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Living with Nature Across Time, Space and Cultural Perspectives: Introduction

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Throughout human history, the past has always been part of the present, but today the awareness that past is not just past and that the renderings of the past very much shape the world in which we live today is perhaps more pervasive than ever before. Thus, as historians we have become increasingly conscious of the fact that "history is not only constructed in the present – our understanding of it also constructs the sort of present we live in. We live with the legacies of the past" (Carr & Lipscomb, 2021, p. 13). This process works both ways, however, as the past shapes our present and present concerns and agendas inform our searches and readings of the past. "Historians will always be busy—not because the past changes, but because the questions we ask of it change as conditions in our own times change" (Crosby, 2001, p. xi). This has

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been the case of environmentally informed history that from its beginnings in the 1970s has been driven by and reflected concerns of our world and its disruptive relationships with nature. These concerns, shared by the authors of this book, have inspired historians to probe into complex ecological processes of different time periods. While grounded strongly in the study of the past, this book consciously crosses the frontiers and methods of history and related social sciences, and it addresses the major concerns of our time in different regions of the Americas. These are not limited, however, to environmental challenges, but extend to the cultural survival, autonomy, and resilience of Indigenous people, vitality of their languages, and recognition of traditional knowledge among their own communities and by the larger societies in which they live.

Over nearly a century environmental history has developed as an inherently interdisciplinary field with strong methodological ties to anthropology, geography, and human ecology. Environmental history has developed the conceptual frameworks for bringing space and nature into the woven tapestries of events in both the recent and ancient past, thus challenging conventional methods for building historical narratives and designing socioeconomic analyses and cultural interpretations. Focused on the reciprocal relations between different social and ethnic communities and the natural environment, it is centered in the materiality of soil textures, vegetation biomes, wildlife distribution, and stream flow as these relate to human settlement patterns, technologies, and cultural practices. Environmental scholars working in different world regions have developed common themes dealing with agrarian and pastoral systems, built urban and rural spaces, water management, cultural adaptations for living in tropical and arid environments, deforestation, and reforestation. Environmental studies offer a unique explanatory framework by weaving together nature and culture, power and negotiation, adaptation and innovation, to explain the different ways that human societies craft the landscapes in which they live in the course of both external and internal conflicts and the reciprocal processes of adaptation and innovation (Radding, 2019, p. 58).

The conceptual frameworks developed to address environmentally informed histories point to different emphases and visions of historical

change. Environmental historians who work on both the recent and remote past and present scenarios of disruption and decline contrasted with the resilience and regeneration of ecological biomes and human communities (Dean, 1995; Radding, 2022; Denevan, 2002). The tension between human disruption of natural environments and the creative adaptation of Indigenous societies provides the guiding theme for the second chapter in this book, "Flexible borders, permeable territories…" by Prządka-Giersz, Giersz, and Chyla. A related contrast in the crafting of environmental histories concerns the values ascribed to *wilderness* and to lived spaces in different natural surroundings (Cronon, 1996; White, 2004). In this volume, Radding's chapter on "The *Yoreme* creation of *itom ania*…" moves away from the notion of untouched "wilderness" to emphasize culturally produced landscapes in the context of colonialism. Environmental historians often work within the tension between the material relations of production and the cultural meanings ascribed to nature and to the landscapes that distinct human communities have created (Ingold, 2000). This tension produces creative contrasts in nearly all the chapters in this book, particularly in the contributions by Olko, "*Ihuan yehhuan tlacuauh tlamauhtiah in ichcapixqueh…*," by Dexter-Sobkowiak, "*Amo kitlapanas tetl!..*," and De la Cruz Cruz, "*Tlaneltoquilli tlen mochihua ica cintli*." At the same time, these approaches, grounded in distinct methodological and theoretical tools and representing different positionalities, provide complementary insights and build a multi-angled and diachronic account of complex entanglements between Indigenous peoples and their environs.

