

FUNCTIONAL MORPHOLOGY IN  
NAHUATL LANGUAGE  
REVITALIZATION

by

Steven Jeffrey Pynes, Jr.

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## STATEMENT OF DISSERTATION APPROVAL

The dissertation of Steven Jeffrey Pynes, Jr.  
has been approved by the following supervisory committee members:

MaryAnn Christison, Chair 06/07/2017  
Date Approved

Lyle Campbell, Member 06/07/2017  
Date Approved

Adrian Palmer, Member 06/07/2017  
Date Approved

Johanna Watzinger-Tharp, Member 06/07/2017  
Date Approved

Fernando Rubio, Member 06/07/2017  
Date Approved

and by Patricia Hanna, Chair/Dean of

the Department of Linguistics

and by David B. Kieda, Dean of The Graduate School.

## ABSTRACT

The Nahuatl language of Mexico, like many other indigenous and minority languages, faces language shift in the face of globalization. The particular historical role of Nahuatl as the language of the Aztec Triple Alliance and as a Mesoamerican lingua franca in the late pre-Columbian and early colonial periods has left an unusually rich documentary history and attracted academic interest.

Based on data drawn from the historical record along with observation and fieldwork performed while learning and later teaching Nahuatl, I demonstrate that the relatively common Nahuatl verbal morpheme *-ti-*, frequently labeled as a “ligature” or “connector” in the existing literature, acts as a meaningful functional morpheme in contemporary Eastern Huastecan Nahuatl that serves to index spatial information associated with the predicate. I then consider the ways in which spatial indexing in general is approached by native speaker instructors of Nahuatl as they teach speakers of Indo-European languages, which generally lack comparable structures. From this discussion, I draw suggestions for linguists and languages communities engaged in documentation and language revitalization.

Dedicated to my teachers, colleagues, and friends at the Instituto de Docencia e  
Investigación Etnológica de Zacatecas.

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## CHAPTER 1

### INTRODUCTION AND BACKGROUND

#### 1.1 The Goals of This Research

The purpose of this dissertation research is to expand meaning-related aspects of the existing documentation of a particular morphological structure: the Nahuatl verbal *-ti-*ligature. While this clarification may benefit linguists working in formal or typological research, my primary purpose in conducting this research is to inform language revitalization by explicitly creating a source of information about a language structure that will aid in the teaching of Nahuatl learners as the structure poses difficulties for first language (L1) speakers of Spanish and English.

Nahuatl in general is quite well documented, and the morphemes in question occur frequently. They are, in the morphological sense, neither strange nor mysterious to native speakers and linguists. However, their precise semantic contributions to the meaning of clauses and their pragmatic usage in discourse are, at best, incompletely described in the existing literature. Without this key information about how these structures contribute to the creation of meaning, attempts to teach and learn them are working against a severe disadvantage.

In this dissertation, I address this problem by first investigating the semantics and pragmatics of the morphemes in question. I use native speaker judgments, classroom

observations, and analyses of existing texts to do so. Details on the native speakers of Nahuatl who participated in the research are given in Chapter 3, and the texts that I consulted are referenced in Chapter 4. After forming a coherent analysis of the structures, I consulted with native speakers who had experience in teaching Nahuatl to speakers of other languages in order to determine the perceived utility and value of these structures to language teachers and to understand the current practices that experienced language teachers employ in order to teach them. I make a case for involving applied linguists who are knowledgeable about Nahuatl in revitalization efforts. Recommendations for approaches to teaching these structures will be drawn from current research in second language acquisition (SLA) and second language (L2) pedagogy.

## 1.2 Language Endangerment

Language shift and loss have been acknowledged since ancient times, and some scholars, most notably those of the Boasian tradition, have been noticing and reacting to language loss (especially the loss of indigenous languages of the Americas) for quite some time (Foley, 2004). However, modern academic linguistics has only recently come to recognize the ongoing crisis in the loss of language diversity; consequently, many indigenous languages have ceased to be spoken without having been documented. Without the work of the small group of linguists who have been working on documentation, even more languages would be gone and in some cases quite thoroughly, having left little or possibly no trace. In the early 1990s, advocacy for endangered languages began to draw more attention: Fishman's (1991) landmark book, *Reversing Language Shift*, established parameters for assessing language endangerment and

suggested policies and practices designed to arrest or reverse language shift. In the same year, the Linguistic Society of America (LSA) hosted an Endangered Languages symposium aimed at drawing attention to the ubiquity and acuteness of contemporary language loss.

In 1992, *Language*, the premier academic journal of the LSA, published a series of essays from the 1991 symposium, which also appear under the title “Endangered Languages.” Several of the propositions and arguments articulated in those essays have become widely cited, gaining traction in discussions of language endangerment and even surfacing in popular media discourse on the matter of linguistic diversity. For example, Krauss (1992) compared linguistic diversity to biodiversity, with the dire prediction that between 50% and 90% of the world’s languages may vanish by the end of this century because he considered them to be either already dead or doomed. Krauss uses the terms *dead* when a language is no longer the native language of any community. A language can be dead even before the last native speaker dies. He uses the term *doomed* to reference situations wherein there is the continued existence of native speakers of a language, but the language is not being passed on to children. Both of these concepts have been widely repeated in academic literature, as well as in popular media. Likewise, ideas similar to Hale’s (1992) observation that a language “embodies the intellectual wealth of those who use it,” (p. 36) have entered the popular imagination and academic discourse, often with the additional implied or explicit assertion that the field of linguistics itself is impoverished or limited without access to the data provided by language diversity. These discussions have played a major role in recent academic discourse on the need for and purpose of language documentation and revitalization.

### 1.3 Language Revitalization

With new attention in both academic and popular spheres directed towards the plight of endangered languages, the 1990s and the 2000s up to the current date have brought an influx of research on language maintenance and revitalization, together with a fresh push for the documentation of endangered languages. This period of activity has witnessed the development of specialized models for revitalizing critically endangered or dormant languages, such as the language-nest model (McIvor, 2006; Bower, 2013; Parker, Gessner, and Michel, 2014), the *Master-Apprentice Program*, as described by Hinton, Vera, and Steele (2002), and the *Breath of Life* workshops (Hinton & Ahlers, 1999). These same decades brought the rapid growth of a specialized literature addressing the practice of language revitalization (see, for example, Hinton and Hale, 2001; Grenoble and Whaley, 2006), and numerous other works aimed at informing and rallying the academic community, policy-makers, funding organizations, and the public at large around the cause of endangered language advocacy (e.g., Crystal, 2000; Nettle and Romaine, 2000; Harrison, 2007; see also the journal, *Language Documentation & Conservation*, begun in 2007).

Recent work on language endangerment also suggests that some of the more shocking oft-cited statistics about language loss may be inaccurate; for example, rather than a language being lost every two weeks, it is closer to one language lost every three months; however, the general sense of crisis is still entirely accurate (see the most recent statistics in *The Catalogue of Endangered Languages*, endangeredlanguages.com) with as much as 24% of the world's linguistic diversity at the level of a language family already lost (Campbell, Lee, Okura, Simpson, and Ueki, 2013).

As the literature on language revitalization and maintenance grows, the relationship of academic linguists to speech communities has moved to the forefront. That there is a need for a collaborative effort is clear, but it is still unclear what the nature of a collaborative effort should be (Guérin and Lacrampe, 2010; Leonard and Haynes, 2010; Whaley, 2011; Crippen and Robinson, 2013). Until recent years, academic linguists have primarily been involved in documenting endangered languages. Whether the materials resulting from language documentation projects are materials that are appropriate for revitalization programs has been a recurrent topic in discussions and debates in academic journals and in presentations at professional conferences (Nathan and Fang, 2008 and 2013; Penfield and Tucker, 2011). Indigenous communities have frequently called on linguists who document languages for assistance with the tasks developing pedagogical materials—tasks for which they are most often underprepared both academically and experientially.

#### 1.4 Challenges in Language Revitalization

Hinton (2011) has pointed out that language revitalization efforts are generally quite different from efforts to teach majority languages. For example, the contexts in which foreign, majority, or heritage languages tend to be learned differ from language revitalization contexts in terms of programmatic goals and learner motivation, as well as access to pedagogical tools and materials. Instead, she states that revitalization programs generally make use of bootstrap methods to address their particular needs, and she suggests that the newly evolving models, such as the *Language Nests*, *Breathe of Life*, and *Master Apprentice* programs, are still often unexamined by applied linguists and

uninformed by the fields of applied linguistics, second language acquisition (SLA), and second language (L2) pedagogy.

Penfield and Tucker (2011) echo Hinton's concerns about a lack of sufficient involvement in language revitalization efforts on the part of applied linguists; however, they also recognize that applied linguists with specializations in L2 pedagogy may be underprepared for working with indigenous languages. If language revitalization programs are to take advantage of applied linguists' expertise, then applied linguists need to be involved from the beginning of the process (i.e., in the initial documentation of a given language and in working with the speech community), not merely brought in superficially afterwards to transform a set of documentary materials into pedagogical ones. Of course, applied linguists who have little background with the indigenous language or experience in documenting the language will be of little assistance. In addition, applied linguists who have been trained in L2 pedagogy for majority languages—languages in which they are proficient and intend to teach—may not be adequately prepared to consult or work in language revitalization programs and with languages in which they have little or no proficiency. Applied linguists who intend to work in language revitalization should seek training specifically focused on the language of revitalization (e.g., on the structure of the language or with experience in language learning) and on L2 methodologies that have been successful specifically for language revitalization. In addition, experience with the indigenous speech community is also important. Rice (2011), in describing a program of study that is intended to train applied field linguists to work with indigenous languages of Canada, notes that “register, usage, and typological differences among languages might have ramifications for the

applicability of our Eurocentric conception of classic descriptive and pedagogical tools” (p. 320).

The pedagogical mismatch between endangered languages and majority languages, which was signaled specifically by Rice (2011) and hinted at in discussions offered by Hinton (2011) and Penfield and Tucker (2011), seems easy to assert broadly; however, it is much more difficult to address practically. Through collaborative efforts with the members of the indigenous speech community, the current proposal is an attempt to identify pedagogical mismatches between a minority language (i.e., Eastern Huasteca Nahuatl) and a majority language (e.g., Spanish). To this end, the dissertation research focuses on the following: (1) providing an analysis of a target language structure in (Eastern) Huasteca Nahuatl that would be useful in revitalization work and (2) identifying the challenges that applied linguists face in developing pedagogical materials suited to teaching the language structure and connecting form and meaning in language revitalization.

### 1.5 Researcher Experience, Background, and Qualifications

For the context of this dissertation, I will work with a particular variety of (Eastern) Huasteca Nahuatl, a Uto-Aztecan language. My decision to work with this language is neither accidental nor random. As a native speaker of English and a highly proficient speaker of Spanish, I am fully competent in these two majority languages, which are in contact with Nahuatl. My Spanish language qualifications include use of a Central American variety of Spanish in my own home (my wife’s first language; our children are bilingual), many years of social and workplace experience using several



Mexican varieties of Spanish, and formal training (as well as professional experience) as a translator and interpreter of the Spanish/English language pair.

Through my studies and several of my jobs at the University of Utah, I have established close personal relationships with numerous Nahuatl speakers, learners, and teachers, and I continue to collaborate with communities and individuals as a part of my own professional activities (e.g., co-authored papers and conference presentations). I have had the opportunity to pursue the equivalent of three years of coursework in Nahuatl with native speaker instructors over the past several years as a part of a distance-learning program offered at the University of Utah and had support from several FLAS grants, including two summer FLAS opportunities. I have also developed close relationships with native speakers and activists involved with Nahuatl teaching and learning and achieved fluency in a contemporary Huastecan variety of Nahuatl, familiarity with the classical forms of the language, and an awareness of the geographical and sociolinguistic variation found within and across Nahuatl speech communities. A more detailed account of my relationship to the teachers and learners on whom this study will be focused can be found in Chapter 3.

In this dissertation, I show that linguists involved in language revitalization need formal training and experiences in both language documentation and applied linguistics. While my undergraduate studies focused primarily on language documentation and description, including some independent fieldwork in Central America, my graduate education has included numerous L2 pedagogy courses. I have already applied many principles and practices drawn from my formal training to my work with Nahuatl. This research has allowed me to capitalize on my background in a way that will be productive

for teachers and learners of Nahuatl and offer important insight for academics and others engaged in language revitalization efforts.

### 1.6 Personal Background

In this section, I mention my background in language revitalization projects for both Western Shoshone and Eastern Huasteca Nahuatl because the experiences have had a direct bearing on the current research. In the spring of 2012, I began working with the Shoshoni Language Project at the University of Utah, which was then a project of the Center for American Indian Languages (CAIL). My primary responsibilities as an employee of the project included major contributions to two annual events related to Shoshone language instruction: (a) a teaching training workshop for teachers of Shoshone held in conjunction with the Conference on Endangered Languages and Cultures of Native America (CELCNA) and (b) the Shoshone-Goshute Youth Language Apprenticeship Program (SYLAP), a six-week intensive summer program for Shoshone high school students. SYLAP participants received Shoshone language instruction, cultural experiences, and exposure to a higher education experience. While I had some experience with the documentation and description of indigenous languages of the Americas through prior fieldwork and research positions, my position with the Shoshoni Language Project marked the first time that my interaction with a language community was primarily oriented towards language transmission rather than the documentation of structure and language use.

I assumed at the outset that the primary (and perhaps only) obstacles to successfully teaching of Shoshone were a lack of trained language teachers and organized

teaching materials on which instruction might be based. These seemed to be straightforward challenges to address, and so I began to organize presentations for Shoshone teachers on topics like the total physical response (TPR) teaching method, the integration of content and language instruction, how and why to sustain target language use in the classroom, how to develop communicative classroom tasks, and how to use the numerous pedagogical materials published and distributed by the Shoshoni Language Project. At the same time, I worked with teachers and learners alike to refine and organize existing teaching materials and develop new materials where there seemed to be a need.

Soon I came to realize that the barriers to successfully teaching and learning Shoshone were more numerous and varied than I had first perceived. The context for revitalization of a language like Shoshone differed clearly from most other L2 instructional contexts in important ways. The nature of the motivation of both teachers and learners, the particular language use goals of learners, the range of language ideologies found in the speech community, and many other sociocultural and sociolinguistic factors all play an important role; some of these have already been addressed in existing literature on revitalization.<sup>1</sup> I noticed that Shoshone teachers would often object to particular teaching practices as irrelevant or not applicable to Shoshone; these objections were generally understood by outside academics, including myself at the time, as primarily cultural in nature or else a reflection of a lack of language teaching experience.

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<sup>1</sup> See, for example, Volfová (2013) for an excellent ethnographic account of SYLAP discussing a number of these issues.

As I was exposed to more Shoshone use, I came to see that many of the morphological structures described in the grammars of Shoshone were used in ways that were either difficult to predict or otherwise unintuitive based only on their English grammatical labels. I began to suspect that difficulty in the acquisition of particular structures of Shoshone was one of the major limiting factors in learner progress beyond a certain point, and that differences between English and Shoshone might also contribute to teachers' reluctance to teach in certain ways.

Soon after beginning to work with Shoshone teachers and learners, I began to study a contemporary Huastecan variety of Nahuatl through distance coursework offered at the University of Utah. While the classroom was not explicitly a revitalization effort, many characteristics of my Eastern Huasteca Nahuatl coursework resembled issues that I had seen among Shoshone teachers and learners. Classical varieties of Nahuatl have a long pedagogical tradition similar to the language teaching traditions built up around dead classical languages of the Western tradition, such as Latin and Classical Greek. The contemporary Nahuatl that I have been learning, on the other hand, has been taught by native speakers who were in the process of developing and refining their curriculum through experience in teaching language learners. Much like the cases which with I was involved for Shoshone in the SYLAP project, Nahuatl courses were directed at conversational fluency and productive, colloquial language use, rather than recognition of particular morphology and translation of written texts. As suggested in the preceding section, Nahuatl and Shoshone are also similar in their significantly greater morphological complexity than English or Spanish, though one of the latter two languages was the first language of all students in the two contexts.

To my surprise, I soon observed that my Nahuatl instructor's interest in and focus on grammatical forms often seemed mismatched with both the curricular materials and the general focus of attention of the students. One prominent example involved the verbal morphology generally called the purposive. In Nahuatl, the purposive generally refers to a series of four fusional verbal suffixes that indicate either past or future time and some movement,<sup>2</sup> with cislocative/proximate and translocative/distal values possible. Most of the students felt that we were progressing because we had learned the past and future tense verbal forms with relatively high accuracy. Our instructor, however, repeatedly returned to and drilled the purposive forms; over time, it became clear that the differences in how these structures were formed and their usage in Nahuatl, as opposed to comparable expressions in English or Spanish, were leading the learners to treat the purposive forms as being minor or marginal. Our instructor had a clear sense, though, that we were failing to produce and process an important set of suffixes. In this sense, our acquisition was somehow stunted in her mind, and so she took steps to correct the problem.

As I have continued to study Nahuatl in the intervening years, I have gradually come to see that the purposive verb forms with their indication of spatial setting and motion are entirely at home in the wider Nahuatl grammatical system. In addition to the purposive suffixes, Nahuatl indicates directionality with verbal prefixes, draws a distinction between nominals indicating places things, and (as I will argue below) uses a separate set of verbal inflections to indicate a rich set of propositions regarding space and

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<sup>2</sup> In most cases, the movement precedes the event and thus the translation offered is something like "come here to X" or "go (there) to X", hence the term purposive.

motion involved in an event. The implicit learner hypothesis that was formed by learners in the Nahuatl class, which was based on first language influence of Spanish and English, was that the purposive forms were essentially a way of expressing a particular, complex proposition through dedicated morphology. Because the native languages of the learners in the Nahuatl class have no inflectional morphology that is sensitive to spatial relations, this grammatical information seemed at best marginal and at worst distracting. We erroneously supposed that Nahuatl usage would follow English or Spanish usage. In practice, there is an entire grammatical array of Nahuatl inflectional categories and lexical information dedicated to indicating this sort of information; thus, our failure to make use of these grammatical resources marked our speech as non-native-like and grammatically deficient to our instructor.

As I considered my experiences as a learner of Nahuatl, I eventually saw that one of the conceptually difficult elements of Shoshone, its complex deictic system, was similar to the Nahuatl case in several important ways. Like the Nahuatl structures that I had been considering, the Shoshone deictic forms represent ways of dividing and categorizing space and spatial relations; like the Nahuatl structures, these deictic forms are far from intuitive to speakers of an Indo-European language. Also like the Nahuatl case, these forms are indicated morphologically via high-frequency forms found in numerous genres of language use.<sup>3</sup> As I came to see these similarities between the

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<sup>3</sup> There are, of course, many ways in which Shoshone deictic prefixes are utterly unlike Nahuatl verbal constructions; my contention is not that these systems are equivalent, but rather that there are important general features in each that will be difficult for Nahuatl learners.

languages, I began to wonder about the differences in the experiences of teachers and students who are struggling to either teach or learn these forms.

The current research study has examined the factors that surround the teaching and learning of complex morphology that does not match the structure of the L1 of the learners. Through a modest amount of fieldwork and an analysis of discourse, I offer a more nuanced view of one morphological subsystem that grammatically divides space: the *-ti-* ligature verbal construction of Nahuatl. Using the results of my preliminary grammatical analysis, I collected field notes by interviewing Nahuatl learners and teachers to investigate the role that these forms play in the experience of developing target language skills. In the following sections, I will offer support for some of my own positions and suppositions based on the existing literature.

### 1.7 On Nahuatl Orthographic Representation

The great majority of my language education in Nahuatl has been through the instructors of the Instituto de Docencia e Investigación Etnológica de Zacatecas (IDIEZ), a nonprofit organization that trains native speakers of Nahuatl to study their own language academically and teach it in a classroom. I have adopted a number of norms used by IDIEZ, including, importantly for the sake of this research, their modified orthography which is based on standardizations of some of the early orthographies attested in the early and mid-colonial period. This adoption is not an unreflective selection among numerous options, but a specific effort to find a deep orthography that is useful across as many of the contemporary varieties as possible and to allow contemporary Nahuatl speakers easier access to primary historical documents that relate

to their own heritage. In this way, the orthography is rather different from many practical orthographies developed by linguists for the purpose of documenting or revitalizing a language that does not have a written tradition; those orthographies tend to be phonologically shallow in order to maximize ease of pronunciation.

While I will not attempt a full defense of IDIEZ's decision to use this orthography, I will simply add that my own experience interacting with both literature concerning and speakers of several other variants of Nahuatl suggests to me that the goal of inter-variant comprehensibility is well-served by this orthography in spite of its relatively steeper learning curve. Table 1.1 presents the graphemes of the IDIEZ orthography together with IPA equivalences.

In addition to the notes on distribution of particular allographs in the third column of the preceding table, there are a number of other phonological opacities in the orthographic system. For example, the graphs <uh> and <uc>, along with <c> in coda position, are pronounced as [h]; likewise, a number of codas, especially <n> and <h>, are preserved in the orthography despite the fact that they are variably pronounced as [h] or entirely deleted in common speech, according to speaker and style.

### 1.8 Some Functional Morphemes in Nahuatl

All languages employ functional morphology of various sorts to package grammatical information into a clause. Differing theoretical positions may lead particular scholars to very different conclusions about the nature of the relationship of these structures in a cross linguistic context. For example, a researcher who subscribes to a cartographic view of syntax, as described by Cinque (1999), will assume that elements



Table 1.1: Orthographic Key

Orthographic Character	IPA Value	Comments on Distribution
p	p	
t	t	
tz	ts	
tl	tʃ	
c/qu	k	<qu> before front vowels
cu/uc	k <sup>w</sup>	<uc> in coda position
z	s	
x	ʃ	
hu/uh	w	<uh> in coda position
y	j	
m	m	
n	n	
l	l	
h	h	
a	a	
o	o	
i	i	
e	e	

sharing a syntactic position are semantically related and cross-linguistically comparable to elements found in the same position in other languages, while another researcher studying language typology from outside the generative tradition might assume, following Haspelmath (2010), that the only meaningful cross-linguistic comparison across these same elements should be based purely on their particular function. These examples represent two extremes on a continuum of several theoretical approaches; nevertheless, despite the differences in linguistic assumptions and types of analyses, the existence of functional linguistic structures themselves is not generally in doubt. Nahuatl is a well-documented, indigenous language of the Uto-Aztecan family with considerable typological differences from the majority languages with which Nahuatl currently has contact (i.e., Spanish and English respectively). Nahuatl is quite synthetic (i.e., it has a high morpheme-per-word ratio). In addition, it makes use of an array of bound functional morphemes to indicate categories of verbal inflection, such as tense, aspect, means, and direction, as well as nominal inflection for possession and other categories, and these include the nominal endings known as absolutes<sup>4</sup> that are found across Uto-Aztecan languages. Much of this functional morphology has no obvious direct correlate in most Indo-European languages.

In this research project, I examine one particular morphological category from a single variety of Nahuatl. Uto-Aztecan languages such as Nahuatl are highly stratified, meaning that they are divided into distinct speech varieties, and these varieties

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<sup>4</sup> In contrast to its use in general linguistics, the term *absolute* as used in studies of Uto-Aztecan languages refers to a set of nominal suffixes that occur in environments in which the noun root is neither possessed nor incorporated, and not to a syntactic role played by a nominal in the context of the larger clause (e.g., in a system of ergativity).

complicate discussions about what constitutes a separate language rather than an isogloss boundary across dialects. I contend that part of the difficulty in classification arises due to sociolinguistic differences in how language variation is governed and interpreted, which are themselves the result of differences in social organization. This view seems compatible with the theoretical thrust of work in the vein of Stanford (2009), who proposes the *clan* as a sociolinguistically important unit.

I focus my work on the variety of Eastern Huasteca Nahuatl spoken in the part of the Huasteca found in the Mexican state of Veracruz. This decision is motivated by my access to speakers and texts and my familiarity with the language. The particular form that I will consider is the Eastern Huasteca Nahuatl verbs with the so-called *-ti-* ligature. The structure occurs with high frequency in native speaker discourse and is used to describe spatial relationships. The Nahuatl verb forms, while not recognized as a means of spatial reference in the existing literature, have interpretations that invariably require reference to a spatial setting or path; their grammaticality and felicity conditions are also often tied to the presence of overt locatives in the discourse. The Nahuatl forms are morphologically well documented in the existing literature (see, for example, Launey, 2011; Lockhart, 2001; for Contemporary Huastecan Nahuatl, see Beller and Beller, 1979), so it is clear what form these morphemes take, which morphemes are paradigmatically interchangeable, and where they occur syntagmatically with respect to other morphemes.

Although the form is well documented morphologically, it is less well documented with regard to its semantic content or its pragmatic usage. In Nahuatl, there is no accurate description that I have been able to find in the existing literature that

correctly predicts the truth conditions for *-ti-* ligature verbal predicates. Although the deictic elements may have been superficially described in terms of their contrasts with one another, they are not explained with reference to appropriate usage or to contrasts in contextual meaning.

