work the pet pach. Women predominantly manage the solares.

The pet pach is cultivated with a variety of crops for household consumption and possibly for sale when they have surplus. They plant root vegetables, tomatoes, peppers, leafy greens, and fruit trees (especially papaya, orange, lime, and mango). In Tres Reyes, I visited the solar tended by Aabuela (as in the Spanish *abuela*, or grandmother; the double *a* signifies the extended pronunciation in Maya), as they call Don Florentino's wife, Margarita, which included plants that were ornamental, medicinal, and gastronomic. Some of the crops are planted in the raised beds known as *ka'anche'* in order to keep household animals such as pigs, hens, and turkeys from eating or damaging them. Also, certain crops that are planted in the pet pach are first planted in the ka'anche' before being transplanted. This process allows for close protection of species that need constant care, especially during the first few weeks or months of their existence. Maya women begin to engage with their environment at an early age, especially in the solar. Through this engagement, they perceive the environment, and also create attachment to place and contribute to the Maya

moral ecology. This only begins to touch on how Maya women contribute to the moral ecology, and further research should be undertaken.

In the Zona Maya, the majority of Maya food production is geared toward subsistence, although government development programs have tried in the past—for example, by providing equipment and seeds—to get them to produce agricultural products in the pet pach for the market in order to support household expenses. Many of these projects proved to be unsuccessful strategies to cover the needs of the Maya, as demonstrated by Sullivan (1983) and Hostettler (1996). These projects have gone by the wayside because they replicated the same old story of promoting production of similar crops by several communities, which then flooded markets and produced little monetary return. If land grabbing continues, it will not only threaten the milpa, but will put even more pressure on the pet pach and on the families that depend on them.

CONCLUSION

The nature industry and the green land-grabbing scheme taking place in the Zona Maya represent the ultimate threat to a life that offers an alternative to the practices and mentality of Western modernization under the banner of conservation. Privatizing more ejido land represents accumulation by conservation (Doane 2014), or, in other words, commodifying land and labor for carbon markets and climate change mitigation, and will have the effect of denying people access to the sources for a livelihood that has its own conservation principles based on dwelling in the forest.

This way of exchanging and interacting with the world is difficult to comprehend, especially when coloniality of nature insists that the milpa is inferior and in opposition to biodiversity conservation. However, the milpa, pet pach, and solares constitute a world of knowledges, of people engaging in practice with their environment and making a livelihood out of that relationship. This knowledge is not only in people's minds and bodies, but is also inscribed in their landscapes as they walk and work in the forest and villages. That is why it is difficult to inquire about people's world through questionnaires that ask them to categorize their knowledge of the environment in the form of lists while in a setting removed from the context. I interviewed people in Tres Reyes and asked them to lists names of species found in the forest, and kept coming up with lists of no more than twenty species. But later, when I walked into the

forest with one of the individuals whom I had interviewed, he listed species that he knew he had not told me about. He shared not only their names with me, but also their attributes and uses (e.g., for medicine, for digestion, for construction, for charcoal). The same goes for the milpa, pet pach, and solares: their answers to my questions were complemented and explained best when we were walking in the k'aax.

Ethnoecology helps in understanding the ontological ecology of the milpa and the moral ecology of the forest. However, this must be joined by an understanding of how outside forces and discourses of the nature industry continue to be imposed in order to force change in the locals' relationship with their environment. In the face of the nature industry, we are able to see the importance of local knowledge as resistance to globalization (Blaser 2010). This ontological perspective helps to put forth the argument that knowledge is local, that it "sits in places" (Basso 1996; Escobar 2001). While knowledge construction is cognitive, it is also "place-based," so that one's knowledge makes sense in one's particular place. Attachment to a lifeworld and place provides the basis for the defense of one's way of life, which is very important as people face influential forces and discourses that are promoting rapid change in the name of sustainability or green capitalism.

As the people of Tres Reyes face the challenges of climate change and green land grabs, the question remains as to whether they can continue the practice of the milpa as alternative and foundation of a more inclusive post-conservation. In the next chapter, I present another contested activity that involves vast amounts of ethnoecological knowledge and multispecies engagements within the k'aax—hunting—before turning to the conclusion, where I discuss in more detail the possibilities of post-conservation.

4

HUNTING, MULTISPECIES ENGAGEMENT, AND POST-CONSERVATION

WHEN I BEGAN WORKING IN TRES REYES, I set out to document not only Maya knowledge about resources and the forest, but also the conflicts with law enforcement agencies arising from their location on the margins of the Sian Ka'an Biosphere Reserve. It quickly became apparent that hunting was one of the major sources of conflict. Hunting is one of the activities that has historically intertwined the Maya with the forest. It is an integral part of the moral ecology of the forest, which brings together the Maya, the animal world, and their environment—a multispecies engagement in which humans are not separate from the natural world (Ingold 2000; Descola 2013). At the same time, hunting has been a contentious activity for Mexican authorities since the end of the Caste War. They reduce hunting to a utilitarian endeavor and depict the hunters as a threat to wildlife and obstacles to economic development. As I mentioned in chapter 1, it was hunting that sparked the early conservation movements. Throughout the twentieth century and into the twenty-first, the forest became subject to external concessions, and activities that did not benefit the Mexican state or foreign capital were labeled as backward or detrimental. In recent years, with the advent of the nature industry, hunting became an activity that has been equated as contra conservation and, as a consequence, the state has intervened to reduce this activity as much as possible. This positioning has facilitated the justifications for so-called conservation groups, such as the ones associated with Roberto

FIGURE 12. Casa Ejidal, X-Hazil Sur. Photo by author.

Hernández, to privatize ejidos in the name of conservation. All hunting activities are prohibited as part of any consideration to participate in REDD+ carbon credit programs. Posters reminding participating ejidos of the causes of deforestation and signs reminding them not to hunt are distributed and placed in the *casas ejidales*, the offices of the ejido authorities, as seen below in X-Hazil Sur, which borders the southwestern territory of Sian Ka'an.

However, I argue that the act of hunting, with its variety of strategies, has not only historically played a role in constituting the meanings of the Maya lifeworld (*yookol k'ab*) and their lived experience in the forest, but has also developed through time a conservation ethic that guides their behavior with other forest animals. This conservation ethic, as part of their moral ecology, is supported by rituals, storytelling, and actions geared toward taking only what they need without overhunting. The Maya conservation ethic is challenged by the conservation ethic of the nature industry. After discussing the confrontation over the control of the forest of eastern Quintana Roo that began after the Caste War, I discuss how hunting has been scrutinized in some of the human

ecology literature, or seen only as an extension of the milpa. I emphasize the reasons for highlighting hunting as a distinctive strategy due to its role in forming the ontological perspective and engagements with the forest ecosystem that are a central component of Maya moral ecology and post-conservation strategies. Then, I describe current practices as observed during my fieldwork in the region, which show how the Maya ethic, shaped by their ontological relationships, is concerned about changes to the forest and implements temporary bans and alternatives to protect wildlife.

HUNTING AS OBSTACLE TO DEVELOPMENT

After the Mexican takeover of the territory of Quintana Roo in 1901, hunting in the forest of Quintana Roo became one of the activities targeted for regulation, primarily as a way to restrict Maya access to resources in general in a move to weaken their autonomy. Since the Commission for the Development of Quintana Roo, established by the Treasury Ministry, designated the forest as the most significant resource of Quintana Roo (Irigoyen 1934, 419), it became imperative to transfer its control from the Maya. The commission stated its negative opinion of hunting in the territory in its report, "El Problema Económico de Quintana Roo":

> The territory of Quintana Roo is one of the regions of the country that possesses the most extensive and diverse fauna. There are species that have yet to be studied or classified. For a long time now, a considerable amount of destruction of these species has taken place because there is no proper vigilance, nor compliance with hunting and fishing laws. All the indigenous chicleros use rifles to procure their daily alimentation in their farms and chicle camps and this is the reason why one can only find the best specimens for human use far away from the villages. (ibid., 1934, 415; my translation)

In the search for development and profit-making opportunities, the colonial discourse expressed that Quintana Roo was a biologically rich place, with maximum potential to be exploited *by the Mexicans or foreign capital* rather than by local inhabitants. Moreover, the report, along with other documents of the day, reframed how nature would be used and understood in the region while disregarding the Maya way of life and their relations to animals in the forest.

The Mexicans writing the report classified the Maya as destroyers as well as incapable of following regulations. They also pointed out that the best samples of "nature" are those *away* from human settlements. These views were upheld by the racism of the era, with comments such as "esta raza está muy degenerada" (this race is very degenerate) and judged that they had to be educated so that they could learn to provide essential nutrition for themselves (ibid., 246). Scientific discourse was also used to say that hunting must be ceased so that "experts" could inventory everything in the forest to understand better what was there so it could be exploited properly. In essence, this is a clear example of the coloniality of nature in practice, as a Mexican colonial civilizing discourse that denied the Maya knowledge and agency as a people who actively managed and engaged with their environment. Moreover, the report called for restricting the Maya from exploiting the resources so that the state and foreign concessions could use them. There is continuity from this regime to today's conservationist one, which wants to restrict the Maya so others can exploit the resources, albeit in a different manner—often for tourism.

Thus, the calls for better regulation and the predictions about the depletion of game are not new to Quintana Roo, but part of a long history of controlling Maya resource use. With the establishment of Sian Ka'an, hunting became even further restricted, with PROFEPA and reserve managers being more vigilant about hunting restrictions and closed seasons. Today, for agencies like PROFEPA, hunting is considered a subsistence practice in principle, but is mostly treated as a crime. Many people from Tres Reyes can relate stories about incidents of abuse and confiscation of weapons. I was able to witness a number of arrests and general harassment. PROFEPA is very active around the reserve, constantly on the lookout for people who are hunting illegal species, and will arrest those who attempt to sell game on the road. In Quintana Roo, the military and PROFEPA presence threatens the practice of hunting in diverse ways. As mentioned, often the military will confiscate the rifles of individual hunters even though it is perfectly legal to hunt for subsistence. In addition to these actions, ENGOs spend a lot of effort constantly reminding the community not to overexploit the resources in meetings and in educational posters. However, for the Maya hunting is not a depersonalized and utilitarian act of just killing game. It is much more than that; it is integral to the moral ecology of the forest. It means livelihood, a source of storytelling, and is part of a multispecies engagement. It is a critical component of living *in* the forest, and, hence, ontological.

ONTOLOGY OF HUNTING

Before starting fieldwork, my image of the Maya was shaped by reviewing ethnographic and historical accounts. When reading Maya ethnographies of how their resources are managed and about how they make a living, the most predominant literature encountered is about farming, a practice which is indeed central to their livelihood and very much embedded in their religious beliefs. After all, the Maya consider corn a "divine grace" and themselves children of corn, so the act of farming plays a central role in their culture and engagements with their forest. However, as my fieldwork got underway in central Quintana Roo in July 2001, I began to notice an increasing number of hunting trips as well as the fact that the men went to their milpas with shotguns. By February the outings to hunt became more and more frequent. Moreover, those that hunted in Quintana Roo were more than a specialized group of hunters, as Jorgenson noted in his study (1993). In the community of Tres Reyes, nearly all of the adult males living in the community pursued this activity, from the more passive forms (garden hunting) to the more active (prey hunting). Between February and May there were daily hunting trips. These outings, I found out later, occurred between December and May during the dry season—when the milpa demanded less work and there was more visibility in the forest to enable the hunters to look for game animals—and decreased for the rest of the year. If they caught something, it would become an event. Word would spread and people from the community, including women and children, would gather at the hunter's house while another group prepared the pib' (earth oven) to cook it. Neighbors and family would help to shave and skin the animal and prepare it for cooking.[1]

As I became more acquainted with the community, it quickly became obvious that hunting and encounters with animals in the forest sparked daily stories and anecdotes. Every evening a group would gather in the central plaza to tell stories, many of them about hunting, that could go on for hours: even if they were old stories, they were retold again and again.[2] I thought that most likely my presence there as a foreigner was eliciting the retelling of stories about hunting, but as time went on many stories were repeated. These storytelling events occurred every time hunters returned from the hunt, even if they came back emptyhanded. Stories were recounted vividly by imitating sounds, mimicking animals, and performing the hunters' shooting positions and the detonation of

the shotgun, hit or miss. They usually would talk about the places they went hunting. Some places have names while others are described by a geographical feature such as a water source, their location adjacent to a tree or several trees, or by their closeness to or location within someone's milpa. If someone went to a specific place, say an *aguada* (water hole) frequented by animals, mention of that place would trigger someone else's experience there, and that person would relate again their hunt in that location, and so on.

One of the first stories that was told to me by an elder from my host family—the story of "The Hunter and Yuntzilo'ob, Master of the Animals"—was told to me one evening after finishing supper. I was sitting across from him at a small table. It was a dark night and the only light we had was a candle on the table. Our conversation shifted to hunting and he asked me if I had heard the story of the hunter and Yuntzilo'ob. I responded that I hadn't, so he began:

> Well, once upon a time, there was a hunter who had one wish. He wanted to become the best hunter there ever was. The only way that he thought he could accomplish this was by meeting and talking to the master of the animals, Yuntzilo'ob. Not too many people are able to talk to the master, let alone meet him. There are just a few that are born with the gift of being able to talk to him. It so happened that this person was one of the ones born with the gift. One day, while walking deep in the forest, Yuntzilo'ob appeared in front of him. They sat down and started to casually talk, just like we are talking right now. The hunter let the master know his wish. Yuntzilo'ob listened carefully to the hunter and responded that there was a very difficult challenge that he had to undertake in order to fulfill his wish. The hunter accepted the challenge without hesitation.
>
> The challenge was to throw an egg at the forehead of three deer that the master would point out. If he had three perfect hits on target, the hunter would be guaranteed that he would be successful in each and every hunting trip thereafter. The only condition was that he could not kill animal kings, meaning the biggest animal of any species available. There was also this: if he missed one of the attempts to hit the deer, the man would remain forever as servant cowboy of the Yuntzilo'ob, in charge of collecting the animals of the forest at night and letting them loose in the morning. He would also be in charge of picking up wounded animals, including the ones attacked by jaguars that were not killed, and healing them.
>
> Once the deal was struck, Yuntzilo'ob brought the hunter to one of his animal farms in an unknown place in the forest. The master showed him the animals at

which he had to throw eggs. The first throw was right on target. The second throw was at a deer called Kanyuuc that had the shape of a cross between his horns, and it landed precisely on target. The third was more challenging, thrown at a deer that was running to try to avoid being hit by the egg. However, the result was also on target.

Having completed the challenge, the hunter was granted the wish of a successful hunt every time he went out. Each hunting trip he came home with game. Deer, *tepezcuintle* (*Agouti paca*), wild pigs, and wild turkeys . . . lots of animals! He hunted so much that he started selling them. Yuntzilo'ob noticed how much he was hunting and how he was making a profit. One day, a curious man in town began to notice the success the hunter had. He wanted to know how to hunt like him, so he sought his company to see if he would share his knowledge on how to be so effective. One day, the hunter let the curious man accompany him on a hunting trip. Once in the forest, they heard some noises. It was a big deer. The curious man was so excited by hearing an animal approaching that, without seeking advice from the hunter, he pulled the trigger and shot the deer. It turned out to be not just a big deer, but a deer king. Yuntzilo'ob was not happy about that kill and turned the hunter into his servant for allowing the killing of the king deer.

From then on, the hunter became a servant and did not let animals go out as much in the mornings to roam in the forest, because Yuntzilo'ob told him that hunters are killing too many animals. Now, he is an animal keeper that keeps animals from being harmed.

This story highlights how managing resources and being vigilant about overhunting is part of their everyday life. It also points at the real threat of overhunting, particularly given the realities of living in a world of in-betweenness, the need to balance living in a market economy and making a living in the forest. The reality is that in many communities hunting has declined. Access to land or hunting is restricted, especially in the state of Yucatan, although less so in the Zona Maya of Quintana Roo.

Hunting creates unique ways of perceiving the forest and serves as a place-making activity. It is an activity in which sense of place, sense of perception of environment, and the morality of interspecies engagements are key components. Knowledge of the landscape, its sounds and smells as well as different life forms, permits hunters to move freely and with confidence in a terrain that is not hospitable to humans. The senses that help us perceive the environment are also crucial in people's place-making capability. Hunters' senses are very

active when they are hunting. As they move about within the forest, their sight is actively seeking animals or their traces. Hearing is engaged while listening for and to animals and imitating their sounds. Smell is also crucial in tracking game and sensing the odor of trees and fruits consumed by animals. Even taste comes into play in some instances, when the Maya test vegetation while out hunting in search of various medicinal plants within the forest. It is by constant interspecies engagement with that environment that sense of place is built.

As I argued in the introduction, the moral ecology of the Maya Forest has an ontological component, its ontological ecology. Understanding this ontological ecology and how it becomes enacted through hunting is fundamental. I follow Ingold's lead, believing that we should look at the human condition starting from a *being* who is immersed from the beginning "in an active, practical and perceptual engagement with constituents of the *dwelt-in-world*" (Ingold 2000, 42; my emphasis). By using the *ontology of dwelling* as a starting point, we avoid the Western ontology that builds its intentional world before there is any engagement with the environment and results in a world that is ontologically divided between culture and nature. Ingold explains the ontology of dwelling as follows: "apprehending the world is not a matter of construction but of engagement, not of building but of dwelling, not of making a view *of* the world but of taking a view *in* it" (4; emphasis in original). In addition, he says, "it is through *dwelling* in a landscape, through the incorporation of its features into a pattern of everyday activities, that it becomes home to hunters and gatherers" (57).

