

**Documenting Language, Culture, and Cognition:  
Language and Space among the Waorani**

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**Abstract**

This paper looks to investigate the intersection between the disciplines of anthropology, linguistics, and cognitive science through the discussion of documentation projects and documenting spatial language. In focusing on the language and culture of the Waorani, an indigenous group of the Amazonian region of Ecuador, this paper examines the properties of the language's static locative constructions, the language's status as an isolate, and the challenges and successes in the documentation process at present. This study also addresses these topics' relation with the study of the intersection of space, language, and cognition by looking at some of the responses given by native speakers to the prompts in Bowerman and Pederson's (1992) "Topological Relations Picture Series," a set of line drawings that depict simple scenes such as an apple in a bowl. These speakers' responses, as examples of spatial language use, offer what Stephen Levinson (1996:356) calls "more than just a privileged access to [cognition]," which is "the intermediate variable that promises to explain cultural propensities in spatial behavior." This paper supports Levinson's claim that language, culture, and cognition are intimately linked and can be studied through spatial language expressions across cultures. Therefore, any conclusions drawn in this paper may bring the studies of anthropology, linguistics, and cognition closer to finding common ground and possibly contribute to the understanding of human behavior. Because of this, I argue that spatial language expressions are amongst the most important to elicit when doing documentation projects.

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## 1 Introduction

For many people it is difficult to imagine a life where they would not be able to communicate with their own grandchildren because of a language barrier. This is a reality for many native speakers of languages that are endangered of becoming extinct—no longer spoken. Language endangerment is as real a global issue as the endangerment of animal species, but it has gotten much less public attention. Many people are aware of and concerned by the endangered status held by Siberian Tigers or California Condors, but I would be surprised if the same number of people were aware of the similar status held by many languages of the world like Siberian language Chulym or the North American language Munsee. It is expected that by the end of this century, as many as half of the languages currently spoken across the world will have gone extinct (Krauss 1992:6; Nettle & Romaine 2000:ix). Even presently, more than eleven percent of the world's languages are spoken by fewer than 150 people each (Nettle & Romaine 2000:40). Linguists estimate that there are close to seven thousand languages spoken in the world at present (Lewis 2009)<sup>1</sup>, yet almost eighty percent of the world's population speaks one of the 83 most popularly spoken languages, while a mere 0.2% of the population speaks one of 3,586 languages (Harrison 2007:14). These minority languages tend to be those that are spoken by indigenous peoples and orally transmitted. Since these languages lack a traditional writing system, they are more at risk of endangerment. Some of these communities have had the opportunity to preserve their languages through documentation projects, but the majority are yet to be documented or studied.

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<sup>1</sup> Estimates differ, but many are close to seven thousand. For example, Ethnologue (Lewis 2009) catalogues what it says are “all of the world's 6,909 known living languages”; The Hans Rausing Endangered Language Project (2012) says there are 6,500; and the Living Tongues Institute for Endangered Languages claims there to be 7,000 (Anderson and Harrison 2007).

Lowland South American languages are some of the least studied languages worldwide (Payne 1990). In fact, the Living Tongues Institute for Endangered Languages concludes that the area of South America where many of these languages are spoken is a language hotspot—meaning an area with a combination of high linguistic diversity, high risk of extinction, and low documentation (Anderson and Harrison 2007). One of these languages, *Wao terero*<sup>2</sup>, is a language isolate—that is, a language with no known relationship with any other language—spoken by the *Waorani*<sup>3</sup> of the Amazonian region of Ecuador whose population is less than two thousand (Lewis 2009). This paper focuses on the language and culture of the *Waorani* drawing from my own fieldwork and experience as well as that of others. In so doing, I examine the semantic and syntactic properties of *Wao terero*'s static locative constructions, the language's status as both endangered and an isolate, as well as the challenges and successes in the documentation process at present. This paper also addresses these topics and their relation with/contribution to the study of conception of space and its intersection with culture language.

Linguists have been increasingly advocating for more attention to be paid to documenting and preserving the endangered languages of the world through linguists participating in documentation projects (Anderson 2011). These projects strive to both aid the community in keeping their traditions and language alive as well as contribute to the study of linguistics, anthropology, and other academic disciplines. With every language documented and studied, the field of linguistics gains valuable information. Documenting languages is important on the simplest level because it expands the corpus of linguistic data available to be studied. In studying

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<sup>2</sup> I chose to use *Wao terero* as the name of the language in my paper as opposed to *Waorani* as others have, given that in the language in question *Waorani* is just 'people.' I feel that it is unfair to assume that however we refer to an ethnic group should be how we refer to the language associated with that group.

<sup>3</sup> Other works have used the form *Huaorani* instead of *Waorani*. I chose to use the latter because even though the two variants are pronounced the same [waorani], the former is based on Spanish language orthography as opposed to the *Waorani* writing system that has been adopted. They have also been referred to as *Aucas*, which is a Kichwa word that has been translated to mean 'savage' or 'wild' (to be discussed later in § 1.1.2)

these languages, linguists can find commonalities and differences amongst them and use this information to further general knowledge about language—what is possible and what is not. Information obtained in these studies can also be used to contribute supporting or contradicting evidence for currently held theories. Furthering knowledge about language may seem esoteric, but the more that is understood about spoken language, the more can be understood about the human mind and its language processing and acquisition abilities. Language documentation is important to anthropology as well because many scholars view language as culture (Duranti 2003). Language is the means through which cultural views are expressed and transmitted to the younger generations growing up in the society. Therefore in documenting language, one can document culture as well. And just as documentation of the diversity of the world's languages is important for the study of linguistics, the same is true for the diversity of culture and its importance to the field of anthropology. This is because with every cultural practice or belief documented, more knowledge can be gained about the cultural propensities among humans.

Looking beyond academia, these documentation projects are also of great importance to the members of the endangered language community. From the implementation of a documentation project in their community, these community members will gain an outlet for the preservation of their language, culture, and history—elements of their life experiences that they most likely hold near and dear, might be the basis upon which they have formed their identity, and could at the same time be threatened by the influence of outsiders. For the elders of the group it may give them the satisfaction that their way of life will continue on after their death. For some it may be a chance for revival, while for others it may be a last ditch effort to get as much of a language on record before the death of its last native speaker. All in all, documentation is important for the preservation of the cultural (and perhaps cognitive) diversity



that can often be found encoded in language, the cultural knowledge and practices tied to a language, as well as the role language often plays in identity formation.

Although these projects are in theory aimed at documenting language and culture in a mutually beneficial way, the goals of the researchers and the goals of the people of the community undergoing the documentation project can sometimes be at odds with one another. In the academic community there is an emphasis on completing (often purely theoretical) work for publication while this emphasis is most likely completely absent in the perspective of the community members whose practices are to be documented. In fact, the community's priorities probably lie in preserving the content of the materials collected and making cultural information available to future generations via the creation of educational materials rather than on the particular way in which this information is presented. Although this conflict of interests could easily be seen as a pervasive issue in these documentation projects, it is not always as defining as one may think—as evidenced by the current Waorani Documentation Project. This paper draws extensively from my experience working with the Waorani Documentation project as an intern/research assistant. The time I spent with the project was dedicated mainly to expanding the electronic lexical database that was being created, but in so doing, I was able to see the inner workings of how it was run. This paper looks to the structure and implementation of this project as an example of good practice in documentation—working towards mutually beneficial work.

One facet of the Waorani Documentation Project on which this paper focuses is its consideration of the way Wao terero is used to express spatial concepts. I find this type of language, what I call “spatial language” in this thesis, and its use to be a crucial aspect of language that should be documented because across languages and cultures, the way in which spatial relations are expressed varies. For example, in English one could say “the fish is in the

bowl” when describing a situation where the relationship between a fish and a bowl is that the fish is contained within the borders of the bowl. English speakers use prepositions (in this case *in*) to express the spatial relationship between objects. It was previously thought that all languages treat spatial relations in the same way that English does, this is not the case however. Some Amerindian languages such as Tzeltal, a Mayan language, have been shown to deviate from this model of expressing spatial relations in that it encodes for both shape and position in the verb root and thus creates predicates that imply the relationship between two objects (Brown 1994). This challenged the widely held assumption that humans (in their language and cognitive processes) treated the “what” as a separate category from the “where” because in Tzeltal, predicates can encode for both the “what” and the “where” simultaneously. Like Tzeltal, Wao terero spatial relation construction differs from that found in English, but not in the same manner. The differences in the ways that English and Wao terero differ are not as stark as the example given of English versus Tzeltal; however, this does not make these differences insignificant. Looking at such differences and comparing them cross-linguistically we can build a better understanding of the possible constructions in human language. Therefore, the features of Wao terero spatial language that are presented will add to what is known about the way languages encode space.