Environmental histories of Latin America have centered their inquiries in the areas of dense pre-contact populations and centers of Iberian settlement toward the ecological and imperial borderlands of riverine tropics or semi-arid steppes and grasslands. Environmental studies of the Mesoamerican and Andean core regions and their regional spheres of influence have focused on Indigenous systems of food production and water management. Indigenous technologies associated with the *chinampas* of the Valley of Mexico and the raised fields that cultural geographers and archaeologists have found throughout the Andes and the interior lowlands of South America,

illustrate the imprint of complex societies on the natural environments in which they lived. In this volume, Chapter 2, "Flexible Borders, permeable territories…," underscores both the necessity of adaptation to a regional environment of periodic droughts and the innovative technologies that supported numerous settlements and complex social structures in the ecological borderland between the Andean cordillera and the coastal plains.

Environmental historians working on Latin America in both early and modern periods have focused on Indigenous systems for gathering and cultivating diverse species of plants, enriching soils, harvesting water, and building terraces and irrigation canals. Working in interdisciplinary teams together with local communities, scholars have researched the origins and distribution of cultigens, especially the evolution of maize (*Zea maiz*), manioc (*Manihot sp.*), and quinoa (*Chenopodium quinoa*) as well as the kinds of plants that have co-evolved with human societies, e.g., amaranthus, agaves, pitahayas, nopales, tepary beans, and other species that occur in both cultivated and wild varieties. In the extended agroecological hearths of Mesoamerica, the antiquity of Oaxacan horticultural traditions is well known, as captured in the colonial Mixtec legal strategies analyzed in Chapter 4, "Ñudzahui Custom, Contracts, and Territoriality...," and the religious festivals associated with the agrarian cycle and interpreted in Chapter 11 of this volume, "Nakua nukuu ini Ñuu Savi..."

Mesoamerican environmental history is rooted in its agricultural traditions; nevertheless, hunting remained an important part of the Mesoamerican heartland and in its extended frontier regions. Hunting and gathering were essential components of Indigenous subsistence strategies, and they sustained their ritual cycles. The symbolic meanings of deer, jaguars, coyotes, and eagles emerge from the pictorial codices and dance cycles related to the cosmologies and oral traditions of distinct ethnic peoples in different ecological settings extending from Central America to northern Mexico. Terracing, cultivation, and defending community forests (*monte*) emerge as long standing poles for understanding the production of space and the environmental dynamics of community life in Mesoamerica and its borderlands, as is illustrated by Chapter 3, "Ihuan yehhuan tlacuauh tlamauhtiah in ichcapixqueh,"

and Chapter 5, "The *Yoreme* creation of *itom ania* in northwestern Mexico." For the Andean highlands of South America the concept of an archipelago of ecological niches distinguished by altitude and subsistence lifeways has supported the resilience of traditional knowledge systems (Murra, 2002). In the interior of the continent, the riverine borderlands followed the major tributaries of the Paraguay and Río de la Plata basins. The peoples living in these lowlands combined their riverine resources with the grasslands and tropical forests that supported foraging and horticultural economies (Radding, 2019, p. 59–61). Their environmental and linguistic traditions persisted even through the altered circumstances created by the colonial missions and European pastoral and commercial economies, as shown in Chapter 6, " Gender Disparities in Guaraní Knowledge..."

In these diverse ecological settings, Indigenous communities in both the past and recent times have built distinct societies related historically to their natural environments and to the wider polities in which they move. The resilience of their identities and their defense of territories and resources are intimately linked to their living languages and the cultural traditions they express. Striving to understand deeper connections between nature, cultural knowledge, and local languages, we build on the "anthropological experience of culture," recognizing that "culture functions as a synthesis of stability and change, past and present, diachrony and synchrony" (Sahlins, 1985, p. xvii, 114). This is clearly seen in Chapter 3, "*Ihuan yehhuan tlacuauh tlamauhtiah in ichcapixqueh*," Chapter 9 "The Interrelation between Language, History and Traditional Ecological Knowledge...," Chapter 10 "Cenotes and placemaking in the Maya world...," Chapter 11, and Chapter 12 "*Tlaneltoquilli tlen mochihua ica cintli*..." highlighting the cultural continuity anchored in dynamic relationships with the environment, natural resources and community knowledge, which persist despite long-term acculturation processes and the sense of loss. The volume has also been inspired by the methods and insights from linguistic anthropology that views social interactions as mediated by language, both spoken and written, verbal and nonverbal (Ahearn, 2012, p. 3). As seen in Chapter 7 "Combining Visions of Well-Being...," and Chapter 8 "*Amo kitlapanas tetl!*," the sense of ethnic belonging,