Therefore, there is not a separation between the activities that the Maya do in terms of securing a livelihood and other practices such as storytelling. As Ingold argues, "the differences between the activities of hunting and gathering, on the one hand, and singing, storytelling and the narration of myth on the other, cannot be accommodated within the terms of a dichotomy between the material and the mental, between ecological interactions *in* nature and cultural constructions *of* nature. On the contrary, both sets of activities are, in the first place, ways of dwelling" (57; emphasis in original). This similarity became clear while I listened over and over to stories about hunting. The performance of hunting narratives relives those moments for the Maya in a special way and forges ties to community, the landscape, and other-than-human beings (see fig. 13).

Ingold also points out that "through the practical activities of hunting and gathering, the environment—including the landscape with its fauna and flora—enters directly into the constitution of persons, not only as a source of nourishment but also as a source of knowledge" (57). Practices such as hunting and

FIGURE 13. Performing hunting stories. Photo by author.

gathering—and, I would add, the milpa—in themselves constitute the landscape of the region, the Zona Maya itself, and its inhabitants. In the process, not only do these activities constitute persons, but also their moral ecology as they interact in a multispecies environment.

As demonstrated in the previous chapter, among the Maya there is no ontological division between nature and culture. Flora and fauna (i.e., plants, animals, humans) belong in the same world. They coexist and interact in manifold ways in a multispecies entanglement that has helped them coevolve (Greenberg 1992). The same can be said about the Maya and the forest. They have historically made use of the forest to suit their needs, and during that interaction have helped other species.[3] An indication of this coevolutionary process is found in the way that the Maya place animals, plants, and humans in the same language classifier. All living things, humans, plants, and animals, receive the classifier *tuul* (see table 5).

To refer to nonliving things, they use the classifier *p'eel* (see table 6).[4] When learning to speak Maya, I sometimes confused the use of these classifiers and was always corrected.

The implications for this system of classification are that flora and fauna are perceived to be at the same level in the lifeworld as humans as part of a

TABLE 5. Classifiers for living things

MAYA	ENGLISH
juntuul maak	one man, a man
jun (one), tuul (classifier)	
ka'atuul chun ya'ax che'	two ceiba trees
ka'a (two), tuul (classifier)	
ooxtuul keej	three deer
oox (three), tuul (classifier)	

TABLE 6. Classifiers for nonliving things

MAYA	ENGLISH
junp'eel ts'oon	one rifle, a rifle
jun (one), p'eel (classifier)	
ka'ap'eel naj	two houses
ka'a (two), p'eel (classifier)	
ooxp'eel maaskabo'ob	three machetes
oox (three), p'eel (classifier)	

moral ecology of the forest. Perceiving the environment, or lifeworld, also entails learning one's way around it. Ingold is careful not to equate this learning with the overused concept of language. He argues that "learning to see, then, is a matter not of acquiring schemata for mentally *constructing* the environment but of acquiring the skills for direct perceptual *engagement* with its constituents" (Ingold 2000, 55; emphasis in original). It is through the process of enskilment that the Maya perceive their environment, either through hunting or engagement in working the milpa or solares. Ingold further explains, "The novice hunter learns by accompanying more experienced hands in the woods. As he goes about, he is instructed in what to look out for, and his attention is drawn to subtle clues that he might otherwise fail to notice: in other words,

he is led to develop a sophisticated perceptual awareness of the properties of his surroundings and of the possibilities they afford for action" (37). In addition to perceptual awareness and enskilment, hunting creates "everyday engagements with other kinds of creatures," which open "new kinds of possibilities for relating and understanding" (Kohn 2013, 7).

In the Maya communities of Quintana Roo, this engagement begins early in childhood, from caring for pets in the household to the use of slingshots to fell small birds, reptiles, and gophers, and also fruits in tall trees. By moving through the community and following birds or other animals, they begin to learn to perceive their world. With it, children begin a lifelong relation with their environment that will generate nutrition, relationships, stories, memories, ethics, and practices that go beyond nature and culture.

MAYA HUNTING ETHNOECOLOGY AND MULTISPECIES ENTANGLEMENTS

As mentioned, studies about agriculture and the milpa have taken a prominent role in human ecological studies and anthropology studies of the Maya. There are few studies about hunting in the literature on the Maya, even though it has been an important nutritional and cultural activity throughout their history. Several studies discuss hunting activities and their meanings, particularly as facets of the milpa, yet there are no investigations that look at hunting from an ontological perspective. In one of the early studies, Pohl (1977) discusses the types of and changes in hunting among the Maya of Belize.[5] She highlights the importance of hunting to the Maya diet and to social relations of reciprocity and exchange. Pohl notes that the Maya's dramatic reductions in hunting practices came about in the region when more land was used for planting sugar cane in the 1970s. A shortage of land occurred and people were restricted to smaller spaces for hunting and for milpa. As a consequence, the Maya concentrated more on their milpas and domesticating animals such as pigs, chickens, and turkeys. This decline in hunting is similar to what has happened in the state of Yucatan and in some parts of Quintana Roo.

Some of the earliest multispecies ethnography literature (before being labeled "multispecies") focused on species interdependence and coevolution. One such study by Greenberg (1992) shows how the dynamics of multispecies relations coevolves ecologies. For example, the long history of milpa agriculture has

created an ecology that benefits the white-tailed deer. The Maya selectively protect special trees, such as the zapote and ramón, during the burn of the milpa. The zapote produces a fruit and the ramón grows leaves that are desired and consumed by deer. Also, the margins of the milpa and the fallow fields generate the type of vegetation that provides the perfect habitat for deer. Therefore, by working on the milpa, the Maya have created the conditions to attract wildlife into their domain. As Jorgenson (1993) details, other animals, including paca (*Agouti paca*), agouti (*Dasyprocta punctara*), coati, and collared peccary (*Tayassu tajacu*), also benefit from the gardens. Hunting becomes a facet of the maintenance of the milpa just like burning and weeding, in that this practice protects their fields from animals that will eat their crops while at the same time supplies deer meat, which provides important nutritional value in the Maya diet.

Jorgenson's (1993) study came from the field of forestry. It analyzed hunting in Quintana Roo in the Ejido X-Hazil, which borders the southwestern part of the Sian Ka'an Biosphere Reserve, addressing the question of conservation and management of fauna in the region. His study evaluated the premises of "garden hunting" and showed a special mammal-harvesting pattern based on interactions between hunters, on the one hand, who plant gardens and harvest game, and, on the other hand, game species that eat crops and have greater population densities in the vicinity of gardens than in forest areas without gardens. He observed that Maya hunters harvested eight species of mammals and four species of birds as game. He noted that out of sixteen crops planted by Maya gardeners, six crops were consumed by game species. Corn was the most frequently eaten crop.

The studies by Pohl, Greenberg, and Jorgenson provide important details about the impacts of land use and loss of forest cover in hunting. They also highlight human-animal encounters within garden hunting. As important as it is to talk about these multispecies engagements in the milpa, it is also imperative to look at historical engagements with hunting, as it reminds us why this historical practice is key to understanding the Maya moral ecology.

MAYA HUNTING: HISTORICAL-ETHNOGRAPHIC ACCOUNTS

Hunting has been an important activity in the Maya lifeworld throughout their history, not only for its nutritional component, but also for its cultural legacy.

Depictions in pre-Conquest art and writing reflect its importance through images of hunters and of animals that have been important in the Maya cosmology. Many written documents from the pre-Conquest peninsula were destroyed during Diego de Landa's tenure as Archbishop of Yucatan. In one of the remaining documents, the Popol Vuh of the Quiche Maya, its protagonists, the Hero Twins, affirm in several passages that they are hunters, even though more often they are remembered for playing the ritualistic ball game. The first ethnographic descriptions of hunting in the Yucatan were documented by Landa in his *Relación de las cosas de Yucatán* of 1566 (Landa 1941).

Landa's descriptions highlight the importance of hunting to the Maya at this time. They include the technology used, hunting rituals, the act of communal hunting, and, briefly, the role of hunting for children.[6] At this time, the technology was bows made from wood and hemp and arrows made from reeds and flints.[7] Communal hunting entailed large communities hunting together, often by circling prey and flushing them out.[8] Although the practice of communal hunting began to decrease in the first part of the twentieth century, it still occurs today in the Yucatan, although it is often more symbolic than an actual hunt (Eiss 2002). Nonetheless, the sharing aspect of the communal hunt still remains in place today, including distributions to deities who are part of their community.[9] Today, children use slingshots rather than bows and arrows. As discussed below, youngsters use the slingshot mostly to shoot small animals, fruits on trees, and to play around with each other while doing target practice with empty bottles or tin cans. While the technology has changed, the practice of playing with and testing a series of hunting tools and strategies is still important for socialization and for the process of enskilment (Ingold 2000). Landa's descriptions show that although there have been changes since he observed these activities, there is still some continuity in many beliefs and practices to this day, particularly the offerings and reverence shown to the owner of animals.

In 1907, renowned Maya scholar Alfred Tozzer described hunting among the Maya based on his early ethnographic observations. He notes that, after the production of corn, hunting was the second most important activity for obtaining food for the Maya. By that time, all the Maya from the peninsula used a muzzle-loading musket and powder horn instead of the bow and arrow that we read about in Landa's account. Tozzer noted that "the natives . . . are skillful in imitating the cries and calls of animals and birds," which is something they still do in the Zona Maya today. Like Landa, Tozzer also remarked on the communal hunt: "Often a large number of Indians will join together for a general

hunt, and the results are divided on the return" (1907, 54). In terms of rituals, he also observed that "a simple offering of *posol* is made near the house before the departure on any extended hunting trip. The *posol* is for the owners of the animals. . . . This rite is called *usakai Ts'oon*. A short chant is made at the departure and again on the return" (162; italics in original).

Subsequently, in 1918, British archaeologist Thomas Gann published one of the first ethnographic accounts of the Masewal of Chan Santa Cruz while doing work and traveling in Belize (then British Honduras) and southern Yucatan (Gann 1918). In this area, the Maya also used single muzzle-loading rifles, just as Tozzer noted a few years before. He found that the Maya were very cautious when hunting because of the single-shot rifles, waiting until the animals were as close as possible before shooting. He also noted that they used special flute-like instruments to mimic the sound of the deer. During this time period, they also practiced *chuuc*, or spying (see "overnight hunting" below), in specially constructed "spying" towers where they would wait in a sitting position in a tree.

In the early 1930s, the first series of classic ethnographies on the region sponsored by the Carnegie Institution began to be released. Robert Redfield, along with Alfonso Villa Rojas, spent time in the community of Chan Kom in central Yucatan. They described the group hunting practices (*batida* or *puj kej*) they found there:

> Hunting is usually a cooperative enterprise (ppuh ceh). One man engages the interest of a few others; he sometimes whistles as a signal, and any others who wish to do so join the group. When they have reached a likely region, they surround a tract of land (often a grassy place where a village stood—lab-cah) and boys, or men who lack guns (ppuhob) drive the game forward on one side of the enclosed square toward the armed men (pah ppuhob) waiting on the side away from the wind. Dogs accompany the hunters, following game driven to earth, or pursuing deer. If a deer or wild boar is killed, the man who shoots it receives one leg, the hide, the head, the belly and the liver; the remaining meat is equally divided among other members of the party. In the case of other game, including birds, the successful hunter receives all the kill, but commonly offers cooked morsels to the others. (Redfield and Villa Rojas 1934, 48)

Redfield and Villa Rojas also described how the hunters offered the belly and liver to "the supernatural protectors of the deer" (ibid.) as a show of respect

for the owner of the animals. Redfield and Villa Rojas also describe individual hunting: "Sometimes a man goes alone to hunt. Then he usually lies in wait at a water hole, or at a x-mabche tree, the fallen fruit of which is much eaten by deer. In the season when the young deer are born, some men imitate the call of the fawn by the use of a wooden whistle or by making the sound through their noses. Occasionally a man hunts at night, using a carbide head lamp. The watch-towers used in parts of Yucatan are seldom employed in Chan Kom" (ibid.).

The watch-towers that they refer to are commonly used for spying (or for overnight hunting), which I will describe later in the chapter. By the time Redfield and Villa Rojas were making their observations, the owners or guardians of the milpas had taken the names of saints. "San Cecilio, San Gabriel and San Marcelino are guardians of the wild animals that are hunted by men" (108). It is not known when they acquired names of saints, but to my knowledge this is the first time that this practice of giving names to the guardians of the milpa was documented. Today in the Zona Maya the guardians of the animals (yuntzilo'ob) are also saints.

In addition to the saints, Redfield and Villa Rojas documented that supernatural animals called the *zip* (or *ts'ip*) also guarded animals, but they were not gods: "If all practical care has been taken to load and fire, and still one misses, it is because of the zip. Thus the belief in the zip explains the odd mischances of the hunt. On the other hand, the fact that there are some places where deer are unusually abundant is likewise explained by the existence of the zip, because the deer are thought to follow their patrons. If one sees many deer at one place it is probably because someone has found and killed a zip" (118). The Maya belief in the ts'ip is still present in the Zona Maya and for some serves as part of the logic of their relationship with forest animals.

Soon after concluding fieldwork in Chan Kom, Villa Rojas embarked to a new region to collaborate on the ethnographic project of Robert Redfield and Sylvanus Morley of the Smithsonian Institute that was taking place in the Yucatan. In the mid-1930s, once settled in the community of Tuzik, Quintana Roo, Villa Rojas noted that hunting was an individual pastime and that, when the milpa did not require intensive labor, people would go hunting in the nearby forests. He also observed that the Maya knew how to imitate the sound of some birds and of deer (Villa Rojas 1945, 180). *Puj kej*, which is a form of group hunting, was practiced less often by then, and only during days before big ceremonies.

Surprisingly, this classic ethnographic work that is full of descriptions of daily life falls short in describing the hunting activities in Tuzik.

Paul Sullivan conducted fieldwork in Tuzik as a follow-up to Villa's fieldwork of the 1930s. He also gives a brief account of hunting during his stay in 1978–79. His account is similar to the practices of hunting in today's Zona Maya, with just a few exceptions. At that point, some game had become a commodity to sell in the market to obtain cash for short-term needs. People of Tuzik had to occasionally travel up to sixty-five miles to Valladolid to sell the game that they had shot around their village, because they seemed to get better treatment and better prices than in Felipe Carrillo Puerto, which is closer to them (Sullivan 1984, 34). Sullivan also discussed the practice of garden hunting, which is known to the Maya as *ch'uk* or *espiar*. By this time, Sullivan noted that the communal hunt (puj kej) described by Redfield and Villa Rojas in the 1930s was no longer practiced in the region. In terms of hunting trips, Sullivan mentioned that many people went at least several nights a week every month, especially during the full moon. He also found that people were selling more of what they hunted, rather than consuming it with their family.

In a personal communication, Paul Sullivan points out that the years of his first fieldwork were times of real hardship in terms of need and nutritional health for the community. He revisited the same community in the early 1980s, and they looked healthier because they had better food to eat as a consequence of better harvests. The earlier hardships had likely played a role in their selling more game to buy necessities, rather than consuming it. Similar to what I found in Tres Reyes, periods of need made some people sell their game. Next, I will elaborate on the hunting that is taking place today in the Zona Maya region of Quintana Roo.

HUNTING IN TODAY'S ZONA MAYA

The historical accounts help us to consider both the continuity and the changes in hunting practices in today's Zona Maya, but also its centrality in Mayan moral ecology. Four types of hunting occur today in the region: daily, overnight, extended, and milpa. In addition to these four kinds, there are two other forms done mostly by children and teenagers. These are the *ts'a* (trap) and the slingshot (see table 7).

TABLE 7. Types of hunting in the Zona Maya

TYPE OF HUNTING	COMPOSITION	HUNTING TOOLS	PLACES	TIME
Daily (xiimbal ts'oon)	1-2 adult males	Shotgun or .22 caliber rifle	Ejido	All year, mostly February–August
Overnight (ch'uuk or espiar)	1-3 adult males	Shotgun or .22 caliber rifle	Ejido	All year, mostly February–August
Extended hunting	Between 3 and 6 adult males	Shotgun or .22 caliber rifle	Ejido borders; bosque mediano-alto	March–May
Milpa hunting	Individual	Shotgun or .22 caliber rifle	Ejido, individual milpas	All year
Ch'in ch'iich'	Kids ages approximately 5–15	Slingshot	Ejido, house gardens	All year
Traps (ts'a)	Mostly teenagers, some adults	Traps	Ejido, milpas	All year

DAILY HUNTING (XIMBAL TS'OON) AND THE STORY OF THE PAVO CANTOR

Daily hunting consists of getting up early in the morning when it is still dark, between four and five a.m., and typically returning by noon, depending on whether the hunters also went out to perform other tasks, such as visiting their cornfields or beehives. The hunter goes to an area previously selected and searches for animals in a specific place during a run or season of an animal. This kind of hunting is done mostly during the season of the *faisan* (pheasant) and wild turkeys, although occasionally the Maya track deer with this kind of hunting. During the *pavo cantor* (Yucatan wild turkey, or *xnuk kutz* in Maya)

season, hunters go out for a period of two weeks, looking for places where they can hear this bird. The pavo's birdcall is what makes this kind of hunting distinctive, and people can hear the sound clearly at dawn. For this reason, they go very early in the morning. I went on several trips in search of the pavo. Some of the people I went out with were more interested in showing me how this bird sings than in hunting it. They insisted that the call of the pavo is a beautiful sound and wanted me to record it so that I could listen to it later. Although my recorder was not really suited for recording forest birds, I did comply and recorded a sample. Back at the community, I was asked to play the recording while they were recounting stories. Their insistence that the call was worth having a recording of, and their descriptions of its aesthetic quality, speak to a deeper relationship with the pavo that goes beyond the mere hunt.