This paper will show how Wao terero codes for spatial relations by looking at some of the responses given by ten native speakers to the prompts in Melissa Bowerman and Eric Pederson’s (1992) “Topological Relations Picture Series,” a set of line drawings that depict things such as an apple in a bowl or a flag attached to a pole. These speakers’ responses to the pictures, as examples of spatial language use, offers what Stephen Levinson (1996:356) calls “more than just a privileged access to [cognition],” which is “the intermediate variable that

promises to explain cultural propensities in spatial behavior.” This is because he and many other scholars (such as Pederson et al. 1998) are compiling research that demonstrates the connection between people’s nonlinguistic cognition and the spatial models employed in the language they speak. Since language use reflects the way we think, if patterns are found in the way space is treated among a group of speakers, it will demonstrate a common way of perceiving and comprehending space that could be different from the way speakers of a different language do. This paper looks to the example of Wao terero in an attempt to support Levinson’s point that language, culture, and cognition are intimately linked and can be studied through spatial expressions across cultures. Therefore, any conclusions drawn in this paper (and any others like it) may bring the studies of anthropology, linguistics, and cognition closer to finding common ground and possibly illuminate new ideas about human behavior. Therefore, I argue that spatial language expressions are one of the most important kinds of expressions to elicit when doing documentation projects.

This introductory chapter sets the scene for my project. I include: background information on the Waorani people (§ 1.1) as well as a description and discussion of the current Waorani Documentation Project (§ 1.2). Chapter 2 is a review of the literature on the relationship of language to culture and additionally the conception of space and spatial language within the fields of anthropology and linguistics. In Chapter 3 I describe the nature of my fieldwork performed in a Waorani community and outline my methodological approach. I then present and discuss the analysis and results of my short study of Wao terero locative constructions in Chapter 4. Finally, Chapter 5 uses the results of my study and places them within the larger context of the study of space—speaking to its limitations (§ 5.1), implications (§ 5.2), and topics for further investigation (§ 5.5).

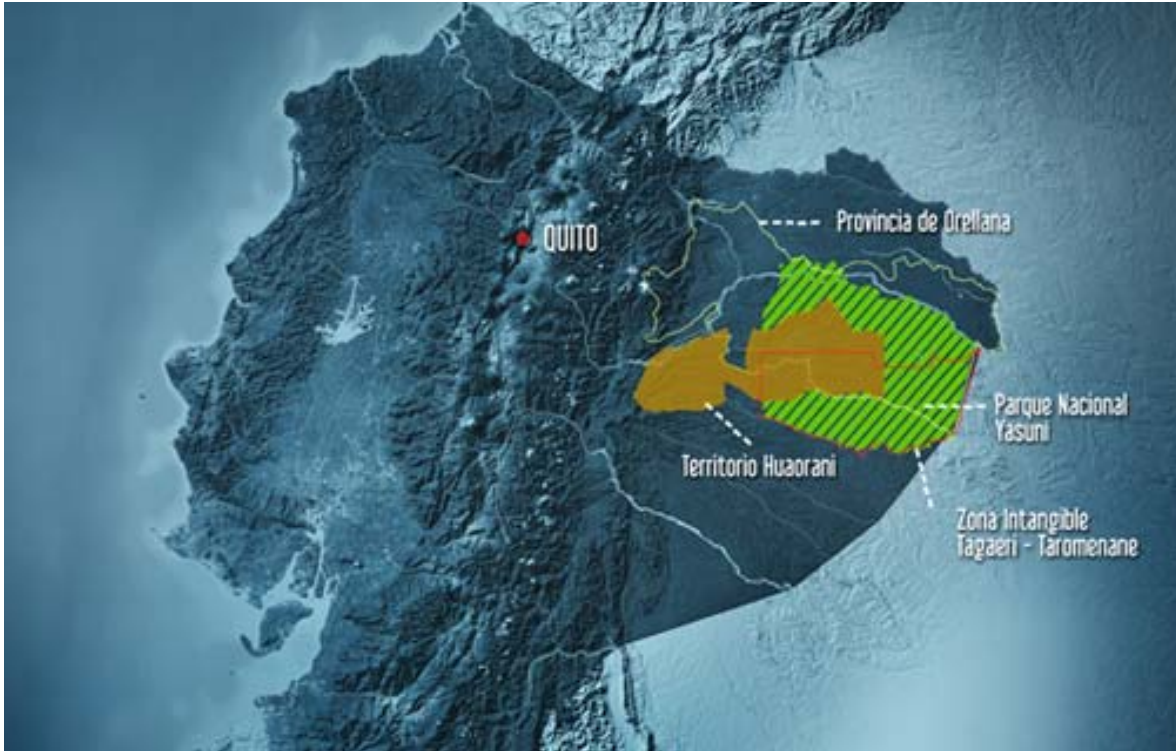


Figure 1: Map of Ecuador (Yasuni: Two seconds of life)

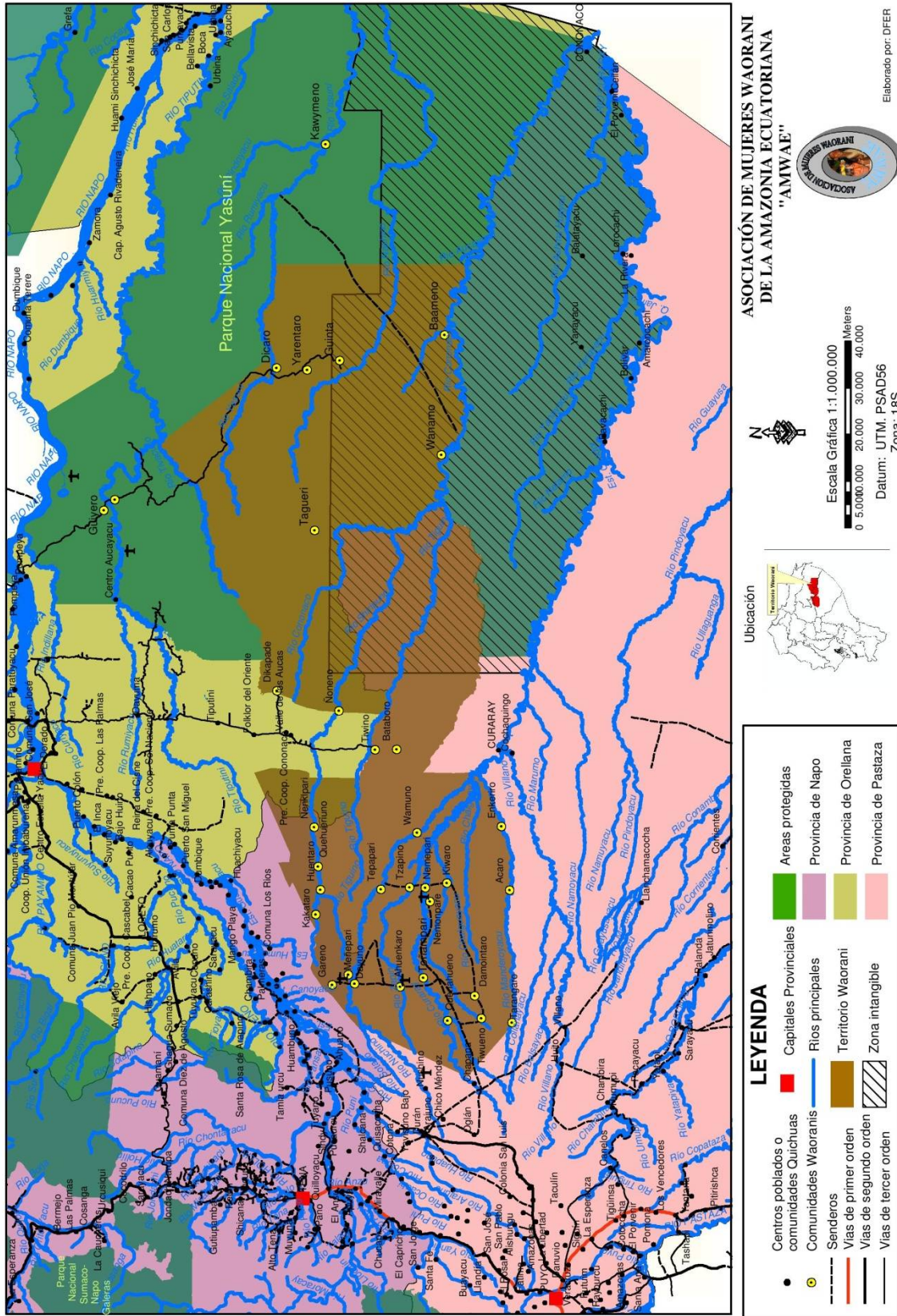


Figure 2: Map of Waorani Territory with Communities (AMWAE)