protection of the natural environment and language practices mutually constitute and reinforce each other in communities' collective perceptions and actions. With its strong focus on environmental and socio-cultural history of the Native people, our approach is fully congruent with the tradition of New Philology that has fruitfully explored colonial history through Indigenous sources, demarginalizing local perspectives and putting in the spotlight conceptualizations of experience communicated and encoded in Indigenous languages (Lockhart, 1991, 1992; Restall, 2003). Expanding on the methods of this important vein of scholarship, Chapters 3, 4, and 5 unlock the potential of complementary Indigenous- and Spanish-language sources for recovering sociocultural microhistories of local communities, their collective knowledge, and actions. By integrating synchronic and diachronic perspectives on Indigenous relationships with nature, we follow the view of history as "the broadest and most flexible of the 'disciplines,'" recognizing that "disciplinary rigidities, orthodoxies, and preconceptions are often the greatest hurdle" (Lockhart, 2000, p. X).

Hence, central to this book is a vivid and critical dialogue not only between different time periods and regions, but also distinct disciplines, methodological approaches and epistemologies. Such a cross-disciplinary and comparative perspective illuminates distinct but counter-balancing conceptualizations of nature and Indigenous environmental strategies. Our approach stems from a multidisciplinary research project funded by the European Union under Horizon 2020, *Minority Languages, Major Opportunities. Collaborative Research, Community Engagement and Innovative Educational Tools*, including scholars and students whose work contributed to this international effort; to enrich the volume further, we invited expert contributors who are not directly involved in the project. In terms of methodological approach, the book aims to produce a dialogue among academics, Indigenous scholars, and local communities to compare and mutually enrich their perspectives on environment, knowledge, identities, and well-being in remote and recent historical periods. Therefore, the contributions to this book are based on original research in the fields of anthropology, history, archaeology, linguistics, and cultural studies. Its authors bring together academics who work on both colonial and

contemporary sources and Native scholars who are speakers of Indigenous and minority languages. The participation of two Indigenous scholars and activists (Nahua and Mixtec) has made it possible to include Indigenous research approaches and the languages themselves. Together, the authors are testing new, collaborative, and decolonizing approaches to studying linguistic-cultural heritage, past and present, in its essential relationship to environmental knowledge. By its nature then, our volume is not only rooted in the readings of historical sources, but it also brings together archaeological data, oral history and oral traditions, linguistic research as well as ritual life and different testimonies of agency of Native communities. This synergy of sources and approaches makes it possible to understand more fully the roles of heritage languages in the processes of decolonization of knowledge and research practices as well as the creation of more culturally sensitive epistemological tools. In particular, the contributors offer new insights on environmental/territorial rights, claims, and protection strategies as well as on the links between environment, traditional knowledge, and well-being. Tracing the close integration of nature and culture through historical processes of environmental change in different regions of the Americas, we together address the question of how local knowledge(s) today are nurtured through ancestral languages and oral traditions. We are convinced that posing such questions can be especially fruitful through a comparative historical approach. It facilitates our understanding of processes across time and space along with their causal mechanisms (Schutt, 2006) and deriving "lessons from past experiences that speak to the concerns of the present" (Mahoney & Rueschemeyer, 2003, p. 9). Unlike many published monographs, this is not a policy-directed book on environmental management by Indigenous peoples, but a historically and culturally oriented approach to the production of humanly crafted environments in different time periods and regions. It is grounded in exploring the significance and the roles of local languages and traditional knowledge in the processes of environmental management, and, more broadly, in culturally sensitive ways of interacting with nature, while acknowledging a broad and varied scope of transformations over time. Consciously bridging temporal and geographical constraints, we explore the deep connections

between environment, language, and cultural integrity from early modern times to the present. In terms of the geographical spread we focus both on North and South America to showcase the similarities and differences in a wide range of Native American cultures, their responses and adaptations to highly diversified geographic biomes as well as common challenges to the continuity and sustainability of Indigenous communities on both continents today. Thus, our volume fills a unique space: while there is a substantial body of publications using Indigenous-language texts and oral traditions in both anthropology and history, especially in Nahuatl, Mixtec, and Maya, there are few to none comparative edited books that bring together the issues of environment, language, and cultural integrity in Latin American historical and cultural spheres.