Since the community is next to the Tulum-Carrillo Puerto highway, they were able to select places to hunt these birds by riding their bikes north or south. One morning, I went out with Francisco, who knew exactly where he wanted to go because he had heard several of them the day before. He was very excited about my being able to listen to the birds' singing. "Now you are going to listen to the birds," he told me in Maya, followed by a phrase in Spanish: "Está bien chido" (It's very nice). We climbed on our bikes and headed south toward his brother's milpa. It was 4:30 a.m., still dark, and we pedaled about three kilometers. Once at the selected spot, we hid our bikes inside the bushes and began walking into the forest. He had his 20-gauge shotgun and I had a single-shot .22-caliber rifle that I borrowed for my hunting trips. Despite the darkness, he was able to move through the forest with great ease, an ease that only a person accustomed to this terrain would have. Needless to say, I had more difficulty keeping up with him. Because of my height, I was constantly hitting tree branches. I also had to watch for the uneven and sharp limestone rocks on the ground. We stopped several times along the way to listen, and heard the sound of several birds, but none of the pavo cantor. We continued walking to an area that was in fallow (from his brother's milpa) where the vegetation was still low. This vantage point gave us more visibility to be able to spot birds flying by. All of a sudden he pointed his finger toward the east, from where a distinctive noise was coming, and asked, "Ka wu'uyik te' elo'?" (Do you hear that?). He then began to imitate the sound. I nodded. He informed me that it was the pavo cantor. "Jats uts, massa?" (Nice, isn't it?), he said. "Beyo'" (That's right), I replied. He heard other calls and identified each bird by its call. When he spotted one bird, he moved to take a shot. He got into a kneeling position, and next, all

I heard was a loud "pow," scaring away all the other nearby animals. Francisco went and picked up the pavo and started caressing its feathers. He offered it to me to carry it, feel it, and appreciate its colors. We sat for a little while and he asked me if I knew why the pavo cantor has beautiful feathers. He said it is explained by the legend of Xnuk Kutz yeetel Pu'ujuy, the pavo cantor and the *tapacaminos* (Yucatan poorwills, or nightjars):

> One day the animals of the forest organized a big celebration and they invited the pavo cantor. The pavo was very happy to be invited but at the same time was a little ashamed, because back then she didn't have beautiful feathers. She was very ugly. She worried that she couldn't go dressed as she was. All of a sudden she remembered that there was another bird with beautiful dresses called the pu'ujuy [poorwill]. So she asked the poorwill if she could borrow her dress to go to the celebration. The poorwill felt so much sympathy for the ugly turkey that she decided to swap feathers on the condition that the turkey returned it as soon as it was over. The turkey never returned the feathers, and the poorwill sits and waits for the turkey. The reason that the poorwill goes out only at night is because it is ashamed to be seen with ugly feathers. That is also the reason why we hear the poorwill singing, once the sun sets: "Puy, puy, puy."

The moral of the story, as recounted by Francisco, was to be careful who you trust, because appearances might be deceitful. Stories in which animals teach people lessons are abundant in Tres Reyes. I heard many of them during my stay. Hunting is a holistic relationship that assists not only in constituting a resource management ethic but also in constituting the Maya moral ecology by the nature of their layered relationship with the animals that they hunt, tell stories about, learn from, and eat.

CH'UK OR ESPIAR (OVERNIGHT HUNTING)

Overnight hunting consists of leaving the community between three and four p.m., when there is still enough sunlight to track animals over a previously selected area. Having selected a site for shooting, the hunters set up a base camp where they will eventually sleep after the hunt. Once it is dark, they will wait until they hear noises from the animals, turn on their miner headlamps, and shoot. After they have the catch, they return to the base camp to sleep over and

return to the community in the morning. Overnight hunting is most frequently done during the dry months between February and June. The Maya refer to it as *espiar* (in Spanish) or *ch'uk* (in Maya).

I was fortunate to participate in several of these trips. On one particular day, Miguel, Francisco, Daniel, and I went on an overnight hunt. These were some of the most respected hunters in the community. As usual, I was entrusted with a single-shot .22-caliber rifle. With prior marksman experience from serving in the military years ago, I did not have any trouble handling the weapon, albeit I had never been game hunting. The others had 20-gauge shotguns, which is the most common gun used in the region. We gathered at the center of town and checked our supplies: already-made tortillas, peppers, and a piece of deer jerky from a previous hunt. Having a supply of water was also important, so we carried plastic soda bottles filled with water strung on our shoulders. We also brought machetes and our hammocks. At four p.m., we took off walking along one of the trails in the forest. The estimated length of the walk was four or five kilometers. During this walk, like others I was to take with the Maya, their profound relationship with the forest unfolded as they made their way through different terrains with varied purposes. Our first kilometer was through fairly low forest on a well-beaten path. Then the vegetation began to thicken and the path was not as clear as before. For me, there was no path, but for them it was easy to keep going forward, and they displayed a nimbleness that I was not able to easily mimic. As the forest became denser, Francisco began marking our way by bending vines and branches. Seeing this marking process reminded me of an anecdote related by Francisco's father, Don Florentino, about his grandfather during the Caste War. Since there were no roads through the forest, Don Florentino and his companions marked their path by using this bending method, so they could find their way to their trenches and also not to fall into their own booby traps. While the others continued to move along with ease, for me the walking was getting more difficult. I could not move as facilely through small spaces and didn't seem to have the coordination it took to negotiate the terrain's denseness. While walking and marking, they were also telling me the names of the different species of trees, including the ones to avoid touching. The four- to five-kilometer walk took us about two hours, a longer than usual amount of time for them since I was slower and they were making stops to point out and explain to me each species they observed.

Once at the selected site, we laid down our weapons and food. We then set up and tied our hammocks in a circle. Leaving the food and water, we divided

into pairs. The task was to walk around to find traces of game animals: tracks, feces, sapodilla fruits with bites. While walking around the sapodilla trees, they found tepezcuintle (paca) feces that indicated they had been eating recently around the area. After pinpointing the space where the animals entered the clearing, based on the tracks left behind, we set up the spying tower. It consisted of a sapling of about five feet tied horizontally between two trees that were about four feet apart. Then they climbed on the sapling and tied a hammock between the trees. After we set up the spying towers, we headed back to the base camp. It was already about 5:30 p.m. and we sat to have dinner. Everything was quiet and soon it began to get dark. The four of us wore headlamps. These are used by Maya hunters so that when they hear animals entering their watch area they can shine a spotlight on them, aim, and fire. Some animals are temporarily blinded for a few seconds, such as the deer, and it makes them more susceptible.

Next, each of us went to our respective spying towers to climb and wait. There was an air of tranquility all over the forest. I could hear the wind blowing in the trees. I was wondering whether I was going to be able to hear the animals near my site. At around 8:30 p.m. the first shot was heard: "pow!" It reverberated throughout the forest. I could not tell who made the shot. Fifteen minutes later, another. Then I heard someone walking. Then there was silence again. Another half hour passed, then there were several more shots within the next half hour. At around 10:00 p.m., Francisco came to my spying tower to look for the others and see if they had caught anything. Only Miguel was successful, having shot three tepezcuintle. We could find only two of these animals, plus the foot of one that had apparently escaped. We decided to head back to base camp since it was impossible for the "*tepe*" to get too far away without one of its legs. When we got back to our base camp we hung our hammocks around a small fire, and after some small talk we went to sleep.

The next morning we woke up, packed our hammocks, and started our walk back. We did find the remaining tepezcuintle not far from the site where we had found its foot. I said to Miguel that he was very lucky to get three animals in one night; he replied that the owner of the animals was good to them. When the Maya hunt with partners, they divide the bounty, sharing the meat—or the earnings, if they decide to sell the meat—evenly. In this case, there was one tepezcuintle for each hunter. After distributing the game, we headed back to the village, where the excitement of a successful hunting trip is always reason for gathering family and neighbors, not only to prepare food but to listen to the hunters' accounts about the experience.

EXTENDED GROUP HUNTING

For the most part, the hunting expeditions in Tres Reyes were daily, overnight, or milpa hunting. Once in a while a small group of three to five individuals would stay in the forest for more than two days in an extended expedition. *Extended hunting* is for the most part a group activity lasting from two to three days. This is done when the hunting site is over six kilometers away from the community. During my various stays, there were only two trips of this kind, and I was invited on one of them. Four members of the community and I prepared to go for three days (over a weekend). They had the usual equipment: guns, hammocks, and headlamps. Only, this time there were more tortillas wrapped in cloth inside a bag with a shoulder strap, along with two-liter soda bottles filled with water. Three hunting dogs were also brought along to help with tracking animals. The site to which we were heading was about fourteen kilometers away. There is only one person in the community who owns an old pickup truck, and he was going to participate. We drove along a dirt road to get to an area called Vigia Chico. Once there, we set up a camp similar to the one on the overnight hunting trip. Machetes in hand, we walked into the forest to track and to listen for animals. It was calm and peaceful walking along the shaded paths inside the forest. We could hear the sounds of different birds, and the hunters would identify them for me by their calls. They would also show and identify plants, trees, orchids, and other kinds of vegetation. The chicozapote tree was one that they searched for the most, to see if there were traces of animals eating its fruit. After one hour, we set up the places where we would spy. There were five encounters with animals, but only one was successful for the hunters: one *xi'ik* (badger) was shot that night. Later, we returned to base camp.

The following morning, we woke up early and decided to look for other places to hunt in the evening. After boiling some water to make instant coffee, we split into groups. I went with Francisco and we walked for about two kilometers in the forest. Francisco recounted a story about when he used to go hunting with his father when he was a young boy. The story had to do with the way that *aruxo'ob* (tricksters) play tricks on people when the Maya are hunting. It had happened to him once when he was spying. He heard some noises, and when he lit up his headlamp he saw two eyes shining, and then they disappeared. He said he knew it was an *arux* because there was no noise of an animal running away. He also told of times that they hunted and took the pub-

lic bus to Valladolid to sell the meat as well as other merchandise.[10] While he bent branches to mark, I asked him why he liked hunting so much, and he responded that he had done it all his life, it was his tradition and what he *knows*. "My father still does it, our grandfathers did it too." His answer was not surprising since he had divulged several stories in the past about going hunting with his father, and the experiences as he tells them were clearly meaningful to him. Hunting, like the milpa, is a process learned through enskilment. One learns this skill by watching, listening to stories and legends, and engaging in the practice. As one does it, one learns to perceive, move, and perform within one's environment in relation to other species—thus constituting an ontological ecology.

As we continued our walk we encountered a small pond. Francisco explained that a watering place is likely to have a variety of animals that visit frequently. We looked around, searching for recent traces left by forest animals. At this time of year (the dry season), water levels were lower, so one could clearly see tracks in the mud around the edges of the pond. Francisco informed me that they were deer tracks. He decided to set up the spying towers at an angle facing an entrance through the vegetation to the pond. Once this was done, we had to set up another place to spend the night, about fifty meters away from the tower, because we were roughly two kilometers away from base camp. We then had something to eat and waited for sundown. Everything was dark now, but it was almost a full moon so there was high visibility. Nevertheless, Francisco was concealed very well in his tower. This time I was closer to him, sitting in another tower. Soon we heard the echo of a shot from far away (later we found out that the other group had caught a tepezcuintle).

People who engage in overnight hunting need a lot of patience. One is at the mercy of many bugs (mosquitoes and horseflies), and there are often many long hours to wait while nothing happens.[11] On this trip, it had reached 11:00 p.m. and indeed nothing had happened. We just sat, listened to the forest, and watched the stars in the sky. Around midnight I heard some noises from below. I was sure some animal was coming close to where we were to get a drink at the pond. I looked toward Francisco's tower. He had lit his headlamp and it was shining toward the pond, right where one deer was drinking. I heard the "pow!" and then saw his light still flashing around: he had seen two deer and was trying to locate the second one. However, by the time he loaded again, the other deer had run away. He then called me and told me to come down because we were going to get closer to the pond to see if the deer was still there. When

we found the deer Francisco had shot, he tied the two front legs and then the two hind legs together, then joined them to form a strap which he secured to his forehead, and we walked back to our temporary camp. Finally, we went to sleep. The next morning we met the other group back at the base camp and decided to go back to the community earlier than planned, since the hunters determined that we had enough game. Yet another instance showing that the Maya ethic of hunting meant taking no more than what was needed.

MILPA HUNTING

Milpa (or garden) hunting, as the name implies, is done when the hunters are in their forest plots: they bring their guns with them just in case they encounter game around their area, often evidenced by the traces of their own crops the animals leave behind. However, the primary intention is to work on the milpa; if they do not spot any game, they do not get upset, because that is not what they intended to do in the first place. Other kinds of hunting might be considered "garden hunting" as well, but I define it as garden hunting if it is performed in or around someone's milpa with the *intention* of protecting it from animals. The question of intention is important in order to distinguish this from other forms of hunting, as protecting the milpa is not the primary reason the Maya go to hunt in other ways.

At different stages of the milpa, especially after planting and during the harvest, the Maya try to protect their crops from predators, performing what is generally known as garden hunting (Linares 1976; Greenberg 1992). Some studies have classified daily and overnight hunting practices as garden hunting as well, but I argue against this classification. For me, it is designated as garden hunting only if they perform it around their milpas.[12] Garden or milpa hunting is done when people go to their milpas with their shotguns, as most of them do for daily care or for watering beehives, which are sometimes placed near the milpa so that they can keep an eye on them as well. It becomes part of a daily routine. There is an element of surprise in this kind of hunting. If a hunter encounters game on his way to or from or while working on the milpa, he will stop whatever he is doing and pursue the animal.

Don Florentino always took his gun with him to his milpa. One day he told me that he had seen some traces of deer around his milpa, and for several days thereafter he had been telling me that he would get one very soon. I had gone

to help him and his son cut some bushes prior to burning, and never saw or heard the deer. On a different day, while walking to his milpa, we took a detour through an abandoned cornfield from two years prior. This was an area that lay in fallow after having been planted for three or four years. Vegetation had begun to take over, but it was still low enough that it allowed some visibility: had there been signs of animals, they could have been observed. After walking and looking around, he saw no clear signs of animals in the area so we decided to continue to the planted cornfield.

Once there, Don Florentino showed me the path that the deer had taken to his milpa. The Maya have a great ability to spot traces that animals leave behind. The next day, he came back with a *yuc* (a smaller deer than the more common white-tail) hanging from his head. He was eager to tell me the details about how he got this animal, since I had been with him in his milpa the day before. It was broad daylight and he was working as usual when he heard some noises. When he turned, he saw the deer and went to pursue it. Shortly after, he was able to shoot and make the kill. Situations like this are what make it milpa hunting: waiting for an opportune moment while going about one's everyday activities.

SLINGSHOTS (TIRAHULE) AND TRAPS (TS'A)

Trap and slingshot hunting are mostly performed by children and teenagers. Boys as young as three are given a slingshot by their fathers. This practice outraged one particular environmental NGO in the town of Carrillo Puerto called Econciencia. They focus on environmental education and have a small museum and education center in the center of town. One of their most well-known activities is going into Maya villages and trying to persuade small children to stop using slingshots because of the threat to wildlife, particularly birds. During their visits, they try to collect as many of them as they can and bring them back to their headquarters to keep as symbols of the success of their educational campaign. Their practice of vilifying the slingshots dismisses their importance in the socialization process. Practice for hunting is an important element in the socialization of boys and a significant indicator of the beginning of gender division. At this moment boys are given what should perhaps be seen as a *tool* as well as a distinctive gender marker. Although girls do play with the slingshots, they do not *own* them, because hunting will not be part of their work.

Of course, slingshot practice is not the only socialization activity. Boys as young as five accompany their fathers to the milpa by bicycle, or walking, if it is a short distance and especially during the harvest time. I once went to Miguel's milpa with his two sons, ages seven and five, to gather pumpkins. The children helped with the picking and took a few breaks to use their slingshots to shoot at some birds flying around the milpa. Once the boys are older, between the ages of ten and sixteen, they will engage in setting traps. There are several traps that the Maya use. Morris Steggerda (1944, 70) described ten traps commonly used by the Maya of Yucatan. I observed firsthand only three out of the ten types of traps mentioned in Steggerda's article. They were mostly used to catch gophers and tepezcuintle. Antonio, a thirteen-year-old, went several days a week to weed his father's milpa and to check on the several traps he had set in different places around it. Sometimes he went with his fourteen-year-old cousin who had several traps set up as well. They caught several gophers during my stay. I went with them once to see their traps and they told me how the gophers were destructive to the crops. Once caught, they were consumed just like any other catch.