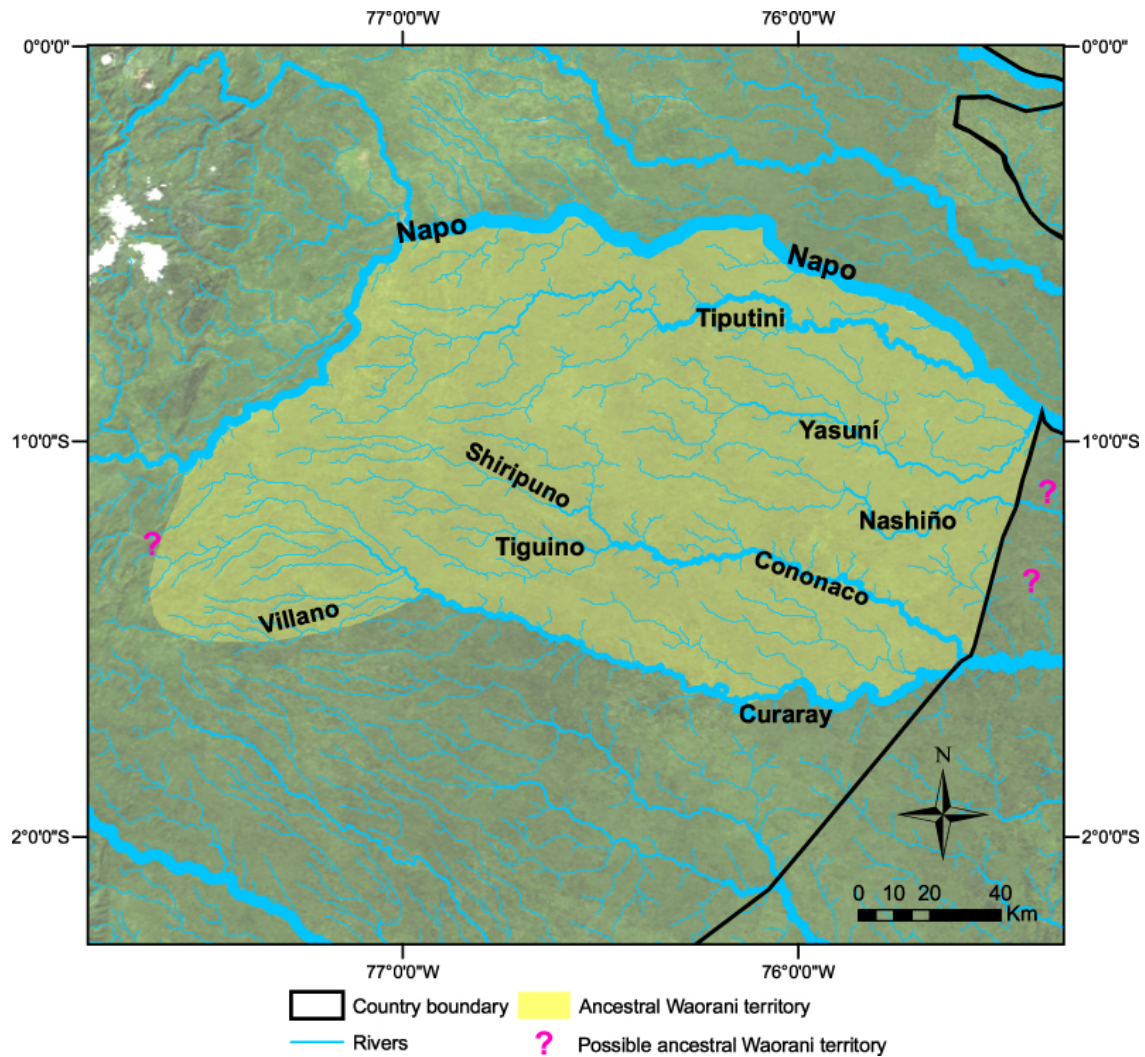


Figure 3: Map of Ancestral Waorani Territory and its Rivers (Finer et al. 2009)

### 1.1 Who are the Waorani?

The Waorani, an indigenous group of the Ecuadorian Amazon region, live in a number of communities spread throughout the about one-million acres (679,130 hectares) of their territorial reserve (See Figures 1-2). Although the Waorani territory is the largest granted to any indigenous group in Ecuador (Rival 2002), it is only a fraction—not even half—of the area the Waorani consider to be their ancestral territory: about 20,000 km<sup>2</sup> between the Napo and Curaray Rivers (Gondecki & Nenquimo Irumenga 2009) (See Figure 3). This area is estimated to be inhabited by

about two thousand<sup>4</sup> Waorani, spread out in more than 30 communities or villages (High 2010:755). The Waorani lived in isolation until the late 1950s and early 1960s when missionaries began to make contact with them (Elliot 1957). The Waorani’s perceived “warrior behavior” is thought of as the reason for their avoidance of contact with outsiders and outsiders’ avoidance of contact with them (to be discussed further in §1.1.1) (Gondecki & Nenquimo Irumenga 2009:7). Although not the norm, some Waorani continue to live in complete, voluntary isolation—most notably, those belonging to clans known as the Taromenani and Tagaeri. These peoples are grouped together with the larger Waorani community because they are related to them historically and culturally, yet it is difficult to say how culturally similar they actually are (Gondecki & Nenquimo Irumenga 2009:8). This is because they live as *no contactados*, uncontacted, in the southern half of the Yasuní National Park that the Ecuadorian government declared the “Intangible Zone” where “all extracting activities that could alter the biological diversity or threaten the life of the last isolated indigenous peoples in the Amazonian region of Ecuador” are forbidden (Gondecki & Nenquimo Irumenga 2009:8, my translation) (See Figure 2). Nonetheless, the majority of the Waorani today do interact with outsiders, whom they call *kowore*<sup>5</sup> (referring to anyone who is not Waorani—researchers, tourists, Ecuadorians, Kichwas, etc.), on a regular basis. Additionally, many younger Waorani have chosen to live and work among *kowore* in the nearby cities such as Puyo, Tena, and Coca (labeled as *Capitales Provinciales* in Figure 2).

The Waorani (living in the territory) participate in a subsistence economy that is primarily based on hunting, fishing, gathering, and gardening for personal use (High 2009:722).

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<sup>4</sup> Some estimate there to be more Waorani—2,500 (Gondecki et al. 2009:7).

<sup>5</sup> The orthography used to transcribe Wao terero in this paper is a relatively standardized writing system used by the Waorani in schools as well as the researchers and consultants of the Waorani Documentation project. Vowels with the umlaut are nasalized. The ‘r’ is a tap [ɾ], the ‘ñ’ represents [ɲ] like that found in Spanish, and the remainder of the symbols are in-line with the IPA.

The meat in the Waorani diet is traditionally and commonly obtained through blowgun and spear hunting although there are some Waorani hunters who use shotguns. The wild game caught and consumed by the Waorani commonly includes but is not limited to: monkeys, peccaries, tapirs, and toucans. However, the meat people eat is not solely restricted to wild game, as some people also keep chickens. Fishing using nets, poison, spears, or lines is also common. In the time I spent with the Waorani I found that hunting and fishing seems to be a realm dominated by men, but women definitely do partake (as confirmed by Erickson 2003).

While the staple plants in the Waorani diet are manioc and plantains, their diet is further supplemented with foraged fruits like sapote (*Quararibea cordata*). Manioc and plantains grow in large gardens where they are harvested for the family's consumption. This gardening is done mainly by women but, just as women can hunt, men can also help in the collection of food from gardens (confirmed by Erickson 2003). The extent to which the Waorani tend gardens may differ from settlement to settlement or even family to family. This seems to mainly depend on their settlement's location in terms of access to cities, and therefore markets, or the relative permanence of their settlement—with those closer to cities gardening less than those in more remote areas and those living in more permanent settlements gardening more than those in more temporary ones. Laura Rival (2002:xiv) claims the Waorani are “more foragers than gardeners” and that the crops they do cultivate (“rudimentally”) are for making ceremonial drinks. This directly conflicts with my experience in the Waorani village of Toñampari, where I ate plantains and manioc from a family's gardens on a daily basis. While I do not deny that the Waorani forage for food nor that they garden and use the crops to make ceremonial drinks, I do feel that the role of gardening in obtaining food for consumption is much more prominent than that of foraging. In addition to these harvested plants and hunted animal products, the Waorani also



have access to goods from outside their communities. When people (either *kowore*, like myself, or fellow Waorani coming from nearby cities) enter the community, they usually bring foodstuffs such as rice, cooking oil, sugar, vegetables, bread, and cookies among other things.