The environment as we understand it is nature worked upon by historical and modern communities in culturally sensitive and, sometimes, transformative ways. In this sense, the environment embraces the concept of territory and place linked to the sense of identity and belonging that in turn connects to a holistic sense of well-being. While we set up this broad and strongly cultural definition in our invitation to approach the topics from different angles and perspectives in a collective manner, we also invited the authors to define their own views of the environment/nature as their positionalities, research tools, and data inform them. The authors underscore the ways that local knowledge is expressed and transmitted through ancestral languages, as local communities and Indigenous peoples adapt to change and initiate innovations in their ways of living and relating to their environments. This collaborative approach has made it possible to explore the reciprocal and necessary relations between language/culture and environment; how they can lead to sustainable practices, how language is reproduced, recovered, and maintained in this relationship; how environmental knowledge and sustainable practices toward the environment are reflected in local languages, local sources, and local socio-cultural practices. In accordance with the developing paradigms of environmental history, we also account for the role of nature in historical processes that help to shape cultural and social developments, including ethnic identities. We recognize that "explorations of the

various ways in which climate, soils, forests, mountains, rivers, and animals act as 'co-creators of histories'" (Mosley, 2006, p. 917). Accordingly, the recognition of both human and natural agency in historical and contemporary processes, constituting a fundamental paradigm underlying Indigenous worldviews and production of traditional knowledge, has the strong potential for transcending traditional epistemological boundaries in the academy.

Our book is structured in two complementary parts that organize the chapters in broad early modern and modern periods, without imposing a rigid chronology. Part I, "Environment and the Knowledge of the Ancients," brings together five chapters across the broad expanse of the Americas from the Andes to northwestern Mexico. Combining the research methods and interpretive arts of archaeology, documentary history, oral history, and ethnographic field work, the authors of this section of the book develop their views of the sources and meanings of *knowledge* among diverse Native peoples of the Americas in the remote and recent past. Chapter 2, "Flexible borders, permeable territories and the role of water management in territorial dynamics in pre-Hispanic and early Hispanic Peru," co-authored by Patrycja Prządka-Giersz, Miłosz Giersz and Julia M. Chyla, places the natural environment of the river valleys flowing from the western cordillera of the Andes to the arid coastal plain at the center of their archaeological research on the complex societies that flourished and declined during the historical phases preceding European contact and the early developments of Spanish colonialism. Water management provides the key to understanding technological advancement, aesthetics, and societal organization that permitted ancient and early modern Andean societies to adapt to the cyclical droughts related to the ENSO phenomenon and to political conflict arising from imperial claims to power among Andean urban centers and European invaders. The authors weave a narrative firmly rooted in over two decades of archaeological and ecological research, in collaboration with local communities, at the same time that they draw meaningful comparisons between the ancient and early modern histories of the Andes and the environmental exigencies that present-day communities face in the region.

Chapter 3, "'*Ihuan yehhuan tlacuauh tlamauhtiah in ichcapixqueh.*

And the shepherds are inspiring great fear'. Environment, control of resources and collective agency in colonial and modern Tlaxcala," integrates Justyna Olko's experience in the rich Nahua language sources of Mexican archives with her fieldwork among living Tlaxcalan communities of central Mexico. She explores "complex battlegrounds," in which the Tlaxcaltecah have been actively resisting and counteracting the loss of their control over land, environment, and various kinds of resources, protecting essential assets and components of their well-being. Attempting to offer a *longue durée* view of Tlaxcalan history grounded in specific microhistorical insights, Olko outlines connections between past and present facets of the same longer narrative. This story embraces the struggles against the intrusion of Spanish settlers, loss and degradation of land, access to forests and keeping key traditional practices and ways of healing as fundamental components of local well-being, all in the context of progressing and often catastrophic climatic, environmental, socioeconomic, and demographic transformations. Such microhistories of resilience and resistance reveal how collective threats, be they social, economic, environmental or climatic, generated collective responses, grounded in the ability to maintain and mobilize networks for action. Olko shows how weaving together common threads of Tlaxcalan local history across longer periods of time and different places helps us understand how apparently remote historical processes continue to unfold to this day and matter for the present.