As Hinton (2011) has stated, revitalization is tied to a particular set of goals and motivations. Presumably, high levels of fluency and the development of communicative competence in Nahuatl require eventual mastery of high-frequency functional morphology. While existing documentation is sufficient to present learners with accurate morphological forms, it is not sufficient to lead learners accurately to create new meanings using these morphemes, nor to guide them in the formation and testing of good hypotheses with respect to the meanings of these forms. This is particularly clear in the case of Nahuatl, where the most frequent ligature form, *-toc* (from *-ti-o-c*), is frequently and incompletely described as a “perfect” verb form, parallel to the Spanish *perfecto*, which is often used to translate it. The reason for this explanation seems to be a partial overlap in meaning. The Spanish form indicates anteriority and completion, which implies a result state. This form in Nahuatl is used with a result state meaning, but it does not necessarily indicate anteriority; instead, it is anchored to a particular space, often one that is present in an explicit argument or that has been established by discourse. I will provide further data to support this argument in chapters that follow.

The problem of imprecise, misleading, or entirely opaque translations of functional morphemes into a typologically and morphologically dissimilar majority language is further complicated by the fact that functional morphology can be easily overlooked by both native speakers, who may take it for granted, and by beginning or

intermediate learners, who likely have not yet developed the necessary target language processing speed to parse functional morphology in on-line speech. Even when native speakers' intuitions provide the correct target language form as input for learners, they will not necessarily be able to provide a precise or sufficiently nuanced explanation of the contrast.

Consider, for example, a nonspecialist English speaker. It seems reasonable to suggest that when a nonspecialist English speaker is asked about the meaning of the present tense verb form in English that such a speaker might say that the meaning of a present tense utterance is *at the time of utterance*. In addition, a nonspecialist English speaker may very well explain the present tense to a non-native speaker using something like the following explanation: Present tense means *at the time of the utterance*. For stative and psych verbs, this is an accurate generalization, for example, *I fear it*, or *I know it*. The statements are judged as true or false based on conditions at the time of utterance. However, for most agentive verbs, this explanation does not work. *I run a race* cannot generally be understood to have the meaning *I am running a race now at the time of utterance*. Instead, it has a habitual meaning, which in this case is most easily processed with either an interval (*I run a race every year*) or with a plural object (*I run races*). In the context of language revitalization, these factors would constitute major obstacles to the development of fluency and full communicative competence. Likewise, even if teachers of these languages are fortunate enough to have some training in language teaching, they are unlikely to have comparable and relevant pedagogical examples from Nahuatl or even from the standard L2 pedagogy that have been developed for teaching majority languages. Neither Spanish nor English have high-frequency inflectional

morphology dedicated to the same functional categories (e.g., in this case, indicating spatial information pertaining to a particular verbal predicate).

If we take Sociocultural Theory (SCT) (Vygotsky, 1978) seriously, which in terms of SLA focuses on the important contributions that language use and human interaction make to language development, the stakes related to the acquisition of this sort of functional morphology may be even higher for learners in revitalization programs than they are for learners of majority languages who are focused on developing general fluency and communicative competence. SCT posits that language is a primary tool for mediation between a person and the environment (see, for example Lantolf and Thorne, 2006). From this perspective, functional morphology forms a fundamental part of the basic toolset through which individuals interact conceptually with their social and psychological environments. For example (and as I will argue in subsequent chapters), Nahuatl shows a strong tendency to encode a broad range of spatial information through several distinct morphological strategies. These strategies include the verbal prefixes, which are often labeled as directional, verbal suffixes (at least in some varieties) generally called purposives, and the verbal ligature construction with *-ti-* (sometimes referred to as an auxiliary verb construction due to the presence of a secondary verbal root following the morpheme). All of these forms are found across a broad range of varieties of Nahuatl; some varieties,<sup>5</sup> such as the Eastern Huasteca Nahuatl with which I am most familiar, take the additional step of specifying spatial relations for particular lexical classes. While these classes are, for the most part, morphologically opaque,

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<sup>5</sup> The degree to which these other strategies are employed in other varieties of Nahuatl seems to be an open question for future research.

particular nominal forms require a particular verb selection for describing location, and the majority of these forms appear to have overt space-marking via the ligature: *eltoc* “be (somewhere) (inanimate),” *itztoc* “be (somewhere) (animate),”<sup>6</sup> and *mantoc* “be (somewhere) (liquid).” The one location verb that is an exception to this generalization, *mo-cahua* “be (of places),” is compatible only with place-denoting subjects; presumably, this is the case because place nominals make reference to extension; therefore, they are incompatible with the specific-point reference of the *-toc* ending found on the other locative verbs. Still other morphological constructions also seem to imply or require the grammatical addition of spatial setting. For example, the well-known verbal reduplication with *-tza* and *-ca* and their nonreduplicated counterparts with the suffix *-ni* seem to either suggest or require specific spatial information, although I have yet to find any references to this component of the meaning in the existing literature.<sup>7</sup> In this case, the primary semantic distinctions have to do with pluractionality or verbal number, which is a grammatical device that indicates that the action or participants of a verb are plural and that the introduced spatial component is not generally expressed overtly, but the use of the nonpluractional form appears to strongly imply that the event happens in the immediate vicinity of the speaker.

All of the forms discussed in the preceding paragraph are employed with high frequency across a variety of styles of discourse. We might reasonably conclude that this

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<sup>6</sup> Incidentally, these forms overlap with positional verbs that form a part of the same ‘irregular’ series of verbs, *ihcatoc* ‘be (somewhere)(standing),’ *yatoc* ‘be (somewhere)(laying)’.

<sup>7</sup> This affirmation is based on explanations of the relationship of the three morphological forms given by a native speaker, Abelardo de la Cruz, as a part of Nahuatl language instruction in July, 2015 and is drawn from my personal class notes.

aspect of the language system forms a fundamental part of communicative competence to a Nahuatl speaker. These common strategies in Nahuatl discourse, which may shed light on some aspects of the worldview of a Nahuatl speaker, all serve to highlight spatial relations. In those cases where Nahuatl language learning is motivated by issues related to personal identity and heritage, motivations often at the heart of language revitalization and maintenance efforts, it seems fair to assume that the Nahuatl worldview, as encoded by its grammatical systems (rather than the grammatical systems themselves), is one of the things that learners of Nahuatl seek to understand.

Nahuatl is among the most thoroughly documented indigenous languages of the Americas. This is due in large part to its long history as a literary language. The historical interest has held for many generations of scholars in several distinct fields, and its continued relative linguistic vitality into the present. It is, then, surprising that very little research has been dedicated directly to the pervasive systems of spatial reference. I am aware of only a single paper, Sasaki (2011), which directly addresses the question of spatial reference in Nahuatl, and it deals primarily with locatives derived from nominals in Classical Nahuatl, rather than the several morphological systems affixed to the verb.

### 1.9 Research Questions

The research question that has guided my study is the following: How do teachers of Nahuatl recognize and respond to the challenges that arise from profound differences in language structures between the majority language(s) that serve as L1s to Nahuatl learners and as the language(s) of contact between Nahuatl learners and teachers? As a researcher, I recognize the importance of having a research question to guide me in



pursuing my research. However, I also recognize that the nature of the research that I have been pursuing is dynamic and co-constructed and that in the process of data collection, my research question was likely to change, expand, and need to be refined. While I have focused my observation on obstacles related to language structure, I have also taken into account similar obstacles that relate to cultural expectations. This relationship is important because, given the nature of the morphology on which I have focused, it was conceivable that questions of language structure and culture might not be easily disentwined from each other.

#### 1.10 The Structure of the Dissertation Research

This first chapter has served to provide background on language endangerment and the response of contemporary scholars and language activists to it through a variety of language maintenance and revitalization efforts. I have also mentioned some obstacles to language revitalization and have suggested that several of these arise from structural differences between the native languages of the learners and Nahuatl, particularly as instantiated by functional morphology, which is easily overlooked and often documented only at the level of morphological form with simple glosses or imprecise translations or interpretations. I then provide examples of verbal morphemes in Nahuatl. Based on initial heuristics, I suggest that these forms are not equivalent to the glosses generally offered for them and that additional semantic and pragmatic description of these forms would enable the development of more effective materials for teaching these structures in a language classroom setting to non-native speakers.

Chapter 2 provides a review of relevant literature on several topics related to language documentation and revitalization. I begin by addressing the methods commonly used in documenting the meanings of functional morphology and reviewing several views of the role of functional morphology in acquisition of both first and second languages. I will then mention several ways that functional morphology has been approached in language pedagogy research and point to ways that particular approaches or methods might be either compatible or incompatible with morphologically synthetic languages, such as Nahuatl and Shoshone. Next, I will review several functional and theoretical accounts of how languages organize information related to spatial relationships. Following this presentation, I offer a brief review of the existing literature on Nahuatl verbs forms with the *-ti-* ligature with a small amount of data indicating the incompleteness of existing glosses and translations for these forms.

In Chapter 3, I describe the methodology and sources that I used to establish an analysis of the semantics and pragmatics of Nahuatl. I then provide descriptions of data collected through interviews with native speaker teachers of Nahuatl. The interview data offered a sociolinguistic assessment of native speaker perceptions of the importance of the functional morphemes that frame the study. The interview data also allowed me to document any bootstrap methods that teachers innovated in order to teach these forms and to foster active discussion relative to how these forms could be taught effectively.

Subsequent chapters in the dissertation include Chapter 4, in which I will present the actual results and analyses of the morphological forms and Chapter 5, which is a discussion of the importance of the results, including implications for language documentation and revitalization projects.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Context

In Chapter 2, I describe the personal experiences that led to the development of my research and then review relevant literature to offer background on previous understanding of the structures that I will analyze. The study focuses on functional morphology that expresses a subset of spatial relations. It is a family of verbal constructions involving a particular morpheme (often discussed as “the *ti* ligature”) in Eastern Huasteca Nahuatl. What scholars mean by “ligature” in Nahuatl is the reference to an empty morpheme that appears to allow morphemes to be joined or attached to each other while avoiding infelicitous phonological combinations that might arise if the –*ti* did not separate the morphemes.

While I have primarily limited myself to synchronic considerations of these forms in the contemporary speech variety of Eastern Huasteca Nahuatl, it seems noteworthy that some precursor of the morphological system has been inherited from Proto-Uto-Aztecan (PUA), supported by the fact that an incipient or vestigial form appears to be present in both Northern and Southern Uto-Aztecan languages. I am currently unaware of reconstructions of these particular features in PUA, and so this discussion is meant only anecdotally and not as a rigorous proposal. However, it is

entirely clear that Huasteca Nahuatl draws deictic contrasts using symbolically related vowels across a number of common functional categories in a way that is distinctly reminiscent of the system found in other Uto-Aztecan languages. I recognize that the deictic contrasts may not be remarkable. For example, as Jakobson (1965) pointed out long ago, the iconic connection is present in many languages so that the proximal has a tendency to have a front vowel (e.g., “this,” “these”) while the distal has a back vowel (e.g., “that” [a vowel that used to be back], “those”). Consequently, it may not be remarkable to find such deictic contrasts in Nahuatl. While the Nahuatl categories are more limited and less productive, the similarities are nevertheless present, as visible in Table 2.1. In the following examples, note that for Eastern Huasteca Nahuatl and Western Shoshone, I have chosen to present data with the existing orthographies that are used by the communities with which I work most closely.

Table 2.1: Deixis by Vowel Quality

Eastern Huasteca Nahuatl					
Ni	‘this’	nican	‘here’	iuhquinin	‘like this’
Ne	‘this/that’	necan	‘here/there’		
Nopa	‘that (distal)’	nopeca	‘there (distal)’	iuhquinon	‘like that’
Western Shoshone					
Siten	‘this right here’ <sup>8</sup>				
Saiten	‘this nearby’				
Soten	‘that’				
Saten	‘that (yonder)’				
Suten	‘that (not visible)’				

<sup>8</sup> Glosses drawn from Crumb and Dayley (1993), p. 26ff.

The set of verbs available in the Eastern Huasteca Nahuatl construction under consideration in this dissertation overlaps with Western Shoshone secondary or auxiliary verbs considerably in terms of the general meaning of the source verbs and position within the larger verbal morphology scheme, as detailed in Table 2.2.

In both cases, these auxiliary forms occur after the primary verbal root but before major inflectional suffixes that mark tense and aspect categories. To be entirely fair, the so-called “ligature” morpheme present in Eastern Huasteca Nahuatl is apparently absent in Western Shoshone, so I am reluctant to label these forms directly as cognates without additional study. There is also some counterevidence to sustain the belief that several of the forms in Eastern Huasteca Nahuatl are more recent grammaticalizations.

Nevertheless, I feel that the point stands that the particulars of the two systems, at least in morphological form, seem to overlap enough to warrant consideration in understanding the data for this dissertation.

The glosses for Eastern Huasteca Nahuatl are primarily based on my own fieldwork; while the morphological forms are known from many sources and found with high frequency in virtually any sort of text, the glosses for these forms have been generally quite distinct, often relying only on older grammars or on the etymological root of the auxiliary verb. The glosses I offer in my research are based on language use instead. Further discussion of the actual semantics of these forms will be presented below.

I should reiterate that the data presented in the preceding paragraphs relative to secondary auxiliary verbs in Western Shoshone and Eastern Huasteca Nahuatl *-ti-* ligature complements are not rigorous and do not represent in any way a concrete

Table 2.2: “Secondary Auxiliary Verbs” and Nahuatl -ti- Ligature Complements

Western Shoshone <sup>9</sup>	Eastern Huasteca Nahuatl
kateh ‘sitting, staying’	-ca(h) <sup>10</sup> ‘general vicinity’
hapi ‘lying down, prone’	-o(c) ‘specific place’ (root: ‘prone’)
wene ‘standing, upright’	-ihca(c) ‘standing; still there’
nemi <sup>11</sup> ‘walk; live; be’	-nemi ‘elsewhere; occasional’
nukki ‘running’	
mi’a ‘going away’	*-ya(u)h ‘movement along a path’
pite ‘arriving’	-huallauh ‘movement towards’
nooh ‘moving along, carry on back’	
suan ‘want; think’	
tea ‘ask (to)’	
tekin ‘start, begin’	
menih ‘can’t; unable; fail to’	
	-quiza ‘drop by and X’ (root: ‘go out’)
	-huetzi ‘drop in and X’ (root ‘fall’)
	-ehua ‘X and leave’ (root ‘born; come from’)

<sup>9</sup> Drawn from Crumb and Dayley (1993), p. 101ff; glosses translate the verb root.

<sup>10</sup> This root is used as a copula and/or basic locative verb in many varieties of Nahuatl.

<sup>11</sup> This root is attested across Uto-Aztecan and has been grammaticalized with many meanings.

proposal for an actual reconstruction of PUA morphology. The iconic use of vowel contrasts in deictic morphology could quite plausibly have arisen independently in related languages. I recognize that to find such vowel differences among forms cross-linguistically may not mean the arrangement was inherited but rather that it was created independently following iconic tendencies. My purpose in presenting these data is to highlight the fact that the two morphological systems, while decidedly exotic in their form and range of meaning to speakers of most Indo-European languages, are not oddities in their Uto-Aztecan context. I submit that the sorts of parallels shown above suggest that these structures are no more bizarre to speakers of other Uto-Aztecan languages than the systems of arbitrary grammatical gender found on the nouns and pronouns of most Indo-European languages are to speakers of some Indo-European languages.

My review of relevant literature for the proposed study includes an overview of existing descriptions of the morphological system in question, along with a preliminary refinement of the Eastern Huasteca Nahuatl system based on my own recent fieldwork; however, a detailed description is a point of departure and not a target destination. After I establish a nuanced account of the semantics and pragmatics of the particular form, I consider the impact that these forms currently have on the teaching and learning of Eastern Huasteca Nahuatl as a second and foreign language, as well as the impact that a different sort of description of these forms might have on efforts to teach and learn Eastern Huasteca Nahuatl. The potential impact was considered from the perspective of existing research and linguistic theory, but more importantly, it was examined via the direct experiences of the Eastern Huasteca Nahuatl language teachers and learners.

By examining the ways in which Nahuatl teaching practices might be informed by the existing literature from applied linguistics, I draw attention to the value and potential that applied linguistics and applied linguists hold for revitalization and maintenance efforts. At the same time, through discussion of limitations on descriptive practices and recent research into the impact of linguistic diversity and structure acquisition, I hope to shed light on ways in which linguists' efforts to support revitalization as "experts" have been potentially complicated by the sorts of language-specific details of semantics and pragmatics that have been overlooked in basic documentary practices. I ultimately argue that this was true even in cases where languages were generally considered well documented, such as with Eastern Huasteca Nahuatl in the present study.<sup>12</sup> By gathering data on current teaching practices and on the perspectives of experienced language teachers, I also suggest new ways in which the practice of language revitalization, and the teaching of more typologically diverse languages in general, might inform linguistic theory and language documentation practices.

The next section of this chapter presents a narrative of my own experiences that have shaped the particular research questions and my interest in the topic of this study. After that, I provide a foundation for the study through a review of relevant literature. The review of literature is necessarily spread across several sub-disciplines of linguistics; thus, some parts of the review are more cursory than they might otherwise be because of their relative importance to my research. I begin by discussing some traditional views of the acquisition of functional morphology in both first and second languages, as well as

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<sup>12</sup> I think that is fair to assert that, as members of a diverse, well-recognized language family, each with multiple published grammars and texts, both Shoshone and (numerous varieties of) Nahuatl are among the better-documented native languages of the Americas.



selected challenges to those views with potential ramifications for the present study. Next, I mention some of the existing theories of how space has been categorized cross-linguistically, though I focus on particular proposals with relevance to my analyses rather than on an evaluation of universal or cross-linguistic proposals. I then outline existing descriptions and sources for the morphological system that I am examining in the context of a simplified background of Eastern Huasteca Nahuatl. Finally, I discuss three broad trends that I observed across the process of language documentation, together with their theoretical or ideological motivations and the relevance of their distinct products for the process of language revitalization.

## 2.2 The Acquisition of Functional Morphology in L1 and L2

Brown's (1973) influential book on first language acquisition presented several important observations and hypotheses related to the nature and mechanisms by which children acquire functional morphology. Based on his observations, he proposed a natural order of acquisition for a particular set of morphemes. The incremental development of function words and functional morphology in his data stood in contrast with the apparent primacy of content words in early speech production in his data, and so he also suggested a "telegraphic" model for early speech production. In this model, children selectively attend to and prefer content words because of their communicative value. The influential ideas relative to the order of acquisition for morphosyntactic structures were soon applied to child second language acquisition by Dulay and Burt (1973). Although something like this model seems to fit the data well for English and typologically similar languages,

there is some reason to believe that it does not account well for the process by which polysynthetic languages are acquired (Mithun, 1989).

Pye (1983) explicitly argued against the “telegraphic” model on the basis of his data from K’iche’. Pye offered a competing model for K’iche’, a polysynthetic language, in which perceptual salience, as instantiated by prosodic factors, and not semantic content or morphological complexity, determines the initial patterns of acquisition. Pye suggested that articulatory difficulty, rather than semantic complexity, initially limits production. Mithun (1989) observed that Pye’s perceptual salience model seemed to fit well for the early stages of Mohawk production, as well. She further noted that, as a child’s productive articulatory abilities gradually grew more adult-like through the addition of unstressed syllables, they would eventually arrive at a point where many nouns and verbs would begin with pronominal prefixes. These prefixes are morphologically transparent, and so at this point, she argued that children would effectively “discover” morphology: They would begin to build a pronominal paradigm and then progress on to add other functional affixes, such as tense and aspect. Mithun also explicitly differentiated between two advanced children’s speech by the presence versus absence of bound directional and locative morphology. She found that these forms in particular were mastered only by the most advanced learners in her study.

Acquisition models (see Pye, 1983; Mithun, 1989) have been suggested for at least some polysynthetic languages. Others have been developed as a part of a larger inquiry into the relationship between language acquisition and the particular of prosody and morphological structure of a given language (Peters, 1997). Peters builds on earlier work that recognized two distinct phonological strategies used by learners, termed

“syllable children” and “tone children”, and ultimately arrives at a large number of open questions and suggestions about how these questions might be approached in future research. Even more recently, Kelly, Wigglesworth, Nordlinger, and Blythe (2014) offer a comprehensive view of acquisition literature related to polysynthetic languages, but they point out that insufficient documentation of adult usage for many polysynthetic languages makes child acquisition studies difficult and relatively rare. They note, however, that the work of Courtney and Saville-Troike (2002) on Quechua and Navajo and of Crago and Allen (1998) on Inuktitut seem to illustrate a contrary pattern in which semantically salient roots are extracted by learners, unlike in the K’iche’ and Mohawk examples. Virtually all the studies of the acquisition of polysynthetic languages of which I am aware address either monolingual L1 acquisition or acquisition by children in the context of bilingualism; the possibility that several different strategies might be used in L1 acquisition of morphologically complex languages depending on the nature of morphological and prosodic structure, as per Peters (1997) explicitly and Kelly et al. (2014) by implication, opens the door to the possibility that different teaching methods and learning strategies might be more or less useful for particular languages according to their prosodic and morphological profiles.<sup>13</sup>

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<sup>13</sup> While I have concerned myself primarily with morphological similarities in the kinds of categories that are marked and the ways that these categories are indicated in the languages that I have considered, it is of considerable interest that Shoshone and Nahuatl differ in syntax and prosody in parameters clearly relevant to the discussion (Peters, 1997). Shoshone has strongly verb-final word order and word-stress falls at or near the beginning of the prosodic word, while Nahuatl has a fairly flexible word order but a marked preference against verb-final word order and a highly regular penultimate stress pattern.

Recent work has also called into question the assumption made by some researchers that order of acquisition is mostly derived from universal principles and, thus, impervious to L1 influence. Goldschneider and DeKeyser (2001), a meta-analysis of previous order of acquisition studies, managed to account for most cross-linguistic variance in order of acquisition through an appeal to perceptual salience, semantic complexity, morphophonological regularity, syntactic category, and frequency rather than as a result of an underlying universally specified order. Luk and Shirai (2009), in a further review of earlier published studies, follow Goldschneider and DeKeyser in rejecting a universal order in favor of universally operative factors that influence order of acquisition. They find clear evidence of L1 transfer effects on L2 order of acquisition and assert that discrepancies between L1 and L2 are helpful in predicting which particular L2 structures will be challenging to learners. This position is intuitively satisfying in light of common anecdotal evidence (i.e., Slavic speakers struggling with the mastery of English articles), and it is supported by numerous independent studies such as Ionin, Baek, and Kim (2012), which found subtle L1 transfer in the L2 English article preference of Korean speakers.

If we take seriously the findings outlined in the preceding paragraphs, namely that acquisition of L2 functional morphology is proportionally difficult to cross-linguistic differences, then the L2 acquisition of Uto-Aztecan languages by L1 speakers of Indo-European languages, such as Spanish and English, takes on new dimensions. The language families for Nahuatl and the languages of contact are typologically not very similar to one another, meaning that the particular functional categories indicated by bound morphology are quite distinct. The numerous inflectional categories found on the

verb in many Uto-Aztecan languages have no structural parallel in English or Spanish, and so are likely to present a significant obstacle to learners of Nahuatl.<sup>14</sup>

### 2.3 Space in Language

A relatively large body of literature has developed in the last several decades in an attempt to describe the ways in which languages structure space and spatial relationships. These studies span the full breadth of linguistic theories and approaches; while some useful conclusions and primitives can be drawn, it is far from clear that a single view predominates. In this section, I will review the larger theories only in passing, presenting instead several concrete patterns that have been described for particular languages and theoretical proposals that I find relevant to my particular study.

The works of Talmy (1983, 1991, 2000, and many others) are generally credited as the foundation for and impetus behind recent attempts to establish a typology of how languages deal with space as well as numerous accounts of how space is conceptualized in particular languages. Talmy observed that language schematizes space, a process that he describes as “the systematic selection of certain aspects of a referent scene to represent the whole, while disregarding the remaining aspects” (2000, p. 177).

A number of the terms and concepts introduced by Talmy for dealing with grammatical reference to space have been broadly adopted, and it is useful to mention some of the basics here in order to establish the ways in which spatial reference is often conceived in detailed grammatical studies. Talmy (2000) offers distinctions between

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<sup>14</sup> While discussion of the topic falls outside the purview of this particular work, these same kinds of cross-linguistic differences are also likely to be implicated in the process of language attrition or even simply in the patterns of contact-induced language change.

static conceptions of space, such as *regions* (which may be occupied by an object) and *locations* (at which an object may be situated), and dynamic conceptions of space, such as *paths* (along which an object might move). Talmy also deploys the terms *figure* and *ground*, adapted from psychology, to refer respectively to primary, movable objects and secondary objects of comparison that are generally stationary.

Elsewhere, Talmy (1991) describes general strategies used by languages to describe, organize, and present information about an event in space. Some languages, like English, are *satellite-framed* languages; in these languages, the path or ground of a motion event is expressed by a grammatical element outside the verb root. Hence, in English, *The bottle floated **out*** contains the satellite, *out*, which expresses path. In contrast, *verb-framed* languages like Spanish express the same proposition by encoding the path in the verb and expressing the manner independently: *La botella **salió** flotando*. In this case, the verb *salió* (“went out”) encodes the same path that *out* encoded in the English equivalent, but it does so in a different location. Talmy is careful to note that a satellite is not simply some word other than the primary verb, but “can be either a bound affix of a free word” and thus includes diverse elements such as English verb particles; verb prefixes in German, Latin, and Russian; Chinese verb complements; Caddo incorporated nouns; and Atsugewi polysynthetic affixes around the verb root (p. 486).