Traditionally, the Waorani are not a sedentary culture—they have moved to gain better access to food, escape the spread of disease, and evade conflict (Rival 2002). Today, many of the Waorani live in settlements with airstrips and schools, but they still move between villages and embark on long treks for the purposes of hunting, visiting, or employment with the oil companies, which “perpetuates a mobile way of life” (High 2010:755). Despite the establishment of these permanent settlements (due to missionary influence from the 1960s) and a relatively mobile way of life, the core of Waorani social organization continues to revolve around the family—both immediate and extended (High 2006).



Figure 4: Traditionally Built Waorani Home

### 1.1.1 Social Structure, Cosmology, and Belief Systems

Much of Waorani social structure is intimately tied to the family and thus the family's physical home, *öko*. Traditional Waorani homes are built using felled trees as house poles, vine ropes to bind the house poles, *mö* palm leaves to create a waterproof inner layer of the roof, and *oma* palms to make both the woven outer layer of the sloped roof and the vertical side walls (where the entrances are located) (See Figure 4). These longhouses can accommodate many members of an extended family. Rival (2002:94,97) notes these homes to be about fifteen meters long, eight meters wide, and able to house anywhere between ten to thirty-five residents. This observation is in-line with my experience as the home I stayed in, although traditionally built, was smaller than these measurements and housed eleven residents at the time with room for more. I also attended a gathering held in a traditional longhouse (in both size and style) that was at least twice the size of the home I stayed in, so it is not difficult to imagine an extended family of thirty-some residents living in a structure of that size. With changes in settlement patterns erring towards the more permanent, some families choose to build less-traditional homes (made of wood planks or a combination of wood and palm leaves) which are often smaller than the traditional longhouses and accommodate fewer people. One of these less-traditional homes I visited housed seven residents. Other members of this family owned a home about a hundred feet away that was made of wood with a corrugated metal roof and elevated on stilts. This home had stairs up to a door, a window, and four sectioned rooms offering more privacy than the traditional one-roomed homes.

Although physical styles may differ, a commonality among many Waorani homes is their matrilineal organization—as married couples tend to live in the home of the woman's parents. This was the case with the homes I visited; but however common, this is not necessarily an attribute that can be generalized to all homes, given migration of younger Waorani to cities, the

creation of smaller dwellings (leaving less room for extended family), and migration and settlement elsewhere for work. The term *nanikabo* (pl. *nanikaboiri*), literally ‘group’, is used to refer to a family or house group that is composed of an older couple and their followers—children, grandchildren, orphans, etc. (Rival 2002). The *nanikabo* is organized around the descendents of an elder woman, and when referring to a *nanikabo*, people use the plural form of her husband’s name. For example, Laura Rival (2002) speaks about a *nanikabo* referred to as *Ñaweiri*, who were the followers of a woman and her husband *Ñawe*. The longhouse, *öko*, is important as the physical site where the concept of the *nanikabo* is embodied. Rival gives an idea as to the organizational function of the *nanikabo* and the longhouse and their importance to Waorani society:

Longhouses, as physical structures or as enduring *nanikaboiri*, embody the unity of house groups, serving as fixed points in the fluidity of nomadic life, places where one belongs and to which one returns. They develop as clearings in the rain forest, around hearth places where food and materials are processed and transformed, used or consumed. They are residence units that husbands join, where children are born and raised, to which pets are brought to be housed and fed, and to which orphans and refugees attach themselves. Despite how often one goes on a trek or visits relatives living elsewhere, one belongs to one, and only one, longhouse. When dying of old age (this is especially true of widowed women), one should decay within and with the house, both the corpse and the abandoned dwelling returning to the rain forest (2002:98-9).

This description highlights the fact that the longhouse, an intimate space in which people gather and share resources, holds a important place in Waorani society as the physical embodiment of the idea of togetherness or unity within families.

This unity is directly related to other principles or characteristics of the social climate that seem to guide Waorani lifestyle. One of these is the egalitarian nature of the Waorani as a people.<sup>6</sup> This egalitarian ideal is important for the functioning of the home and the ideal of “the

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<sup>6</sup> Of course there are most likely people identifying as Waorani who do not necessarily embody these values, but this is to be expected. To expect all Waorani to embody these values unfailingly and at all times would be like expecting

good life” (*waponi kewenimpa*)—living peacefully and avoiding conflicts with others, all while rejecting hierarchical relations (Overing and Passes 2000; High 2006). According to Casey High (2006:27), the Waorani generally “strive to create and preserve peaceful conviviality in their homes and villages, where they often express concerns about potential conflicts they say threaten this seemingly uneventful ideal.” In fact, High (2006) later shows how the Waorani have developed ways to prevent conflicts, such as suppressing the practice of shamanism as it has been implicated as a cause of conflict in the past (to be discussed below). Much in the same way that they are egalitarian, the Waorani emphasize the importance of autonomy of both the individual and the *nanikabo*. I find this particular facet of the Waorani social structure to be reminiscent of the emphasis on the individual found in American society—a version of the “live and let live” mentality. Waorani expect others to behave as they please, partaking in activities they might find senseless, morally wrong, or confusing, but respecting their “right” to do so. Casey High (2006:36) claims this Waorani autonomy and lack of hierarchy in conjunction with their informal and humorous nature is probably the reason that his work does not attempt to “construct an elaborate ‘Huaorani cosmology’ or social structure.” If everyone lets everyone else do what they want, how could a researcher ascertain a definite social structure? Although difficult to produce an “elaborate” model of Waorani cosmology or social structure, there are some shared characteristics among the people.

As claimed by High (2006), besides the values of egalitarianism and autonomy and because of these values, it is difficult to pinpoint a specific overarching ideology or belief system that unites the Waorani. Even after the success of missionaries in implementing Christianity in the communities, not everyone in the community accepts or operates under its values, nor do

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all of the members of any community (like a suburban neighborhood in America, or even on as micro a level as a family) to behave in the same way.

those who embrace Christianity as valid doctrine embrace it in its entirety. It seems that non-violence aspect of Christianity is what most resonates with the Waorani who accept it. This is not surprising given that this preaching of pacificity mirrors their already standing ideal of egalitarianism, autonomy, and the peaceful good life.

Unlike Christianity, *iroinanani* ‘witchcraft’<sup>7</sup> could be considered a uniting discourse among the people. Waorani witchcraft, performed by shamans, is centered on jaguars<sup>8</sup>, which are “conceptualized as generous ‘ancestral spirits’...” (Rival 2002:79). A jaguar spirit has the power to choose shamans, *meñera*, by appearing to a man (or woman, but typically shamans are men) in their dreams and making it known that he wants to adopt the man as his father (Rival 2002). The men they choose to be their adoptive fathers “are not only mature men with a family of their own, but have also ‘known death’ at an early stage in their lives” (Rival 2002:79). Even though jaguar spirits “make animal game stay closer to humans, and tell humans where to find game in the forest once lived in human bodies...of shamans or warriors” (Rival 2002:79), witchcraft is seen as the cause of all misfortune. In fact, Waorani “very rarely accept what we might call ‘natural causes’ as explanation for death. Sickness, accidents and other apparent causes of death are often cast in terms of human agency such that people or a whole group are blamed for a death” (High 2006:59). For example, witchcraft has been blamed by members of the Waorani community as responsible for a cycle of revenge killings that occurred in the past and very much affected those who are now elders in the community. High (2009:1) cites one such elder Awanka speaking about these times in the past, warning children to be careful “not to speak to a shaman at night when his body is inhabited by his adopted jaguar-spirit (*meñi*). He said that if the

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<sup>7</sup> I use the word *witchcraft* because when referring to this practice while speaking in Spanish, Waorani use the word *brujería*, but the practice might be best likened to shamanism.

<sup>8</sup> As do other parts of Waorani cosmology, as seen in the traditional story “Wenonga Meñe: El guerrero jaguar” reproduced and translated in Gondecki et al. 2009.

children were even to joke with the jaguar-spirit as it speaks through the shaman's voice, telling it to scare people, a jaguar would go and kill the people they named." From stories like this it is made obvious that shamans, and the *iroinanani* they practice, are salient in Waorani society. Even though many Waorani condone the practice of witchcraft (especially the witchcraft performed by Kichwas) today, they do so because they believe in its power. Therefore, the very pervasiveness of witchcraft in stories and its implication as the cause of all things negative proves it to be a uniting experience in Waorani culture.