Chapter 4, "Ñudzahui Custom, Contracts, and Territoriality in Eighteenth-Century Oaxaca," by Yanna Yannakakis develops the main themes for this book in the Ñudzahui (Mixtec) region of highland Oaxaca, in southeastern Mexico. Yannakakis illustrates the close historical relationships between humanly crafted environments and territoriality through the legal practices of local custom ("usos y costumbres") and Mixtec adoption and adaptation of the colonial instruments of written contracts. Ñudzahui communities responded to varied policies of the Spanish Crown to privatize Native commons through a genre of social contract (*societas*) rooted in Roman Law, and which shaped medieval and early modern Spanish political thought and contract theory. Rather than regulate economic transactions between

parties with antagonistic interests, these consensual contracts instantiated legally binding ties centered on partnership for a common purpose. The contracts' emphasis on bonds of obligation allowed Native communities to canalize relationships rooted in the *yuhuitayu*, the Ñudzahui expression of socio-political and territorial organization, into new forms, thereby modifying their jurisdiction, reconfiguring relations with their neighbors, and establishing new social hierarchies during a period of mounting demographic, economic, and political pressures. These laws of obligation, rooted in medieval practices of *ius commune* (European common law), allowed Native authorities to move strategically between agreement and conflict, maintaining a difficult balance between social harmony and exploitation.

In Chapter 5, "The *Yoreme* creation of *itom ania* in northwestern Mexico: histories of cultural landscapes," Cynthia Radding carries the themes of territory, dwelling in nature, and Indigenous strategies for negotiating with colonial authorities to the northern borderlands of New Spain. Radding affirms that language plays a fundamental role in our interpretation of the rich archival sources that allow us to comprehend the deeply rooted knowledge base that Indigenous peoples developed from the material and spiritual worlds through which they moved in seasonal patterns of migration and dwelling. Moreover, she shows that language is an essential part of the living histories we construct in collaboration with the Indigenous peoples that maintain their traditions in a radically transformed ecological region through ritual cycles and collective memories that derive their meaning from the natural world. This chapter offers new readings of land titles for the colonial provinces of Ostimuri and Sinaloa. Its analysis of changes in land tenure and use that are documented in these archival sources foregrounds ecological conditions and cultural meanings through the dual lenses of environmental and ethnohistorical perspectives. It privileges Indigenous knowledge of landforms, biological species, and the cultural values that the communities of this region ascribed to the physical features and the territorial extension of the spaces they inhabited and defended. It seeks to highlight the parallel production of oral and written sources and, thus, to suggest points of intersection in the languages and modes of communication that are inferred from both

colonial documents and ethnographic registers. Finally, its purpose is to contribute a historical analysis that is useful for the Yoreme communities in their present-day defense of their territory and its resources through both documentary and cartographic evidence.

Barbara A. Ganson, in Chapter 6, "Gender Disparities in Guaraní Knowledge, Literacy, and Fashion in the Ecological Borderlands of Colonial and Early Nineteenth-Century Paraguay," brings the concept of gender to her historical analysis of Guaraní knowledge of the natural environment and their selective adoption of European skills and technologies. Centered on education in the mission towns built by both Guaraní villagers and Jesuit missionaries, beginning in the seventeenth century, Ganson shows how the Guaraní sustained significant elements of their spiritual and material cultures beyond Jesuit tutelage through the mid-nineteenth century. Her focus on education includes formal literacy in reading, writing, and mathematics, as imparted in mission schools, artisan skills for both men and women, and the oral traditions that conserved healing knowledge based in the tropical forests across the generations. As she shows in this chapter, gender differences among the Guaraní in the mission towns were made visible by differences in dress, following both Indigenous and Iberian norms of social hierarchies. The primary sources that support Ganson's research include extensive archival documents, published Jesuit histories like *The Spiritual Conquest* by Antonio Ruiz de Montoya (1639/2017), edited and annotated by Ganson, and her own field notes from interviews carried out among the Avá-Chiripá communities on the upper Paraná river. The passages included in this chapter from Guaraní language texts enrich this discussion of language, nature, and enduring communities through the crucible of colonialism and the social and gendered inequalities that it reinforced. The Guaraní voices that emerge from this chapter cross the threshold from the colonial regime to the Paraguayan nation-state.