Imai (2009) presents an extensive cross-linguistic study of spatial deixis across a large sample of languages and ultimately establishes that spatial deixis is primarily a system for the “demarcation of space surrounding the speaker” (p. 177). He also presents a reduced account of possible categories distinguished through spatial deixis, and he

suggests a number of universals, near-universals, and implicational universals, which appear to hold for such systems.

Another typologically oriented comparative study, Svorou (1994), addressed the development of particular lexemes and morphemes used for spatial reference across a sample of 26 historically unrelated languages. Svorou suggests that the emergence of distinct forms used in spatial reference is slow and gradual, as evidenced by the apparent lingering of lexical meaning even in apparently grammaticalized forms. She arrives at the conclusion that many grammatical elements used for spatial reference tend to acquire and retain a number of related semantic properties over the course of their development. She goes as far as asserting that:

...[T]he way speakers of a language use spatial terms to encode no only spatial, but also temporal and social relations, reflects the way people selectively perceive, retain and associate experience. ... [T]he way language reflects experience is not by partitioning it in discrete conceptual domains such as space, time, causality, etc., [...] but rather by encoding the most frequently occurring spatio-temporal situations together with their functional and social implications. (p. 209)

This suggests an interpretation of spatial reference elements that is compatible with a sociocultural view of language: rather than direct as realizations of universal grammatical categories and pure semantic denotation, Svorou's account of spatial reference allows for the accidents of history and the idiosyncrasies of culture in the development and use of these forms.

A number of studies on spatial reference have focused on or drawn heavily from languages of Mesoamerica. These include Pérez Báez and Bohnemeyer (2008), which proposed a radical form of verb-framing for Yucatec Maya and Juchitán Zapotec; Hanks (1990), a detailed analysis of spatial/temporal reference and deixis in Yucatec Maya from

both linguistic and sociological perspectives; O'Connor (2007), which contains, among other things, careful, thorough description of the grammatical expressions and morphological resources used for motion and other sorts of spatial reference in Lowland Chontal<sup>15</sup>; and Levinson (1996), which offered, among other arguments, Tzeltal data on spatial reference as evidence in favor of linguistic relativity and against universal claims. These studies have largely taken a functionalist approach to describing spatial reference. In a much broader functional treatment of the larger relationship between space and both language and cognition, Levinson (2003) describes linguistic systems for spatial reference as highly specialized cultural solutions to larger problems of communication.

Other approaches to spatial reference have explicitly attempted to situate these structures within formal theories of language. Pantcheva (2010) argues for a particular set of universal syntactic projections in a particular order (specifically [Source [Goal [Place]]]). These projections together, which encode the path concept, are defined by Talmy and others. This research was based on cross-linguistic morphological patterns and attested patterns of syncretism in the expression of particular kinds of paths. Deal (2008) offers an analysis of spatial reference as a category of verbal inflection parallel to tense. While Deal mentions literature on several languages, her data are drawn primarily from Nez Perce. After examining the range of possible interpretations and distribution of verbal morphemes with spatial reference, she offers a joint interpretation of spatial and tense morphology; Deal understands both spatial inflection and tense inflection as related strategies for narrowing the possible reference of a sentence in space and time.

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<sup>15</sup> aka Tequistlateco, not to be confused with the unrelated Mayan language Chontal.



Becker and Carroll (1997) studied the acquisition of spatial relation reference in adult learners of English, German, and French from several different L1 backgrounds. They determined that the earliest stages of acquisition were communicatively motivated and resulted in a sort of basic system based on neither their L1, nor on their target language. They draw a parallel here between their results and Slobin's (1993) idea of "thinking for speaking." Because children are sensitive to language-specific morphosyntax, they have no need to create the language-neutral basic systems found in adult learners. Unlike these child learners, according to Becker and Carroll's findings, adult learners established a basic system of spatial reference intended to meet communicative needs, but their paths of acquisition of more target-language-like forms beyond that basic system were not at all homogeneous. In cases where L1 and TL strategies overlapped, Becker and Carroll found that learners progressed in a similar manner and sequence to L1 acquisition; in cases where L1 and TL strategies did *not* overlap, they found a wide range of levels of proficiency ultimately achieved by learners and a largely idiosyncratic order of acquisition of particular forms. Importantly, they note that the overlap that predicts acquisition is in concepts used for structuring space and not particular formal categories. More simply put, Becker and Carroll arrive at the conclusion that obstacles to acquisition arise not from the presence or absence of a particular term or the fact a language uses case marking instead of prepositions or some other simple structural difference, but rather from differences in the ways that meaning is structured.

Jarvis and Odlin (2000) further refined the discussion of what factors influence or constrain L2 acquisition of spatial reference structures. They found that both semantic and structural differences between L1 and the TL resulted in interference, but that they

resulted in two distinct kinds of interference, simplification and semantic transfer. In light of the work by Becker and Carroll (1997) and Jarvis and Odlin (2000), it seems appropriate to assert that learner hypotheses about spatial systems in the TL are explicitly based on L1 and that L1 interference in this area of language is well attested. It also appears that both the conceptual organization of spatial systems and the morphosyntactic structure of these systems in L1 play a role in facilitating or obfuscating the acquisition of these structures in L2.

In fact, the predictions of Becker and Carroll (1997) and observations of Jarvis and Odlin (2000) with regard to complex spatial reference seem to be born out by a recent quantitative study of generational language shift across in speakers of Dene Sųliné (Thiering, 2009). Thiering found that elder speakers used spatial marking with a higher degree of specificity than younger speakers. He suggests that this shift is due to a limited or absent repertoire among the younger speakers as a direct result of English influence.

The studies of spatial reference acquisition in the current literature seem to point quite clearly to this particular set of linguistic forms as difficult for L2 learners and potentially susceptible to contact-induced shift, depending on the relative cross-linguistic differences between the languages involved, both conceptually and structurally. Although these structures may easily seem peripheral to speakers of Indo-European languages, formal proposals like Deal (2008) suggest that they may be far from peripheral in some languages; at the same time, functional and typological views of these same structures, as expressed respectively by Levinson (2003) and Svorou (1994), highlight their extraordinary cross-linguistic variability.

## 2.4 Nahuatl

The variety of Nahuatl that serves as the focus of the current study is the contemporary variety spoken in the eastern part of the Huasteca, specifically the variety spoken in and around the Municipality of Chicontepec in the Mexican state of Veracruz. The teacher participants in my study speak this variety, and it is the variety with which I am most familiar and in which I am most conversant. While the term “Nahuatl” is often used with implicitly or even explicitly limited reference to a classical variety of the language spoken in the Aztec capital Tenochtitlan at the onset of the colonial period, there is some discussion as to the classification of the various speech varieties, both historical and contemporary, as either a family of distinct languages or divergent varieties of a single unified language. While some linguists tend to split Nahuatl into numerous distinct languages based on the criterion of mutual intelligibility and in recognition of linguistic diversity, other linguists and speakers in the various speech communities are divided on the issue. Among linguists who work on Nahuatl, opinions vary about the number of languages there might be. The native speakers with whom I have interacted and from whom I have learned Nahuatl consider it a single language with divergent varieties, and they are happy to recognize written or audiovisual materials in varieties that differ significantly from their own as part of their own language.

In addition to its status as the primary language of the Aztec Empire at the time of contact with Europe, Classical Nahuatl was already a major lingua franca of much of Mexico and much of Central America for at least the previous several centuries, and today most estimates suggest that there are between a million and two million native speakers of Classical Nahuatl in communities around central Mexico. Classical Nahuatl is

classified as a southern Uto-Aztecan language. Due to its extensive administrative use by the colonial government of New Spain in the early colonial period, a large body of texts written in Roman letters, using the Latin alphabet, and following Spanish orthographic principles exists in Classical Nahuatl and spans most of the past five centuries. This corpus of text, along with a number of colonial and modern grammars and dictionaries, makes Classical Nahuatl one of the most robustly attested and documented native languages of the Americas in general and of the Uto-Aztecan language family specifically.

The way in which Nahuatl is classified is a point of sociolinguistic importance to speakers because language is a major social metric for ethnicity within Mexico. For most indigenous people, their identity is with their town and not with other towns who may or may not speak their language. Of course, there are recent movements in which there is an emphasis on similarity rather than difference and on forming relationships with speakers in other towns and regions in order to consolidate and exercise greater political influence, thereby creating a broad indigenous identity and reclaiming an indigenous history that speakers perceive as having been appropriated and reshaped by nonindigenous Mexicans. Something similar to these attitudes was observed by Hill and Hill (1980) in the Malinche Volcano area, where they analyzed the ways in which varieties of Nahuatl were becoming languages of solidarity and were being used to establish and reinforce ethnic divisions. Out of deference to my Nahuatl teachers and collaborators, I will follow them in referring to the language they speak simply as Nahuatl or EHN to specify Eastern Huasteca Nahuatl, and I will generally treat the varieties as regional and diachronic variations of a single language. For the convenience of readers, however, I will explicitly

label any comparative data drawn from varieties other than that of the Huasteca region of Veracruz. In other words, I will use “Nahuatl” to refer to (Eastern) Huasteca Nahuatl.

When I refer to anything that is not specifically that variety I will identify it and distinguish it with another designation, such as Classical Nahuatl.

The variety of Nahuatl that I have addressed is phonologically similar to earlier attested varieties (often labeled as Classical Nahuatl), though its morphosyntax is somewhat different. Materials related to the Eastern Huasteca variety of Nahuatl include teaching materials (Beller and Beller, 1985) and a sketch grammar (Beller and Beller, 1979) created by missionaries with the Summer Institute of Linguistics (SIL), an unpublished grammar and several lexical resources created by the Instituto de Docencia e Investigación Etnológica de Zacatecas (IDIEZ, n.d.), and a number of anthropological studies and field recordings created by the anthropologist Alan Sandstrom (transcribed and published in Peregrina Llanes, 2015). Selected modern grammatical and lexical resources for the classical variety of Nahuatl include Lockhart (2001), Andrews (2003), Karttunen (1983), Launey (2011), and Sullivan (1988).

While I was enrolled in intensive language coursework in Nahuatl over the summer of 2015, I gradually became aware through instruction and discussion with several native speakers that a number of grammatical forms included spatial reference that was not optional or implied but which was also absent from the descriptive materials, both published and unpublished, even though a number of the relevant forms were widely attested across both contemporary and classical varieties of Nahuatl. One of these constructions, a series of verb forms with the morpheme generally referred to as the *-ti-*

ligature<sup>16</sup> (Andrews's [2003] "connective-t compound verb stem") followed by a secondary verbal root, was interpreted to have particular space and motion meanings according to the particular secondary verbal root. A number of the resulting verb forms were independently described as aspectual suffixes in several of the grammars (i.e., Beller and Beller, 1979; Lockhart, 2001; etc.). The verbal ending *-toc*, composed of *-ti-o-c* (-TI-lie.prone-PST), was equated with and translated using the English and Spanish perfect, while *-ti-ca(h)* (-TI-exist) was widely considered equivalent to English and Spanish progressive constructions. Because the verbal roots *\*o* and *\*ca(h)* are not attested in contemporary EHN, these forms are at least partially morphologically opaque to speakers, which presumably explains their appearance as compound forms (*-toc* and *-tica(h)*, respectively) in the work of the Bellers.

As I asked my instructors and other speakers about interpretation and range of meanings associated with these forms, I was eventually able to assemble the following paradigm:

X-ti-o(-c) <sup>17</sup>	X at a particular location: "X right there"
X-ti-ca	X in the general vicinity: "X around somewhere"
X-ti-yah <sup>18</sup>	Motion while X, (unspecified or away from speaker): "Go along/off Xing"
X-ti-huallauh	Motion while X, (towards speaker): "Come along Xing"
X-ti-nemi	X somewhere else/not here: "Off/out Xing"

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<sup>16</sup> Interestingly, the same so-called ligature is found in a number of locative forms derived from nouns, suggesting a unified meaning related to spatial reference for both instances.

<sup>17</sup> Pronounced [tok] due to sound change. See Chapter 4 for further details.

<sup>18</sup> Pronounced [tix] due to sound change. Note: *huallah* already has the *wal-* directional prefix in it. See Chapter 4 for further details.

X-ti-quiza X between source and destination, but at neither: “Pass by along the way and X”

X-ti-huetzi Arrive somewhere, X, and then leave: “Drop by and X”

X-ti-ehua<sup>19</sup> X at source, and then leave: “X and run”(?)

While these forms are relatively common in discourse, standard practice in translating them (for both contemporary and Classical Nahuatl) is to offer a supposed formal equivalent (as described in the preceding paragraph for the first two examples), to offer a literal translation of the secondary verb (*go*, *come*, *walk*, and *go out* for the third through sixth examples, respectively), or to simply ignore the secondary element altogether. From this etymological perspective, the glosses are often difficult to disentangle and seem to overlap. While all sources that I have examined make at least some mention of these forms, the *-toc* forms, and sometimes also the *-tica(h)* forms, are frequently treated separately and explanation of the forms is generally not presented paradigmatically, except to note morphophonologically conditioned allomorphy (Lockhart, 2001), or occasionally to offer aspect-like interpretations. Beller and Beller (1979) offer five forms with glosses as follow.

Secondary Verb Forms and Examples:<sup>20</sup>

-ti-nemi “habitually”

-ti-huallauh “on the way toward”

-ti-ya “as (s)he goes”

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<sup>19</sup> Pronounced [tewa] due to sound change

<sup>20</sup> Data adapted from Beller and Beller (1979). I’ve made several small modifications and converted the orthography to the standard used by my participants and that I am using throughout.

-ti-quiza “quickly, right away”

-ti-huetzi “for a minute”

A number of examples are then offered and glossed, each consisting of a single inflected verb. There is no parallel drawn with the other three morphologically related forms, nor is there any mention of spatial reference or motion at all. All the glosses offered are, at least in isolation, compatible with the spatial reference meaning. However, there are a number of forms that I have gathered that would presumably be ruled out by or make different predictions under nonspatial interpretations. Consider, for example, the punchline to a humorous story about a mother being reunited with a son whom she believed dead. Upon realizing what his mother had come to believe, the son responds:

Axcanah nimictoya, zan ninehnentinemiyaya!

axcanah	ni-	mic	-t-	o	-ya,	zan	ni-	nehn-	ti-	nemi
NEG	1sg	die	TI	“prone”	already just	1sg	walk	TI	“walk”	
	-yaya									
	-IMPF									

“I hadn’t died, I was just out partying!”/“No me había muerto, solo andaba de parranda!”

In this case, the past perfect interpretation of the first ligature form is unproblematic in English and Spanish,<sup>21</sup> but the second is essentially intractable from the perspective of the

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<sup>21</sup> In fact, it does appear that the endings *-toc* and *-toya* have been reanalyzed, quite possibly under pressure due to contact with Spanish, and are now frequently used with a sense similar to Spanish perfect or past perfect; however, the reanalysis has not completely eliminated the spatial reference, since many uses of the Nahuatl forms cannot be appropriately translated using the Spanish perfect. For example, from a story by Eduardo de la Cruz, a character is described as follows:



aspect interpretation offered by Beller and Beller; the joke would seem to fail if the son were making a sort of confession: “I habitually went out to parties back then.” It is not a confession, though; it is jocular and even includes some light word play, since *nehen-* is a reduplicated form of the same verb found in the auxiliary, *nemi*.

In a similar fashion, in discourse context, there are very specific requirements for the use of several of the forms. Forms with *-ti-quiza*, for example, require (or imply) a destination that is not the same as the place where the action takes place. In many cases, this will mean “quickly” or “right away” as Beller and Beller suggest, since the location of the action is incidental to the larger spatial setting of the discourse. However, in connected discourse, this form cannot be used exclusively to mean “quickly” without any additional understanding of motion and the relationship of the location of the verbal event to a larger trajectory.

While I have not been able to find any accounts of Nahuatl that explicitly related this set of verbal constructions to spatial reference, I have found descriptions of several comparable systems in other languages. Koch (1984) described a set of verbal affixes in the Australian language Kaytej that he described as an associated motion connected to the event of the main verb. He further breaks these uses into forms that indicate prior motion, subsequent motion, and concomitant motion. While Koch’s prior motion matches the Nahuatl purposive suffixes described in the anecdote near the beginning of this chapter, the subsequent and concomitant motion categories find clear parallels in the verbal

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zan quiquitzoc millah

zan quiquici -t- o -c millah  
 just whistle TI ‘prone’ PST field.LOC

“(He worked hard wherever they gave him work), just whistling there in the field” (de la Cruz, 2015, p. 31)

construction that I am examining now. Subsequent descriptions have described associated motion in a number of languages of Australia and some researchers have extended the term to describe systems outside Australia, including at least one case of a Mesoamerican language, namely Chontal de Oaxaca (O'Connor, 2004).

I hypothesize that the *-ti-* ligature verbal construction in Nahuatl is incompletely described in the existing literature<sup>22</sup> due to a failure of scholars to consider the larger discourse context of meaning, but more importantly, due to the large structural and conceptual gap between the native languages of most researchers and Nahuatl on this particular topic. This same challenge applies similarly to learners of Nahuatl, and it was this sort of barrier that I saw instructors observing and attempting to correct. This Nahuatl spatial inflection system has been hidden in plain sight; consequently, my position derives from not only the thorough examination of the system but also the approaches used by teachers to try to illuminate the system to learners.

I am aware that my position may seem a bit unusual relative to most current Nahuatl scholars because past scholars have not noticed a clear semantic unity in the interpretation of the *-ti-* ligature verbal construction and so have not analyzed it as having a distinct semantic contribution. My position is well supported by native speakers' intuitions, though, as they have been expressed to me in classroom instruction, elicitation, and broader discussion of both morphological and stylistic aspects of Nahuatl utterances

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<sup>22</sup> While I will stop short of claiming with any certainty that my tentative analysis of Huastecan Nahuatl applies to all varieties of Nahuatl, I will point out that most of the forms under discussion are widespread and there is no obvious reason to believe that this interpretation represents a recent or localized innovation. While semantic fieldwork on classical varieties of Nahuatl is not possible, the semantic range of attested verbs that appear after *-ti-* in written sources according to both Andrews (2003) and Lockhart (2001) is easily compatible with an extension of my analysis.

and texts. Three native speakers have all independently confirmed some sort of spatial component to *-ti* ligature forms, and a fourth suggested it strongly through an earlier set of glosses and explanations that I collected in the 2012-13 academic year, though at that point, I had not yet developed an explanatory theory of what the morpheme was doing, nor had I yet recognized several of the more frequent forms as part of a unified paradigm.

Personal conversations with Eduardo de la Cruz about the rhetorical structure of particular passages in his story *Miccailhuil: animahtzin techhualpaxaloa* (de la Cruz 2015, pp. 69-75) and verb forms found elsewhere in his book of stories drawn from the contemporary Nahuatl oral tradition of Veracruz have proven particularly enlightening. That particular story is a cautionary tale intended to promote the continued observance of local Day of the Dead practices and associated beliefs. At the climax of the story, a series of several clauses make use of apparently repetitive ligature verb forms, purposive verb forms, and nominal locatives to progressively establish a physical setting with a full set of spatial relationships, culminating in a sort of super-specified event in which the tragic protagonist realizes the error of his ways. In translation to either English or Spanish, the passage feels repetitive and somewhat awkward, depending on how closely a translator chooses to heed the advice to translate verb forms in *-toc* as perfect forms. In Nahuatl, though, de la Cruz confirmed to me directly that this passage was structured to bring the full scene into view through a range of increasingly specific forms. While this is not generally a particularly familiar rhetorical form for speakers of English or Spanish, something very similar has been noted stylistically by Canger (2007), who discusses the tendency for events to be approached by Nahuatl speakers through “a gradual introduction of the various elements and participants” (pp. 9-10). Considering the

relatively broad consensus that I have found across native speakers of Nahuatl, the detailed explanation offered to me by Eduardo de la Cruz, and the correspondences of that explanation with outside observations on rhetorical strategies in Nahuatl, I feel confident that my dissertation work on the ligature verb forms supported my hypothesis (at least for Eastern Huasteca Nahuatl, and potentially for additional varieties as well).

### 2.5 Documentary Linguistics and Fieldwork

Linguistic fieldwork directed towards the documentation of endangered languages, a position that has come to be associated with revitalization efforts and collaborative work within language communities in many cases, tends to focus either implicitly or explicitly on the creation of an archived corpus. Work in this tradition is accordingly concerned with the storage, organization, and retrieval of rich, varied data sources. The products of such work ideally include primary sources, such as audio or audiovisual recordings and texts of other sorts. These should form a corpus that spans a wide variety of genres, styles, and contexts of language use, including natural, authentic language use. The role of the documentary field linguist is perceived in large part as archiving the recordings, texts, and corpuses and revolves around the collection, organization, and curation of these materials, along with their enrichment, for example through the addition of transcriptions, translations, and metadata (Himmelman, 2012). However, most American linguists and increasingly those of the rest of the world hold that language documentation is not primarily about text collection and archiving, but must include description and analysis, including dictionaries or similar lexical resources, ethnographic studies, and grammatical studies or sketches appropriate to a variety of

audiences. Many sources that discuss language documentation endorse this sort of approach, either explicitly or implicitly. Gippert et al. (2006) and Rehg and Campbell (in press), for example, offer a useful introduction to language documentation, and most of their contributing authors seem to share this expanded vision.

Corpora of natural speech, with varied contexts and numerous tokens of particular functional words and morphemes, offer an invaluable tool for the analysis of these forms. Effort to provide rigorous analyses of the semantics of particular functional morphemes is generally outside the scope of this variety of fieldwork, though, since emphasis is more commonly placed on breadth and quantity than on the sorts of minutiae of elicitation that is sometimes needed for that mode of analysis. These functional forms may go unnoticed by native speakers, and the time and effort that might be expended on a single affix or form may be considered better dedicated to other efforts, such as recording and transcription.

Other linguistic fieldwork is carried out with a comparative or typological focus. While this is, in some respects, compatible with the documentary approach outlined above (with which it is often combined), there is a pronounced difference in the end goal and in the conception of the role of the linguist. Influential works such as Payne (1997) are positioned to guide linguists in working through the complexities of an undescribed or poorly described language. Work in this vein is often targeted to the creation of thorough grammars or dictionaries, and the cumulative results of this sort of work ultimately yields resources like *The World Atlas of Language Structures* (Dryer & Haspelmath, 2013), as well as broad cross-linguistic studies in language typology. This

approach tends to focus on morphology and morphosyntax, rather than text collection, annotation, and retrieval.

### 2.6 Formal Linguistics and Fieldwork

A third strand within the trends in linguistic fieldwork is driven by a growing interest among some formal linguists in the properties of less-described languages. Studies of this sort, including work such as that of Deal (2008), which I discussed earlier in this chapter, tend to focus narrowly on particular formal features of the language. While these studies may contribute to language documentation, their primary purpose is clearly the advancement and refinement of particular theories of language. This sort of fieldwork, often semantic in nature, is justified by Matthewson (2004) and more recently expanded and elaborated upon by the various authors who are anthologized in Bochnak and Matthewson (2015).

### 2.7 Fieldwork Approach for This Study

For the purposes of the current study, it seems appropriate to recognize the current state of documentation for Nahuatl and consider available resources and needs. I believe that most of the available documentation for Nahuatl fits into both categories. There are published texts and audio recordings available, and there are grammars and dictionaries of various sorts. As illustrated in the preceding sections, though, there are relatively fewer close examinations of the precise semantics and usage of many of the morphological forms, including even those that occur with relatively high frequency in discourse (as is the case for the morphological paradigm that I have studied).

It seems appropriate, then, to suggest that examination of existing corpora was a straightforward way to begin to establish information about usage for the forms under investigation. Likewise, examination of tokens in their discourse context was a good initial heuristic for generating hypotheses about the precise nature of the meaning of the morphemes in question. Because close semantic examination of Nahuatl is mostly lacking, a reasonable second step in the process of analyzing the particular morphemes in question was careful elicitation to test both the analyses in the existing literature and any new hypotheses resulting from the data gathered from texts. While the process I describe was not fieldwork in a classical sense, I have followed these two steps as a part of the study.

## CHAPTER 3

### METHODOLOGY

#### 3.1 Introduction

This chapter presents the methodology for the current study, including the research design, the background on the teacher participants and my relationship to them, the modes of data collection that were used at each stage of the study, and the approach to data analysis. One section of the chapter is dedicated to each of these topics, respectively.

#### 3.2 Research Design

I consider my research to be field linguistics because data (a) were collected for the purpose of documenting and describing a language, (b) were collected in situations where speakers are expected to use the language naturally, and (c) were not collected through controlled lab experiments. My research differs from traditional field research for language documentation in several important ways. First, I am not documenting an undocumented language, as Nahuatl is already well documented. Nevertheless, my study makes a contribution to documenting Nahuatl in that my fieldwork and associated research have resulted in documenting more thoroughly and accurately aspects of the grammar of Nahuatl that until now have gone essentially unaddressed and



unrecognized. Second, I am not studying the language *in situ* in a traditional community. The contexts where I have contact with native speakers and proficient users is nontraditional, such as in university classrooms, the library, offices, cafeterias, and in online contexts through the use of computer-mediated tools, such as email, texting, messaging, and Skype. Third, I also began my research already fluent in Nahuatl, so my research fits neither of the prototypes for descriptive fieldwork—“immersion fieldwork” (i.e., fieldworkers learn the language, culture, and customs by immersing themselves in the language and community) or “interview fieldwork” (i.e., fieldworkers’ interactions with the community are limited to fieldwork sessions often times using a consultant) (Foley, 2002; Aikenhvald, 2007). Fourth, the motivation for language documentation in my research is for purposes of revitalization and the targeted structures are related to those structures that, based on my own experiences in learning Nahuatl and on my classroom observations, will likely be difficult pedagogically for both learners of Nahuatl who come from majority languages such as English and Spanish and native speakers of Nahuatl who may not have a conscious understanding of the difficulty these structure pose for non-native speakers. Even though I describe my research as field linguistics for the purpose of language documentation, it is difficult to situate it solely within one research approach because it includes components of language instruction observation as well as discussion with native speakers who have extensive background and training in language instruction. Fifth, I use a corpus of texts to support my interpretations of the structures.