### 1.1.2 Ecuadorian Socio-political Context

The Waorani are not the only indigenous group of Ecuador; in fact, they are one of fourteen (Gondecki & Nenquimo Irumenga 2009). According to the EMEDINHO<sup>9</sup> performed in 2000, of the population over the age of fifteen: 4.4% speak an indigenous language; 6.6% self identify as indigenous; 12.5% have parents who speak (or spoke) an indigenous language; and 14.3% inclusively speak an indigenous language, self identify as indigenous, or have parents who speak an indigenous language (Guzmán 2003). Therefore, depending on which of these statistic measurements one uses, one could claim that the indigenous population is anywhere between 4.4% and 14.3% of the total Ecuadorian population. This is most likely an underestimation, especially if one considers the stigma associated with being indigenous and how people might therefore be hesitant to self-identify. In fact, the CIA World Factbook says that indigenous people make up 25% of the Ecuadorian population (Central Intelligence Agency 2012). Nonetheless, what these statistics from the EMEDINHO show, among other things, is that few people (about a third) learn the indigenous languages spoken by their parents. This could be

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<sup>9</sup> The Survey of Measurement Indicators of Childhood and Households (La Encuesta de Medición de Indicadores de la Niñez y los Hogares)

attributed to a number of unfavorable social and economic factors typically experienced by members of the indigenous communities in Ecuador.

Although they comprise a sizable portion of the Ecuadorian population, indigenous groups and their members receive an unequal distribution of resources, are more likely to be in poverty than non-indigenous Ecuadorians, are underemployed (presumably because of discrimination), and enjoy fewer educational opportunities (Larrea et al. 2007; Larrea and Montenegro Torres 2006). A new Ecuadorian constitution was ratified in 2008 under the government of Rafael Correa that defined the nation as multinational, multiethnic, and intercultural, and treats everyone (without discrimination based on gender, disability, ethnicity, sexuality, and more) equal before the law (Ayala Mora 1999). Also under this constitution, the state guaranteed many social, economic, and cultural rights to all those within its borders such as: education (bilingual), health, work, and culture (Ayala Mora 1999). As evidenced by the constitution, Ecuador prides itself on being multicultural, multiethnic, and non-discriminatory in the public arena, yet there is definite discrimination by its citizens against indigenous Ecuadorians that is both institutionalized and experienced daily. Many organizations and publications, within this discourse of pride in diversity, claim indigenous cultural features and practices as Ecuadorian cultural heritage, while many Ecuadorians (as *mestizos*, people of mixed indigenous and European heritage) concurrently ascribe to the notion of *blanqueamiento*, racial ‘whitening’.

The history of *blanqueamiento* in Latin America is rooted in the racial caste system that was implemented during colonization and continues to influence social structure as experienced today. The basic idea then and now is that the whiter you are, the more powerful and higher in the social hierarchy you would be. Therefore, ever since the implementation of this system there

has been a prevalent idea (even if it is unconscious) that one needs to *mejorar la raza* ‘better the race’ by marrying and having children with someone whiter than oneself. This in turn has led to the concept and value of *mestizaje*, racial mixing, and a devalorization of all things indigenous. These race-based discriminatory values are directly contradictory to the image promulgated of indigenous culture as the heritage of the Ecuadorian people and a source of pride.

The acknowledgment and value placed on indigenous culture, although formally positive, is a facade. Minority groups definitely have a place in society, but this place is one that is marginalized and stigmatized. For example, the Waorani ideal of a peaceful, egalitarian, and cooperative living situation discussed in the previous section seems to be at odds with the popular conception of the Waorani as Ecuador’s “last savages.” Until recently, the Waorani were widely referred to as *Aucas*—a pejorative Kichwa term that has been incorporated into Ecuadorian Spanish meaning ‘wild’ or ‘savage.’ The use of this term both constructed the Waorani in the Ecuadorian imagination as savages while simultaneously reflecting currently held beliefs—“stigmatizing them with attributes of savagery, barbarianism, and cruelty” (Gondecki & Nenquimo Irumenga 2009:7). The Waorani are often painted as a violent people especially after an incident in 1956 when five missionaries attempting to make contact with a group of Waorani were speared and killed by members of the community, which came to be known as “the Palm Beach Tragedy” (Elliot 1957). There have been many works that sensationally or dramatically address the “violent nature” of the people (such as the recent feature film *End of the Spear* (Hanon et al. 2006)) and past anthropological works that cite them as the most homicidal group recorded in anthropological history (Yost 1981).

Different from the relationship between the indigenous population and non-indigenous Ecuadorians, the relationship between the indigenous peoples of Ecuador and the national



government is an interesting one that presently appears to offer the indigenous more agency. There have been numerous instances of indigenous resistance to government policies and practices. One of the most notable was *el levantamiento indígena de 1990* ‘the indigenous uprising of 1990’ when people from multiple indigenous communities marched through the streets of Quito creating roadblocks to force the government to address issues of land access, education, economic development, and the relationship between indigenous communities and the state (Maca 1992; Larrea 2006). In addition to such displays, there are a large number of indigenous (political) organizations in Ecuador that were created to make sure indigenous communities are not exploited or oppressed. The largest of which is CONAIE, the Confederation of Indigenous Nationalities of Ecuador (Confederación de Nacionalidades Indígenas del Ecuador), which advocates for the rights of all indigenous people and communities in Ecuador. Within the scope of CONAIE are three major regional organizations that envelop multiple ethnic communities: CONFENAIE, the Confederation of Indigenous Nationalities of the Ecuadorian Amazon (Confederación de las Nacionalidades Indígenas de la Amazonia Ecuatoriana); ECUARUNARI, the Confederation of Peoples of Kichwa Nationality (Confederación de Pueblos de la Nacionalidad Kichwas del Ecuador); and CONAICE, the Confederation of Indigenous Nationalities of the Ecuadorian Coast (Confederación de Nacionalidades Indígenas de la Costa Ecuatoriana). In addition to these groups, there are multitudes of smaller organizations dedicated to the interests of a single ethnic group such as NAWE, the Waorani Nationality of Ecuador (Nacionalidad Waorani del Ecuador), or even to one specific sub-group or aim like AMWAE, the Association of Waorani Women of the Ecuadorian Amazon (Asociación de Mujeres Waorani de la Amazonía Ecuatoriana) or FEINE, the Federation of Indigenous Evangelists of Ecuador (Federación Ecuatoriana de Indígenas Evangélicos). Today there are multiple Waorani political

organizations, but this has not always been the case, perhaps because (as High (1996) proposes) the Waorani's lack of social hierarchy has led to issues in the development of political leadership. Many of these political organizations have arisen in response to threats to territory and way of life imposed by economic development of the petroleum, rubber, and lumber industries<sup>10</sup>.

Before I construct a vision of a completely dismal indigenous life, I must note that Ecuador, in comparison to other countries, has been rather progressive in its treatment of indigenous issues. The government has granted indigenous communities large expanses of land (although not nearly as large as their ancestral lands once were) so that they can continue their way of life unimpeded by development. The government has never forced indigenous children into boarding schools nor has it banned the use of indigenous languages in public. In fact, Ecuador has been a pioneer in the implementation of bilingual education in schools (although these programs are of little to no use to the Waorani since they are almost exclusively created for Kichwa-Spanish bilingual communities, and even then do not give an equal level of education as the monolingual Spanish schools) (Yáñez Cossío 1991). Progressive or not, the point to drive home is that changes in the Ecuadorian socio-political sphere have influenced the Waorani way of life. Rival sums up the place of the Waorani in the current Ecuadorian context quite nicely in saying that “their reality and identity has become fragmented and complex, but they cannot be said to have simply become Ecuadorian citizens, generic Indians, or civilized Christians” (Rival 2002:xvi).

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<sup>10</sup> Oil development is a major issue in the Amazon region of Ecuador. The effects felt by the Waorani community are huge and are thus beyond the scope of this thesis. However, to give an idea of the economics surrounding the oil situation, Ecuador's petroleum resources “have accounted for more than half of the country's export earnings and approximately two-fifths of public sector revenues in recent years” (Central Intelligence Agency 2012). Since much of these resources lie within Waorani territory or near it, this substantial dependence on oil has created a situation that threatens the continuation of Waorani life as lived at present.