Part II, "Language, environment, and well-being: contemporary challenges," groups together the contributions that focus on the threats faced by Indigenous communities today with regard to the transmission of traditional knowledge and practices, securing environmental resources and maintaining balanced relationships with nature. One of

the most widely shared challenges is an increasing intergenerational gap in the transmission of linguistic, cultural, and environmental knowledge, which brings about multiple negative consequences for Indigenous communities, eroding their sense of individual and collective well-being. As argued by Gregory Haimovich, who conducted field research in local communities in present-day Tlaxcala in Mexico and analyzed the narratives of his interlocutors, their emic conceptualizations of well-being include the vital role of environment, cultural knowledge, and heritage language use. An indispensable background of this Chapter 7 "Combining Visions of Well-Being through the Generational Gap: The Views of Tlaxcala Old and Young on Environment, Tradition and Language" is provided by profound social and economic transformations that deeply affected Native communities in the second half of the twentieth century and to the present: aggressive assimilation pressures, widespread shift to Spanish and monolingualism, economic marginalization of Indigenous communities as well as environmental degradation. Haimovich shows that when approaching community perspectives on their identity and cultural attitudes, it is vital to include the views represented by different age groups of community members. In his research a sense of distrust between the older and the younger generations became quite salient, which hindered them from establishing more effective forms of supportive exchange and collaboration when dealing with the sense of cultural and environmental losses. Among the elderly community members, the disappearance of sources of clean water or reduction of maguey cultivation evoked similarly strong emotions as the loss of their heritage language and they emphasized the connection between the two processes. While they were convinced that the youth were not able to experience a similar sense of loss, since they were born after the devastating process accelerated, in his analysis Haimovich points out that there are in fact many points of convergence in the discourses of both generations that can potentially offer bridges to reducing the perceived gaps and foster intergenerational collaboration. Importantly, this common ground refers to the fundamental components of well-being that link the natural environment and traditional knowledge to the ancestral language and the sense of identity.

The inherent connections between heritage languages and nature are further explored in Elwira Sobkowiak's Chapter 8 "*Amo kitlapanas tetl!*: Heritage language and the defense against fracking in the Huasteca Potosina, Mexico," focusing on an impressively biodiverse region of the Huasteca Potosina in Mexico, also forming an important locus of cultural-linguistic diversity. Despite its ecological potential, the region has been exposed to numerous environmentally damaging projects, the most recent of which involves a highly contaminating method of hydraulic fracturing (fracking) to extract shale natural gas. Looking closely at Indigenous resistance to this project, she explores the relationship between two locally spoken and endangered languages, Nahuatl and Tének, the defense of Native land and natural environment. Sobkowiak convincingly argues that the anti-fracking movement in the Huasteca reveals the perceived similarity between environmental degradation and cultural-linguistic loss. Interestingly, in the local protests both heritage languages became the symbols of their fight against fracking, and the means of Indigenous mobilization and solidarity. Moreover, the increased visibility of Nahuatl and Tének in the linguistic landscape started to be perceived as a protective shield for local communities, awakening more positive attitudes toward ancestral languages, still commonly associated with the sense of shame and poverty as the widespread shift to Spanish continues at an alarming pace. This study convincingly pinpoints the deeper, relational connection between heritage languages, nature, and environmental resources fundamental for the survival, sustainability and well-being of Indigenous communities. Therefore, as Sobkowiak aptly proposes, this important link should inform future linguistic-cultural revitalization efforts, integrating them with ongoing struggles for environmental protection as inseparable pillars of local sustainability.