### 3.3 Teacher Participants

I will describe the general characteristics of the teacher participants before I describe each of the individual participants. As native speakers of Nahuatl and experienced teachers who have received formal training in second language (L2) pedagogy, the Nahuatl speakers' were able to illustrate the challenges faced by teachers in identifying the difficulties that learners experience as a result of the subtle (and perhaps the not so subtle) cross-linguistic differences. As experienced language teachers, they were also able to discuss the ways in which they had already grappled with some pedagogical obstacles in the development and implementation of their own curriculum and teaching practices.

Some general demographic descriptors apply to all teacher participants. For example, all of them were actively engaged with their traditional cultures and in efforts to maintain them. In addition, they were involved in language teaching efforts for their respective heritage languages and were all highly educated. Their education levels ranged from advanced undergraduate students through graduate students enrolled in Master's degree programs. All were raised in relatively traditional communities, and all of them left their home communities at some point in order to pursue their educational goals.

In the reporting on data analyses in the following paragraphs, I have elected not to create pseudonyms for the participants in this study. This decision is one that I have made after careful consideration and in some cases in consultation with the participants themselves. While I refer to them as participants for the sake of adhering to relatively transparent terminological practice, the truth is that I consider all of the participants as

collaborators in my research, and, more importantly, they see themselves in this role as well. The risks that might result from being identified as participants in my study are minimal. All of the participants have been outspoken on their desire to be acknowledged for their involvement in research about their own language and culture. Furthermore, all of the participants have clear professional ties with me through other visible collaborations; thus, pseudonyms are likely insufficient to obscure their identities. To my mind, the most concerning “risk” that any of the participants realistically run by participating in the study is the risk that they will not be acknowledged or credited with their contributions. While I consider my research to be my own and to be original, I am deeply aware of patterns of resentment that can develop when community members perceive outsiders as laying claim to or profiting from research and other activities that involve aspects of their culture and traditions, and for that reason, I fully acknowledge their role and openly give them credit for it.

The Nahuatl teacher participants who have played the most important roles in the collection of data are Abelardo and Eduardo. They were both students in a Master’s Degree program at a major public university in Mexico during the collection of data. They are both from predominantly Nahuatl-speaking regions in the Huasteca, though their university is not in the Huasteca area. They are both native speakers of Nahuatl, though both are also fully functional bilinguals with native-like command of Spanish, as well. Abelardo and Eduardo are currently employed at a nonprofit organization that promotes Nahuatl language, offering coursework in both contemporary and Classical varieties of Nahuatl locally in Mexico and through distance learning and intensive workshops in many other countries. Both Abelardo and Eduardo have about five years

of experience as teachers of contemporary Nahuatl, and both have been involved in the organization of the language curricula used in the classes offered by their organization.

I have known various members of the organization that employs Abelardo and Eduardo since the fall semester of 2012, when I began to study Nahuatl through distance learning classes offered at the University of Utah. I have known Eduardo since late in 2014, but I came to know him well through daily personal tutoring from late June to early August of 2015 as a part of a six-week intensive Nahuatl course in which I participated. I met Abelardo when I was his student in an intensive advanced course in Nahuatl, also from June to August of 2015. Technically speaking, between coursework at the University of Utah and intensive summer courses, I have logged about 560 hours of contact in class as a student with Abelardo, Eduardo, and several other instructors. In fact, though, personal and professional engagements<sup>23</sup> with those instructors and others plus my position in the 2016-17 academic as an instructional assistant for both the introductory and advanced levels of Nahuatl at the University of Utah have led to quite considerably more contact than is suggested by that figure. I consider both Abelardo and Eduardo to be my teachers, but I also consider them to be my friends and colleagues. I hold both of them in high esteem as skilled and experienced language teachers.

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<sup>23</sup> For example, in early 2017, I spent about three weeks traveling for workshops and a field visit to the Huasteca with Abelardo and Eduardo as my nearly constant companions.

### 3.4 Modes of Data Collection

Data collection was divided into two phases. In the initial stage, I gathered and analyzed grammatical data on the specific language structures that were of particular interest to me as they related to functional morphology with spatial reference, namely the Nahuatl *-ti-* ligature verbal construction. The data collection for the first stage of the study was collected and analyzed according to the recommended documentation practices for fieldwork to make the data optimally long-lasting, accessible, and reusable by other linguists and speakers (Bird and Simons, 2003). I modeled the data collected in Stage One after the best reference grammars because the goals for my study are similar to the goals for creating a reference grammar. In other words, I wanted to provide clear, accessible, reasonably comprehensive data, so as to address the structural attributes of these in depth as much as possible. It is always somewhat difficult to know how many examples to provide. It should be noted that I have selected examples based on my goal of providing evidence for the generalizations that I am making, but I am also aware of the fact that the examples can also serve as a basis for further analyses and research; consequently, the number of examples included in my analyses and their degree of complexity vary.

During the first stage of my research, I used different techniques for data collection, such as the use of elicitation techniques and natural speech recordings, to get full morphological paradigms and to assess detailed information. Naturally occurring conversations in different discourse settings were documented. The use of elicitation techniques was limited to instances of confirmation. In trying to analyze grammatical morphology, it should be noted that sufficient examples of the right sort might not

appear in one's corpus of natural discourse. Hence, elicitation was allowed with the hope of confirmation.

The examples that I used were framed in the grammar (Weber, 2007). In other words, their relevance to the points being made was explained in the prose immediately before or after the examples (Mithun, 2014). In all cases, the claims and examples were integrated to avoid lengthy descriptions followed by a lengthy series of examples.

Because of the morphological complexity of Nahuatl, the examples were presented in a multiline format as in example 33 below, drawn from Chapter 4.

33. xi-                    c-      *on-*    *hual-*                    tequi    alaxox  
       2sg.IMP-            3sg.O- ON-    HUAL-                    cut      orange

“Come and cut the oranges right now.”

The examples are presented in several different ways. In some examples, the top line presents the utterance as spoken, in the standard community orthography. The last line provided a free, idiomatic translation, which was usually surrounded by quotation marks. I tried to keep all associated lines together on a page. In some examples, the first line was a parsed line, showing the internal morphological structure of each word. The second line provided glosses and the meaning or function of each morpheme. This line was followed by a translation. In some examples, the lexical glosses are given in roman type, and grammatical terms are given in caps. When a single morpheme was in the second line, it corresponded to a multiword gloss in the third line, and the words in the gloss were linked by periods. Particularly when the order of information in Nahuatl contrasted strongly with the order presented in the free translation, it was easier to present the full free translation as a separate unit at the end of the example.

In the second stage, I “interviewed” each of the teacher participants, using the data collected in first stage. I use the term “interview” to describe the way in which I interacted with the teacher participants because of the similarities the process shared with a formal interview in terms of questioning techniques, for example, one interlocutor doing most of the questioning, and the other individual responding from a position of authority. In these “interviews”, I described my understanding of the data and explained my analyses from the first stage as starting points for ongoing question/answer exchanges and for the discussions that followed about both structural and sociolinguistic issues related to the teaching and learning of functional morphology with spatial reference.

Data collection for Nahuatl grammatical data was done via careful elicitation with native speakers, following guidelines for semantic fieldwork outlined by Mathewson (2004); in particular, I established truth conditions (i.e., what should be true about the world in order for a given proposition to be judged as true) and felicity conditions (i.e., what should be true about both the world and the discourse in order for an utterance to act in the intended way as a speech act) for the use of *-ti-* ligature verbal constructions, as well as determining entailment and implicature of these forms. I made use of detailed discourse contexts in order to ensure that judgments were based on language-internal factors and not on cross-linguistic differences that emerged in translation. The work built systematically on the fieldwork that I began informally with both Abelardo and Eduardo in July of 2015.

There is one point of departure that I made from the suggestions of Mathewson (2004). I used Nahuatl as the primary language of elicitation. My participants have been

involved in the creation of technical grammatical terminology for Nahuatl, and I have learned the terms that they used through the classes that they teach. Consequently, I felt comfortable using Nahuatl for meta-linguistic discussions, and I knew that the participants were comfortable conversing with me in Nahuatl. I believed that, by relying on Nahuatl to the greatest extent possible, I was able to avoid or minimize a number of the translation-related pitfalls described by Deal (2015). In cases of ambiguity or vagueness within Nahuatl, or in cases of grammar or vocabulary that were unfamiliar to me, I used Spanish as a shared meta-language.

The second stage of data collection took the form of interviews with each of the participants individually or in a group. I conducted interviews with the Nahuatl speakers in Nahuatl and Spanish. Using the data gathered as described in the preceding paragraphs as a point of departure, I asked about both the structural and sociolinguistic importance of these forms to teachers and learners. I then conducted several rounds of interviews with each participant, expanding on the particular themes and topics that had emerged through the interview process, as described in the following section.

### 3.5 Data Analysis

The grammatical elements that I targeted and the constructions with which I worked in the second stage were numbered and nested, explained in clear descriptive prose, and illustrated with multiple examples and with clear terminology. Careful notes were kept on everything to provide metadata for later analyses.

In terms of my process of working with data, I used a grounded theory approach (Glaser & Strauss, 1967; Denzin & Lincoln, 1994; Strauss & Corbin, 1994) for



analyzing the data collected from the “interviews” in the second stage. Grounded theory is not aimed at proving or disproving a theory or establishing a specific position. Instead, it allows for relevant topics or concepts to emerge from the interactions. These interactions occurred between me (the researcher) and teacher participants during the interview process and among the teacher participants during the interactions that I observed. In this particular context, the grounded theory approach is shaped by the desire to discover both psychological and social processes that relate to and underpin not only awareness of grammatical meaning and usage for these particular morphological forms, but also the larger social context in which the forms are employed by speakers to categorize space in culturally specific ways.

Because qualitative data analyses were guided by the procedures of grounded theory, I started with open coding in analyzing interview data. Open coding is the process of looking for distinct examples or concepts to identify or establish emerging categories based on the data. I then read and re-read my field notes and interview data and labeled these data for emerging categories so that I could retrieve them later (Merriam, 1998). I used what Strauss and Corbin (1998) refer to as the constant comparative method in which I constantly compared new data to data that I had previously collected to refine my understanding of data. At this point, patterns began emerging across the different sets of data, so the process was followed by more interaction with the data to “saturate” (Creswell, 2007, p. 238) the final categories that were used to present the final analysis of these data (see Chapter 4).

## CHAPTER 4

### DATA AND ANALYSIS

This chapter focuses on the presentation and analysis of data that were collected specifically for this study, as well as on several discussions of some of the ways in which space interacts with the Nahuatl verb in the variety currently spoken in the eastern Huasteca. To this end, Section 4.1 summarizes earlier observations on the class of relational nouns (sometimes labeled as *adpositions* or *adpositionals*<sup>24</sup>) and builds on the recent analysis offered by Sasaki (2011) for earlier Nahuatl. I compare these findings with contemporary data from Eastern Huasteca Nahuatl (EHN) to show a set of syntactic distributions that offer some insight into noun classes and verbal agreement with place nominals. Section 4.2 presents data and offers discussions of the verbal prefixes generally referred to as *directionals*, including some overview of their use and function in EHN. Section 4.3 summarizes work on the verbal suffixes sometimes called *purposives* and highlights the degree to which they fit the category that has sometimes been described as “associated motion” in several other languages. Given the nature of available descriptive work, the first three sections of this chapter rely heavily on the research that focused on descriptions of earlier forms of Nahuatl; those descriptions are supplemented

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<sup>24</sup> The term *postposition* is also used by some scholars, even though the relational nouns were historically bound forms which included possessive morphology rather than independent forms following the noun that they modify, as suggested by that term.

with data from my own research that corroborates and extends earlier analyses in the context of Eastern Huasteca Nahuatl. The final section (Section 4.4) in this chapter describes a well-known Nahuatl morpheme *ti-* that is not normally associated with space reference in existing grammars, namely the so-called “ligature” *-ti-*. A novel analysis of each verbal construction including this morpheme is offered, derived in this case from data collected from native speaker teacher participants for this study and my observations of their use in Nahuatl classrooms as it relates to their use in spatial reference. Comparative and diachronic data from other varieties of Nahuatl are also offered, suggesting that these analyses are likely valid beyond the confines of contemporary EHN.

#### 4.1 Relational Nouns, the Nahuatl THING/PLACE Distinction, and Locative Constructions in Eastern Huasteca Nahuatl

Most descriptive work on varieties of Nahuatl, both historical and contemporary, discusses a set of morphological elements found in conjunction with nominal roots and used to express spatial relations. These have been variously designated as “suffixes”, “postpositions”, or “relational nouns” by researchers in various traditions or schools of thought regarding Nahuatl grammar. For the sake of simplicity and consistency, I will refer to these elements as *relational nouns* for the remainder of this work except when drawing attention to the terminology used by a particular scholar. Markedly less attention has been paid to the structure of locative predicates in Nahuatl, with the notable exception of Salgado’s (2014) thesis, which addresses the structure of locative predicates in Pipil but also offers some suggestions as to what earlier basic locative predicates in earlier Nahuatl may have looked like. I will not attempt to resolve the issue of how to

best classify and understand relational nouns in Nahuatl nor will I offer a reconstruction of basic locative predicates across Nahuatl at large, but I will offer a brief overview of selected observations by major scholars of Nahuatl about the function of these forms in older varieties of Nahuatl. I will also discuss how these forms are employed in EHN. Finally, I will present a view of how locative predicates work in EHN, with special attention to the distribution and form of a set of verbs that, when noticed at all, have been frequently but erroneously labeled as irregular.

#### 4.1.1 Relational Nouns in Earlier Nahuatl

Launey (2011)<sup>25</sup> distinguishes the “locative suffix” *-c(o)* from a separate set of “locative noun suffixes” or “locative nouns.” Launey notes that *-c(o)* is incompatible with animate nouns and does not appear with only a pronominal possessor in the way that *-pan* “in, on, by, at” or *-tlan* “beside, beneath, under” can:

1. Tlapech      -co    mo-    cahua  
     Bed            -CO    REFL- stay

“He’s staying in bed” (From Launey (2011))

2.    \*\*Cihua      -c  
     Woman        -CO

“At/to/from the/a woman” (From Launey (2011))

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<sup>25</sup> The cited reference is a translation of a much earlier original work.

3. To- pan quiyauh  
 1PL.POSS- on rain.PST

“It rained on us” (from Launey, 2011)

4. \*\*To- -co quiyauh  
 1PL.POSS- -CO rain.PST

“It rained on us” (based on Launey’s [2011] assertion)

Even so, Launey maintains that both forms in *-c(o)* and locative nouns share a syntactic distribution that is distinct from other nouns and that they share semantics to the degree that they “do not indicate a specific direction of movement or the absence of movement, such indications being made by the verb” (p. 116). Launey also notes that certain

locative nouns are not added directly to the noun stems that they modify but rather that “[T]he important suffix **-ti-** is inserted between the initial noun and the locative suffix.”

He goes on to state that this morpheme “has no meaning of its own, and as its function is simply to link the noun with the locative suffix, the term for it in traditional grammars is “ligature” (p. 121). As a final note, Launey mentions that in the case of a modified noun receiving *-c(o)*, only the noun is marked with the locative:

5. Cualli cal –co  
 Good house -CO

“In the pretty house” (from Launey, 2011)

Andrews (2003) offers the opinion that earlier Nahuatl altogether lacks adpositions<sup>26</sup> and that all relational nouns are best understood as a variety of noun stem to

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<sup>26</sup> As discussed later in this section, this is probably not a tenable position for contemporary Eastern Huasteca Nahuatl nor for many other contemporary varieties of Nahuatl.

which other material is attached via a process of incorporation. He rejects the idea of any equivalence between Nahuatl relational nouns and any adpositional equivalent used in translation. Andrews also explicitly includes the *-c(o)* forms, set apart by Launey as described above, as a member of this lexical class. He also subdivides relational noun stems broadly into *locatives* and *directionals*. His *locatives* convey information about location, source, goal, or path but construct each of those as static; his *directionals*, on the other hand, are limited to source or goal but are dynamic conceptions of motion. Andrews also distinguishes four possible syntagmatic uses for relational nouns and divides them into groups according to which syntactic positions they occur in. Andrews mentions the use of the ligature (in his words, the “connective-t compound verbstem”) in certain relational noun constructions; in fact, he uses this as one of the diagnostic syntactic positions in which a given relational noun may or may not appear. He specifically asserts that the following relational nouns may appear with the *-ti-* ligature: *-ca*, *-icpac*, *-tech*, *-tlan*, and *-pan*.

Like Andrews, Lockhart (2001) groups *-c(o)* together with the relational nouns, noting only that its reference is very general in comparison to other relational nouns. He offers a list of the following relational nouns, classified according to their semantics, roughly following his translations into English: *-pan* “on, in,” *-co* “in/at (general),” *-tech* “next to,” *-pampa* “because of, concerning,” *-huan* “with (comitative),” *-ca* “with (instrumental), by means of,” *-icampa* “behind,” *-nahuac* “near to,” *-icpac* “on top of,” *-tlan* “next to, below,” *-ixpa* “before, facing,” *-ihtic* “inside,” *-tzintlan* “below, underneath,” *-pa/huic* “toward.” Lockhart also mentions that the suffixes *-yan* and *-can*

serve a similar purpose, though he asserts a distributional difference in word-formation, stating that these latter forms are restricted to appearing within the verbal paradigm.

In describing the system, which includes the reflexes of historical relational nouns in the Nahuatl spoken today in the eastern Huasteca, Beller and Beller (1979) distinguish between “prepositions” and “postpositions.” Their prepositions are a heterogeneous grouping that includes loanwords from Spanish, such as *para* “in order to; for” (cf. Sp. *para*) and *aztah* “until” (Sp. *hasta*), as well as several terms that are perhaps more easily understood as members of other lexical classes, such as *campa* “where,” which can be followed by a simple noun. *Campa* is often used to introduce a subordinate clause, and *yahualtic* “ring-shaped,” which morphologically patterns with adjectives derived from nouns, especially those used to describe physical characteristics of appearance or dimension (e.g., *chichiltic* “red” from *chilli* “chile,” *tomintic* “shiny and having a cool hue” from *tomin* “money”). None of these forms appears to be related to the relational nouns described for earlier varieties of Nahuatl.

The “postpositions” described by Beller and Beller, however, largely overlap with the relational nouns described for earlier Nahuatl by the authors mentioned in the preceding paragraphs. One exception is their entry *-teki* “in place of”; from their sole example, though, I suspect that this is simply a possessed form of the noun *tequitl* “work” and not an adposition of any sort. In a way that is somewhat reminiscent of Andrews (2003), Beller and Beller further subdivide their “postposition” category into “postpositions that occur with possessor pronoun prefixes”, “simple postpositions that can occur with nouns”, and “complex postpositions that can occur with nouns” according to the purported distribution of the terms in each group. However, the Beller and Beller

classification creates several potential problems. Many of the first and second groups are overlapping, and several of those that are not listed for both groups can be used in both ways. For example, the Bellers classify *-tzalan* “under” as a “simple postposition that can occur with nouns” but omit it from the list of forms that occur with possession, while placing *-nechca* “near” in the group that takes possession but not in the group that occurs with nouns. Examples 6 and 7 below, both drawn from illustrative example sentences that were created by native speakers and written for a monolingual Nahuatl dictionary, clearly contradict the Bellers’ classifications:

6. Ana quiaahcic ce mancoh pan itzontecon quemman ihcatoya *i-tzalan* mancocuahuitl huan cuatemic (Sullivan et al., 2016).

i-                    tzalan    manco-cuahuitl

3sgPOSS-        under    mango-tree

“A mango fell on Ana’s head when she was standing *under* a mango tree and she got a bruise.”

7. Cal -nechca (Sullivan et al., 2016)

House -near

“Close to s.o.’s/the house”

A deeper problem with the Beller’s classification relates to their use of *preposition* and *postposition*. For reasons that may perhaps be attributed to regional or generational variation in Nahuatl, they omit the purely prepositional use of several of their “postpositions,” as shown in Examples 8 and 9 (in both cases, emphasis added):

8. Ni cualantli tlen quipixqui mohueyiltiyahqui huan ahcito *pan* iteixmatcahuan (De la Cruz 2015, p. 18).



pan i- teixmatca -huan  
 PAN 3sgPOSS relative PL.POSS

“This problem that he had grew and grew and reached his relatives.”<sup>27</sup>

9. Ya quitl quihuicac tlahueliloc pampa quichihqui ce tlahtlacolli *huanya* itatah (De la Cruz 2015, p. 38).

“They say the devil took him because he sinned against his father.”

In Example 8, the word *pan* “in, on” has neither a morphologically joined nominal root nor a prefix indicating possession; the same is true of *huanya* “with (comitative)” in Example 9. While this does not line up with the description offered by the Bellers, the presence of prepositions in contemporary Eastern Huasteca Nahuatl is well established (see, among others, De la Cruz (2015) for copious examples in a literary context and Peregrina Llanes (2011, p. 27) for a short grammatical discussion). A similar situation has also been documented for the closely related Pipil (Campbell (1985, p. 59) and Campbell (1987)). See also Salgado (2014) for an additional discussion of the path by which reanalysis may have occurred and may hold true for other contemporary varieties of Nahuatl.

An extensive monolingual dictionary of Nahuatl created primarily by native speakers of EHN (Sullivan et al., 2016) offers a particular lexical class, *tlapaniliztli*, for the historical relational nouns, contemporary reflexes of these terms used as prepositions (as illustrated in Examples 6 and 7), and the rather extensive set of derived forms created by compounding (as illustrated in Example 7). Their classification is oriented to the

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<sup>27</sup> In this case, the only purpose of the prepositional form of *pan* seems to be to allow a THING (*iteixmatcahuan*) to act as the object of a verb that generally requires a PLACE (*ahcito*).

syntactic distribution of these forms rather than their morphological formation, and so the locative ending *-co* and its derived forms are classified as *tlapantiliztli* as per Andrews (2003) and Lockhart (2001), in spite of the asymmetry mentioned by Launey (2011). Likewise, based on distributional considerations, they label forms that end in *-can* or *-yan* as *tlapantiliztli*, in spite of Lockhart's observation, mentioned above, that these are formed from verbal rather than nominal roots. One of the authors, in translating *tlapantiliztli*, suggested that its closest match in English for the sake of learners' comprehension would be *preposition* (p.c. De la Cruz), though the bulk of the four hundred or so entries labeled as *tlapantiliztli* would clearly be translated as full prepositional phrases (*atenno* "at the water's edge" and "on the bank," from *a-ten-no*: water-edge-INALIEN), nouns (*ahcolxelyan* "shoulder joint of a person or animal"), adverbs (*ahachica* "frequently"), or adverbial phrases (*chicuextiyan* "a week after" from *chicueyi* "eight" plus the *-yan* suffix), rather than simply as prepositions. In spite of its breadth and the fact that it is, in some sense, an open lexical class,<sup>28</sup> the *tlapantiliztli* lexical class cannot be understood as a catch-all or default category; it explicitly contrasts with *piltlahtoltzin* "particles", a lexical category that is even more heterogenous.

#### 4.1.2 THING versus PLACE in Nahuatl<sup>29</sup>

As outlined above, approaches to Nahuatl relational nouns have varied in large part according to the degree that any given researcher focuses on morphological structure

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<sup>28</sup> This is true to the degree that novel *tlapantiliztli* forms are easily and frequently coined due to the productivity of the morphology involved, though the final elements of these terms are a closed, if relatively large, class.

<sup>29</sup> For the present discussion, I will adopt the notation, i.e., capital letters, used by both Sasaki and Jackendoff.

versus syntactic distribution; this picture is further complicated for contemporary EHN by the emergence of true prepositions. A relatively recent proposal by Sasaki (2011) offers a novel interpretation of the earlier Nahuatl data by adapting several ideas from contemporary linguistics. In this section, I have summarized some of Sasaki's observations and offer parallels in contemporary EHN.

Using Jackendoff's (1983) contrast between THING nominals, which identify an entity, versus PLACE nominals, which locate an entity, Sasaki (2011) offers a characterization of a set of locative expressions in earlier Nahuatl, which he distinguishes from what he terms "thing nominal." Sasaki explicitly includes expressions used to locate predicates in both space and time in his definition of Nahuatl locatives, and he suggests at least two morphological differences between these and thing nominals, namely that locatives often include a (nonobligatory) locative ending and that locatives completely lack a morphological alternation between absolutive and possessed states. Despite his assertion that locatives are often signaled morphologically, Sasaki noted soon after making that assertion that spatial locatives in earlier Nahuatl are structurally diverse, including words and phrases built on relational nouns, locative derivational forms (his term for forms derived from the verbal suffixes *-can* and *-yan*), lexical locatives (his term for locative preforms, including deictic locatives like *nican* "here," as well as locative interrogatives and indefinites), and place names. Note that these forms in all their EHN reflexes fall into the Sullivan et al. (2016) *tlapantiliztli* lexical class, although they do not exhaust it.