### 1.1.3 The Language of the Waorani

The language spoken by the Waorani is known (among the Waorani) as *Wao terero*. This is derived from the words *wao* meaning ‘person’ and *terero* meaning ‘language’ so *Wao terero* translates as ‘language of the people’ or ‘the people’s language.’ *Wao terero* is not very well-studied and is spoken by less than two thousand people (Lewis 2009). Although two thousand is a large number of speakers in comparison with some other endangered languages, the number of speakers of a language is not necessarily indicative of its level of endangerment. Technically according to the criteria used by the Living Tongues Institute for Endangered Languages, *Wao terero* would be considered “threatened” and not “endangered” because although it is spoken by a small community that is undergoing shift and a small change in circumstances could lead to endangerment, there are children who currently speak the language (Anderson and Harrison 2007). However, the existence of state-run schools educating Waorani children in Spanish, the increased migration out of the communities, the increase intermarriages between the Waorani and other ethnic groups like the Kichwa, and the oil companies that have invaded the area all put *Wao terero* in danger. This could be bolstered by the fact that while the majority of the Waorani were monolingual until the 1980s, today many have become trilingual—speaking *Wao terero*, Spanish, and Kichwa (Gondecki & Nenquimo Irumenga 2009:8).

Besides being spoken by relatively few speakers and its existence and persistence as a functioning language being threatened by majority ideologies and economic development, *Wao terero* is considered to be a language isolate (Lewis 2009). A language isolate is a language that “has no relatives, that is, that has no demonstrable genetic relationship with any other language. It is a language which has not been shown to be the descendent of any ancestral language which has other descendants” (Campbell in press:1). Campbell (in press) also notes that language

isolates can be thought of as representative of entire language families and that it is possible that these languages were not always isolates, but could have in fact had relatives that have since become extinct before being documented. Part of what distinguishes language families are their structures, so if all of the languages in a family were to go extinct before documentation the structure that they employed would go unstudied—impoverishing linguistic data and reducing the prospect of understanding the possible structures of human language. Therefore, Wao terero's status as an isolate makes its documentation imperative, because if Wao terero were to become extinct, it would mean the death of an entire language family and all of the insight that accompanies it.

Wao terero is one of 113 languages (and as its own language family, one of the 45 genetic units) that are spoken within what Anderson and Harrison (2007) have dubbed the “Central South America Hotspot.” The term *language hotspot* was developed to refer to places with high genetic diversity, high levels of endangerment, and low levels of documentation (Anderson and Harrison 2007). Further, they claim that this area of the world, covering parts of Ecuador, Colombia, Peru, Brazil, and Bolivia, is possibly “...the most critical hotspot, with extremely high diversity, very little documentation, and immediate threats of endangerment” (Anderson and Harrison 2007). In the language hotspot approach a formula is used to calculate genetic, endangerment, and research indices which are then used to determine which areas of the world are “most crucial” so that researchers, documentalists, and academics can then prioritize and devote time and resources to the languages in these more crucial areas. Given Wao terero belongs to not just any language hotspot, but perhaps the most threatened hotspot, its importance as a language to be documented is great.

Besides being important to document because of its status as a language isolate or its inclusion in one of the most crucial language hotspots, it is important to document because of the cultural and biological information it holds. Through the stories told by elders for example, Wao terero plays a major role in the expression and transmission of Waorani cultural heritage to younger generations. It could even be considered the foundation of their ethnic identity and what unifies the people as belonging to the same nationality (Gondecki & Nenquimo Irumenga 2009:8). Additionally, the Waorani have extensive knowledge of the plant species that grow in the Ecuadorian Amazon and what their medicinal uses are. This information is kept in their language Wao terero and therefore with every death of a Wao terero speaker, this knowledge comes closer to disappearing forever.

## 1.2 The Waorani Documentation Project

Even though missionary linguists from the Summer Institute for Linguistics were present in Waorani communities in the past, there is a definite lack in documentation of the language. To date there seems to be only one preliminary grammar (Peeke 1973), a few articles on some specific language features (such as Peeke 1991), and a dissertation about the development of literacy materials (Kelley 1988). Today there is a substantial interest within the Waorani community in documenting their own language and culture. Because of this, there is currently a project in motion, the Waorani Documentation Project (hereafter, the WDP), working to do just that. The WDP aims to provide a comprehensive documentation of Wao terero that consists of transcribed and translated video recordings that cover a range of discourse contexts, a tri-lingual (Wao terero, English, and Spanish) electronic lexical database (dictionary), and a sketch of the grammar.

The WDP is funded by the Hans Rausing Endangered Languages Project at SOAS University of London. The Hans Rausing Endangered Languages Project “supports research, training, and archiving for endangered languages throughout the world” through three different programs: the Academic Programme (ELAP) which runs Field Linguistics and Language Documentation and Description post graduate programs; the Documentation Programme (ELDP) which provides language documentation grants, and the Archive Programme (ELAR) which gives technical training and archive documentation (The Hans Rausing Endangered Language Project 2012). As one of the more than 250 documentation projects funded through the ELDP since 2003 (The Hans Rausing Endangered Language Project 2012), the WDP received funding to implement a documentation project over three years beginning in January 2010. According to their website, the ELDP aims to “support the documentation of as many endangered languages as possible”, “encourage field work on endangered languages”, and “to create a repository of resources for the linguistic, social science, and the language communities” (The Hans Rausing Endangered Language Project 2012).

From the end of May to the end of July 2011, I contributed to the efforts of the WDP as an intern/research assistant. During this time, I lived with Connie Dickinson, the head linguist working on the project, in her home in Quito where she also allowed the native researchers to stay, work, eat, come, and go as they pleased. While working with Connie Dickinson, I met Ramón Uboye Gaba, a native speaker of Wao terero and the main native researcher for the WDP. Some of his work for the project was collecting video recordings of storytelling, everyday conversations, and anything else he thought would be interesting to document within Waorani communities. He, along with other native researchers, spent the majority of his time (that he dedicated to the project) transcribing these recordings in Wao terero and translating them into

Spanish so that they could be later translated into English, parsed, and glossed. Connie's home was where much of the transcribing, translating, inputting, and general technological work was performed and thus, where I learned about these practices. My main duty on the project was adding the English translations to video recordings that had been transcribed and translated into Spanish. Then I would parse and gloss these texts using Toolbox asking Ramón many questions along the way about the lexical items I came across, morphology, as well as cultural importance. Given the nature of Toolbox, I was adding lexical items to the database as I parsed and glossed. In addition to the entries I created, I also expanded already existing entries by adding actual examples of a word's use (that I found in the texts that had already been translated or the ones that I translated), translating the Spanish glosses to English, and adding photos that I or other researchers had taken. I also wrote some meta descriptions of what happened in video recordings for future reference and added English subtitles to a few short videos originally in Wao terero that were used in the production of an informational trailer for a documentary in production called "Defending Eden" (Prehensile Productions).

I did not, however, spend the whole ten weeks in the house; I made two short trips (three and five days respectively) to the *Oriente*, the eastern region of Ecuador, to visit two different Waorani communities. My role in the first trip was to shadow Ramón and Connie to see how the work (that I had been learning about through books, articles, and the raw linguistic data that I was dealing with at the house back in Quito) was carried out. I mainly helped in setting up and "manning" the video camera equipment, which involved checking the sound levels as well as the colors and brightness before recording, listening to make sure the sound stayed clear throughout the recording, and changing the angle and zoom of the camera as needed (if someone shifted position). My second trip to the Oriente was in order to perform my own research project which I

will further elaborate on in Chapter 3. The information to follow in this section about the WDP is based on my own experience with the project (from somewhat of a participant observational standpoint as I participated in the project and observed how it functioned), informal conversations with the researchers on the project during my time there, and an informal interview with Connie Dickinson after I had left the project. I believe that the practices employed by the WDP are forward-thinking and practical ones that could be applied to many endangered language contexts around the world and should therefore be looked at as an example for possible best practices.

It is worth noting, that every documentation context is different and many of the methods employed by the project may not be possible in other cases given varying circumstances and restrictions. There may be restrictions placed on the publication of research done in a community, members of the community could be monolingual, or there could be issues with intellectual property rights (Bowern 2008; Wilkins 1992). The conditions under which this project is being performed are ideal in many ways and thus makes many of the trials that linguists often have seem non-existent. For example, members of the Waorani community came to Connie Dickinson and Casey High in search of researchers to help them carry out a language documentation project—eliminating the issue of gaining the acceptance of the community as a researcher as well as acceptance of the project itself. This differs greatly from the Australian context described by Wilkins (1992) in which there were a number of Aboriginal-controlled organizations that monitored and controlled the academic research executed in the communities making it difficult for Wilkins to perform the research he had intended. Using the WDP as a frame through which to view language documentation efforts in a broad sense is not to look down upon other projects, but to show what is possible with the right conditions and to point out



some interesting features of the project that could prove helpful and valuable in some contexts. This analysis will be of methodological significance to field and applied linguistics as well as linguistic anthropology.