Indigenous languages are not only powerful tools for collective action and resistance, but also provide the means of cultural survival in more nuanced and durable ways: they act as vital reservoirs and carriers of traditional knowledge passed through the generations and they reflect complex historical experiences of their speakers in the face of present and future threats. As shown by Ebany Dohle in Chapter 9 "The Interrelation between Language, History and Traditional Ecological

Knowledge within the Nahuat-Pipil context of El Salvador," the role of the heritage language can be particularly vital in the community that suffered the horror of ethnocide, which resulted in profound historical traumatization and the disruption of the transmission of traditional knowledge. In her study of the complex interactions between ancestral language, migration, environment, and violence experienced by the Nahuat-Pipils, she argues that their suffering and marginalization has also resulted in the preservation of traditional ecological knowledge as a fundamental asset for the survival of the group. Thus, being able to identify plants and name them in the heritage languages helps to maintain the relationship with the land and secure their sustenance, while lexical resources provide useful means for understanding and communicating necessary information about the plants of economic and socio-cultural importance. Despite the exposure to trauma, sense of loss, and pressures toward assimilation, the environmental knowledge encoded within the Nahuat-Pipil language is still necessary and productive within this community as it struggles to maintain balanced relationships with land and to respond not only to the environmental crisis, but also to new forms of violence and (re)colonization.

The transmission of traditional ecological knowledge is central to the team-led, multidisciplinary project carried out by Khristin N. Montes, Dylan J. Clark, Patricia A. McAnany and Adolfo Iván Batún Alpuche with school children for participatory research and community engagement around the unique ecological resource of the *cenotes* in the Yucatán peninsula of Mexico. The Chapter 10 "Cenotes and placemaking in the Maya world: biocultural landscapes as archival spaces," they contributed to this volume rests on the conviction that the health and sustainability of the Yucatec Mayan language is intimately connected with environmental conservation and the value placed on Maya cultural heritage. McAnany and her colleagues received funding from the National Geographic Society to promote the cultural heritage, healthy ecology, and conservation of Yucatec *cenotes* (water-bearing solution sinkholes in a limestone substrate). Linked to *re-patrimonialization* of Indigenous landscapes, this project focuses on middle-school students in nine small communities of eastern Yucatán to learn how students relate to *cenotes*, which historically were a key part

of the Yucatec Maya sacred landscape and cosmology, as well as a vital source of life-sustaining water. As students presented their thoughts and concerns about the history and ecological health of *cenotes*, a series of workshops produced instructional workbooks that have helped to prepare local teachers to bring experiential learning about the cultural heritage and conservation of *cenotes* into their classrooms. The heritage of *cenotes* includes their archaeological study, their conspicuous presence in two of the four extant Maya codices from Postclassic times, and the central role of *cenotes* in oral histories and mythic narratives in Maya communities. Indigenous knowledge systems in Yucatán accord well with western scientific ideas about the Great Maya Aquifer that underlies the peninsula and through which *cenotes* are interconnected. Thus, the pollution of even one *cenote* is cause for great concern for the health of the aquifer, and environmental contaminants pose a real threat to the ecosystems of *cenotes*. The environmental science of *cenotes* includes student and teacher-organized water quality testing programs in order to encourage citizen science and inspire young people to take the lead in conserving the biocultural resources of their communities. The fertile common ground encountered during this project suggests that Indigenous and Western perspectives may be effectively braided together to work toward environmental and heritage conservation.

In Chapter 11 "*Nakua nukuu ini Ñuu Savi: Nakua jíno, nakua ka'on de nakua sa'on ja kuatyi Koo Yoso*. Memory and cultural continuity of the Ñuu Savi People: Ancestral knowledge, language and rituals around Koo Yoso deity," Omar Aguilar Sánchez brings a similar sensitivity to the inseparable linkages between language, communal ceremonies, and environmental well-being through his profound knowledge of *Sahan Savi* language and ecological knowledge in the communities of the Mixteca Alta of Oaxaca, Mexico. His chapter aims to reintegrate the cultural memory of *Koo Yoso* in Ñuu Savi (People of the Rain) and to show its diverse meanings from antiquity to the present, written first in Sahan Savi and secondly in English. This diachronic study is supported by the cultural continuity through the Sahan Savi-Mixtec language, showing how the Plumed Serpent is key for the union and identity of the communities and between them and the landscape. *Koo Yoso* is the Mixtec Quetzalcoatl, one of the most important Ñuu Savi deities in the