Sasaki (2011) also notes a phenomenon that he labels as "locativity concord." Sasaki's locativity concord describes several syntactic restrictions on the use of Nahuatl

locatives as attested in the historical record. According to Sasaki, locative expressions cannot take the role of subject or object for purposes of verbal agreement. Likewise, when a locative is equated with another phrase<sup>30</sup> by predication or apposition, that nominal phrase should also be marked for locativity. He provides a set of positive and putative negative evidence drawn from several sources to demonstrate these limitations and requirements, and I reproduce several of Sasaki's key data points below in Examples 10 through 15:

10. Ni- qu- itta no- cuentax  
       1sg.S 3sg.O see 1sg.P rosary

“I see my rosary.”

11. \*\*Ni- qu- itta in Mexihco<sup>31</sup>  
       1sg.S 3sg.O see IN Mexico.LOC

“I see Mexico.”

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<sup>30</sup> Sasaki specifies that, under his analysis, these predicates are all nominal phrases. While this is perhaps debatably true for some predicates that he mentions, particularly *cualli* “good” (which appears with a nominal absolutive suffix, *-li*), I would suggest instead that many of these forms are in fact verbal. Consider, for example, the derived-locative from *cualli* offered by several native speakers of EHN for predication to a locative: *tla-cual-can* “calm, without problems (of a place)”. As per Lockhart (2001) cited earlier in this section, *-can* is generally a verbal suffix; likewise, *tla-* is, in most cases and under most analyses, generally a verbal prefix. Incidentally, the ability of native speakers to provide this form nicely illustrates an important advantage associated with the consideration of living varieties of Nahuatl for the purpose of understanding grammatical patterns in older varieties that are attested exclusively or primarily in written forms.

<sup>31</sup> This sentence is, in fact, unambiguously grammatical in contemporary EHN, given an appropriate discourse context in which a previously named nominal could act as the direct object; in context, it would mean something like “I see him/her/it in Mexico.” Sasaki's proposed reading, with *Mexihco* serving as a direct object, is generally grammatical but somewhat strange to speakers that I consulted.

12. Ni- tla- itta in Mexihco  
 1sg.S TLA<sup>32</sup> see IN Mexico.LOC

“I see Mexico.”

13. Ca cualli in pahtli  
 It.is good IN medicine

“This medicine is good.”

14. \*\*Ca cualli in tlalticpac  
 It.is good IN world.LOC

“The world is good.”

15. Tlachazo ahmo cual -can in tlalticpac in nican  
 indeed not good -LOC IN world.LOC IN here.LOC

“This world is a disgusting place indeed.”

The asserted ungrammatical forms in Examples 11 and 14 are offered as violations of locativity concord. In Example 11 *Mexihco*, a placename that includes the locative suffix *-co* and thus behaves syntactically as a locative, cannot act as the direct object of the verb *itta* “see.” Example 12 offers a solution to this problem that will be addressed more explicitly in the final section of this chapter. In the case of Example 14, the assertion is that *cualli*, which is not marked as a locative, cannot be equated via predication to *tlalticpac* “the world,” which is a locative. This is fixed in Example 15 by the addition of *-can*, a suffix that creates locative phrases.

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<sup>32</sup> Sasaki offers a separate gloss for *tla-* with an explanation of this prefix as a device for reducing verbal valence; he also offers the additional gloss “I see something at Mexico” as a literal translation. For further discussion of why I have not followed his glossing and why I question the accuracy of the proposed literal translation, see the final section of this chapter discussing the prefix *tla-*.



and the suffix *-can* in order to be found grammatical. In light of these data, I propose that Sasaki’s insight into a basic THING/PLACE split in Nahuatl nominals is useful for understanding contemporary EHN and that his proposed locative concord is at least partially in force, albeit with some differences from the earlier Nahuatl data.

In addition to the validity of Sasaki’s observations as discussed above, several additional details about the THING/PLACE distinction seem clear in contemporary EHN. First, the simple deictic proforms *ni* “this/here,” *ne* “that/there,” *nopa* “that(/there)”<sup>35</sup> are unspecified for the THING/PLACE contrast:

20. Ne qui- chihua  
DIST 3sg.S.3sg.O- do

“That (one) is doing it.” *or* “(S)he does it there.”

These cases are generally disambiguated by the context and little attention is drawn to the potential ambiguity. Furthermore, the addition of the locative suffix *-can* is always possible to force a locative interpretation, as in Example 21:

21. Ne -can qui- chihua  
DIST -LOC 3sg.S.3sg.O- do

“(S)he does it there.”

Even so, *necan* and *nopecan* “there (varying in degree)” are relatively uncommon in speech, as opposed to the more frequent forms *ne* and *nopa*. The fact that THING nominals and PLACE nominals, otherwise often separated from one another syntactically, should be conflated in their deictic proforms is somewhat reminiscent of

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<sup>35</sup> Forms based on *nopa* are sometimes asserted to be out of sight, though this does not appear to be obligatory; it is clear, though, that these forms are in some sense “more distal” than *ne* and related forms.

Andrews's assertion that relational nouns (equivalent to a particular subset of Sasaki's locatives) are, in fact, still basically nominal forms.<sup>36</sup>

Second, it appears not to be possible to assume that Nahuatl nominals are basically THINGS that can be morphologically converted into PLACES in EHN, as per Sasaki's morphological implication for earlier Nahuatl. In many cases, nouns act as places in their most frequent forms: *cuatitlan* "woods," *tlaixpan* "altar," *tiopan* "church," *tlapan* "rafters; attic." While many of these can be decomposed into a THING nominal plus a final historical relational noun element (i.e., *cuahui-Tl-tlan* "tree-place" = "woods"), this does not seem to be universally true (no clear THING nominal root is present in *tlapan*), nor is it synchronically accurate (the root of *tiopan*, *\*teo-tl*, is not found as an independent lexical item in EHN). Furthermore, these PLACE nominals all can be converted into THING nominals by the addition of derivational morphology, as required by the grammar. See Table 4.1.

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<sup>36</sup> It is, however, potentially problematic that these predicates should take the *-can* suffix, which is normally associated with verbs. There is at least some indication, though, that verbal morphology applies to a broader class in EHN than is often associated with the lexical class of verbs in many languages. It has often been noted that the addition of a set of prefixes which are formally equivalent to verbal subject markers creates a copula proposition when added to a nominal form. In the case of numerals, an accompanying plural marker is a verbal plural suffix, rather than a nominal one: *in-ome-h* 'you two' (literally 2pl.Subj-two-pl, with final suffix verbal rather than nominal). This is further complicated by the fact that a limited subset of verbal morphology appears on nouns in certain constructions. For example, the suffix normally considered imperfective, *-yaya*, appears in forms such as *i-tocah-yaya* 'his/her name was' or *i-patiuh-yaya* 'its price was.' In each of these cases, the imperfective suffix is added directly to a possessed noun. In this same vein of thought, the *-can* suffix on modifiers could either be interpreted as support for an analysis of these forms as fundamentally verbal or for *-can*, like *-yaya* and the subject markers, as something more than exclusively verbal morphology.



Table 4.1: Conversion of PLACE Nominals into THING Nominals

PLACE Nominal	Derived THING Nominal	Meaning
Cuatitlan	Cuatitlamitl	Woods
Tlaixpan	Tlaixpamitl	Altar
Tiopan	Tiopamitl	Church
Tlapan	Tlapamitl	Rafters/attic

In each of these cases, the semantics is determined by the PLACE form of the lexical item, while the production of the derived THING forms is effectively just a matter of syntactic agreement allowing the word to fill a syntagmatic position. At least a few nominal roots appear optionally as bare roots (perhaps underspecified like the proforms mentioned above), as THING nominals with an absolutive ending, and as explicit morphological locatives, as in the case of *tianquiz* “market,” which is attested but also varies syntactically with *tianquiz-tli* “market (THING)” and *tianquiz-co* “market (PLACE).” Finally, there is a small set of absolutive-marked nouns that can sometimes act as place nominals even with full THING nominal morphology, particularly *tlal-li* “land” and *anal-li* “opposite shore, upland.”

#### 4.1.3 Locative verbs in contemporary EHN

In addition to the evidence from the established literature on earlier varieties of Nahuatl presented in the preceding sections, there is synchronic morphosyntactic evidence for an even finer parsing across classes of nominals in contemporary EHN, including those that refer to PLACES rather than THINGS. Contemporary EHN makes

use of a variety of locative verbs in a way that is somewhat similar to the system postulated by Salgado (2014) for earlier Nahuatl; simple locative predicates encode information about the kind of nominal to which they are applied as well as optionally encoding some information about posture or position. The most commonly mentioned split in modern grammars of EHN seems to be between *itztoc* “to be located (animate)” and *eltoc* “to be located (inanimate).” These, along with several similar locative verbs, are mentioned as “irregular” verbs by both Beller and Beller (1979) and IDIEZ (n.d.), although the Bellers’ make it clear that the nature of the irregularity is that these verbs appear only with stative verbal morphology. Consider the list of locatives in Table 4.2.

The verbs in the first column of Table 4.2 are all the basic verb forms that are used in asking or answering the question “Where is X?”/“X is there” for nominals of the sorts (or in the positions) described by the second column. Contra the Bellers’ assertion (1979, p. 214), most of these locative verbs are recognizably derived from common verbal roots listed in the third column; the only two exceptions (marked by an asterisk) are related to forms that are well-attested in other varieties of Nahuatl. I offer two novel observations about this set of locative verbs. First, this set of verbs offers a simple diagnostic for covert, semantically motivated classes of noun, and second, there is a marked asymmetry between PLACE nominals, which are located using the verb *mocahua*, and all other nominals, which are located using one of a variety of verbal roots in combination with the ending *-toc*.

The first observation regarding EHN locative verbs makes it possible to establish that the class of PLACE nominals in contemporary EHN is much broader than

Table 4.2: Locative Verbs and Corresponding Nominals

<i>Locative Verb</i>	<i>Corresponding Nominals</i>	<i>Root and Use</i>
<b>Itz-toc</b>	Animate	Itta ‘see’
<b>El-toc</b>	Inanimate	Eli ‘become’
<b>Man-toc</b>	Liquid at rest; inanimate at rest in liquid	*mani ‘be laid out’ (esp. of PLACE nominals) <sup>37</sup>
<b>Ten-toc</b>	Inanimate in a container, piled	Temi ‘fill (intrans.)’
<b>Tecpan-toc</b>	Arranged in lines or rows	Tecpana ‘order, arrange in rows’
<b>Ihca-toc</b>	Standing, left over	*ihcac ‘stand(ing)’
<b>Mo-cahua</b> <sup>38</sup>	<b>PLACE nominals</b>	Cahua ‘remain, be left’

suggested by the literature on relational nouns, broader than Sasaki’s observations, and even broader than the lexical class *tlapantiliztli* as established by Sullivan et al. (2016).

Consider the following examples:

22. Canin (\*eltoc/)mocahua tiopan/tlaixpan/atenno / i- chan?

Where is.INAN/is.LOC church/altar/shore.LOC / 3sg.P- home.LOC

“Where is the church/altar/shore/her home?”

<sup>37</sup> Although this needs to be checked empirically, I suspect based on anecdotal evidence and exposure to older texts that *mani* operates in many other varieties of Nahuatl much the same way that I propose *mocahua* does in EHN.

<sup>38</sup> As discussed below, the form *mocahua* lacks the *-toc* ending. It is also the only one of the locative verbs to include the common “reflexive” prefix,

23. Canin *eltoc*(/\**mocahua*) tepetl/tlaixpam-itl / calli?  
 Where is.INAN/is.LOC mountain/altar-THING / house

“Where is the mountain/altar/house?”

Examples 22 and 23 illustrate the fact that nominals are generally compatible with a particular locative verb and do not choose freely among them. Additional examples shed further light on the nature of the locative verb selection:

24. Canin \**eltoc*/*mocahua* ohtli/analli?  
 Where is.INAN/is.LOC road/opposite.shore

“Where is the road/the far shore?”

25. Canin *eltoc*/*mocahua* cuatenno?  
 Where is.INAN/is.LOC bathroom (lit. edge of the woods’ via euphemism)

“Where is the bathroom?”

Example 24 clearly shows that certain nouns marked with absolutive suffixes, which are predicted to act as THING nominals in Sasaki’s proposal, are instead treated as PLACE nominals.<sup>39</sup> From the flexibility in Example 25, it is also clear that not all relational nouns are necessarily stuck in the PLACE category. In this case, two native speaker participants in my study disagreed over whether *eltoc* or *mocahua* was more appropriate for the formulation of the question. After some discussion between the speakers, it became clear that the speaker who favored *eltoc* was considering *cuatenno* explicitly as a euphemism for “toilet” as an object, while the speaker who preferred *mocahua* was thinking generally of “bathroom” as a space or room. Once these

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<sup>39</sup> This is further confirmed by the fact that this same set of nominals generally take predicates marked as LOC forms, i.e., *tlacualcan*, not *cualli*.

assumptions were expressed explicitly, both quickly agreed that the other was correct given their respective conceptualizations of the question that was being asked, and that both forms were grammatical, given the proper referent. It is clear, then, that the split between PLACE and THING in Nahuatl nominals, at least as constructed for EHN, cannot be exclusively morphological in nature.

The second observation related to EHN locative verbs will be addressed more thoroughly in Section 4.4 in this chapter as a component in the discussion of verb forms including the *-ti-* ‘ligature’ morpheme, from which the *-toc* verbal ending is formed. Given the apparent rule of locativity concord outlined above, a preliminary hypothesis suggests itself: for a THING nominal to be equated directly with (i.e., located at) a PLACE predicate, the verbal ending *-toc* seems to be required. From the perspective offered by Sasaki, a morphological split between locative verbs applied to PLACES versus locative verbs applied to THINGS should be entirely unsurprising. There is no explicit precedent for this analysis of *-toc* in the literature of EHN, but there is at least some implication that other scholars have implicitly adopted a similar approach. While Beller and Beller (1979) analyze this ending as a part of the stative paradigm and IDIEZ (n.d.) generally approaches it as functionally comparable to the perfect verbal forms of Indo-European languages, at least one researcher, Peregrina Llanes, generally glosses the sequence *-toc* in locative verbs as a sequence of morphemes *-t-o-c*, to which he respectively assigns the values Locative-Extension-Perfective (see numerous examples in the interlinear texts of Peregrina Llanes (2005) and (2015)). Nevertheless, I have not found any discussion of Peregrina Llanes’s analysis of these forms, nor are these forms

labeled as a part of the *-ti-* ligature system, as I will propose later in this chapter that they should be.<sup>40</sup>

A final consideration in establishing the set of EHN locative verbs is the presence of a nonlocative existential verb, *oncah*. While this verb was historically used in locative predicates and copular constructions in earlier varieties of Nahuatl (Lockhart, 2001; Launey, 2011), it has a specific set of pragmatic restrictions in contemporary EHN.

Consider the following:

26.   \*\*/?Canin    oncah miac tlamachtianih?

Where           EXIST many teachers

“Where are there (so many) teachers?”

The native speaker participant in my study who offered a mixed judgment of Example 26 pointed out that this sentence on its own was at best only marginally acceptable. After some consideration, he revised his position and suggested that it was a possible utterance primarily (and perhaps exclusively) in a context of sarcasm. For Example 26 to be felicitous, the speaker should be denying the existence of a place with such (a great) number of teachers. He further suggested that the use of *oncah* in this and comparable questions or statements (pairing it with a locative predicate) was an element of affirmation, rather than a statement of location.<sup>41</sup>

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<sup>40</sup> This is not disputed diachronically, and my intention is to suggest that, in spite of synchronic morphological opacity, these forms still participate in a pervasive pattern of spatial reference, even if they are morphologically no longer a part of a productive paradigm.

<sup>41</sup> This is reminiscent of the distinction drawn by Kahn (1966) for locative versus existential/affirmational uses of the verb *to be* in Classical Greek.

From data presented in this section, it would appear that EHN PLACE nominals are a syntactically distinct but also a morphologically heterogeneous set, similar with but not identical to what is described by Sasaki for earlier Nahuatl. These PLACE nominals in EHN can act as adjuncts in most clauses, but when they play the role of a syntactic subject or predicate, they require a set of agreement features that is comparable to Sasaki's concept of locativity concord. In many cases, the concord for a PLACE feature appears to take the form of *tla-*, often together with the locative suffix *-can*, for adjective-like predicates. If this is accurate, the set of verbs used for basic locative constructions appears to show that locativity agreement for a THING nominal can be instantiated by the suffix *-toc*, hence only PLACE nominals use a locative verb lacking *-toc*, namely *mocahua*, and the existential verb *oncah* requires an affirmation or assertion (rather than simply a locative proposition) in order to be felicitous.

#### 4.2 Directionals: *On-* and *Hual-*

Two high-frequency verbal prefixes, *on-* and *hual-*, are traditionally<sup>42</sup> referred to as the directional prefixes in the literature on earlier Nahuatl. The core meaning generally ascribed to these forms is something like “outbound, away” and “inbound, this way,” respectively.<sup>43</sup> Lockhart (2001) states that “these prefixes have subtle meanings not always reflected in a translation” (p. 14) in the context of a series of examples that

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<sup>42</sup> As with many other terms, and as mentioned in the discussion of relational nouns, there is some terminological variation across different schools of thought on Nahuatl in discussing these forms. I will adopt the traditional term *directional* for this discussion for the purpose of keeping with tradition.

<sup>43</sup> Other possible terms for this contrast include translocative/cislocative (in the broad sense offered by Deal (2008)) or andative/venitive (as these morphemes, along with the purposives suffixes discussed in the following section, are described by Sasaki (2016)).

illustrate cases where English translations might require lexical differences (e.g., *ni-c-on-huica* “I take it [away]” versus *ni-c-huallica* (< \**ni-c-hual-huica*) “I bring it [here]”), as well as cases where such translations might not require lexical differentiation (*ni-on-ahci* “I arrive [there]” versus *ni-hual-ahci* “I arrive [here]”). He further asserts that the primary task of the learner with regard to these morphemes is to identify them in order to avoid confusing them with the verbal root. Andrews (2003), who refers to these morphemes as the “directional/locative prefix,” largely concurs with Lockhart’s analysis. Launey (2011) specifically notes that both *on-* and *hual-* do not seem to be restricted to any particular set of verbs but can occur with nearly any verb. He also notes that some uses of these prefixes have an attenuated or figurative sense, which is sometimes untranslatable (p. 52). Some examples of Launey’s metaphorical uses of the directional prefixes are repeated in Examples 27 through 30 below:

27.    *c-*                    *on-*    *chihua*  
           3sg.S.3sg.O- ON-    do

“He’s going to do it.”/“He’s continuing to do it.”

28.    *c-*                    *on-*    *cua*  
           3sg.S.3sg.O- ON-    eat

“He’s eating it up.”

29.    *Hual-* *totoni*            *in*    *atl*  
           HUAL-heat.up        IN    water

“The water is getting warm (which is what I wanted)”

30.    On-    *totoni*            *in*    *atl*  
           ON-    heat.up        IN    water



“The water is becoming too hot.”

In Example 27, the prefix *on-* “outbound” is implied by Launey to be understood as a metaphorical extension of space into the domain of time, either placing the action in the impending future or drawing it out across a period of time. In the case of Example 28, Launey asserts that “The point is not [...] the movement of the food in terms of the eater but [...] its disappearance from the situation” (p. 54). In Examples 29 and 30, Launey posits a metaphorical extension of the directionals to a domain of positive or negative evaluation.

For contemporary Eastern Huasteca Nahuatl, Beller and Beller (1979) confirm the presence of *on-* and *hual-* (which they label as DIR, presumably directional, an abbreviation that they also employ to describe the purposive endings that are described in the following section) in a template of verbal morphology (p. 286), but they do not offer discussion of their meaning or use. The sketch grammar prepared by IDIEZ (IDIEZ, n.d.)<sup>44</sup> as part of their Nahuatl instructional materials offers quite a bit more detail on the contemporary use of these prefixes. In addition to examples that simply indicate motion, they point out that in many cases, the action itself may lend itself to a directional interpretation that does not require movement, as in their sentence, which I reproduce as Example 31:

31. Ni-c-            *on-*    itta-c quemman    huetz -qui    mo-    cone    -uh  
           1sg.S-3sg.O- ON-    see-PSTwhen            fall    -PST    2sg.P- child    -POSS

“I saw (from where I am looking toward where you are) when your child fell down.”

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<sup>44</sup> Currently unpublished and unattributed authorship in the manuscript draft to which I have access via IDIEZ.

The authors also offer similar examples of the directional prefixes with verbs of speech (e.g., *tlahtlanilia* “ask,” *nanquilia* “answer”), indicating physical distance between interlocutors during the conversation. They also observe a separate use of *on-* to indicate immediacy, as in Example 32 below:

32. Ni-    *on-*    tla-    cua    -z    -za                    pampa            cehui    -z  
           1sg.S- ON-NON.SP.O-eat    -FUT    -already            because            cool    -FUT

“I’m going to eat right now because (the food) will get cold.”

They also offer cases where *on-* is suggested to mean “do X quickly in order to get back to a previous activity”<sup>45</sup> or with *zan* “just, only” to highlight the fact that one event begins as soon as another has finished. The IDIEZ authors also note that the nondirectional uses of *on-* are available together with the directional *hual-* in the same word, hence 33:

33. xi-                    c-        *on-*    *hual-*    tequi    alaxox  
           2sg.IMP-        3sg.O- ON-    HUAL-        cut        orange

“Come and cut the oranges right now.”

Although it is not mentioned in the sketch grammar, IDIEZ instructors have also indicated in conversation and in short ad hoc lessons that politeness is an additional important use of the directional prefixes. For example, contrast Examples 34 with 35:

34. xi-                    nech-                    panoltili            iztatl  
           2sg.IMP-        1sg.O-                    pass.to            salt

“Pass me the salt.”

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<sup>45</sup> These cases always co-occur with the purposive suffix *-ti* ‘future, distal’ somewhere in the utterance.

35.	xi-	nech-	<i>hual-</i>	panoltili	iztatl
	2sg.IMP-	1sg.O-	HUAL-	pass.to	salt

“Please pass me the salt.”

While I am unaware of any documentation of the use of directional for politeness in Nahuatl within the existing literature, this is generally unsurprising. Hill and Hill (1978) make it abundantly clear that, as has been thoroughly documented for earlier varieties of Nahuatl, indirectness via morphological complexity is used as a device for the expression of honorifics,<sup>46</sup> and this extension of the directional prefixes as a tool for politeness seems to fit the pattern well.

The purposive prefixes *on-* and *hual-*, while well known within the grammar on Nahuatl literature, offer a clear and simple demonstration of one way in which the Nahuatl verb indexes spatial relations. The variation in meaning and usage associated with these forms also offers some insight into the ways in which Nahuatl speakers have employed this morphology to meet a range of communicative goals.

#### 4.3 Purposives

A set of four fusional verbal suffixes, *-ti*, *-to*, *-qui*, and *-co*, indicate both verbal tense and the place in which the predicate occurs relative to the place of the speaker or the relative point within a narrative. These suffixes, often referred to as the purposives, can be organized semantically as in Table 4.3.

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<sup>46</sup> While EHN does not make use of the honorific system proper, most or all of the same morphemes still exist and are in use as diminutives, reverentials, etc.

Table 4.3: Purposive Suffixes

	Past Tense	Future Tense
Cislocative	-co	-qui
Translocative	-to	-ti

The movement involved in the purposives always precedes the event described by the verb, hence the term *purposive* and the oft-suggested translation “come/go somewhere in order to X.”

Sasaki (2016) has recently observed for the Ixquihiacan variety of Nahuatl that standard accounts and translations of purposive verb forms are inadequate. After identifying a number of “non-typical” uses of these verb forms, he proposes that purposive verbs require a movement component and an event component, that the movement precedes the event, and that the event occurs at the same place as the subject of the movement. While he does not draw the precise parallel, Sasaki’s account of purposive suffixes is strikingly similar to a particular category of the phenomenon that has been labeled as “associated motion.”<sup>47</sup>

Native speaker instructors of contemporary EHN with whom I have worked have chosen to place the purposive suffix paradigm relatively early within the beginner level of instruction in Nahuatl language. As a student, I observed that three instructors all independently chose to review the purposive suffix paradigm across three years of Nahuatl language instruction. Texts presented to beginners make use of these suffixes at a

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<sup>47</sup> See Koch (1984), but also more recent uses of this terminology by, for example, O’Connor (2004, 2007) among many others.

relatively high frequency (at least 24 instances in just the Nahuatl language dialogues included in the beginner level curriculum), and personal conversation with the instructor participants in this study and the authors of the IDIEZ Nahuatl teaching materials have confirmed the fact that the Nahuatl instructors unanimously consider the purposives to be an important and basic step in learning Nahuatl. This observation, while mostly anecdotal in nature, was one of the first experiences that set me to wondering about how spatial relationships were encoded in Nahuatl and why this particular morphology seemed to the instructors to be so crucial for learners, even at a relatively early stage and despite its difference from structures in most learners' native language.