By early adolescence boys already have significant knowledge about the forest. They know their way around, can identify and know the characteristics of plants and trees, and how to spot the best places to set up their traps. The materials to build their traps come from the forest as well. These experiences and skills prepare them for the following step of hunting with a different tool: the rifle or the shotgun. These teenagers sit in on all the conversations that take place during the evenings in which stories about hunting are narrated and performed. They also accompany their parents to the milpas, where they have watched their fathers use their rifles and shotguns to hunt. Sometimes, when the adults spot an animal, their children stop work in order to search for it. It is through this "apprentice" method that they get exposed to hunting. By the age of seventeen or eighteen, the boys become engaged in hunting with rifles.

HUNTING AS RESOURCE MANAGEMENT OF FAUNA AMONG THE MAYA

Questions about overhunting are always on the mind of conservationists in Quintana Roo. However, as some of the stories and anecdotes discussed in this chapter show, there was also concern among the Maya about how abuse of re-

sources would contribute to their own demise. "Look, Jose, you cannot go hunting and kill all the animals you want. Animals have an owner who takes care of them and you have to respect him," Francisco told me once. "The owner is a *santo* whose job it is to guard the animals inside a fence and let them outside little by little. If we do not treat the animals well and do not pay them respect, the santo will close the fence and no more animals will come out." He was referring to the *me' tan lu'un*, another name for the guardian of the animals. There are also *laj kaj*, which are stones that are spread throughout the forest and are responsible for guarding animals in a specific area. These are similar to the *arux*es or *aruxo'ob*, who are the guardians of the milpa. The *laj kajo'ob* are sometimes also given the names of saints.

Another spirit, called the ts'ip, which is in the shape of a deer, is also responsible for taking care of the deer and will let the Maya know if they are hunting too many by playing tricks on a hunter, such as sending bees to bite him while he is on a hunt. As a spirit, ts'ip is not normally seen, but once in a while it will become visible to a hunter. The visibility is a sign that the person is hunting excessively and not paying respect to the owner of the animals. If mistakenly killed, this spirit animal will bring bad luck or illness to the hunter.

This ill fortune from overhunting is believed to have happened to the person who told me about the me' tan lu'un. He went on to tell me a story of a time when he went out hunting with a friend of the community. "One year, we went daily to hunt. We got everything, deer, tepe. We were also making some money. Then I began having this pain in my left shoulder and it spread over to my left arm. I didn't know what it was. "Pensé que me va a llevar la chingada," he exclaimed in Spanish, meaning that he thought death was going to take him away. "I went to a j-men and he said that I had probably killed a ts'ip and it was punishment for taking too many animals." The j-men performed a ceremony called *k'eex* to appease the me' tan lu'un and to cure and cleanse him. The hunter had the pain for six months and then it went away. "I abused the resource and now I am not hunting that much," he confessed. To this day, his hunting activity was indeed less than other people's from the community. He only occasionally went hunting during the pavo cantor season in April. His old partner, who still hunts in the ejido of X-Maben (where he is an ejidatario), which is next to Tres Reyes, also corroborated his story. The partner conveyed that now he himself is also more careful and asks permission from the owner of the animals.

There is also the practice of the *virtud* (virtue). It is customary to open the stomach of a deer to search for a *tunich* (a stone of virtue). Francisco told me

that the *nojoch tatao'ob* (*los abuelos*, or elders) say that if a hunter finds this stone, it will assure him of good luck for hunting deer. If found, they have to take the stone and hide it inside their hunting bag.[13] The virtud provides temporary luck. One has to return the virtud stone to the forest after killing seven deer, or it will have a negative effect.

LOJ TS'OON AND K'EEX CEREMONIES

The Maya continue and adapt the traditions of their ancestors. The ancient Maya performed ceremonies to request permission from the owners of the animals and as a form of gratitude for the animals that they hunt. In the past, the activities took place in the months of Zip and Zac, as recounted by Diego de Landa in the sixteenth century, as well as the regular offerings of posol before and after the hunt noted by Tozzer in the first decade of the twentieth. The following describes the practices during the month of Zip:

> On the next day, the hunters came together in one of the houses of one of their number and brought their wives with them like the rest. The priests came and drove away the evil spirit as usual. After he had been driven out they placed in the middle the apparatus for the sacrifice, incense and new fire, and the blue bitumen. And the hunters devoutly invoked the gods of the chase, Acanum, Suhui Dzip, Tabai and others, and distributed the incense, which they threw into the brazier. (Landa 1941, 155)

These practices took place in the month of Zac:

> On a day of this month of Zac, which the priest designated, the hunters celebrated another festival like that which they had celebrated in the month of Zip. They celebrated this one now to appease the gods and to turn aside the anger, which they would have against them and their sowings. They made them (these feasts) on account of the blood, which they had spilled during their hunts; for they considered as an abomination any bloodshed unless it was in their sacrifices. And on this account whenever they went hunting, they invoked the god and burned their incense to him, and, if they could, they anointed his face with the blood of the heart of what ever the game was killed. (ibid., 163)

Today in the Zona Maya, several ceremonies are performed that have a connection with the past ceremonies of their ancestors. The frequency of performing them has decreased, but nonetheless they are still practiced. The ceremonies are the *loj ts'oon* and the *k'eex*. The loj ts'oon takes place after the hunter has killed eight, nine, or thirteen animals, or at the end of each month.[14] Like the practice of the ancient Maya, it is done to "pay your dues" (Anderson and Medina Tzuc 2005, 90) to the owners of the animals and to renew their permission to hunt again. It is also performed in order to cleanse the hunter's rifle. The rifle is placed on the ceremonial table surrounded by ramón leaves and offerings of food. In Tres Reyes, the ceremony was done at least once a year by each hunter, instead of performing it every month or after the killing of a certain amount of animals, because (at this time) these hunters had to invite a j-men from a nearby community. The frequency may change, since they now have a j-men living in the community. During my fieldwork, I attended two of the ceremonies. Each was performed in someone's home. The hunters arranged for a j-men to come from Chun-Yah.[15] They also performed the k'eex, which is another cleansing ceremony, but used to purify the hunter, not the rifle. Terán and Rasmussen (1994) noted that the loj ts'oon and k'eex performed in Xocen were attended only by males and it was performed outside the house. In Tres Reyes, it was done inside the house or in the church, and wives and children also attended the ceremony. As mentioned in the introduction of this book, Norget utilizes the concept of moral ecologies by emphasizing the sacred dimensions of lived, embodied moralities (2012, 88) that are deeply connected to the landscape. The loj ts'oon and k'eex ceremonies connect the well-being of hunters, the landscape, and local animals in one sacred ecology.

CONCLUSION

The beliefs and the behavior of hunters like Francisco show how these practices are part of a larger moral ecology, that they serve as mechanisms to regulate hunting, and that a conservation ethic existed among the Maya before the Mexicans took over the area and established their own rules and laws to control hunting activities. Today, these practices are considered contrary to what the nature industry wants to establish, and thus they are not entirely accepted by the state's natural resource managers, nor by some ENGOs. This

nonacceptance brings me back to the question of intentionality and perception of the environment. Hunters learn their beliefs as they perceive the environment around them. These ways of thinking consequently have become embedded in an interspecies relationship with their environment, affecting the use of their resources and thereby forming part of their ontological ecology. These beliefs and practices should be valued as an integral part of the Maya's moral ecology by conservation managers and the state, because they are grounded in the local ecology. This moral ecology is threatened by the green land-grabbing schemes and indiscriminate harassment by PROFEPA done in the name of conservation but grounded in coloniality of nature.

In subsequent visits to Tres Reyes, the attitude expressed by some in the community was that they wanted to continue the practice of hunting, but that they see an increased need to preserve the forest: with the warming of the planet, they are concerned about the loss of biodiversity. A group of them decided on their own, not directed by any ENGO or enforcement agency, that focusing more on apiculture than on hunting (without completely giving it up) would be more beneficial to the forest, as bees will help pollinate the forest and provide more food to animals that depend on the fruits of the forest. One of the leaders of the community justified this move because of the increased frequency of sightings of jaguars close to the kaj. "Years before, they were rarely seen near the community because they had all the food they needed out there." Now they come close, he believes, because the number of prey animals is decreasing due to loss of vegetation, which in turn affects the food chain. He reasoned that planting more and having more pollinators would benefit the forest. It will also be beneficial economically to them. As they had ended their relationships with ENGOs, they also wanted to end their relationship with middlemen in the sale of their honey, in order to receive a better return. In a way, the realization that they could do this *themselves* and their desire to create their own independent cooperative as a solution was a sign that an autonomous post-conservation space could become a reality. This is a positive outcome congruent with the notion of sustainability. Nevertheless, if the ejido wants to participate in conservation projects sponsored by REDD+, hunting would be prohibited altogether. This amounts to conservation by coercion and, as mentioned, directly contradicts claims that REDD+ will not harm indigenous livelihoods in the forest.

CONCLUSION

CONSERVATION REBELS

Blocking Land Grabs, Post-Conservation, and Decolonizing Coloniality

For a seriously liberated vision of society that includes the relationship between man and nature, the relation to the domination of nature has to be changed.

THEODOR ADORNO (2008, 59)

THE COMMUNITY OF TRES REYES experienced the difficulties of living in the Maya Forest in an age where the nature industry, under neoliberal agendas and state interventions, took prominence in the name of conservation. After close to two decades of collaborating with various ENGOs and Mexican natural resource agencies on conservation projects, the community decided they had had enough. The furniture, logging, orchids, ecotourist trails, butterfly crafts, and parrot-raising initiatives had all ended without any tangible benefit to the community. If anything, they had led some to be briefly even more vulnerable, as the time they devoted to these endeavors took time away from traditional livelihood strategies. These very real threats are important to acknowledge, as development workers underestimated them. At the same time, an argument could be made that these failed projects opened a space to rethink conservation practices, for both professional practitioners and the Maya communities.

The ejidatarios of Tres Reyes found a clever way to contain the advance of the green land grabs. Once they discovered the scheme and realized the possibility of profound changes to their ejido, a group of them became suspicious of the intent of the Roberto Hernández group. They pressured the ejido to halt the selling of any more rights and petitioned to expand the ejido membership from twenty-eight to forty-five. This guaranteed rights to a younger generation of community residents who had petitioned for years, and who had only been

FIGURE 14. Walking in the milpa. Photo by author.

allowed to grow milpas but had never had "legal" ejido membership. They have agreed that the ejido right is not for sale, and now their ejido has more power to contain any intention by Hernández of it being bought or overtaken.

In 2012, I visited the community and went on a morning walk (*ximbal k'aax*) with a Maya friend who had been recently elected "*comis*" (*comisariado ejidal*, ejido president). As we arrived at his milpa, there were signs of corn plants starting to grow (see fig. 14). I asked the reason for the change, in opening the ejido membership, and he responded, "We made a mistake by permitting the sale of ejido rights. We saw what happened to our friends and family who are on the street. We can't lose the land. It belongs to our children." The fact that the moral ecology of the forest calls upon the Maya to provide a way of life for future generations trumped the advance of privatization efforts, through the realization by the Maya that there are things (i.e., land) that they just can't sell, and that growth and development aren't everything. They realize that the nature industry is a threat to their present and future relation with the forest. This places the Maya of Tres Reyes at the center of recent debates on degrowth and

post-development that emphasize that there is a moment of de-linking from the global and re-linking with the local (Rocheleau 2015), and that point to the need for decolonizing in the search for alternatives to modernity (Escobar 2015).

In Alfonso Villa Rojas's classic 1945 ethnographic study, *The Maya of East Central Quintana Roo*—entitled *Los elegidos de Dios* (God's chosen people) in Spanish—the descendants of the rebel Maya of Quintana Roo who fought in the Caste War of the nineteenth century were portrayed as a fierce people who followed a strong, autonomous religion known as the Cult of the Talking Cross and who sought to govern their own land and political affairs. The will of "God's chosen people" has been tested over time by a succession of phases of development and modernity and the cycles of capital. While the Maya have been part of the world economy since they settled Chan Santa Cruz in the 1850s, they have struggled to not let it overpower their sense of place and being, while allowing for and adapting to change. The arrival of Mexican troops for the "pacification" of the Maya while Mexico was going through an agrarian social revolution greatly affected how land was distributed among the Maya. Since the end of the Caste War, agricultural and forestry development projects have come and gone without any significant positive impact on local communities. The rise of the chicle trade benefited a few of the Maya leaders and Mexican middlemen, and created several divisions among the local Maya while leaving them in a precarious situation in terms of access to land. The establishment of Cancún as a tourist destination produced a "time-space compression" and accelerated the process of consolidating the Maya's entrance into the global economy. The boom effect of Cancún and the spread of the tourist economy furthered the commoditization of natural resources. The establishment of the Sian Ka'an Biosphere Reserve came at a moment when new discourses about sustainability and biodiversity conservation began to emerge, and God's chosen became "state chosen" as development and conservation subjects.

Today, the Maya of Central Quintana Roo find themselves at a crossroads in an era of growing awareness of biodiversity conservation and climate change. They have implemented a wide range of development projects, trying to negotiate how to maintain their livelihoods and connection to the land while conservation projects from the outside promise to "improve" their lives at the same time that they restrict their access to the resources around the reserve. Communities on the border of the reserve were motivated to join green-development projects in hopes that they would provide opportunities and alternate livelihood

strategies for their families and community. The irony was not lost on the Maya that these projects endeavored to "teach" them about nature and sustainability; after all, the colonial use of the trope of "teaching" is not new. Despite this, they put much effort into trying to make them work according to rules set by the *dzul* (outsiders, foreigners). However, frustration set in when it became evident that these projects were not well thought-out, came with significant normative restrictions, and threatened rather than enhanced both cultural traditions and livelihood strategies.

When they stopped working with ENGOs, the Maya went back to focusing on subsistence strategies that they have used in the past, which rely on the resources that their land provides. Despite the attempts by environmentalists to engage them in "sustainable" practices, most of their own practices are already low-impact. For example, they recycle and reuse all materials from the forest. This is what has been called a "multiuse strategy" (Toledo et al. 2003). Furthermore, their levels of consumption are low compared to other households in larger towns and cities. Yet they have earned a bad reputation among environmental managers because "slash-and-burn" agriculture involves burning the forest, and many environmentalists and biologists equate this practice to the destruction of the environment, despite the fact that in many instances it helps biodiversity. Hunting is likewise treated as an environmental crime by many conservationists and often used as a bargaining chip. Conservationists have made little attempt to understand the ways that the Maya perceive place and nature, nor how they interpret sustainability. As we saw in their interactions with the milpa and hunting, the Maya have intricate ways of engaging with multiple species in a horizontal relationship, and have cultural models for sustainability that have been effective for their well-being for many years.

This book has sought to provide an ontological political-ecology study to grasp the complexity of the events that have unfolded in recent years in the Maya Forest of Quintana Roo. In order to accomplish this, I have argued that understanding the legacy of colonialism vis-à-vis land and ethnic disputes, land grabs, subordination of knowledge—in other words, the coloniality of nature—is essential for "understanding the misunderstandings" between the actors involved in this conservation entanglement. Moreover, this study has critically assessed how neoliberal and state knowledges about the environment and conservation are produced and reproduced by the Nature Industry in the context of unequal relations of power and the continual pressure to push the privatization of ejido land. Lastly, this exploration ultimately revealed the possibilities of spaces of autonomy and post-conservation, grounded in a moral ecology and

local knowledge, that make possible the survival of the Maya in a nonhierarchical pluriverse (Escobar 2010a; 2015).

ONTOLOGICAL ECOLOGIES IN CONSERVATION

Theorizing through distinct ontological ecologies helps us to appreciate different readings of a contested land in the context of an environmental dispute. For the Maya, the landscape in which they live, the k'aax, is the *place* where they feel "at home in the world," where they are situated in an everyday engagement with their environment. As Arif Dirlik reminds us, "place is the location . . . where the social and the natural meet, where the production of nature by the social is not clearly distinguishable from the production of the social by the natural" (2001, 18). The Maya accentuate their ontological ecology not only through their attempts to demonstrate the depth of their symbolic relationship with it, but also through their everyday interactions with it.

Conversely, for conservationists and land-grabbing developers, that same landscape is a *space* that can be read from a distance, a space that can be represented in maps, that can be controlled and managed based on *their* ontological ecology as a detached domain that can be dominated and domesticated through rational management, often based on narrow or one-dimensional biological parameters or measures, or, worse, as a commodity that can be bought and sold. This work has shown how these opposing views result in conflict and frustration. The Maya have a practical engagement with their environment and have pragmatic views of performing their work. Their attitude toward their environment stems from their everyday struggle to render the resources of their land as productive as they can for their survival while also fostering a forest ethic. While their engagement has changed at times to confront different challenges, it has still been an ongoing adaptation and learning process over a long period of time. Working in the milpa and hunting, although hard, is also practical and rewarding to them. The ENGOs, managers, and land grabbers, on the other hand, want to create the conditions for what *they* consider to be sustainable development.

We see how contested knowledges are embedded in environmental disputes and regimes of conservation established in the quest to achieve sustainability. For example, while the Maya's resistance to conservation projects such as particular organic agricultural practices could be viewed by an outsider as opposition to environmental conservation, the resistance is based on a long history of

confrontations and frustrations that they have had with conservationists, bureaucrats, and other state officials. The Maya are still confronting the dzul, and therefore these outsiders imposing and, at times, coercing conservation practices only makes matters worse. Conservationists have always acted the teacher, but rarely the student. They have always acted as the one who knows better, not as a partner in saving a beloved ecology.