Mesoamerican pantheon. *Koo Yoso* is represented in pictorial manuscripts as the creator of humanity and founder of rituals and communities. The Plumed Serpent plays an important role today in the well-being of *Ñuu Savi*, despite the effort by friars and Spaniards to suppress the Mesoamerican religion in colonial times. *Ñuu Savi* communities say that storms (*tachi-savi*) start when *Koo Yoso* moves into another house (lakes); in addition, *Koo Yoso* is associated with fertility and abundance. This is commemorated every year by the Mixtec community of Santo Tomás Ocotepec, where the festival has taken on new meanings through the experiences of transnational migration. Today many migrants in México or USA return to Ocotepec to celebrate *Koo Yoso*, to see their families again, and to speak the Sahan Savi language.

In Chapter 12 "*Tlaneltoquilli tlen mochihua ica cintli ipan tlalli Chicontepec: tlamantli chicahualiztli ipan tochinanco.* Ceremonial practices relating to corn in the region of Chicontepec: local aspects of wellbeing," Eduardo de la Cruz conveys the perspective of an active community member on the ritual cycle of maize, a sacred plant and a basic food staple for the Nahuas of Chicontepec, Veracruz. Written in both Nahuatl and English, this chapter explains the details of the ritual cycle that continues to structure the life and work of the community and synchronize it with the cycle of nature. De la Cruz argues that maize ceremonies are not only crucial for securing good harvests and favorable weather, but also transmit fundamental knowledge about social harmony, reciprocity, and the concept of good living, *cualli nemiliztli*. The rituals reveal and perpetuate the principles of *cualli nemiliztli* reflected in the daily practices of harmonious coexistence and respect for all beings. He argues that the prayers conveyed in the Nahuatl language intimately link the lives of the sacred plant and people, as in ancient myths that have shaped the relationships with divine beings, nature, and other humans. However, the continuity of this way of life is at risk as some of the ritual practices are abandoned and become forgotten. The message of the author is therefore directed not only to academic readers, but, above all, it becomes a call for action for the Nahuas of Chicontepec: the further loss of religious practices and traditional knowledge will result in the destabilization of

communities, decline of the sense of well-being, and the risk of severing life-sustaining bonds with the environment.

The present book is much more than a collection of related case studies that weave together important threads in environmental history, traditional knowledge, heritage language use, and present challenges faced by Indigenous communities. Perspectives from specific places that bridge past and present offer contextualized, focused, and deepened insights into local sociocultural and natural ecosystems. In turn, they make it possible to form a macroscale picture of Indigenous universe(s) that can challenge simplified generalizations, an ever present threat in historical and anthropological research. While the longevity of colonization processes and their contemporary legacies are widely acknowledged, tangible connections between the pre-conquest developments, the history of the Indigenous peoples under colonial regimes and contemporary communities are seldom foregrounded in the existing scholarship. Reconstructing the long duration of Indigenous history through the richness of its local trajectories is, for us, an essential part of the decolonizing research paradigm that recognizes different forms of neo-colonization and violence affecting many Native groups today. Neo-colonization is particularly salient in the context of ongoing struggles for the preservation of territory, environment, and natural resources, often paired with the fight for linguistic-cultural survival and integrity. Native communities continue to be exposed to state-sanctioned extractivism of their resources and to criminal violence (Makaran & López, 2018). One of its obvious sources are the cartels' struggles to gain control over resource-rich Native regions, propitious for the cultivation of marijuana and opium poppies and providing strategic trafficking corridors (Ley et al., 2019).

Looking at the past is often a key for understanding the challenges of the present, as we increasingly recognize the need for social justice and solidarity with historically oppressed peoples. We hope that stimulating a fruitful dialogue between Western academics and Indigenous scholars helps unveil the implications and potential for exploring deeper connections between sustainable relationships with nature, place-based knowledge, language vitality, and the sense of well-being. The awareness

of this relationality is crucial for counteracting dispossession, (neo)colonial appropriation, and the loss of cultural diversity.

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