As a final observation on Nahuatl purposive suffixes, I would add that, though I have not seen the analysis presented explicitly, these verb forms often appear to serve the purpose of adding a location argument to a verb that is not inherently a verb of motion. For example, the verb *ahci* is often glossed as “to arrive (at)”; however, when it is used without a purposive suffix, it generally has the meaning “to reach, to touch” in EHN.

#### 4.4 The *-ti-* Ligature in Verbal Constructions

Section 4.4 offers an overview of the history and distribution of the verbal morpheme *-ti-* labeled by many as a ‘ligature’ or ‘connective’. Subsection 4.4.1 addresses the historical reconstruction of this morpheme, presents the current picture from the descriptive literature on the environments in which the morpheme appears, and explains how it has been understood so far by scholars. Subsection 4.4.2 presents in turn each of the verbal constructions that speakers of EHN recognize as transparently containing the *-ti-* morpheme. Each case is accompanied by a (shallow) etymology, a discussion of

spatial interpretations offered by native speakers for the construction, and some discussion of associated aspectual interpretations. Subsection 4.4.3 addresses the relatively common verbal endings *-toc* and *-ticah* in EHN, both of which can be understood as morphologically opaque developments from ligature constructions. As in the preceding section, these forms are accompanied by a discussion of proposed etymology and their standard aspectual interpretations; however, this description is supplemented in each case by morphosyntactic observations on their apparent use in the dimension of spatial reference. Subsection 4.4.4 presents a complete list of the *-ti-* ligature constructions across earlier varieties of Nahuatl in order to support the thesis that these constructions are, at least historically, a device for the incorporation of spatial or positional reference in Nahuatl. The final fifth subsection, 4.4.5 draws together the evidence presented across this section to offer a novel view of the synchronic use of these ‘ligature’ constructions in EHN, which is based on synchronic judgments of speakers and diachronic distribution of these forms across Nahuatl at large.

#### 4.4.1 History of the *-ti-* Ligature Morpheme and Its Use

In discussing the shared traits of Proto-Nahua, Kaufman (2001) mentions the loss of final vowels in certain verbs in several contexts, including the preterit marker and what he labels as the “linker *-@ti*” (p. 5). Kaufman includes this as part of a set of diagnostic morphophonological features by which he distinguishes major branches of Nahuatl. Pushing back further, Casad (1993), in discussing “bi-verbal constructions” found in

Cora, asserts a Proto-Uto-Aztecan *\*tʰ*<sup>48</sup> that finds cognate reflexes in a range of Southern Uto-Aztecan languages, including Cora, Yaqui, and earlier Nahuatl (p. 7). For each of these cases, Casad understands a sequence Verb1-*ti*-Verb2 to represent an instantiation of a larger pattern of verbal morphology in which the second of the two verbs “play[s] the role of an aspectual auxiliary” (p. 6), with the intervening morpheme simply labeled as a “connector,” presumably with no semantic contribution to the construction. Without endorsing any particular reconstruction of the Nahuatl *-ti-* morpheme, I would suggest that there is some degree of consensus that the phonological form of the morpheme and its syntactic position are not recent innovations within contemporary varieties of Nahuatl.

Within descriptions of earlier Nahuatl, there is some terminological variation with reference to the *-ti-* morpheme in question, but there is general agreement about its morphosyntactic distribution and (lack of distinct) meaning.<sup>49</sup> Launey (2011), following the general practice that I will adopt, labels the morpheme a “ligature” and outlines an “auxiliary verb construction” that consists of a main verb, *-ti-*, and then an “auxiliary conjugated for tense and person.”<sup>50</sup> Likewise, Lockhart (2001) observes that “Nahuatl has

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<sup>48</sup> Citing Langacker (1977), Casad attributes this to a root that is ultimately reconstructed as “(to) be” and from which he derives the most common absolutive suffix found on nouns as well as what he calls “an active participle.” A full evaluation of Casad’s proposed reconstruction at the level of Proto-Uto-Aztecan or some subgroup thereof falls outside the purview of this work; however, the fact that some of his proposed stages in the development of the Cora verbal auxiliary constructions (albeit, not exclusively those making use of the morpheme in question) explicitly list verbal auxiliaries as carrying the gloss “be in X location” seems suggestive, given the thrust of the analysis presented in the remainder of this section.

<sup>49</sup> For additional discussion of the distribution of the morpheme in the larger context of Nahuatl in general, see 4.4.5 and 4.4.6.

<sup>50</sup> I would amend this to “...tense(/aspect) and number” since both subject and object agreement are indicated primarily as prefixes before the main verb; only the number feature of the subject is indicated in the suffix that follows the auxiliary verb.

a very common construction in which the main verb is accompanied by an auxiliary verb adding a dimension or aspect to the statement” (p. 39), which makes use of a ligature, *-t(i)-*, and often “refer[s] to the physical position of the subject of the main verb [...] of the conditions under which the action takes place” (p. 38). Andrews (2003) offers similar observations with distinct terminology; he lists one of the “compound verb stems” involved in verbal embedding as the “connective-t compound verb stem” (p. 237), referring to this same set of constructions. Each of the grammars cited then offers a list of possible auxiliary verbs together with a set of proposed translations into English.

In describing the *-ti-* ligature construction in contemporary EHN, Beller and Beller (1979) offer a more diffuse view than given by the grammars cited above. Like Casad, they refer to *-ti-* as a “connector” morpheme, and they discuss it in passing when addressing compounding (p. 232) and more thoroughly (together with the purposives, which they refer to as “directional”) under the heading *adverbial* in their description of “non-syntactic affixation” (p. 282ff) and as “aspectual verbs” (together with other verbal compound constructions) in their definition of “verb stem” (p. 287f). They also separately address the suffixes *-toc* (“stative and present perfect” aspects, pp. 284 and 286) and *-tichah* (“present durative,” p. 285, which they assert is “very rarely used”). They also address the set of locative verbs ending in *-toc* (see 4.1.3 above) separately, noting that *el-toc* “to be located (inanimate)” carries the stative ending and observing that for several other of the locative verbs “the stative is used as present tense” (p. 214), though they do not relate these forms to the ligature construction. The Bellers’ total list of auxiliary verbs that include the *-ti-* ligature (p. 282) appears in Table 4.4.



Table 4.4: Auxiliary Verbs

Auxiliary Verb Form	Etymological Source of Auxiliary	Bellers' Gloss
(-ti)-nemi	Walk, live	“habitually”
(-ti)-huallauh	Come (hual + yauh ‘to go’)	“on the way toward”
(-ti)-ya <sup>51</sup>	Go	“as (s)he goes”
(-ti)-quiza	Go out	“quickly, right away”
(-ti)-huetzi	Fall	“for a minute”
(-t)-ehua	Rise/raise	“leave Xing”

While the descriptive grammars of earlier Nahuatl tend to take a diachronically-oriented view of the morphological structure of the *-ti-* ligature constructions, contemporary descriptions such as that of the Bellers seem to more often subdivide this category, presumably on the basis of morphological transparency versus opacity and a perceived lack of semantic contribution by the *-ti-* morpheme, as indicated by the range of terms applied to it by various scholars.

#### 4.4.2 Transparent *-ti-* Ligature Constructions in Contemporary EHN

While Beller and Beller (1979) list most of the forms that speakers of EHN have identified explicitly for me as containing the *-ti-* ligature, their glosses and explanations are much less precise than the range of explanations that have been offered to me in the

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<sup>51</sup> They offer the more analytical base of the future in their data, rather than the more frequent fusional form *-tiuh* (derived from *-ti + yauh* ‘to go’) which is present or unmarked for tense.

contexts of class instruction and fieldwork elicitation. These forms have all been described to me by speakers as events associated with particular kinds of motion or spatial settings; in this section, I will offer examples of each of these forms together with both associated spatial and aspectual interpretations that have been offered to me through direct instruction or elicitation or which I have recorded in my notes

#### 4.4.2.1 *-ti-nemi* “walk, live”

One relatively common ligature construction uses the auxiliary verb *nemi* “walk, live.” This construction is found across many varieties of Nahuatl and, as indicated by several sources, may indicate “go around Xing?”/“go along Xing (from time to time).” Another spatial meaning associated with *-ti-nemi* is “to be off/out Xing.” In many cases, these meanings overlap with one another and with the habitual meaning suggested by Beller and Beller (1979). Consider Examples 36 through 40, though:

36. Axcanah      nimictoya, zan ni-      nehnen-ti-      -nemi -yaya  
       Not    I was dead,    just    1sg.S- walk    TI      -WALK -IMP

“I wasn’t dead, I was just out partying!”<sup>52</sup>

37. Ca ni cuezolli moixcoillihqueh miac tlamantli quenni ayoctequiti, quitl, *zan nentinemi, zan paxaltinemi.*

“With this sorrow, they said many harsh things to one another, in this way, he no longer

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<sup>52</sup> This was the punchline to a joke told by a native speaker of EHN. The English gloss is my translation of the Spanish translation that was offered: “No estaba muerto, solo andaba de parranda!” The joke was about a mother mourning the supposed death of her son, only to have him show up at his own putative funeral; thus, the habitual reading (“I was walking/partying regularly?”) is not really felicitous in this case. Instead, the humor hinges on the spatial meaning “to be out/off/away Xing,” although a secondary spatial interpretation (“go around Xing”) is not fully ruled out.

worked, they say, *he just roamed around, he just went around visiting*” (De la Cruz, 2015).

38. “¿Canin tihualauh?, ¿Acquiya motatahuan? ¿*Quenque tinentinemi mocelti pan nopa hueyi cuatitlamitl huan naman amo hueli tiquixcotona nopa atlauhtli?*”

“Where do you come from? Who are your parents? *Why are you roaming around alone in this big forest and now you cannot cross this river?*” (De la Cruz, 2015).

39. “¿Itztoc monanan?” “*Amo, tlacouhtinemi.*”

“Is your mom (here/there)?” “No, *she’s off shopping.*”

40. “¿Canin itztoc?” “*Maltihtinemi.*”

“Where is (s)he?” “*She’s off/out bathing.*”<sup>53</sup>

It is quite clear that habitual interpretations of many of these sentences are precluded by the context, as in all the cases except Example 37. In the case of Example 37, although a habitual reading is useful, the purpose of the line in question is to show the subject’s failure to arrive at expected locations (his home, his cornfield) as specified in the story; in fact, the preceding sentence specifies his neglect of his fields and livestock and the following sentence is “They didn’t know anymore whether they should wait for [him] at his home with food [...]”. In light of these examples, several possible analyses of *-ti-nemi* that suggest themselves seem to be oriented towards the place in which the main verb takes place; more specifically, *-ti-nemi* seems to suggest something like “someplace,” “elsewhere,”<sup>54</sup> or “not where expected.” This nonspecific spatial setting lends itself to

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<sup>53</sup> Examples 39 and 40 were elicited to check the contexts in which *-ti-nemi* was pragmatically acceptable and to check for compatibility with events that are not normally construed as involving motion.

<sup>54</sup> This particular reading happens to be paralleled in some Mesoamerican varieties of Spanish by the construction *andar* + participle (e.g., “¿Dónde está mi cuñada?” “*Anda*

extensions like “here and there” and thus “habitually” or “from time to time,” which are well attested in the descriptive literature, along with potentially related aspectual meanings such as “progressive, continuous.”

In the monolingual dictionary prepared by IDIEZ (Sullivan et al., 2016), the verb *nemi* includes the following definition as its third sense: “Auxiliary. Used with TI3. A person, animal, or livestock does something in different places.”<sup>55</sup>

#### 4.4.2.2 *-ti-huallauh* “come’

One of the clearest cases of spatial interpretation associated with the *-ti-* ligature construction in EHN is associated with the auxiliary verb *huallauh* “come.”<sup>56</sup> In its basic sense, this ending simply means that an event happens along a path towards the speaker or current narrative space. Two clear examples of the spatial *-ti-huallauh* are presented below:

41. *Nehnentihuallauh huan huetzcatihuallauh quihuallica atl.*

“He was walking (towards her) laughing as he came bringing water” (De la Cruz, 2015).

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*estudiando* (en la U).” Roughly: “Where is my sister in law?” “She’s out studying (at the U).”). In some varieties of Spanish, as in Example 40 above, this does not necessarily imply concurrent movement; it only requires that the event be located elsewhere.

<sup>55</sup> This is my translation; the native speaker of Nahuatl says “3. Tlapalehuiquetl. Motequihua ica TI3. Macehualli, tecuani zo tlapiyalli axcanah ceccotzin quichihua ce tlamantli.” Literally, this says that the subject “does something not in the same place,” but the following example and much of the data that I have collected make it clear that “not doing” something is not an acceptable interpretation, thus my translation in the text, which is intended to eliminate ambiguity in the English that is not present in the Nahuatl. The Nahuatl itself actually fits better with my discussion of cases such as those found in Examples 39 and 40 above, because the ambiguity is between whether the clause occurs “elsewhere” or “in a variety of places.”

<sup>56</sup> This verb is itself simply the irregular verb *yauh* ‘go’ with the inbound prefix *hual-* discussed in 4.2. Note that in EHN, this form has entirely replaced the earlier verb *huitz* “to come.”

42. Zan ce tlatoctzin, tiquihtozceh, zancualli tlatlayohuatiuh, *calactihuallauh*  
piloquichpiltzin Chicomexochitl[...]

“Just a little while later, let’s say just as it was getting dark, *in came* the boy  
Chicomexochitl...” (De la Cruz, 2015).

This particular structure is also used as an aspectual reference to the time up to a given point, especially *now* when not otherwise specified. This use is a clear in Examples 42 and 43:

43. Pan miac xihuitl ni tlapohualiztli tlen Chicomexochitl huan Tenantzitzimitl  
*mopouhtihualtoc* ca tototatahhuan ica ininixhuihuan huan mocencuiltiuh mopohua.

For many years, this story of Chicomexochitl and Tenantzitzimitl *has been told*<sup>57</sup> by our grandparents to their grandchildren, and it continues to be told (De la Cruz, 2015).

44. Na *nimitzilhuithuallauh*  
Amo timocualanizech [...]  
*Nimityoltlalihtihuallauh*  
Maz cualli titequitizech<sup>58</sup>

“*I’ve been telling you/Let’s not get mad/I’ve been calming you down/Let’s get to work instead*”

In the cases of the statement in Example 43 and the song lyrics in Example 44, spatial reference is not a feasible interpretation; in both cases, the verbs modified by *-ti-huallauh*

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<sup>57</sup> Morphologically, this is “has come along being told,” making use of two separate instances of the ligature. Note that this aspectual reading (stretching across the time up to now) is paralleled and extended by *mocencuiltiuh* (literally ‘goes along continuing’), a second ligature form in the following clause that indicates future time in spite of a lack of future morphology.

<sup>58</sup> Words to a Nahuatl version of the popular song *La Leva*, my translation.

are meant to be understood aspectually as having duration in time and extending up to the present.

#### 4.4.2.3 *-tiuh*<sup>59</sup> “go”

Ligature constructions using the auxiliary verb *yauh* “go” are quite common in EHN, though they sometimes present a perceptual challenge to non-native speakers in spoken Nahuatl. Example 43 above used this form as a counterpoint to *-ti-huallauh* (see footnote 33), for example. Likewise, the common term *tonatiuh* “sun” is composed of the verb *tona* “heat, radiate, shine,” plus the *-tiuh* ligature ending (literally “(the thing that) goes along shining,” see Launey, 2011). The spatial interpretation of this form is quite straightforward: it simply means “go along Xing” with some sort of movement along a path associated with the event. Consider the passage in Example 45, which narrates the culture hero Chicomexochitl’s travel across the river on the back of a crocodile:

45. Ni pilconetzin *quiquequeltiuh* ahquetzpalin, *quimahmaquiltiuh*,  
*quipatarahuihtiuh*, *quitlamanteiltiuh*, huan iuhquinon *huetzacatiuh* icuitlapan  
ahquetzpalin. Piltecuanitzin ya quitl *cualantiuh* pampa quennopa *quichihuiltiuh*. Zan  
tlatocpa ya no *huetzacatiuh*.

“The little boy *went along tickling* the crocodile, *punching it, kicking it, insulting it*, and *laughing* like that on the crocodile’s back. They say the creature *went along getting angry*”

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<sup>59</sup> In the present tense or when unmarked for time, the sequence of morphemes *-ti-yauh* is realized as *-tiuh* ([tix]). While this form is relatively difficult for learners to identify, it is still morphologically transparent to native speakers because cases in which tense is marked or where there is a plural subject are still morphologically analytical (e.g., *ti-yah-qui* with past tense and *ti-ya-z* with future, cf. *yah-qui* “went” and *ya-z* “will go”).

because of how *he [the little boy] was treating it*. After a while, *it was laughing too*” (De la Cruz, 2015).

In these three sentences, all seven verbs are used with the same ligature construction, indicating that all of this happened as they traversed the water.

Much like *-ti-huallauh* as described above, *-tiuh* is often identified as having a spatial interpretation in the literature. Also, like *-ti-huallauh*, though, it has a clear aspectual interpretation, namely, that an event takes place incrementally or progressively over a period, as shown in Example 46:

46. Ce hueltah tocompah *quiilcauhtiyahqui* itequih, inemiliz, iteixmatcahuan. Iuhquinon quipehualtih ce yancuic inemiliz campa *quipixtiyahqui* miac cualantli. [...] huan iuhquinon *mohueyiltiyahqui* ni cualantli, campa tlatatl quiilcahua tlan quipiya milli, itlapiyalhuan; iuhquinon *quiilcauhtiyahqui*.

“One time our friend *gradually*<sup>60</sup> *forgot* his work, his life, his family. Thus he began a new life in which he *had more and more* problems. [...], and in this way, the problem *got bigger and bigger*, and the man forgot he had a field and livestock; he *gradually forgot*” (De la Cruz, 2015).

In the passage in Example 46, the *-tiuh* ending is employed metaphorically to show the gradual or incremental growth in the character’s problems, which eventually interfere with his life.

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<sup>60</sup> Another possible translation might be “progressively forgot.”

4.4.2.4 *-ti-quiza* “go out”

The ligature construction using the verb *quiza* “go out” has a relatively nuanced spatial interpretation that is often difficult or impossible to discern without some narrative context. In its spatial interpretation, *-ti-quiza* means “drop by and X along the way.” However, for this meaning to be clear, the narrative should provide support in the form of an established path for the subject, as in the following examples:

47. Nipano campa tlanamacah pampa *ni- qu- itz -ti- -quiza* ce  
ichpocatl yehyectzin.

1sg.S- 3sg.O- see -TI- -go.out

“I pass by the store because *I drop by to see* a pretty girl” (IDIEZ, n.d.).

48. Nicnequiyaya ma mochehiqui huanya na, zo cualli ma *nechtlahpalo[h]tiquiza*.  
Axcanah, ya zan yanopa *nechiltiquizqui*.

“I wanted him to come sit with me, or at least for him to *drop by and say hi to me*. No, he just *dropped by to tell me*, that’s all” (de la Cruz, class handout for reading practice).

49. *Ni- mitz- cui -ti- -quiza -ti*  
1sg.S- 2sg.O- get -TI- -go.out -FUT.DIST

“I’ll come by to pick you up.”

50. Quemman tiihhuiyah tianquiz *tiquitztiquizqueh* ce ihuintiquetl ne ohtli  
quechhuahualacatica(h) tonalixco.

“When we had gone to the market, we *stopped by to pick up* a drunk who was frothing at the mouth there in the road in the sun” (Sullivan et al., 2016).

51. Noicniuh quemman yohui millah nochipa *maltihtiquiza* atlahco pampa nochan  
axoncah atl.



“When he goes to the field, my sibling always *drops by to bathe* at the river because there’s no water at my house” (Sullivan et al., 2016).

52. Quemman notatah tlahchinoa nochipa momelacquetza tlitl pampa *hualtiquiza* ehecatl.

“When my father burns the field, the fire always shoots up because the wind comes by” (Sullivan et al., 2016).

In the monolingual dictionary cited as the source for examples 50 through 52, this particular use of the morpheme *quiza* is glossed as follows: “Macehualli, tecuani zo tlapiyalli quichihua ce tlamantli campá pano huan teipan yohui ceccoyoc.” (“A person, animal, or domestic animal does something where they are passing by and later goes elsewhere.”)

Example 47 is drawn from a story in which the narrator is describing his daily routine, specifically as he goes to work in his field. Thus, the spatial interpretation of *-tiquiza* fits because there is a well-defined path from home to the field. Example 48 is from a story in which the narrator has lost mobility due to a wound and is expressing a wish for company since he is feeling isolated from his peers; in this case, his friend is part of a parade, which provides a well-defined path along which he drops by to speak to the narrator. The final example, Example 49, was uttered as a part of a conversation in which the speaker requested that the hearer attend a lecture and then offered to come and pick the hearer up to give them a ride. Context established the fact that the speaker would be coming from a third location (and not from the university where the lecture was to take

place), thus *-ti-quiza* is felicitous because picking up the hearer represents an intermediate point in the speaker's path to the university.<sup>61</sup>

#### 4.4.2.5 *-ti-huetzi* “fall”

The spatial interpretation of *-ti-huetzi* is in some ways the inverse of *-ti-quiza* described in the preceding section. Where *-ti-quiza* places an event at an intermediate point along a defined path, *-ti-huetzi* simply indicates that the subject of the verb was not present before the event and did not remain afterwards, often in the company of *zan* “just.” Examples are relatively rare in texts but not extremely uncommon in speech. The corresponding aspectual interpretation for *-ti-huetzi* seems to mean something like “all at once” or “quickly (in order to do something else)”

53. Nopa chichi zan *moxixtihuetzqui*.

“That dog just dropped in, defecated, and left” (Notes, conversation upon observation).

54. Zan *nimechtlahpalohutihuetzqui*.

“I just *dropped in to say hello* to you (pl.)” (Notes).

55. Quemman Manuel quitlanahnahuatia itatah, *tlacuahutihuetzi* huan teipan quichihua itequihuh.

“When Manuel's father tells him to, he *eats right away* and then does his work (immediately)” (Sullivan et al., 2016).

Sullivan et al. (2016) offer the following description: “A person, animal, or livestock does something in an instant because afterwards they will do something else” (p. 204).

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<sup>61</sup> As an additional complication of interest, the place where the hearer was staying was not on a direct route for the speaker, and so *-ti* “future, distal purposive” appears as well, giving a meaning closer to “I'll go over there in order to pick you up along the way.”

4.4.2.6 *-t-ehua* “raise”

Derived from *ehua* “rise (intransitive); raise (transitive),” the verbal construction *-t-ehua* indicates that the subject of the verb is no longer at the place where the event occurred afterwards. The aspectual interpretation is used to indicate that two actions occur simultaneously, something like “as soon as.”

56. [...]Chicomexochitl quimactilih nopa huauhtli tlen quitepeuhqui.

“Chicomexochitl gave her the amaranth that she had left scattered on the ground” (De la Cruz, 2015).

57. *Quitlalteuhqui* iihico ornoh huan ya quizato ica iican, zan tlatoctzin[...]

tenantzizimitl quitentlapoh ornoh huan ya *huitonteuhqui* Chicomexochitl.

“He *left them* (literally “placed them and left”) inside the oven, and he went out through the back soon after... Tenantzizimitl opened the door of the oven and Chicomexochitl *suddenly jumped out*” (De la Cruz, 2015).

58. [...] monequi quitlaliz nochi tlamantli tlacualiztli pampa quennopa *tenextilteuhqui*

oquichpiltzin Chicomexochitl quemman ayicanah mocuaptoya cintli.

“[when someone makes an offering] they should place all kinds of food because that is how the child Chicomexochitl *showed people what to do* when he had not yet become corn” (De la Cruz, 2015).

59. Quemman nonanan yohuiyaya millah, zan *nechcahuiltehuayaya* notlaxcal pan

mezah huan cafentzin.

“When my mother went to the field, she *would just leave* my food and coffee *for me* on the table *before she left*” (De la Cruz, class handout).

4.4.2.7 *-tihcac* “stand”

I have found one additional form that is not listed by Beller and Beller (1979) for contemporary EHN, specifically the ligature form *-tihcac*, derived from the verb *\*ihca* “be standing” which is currently only available in EHN as the specialized locative verb *ihcatoc*<sup>62</sup> (see 4.1.3 above) and as the auxiliary described in the construction presented here.

While *ihcatoc* maintains the historical sense of “standing” or “upright,” the auxiliary use seems to be quite restricted, unlike the other *-ti-* ligature constructions discussed above. Most of the speakers with whom I have discussed these forms have a strong preference for the use of the *-tihcac* auxiliary with the locative verb roots, especially *itztihcac* and *eltihcac* for animate and inanimate forms, respectively. These are generally understood as meaning “still around” or “left over” after some salient timeframe has passed.

A small number of examples of *-tihcac* combined with other verbs are also available in Sullivan et al. (2016):

60. Maribel *mihtotihcac* huanya itatah pampa tlahuel quiamati tlatzotzontli.

“Maribel *is still dancing* with her father because she really likes the music.”

61. Yalhuaya Eulalio ihuintic campa huinonamacah huan naman *huetztihcac* nopayoh pampa axhueli mehua.

“Yesterday Eulalio got drunk at the liquor store and now he *is still fallen down* there because he can’t get up.”