In Tres Reyes, this relationship fraught with tensions lasted for many years and through many negotiations. It ultimately ended in expulsion of the ENGOs from the community after that community's rejection of a particular biodiversity conservation and development model, imposed by the ENGOs and the state, in favor of their own, based on their relation to the forest and their political autonomy. In interviews with a group of key leaders in Tres Reyes, I asked if they would ever consider working on any other conservation project sponsored by the government or any other institution. One of them quickly and emphatically replied, "Never!" People nodded. I followed up with, "Really?" After a brief silence, the former president of Tuukul Otsil Maak told me: "This is the thing, José, we really have had it with sacrificing so much for all these projects and the government screwing us. If someone comes with a project, we will have to discuss it [among ourselves] and decide if it benefits the community and protects the forest. The other thing is that *we* will have to run it." There was a lot of confidence in his answer. It seemed as if the outcome of events had enabled them to reach a new level of empowerment. The experience of Tres Reyes both highlights the troubled trajectory and points out several difficulties of institutionally sponsored conservation.

In a case study of the experience of conservation in the Lacandón rainforest in Chiapas, Mexico, Tim Trench argues that the relationship between conservationists and local communities is "clientelistic": the conservation community and indigenous community need each other because "the former has the financial resources and the 'need' to intervene and the latter the territory and the biocapital, although the balance of power constantly alters" (2008, 622). In the case of Tres Reyes, their location within the buffer zone of Sian Ka'an, the intense and expanding coastal development, and promises to donors made the conservation community feel compelled to intervene. Communities were interested in sustainable opportunities, but became increasingly skeptical about foreigners' intentions after funds for implementing proposals for improving agriculture, beekeeping, logging, and so forth ran out and the agencies abandoned the projects before any claimed benefits could be realized.

ENGOs were not capable of collaborating on programs that might have been sustainable for local communities because they allowed conservation priorities to dominate local ones, overrode democratic participation, and left no space for the incorporation of local knowledge. Before they could begin any work, the Maya were required to rely only on the knowledge of outside experts regarding species of which they already had a store of experience and knowledge. The women of Tres Reyes did begin to benefit from the conservation projects insofar as they became more empowered to act beyond their traditional roles. However, evaluators deemed the scientific aspects of the project more important than economic and social considerations. Furthermore, U Yool Ché had not fully thought through the project it was implementing and failed to provide training or support beyond the scientific monitoring stage. Had there been more equal collaboration on the projects, the outcomes might have been different, but the dominance of biological science within a particular conservation logic proved too difficult to overcome. ENGOs have claimed that they were participatory; however, the participatory framework that was advocated was never actually put in place. Alternative environmental projects must revise their understanding of local participation. Participation must extend to decision-making, leadership, and even autonomy. A greater degree of local community autonomy is needed to create spaces and trust so that conservation is more democratic and socially just. I am not promoting the naïve belief that the local can be the only basis for decision-making, but to claim participatory enactment when it is not occurring is disingenuous at best and a form of colonialism at worst.

Additionally, institutional accountability and better integration of traditional environmental knowledge into conservation schemes are needed *if* renewed collaboration with communities along the reserve is to take place. In every project, the Maya were in a subaltern position and their knowledge was undermined. Nor did local Maya have any part in decision-making about reserve management, which directly affected their livelihoods. With the newly found empowerment, the question arises of whether a different form of conservation might enable a post-development conservation without dominating ENGOs.

POST-CONSERVATION?

In this case, it seemed that all ENGOs, whether large or small, felt their role was to intervene and extensively guide the communities in the implementation

of projects, while the people of the community who live in and depend on the forest felt that they needed more autonomy. Even the trust U Yool Ché achieved was compromised by the marked difference in ENGO and community expectations and the delay in benefits from the projects. Conservation promotes benefits that are not immediate, but waiting an indeterminate time for some of these promised paybacks was arduous for locals, particularly since not only did the work invested by them take considerable time away from their livelihood strategies, but also because they were asked to refrain from sustenance activities such as hunting and farming. While conservationists often remind everyone that the benefits of conservation will be there in the future, this does not solve the local challenge of how to feed families in the present. This challenge itself is a daily reminder about the importance both of managing the forest and determining by whose rules local communities must abide. When the people of Tres Reyes became aware of the contradiction between the goals of conservation and their present situation and broke ties with institutionally sponsored conservation, it opened what Sidaway (2007) calls a space of post-development, a region or a network that operates independently, grounded in a particular local reality that is not completely dominated by national and international neoliberal discourses of development and conservation.

Post-development theory presents a critique of modernity centered on "what new forms of social organization arise from the breakdown of or the disillusionment with the institutions of the development era" (Zia 2007, 12). Such disillusionment became a reality in Tres Reyes at the grassroots level. By ending ties with institutionally sponsored conservation while reasserting their autonomy and their relation to the forest and Sian Ka'an, Tres Reyes opened a space of post-development conservation. I emphasize *a* space because it is based on a particular experience, albeit there are other localities that are encountering similar experiences and promoting the commons that the ejido in principle represents. Following Escobar, such a use of *post* (in this case, in post-development conservation) means decentering what it intends to critique: "it means that their discursive and social centrality have been displaced somewhat" (2010a, 12). Getting rid of institutionalized conservation has given the Maya a space to manoeuver. Such a space permits the practice of their own life projects (Blaser 2010), ones grounded in a particular local reality that is not necessarily incompatible with the aims of Western conservation.

While the Tres Reyes Maya views of conservation differed from those of ENGOs and the state, the differences were not radical. Conservation for them

is equated, in most cases, with preservation of resources to sustain a livelihood for present families and future generations. People in the community are well aware that environmental damage is a threat, that uncontrolled fires, for instance, could impact the forest. They would likely continue to support conservation efforts if they perceived a fit for them. Most everyone agreed that the reserve is beneficial because animals take refuge and reproduce in the protected space. They also knew, however, that there was inequality in the relation between themselves and those in charge of the reserve. Conservationists who work with people who understand their dependence on the forest not only for their livelihood but also for their cultural reproduction must integrate this understanding into conservation strategies, or the resulting efforts are likely to either fail or leave lasting negative impacts on local communities. Building on local knowledge is where I see the groundwork for a post-conservation for communities that want to build sustainable communities and not be subordinated to a continuation of colonial relations.

DECOLONIZING THE COLONIALITY OF NATURE

The opportunity for a post-conservation space also raises questions about the perspective that I have discussed throughout the book. Is it possible to decolonize the coloniality of nature? Is it possible to decolonize development? The last question was addressed recently by Joel Wainwright, who published a study about development of the Toledo district in southern Belize titled *Decolonizing Development* (2008). In it he explains how in the 1990s neoliberal policies became the primary development strategy. He follows Partha Chatterjee's claim (1986) that as traditional colonialism ended, reason and capital were meshed together to create "capitalism qua development," in which the deployment of "development" becomes a sort of, or perhaps *the*, antidote to the problems and violence associated with its transition (Wainwright 2008, 15). He discusses how neoliberal policies coincided with the emergence of a social movement called "the Maya movement" that wanted to protect their forests and farmlands from government logging concessions. This led to various demonstrations against the logging developments organized around issues of land rights and the situation of the Maya vis-à-vis other ethnic groups.

Wainwright's answer was to propose a new concept, "capitalism qua development" (ibid., 12–13), and to make a postcolonial critique of development via

capitalism. In that way, his critique was aimed at *capitalism* instead of the enterprise of development itself, because development is difficult to break apart. Making an interpretation of Gayatri Spivak's use of the concept of aporia, he argued that development is an aporia because it is a "necessary concept *and also* absolutely inadequate to its task" (10; emphasis in original). He turned to Adorno for some insights into how to tackle this contradiction, looking at Adorno's analysis of how Beethoven broke with the classical symphonic ideal in his *Missa Solemnis*: as Wainwright puts it, the piece shows a "total lack of *thematic* development. This allows us to ask: what are the tangible themes of development?" (285, emphasis in original). He argued that the only way to decolonize development is to break with the "dominant, tangible themes" (286), particularly the capitalist neoliberal ideology.

In biodiversity conservation, there is a "dominant tangible" *mentalité*, the coloniality of nature. It favors modern technical and scientific knowledge over local knowledge, institutionalized ways of knowing nature over place-based ways of knowing, and asymmetrical interspecies relationships over symmetrical ones. The task ahead is to find how to decolonize the relationship between the Maya and the environmentalists and the discourses and practices associated with this affiliation that would have repercussions in the Maya Forest. Top-down approaches, no matter how well intentioned, do not work. They fail because, by trying to create management plans for a space that is objectified, they exclude the participation and knowledge of the very people who live in the place. Some critics might argue that the Maya of Quintana Roo have been participating in conservation projects, have been responsible for helping, and that these examples of involvement are signs of cooperation. Nevertheless, the Maya still occupy a position that reflects their subaltern place in society. My purpose in this book is not to vilify the managers and romanticize the Maya, but to point out that this complex issue encompasses severe inequalities of power which have a direct impact on the success or failure of conservation management.

By recognizing a Maya moral ecology of the forest, we begin to decolonize the outsiders' totalizing views about the environment and realize that biodiversity conservation is not only about biological diversity, but rather about biocultural diversity. As Enrique Leff reminds us, "Facing the strategizing by the capitalization of nature and culture, *being indigenous* is situated within the discourse of sustainability, globalization, and democracy; it positions itself facing the strategies of control over their biodiverse territory and of their normative instruments—conventions and international protocols, national legisla-

tion . . . —to reaffirm their identities, their rights, the reclaiming of autonomy, the right to identity, the right to territory" (Leff 2000, 43; my translation). In this regard, the Sian Ka'an Biosphere Reserve, as part of the Maya Forest, has little to lose by respecting autonomous communities. Implementing a symmetrical relation would be the foundation of a more democratic and just environmental regulation. It is then that a "*non-identical*" environmental rationality may emerge in which a Maya population is not constrained by the coloniality of nature and has a voice in deciding for themselves what kind of sustainable future theirs will be. Perhaps only then will "sustainability" not be the chimera that it is today.

As one of the residents of Tres Reyes put it, "We are here, the monte [forest] was our past, and the monte is our future." And thus both the story of the descendants of the Caste War rebels and the conflict within the Maya Forest continue. Like all humans who have inhabited the world, to paraphrase Gregorio Pech (Cocom Pech 2001), they are a living question . . . a walking interrogation . . . looking for answers without end.

NOTES

INTRODUCTION

1. The natives of this region call themselves "Masewal," which is a Nahuatl word that means commoner. What they call Maya is their language (*mayathan*). At times they would call themselves "*mayeros*" in Spanish, but it seems this is a more recent phenomenon. For a more detailed discussion of the meanings and uses of "Maya," see Restall 2004. In the book I refer to them as either Masewal or Maya.
2. See Reed (2001) for the revised edition. Dumond (1997) offers a comprehensive account in English of the Caste War, while Paul Sullivan (1989) discusses its outcomes during the twentieth century. There is also important work published in Spanish, including Lapointe (1997), Villa Rojas (1945), Paul Sullivan (1998), and Careaga Viliesid (1998).
3. I refer to "Yucatecan white elites" of the state of Yucatan, as opposed to "Mexican elites." It is worth pointing out that Yucatan was an independent republic for two periods in the nineteenth century, briefly in 1823 and from 1841 to 1848. The elites who dominated the capital of Mérida and other central towns like Valladolid were the ones who had a direct cultural, political, economic, and colonial relation with the Maya of the peninsula, and were the ones who initially fought during the Caste War. The accent of the Spanish spoken in the

Yucatan clearly reflects Maya influence. It was during the war that Yucatan was annexed to Mexico again in 1848, with the Mexican army taking over in 1901.

4. Although Adorno never had a strong impact in anthropology, unlike other philosophers of modernity such as Foucault, either because the critical theory of the Frankfurt School fell out of intellectual fashion or because of accusations of elitism and/or pessimism, his later philosophy of negative dialectics reveals a provocative understanding of modern society and late capitalism, as revealed in the recent publication of some of his lectures (Adorno 2006, 2008) and recent interpretations related to the environmental question (Biro 2007, 2011; Stone 2006; Cook 2011).
5. Given the well-known flaws of the original translation by E. B. Ashton (Adorno 1973), for this quote I use Dennis Redmond's online translation (Adorno 2001). The page numbers cited here refer to Redmond's use of the original German-edition page numbers in the titles of each section.

CHAPTER 1

1. Noj Kaj Santa Cruz Balam Ná means "Great Town of the Holy Cross, House of the Jaguar," whereas Chan Santa Cruz means "Small Holy Cross." To the British in Belize, the inhabitants were simply known as the Santa Cruz Indians (see Sapper 1904). Later it was changed to Felipe Carrillo Puerto in honor of the Socialist Party governor of Yucatan.
2. I distinguish between Yucatecan elites and the Mexican state because at that time the Yucatecan creoles had an identity as "Yucatecos" distinct from Mexican Spanish creoles. It was against the Yucatecos that the Maya rebelled during the war.
3. Bricker translates *contribuciones* as "contributions," but I believe they meant "taxes." Of course, in English, contributions are voluntary payments and taxes are obligatory payments to the state.
4. Rugeley also states that the tax on the baldíos was eliminated after the beginning of the Caste War, which again highlights the importance of the land question as one of the main reasons why the Maya rebelled.
5. Quoted also in Reed (2001, 109) and Bricker (1981, 102).
6. See Lapointe (1997) and Dumond (1997) for in-depth details about the British-Maya relations during this period.

7. For more details about the internal struggles among the rebels during the 1853–1901 period, see Reed (2001), Sullivan (1998), Lapointe (1997), Dumond (1997), and Careaga Viliesid (1998).
8. For overviews and critiques of the Carnegie Institution study, see Sullivan (1989) and Castañeda (1996).

CHAPTER 2

1. Radio Xenka is part of the Mexican government's Instituto Nacional Indigenista, or INI, which has the ambivalent goal of promoting indigenous culture but also strengthening the ties of indigenous groups with the nation-state.
2. PROCEDE (Programa de Certificación de Derechos Ejidales y Titulación de Solares) is a federal initiative to update matters of individual land-grant rights. It also has changed agrarian law in terms of the possibility of selling ejido land. This was one of the major changes promoted by President Salinas de Gortari to facilitate the implementation of NAFTA (the North American Free Trade Agreement).

CHAPTER 3

1. I have been given different versions of the status of Santa Amalia. People from Tres Reyes say that years ago those in Santa Amalia had been offered the opportunity to become ejidatarios, but that they were not interested.
2. According to a text, since taken down, at www.claudiamadrazo.com.
3. For more detailed accounts of Maya concepts of space, see Hanks (1991) and Vapnarsky and Le Guen (2011).
4. One of the most important debates today within ethnoecology has to do with the ethics of indigenous knowledge and intellectual property rights. I do not discuss these issues here because they are outside the scope of this book. Although there is concern among Maya organizations in the Zona Maya about biopiracy (the appropriation of medicinal knowledge by pharmaceutical companies, without compensation), the debate is not as heated as in Chiapas, where there have been initiatives like the ICGB-Maya (see Nigh 2002).
5. See Massey (1994), Appadurai (1996), Escobar (2001), and Dirlik (2001) on place-based politics in the context of globalization.

6. The promotion of organic agriculture was proposed by Amigos de Sian Ka'an in Chumpón in order to limit slash-and-burn agriculture. The project failed and was halted a few years later.
7. The work of Rappaport (1967, 1979) comes to mind, which sparked several debates within ecological anthropology about the relation of ritual and the ecology. See also Berkes (2008).
8. These are protected from the burn, although the cheechem has been exploited because of its hardwood composition.
9. Villa Rojas (1945) tells us about three kinds of soils in Tuzik. In Sullivan's follow-up study (1983) there were the two kinds mentioned above. TeránTerán and Rasmussen, however, document ten classifications in Xocen, according to fertility, amount of rock composition, depth, temperature, and position (1994, 140).
10. Literally, "he who cuts down the forest." See my discussion on the next page about the ancient phrase for milpero in Maya—*aḥ kinsaj k'aax*, which means "he who kills the forest"— and its connection to their ecological worldview. Also discussed in detail by García Quintanilla (2000).
11. In fact, this path was used by trucks to pick up trees when the Maya were involved for a brief period of time in logging for the Ejidos Forestales.
12. The same argument has been set forth by Levy Tacher and Hernández Xolocotzi (1989, quoted in Terán and Rasmussen 1994, 193–94).
13. Sanabria (1986, 51) notes that people burn on a full moon so that the fire is more powerful ("para que el fuego agarre fuerza").
14. See also Terán and Rasmussen (1994, 199) on the similar ceremonies that take place in Xocen. In other places in Yucatan these yuntzilo'ob are known as separate entities, the *yum k'aax*, *yum k'a'ak'* (guardians of the fire), *yum kalan lu'um* (guardians of the soil), and *yum ik* (guardians of the winds).
15. Villa Rojas (1945) noted that in this region there was more individual performance of prayer and offerings in the milpas than in the communal cha' cha'ak, as he had experienced in his previous study of Chan Kom.

CHAPTER 4

1. The pib' is a cooking pit. The Maya dig a hole in the ground and light a fire in it. Then stones are placed on top of the firewood. Once the stones heat up, they place the meat on top of them, then cover the hole with aluminum sheets and earth.