The WDP is of interest to various members of the Waorani community for different reasons. The elders seem to be interested in the project because it will aid in giving their language more cultural value and help in passing down ancestral knowledge and language to the younger generations. Meanwhile, younger people seem to be interested because it gives them an opportunity to acquire technological skills (such as operating a computer, video camera, etc.) as well as learn more about their culture and past through the stories told by elders or a demonstration of how to make a hammock, for example. The WDP began because of this expressed interest among community members as well as the interest of Casey High, an anthropologist who has worked with the Waorani for many years and is now the other main researcher of the project. Through his work, he has become an established presence in some of the communities—forging connections with and gaining the acceptance of community members. These connections in combination with his command of Wao terero gave Connie Dickinson an “in” with the community. Because of this “in” she was able to by-pass some of the steps that would be necessary if she were to begin the project without Casey High, such as developing rapport within the community, which is a huge factor in the process of doing a documentation project. As Connie Dickinson said in an interview, “the first thing you have to do is identify people that want to do [documentation work], that have the capacity to do it. You have to establish good relationships with them and you don’t even want to think about documentation ‘til you have that because it’s going to depend a whole lot on the speakers” (interview with author, February 8, 2012). Beyond the “in,” I think that the Waorani cultural values of egalitarianism

and autonomy paired with the lack of state or organizational control of or influence in these situations definitely contributed to the ease with which she was able to enter the community and perform research.

I find the collaboration between these two researchers, linguist and anthropologist, to be instrumental in the way the project is being conducted. The two have a plan to work together to document both the language and culture of the Waorani and I feel that a partnership like this one is a great mechanism through which to ensure the needs of both the community and the researchers are met in the documentation process. In their application to receive funding from the ELDP, Dickinson and High propose a plan in which Connie Dickinson is the “primary supervisor of the linguistic data” as she will “undertake the primary linguistic analysis and will edit and review all the parsed and glossed texts” (Dickinson and High N.d.:17). In the same plan, Casey High, as the “primary supervisor of the cultural material,” is to spend three months of each year in Ecuador “collecting material and training the Waorani researchers in basic ethnography” while the rest of his time is to be spent in London where he works part time editing texts, parsing and glossing, and therefore working on the lexical database (Dickinson and High N.d.:17). Their collaboration could be seen as a checks and balances system. The anthropologist is most interested in documenting the cultural aspects while the linguist language; therefore, since both researchers are interested in gathering material for study within their field, this could ensure that ample amounts of both cultural and linguistic information would be documented.

To begin work on the project one would assume that the non-native and native researchers come to an agreement about what they want out of the project, which could easily cause some conflict in meeting the expectations of both parties. In her approach, Connie Dickinson says that differences in expectations of how the project is run or exactly what

materials are collected are negotiated on “a case-by-case basis” (interview with author, February 8, 2012). In describing the process of documentation from start to finish, Dickinson says,

I do collaborative work, so especially to begin with, until I really know the language and what it has, I generally let the speakers decide what they want to document. I’ll gradually start putting in my opinion and start saying some of the things I want later. But to begin with I train the speakers on the cameras, train them on the programs, just send them out with a camera, and they start recording things that they’re interested in. You know, later on I’ll add to that material with things I’m interested in or things that other researchers are interested in. But to begin with, it’s easier for the speakers if they record people they know. Most of these languages have dialectical differences between one group and another group and they’re usually not huge dialectical differences, but it’s just easier when they start out if they record their relatives. So I send them out, and they record their relatives (interview with author, February 8, 2012).

However, there has to be some sort of agreement of the parties to begin work. For this project, Dickinson describes this basic agreement as collecting a lot of texts and making a comprehensive dictionary based on these texts (rather than on formal elicitation). Essentially, a text is any recording of language use; but, the texts gathered ideally cover a range of discourse contexts in order to create a comprehensive set of data for both researcher and community use. As such, these texts can include, but are not limited to: songs, demonstrations of uses for medicinal plants, traditional dances, personal narratives, child-rearing practices, ceremonies, and traditional stories. As a result, if it were ever necessary to use these materials in a revitalization effort, those learning from the documented material would be able to learn about all kinds of language—from conversational use (the “pass the salt” kinds of situations) to public speaking.

The Project’s focus also skirts formal elicitation for the most part, favoring texts recorded in “natural” speech environments—meaning spoken in the original context, rather than in a constructed elicitation setting. Connie Dickinson believes that this is an important part of her approach to documentation because it uses “the texts to discover, you find all sorts of new things in the text. And why my analysis is basically based on texts is because if you just elicit you don’t really know what you’re getting. And you may miss some real important things that just haven’t

occurred to you to ask,” but “if you go to the text you’re always getting new surprising things that cause you to go back and reanalyze your theory and refine your theory” (interview with author, February 8, 2012). She is hesitant about using formal elicitation as a starting point because, in her experience, it “can really lead you down a garden path” (interview with author, February 8, 2012). She offers the metaphor that elicitation is like “looking for your keys under the spotlight. When you sit down and elicit you’re looking for certain things, and you’ll probably find them, but whether that really has anything to do with the overall structure of the language or not, you really don’t know” (interview with author, February 8, 2012).

Nonetheless, she was clear in saying that it is not as though she *never* does elicitation, but when she does, it is from the text. She adds that she rarely ever just asks a speaker to translate something into Spanish, but that she will usually take the context originally given by the text and then she might change it asking, “what if *this* happened instead?” In the situations where she is not changing context, she emphasizes that she will always “build [one]. Because the problem is the speaker is going to have a context in their head whether you want them to or not...They’re going to be imagining a situation where this could be said. You need to be pretty sure that you’re on the same page with the native researcher that you’re both thinking of the same situation to ground the statement” (interview with author, February 8, 2012). For example, in Wao terero there is an elaborate person marking system; consequently, if a researcher were to simply ask a Wao terero speaker how to say *they went*, without building a context and specifying who *they* is, the consultant’s answer might reflect a context in which there are two people who went, when the researcher was envisioning three (which in Wao terero would require both a different pronoun and verb suffix). Additionally, it could be beneficial to avoid relying on formal elicitation sessions because interacting in such a constructed or unnatural environment may not

only affect the data collected and its legitimacy, but create uncomfortable situations between researcher and consultant.

Some of the reasons for doing mainly textual analysis as opposed to relying on formal elicitation are also reasons for collecting texts in video format<sup>11</sup>—the most salient being preservation of context. If a researcher were to use solely audio recordings, there is the possibility that some of her linguistic data could be taken out of context. On the other hand, if a researcher uses video they can both see and hear the interactions that are taking place, minimizing the possibility of misunderstanding an utterance and its context. For example, it makes analyzing routine conversational interaction between multiple speakers much simpler since you can associate voices with faces and discern who is saying what. Another advantage to using video recordings is the extra-vocal information portrayed in speech acts such as gesture and facial expression. Being able to view the gestures that accompany language can add to the richness of the language and the context in which it is uttered. It could even be essential to the understanding the meaning of an utterance. For example, in Wao terero, Ramón has mentioned that sometimes you need to pay attention to someone's gestures in order to understand what they have said because it is ambiguous otherwise. There may be more than deixis at the root of this example, but one could liken it to how in English if someone utters *he's running* and points at a person, the interlocutor would have a difficult time completely understanding the utterance if she could not see the speaker's pointing gesture. Another reason to use video is that it makes the archived information more accessible, especially to elder speakers who do not know how to read or write. One possible negative to using video recordings however, is that the apparatus used to

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<sup>11</sup> According to the funding application submitted to the ELDP for the Woarani Documentation Project, "all files are formatted according to 'best practices' standards. The videos are archived as MPG-2s and sound files in .wav" (Dickinson and High N.d.:14)

capture video might be more imposing and foreign than a small audio recorder, which could make consultants uncomfortable.

In terms of how much video the project aims to gather, Connie Dickinson claims that, “if you have 30 hours of [video], you have it parsed and glossed, and you have another one or two hundred hours transcribed and translated, you have created a body of work that people will be able to use for a long time” (interview with author February 18, 2012). In her experience, she has found that somewhere between twenty and thirty hours the parsing and glossing process becomes redundant because you are less likely to find new constructions, but that there is still a large amount of lexical items to document.