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<sup>62</sup> The locative root *ihca-* can also be suffixed with some of the other ligature constructions, including *ihcatinemi* “standing around in various places” and *ihcatihcac* “still standing.”

In all the examples that I have found, “still” seems to be the best approximation of the aspectual meaning; in some cases, the standing component seems compatible with the meaning (but see 61 for a clear counterexample).

#### 4.4.3 Opaque *-ti-* Ligature Construction in Contemporary EHN

In addition to the morphologically transparent examples of ligature constructions detailed in the preceding section, EHN has two additional verbal constructions that are generally considered diachronically derived from the ligature construction, namely *-toc*, which has been discussed in several of the preceding sections of this chapter, and *-ticah*.<sup>63</sup> In the following sections, I offer discussions of these particular verbal forms along with observations about associated usage that have not been mentioned in the literature.

##### 4.4.3.1 *-toc* in EHN

The common verbal suffix *-toc* has been mentioned in the preceding sections as a stative marker (Beller and Beller, 1979), as a labeling problem (see variable practices in Peregrina Llanes, 2005 and 2015), and, as per my own tentative analysis earlier in this chapter, as an apparent EHN innovation to mark locative predicates paired with THING nominal subjects. The teaching materials created by IDIEZ offer a primary interpretation

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<sup>63</sup> I will present this form as having a final [h] due to the historical presence of the sound and the presence of its reflex in the related EHN verb *oncah* “to be (existential).” However, both the pronunciation and the orthographic representation of this final consonant are variable in EHN. As best I can tell, it is more common for speakers to omit the sound, and this fact is attested to by the majority orthographic form, <*-tica*>. I believe that the very fact of this variability supports my position that this form is synchronically understood by speakers principally as a single suffix, unrelated to any external verbal root. The fact that Sullivan et al. (2016) would nevertheless represent this and *-toc* analytically in their dictionary is unsurprising in the context of their larger enterprise to create an orthography and a set of grammatical resources that will be useful across all variants of Nahuatl.

of these verbal forms as functional equivalents to the Spanish and English perfect constructions that are formed through an auxiliary verb *have* plus a participial verb. While the form is taught explicitly as a functional translation equivalent in the IDIEZ materials, numerous examples from the first semester clearly validate and make use of the stative interpretation offered by Beller and Beller.

Diachronically, the *-toc* suffix is generally presented as the sequence of the ligature morpheme, *-ti-*, followed by the obsolete verb root *o* “lying down, prone” and then the standard past (or perfective) suffix, *-c*. A first observation, then, is that this form certainly conforms diachronically to the theory that ligature constructions involve a second verbal root that encodes some spatial information, in this case, in the form of positional information. The reinterpretation of a positional, particularly one that references a prone state, is easily understood as a precursor to reanalysis as a stative; likewise, it is unsurprising that a stative form would be reanalyzed as equivalent to Spanish and English perfect forms via a resultative intermediary interpretation. Thus, an internally consistent account of how *-toc* could be reanalyzed to take on its attested meanings is quite straightforward; this account sheds relatively little light on the use of *-toc* mentioned in 4.1.3 as a marker of locativity on verbs with **THING** nominal subjects.

There is a small set of data found in available EHN texts in which nonlocative verbs ending in *-toc* do not fit the perfect interpretation at all and where the stative interpretation seems forced. Consider Example 62 below:

62. Chichahuac tequiti campa quimacah tequitl, zan *quiquiztoc* millah<sup>64</sup> (De la Cruz (2015)).

“He worked hard where he was given work, just *whistling* in the field.”

In Example 62, a perfect interpretation of *quiquiztoc* (“...has whistled in the field”) is inadmissible to the author and entirely out of sync with the larger passage; a stative interpretation is not impossible. The illocutionary purpose of the line is not to highlight the subject’s continuous state of whistling, which is irrelevant and potentially not even accurate, but rather to show that, at this point in the story, the subject was still content while working. A third possibility, though, is to interpret *quiquiztoc* as parallel to *itztoc*, *eltoc* and the other locative verbs. On this view, the putative purpose of the *-toc* ending added to the verb *quiquici* “to whistle” is to associate its subject with a PLACE predicate, *millah*(~*mil-lan*).

While the analysis offered in the preceding paragraph is certainly tentative, consider the following anecdote drawn from my field notes in Example 63:

63. “While discussing the distribution and possible interpretations of the *-toc* ending with [B], I offered several clear stative uses for emotional states and pointed out that these uses were not equivalent to the perfect construction in Spanish. When I asked about other differences between Nahuatl *-toc* and the Spanish perfect

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<sup>64</sup> I would amend *millah* to *millan* here, since I believe this is the root *mil-* ‘cornfield,’ followed by the phonologically assimilated suffix *-tlan* ‘locative.’ This particular form is written variably as *millah*, *millauh*, or *millan* (which are phonological equivalents in this orthography). This reanalysis is particularly understandable given that the THING version of the same root, *mil-li* ‘cornfield,’ while used as the citation form, is fairly rare in contemporary EHN.

For additional discussion of the present tense marking of this clause as a possible indicator of space marking, see the following chapter.

aspect, [B] wrote the word *nimomachtih**toc*, which he equated verbally to Spanish *he estudiado* “I have studied,” on the whiteboard and told me that the missing information was *where* and not *what*: If someone were simply to say *nimomachtih**toc*, the first question that would come to [B’s] mind in Nahuatl is *Canin timomachtih**toc*? (“Where do/did you study?”), while in Spanish he would be more likely to ask what the person studied” (excerpt from personal fieldnotes, July 2016, New Haven, CT). To at least one speaker, it seemed that a verb form with *-toc* cited in isolation had at least the potential to suggest an implied spatial setting rather than exclusively a set of aspectual contrasts. From my recollection, his impression was that the equivalent utterance without *-toc*, *nimomachtia* (“I study”) would be more likely to elicit the question *Tlen timomachtia*? (“What do you study?”), but either that or *Canin timomachtia*? (“Where do you study?”) would still be felicitous.

While this anecdote does not definitively or independently establish the fact that *-toc* can have spatial reference, it is suggestive in light of the other uses of *-toc* that have been mentioned in this and other sections of this chapter. I propose, then, that while the uses of *-toc* have been progressively expanded through reanalysis in EHN, it seems entirely reasonable both diachronically and synchronically to propose that, like the morphologically transparent ligature constructions discussed above, verbal forms with *-toc* are related to spatial reference.



4.4.3.2 *-tica(h)* in EHN

Another verbal form in EHN that is diachronically derived from the ligature, *-tica(h)*, is formed from the historical copula verb *\*cah* “to be,” of which the only verbal reflex in EHN is the existential verb *oncah*<sup>65</sup> discussed in 4.1.3. As mentioned above in 4.4, *-tica(h)* verb forms have been described as present durative.

An examination of uses of verbs with *-tica(h)* forms in existing texts does not demonstrate any clear uniquely spatial reference, but several forms are suggestive:

64. Tiquittaz nemi millah *tequititica(h)*, amo mocuezoa...

You will see he was out/around in the field *working*, he was not sad... (De la Cruz, 2015).

65. ...tenantzizimitl *quicacteu(h)qui iichpocauh zaniltica(h)* huan *huetzcatica(h)* chachapalihtic. Tenantzizimitl tlachiyato chachapalihtic huan axacah quiittac, zan iichpocauh. Teipan zampa quicauhqui quehuac *zaniltica(h)* tlahmatzin, huan quiittac iichpocauh *zaniltica(h)* huanya ce tecpin tlen calacqui campa coyontoc nopa chachapalli.

“Tenantzizimitl suddenly heard her daughter *talking* and *laughing* inside the pot.

Tenantzizimitl went there to look inside the pot and she did not see anyone, just her

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<sup>65</sup> Despite appearances, the relationship between *\*cah* and *oncah* is regular. In many varieties of Nahuatl (including EHN), historical monosyllabic verb roots were prefixed with *on-*, derived from the directional prefix described in 4.2. Presumably, this process was intended to meet something like a prosodic minimal word requirement applied to verbal roots. This sort of process is not particularly uncommon; compare, for example, the diachronic development of the first person singular present *-oy* ending on historical monosyllabic verbs in Spanish (*soy, doy, estoy, voy*), or some of the restrictions on prefixation versus infixation in Tol verbs, where monosyllabic verbs that cannot be infixed due to phonological restrictions retain a prefix that is lost in multisyllabic forms (cf. *hi-sin* “I plant” vs. *Ø-sina* “(s)he plants”).

daughter. Later, she heard again as though someone were *talking*, and she saw that her daughter *was talking* with a flea that had gone in to the pot where it had a hole in it” (IDIEZ, Advanced course in Nahuatl, n.d.).

66. Zan tlatoctzin quicacqui quenhuac *zanilticateh*, *monohnotztiyohuih* pan ohtli. Zan *quicactoc* tlen *moiltiyohuih*; miac animahtzitzin *zaniltiyohuih*.

“Soon after, he heard as though someone(pl.) *were talking*, they *went along calling to one another* in the road. He just *heard* what they *went along saying to each other*; many spirits *went along talking*” (De la Cruz, 2015).

Note that, as mentioned by the Bellers and reported earlier, the *-tich* verbs and their plural equivalent, *-ticateh*, are not particularly frequent in text. I would suggest that Examples 64 through 66 are united by the fact that in each case, the verbs with the *-tich* seem to be occupying a field or vicinity rather than occurring at a specific point. In Example 64, this is clear from the dynamic *nemi* rather than one of the locative verbs with *-toc* and the predicate *working* is applied to an area (*millah* “in the field”) rather than a specific point; in Example 65, the verbs with *-tich* represent sounds that emanate from inside of a large pot, with the precise source invisible to the hearer, Tenantzizimitl, until the end of the passage where the discovery of the source is, in fact, the point of the passage. Finally, in Example 66, a man who has failed to observe ritual obligations associated with *miccailhuil* (i.e., the Day of the Dead) is described, like Tenantzizimitl, as hearing sounds in an area without initially being able to distinguish the source. Example 66 is particularly interesting because the use of *-ticateh* seems to stand in apposition with several verb forms using *-ti-yohuih* “going along Xing” describing the same group while it is directly contrasted with *quicactoc* “he heard them,” which cannot

be interpreted as perfect (“he had heard them”) and is a stretch as stative (“he is in the state of hearing them”), but, much like Example 62 in the preceding section, seems to tie the hearer to a concrete location<sup>66</sup> in counterpoint to the nebulous *zanilticateh* and the dynamic *moiltiyohuih* and *zaniltiyohuih*.

Given the relative breadth of interpretation associated with *-ticah*, it is probably not possible to assign an exclusively spatial reference interpretation to it the way that I have done tentatively for *-toc* in this section and for all the transparent ligature forms in the preceding section. However, the particular contexts in which this relatively uncommon verbal ending shows up in EHN seem to be cases where spatial relations play an important role in the text, and verbs with *-ticah* often cannot be localized to a single point. This tendency has been partially supported by a preference in elicitation to place predicates with *-ticah* in contexts that are localized to areas (*caltenco* “in the vicinity of the house” or *calihtic* “inside the house”) as opposed to contexts that place the action at a single point (*ne* “there” and *nican* “here”).<sup>67</sup>

#### 4.4.5 The *-ti-* Ligature as Spatial Reference in Contemporary EHN

Based on the data presented in the preceding sections, I submit that there is ample evidence to suggest that the ligature *-ti-* in EHN specifically correlates with the inclusion of a spatial dimension in a clause; the fact that these spatial constructions have been

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<sup>66</sup> Incidentally, that location is explicitly specified in the preceding clause, where the man *mociauhcahuato cuatzintlan* “went there to rest at the base of a tree.”

<sup>67</sup> Because the reading that the Bellers label as “durative” is always available, it has been difficult to get ungrammatical or even particularly odd examples of verbs with *-ticah*, which makes it hard to prove this analysis, though the apparent grammaticality of such forms is quite interesting in light of their relative infrequency in EHN.

metaphorically extended to a variety of aspectual or aspect-like constructions is very much in line with reasonable expectations about the development of verbal morphology for tense and aspect. Even the forms that are no longer analyzable as distinct ligatures in EHN, *-toc* and *-ticah*, seem to maintain particular uses or distributional features that strongly suggest a relationship to spatial reference, and the particular nature of the particular verbs that are permitted after the ligature, namely those that historically have either a motion or position component, suggests that this is not merely a synchronic characteristic of EHN but rather a long-standing pattern across multiple attested varieties of Nahuatl.

## CHAPTER 5

### DISCUSSION OF IMPLICATIONS AND CONCLUSION

The purpose of this chapter is to explore some of the implications of the analysis presented in the preceding chapter and reflect on the process by which I gathered the relevant data in order to offer suggestions or insight to linguists who are engaged in language documentation and revitalization, as well as to others who are involved in the teaching or learning of minority languages, particularly those languages that are under-documented or typologically distinct from the majority of commonly taught languages.

An initial observation is that Nahuatl grammar, particularly in the case of Eastern Huasteca Nahuatl, seems to devote considerable grammatical resources to the representation of the spatial dimension. It accomplishes this through several well-established means described in the literature, such as the set of relational nouns and several verbal affixes, including directional prefixes and purposive suffixes. However, it also makes robust use of several more subtle strategies that have gone mostly unnoticed: a grammatical split between **THING** and **PLACE** nouns and related agreement phenomenon, such as Sasaki's (2011) locativity concord, a set of morphologically distinct locative verbs, which was postulated by Salgado (2014) and attested in EHN, and the set of verbal constructions using the *-ti-* morpheme, which was presented in the

preceding chapter and that indicates the location or path of the subject before, during, or after the event described by the predicate. Without entering into neo-Whorfian speculation about the perceptual influence of such systems on native speakers, it still seems fully warranted to suggest that learners of Nahuatl stand to benefit by having access to clear accounts of these strategies and resources for the characterization of spatial relationships. In all likelihood,<sup>68</sup> Nahuatl presents both structural and schematic differences from the representation of space in their native languages. This conceptualization of space is represented in the works of Becker and Carroll (1997) and Jarvis and Odlin (2000) and is also discussed in Chapter 2. We might reasonably expect these differences to create obstacles to the acquisition of these structures by learners of Nahuatl.

After completing the analysis described in the preceding chapter, I realized that a clear and united analysis of the *-ti-* morpheme was possible, which would account for not only the verbal behavior that I have discussed at length in Chapter 4, but also for the structures in which it unites a nominal root with a relational noun. My analysis of the verbal structure could be schematized as  $V_1$ -*ti*- $V_2$ , with the stipulation that  $V_2$  is drawn from a bound subset of verbal roots and contributes a spatial component to the predicate designated by  $V_1$ . Similarly, nominal forms with the *-ti-* morpheme, such as *cuauh-ti-tlan* “forest” (tree-TI-place) and *tlal-ti-pan* “place of origin” (land-TI-PAN<sup>69</sup>), can be schematized as  $N_1$ -*ti*- $N_2$ , again with the stipulations that the second element,  $N_2$ , be taken

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<sup>68</sup> Most L2 learners of Nahuatl, particularly in a classroom setting, are speakers of English or Spanish or, in some cases, other European languages such as Polish.

<sup>69</sup> The word *pan* has a large range of possible meanings that correspond to numerous prepositions in English, including *in*, *at*, *to*, and *on* among others.

from a subset of historically nominal roots (in this case, relational nouns<sup>70</sup>) and that this second element should be interpreted as adding a spatial component to the first nominal root,  $N_1$ . It seems to be a straightforward process to generalize across these two constructions; we can state the context of all occurrences of the *-ti-* morpheme as  $X_1$ -*ti*- $X_2$ , where  $X_2$  describes a spatial component of  $X_1$ . In some sense, this redeems the use of the terms “ligature” and “connector” found in the existing literature to the degree that those terms at least suggest the function of uniting two (in this case, necessarily similar) roots. This same generalization also seems to demonstrate, however, that the frequently repeated position that this morpheme is semantically empty is not particularly defensible: In all analyzable instances, it can be interpreted as meaning that the following root will contribute a spatial component the root that precedes it.

Early in the process of gathering examples of and analyzing the *-ti-* morpheme, I doubted whether there could be a coherent morphological system that had escaped documentation in a language as robustly attested and widely studied as Nahuatl. Although many colleagues, both native speakers and not, encouraged me and generously offered their own examples and insights, several fellow Nahuatl learners objected to my approach on the basis of statements in existing grammars of Nahuatl that seemed incompatible with my ideas. As the data set for the *-ti-* morpheme has become clearer,

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<sup>70</sup> As pointed out to me by Lyle Campbell, this is complicated somewhat by the fact that *-tlan* and perhaps other roots appearing in the second position in the nominal form of this construction are perhaps best analyzed as suffixes. For the sake of this brief discussion, I will simply note that the precise nature of the *-ti-* construction with nominal roots needs further, systematic study; for now, I can only offer the fact that nominal forms of the *-tlan* ending are well attested in forms apparently deriving THING nominals from place nominals, such as *cuauhtitlamitl* “forest (THING),” as opposed to the more common related PLACE nominal, *cuauhtitlan* “forest (PLACE).”

and I have been able to relate the spatial interpretations of these forms to some of the other phenomena in Nahuatl,<sup>71</sup> I have had ample opportunity to reflect on why a unified account of this morpheme has not appeared in previous literature. Presumably, the bias of native speakers of Indo-European languages is to expect categories, such as tense, aspect, mood, and perhaps modality, to be reflected in verbal morphology or otherwise clearly within the verb phrase. Spatial contrasts including paths, locations, or configurations mostly fall outside of what those same speakers will expect to find marked by those same means.<sup>72</sup> Furthermore, each of the verbal ligatures can be used to indicate something like verbal aspect via metaphor, and when the verb forms are isolated out of context, those aspectual interpretations are more forthcoming, presumably for the same reason that native speakers of English will often describe the present tense of the verb as something happening at the time of speech, though those same speakers would never mistake the sentence “I play chess” as an assertion that the speaker was, at the moment of utterance, engaged in a game of chess.<sup>73</sup> The fact that my contact with Nahuatl verbal ligature constructions included authentic and contextualized data in dialogues including

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<sup>71</sup> Notably including the various affixes and locative verbs described in Chapter 4, but also including data that I have only recently begun to gather on another prominent but complicated prefix, *tla-*.

<sup>72</sup> Nevertheless, it bears mentioning that the expected grammatical strategies for marking this information will vary according to the first language of the learner; for example, in the case of Nahuatl, an English speaker will approach this subject differently from a Spanish speaker (whose language already encodes contrasts such as *aquí/acá* and *allí/allá*, which are absent in English).

<sup>73</sup> This is, of course, true for certain sub-classes of verbs (stative and psych verbs, such as *know* and *love*, among others), but it is not a particularly useful characterization for most other verbs in most contexts, given the frequency of the present tense in habitual and generic predicates and the clear contrast between the simple present and the progressive equivalent (e.g., “I run marathons” vs. “I am running a marathon”: the former tells nothing about what I am doing now, while the latter does not imply that I have ever run a marathon before, nor does it imply that I will ever do so again).



spontaneous conversation and also explicit paradigmatic presentations played a vital role in how I came to understand the forms.

The particular context and usage of the verbal ligature forms is also worth consideration. While, as I have mentioned above, some of the ligature constructions are relatively infrequent in day-to-day conversation, the process of assembling data from a corpus of stories, dialogues, and spontaneous speech serendipitously revealed a distribution that I did not initially expect. In examples of texts transcribed directly from or inspired by story-telling in the EHN oral tradition, it is not uncommon for a part of the text near or at the climax of the story to be elaborated using numerous ligature constructions in close proximity to one another. Several examples of this process appeared in Chapter 4, but I will repeat several examples with translations for the purpose of discussion here.

In one popular story, the child corn deity and culture hero, Chicomechitl, crosses a river or sea, ferried on the back of an aquatic animal. In two distinct versions of this story, one featuring a turtle (Peregrina Llanes, 2015)<sup>74</sup> and another featuring a crocodile (De la Cruz, 2015), the episode in which the water is traversed uses the *-tiuh* ending, derived from the ligature followed by the verb *yohui/ya* “go” almost exclusively. This is well suited to the particular narrative since that particular form of the construction indicates that the described event happens along a path, in this case the trajectory of the characters across the river. In the excerpt that follows, I reproduce the salient episode in

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<sup>74</sup> Peregrina Llanes’ version is based on a field recording made by Alan Sandstrom in 1990. While the location in which the recordings were made was coded with a pseudonym, personal conversation with both Sandstrom and De la Cruz has confirmed that the two versions of this story presented here were recording in geographically distinct locations.

each of the two stories together with my own English translation. In lieu of a morpheme-by-morpheme gloss of these longer passages, I have indicated the clauses with ligature endings with square brackets in both languages and made verbs with the spatial component bold in both the Nahuatl and the English texts; I have also adjusted the orthography of Peregrina Llanes's version for the sake of consistency, though I have maintained his line breaks and not added punctuation aside from what is provided.

From Peregrina Llanes (2015):

[Ne tlahco atl yohuiyaya nopa ayotl

**Quicuitlapantacantiyohui**<sup>75</sup>

Nopa ayotl cualanqui nopa ayotl

“Huan para tlen **tinechcuitlapantacaniltiuh**?”

“Pos nican **nimitzchiuhtiuh**

Yehyectzin pa mocuitlapan

Pa quiittazceh Dios iconehuan

Para yehyectzin mocuitlapan

Mitzil(li)zceh para ‘xochiayotl’”

“Zan amo tlahuel **tinechcuitlapantacaniltiuh**

Porque nimitzcuamahcahuaz

Pa ne tlahco atl”]

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<sup>75</sup> In this case, as in many others, the ligature form preserves a set of allomorphs derived from the verb *yohui/ya* ‘go,’ which is, itself, the reason that I have discussed this ligature as being morphologically transparent.

Huanquinon quinalquixtih<sup>76</sup>

Para tlachiyato nopa Chicomexochitl pa ne mar

Nopa tlanqueh

Translation:

[The turtle went along in the middle of the water

[he (Chicomexochitl) **went along pounding on its back**

the turtle, it got mad

“And why are you **going along pounding on my back?**”

“Well, I’m **making you**

beautiful here on your back

so that when God’s children

see how pretty your back is

they will call you ‘flower turtle’”

“Just **don’t hit my back too hard**

because I’ll leave you

here in the middle of the water!”]

And so it took him across

so that Chicomexochitl see the other side of the sea

The end

From De la Cruz (2015):

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<sup>76</sup> The reading of this particular word is unclear to me from Peregrina Llanes’s text, but I have restored it according to my best guess from the context and recognizable morphology.

Tlanqueh zaniloah, ahquetzpalin motemacac quipanoltiz piloquichpiltzin pan nopa atlauhtli. Chicomexochitl tlehcoc icuitlapan ahquetzpalin huan piltecuanitzin peuhqui ahqui. Iuquinon peuhqueh quiixcotonah nopa hueyi atlauhtli. Zan ce tlatoczin, piloquichpiltzin peuhqui mahuiltia icuitlapan ahquetzpalin. [Ni pilconetzin **quiquequeltiuh** ahquetzpalin, **quimahmaquiltiuh**, **quipatarahuihtiuh**, **quitlamanteiltiuh**, huan iuhquinon **huetzacatiuh** icuitlapan ahquetzpalin. Piltecuanitzin ya quitl **cualantiuh** pampa quennopa **quichihuiltiuh**. Zan tlatocpa ya no **huetzacatiuh**.] Huetzca quemman quiquequelo. Panoc ce tlamantli tlahuel yehyetzin ica ni piltecuanitzin. Quemman huetzca, pehua pepetlaca inepil. Quiza ce pepetlacayotl tlahuel yehyetzin noque piloquichpiltzin ya **mahuiltihtiuh**. Huan quennopa quixcotonah nopa hueyi atlauhtli.

Translation:

They finished speaking and the crocodile agreed to get the child across the river. Chicomexochitl climbed up on the crocodile's back and the creature began to swim. So they began to cross the big river. Soon the child began to play on the crocodile's back. [The boy **went along tickling** the crocodile, **punching it, kicking it, insulting it, and laughing** on the crocodile's back. They say the crocodile **went along getting angry** because **he was doing that to it**. Soon it too **was laughing**.] It laughed when he tickled it. Something lovely happened with that creature. When it laughed, its tongue began to flash. A very beautiful flashing light came out (of its mouth) while the child **went along playing**. And so it was that it (the crocodile) crossed the big river.

It is noteworthy that in both cases, the matrix story is told using largely the past tense; however, in both cases, the forms in putative present tense *-tiuh*, rather than the perfectly grammatical past or imperfect equivalents, *-ti-yah-qui* or *-ti-yohui-yaya*, respectively, are used exclusively. Given the tendency for this lack of tense marking in these and comparable passages, I would tentatively suggest a Nahuatl analogue to the phenomenon sometimes called the “historical present” in English. In the case of Nahuatl, I suspect that the morphologically unmarked nature of the present tense is being used, because it appears to me that the trope is used to privilege spatial relations over temporal ones. This is perhaps clearer in the additional examples offered below, in which multiple ligature forms interact to create a sort of spatial model within the narrative. It is also remarkable that this apparent rhetorical trope is maintained across two versions of this text that have so many other differences, including not only the cast of characters but also aspects of their narrative structure, their geographic settings, and even the relevant aetiological motivations.<sup>77</sup>

In the crossing-the-water narratives presented above, the repetitious nature of the verbs makes it hard to miss the fact that some rhetorical strategy is being employed. In other cases, the use of a variety of ligature forms progressively sets a stage for the climactic action. Consider the passages below from a cautionary tale about the

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<sup>77</sup> The turtle version of the story is an explanation for the patterns on a turtle’s shell, given as a badge of honor for service to Chicomexochitl; the crocodile version is, instead, an explanation for the anatomical lack of a tongue in true crocodilians and a narrative that casts Chicomexochitl as a trickster. The crocodile narrative is also embedded within a larger narrative that explains the origin of lightning (as the crocodile’s missing tongue) and its relationship to thunder.

importance of observing *Miccailhuitl*, the Day of the Dead celebration, and the climax of an allegory in which a man makes a Faustian bargain, selling his father to the devil.