2. Stories about hunting in Yucatec Maya literature and oral tradition are well documented. Some of the stories related to Burns (1983) were told to me by my host in the community.
3. See, for example, the discussion by Gómez-Pompa, Flores, and Sosa (1987) about the *pet kot*.
4. In addition to *tuul* and *p'eel*, the Maya had other classifiers for other categories of things. Nevertheless, these classifiers are not in use anymore. *Tuul* and *p'eel* are the only ones in use today.
5. Pohl designates three general types of hunting: in the milpa, the practice known as "garden hunting" (see also Linares 1976); paired hunting, in which two people go out in a dugout canoe at night to look along the river banks for deer and *Agouti paca*; and hunting expeditions that are undertaken by small groups of males who travel up to sixty miles away from the community and stay several days.
6. "But during their childhood they were good and frolicsome, so that they never stop going about with bows and arrows and playing with one another" (Landa 1941, 125).
7. "Their offensive arms were bows and arrows which they carried in their quivers, pointed with flints or very sharp teeth of fishes for heads, with which they shoot with great skill and force. The bows are made of a beautiful tawny wood which is remarkably strong, more straight than curved, and the cords are of their hemp. The length of the bow is always a little less than the height of the man who uses it. The arrows are of very slender reeds which grow in the lagoons and more than five palms in length; and they fasten to the reed a piece of thin wood, which is very strong and to this the flint is fitted" (Landa 1941, 121).
8. "And when there was hunting or fishing . . . these things they always did as a community" (Landa 1941, 87). "The Indians have the good habit of helping each other in all their labors. . . . They also joined together for hunting in companies of fifty, more or less, and they roast the flesh of the deer on gridirons, so that it shall not be wasted, and when they reach town, they make presents to their Lord and distribute the rest among themselves as among friends" (97).
9. "Being asked what he requested of the idols which he called gods, he said he asked them for deer to shoot with arrows and they were not given and he did not ask for anything for the milpas because he was not an owner of a milpa but for game because he is a hunter and he desired that he should be made a successful hunter. And after performing that rite he saw those birds and he

killed them with his bow . . . and he sacrificed the blood of the birds which he killed and anointed the demon, his idols" (Landa 1941, 31n165).

10. Sullivan (1983) notices the same pattern of going to Valladolid instead of Carrillo Puerto because they would get better prices.
11. It is the waiting aspect of spying that some people do not like about hunting, as noted by Sullivan (1983), Jorgenson (1993), and Hostettler (1996). In contrast, Tres Reyes had only two out of eighteen adult males who did not spy anymore: one who was in his sixties, and another who stopped doing it for reasons explained in the chapter.
12. Hostettler (1996, 293) points out that in Yaxley, ch'uk (espiar) is performed only individually at someone's milpa. In Tres Reyes, this form of hunting is done solo sometimes, but also in pairs or with up to three people, and it is not limited to someone's milpa. They hunt this way in other parts of the forest as well.
13. Rasmussen found this practice in another community. There it was said that if a woman found out about the tunich, the person would lose the virtue and in such cases become sick (Terán and Rasmussen 1994, 282) and would have to perform a k'eej or a loj ts'oon (described later in the chapter). This belief about the tunich was not expressed to me in Tres Reyes.
14. Terán and Rasmussen note that in the community of Xocen, the loj ts'oon is performed after they have killed either eight or thirteen deer, specifically (1994, 283).
15. To get a j-men, the hunter has to go himself or send someone to contact the j-men to establish a day to perform the ceremony. They then have to pay for his transportation and provide for his meals. Sometimes the hunter has to pay additional for the j-men's services.

BIBLIOGRAPHY

Adams, William M. 2003. "Nature and the Colonial Mind." In *Decolonizing Nature: Strategies for Conservation in the Post-colonial Era*, edited by William M. Adams and Martin Mulligan, 16–50. London: Earthscan.

———. 2004. *Against Extinction: The Story of Conservation*. London: Earthscan.

Adorno, Theodor W. 1973. *Negative Dialectics*. Translated by E. B. Ashton. London: Routledge.

———. 1991. *The Culture Industry: Selected Essays on Mass Culture*. London: Routledge & Kegan Paul.

———. 1997. *Aesthetic Theory*. London: Athlone.

———. 2001. *Negative Dialectics*. Translated by Dennis Redmond. Unpublished manuscript available at http://members.efn.org/~dredmond/ndtrans.html.

———. 2006. *History and Freedom: Lectures 1964–1965*. Cambridge, England: Polity.

———. 2008. *Lectures on Negative Dialectics: Fragments of a Lecture Course 1965/1966*. Cambridge, England: Polity.

Adorno, Theodor W., and Max Horkheimer. 1979. *Dialectic of Enlightenment*. London: Verso.

Agrawal, Arun. 2005. *Environmentality: Technologies of Government and the Making of Subjects*. Durham, NC: Duke University Press.

Aguirre Beltrán, Gonzalo. 1991. *Regiones de refugio*. Mexico City: Fondo de Cultura Económica.

Alvarez, C. 1980. *Diccionario etnolingüístico del idioma Maya Yucateco colonial*, vol. 1, *Mundo físico*. Mexico City: Universidad Nacional Autónoma de México.

———. 1984. *Diccionario etnolingüístico del idioma Maya Yucateco colonial*, vol. 2, *Aprovechamiento de los recursos naturales*. Mexico City: Universidad Nacional Autónoma de México.

Amigos de Sian Ka'an. 1997. *Taller de muebles artesanales de Chumpón, Ejido Chunyaxché*. Felipe Carrillo Puerto, Quintana Roo: Amigos de Sian Ka'an. Unpublished report.

Anderson, E. N. 1996. "Gardens of Chunhuhub." In *Los Mayas de Quintana Roo: Investigaciones antropológicas recientes*, edited by Ueli Hostettler, 63–76. Bern: Arbeitsblätter des Instituts für Ethnologie der Universität Bern.

———. 2005. *Political Ecology in a Yucatec Maya Community*. Tucson: University of Arizona Press.

Anderson, E. N., and Felix Medina Tzuc. 2005. *Animals and the Maya in Southeast Mexico*. Tucson: University of Arizona Press.

Anderson, Jennifer. 2012. *Mahogany: The Costs of Luxury in Early America*. Cambridge, MA: Harvard University Press.

Ankli, Anita, Otto Sticher, and Michael Heinrich. 1999. "Yucatec Maya Medicinal Plants Versus Nonmedicinal Plants: Indigenous Characterization and Selection." *Human Ecology* 27 (4): 557–80.

Appadurai, Arjun. 1996. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.

Arellano, Alfredo. 2000. "Sian Ka'an: 15 Años de conservación en el Caribe Mexicano" *Especies: Revista sobre conservación y biodiversidad* 9 (6): 19–23.

Arnold, Channing, and Frederick J. Tabor Frost. 1909. *The American Egypt: A Record of Travel In Yucatan*. London: Hutchinson.

Arnold, David. 1996. *The Problem of Nature: Environment, Culture and European Expansion*. Cambridge, MA: Blackwell.

Atran, Scott. 1993. "Itzá Maya Tropical Agro-Forestry." *Current Anthropology* 34 (5): 633–700.

Avila Zapata, Felipe. 1993. *El general May: Ultimo jefe de las tribus Mayas*. Chetumal, Quintana Roo: Fondo de Publicaciones y Ediciones Gobierno de Quintana Roo.

Baqueiro, Serapio. (1878) 1990. *Ensayo histórico sobre las revoluciones de Yucatán*. 5 vols. Mérida, Yucatan: Ediciones de la Universidad Autónoma de Yucatán.

Barré, Marie-Chantal. 1983. *Ideologías indigenistas y movimientos indios*. Mexico City: Siglo Veintiuno.

Barrera Marín, Alfredo, Alfredo Barrera Vásquez, and Rosa María López. 1976. *Nomenclatura etnobotánica Maya*. Mexico City: Instituto Nacional de Antropología e Historia.

Barrera Vásquez, Alfredo. 1980. "Sobre la unidad de habitación tradicional campesina y el manejo de recursos bióticos en el area Maya Yucatánense, Pt. 1." *Biótica* 5 (3): 115–29.

Barrera Vásquez, Alfredo, Arturo Gómez-Pompa, and Carlos Vázquez-Yanes. 1977. "El manejo de las selvas por los Mayas: Sus implicaciones silvícolas y agrícolas." *Biótica* 2 (2): 47–61.

Barrera Vázquez, Alfredo, et al., eds. 1995. *Diccionario Maya*. Mexico City: Porrúa.

Bartolomé, Miguel A. 1988. *La dinámica social de los Mayas de Yucatán*. Mexico City: Instituto Nacional Indigenista.

Bartolomé, Miguel A., and Alicia M. Barabas. 1981. *La resistencia Maya: Relaciones interétnicas en el oriente de la península de Yucatán*. Colección científica 53. Mexico City: Instituto Nacional de Antropología e Historia.

Basso, Keith H. 1996. *Wisdom Sits in Places: Landscape and Language Among the Western Apache*. Albuquerque: University of New Mexico Press.

Bebbington, Anthony, Samuel Hickey, and Diana Mitlin, eds. 2008. *Can NGOs Make a Difference? The Challenge of Development Alternatives*. London: Zed.

Berkes, Fikret. 2008. *Sacred Ecology*. New York: Routledge.

Biersack, Aletta. 2006. "Reimagining Political Ecology: Culture/Power/History/Nature." In *Reimagining Political Ecology*, edited by Aletta Biersack and James B. Greenberg, 3–40. Chapel Hill, NC: Duke University Press.

Biro, Andrew. 2007. "Adorno and Ecological Politics." In *Adorno and the Need in Thinking*, edited by Donald A. Burke et al., 345–62. Toronto: University of Toronto Press.

———, ed. 2011. *Critical Ecologies: The Frankfurt School and Contemporary Environmental Crises*. Toronto: University of Toronto Press.

Blaser, Mario. 2009. "The Threat of the Yrmo: The Political Ontology of a Sustainable Hunting Program." *American Anthropologist* 111 (1): 10–20.

———. 2010. *Storytelling Globalization from the Chaco and Beyond*. Durham, NC: Duke University Press.

Bonfil Batalla, Guillermo. 1989. *México profundo: Una civilización negada*. Mexico City: Grijalbo.

Bracamonte y Sosa, Pedro. 2003. *Los Mayas y la tierra: La propiedad indígena en el Yucatán colonial*. Mexico City: Porrúa.

———. 2004. *La encarnacion de la profecía: Canek en Cisteil*. Mexico City: Porrúa.

Bray, David Barton. 2001. "The Mayans of Central Quintana Roo." In *Endangered Peoples of Latin America: Struggles to Survive and Thrive*, edited by Susan C. Stonich, 3–17. Westport, CT: Greenwood.

Bricker, Victoria R. 1981. *The Indian Christ, The Indian King: The Historical Substrate of Maya Myth and Ritual*. Austin: University of Texas Press.

Brockington, Dan, and Rosaleen Duffy. 2010. "Capitalism and Conservation: The Production and Reproduction of Biodiversity Conservation." *Antipode* 42 (3): 469–84.

Brockington, Dan, Rosaleen Duffy, and Jim Igoe. 2008. *Nature Unbound: Conservation, Capitalism, and the Future of Protected Areas*. London: Earthscan.

Brosius, J. Peter. 1999. "Analyses and Interventions: Anthropological Engagements with Environmentalism." *Current Anthropology* 40 (3): 277–309.

Brown, Denise Fay. 1999. "Mayas and Tourists in the Maya World." *Human Organization* 58 (3): 295–304.

Burns, Allan F. 1977. "The Caste War in the 1970's: Present-Day Accounts from Village Quintana Roo." In *Anthropology and History in Yucatán*, edited by Grant D. Jones, 259–73. Austin: University of Texas Press.

———. 1983. *An Epoch of Miracles: Oral Literature of the Yucatec Maya*. Austin: University of Texas Press.

Careaga Viliesid, Lorena, ed. 1990. *Quintana Roo: Textos de su historia*. 2 vols. Mexico City: Instituto de Investigaciones Dr. José María Luis Mora.

———. 1998. *Hierofanía combatiente: Lucha, simbolismo y religiosidad en la Guerra de Castas*. Mexico City: Consejo Nacional de Ciencia y Tecnología.

Casey, Edward S. 1993. *Getting Back into Place: Toward a Renewed Understanding of the Place-world*. Bloomington: Indiana University Press.

———. 1996. "How to Get from Space to Place in a Fairly Short Stretch of Time: Phenomenological Prolegomena." In *Senses of Place*, edited by Steven Feld and Keith H. Basso, 13–52. Santa Fe, NM: School for Advanced Research Press.

Castañeda, Quetzil. 1996. *In the Museum of Maya Culture: Touring Chichén Itzá*. Minneapolis: University of Minnesota Press.

Castellanos, M. Bianet. *A Return to Servitude: Maya Migration and the Tourist Trade in Cancún*. Minneapolis: University of Minnesota Press, 2010.

César Dachary, Alfredo, and Stella M. Arnaiz Burne. 1983. *Estudios socioeconômicos preliminares de Quintana Roo: Tomo sector agropecuário y forestal*. Chetumal, Quintana Roo: Centro de Investigaciones de Quintana Roo.

———. 1989. *Sian Ka'an: El hombre y su economía*. Chetumal, Quintana Roo: Centro de Investigaciones de Quintana Roo.

———. 1990. *Quintana Roo: Sociedad, economía, política y cultura*. Mexico City: Universidad Nacional Autónoma de México.

———. 1998. *El Caribe mexicano: Una frontera olvidada*. Chetumal, Quintana Roo: Universidad de Quintana Roo.

Chatterjee, Partha. 1986. *Nationalist Thought and the Colonial World: A Derivative Discourse*. London: Zed.

CIQRO [Centro de Investigaciones de Quintana Roo]. 1983. *Sian Ka'an: Estudios preliminares de una zona en Quintana Roo propuesta como reserva de la biosfera*. Puerto Morelos: Centro de Investigaciones de Quintana Roo.

Cline, Howard F. 1948. "The Sugar Episode in Yucatan, 1825–1850." *Inter-American Economic Affairs* 1 (4): 79–100.

Cocom Pech, Jorge M. 2001. *Muk'ul t'an in nool: Secretos del abuelo*. Mexico City: Universidad Nacional Autónoma de México.

Cook, Deborah. 2011. *Adorno on Nature*. Durham, England: Acumen.

Corson, Catherine, Kenneth MacDonald, and Benjamin Neimark. 2012. "Introduction," in "Grabbing 'Green': Markets, Environmental Governance and the Materialization of Natural Capital," edited by C. Corson, K. MacDonald, and B. Neimark. Special issue, *Human Geography* 6 (1): 1–15.

Craib, Raymond B. 2004. *Cartographic Mexico: A History of State Fixations and Fugitive Landscapes*. Durham, NC: Duke University Press.

Daltabuit, Magalí, and Oriol Pi-Sunyer. 1990. "Tourism Development in Quintana Roo, Mexico." *Cultural Survival Quarterly* 14 (1): 9–13.

Darier, Eric, ed. 1999. *Discourses of the Environment*. Oxford: Blackwell.

de Certeau, Michel. 1984. *The Practice of Everyday Life*. Berkeley: University of California Press.

de la Garza, Mercedes, ed. (1581) 1983. *Relaciones histórico-geográficas de la gobernación de Yucatán*. 2 vols. Mexico City: Universidad Nacional Autónoma de México.

Defenders of Wildlife. 2007. *The Illegal Parrot Trade in Mexico: A Comprehensive Assessment*. https://www.defenders.org/publications/the_illegal_parrot_trade_in_mexico.pdf.

Descola, Philippe. 2008. "Who Owns Nature?" *La vie des idées*. Last modified January 21, 2008. http://www.laviedesidees.fr/Who-owns-nature.html.

———. 2013. *Beyond Nature and Culture*. Chicago: University of Chicago Press.

Descola, Philippe, and Gisli Pálsson, eds. 1996. *Nature and Society: Anthropological Perspectives*. London: Routledge.

Diggles, Michelle E. 2008. "Popular Response to Neoliberal Reform: The Political Configuration of Property Rights in Two Ejidos in Yucatán, Mexico." PhD diss., University of Oregon.

Dirlik, Arif. 2001. "Place-Based Imagination: Globalism and the Politics of Place." In *Places and Politics in an Age of Globalization*, edited by Roxann Prazniak and Arif Dirlik, 15–51. Lanham, MD: Rowman and Littlefield.

Doane, Molly. 2012. *Stealing Shining Rivers: Agrarian Conflict, Market Logic, and Conservation in a Mexican Forest*. Tucson: University of Arizona Press.

———. 2014. "From Community Conservation to the Lone (Forest) Ranger: Accumulation by Conservation in a Mexican Forest." *Conservation and Society* 12 (3): 233–44.

Dove, Michael R. 2011. "Rubber Kills the Land and Saves the Community: An Undisciplined Commodity." In *Beyond the Sacred Forest: Complicating Conservation in Southeast Asia*, edited by Michael R. Dove, Percy E. Sajise, and Amity A. Doolittle, 91–119. Durham, NC: Duke University Press.

Dufresne, Lucie, and Uli Locher. 1995. "The Mayas and Cancún: Migration under Conditions of Peripheral Urbanization." *Labour, Capital and Society* 28 (2): 176–202.

Dumond, Don E. 1997. *The Machete and the Cross: Campesino Rebellion in Yucatan*. Lincoln: University of Nebraska Press.

Edwards, Clinton R. 1986. "The Human Impact on the Forest in Quintana Roo, Mexico." *Journal of Forest History* 30 (3): 120–27.

Eiss, Paul K. 2002. "Hunting for the Virgin: Meat, Money, and Memory in Tetiz, Yucatán." *Cultural Anthropology* 17 (3): 291–330.

Ellen, Roy, and Holly Harris. 2000. "Introduction." In *Indigenous Environmental Knowledge and Its Transformations: Critical Anthropological Perspectives*, edited by Roy Ellen, Peter Parkes, and Alan Bicker, 1–33. Amsterdam: Harwood Academic.

Ellen, Roy, Peter Parkes, and Alan Bicker, eds. 2000. *Indigenous Environmental Knowledge and Its Transformations: Critical Anthropological Perspectives*. Amsterdam: Harwood Academic.

Elmhirst, Rebecca. 2011. "Introducing New Feminist Political Ecologies." *Geoforum* 42 (2): 129–32.

Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World*. Princeton, NJ: Princeton University Press.

———. 1998. "Whose Knowledge, Whose Nature? Biodiversity Conservation and Social Movements' Political Ecology." *Journal of Political Ecology* 5 (1): 53–82.

———. 1999. "After Nature: Steps to an Anti-Essentialist Political Ecology." *Current Anthropology* 40 (1): 1–30.

———. 2001. "Culture Sits in Places: Reflections on Globalism and Subaltern Strategies of Localization." *Political Geography* 20 (2): 139–74.

———. 2007. "'Post-Development' as Concept and Social Practice." In *Exploring*

Post-Development: Theory and Practice, Problems and Perspectives, edited by Aram Ziai, 18–32. London: Routledge.

———. 2008. *Territories of Difference: Place, Movements, Life, Redes*. Durham, NC: Duke University Press.

———. 2010a. "Latin America at a Crossroads: Alternative Modernizations, Post-Liberalism, or Post-Development?" *Cultural Studies* 24 (1): 1–65.

———. 2010b. "Postconstructivist Political Ecologies." In *The International Handbook of Environmental Sociology*, 2nd ed., edited by Michael R. Redclift and Graham Woodgate, 91–105. Cheltenham, England: Edward Elgar.

———. 2015. "Degrowth, Postdevelopment, and Transitions: A Preliminary Conversation." *Sustainability Science* 10 (3): 451–62.

Fairhead, James, Melissa Leach, and Ian Scoones. 2012. "Green Grabbing: A New Appropriation of Nature?" *Journal of Peasant Studies* 39 (2): 237–61.

Farriss, Nancy M. 1984. *Maya Society Under Colonial Rule: The Collective Enterprise of Survival*. Princeton, NJ: Princeton University Press.

Fedick, Scott. 2003. "In Search of the Maya Forest." In *In Search of the Rain Forest*, edited by Candace Slater, 133–64. Durham, NC: Duke University Press.

Feld, Steven, and Keith H. Basso, eds. 1996. *Senses of Place*. Santa Fe, NM: School for Advanced Research Press.

Fort, Odile. 1979. *La colonización ejidal en Quintana Roo*. Mexico City: Instituto Nacional Indigenista.

Foucault, Michel. 1980. *Power/Knowledge: Selected Interviews and Other Writings, 1972–1977*. New York: Pantheon.

———. 1986. "Of Other Spaces." *Diacritics* 16 (1): 22–27.

———. 1991. "Governmentality." In *The Foucault Effect: Studies in Governmentality*, edited by Graham Burchell, Colin Gordon, and Peter Miller, 87–104. Chicago: University of Chicago Press.

———. 2010. *The Birth of Biopolitics: Lectures at the Collège de France, 1978–1979*. New York: Picador.

Galletti, Hugo A. 1999. "La selva Maya en Quintana Roo (1983–1996): Trece años de conservación y desarrollo comunal." In *La selva Maya: Conservación y desarrollo*, edited by Richard B. Primack et al., eds. Mexico City: Siglo Veintiuno.

Gann, Thomas W. F. 1918. *The Maya Indians of Southern Yucatan and Northern British Honduras*. Bureau of American Ethnology Bulletin 64. Washington, DC: Smithsonian Institution.

———. 1926. *Ancient Cities and Modern Tribes: Exploration and Adventure in Maya Lands*. New York: Charles Scribner's Sons.

García Quintanilla, Alejandra. 2000. "El dilema de *Ah Kimsah K'ax*, 'el que mata al monte': Significados del monte entre los Mayas milperos de Yucatán." *Mesoamerica* 39 (June): 255–85.

Gómez-Pompa, Arturo. 1987. "Tropical Deforestation and Maya Silviculture: An Ecological Paradox." *Tulane Studies in Zoology and Botany* 26 (1): 19–37.

———. 1992. "La Silvicultura Maya." In *Cultura y manejo sustentable de los recursos naturales*, edited by Enrique Leff and Julia Carabias, 2:367–84. Mexico City: Porrúa.

Gómez-Pompa, Arturo, José Salvador Flores and Victoria Sosa. 1987. "The 'Pet Kot': A Man-Made Tropical Forest of the Maya." *Interciencia* 12 (1): 10–15.

González Durán, Jorge. 1974. *La rebelión de los Mayas y el Quintana Roo chiclero*. Mérida, Yucatan: Editorial Dosis.

———. 1977. *La zona Maya: Los rebeldes de Chan Santa Cruz*. Mérida, Yucatan: H. Ayuntamiento de Felipe Carrillo Puerto.

González Navarro, Moises. 1979. *Raza y tierra: La guerra de castas y el henequén*. Mexico City: El Colegio de México.

Greenberg, Laurie S. Z. 1992. "Garden Hunting Among the Yucatec Maya: A Co-evolutionary History of Wildlife and Culture." *Etnoecologica* 1(1): 23–33.

Gupta, Akhil, and James Ferguson, eds. 1997. *Culture, Power, Place: Explorations in Critical Anthropology*. Durham, NC: Duke University Press.

Hanks, William F. 1991. *Referential Practice: Language and Lived Space Among the Maya*. Chicago: University of Chicago Press.

———. 2003. "'Reduccion' and the Remaking of the Social Landscape in Colonial Yucatan." In *Espacios Mayas: Usos representaciones creencias*, edited by Alain Breton, Aurore Monod Becquelin, and Mario Humberto Ruz, 161–80. Mexico City: Universidad Nacional Autónoma de México.

Haenn, Nora. 2005. *Fields of Power, Forests of Discontent: Culture, Conservation, and the State in Mexico*. Tucson: University of Arizona Press.

Haenn, Nora, Elizabeth A. Olson, Jose E. Martinez-Reyes, and Leticia Durand. 2014. "Introduction: Between Capitalism, the State, and the Grassroots: Mexico's Contribution to a Global Conservation Debate." *Conservation and Society* 12 (2):111-19.

Harcourt, Wendy and Arturo Escobar. 2003. "Women and the Politics of Place." *Development* 45 (1): 7–14.

Harvey, David. 1996. *Justice, Nature, and the Geography of Difference*. Oxford: Blackwell.

———. 2003. *The New Imperialism*. Oxford: Oxford University Press.

———. 2006. *Spaces of Global Capitalism: Towards a Theory of Uneven Geographical Development*. London: Verso.

Hervik, Peter. 1999. *Mayan People Within and Beyond Boundaries: Social Categories and Lived Identity in Yucatán*. Amsterdam: Harwood Academic.

Higuera Bonfil, Antonio. 1997. *Quintana Roo entre tiempos: Política, poblamiento y explotación forestal, 1872–1925*. Chetumal, Quintana Roo: Universidad de Quintana Roo.

Hinchliffe, Steve. 2007. *Geographies of Nature: Societies, Environments, Ecologies*. London: Sage.

Hornborg, Alf. 2011. *Global Ecology and Unequal Exchange: Fetishism in a Zero-Sum World*. London: Routledge.

Hostettler, Ueli. 1996. "Milpa Agriculture and Economic Diversification: Socio-economic Change in a Maya Peasant Society of Central Quintana Roo, 1900–1990s." PhD diss., University of Berne.

Igoe, Jim. 2010. "The Spectacle of Nature in the Global Economy of Appearances: Anthropological Engagements with the Spectacular Mediations of Transnational Conservation." *Critique of Anthropology* 30 (4): 375–97.

Igoe, Jim, and Dan Brockington. 2007. "Neoliberal Conservation: A Brief Introduction." *Conservation and Society* 5 (4): 432.

INEGI [Instituto Nacional de Estadística, Geografía e Informatica]. 1999. *Quintana Roo: Tabulados básicos ejidales por municipio: Programa de Certificación de Derechos Ejidales y Titulación de Solares Urbanos, PROCEDE: 1992–1998*. Mexico City: INEGI. Available at http://www.beta.inegi.org.mx/app/biblioteca/ficha.html?upc=702825180201.

Ingold, Tim. 2000. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge.

———. 2008. "Against Space: Place, Movement, Knowledge." In *Boundless Worlds: An Anthropological Approach to Movement*, edited by Peter Wynn Kirby, 29–43. Oxford, England: Berghahn.

———. 2011. *Being Alive: Essays on Movement, Knowledge and Description*. London: Routledge.

Ingold, Tim, and Jo Lee Vergunst, eds. 2008. *Ways of Walking: Ethnography and Practice on Foot*. Hampshire, England: Ashgate.

Irigoyen, Ulises, 1934, *El problema económico de Quintana Roo*. Mexico City: Secretaría de Hacienda y Crédito Público.

Johnson, Leslie Main, and Eugene S. Hunn, eds. 2012. *Landscape Ethnoecology: Concepts of Biotic and Physical Space*. New York: Berghahn.

Jones, Grant D. 1989. *Maya Resistance to Spanish Rule: Time and History on a Colonial Frontier*. Albuquerque: University of New Mexico Press,

Jorgenson, Jeffrey P. 1993. "Gardens, Wildlife Densities, and Subsistence Hunting by Maya Indians in Quintana Roo, Mexico." PhD diss., University of Florida, Gainesville.

———. 1995. "Maya Subsistence Hunters in Quintana Roo, Mexico." *Oryx* 29 (1): 49–57.

Joseph, Gilbert M. 1974. "British Loggers and Spanish Governors: The Logwood Trade and Its Settlements in the Yucatan Peninsula: Part I." *Caribbean Studies* 14 (2): 7–37.

———. 1982. *Revolution from Without: Yucatán, Mexico, and the United States, 1880–1924*. Cambridge: Cambridge University Press.

———. 1986. *Rediscovering the Past at Mexico's Periphery: Essays on the History of Modern Yucatan*. Tuscaloosa: University of Alabama Press.

Juárez, Ana M. 2002. "Ecological Degradation, Global Tourism, and Inequality: Maya Interpretations of the Changing Environment in Quintana Roo, Mexico." *Human Organization* 61 (2): 113–24.

Kahn, Miriam. 2000. "Tahiti Intertwined: Ancestral Land, Tourist Postcard, and Nuclear Test Site." *American Anthropologist* 102 (1): 7–26.

Kintz, Ellen R. 1990. *Life Under the Tropical Canopy: Tradition and Change Among the Yucatec Maya*. Fort Worth: Holt, Rinehart and Winston.

Kohn, Eduardo. 2013. *How Forests Think: Toward an Anthropology Beyond the Human*. Berkeley: University of California Press.

Konrad, Herman W. 1980. "Una población chiclera: Contexto histórico económico y un perfil demográfico. *Boletín de la Escuela de Ciencias Antropológicas de la Universidad de Yucatán* 8 (45): 2–39.

———. 1989. "Orígenes y significados de la cruz parlante de Quintana Roo." In *Memorias del Segundo Congreso Internacional de Mayistas*, 2:941–51. Mexico City: Universidad Nacional Autónoma de México.

———. 1991. "Capitalism on the Tropical-Forest Frontier: Quintana Roo, 1880s to 1930." In *Land, Labor, and Capital in Modern Yucatan*, edited by Jeffery T. Brannon and Gilbert M. Joseph, 143–71. Tuscaloosa: University of Alabama Press.

Landa, Fr. Diego de. 1941. *Landa's "Relación de las cosas de Yucatán": A Translation*. Edited by Alfred M. Tozzer. Cambridge, MA: Peabody Museum of American Archaeology and Ethnology.

Lapointe, Marie. 1997. *Los Mayas rebeldes de Yucatán*. Mérida, Yucatan: Maldonado. First published 1983.

Lefebvre, Henri. 1991. *The Production of Space*. Oxford: Blackwell.

———. 2009. "Space and the State." In *State, Space, World: Selected Essays*, 223–53. Minneapolis: University of Minnesota Press.

Leff, Enrique. 1998. *Saber ambiental: Sustentabilidad, racionalidad, complejidad, poder*. Mexico City: Siglo Veintiuno.

———. 2000. "Pensar la complejidad ambiental." In *La complejidad ambiental*, edited by Enrique Leff, 7–53. Mexico City: Siglo Veintiuno.

———. 2004. *Racionalidad ambiental: La reapropiación social de la naturaleza*. Mexico City: Siglo Veintiuno.

———. 2008. "Decrecimiento o desconstrucción de la economía: Hacia un mundo sustentable." *Polis* 7 (21): 81–90.

———. 2012. "Political Ecology: A Latin American Perspective." In *Culture, Civilization and Human Society*, edited by UNESCO-EOLSS Joint Committee, in *Encyclopedia of Life Support Systems*. Oxford, England: UNESCO, Eolss Publishers.

Levy Tacher, Samuel, and Efraím Hernández Xolocotzi, 1989 "Conservaciòn y aprovechamiento del recurso forestal bajo roza tumba y quema en Yucatan." Paper presented at the seminar Problemática Agrícola y Conservación de Recursos en Yucatan, Merida, July.

Li, Tania Murray. 2007. "Practices of Assemblage and Community Forest Management." *Economy and Society* 36 (2): 263–93.

Linares, Olga. 1976. "'Garden Hunting' in the American Tropics." *Human Ecology* 4 (4): 331–49.

Lomnitz-Adler, Claudio. 1992. *Exits from the Labyrinth: Culture and Ideology in the Mexican National Space*. Berkeley: University of California Press.

López Ornat, Arturo. 1993. "Las reservas de la biosfera y la gestión de recursos naturales: El caso de Sian Ka'an." In *Cultura y manejo sustentable de los recursos naturales*, edited by Enrique Leff and Julia Carabias, 2:681–715. Mexico City: Porrúa.

Lothrop, Samuel K. 1916. Unpublished field notes. Peabody Museum Archives, Harvard University.

MacDonald, Kenneth. 2010. "The Devil is in the (Bio)diversity: Private Sector 'Engagement' and the Restructuring of Biodiversity Conservation." *Antipode* 42 (3): 513–50.

Macnaghten, Phil, and John Urry. 1998. *Contested Natures*. London: Sage.

Marcus, George E. 1998. *Ethnography Through Thick and Thin*. Princeton, NJ: Princeton University Press.

Marcus, George E., and Michael M. J. Fischer. 1986. *Anthropology as Cultural Critique: An Experimental Moment in the Human Sciences*. Chicago: University of Chicago Press.

Martí, Fernando. 1985. *Cancún, fantasía de banqueros: La construcción de una ciudad turística a partir de cero*. Mexico City: Editorial Uno.

Martínez-Alier, Joan. 2002. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Cheltenham, England: Edward Elgar.

Martinez-Reyes, Jose E. 2004. "Contested Place, Nature, and Sustainability: A Critical Anthropogeography of the Zona Maya, Quintana Roo, Mexico." PhD diss., University of Massachusetts Amherst.

———. 2008. "Agricultura tradicional: Dilemas de la ética ambiental indígena en México." In *Ética y Ecología: la responsabilidad social corporativa (RSC) y la preservación del medio ambiente*, edited by Luis Galanes Valldejuli, 243–59. San Juan, PR: Editorial Tal Cual.

———. 2014. "Beyond Nature Appropriation: Towards Post-development Conservation in the Maya Forest." *Conservation and Society* 12 (2): 162–74.

Martos, Lorena. 1994. "Projecting the Past to the Present: The Historical Knowledge of a Mayan People." PhD diss., Stanford University,

Massey, Doreen. 1994. *Space, Place, and Gender*. Minneapolis: University of Minnesota Press.

Menéndez, Gabriel Antonio, ed. 1936. *Quintana Roo: Álbum monográfico*. Mérida, Yucatan.

Mignolo, Walter. 2000. *Local Histories/Global Designs: Coloniality, Subaltern Knowledges, and Border Thinking*. Princeton, NJ: Princeton University Press.

*Molina Solís, Juan Francisco. 1904. *Historia de Yucatán durante la dominación española*. 3 vols. Mérida, Yucatan: Imprente de la Loteria del Estado, 1904.

Moraña, Mabel, Enrique Dussel, and Carlos A. Jáuregui, eds. 2008. *Coloniality at Large: Latin America and the Postcolonial Debate*. Durham, NC: Duke University Press.

Mowforth, Martin, and Ian Munt. 1998. *Tourism and Sustainability*. London: Routledge.

Mundujano, Salvador, and Victor Rico-Gray. 1991. "Hunting, Use, and Knowledge of the Biology of the White-Tailed Deer (*Odocoileus virginianus Hays*) by the Maya of Central Yucatan, Mexico." *Journal of Ethnobiology* 11 (2): 175–83.

Nahmad, Salomón, and Álvaro González. 1988. "Medio ambiente y tecnologías entre los Mayas de Yucatán y Quintana Roo." In *Medio ambiente y comunidades indígenas del sureste*, edited by Rodolfo Uribe, 49–83. Villahermosa, Tabasco: UNESCO–Gobierno de Tabasco.