From De la Cruz (2015):

Quipiya miac xihuitl, ce tlatatl itztoya zan huanya icihuah, amo ilhuichihuiqui. Quemman cihuatl peuhqui tlachua para ilhuichihuazech, itetah zan conahhuac huan quiillia, “Axmelahuac huallohuih animahtzitzin.” Huan iuhquinon axtlen quichihueh, yon ce cantelah axquitlatihueh tlaixpan. ¿Tlatatl tlen quichihuiqui? [Ya quitl millah tequitito. Zan cualli tiotlac, mociauhcahuato cuatzintlan. Zan tlatoctzin quicacqui quenhuac **zanilticateh, monohnotztiyohuih** pan ohtli. zan **quicactoc** tlen **moiltiyohuih**; miac animahtzitzin **zaniltiyohuih**. Moilliah tlen quinmactilqueh ininteixmatcahuan. Cequin quihuicah alaxox, pitzotl, piyomeh, refrezcoh, pantzin, chichiquilli; iuhquinon miac tlamantli quihuicah. Miac animahtzitzin mocuapahya. Ce pilanimahtzin axtlen quihuica, zan ce tlicuahuitl **quitlalantiuh**.] Ni animahtzin piltenantzin, iconeuh nopa tlatatl tlen tequitito millah. Tlatatl nimantzin quizanilhuih huan quiillia, “Ximochiya, na niconmictiti ce pilpitzotzin, nitlatlaliz tlaixpan huan yainon nimitzmactilia xihuica.” Pilanimahtzin amo quichihuilih cuentah, ya quicencuilia iohhui.

Translation:

Many years ago, there was a man, alone with his wife, who didn't celebrate *Miccailhuitl*. When the woman began to buy the things they needed to celebrate, her husband spoke harshly to her, saying, “It isn't true that the spirits come.” And so they did nothing. They didn't even light a single candle at the altar. And what did the man do? [They say he went to work in the field. By mid afternoon, he

went to rest beneath a tree. Soon he heard something as though people **were speaking, calling to each other as the went along** the road. He just **heard** that they **went along talking to each other**; many spirits **went along speaking**. They told each other what their relatives had given them. Some carried oranges, pigs, chickens, drinks, or tamales; so it was that they carried many (kinds of) things. Many spirits were already going back. One little spirit carried nothing, she just **went along dragging** firewood.] This spirit was an old woman, and her son was the man who went to work in the field. The man quickly spoke to her, saying “Wait! I will go kill a pig and offer it on the altar, and in that way I will give you something to take.” The little spirit didn’t pay any attention to him and simply continued on her way.

From De la Cruz (2015):

Panoc nopa tonatiuh huan zampa mopantihqueh, iuhquinon yahqueh tlahueliloc ichan. [Piltlacatzin ya **huetzcatiuh, quicahcayauhtoc** tlahueliloc pampa itatah **mictocca** huan amo hueliz quichihuilia yon ce tlamantli. Quemman ahcitol tlahueliloc ichan, piltlacatzin nimantzin quiittac itatah quenne **cuahuiyontoc** quencehual pitzotl. Piltlacatzin axquimati quenque nopayoh **cuahuiyontoc** tlan ya **mictocca**, quipiya chicuace xihuitl **mictoc**; zan **quitlachiltoc** itatah huan mohuizoa.] “¿Para quenque nicmactilih notatah?” Mocuezoa piltlacatzin pampa quiitta axcualli tlen quichihuiqui; noque tlahueliloc yolpaqui huan quicamanalhuia.

Translation:

The day came and they met again, and thus they went to the devil’s home. [The man **went along laughing**, he **had tricked** the devil because his father **was**

**already dead** and he wouldn't be able to do anything to him. When they arrived at the devil's home, the man soon saw his father **tied up hanging** like a pig. The man didn't know how the **was hanging** there since he **had already been dead** for six years; he just **stood there watching** his father and rocking back and forth.]

"Why did I give him my father?" The man became sad because he saw that what he had done was wrong; meanwhile, the devil enjoyed it and taunted him.

In the first two of these three passages, we find that the opaque ligature forms, -*tica(h)* and -*toc* seem to participate in these sequences together with the morphologically transparent ligatures. In each of these passages, we also find the purposive suffixes and, to a lesser degree, the directional prefixes, supporting the proposal that the spatial setting is receiving special attention. The Day of the Dead passage in particular seems to develop the setting incrementally. First, the cornfield is introduced; next, the main character is placed at the base of a tree; then he hears the sounds of people talking in the area (*zanilticateh*), which is refined to *monohnotztiyohuih pan ohtli* "calling to each other as they went along the road." The relationship between the stationary listener (*quicactoc*) and the trajectory of the speakers along a path (*moiltiyohuih, zaniltiyohuih*) is reiterated before the audience finally learns what the spirits were actually doing and saying. Before the audience learns what is going on in the scene or meets the spirit of the man's mother, a thorough spatial setting has been established. The final example that I offer here, that of the man who comes to see the error of his ways only as he observes the devil tormenting his father, is different from the other passages in that it relies heavily on the more frequent -*toc* form. Nevertheless, I think that it still fits the pattern on the basis of where it occurs in the story, the appearance of additional ligature constructions, and the sudden



loss of past tense marking, which has been more or less consistent throughout the earlier episodes of the narrative. Collectively, these passages taken together suggest a particular role and usage for the *-ti-* ligature verb constructions.

In earlier chapters, I have already mentioned that one of the first things to draw my attention to spatial reference morphology in Nahuatl grew from the sequencing choices of the native speaker instructors by whom I was taught. The curricular decision to introduce the directional and purposive affixes early in the instructional sequence ensured that the idea of spatial reference within the Nahuatl verbal system would not seem out of place, and the inclusion of many authentic texts that included ligature forms even before they were introduced prevented any of the verb forms from ever looking particularly exotic or strange. Anecdotally, I would suggest that these factors served as priming to understand the ligature structures.

Departing from the morphological particulars of this study, I would offer a final observation relating to the roles of a variety of participants in language documentation and revitalization. Before beginning to learn Nahuatl, I had experience with both documentation (in the context of fieldwork) and revitalization efforts with other indigenous languages of the Americas. As mentioned in earlier chapters, there is a growing consensus that language revitalization requires applied linguists and experts in language pedagogy. In the case of Nahuatl, I have had the opportunity to move through a series of distinct roles, as learner, observer, linguist, and teacher, and I have taken something different from each of these perspectives. While it is broadly accepted among applied linguists and language teachers that simply being a speaker is not sufficient qualification to teach a language effectively, I would add to this observation the less

repeated converse: while native intuitions or fluency in a language do not independently qualify one to be a language teacher, some degree of fluency in and familiarity with the target language may in fact be reasonably considered a prerequisite. While sometimes neglected in the often challenging context of revitalization, this is only logical; we would not ask an expert teacher of English or Spanish to teach Russian or Mandarin purely on the basis of their pedagogical knowledge or experience. Likewise, a field linguist or applied linguist who has decided to work with a language maintenance or revitalization effort should approach the challenge with some circumspection and a clear understanding that transforming grammar rules into fluent conversational ability or literacy is a potentially enormous challenge. A dedicated revitalizationist should balance the recognized necessities, which seem to be a familiarity with grammatical structure and an understanding of language pedagogy, with some firsthand experience as a learner or user of the language. As the fields of language documentation and language revitalization continue to grow together into a single joint effort, this becomes ever more important. In conversation with professors and graduate students involved in revitalization efforts and in training teachers of languages that they do not speak themselves, I have frequently heard the comment that native speakers of indigenous languages resist or dismiss particular methods or techniques with statements like, “That’s nice but we can’t do that in our language.” The tenor of these discussions is sometimes one of frustration. If there is any one emergent point from my experience, it is this: Approaching a language as a learner as well as a linguist with an interest in documentation and revitalization leads to a clearer view of grammar that will benefit all three efforts.

## REFERENCES

- Aikhenvald, Alexandra Y. "Linguistic Fieldwork: Setting the Scene." *STUF—Language Typology and Universals* 60.1 (2007): 3–11.
- Andrews, James Richard. *Introduction to Classical Nahuatl*. Vol. 1. University of Oklahoma Press, 2003.
- Austin, Peter, ed. *Language Documentation and Description*. Vol. 2. London: Hans Rausing Endangered Languages Project, 2004.
- Becker, Angelika, and Mary Carroll. *The Acquisition of Spatial Relations in a Second Language*. Vol. 11. Philadelphia: John Benjamins Publishing, 1997.
- Beller, Richard, and Patricia Beller. *Curso Del Náhuatl Moderno: Náhuatl de La Huasteca*. 2 vols. Mexico City: Summer Institute of Linguistics, 1985.
- . "Huasteca Náhuatl." *Studies in Uto-Aztecan Grammar, Vol. 3, Uto-Aztecan Grammatical Sketches*. Vol. 3. Summer Institute of Linguistics. 267–393.
- Bird, Steven, and Gary Simons. "Seven Dimensions of Portability for Language Documentation and Description." *Language* (2003): 557–582.
- Bochnak, M. Ryan, and Lisa Matthewson. *Methodologies in Semantic Fieldwork*. New York: Oxford University Press, 2015.
- Bohnenmeyer, Jürgen, and Gabriela Pérez Báez. "Object to Path in Mesoamerica: Semantic Composition of Locative and Motion Descriptions in Yucatec Maya and Juchitán Zapotec." *Memoria Del IX Encuentro Internacional De Lingüística En El Noroeste*. Vol. 2. Hermosillo: Editorial UniSon, 2008.
- Bowern, Claire. "Language Nests: A Way to Revive Indigenous Languages at Risk." *The Conversation*. November 12, 2013. Retrieved from: <http://theconversation.com/language-nests-a-way-to-revive-indigenous-languages-at-risk-19824>
- Brown, Roger. *A First Language: The Early Stages*. Cambridge, MA: Harvard University Press, 1973.
- Campbell, Lyle et al. "New Knowledge: Findings from the Catalogue of Endangered Languages." Manoa, HI: N.p., 2013. *scholarspace.manoa.hawaii.edu*.

- . "Syntactic Change in Pipil." *International Journal of American Linguistics* 53.3 (1987): 253–280.
- . *The Pipil Language of El Salvador*. Vol. 1. New York: Walter de Gruyter, 1985.
- Canger, Una. "Some Languages Do Not Respect the Designs of Linguists." *Linguistic Typology*. Aarhus: Statsbiblioteket, 2007.
- Casad, Eugene. *The Cora Two-Verb Construction*. 1993. Working paper. Tucson, AZ.
- Cinque, Guglielmo. *Adverbs and Functional Heads: A Cross-Linguistic Perspective*. New York: Oxford University Press, 1999.
- Courtney, Ellen H., and Muriel Saviile-Troike. "Learning to Construct Verbs in Navajo and Quechua." *Journal of Child Language* 29.3 (2002): 623–654.
- Crago, Martha, and Shanley Allen. "Acquiring Inuktitut." *Language Acquisition across North America: Cross-Cultural and Cross-Linguistic Perspectives*. Singular Pub. Group, 1998.
- Crippen, James A., and Laura C. Robinson. "In Defense of the Lone Wolf: Collaboration in Language Documentation." *Language Documentation and Conservation* 7 (2013): 123–135.
- Crum, Beverly, and Jon Dayley. *Western Shoshoni Grammar*. Boise, ID: Department of Anthropology, Boise State University, 1993.
- Cruz de la Cruz, Eduardo. *Tototatahuan Inixtlamatiliz*. Warsaw: Faculty of "Artes Liberales", University of Warsaw and Instituto de Docencia e Investigación Etnológica de Zacatecas, 2015. Totlahtol.
- Crystal, David. *Language Death*. Ernst Klett Sprachen, 2000.
- Deal, Amy Rose. "Events in Space." *Semantics and Linguistic Theory*. 2008. 230–247.
- . "Reasoning about Equivalence in Semantic Fieldwork." *Methodologies in Semantic Fieldwork* (2015): 157–174.
- Denzin, Norman K., and Yvonna S. Lincoln. *Handbook of Qualitative Research*. Los Angeles: Sage Publications, Inc, 1994.
- Dryer, Matthew S., and Martin Haspelmath. *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology, 2013.
- Dulay, Heidi C., and Marina K. Burt. "Should We Teach Children Syntax?" *Language learning* 23.2 (1973): 245–258.

- Fishman, Joshua A. *Reversing Language Shift: Theoretical and Empirical Foundations of Assistance to Threatened Languages*. Clevedon, UK: Multilingual matters, 1991.
- Foley, William. "Language Endangerment, Language Documentation and Capacity Building: Challenges from New Guinea." *Language Documentation and Description*. Vol. 2. London: Hans Rausing Endangered Languages Project, 2004. 28–38.
- Gippert, Jost, Nikolaus Himmelmann, and Ulrike Mosel. *Essentials of Language Documentation*. New York: Walter de Gruyter, 2006.
- Glaser, B. Strauss, and Anselm Strauss. "The Discovery of Grounded Theory." *Strategies for Qualitative Research*. London: Weidenfeld and Nicolson, 1967.
- Goldschneider, Jennifer M., and Robert M. DeKeyser. "Explaining the 'Natural Order of L2 Morpheme Acquisition' in English: A Meta-Analysis of Multiple Determinants." *Language learning* 51.1 (2001): 1–50.
- Grenoble, Lenore A., and Lindsay J. Whaley. *Saving Languages: An Introduction to Language Revitalization*. Cambridge University Press, 2006.
- Guérin, Valérie, and Sébastien Lacrampe. "Trust Me, I Am a Linguist! Building Partnership in the Field." *Language documentation and conservation* 4 (2010): 22–33.
- Hale, Ken et al. "Endangered Languages." *Language* 68.1 (1992): 1–42.
- . "Language Endangerment and the Human Value of Linguistic Diversity." *Language* 68.1 (1992): 35–42.
- . "On Endangered Languages and the Safeguarding of Diversity." *Language* 68.1 (1992): 1–3.
- Hanks, William F. *Referential Practice: Language and Lived Space among the Maya*. Chicago, IL: University of Chicago Press, 1990.
- Harrison, K. David. *When Languages Die: The Extinction of the World's Languages and the Erosion of Human Knowledge*. New York: Oxford University Press, 2007.
- Haspelmath, Martin. "Comparative Concepts and Descriptive Categories in Crosslinguistic Studies." *Language* 86.3 (2010): 663–687.
- Hill, Jane H., and Kenneth C. Hill. "Honorific Usage in Modern Nahuatl: The Expression of Social Distance and Respect in the Nahuatl of the Malinche Volcano Area." *Language* (1978): 123–155.
- . "Mixed Grammar, Purist Grammar, and Language Attitudes in Modern Nahuatl I." *Language in society* 9.3 (1980): 321–348.

- Himmelman, Nikolaus P. "Linguistic Data Types and the Interface between Language Documentation and Description." *Language Documentation and Conservation* 6 (2012): 187–207.
- Hinton, Leanne. "Language Revitalization and Language Pedagogy: New Teaching and Learning Strategies." *Language & Education: An International Journal* 25.4 (2011): 307–318.
- Hinton, Leanne, and Jocelyn Ahlers. "The Issue of 'authenticity' in California Language Restoration." *Anthropology & Education Quarterly* 30.1 (1999): 56–67.
- Hinton, Leanne, and Ken Hale. *The Green Book of Language Revitalization in Practice*. San Diego: Academic Press, 2001.
- Hinton, Leanne, Matt Vera, and Nancy Steele. *How to Keep Your Language Alive: A Commonsense Approach to One-on-One Language Learning*. Berkeley, CA: Heyday Books, 2002.
- IDIEZ. "Grammar of Nahuatl (English Version)." n.d.
- . "Tlamachtiliztli (Instructional Materials in Nahuatl in Three Levels)." n.d.
- Imai, Shingo. *Spatial Deixis: How Finely Do Languages Divide Space?* Saarbrücken: VDM Verlag Dr. Müller, 2009.
- Ionin, Tania et al. "That's Not so Different from the: Definite and Demonstrative Descriptions in Second Language Acquisition." *Second Language Research* 28.1 (2012): 69–101.
- Jackendoff, Ray. *Semantics and Cognition*. Vol. 8. Cambridge, MA: MIT press, 1983.
- Jakobson, Roman. "Quest for the Essence of Language." *Diogenes* 13.51 (1965): 21–37.
- Jarvis, Scott, and Terence Odlin. "Morphological Type, Spatial Reference, and Language Transfer." *Studies in Second Language Acquisition* 22.04 (2000): 535–556.
- Jones, Mari C., and Sarah Ogilvie. *Keeping Languages Alive: Documentation, Pedagogy and Revitalization*. New York: Cambridge University Press, 2013.
- Karttunen, Frances E. *An Analytical Dictionary of Nahuatl*. University of Oklahoma Press, 1983.
- Kelly, Barbara et al. "The Acquisition of Polysynthetic Languages." *Language and Linguistics Compass* 8.2 (2014): 51–64.
- Koch, Harold. "The Category of 'associated Motion' in Kaytej." *Language in central Australia* 1.1 (1984): 23–34.

- Krauss, Michael. "The World's Languages in Crisis." *Language* 68.1 (1992): 4–10.
- Langacker, Ronald W., ed. *Studies in Uto-Aztecan Grammar, Vol. 3*. Arlington: Summer Institute of Linguistics, 1977.
- Lantolf, J., and S. Thorne. "Sociocultural Theory and Second Language Learning." *Theories in Second Language Acquisition*. Ed. B. Van Patten and Jessica Williams. Mahwah, NJ: Erlbaum, 2006.
- Launey, Michel. *An Introduction to Classical Nahuatl*. New York: Cambridge University Press, 2011.
- Leonard, Wesley Y., and Erin Haynes. "Making 'collaboration' Collaborative: An Examination of Perspectives That Frame Linguistic Field Research." *Language Documentation and Conservation* 4 (2010): 268–293.
- Levinson, Stephen C. "Relativity in Spatial Conception and Description." *Rethinking Linguistic Relativity*. New York: Cambridge University Press, 1996. 177–202.
- . *Space in Language and Cognition: Explorations in Cognitive Diversity*. Vol. 5. Cambridge University Press, 2003.
- Lockhart, James. *Nahuatl as Written: Lessons in Older Written Nahuatl, with Copious Examples and Texts*. Vol. 6. Stanford: Stanford University Press, 2001.
- Luk, Zoe Pei-sui, and Yasuhiro Shirai. "Is the Acquisition Order of Grammatical Morphemes Impervious to L1 Knowledge? Evidence From the Acquisition of Plural-S, Articles, and Possessive's." *Language Learning* 59.4 (2009): 721–754.
- Matthewson, Lisa. "On the Methodology of Semantic Fieldwork." *International journal of American linguistics* 70.4 (2004): 369–415.
- McIvor, Onowa. *Language Nest Programs in BC: Early Childhood Immersion Programs in Two First Nation Communities: Practical Questions Answered and Guidelines Offered*. First Peoples' Heritage, Language and Culture Council, 2006.
- Merriam, Sharan B. *Qualitative Research and Case Study Applications in Education*. San Francisco: Jossey-Bass Publishers, 1998.
- Mithun, Marianne. "The Acquisition of Polysynthesis." *Journal of Child Language* 16.02 (1989): 285–312.
- . "The Data and the Examples: Comprehensiveness, Accuracy, and Sensitivity." *Language Documentation and Conservation Special Publication No. 8* (2014): 25–52.
- Nathan, David, and Meili Fang. "4 Re-Imagining Documentary Linguistics as a Revitalization-Driven Practice." *Keeping Languages Alive: Documentation*,

- Pedagogy and Revitalization*. New York: Cambridge University Press, 2013. 42–55.
- . “Language Documentation and Pedagogy: Seeking Outcomes and Accountability.” *Endangered Languages and Language Learning: Proceedings of FEL XII*. Vol. 22. Leeuwarden, The Netherlands: Foundation for Endangered Languages, 2008. 24–27.
- Nettle, Daniel, and Suzanne Romaine. *Vanishing Voices: The Extinction of the World’s Languages*. Oxford: Oxford University Press, 2000.
- O’Connor, Loretta. “Going Getting Tired: Associated Motion through Space and Time in Lowland Chontal.” *Language, Culture and Mind*. Stanford: CSLI, 2004. 181–199.
- . *Motion, Transfer and Transformation: The Grammar of Change in Lowland Chontal*. Philadelphia: John Benjamins Publishing, 2007.
- Pantcheva, Marina. “The Syntactic Structure of Locations, Goals, and Sources.” *Linguistics* 48.5 (2010): 1043–1081.
- Parker, Aliana, Suzanne Gessner, and Kathryn A. Michel. *Language Nest Handbook for BC First Nations Communities*. First Peoples’ Cultural Council: Brentwood Bay, BC., 2014.
- Payne, Thomas Edward. *Describing Morphosyntax: A Guide for Field Linguists*. New York: Cambridge University Press, 1997.
- Penfield, Susan D., and Benjamin V. Tucker. “From Documenting to Revitalizing an Endangered Language: Where Do Applied Linguists Fit?” *Language & Education: An International Journal* 25.4 (2011): 291–305.
- Peregrina Llanes, Manuel. “Caracterización de La Transitividad En La Narrativa Náhuatl de La Huasteca Veracruzana Desde Una Propuesta Tipológica.” Univ. de Sonora Hermosillo, 2005.
- Peregrina, Llanes Manuel. *Cuentos En Náhuatl Huasteca Veracruzana*. Mexico: México: Universidad de Sonora, 2015.
- Peters, Ann M. “Language Typology, Prosody, and the Acquisition of Grammatical Morphemes.” *The Crosslinguistic Study of Language Acquisition*. Vol. 5. Lawrence Erlbaum Associates, Inc., 2014. 135–197.
- Pye, Clifton. “Mayan Telegraphese: Intonational Determinants of Inflectional Development in Quiché Mayan.” *Language* 59.3 (1983): 583–604.
- Rice, Sally. “Applied Field Linguistics: Delivering Linguistic Training to Speakers of Endangered Languages.” *Language & Education: An International Journal* 25.4 (2011): 319–338.



- Rodríguez, Álvaro Hugo Salgado. "Topological Spatial Relations and Frames of Reference in Santo Domingo de Guzmán Pipil: Typological and Historical Implications." University of North Carolina at Chapel Hill, 2014.
- Sasaki, Mitsuya. "Classical Nahuatl Locatives in Typological Perspective." *Tokyo University Linguistic Papers* 31 (2011): 287–316.
- . "On the so-Called 'purposive' verbs in Nahuatl." Washington, D.C.: N.p., 2016.
- Slobin, Dan I. "Adult Language Acquisition: A View from Child Language Study." *Adult language acquisition: Cross-linguistic perspectives* 2 (1993): 239–252.
- Stanford, James N. "Clan as a Sociolinguistic Variable." *Variation in Indigenous Minority Languages*. Philadelphia: John Benjamins Publishing, 2009. 463–484.
- Stanford, James N., and Dennis R. Preston. *Variation in Indigenous Minority Languages*. Vol. 25. Philadelphia: John Benjamins Publishing, 2009.
- Strauss, Anselm, and Juliet Corbin. *Basics of Qualitative Research: Procedures and Techniques for Developing Grounded Theory*. Thousand Oaks, CA: Sage Publications, Inc, 1998.
- . "Grounded Theory Methodology." *Handbook of qualitative research* (1994): 273–285.
- Sullivan, John et al. *Tlahtolxitlahucayotl: Chicontepec, Veracruz*. Warsaw: IDIEZ, University of Warsaw. Totlahtol.
- Sullivan, Thelma D. *Nahuatl Proverbs, Conundrums, and Metaphors: Collected by Sahagun*. Mexico: Estudios de Cultura Nahuatl, 1963.
- Svorou, Soteria. *The Grammar of Space*. Vol. 25. Philadelphia: John Benjamins Publishing, 1994.
- Terrence, Kaufman. *The History of the Nawa Language Group from the Earliest Times To the Sixteenth Century: Some Initial Results*. 2001. Unpublished MS. University of Pittsburgh.
- Thiering, Martin. "Language Loss in Spatial Semantics: Dene Suliné." *Variation in Indigenous Minority Languages*. Vol. 25. Philadelphia: John Benjamins Publishing, 2009. 485–516.
- Volfova, Martina. "'And Now We Are All Newenee': A Journey of Becoming and Keeping the Shoshone Language and Culture Alive." M.A. Northern Arizona University, 2013.
- Vygotsky, Lev S. *Mind in Society: The Development of Higher Mental Process*. Cambridge, MA: Harvard University Press, 1978.

Whaley, Lindsay J. "Some Ways to Endanger an Endangered Language Project."  
*Language & Education: An International Journal* 25.4 (2011): 339–348.