Nash, June. 2001. *Mayan Visions: The Quest for Autonomy in an Age of Globalization*. London: Routledge.

Nazarea, Virginia D., ed. 1999. *Ethnoecology: Situated Knowledge/Local Lives*. Tucson: University of Arizona Press.

Nigh, Ronald. 2002. "Maya Medicine in the Biological Gaze: Bioprospecting Research as Herbal Fetishism." *Current Anthropology* 43 (3): 451–77.

Norget, Kristin. 2012. "Surviving Conservation: La Madre Tierra and Indigenous Moral Ecologies in Oaxaca, Mexico." In *Nature, Science and Religion: Intersections Shaping Society and the Environment*, edited by Catherine M. Tucker, 85–106. Santa Fe: School for Advanced Research Press.

Orlove, Benjamin S., and Stephen B. Brush. 1996. "Anthropology and the Conservation of Biodiversity." *Annual Review of Anthropology* 25: 329–52.

Osborne, Tracey Muttoo. 2012. "Carbon Forestry and Agrarian Change: Access and Land Control in a Mexican Rainforest." *Journal of Peasant Studies* 38 (4): 859–83.

Pacheco Cruz, Santiago. 1934. *Estudio etnográfico del ex-territorio de Quintana Roo*. Mérida, Yucatan: Imprenta Oriente.

———. 1960. *Usos, costumbres, religión i supersticiones de los Mayas*. 2nd ed. Mérida, Yucatan.

———. 1964. *Antropología cultural Maya*. Mérida, Yucatan: Editorial Zamna.

Palma Gutiérrez, Jesus. 1993. "Manejo tradicional de recursos en comunidades campesinas de Quintana Roo, México." In *Cultura y manejo sustentable de los recursos naturales*, edited by Enrique Leff and Julia Carabias, 2:385–406. Mexico City: Porrúa.

Patch, Robert W. 1991. "Decolonization, the Agrarian Problem, and the Origins of the Caste War, 1812–1847." In *Land, Labor, and Capital in Modern Yucatan*, edited by Jeffery T. Brannon and Gilbert M. Joseph, 51–82. Tuscaloosa: University of Alabama Press.

———. 2002. *Maya Revolt and Revolution in the Eighteenth Century*. Armonk, NY: M. E. Sharpe.

Peet, Richard, Paul Robbins, and Michael J. Watts. 2011. "Global Nature." In *Global Political Ecology*, edited by Richard Peet, Paul Robbins, and Michael J. Watts, 1-47. London: Routledge.

Pérez Toro, Augusto. 1981. "La agricultura milpera de los mayas de Yucatán." In *La Milpa entre los Mayas de Yucatán*, edited by Luis Várguez Pasos. Mérida, Yucatan: Ediciones de la Universidad de Yucatán. First published 1945.

Pi-Sunyer, Oriol, and R. Brooke Thomas. 1997. "Tourism, Environmentalism, and Cultural Survival in Quintana Roo." In *Life and Death Matters*, edited by Barbara Rose Johnston, 187–212. Walnut Creek, CA: Altamira.

———. 2015 "Tourism and the Transformation of Daily Life Along the Riviera Maya of Quintana Roo, Mexico." *Journal of Latin American and Caribbean Anthropology* 20 (1): 87–109.

Plumwood, Val. 2002. *Environmental Culture: The Ecological Crisis of Reason*. New York: Routledge.

Pohl, Mary. 1977. "Hunting in the Maya Village of San Antonio Rio Hondo, Orange Walk District, Belize." *Journal of Belizean Affairs* 5: 52–63.

Quijano, Anibal. 1997. "Colonialidad del poder, cultura y conocimiento en América Latina." *Anuario Mariateguiano* 9 (9): 113–21.

Radcliffe, Sarah A. 2006. "Development and Geography: Gendered Subjects in Development Processes and Interventions." *Progress in Human Geography* 30 (4): 524–32.

Rahnema, Majid. "Towards Post-Development: Searching for Signposts, a New Language and New Paradigms." In *The Post-Development Reader*, edited by Majid Rahnema and Victoria Bawtree, 377–403. London: Zed.

Rappoport, Roy A. 1967. *Pigs for the Ancestors*. New Haven, CT: Yale University Press.

———. 1979. *Ecology, Meaning and Religion*. Richmond, CA: North Atlantic.

Re Cruz, Alicia . 1996. *The Two Milpas of Chan Kom: Scenarios of a Maya Village Life*. Albany: State University of New York Press.

Reed, Nelson A. 2001. *The Caste War of Yucatán*. Rev. ed. Stanford, CA: Stanford University Press. First published 1964.

Redclift, Michael. 2004. *Chewing Gum: The Fortunes of Taste*. London: Routledge.

———. 2006. *Frontiers: Histories of Civil Society and Nature*. Cambridge, MA: MIT Press.

Redfield, Robert, and Alfonso Villa Rojas. 1962. *Chan Kom: A Maya Village*. Chicago: University of Chicago Press. First published 1934.

Reina, Leticia. 1998. *Las rebeliones campesinas en México (1819–1906)*. 5th ed. Mexico City: Siglo Veintiuno.

Restall, Matthew. 1997. *The Maya World: Yucatec Culture and Society, 1550-1850*. Stanford, CA: Stanford University Press.

———. 2004. "Maya Ethnogenesis." *Journal of Latin American Anthropology* 9 (1): 64–89.

Richards, Paul. 1993. "Cultivation: Knowledge or Performance?" In *An Anthropological Critique of Development: The Growth of Ignorance*, edited by: The Growth of Ignorance Hobart, 61–78. London: Routledge.

Rival, Laura. 1998. "Domestication as a Historical and Symbolic Process: Wild Gardens and Cultivated Forests in the Ecuadorian Amazon." In *Advances in*

Historical Ecology, edited by William Balée, 232–50. New York: Columbia University Press.

Rocheleau, Dianne, Barbara Thomas-Slayter, and Esther Wangari, eds. 1997. *Feminist Political Ecology: Global Issues and Local Experiences*. London: Routledge.

Rocheleau, Dianne. 2015. "Can Degrowth Be Decolonial and Regenerative? It Has to Be." Paper presented at the Annual Meeting of the American Anthropological Association, Denver, CO, November 19, 2015.

Rodaway, Paul. 1994. *Sensuous Geographies: Body, Sense, and Place*. London: Routledge.

Rosado Vega, Luis. 1940. *Un pueblo y un hombre*. Chetumal, Quintana Roo: Editora Norte Sur.

Roseberry, W. 1989. *Anthropologies and Histories: Essays in Culture, History, and Political Economy*. New Brunswick, NJ: Rutgers University Press.

Roys, Ralph L. 1931. *The Ethno-Botany of the Maya*. New Orleans, LA: Tulane University Press.

———. 1957. *The Political Geography of the Yucatan Maya*. Washington, DC: Carnegie Institution of Washington.

Rugeley, Terry. 1996. *Yucatán's Maya Peasantry and the Origins of the Caste War*. Austin: University of Texas Press.

———. 2001. *Maya Wars: Ethnographic Accounts from Nineteenth-century Yucatán*. Norman: University of Oklahoma Press.

———. 2009. *Rebellion Now and Forever: Mayas, Hispanics, and Caste War Violence in Yucatán, 1800–1880*. Stanford, CA: Stanford University Press.

Sahagún, Bernardino De. 1981. *El México antiguo: Selección y reordenación de la* Historia general de las cosas de Nueva España *de fray Bernardino de Sahagún y de los informantes indígenas*. Caracas, Venezuala: Biblioteca Ayacucho.

Sanabria, Olga Lucia. 1986. *Etnoflora Yucatense: El uso y manejo forestal en la comunidad de Xul, en el sur de Yucatán*, vol. 2. Xalapa, Mex: INIREB.

Sapper, Karl T. 1904. "Independent Indian States of Yucatan." In *Central American Antiquities, Calendar Systems, and History*, Bureau of American Ethnology, Bulletin 28, 625–34. Washington, DC: Government Printing Office.

Schele, Linda, and David Freidel. 1992. *A Forest of Kings: The Untold Story of the Ancient Maya*. New York: Quill.

Schmidt, Alfred. 1972. *The Concept of Nature in Marx*. London: New Left.

———. 2013. "Para un materialismo ecológico." *Utopía y praxis latinoamericana* 18 (61): 11–23.

Schultz, Lisen, Andreas Duit, and Carl Folke. 2011. "Participation, Adaptive Comanagement, and Management Performance in the World Network of Biosphere Reserves." *World Development* 39 (4): 662–71.

Scott, James C. 1976. *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia*. New Haven, CT: Yale University Press.

———. 1998. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT: Yale University Press.

———. 2012. *Decoding Subaltern Politics: Ideology, Disguise, and Resistance in Agrarian Politics*. London: Routledge.

SEMARNAP [Secretaría de Medio Ambiente, Recursos Naturales y Pesca]. 2000. *Proyecto para la conservación, manejo y aprovechamiento sustentable de los Psitácidos en México*. Mexico City: Instituto Nacional de Ecología.

Sidaway, James D. 2007. "Spaces of Postdevelopment." *Progress in Human Geography* 31 (3): 345–61.

Simonian, Lane. 1995. *Defending the Land of the Jaguar: A History of Conservation in Mexico*. Austin: University of Texas Press.

Steggerda, Morris. 1944. "Animal Traps and Snares Used by the Maya Indians of Yucatan, Mexico." *American Anthropologist* 46 (2): 269–72.

Stone, Alison. 2006. "Adorno and the Disenchantment of Nature." *Philosophy and Social Criticism* 32 (2): 231–54.

Sullivan, Paul R. 1983. "Contemporary Yucatec Maya Apocalyptic Prophecy: The Ethnographic and Historical Context." PhD diss., Johns Hopkins University.

———. 1987. "Changing Maya Livelihood in the Forest of Quintana Roo: Flexibility and Freedom." *Tulane Studies in Zoology and Botany* 26 (1): 39–57.

———. 1989. *Unfinished Conversations: Mayas and Foreigners Between Two Wars*. Berkeley: University of California Press.

———. 1997. "The Search for Peace Between the Yucatan and the Rebel Maya 1876–1886." *Saastun: Revista de Cultura Maya* 3 (December): 3–45.

———. 1998. *¿Para qué lucharon los Mayas rebeldes? Vida y muerte de Bernardino Cen*. Chetumal: Universidad de Quintana Roo.

Sullivan, Sian. 2012. "Banking Nature? The Spectacular Financialisation of Environmental Conservation." *Antipode* 45 (1): 198–217.

Sundberg, Juanita. 2004. "Identities in the Making: Conservation, Gender and Race in the Maya Biosphere Reserve, Guatemala." *Gender, Place & Culture* 11 (1): 43–66.

Terán, Silvia, and Christian H. Rasmussen. 1994. *La milpa de los Mayas*. Mérida, Yucatan: Gobierno del Estado de Yucatán.

Terán, Silvia, Christian H. Rasmussen, and Olivio May Cauich. 1998. *Las plantas de la milpa entre los Mayas*. Mérida, Yucatan: Fundación Tun Ben Kin.

Thompson, Edward Herbert. 1932. *People of the Serpent: Life and Adventure Among the Mayas*. Boston: Houghton Mifflin.

Thompson, E. P. [Edward Palmer]. 1968. *The Making of the English Working Class*. Rev. ed. London: Penguin.

———. 1991. *Customs in Common: Studies in Traditional Popular Culture*. London: Merlin.

Toledo, Victor M. 1992. "What is Ethnoecology? Origins, Scope, and Implications of a Rising Discipline." *Etnoecológica* 1(1): 5–21.

———. 1999. "El otro zapatismo: Luchas indígenas de inspiración ecológica en México." *Ecología Política* 18: 11–22.

———. 2001. "Biocultural Diversity and Local Power in Mexico: Challenging Globalization." In *On Biocultural Diversity: Linking Language, Knowledge, and the Environment*, edited by Luisa Maffi, 472–88. Washington, DC: Smithsonian Institution Press.

———. 2002. "Ethnoecology: A Conceptual Framework for the Study of Indigenous Knowledge of Nature." In *Ethnobiology and Biocultural Diversity: Proceedings of the 7th International Congress of Ethnobiology, Athens, Georgia, October 2000*, edited by John R. Stepp, Felice S. Wyndham, and Rebecca K. Zarger, 511–22. Athens, GA: International Society of Ethnobiology.

Toledo, Víctor M., and Narciso Barrera-Bassols. 2008. *La memoria biocultural: La importancia ecológica de las sabidurías tradicionales*. Barcelona, Spain: Icaria.

Toledo, Víctor M., Benjamín Ortiz-Espejel, Leni Cortés, Patricia Moguel, and M. D. J. Ordoñez. 2003. "The Multiple Use of Tropical Forests by Indigenous Peoples in Mexico: A Case of Adaptive Management." *Conservation Ecology* [electronic journal] 7 (3), article 9. http://www.ecologyandsociety.org/vol7/iss3/art9/.

Torres Maldonado, E. J. 1997. "From Tropical Hell to Tourist Paradise: State Intervention and Tourist Entrepreneurship in the Mexican Caribbean." PhD diss., University of Texas, Austin.

Tozzer, Alfred M. 1907. *A Comparative Study of the Mayas and the Lacandones*. New York: Macmillan.

Trench, Tim. 2008. "From 'Orphans of the State' to the Comunidad Conservacionista Institucional: The Case of the Lacandón Community, Chiapas." *Identities: Global Studies in Culture and Power* 15 (5): 607–34.

United Nations Development Program [UNDP]. 2000. *COMPACT: Programa de participación comunitaria en la conservación de Sian Ka'an*. Quintana Roo, Mexico: PNUD, FMAM, Fundación de las Naciones Unidas, Amigos de Sian Ka'an.

UNEP [United Nations Environment Programme]. 2004. "Climate Change REDD+." http://www.unep.org/climatechange/reddplus/Introduction/tabid/29525/Default.aspx.

Urry, John. 2002. *The Tourist Gaze*. 2nd ed. London: Sage.

Vapnarsky, Valentina, and Olivier Le Guen. 2011. "The Guardians of Space and History: Understanding Ecological and Historical Relations of the Contemporary Yucatec Maya to Their Landscape." In *Ecology, Power, and Religion in Maya Landscapes*, edited by Christian Isendahl and Bodil Liljefors Persson, 191–206. Markt Schwaben, Germany: Anton Saurwein.

Vargas Rivero, Carlos A. 1983. "El ka'anche': Una práctica hortícola Maya." *Biótica* 8 (2): 151–73.

Villa Rojas, Alfonso. 1939. "Notas sobre la etnografía de los Mayas de Quintana Roo" *Revista mexicana de estudios antropológicos* 3 (3): 227–41.

———. 1941. "Dioses y espíritus paganos de los Mayas de Quintana Roo." In *Los Mayas Antiguos*, edited by César Lizardi Ramos et al., 111-24. Mexico City: El Colegio de México.

———. 1945. *The Maya of East Central Quintana Roo*. Washington, DC: Carnegie Institution of Washington.

———. 1978. *Los elegidos de Dios: Etnografía de los Mayas de Quintana Roo*. Mexico City: Instituto Nacional Indigenista.

Villalobos González, Martha Herminia. 2006. *El bosque sitiado: Asaltos armados, consesiones forestales y estrategias de resistencia durante la Guerra de Castas*. Mexico City: Porrúa.

Vivanco, Luis. 2006. *Green Encounters: Shaping and Contesting Environmentalism in Rural Costa Rica*. Oxford, England: Berghahn.

Wainwright, Joel. 2008. *Decolonizing Development: Colonial Power and the Maya*. Malden, MA: Blackwell.

Webster, David L. 2002. *The Fall of the Ancient Maya: Solving the Mystery of the Maya Collapse*. New York: Thames and Hudson.

Wells, Allen, and Gilbert M. Joseph. 1996. *Summer of Discontent, Seasons of Upheaval: Elite Politics and Rural Insurgency in Yucatán, 1876–1915*. Stanford, CA: Stanford University Press.

Whitley Fund for Nature. 2005. "Community Development and Conservation in the Sian Ka'an Biosphere Reserve, Quintana Roo, Mexico." Accessed March 21, 2016. http://whitleyaward.org/winners/community-desian-kaan-biosphere-reserve-quintana-roo-mexico/.

Wilshusen, Peter R. 2009. "Shades of Social Capital: Elite Persistence and the Everyday Politics of Community Forestry in Southeastern Mexico" *Environment and Planning A* 41 (2): 389–406.

Wolf, Eric R. 1982. *Europe and the People Without History*. Berkeley: University of California Press.

Ziai, Aram. 2007. "Development Discourse and Its Critics: An Introduction to Post-Development." In *Exploring Post-Development: Theory and Practice, Problems and Perspectives*, edited by Aram Ziai, 3–17. London: Routledge.

Zimmerman, Charlotte. 1961. "The Cult of the Holy Cross: An Analysis of Cosmology and Catholicism in Quintana Roo." *History of Religions* 3 (1): 50–71.

———. 1965. "The Hermeneutics of the Maya Cult of the Holy Cross." *Numen* 12 (2): 139–59.

Zizumbo-Villarreal, Daniel, and Paulino Simá-Polanco. 1988. "Las prácticas de roza-tumba-quema en la agricultura Maya Yucateca." In *Medio ambiente y comunidades indígenas del sureste de México*, edited by Rodolfo Uribe, 88–104. Mexico City: UNESCO.

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