One of the most defining characteristics of the WDP is its emphasis on training native community<sup>12</sup> members in the fields of linguistics and anthropology—what Dickinson and High (N.d.:13) call “collaborative documentation.” This includes training on the technology necessary to create, transcribe, translate, and analyze video recordings of Waorani speaking Wao terero (video cameras, ELAN, and Toolbox respectively) as well as basic ethnography. It is common in language documentation projects that a member of the community emerges as the “main informant,” but it is not as common to see these main informants working for the project in a capacity beyond translator and liaison. For these consultants to have a role in the documentation of their own language and culture while a trained researcher is present is to offer the community a gift that keeps giving. This is an important feature because it sets up a situation in which these trained native speakers can continue to document their language and culture after the funds and researchers are gone. Training community members is also of great importance because speakers

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<sup>12</sup> According to Connie Dickinson, “to say ‘community’ is not very correct, these are *communities* the lowland cultures did not have a cohesive government or even an idea of being Waorani before. They were different extended family groups and that’s how they were socially organized” (interview with author, February 18, 2012, emphasis her own). As much as I agree, for the purpose of this paper I will use the word ‘community’ to refer to the entire ethnic group unless otherwise specified.

of the language will know more about their own language and can choose to document things that they find interesting. This practice can also function to keep the focus on the community when it could very easily shift more towards the linguist's goals, like analyzing language features.

A similar practice has also been employed in the context of Canadian indigenous languages, except instead of training speakers to be linguists while working on a documentation project, they are trained via a certificate program offered through the University of Alberta. In describing the program, Sally Rice (2011:326) explains the importance of training speakers to be linguists "so that they can see and articulate to others the way in which their languages work; determine what is easy, interpretable and useful in the early stages of language learning; help fellow speakers to be tolerant of difference; and help prepare a documentary record that can be meaningfully turned into community-appropriate teaching materials and help build speaker-linguist capacity in others." She also frames it as a way of balancing the insider/outsider perspective and removing Anglophonic influence on the types of things documented and the way in which this information is presented (Rice 2011:326).

Another important methodological approach of the WDP and other documentation projects that Connie Dickinson has headed are their inclusion of special elicitation activities that aim to uncover information about the way a certain category or domain of language is represented. For instance, in the documentation project of Tsafiki (another indigenous language of Ecuador), Connie had a few speakers participate in a study that was aimed at uncovering the degree of attention paid to the configuration of an item, cross-culturally. She had taken a picture of an assortment of items strewn about in specific ways (a coiled hose, clothing thrown over the back of a chair, etc.), showed it to native speakers of Tsafiki and native speakers of Spanish

(mestizos), and then asked them to recreate the scene from memory. She found that the Tsafiki speakers not only repositioned the objects closer to the way there were shown in the image, but that they were more accurate in repositioning the object in the correct configuration than the Spanish speaker—coiling the hose instead of simply placing it where they remembered it to be. Information gathered from this kind of activity could be used to show differences in non-linguistic cognitive patterns and how they vary across cultures. Similarly, the information gathered from the spatial language elicitation activity that I conducted (to be discussed in the following sections) will be included in the corpus of information collected by the project. At the moment, the WDP is focused (outside of gathering texts as per usual) on gesture and ideophones. As Connie Dickinson says, “it’s not really a good idea with a documentation project to just focus on one area or another because you need a wide range of material. So we run the Max Planck locative [studies], the spatial [studies], the gesture [studies]... Time is limited and you really need to get a wide range of material” (interview with author, February 8, 2012). That way, when the project concludes, the communities (linguistic, anthropological, and indigenous) are left with a cohesive body of work.

The information collected will be housed in the Language and Culture Archive of Ecuador (Archivo de Lenguas y Culturas del Ecuador), a digital database created in association with the Latin-American Faculty of Social Sciences in Ecuador (FLACSO-Ecuador) and the Max Planck Institute of Psycholinguistics. The information will also be kept with community representatives at the AMWAE (Waorani Women of the Ecuadorian Amazon Association) headquarters. This ensures that the results of the project will be made available to those interested, be it the public, researchers, or members of the Waorani community.



## 2 Language, Culture, and Space

The close relationship of language and culture is something that has come to be widely accepted among anthropologists. The mere existence of the fields of anthropological linguistics, linguistic anthropology, and sociolinguistics shows that there is something to be studied about their relationship. The idea of language as culture has stemmed from the Boasian tradition of the four fields of anthropology and cultural relativism. Boas may have been unconvinced of a direct correlation between language and culture, but he did feel that language was an important tool for the study of culture and thus provided the groundwork for the idea of linguistics as a tool for cultural analysis (Duranti 2003:324). Since the emergence of this idea in anthropology, there have been a number of directions in which this relationship was investigated. Duranti (2003) shows the evolution and persistence of three main paradigms in studying language as culture. He describes these paradigms as varying in focus from more documentation and description (Boas) to different theories on language use such as talking about the speech event (Labov) to things like identity formation, narratives, and language ideologies (Bakhtin) (Duranti 2003). What all of these paradigms have in common is that language and culture, two integral realms of the human experience, are connected.

Studying the conception of space is both intriguing and important because it is something that is culturally specific yet universally experienced, much like language and culture. I believe it is for this reason that space has been a prevalent theme in the field of anthropology. It has emerged as a theme in works that deal with a variety of subjects such as territorial structure (Radcliffe-Brown 1940), settlement patterns (Lévi-Strauss 1967), social space (Durkheim & Mauss 1963), “proxemics” (Hall 1969), cosmology (Eliade 1959), and symbolism of the domestic space (Bourdieu 1977). However, in reference to language use it is usually viewed as

an agent in constructing social space—leaving the actual language used to describe spatial relations on a daily basis understudied. This raises the questions of: What if we were to apply these anthropologists' views of space to language? Does language offer as much of a peek into social structure, worldview, or cognitive patterns of a people as does looking at their patterns of settlement, or road layout?

Hilda Kuper (1972:411) states that everyone encounters the reality of space, “but how they cope with [it] is a cultural variable, evident in language classification, technology, and ideology; and because members of different cultures structure the same physical phenomena through different perspectives and techniques, we cannot assume that they have a concept of space equivalent to our own.” Along with the universality of experiencing space, Kuper (1972) alludes to an important connection between language and space, stating that there is evidence in language of differences in the conception of space. Some earlier studies of space and language have hypothesized that in learning spatial language, humans simply map expressions onto an already existing set of spatial concepts—essentially claiming that cognitive categories determine linguistic ones (Slobin 1985). This statement is problematic because languages have been found to differ in the way they represent space (such as Brown 1994). Therefore, if this claim is unfounded, one might assume the opposite to be true. This idea is in-line with the Sapir-Whorf hypothesis, which states that “language constitutes the means with which individuals think and therefore, especially as stated in its strongest form, language (that is, grammar) conditions or determines cultural thought, perception, and world view” (Sherzer 1987:295). In other words, language reflects and shapes the world as it is perceived by individuals and cultures.

As Whorf was a student of Sapir and Sapir a student of Boas, it is not surprising that Whorf elaborated such a (relativist) notion of language as entwined with culture. In his essay on

the relationship of language to habitual thought and behavior, Whorf (1956:134) quotes Sapir as saying that human beings are “at the mercy of a particular language which has become the medium of expression for their society” and that “the ‘real world’ is to a large extent unconsciously built upon the language habits of the group...We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation.” This quote demonstrates how both Sapir and Whorf feel about the everyday use of language—that it determines how speakers interpret the world around them. Whorf reiterates Sapir’s earlier claims by saying that it is in language’s “...constant ways of arranging data and its most ordinary everyday analysis of phenomena that we need to recognize the influence it has on other activities, cultural and personal” (1956:135). To demonstrate this affect of language use on the “cultural and personal”, he compares English and Hopi conceptions of time and space by analyzing the language features that members of each culture use to express them. Through examining plurality, he finds that English speakers treat the abstract concept of a number of days as if they were physical objects, but that there are no such imaginary plurals in the Hopi language. He finds this variation between the languages to illustrate different conceptions of time—a linear one among English speakers and a cyclical one among Hopi speakers. Therefore, Whorf concludes that the structure of language determines patterns of thought and thus varies cross-culturally.

Although this strong claim of linguistic determinism (along with some of the linguistic data the claim is based on) has been challenged (Pinker 1994; Goody 1977), there are current studies of language in which researchers subscribe to a neo-Whorfian view claiming that linguistic categories may in fact determine cognitive ones (Brown, et al. 1993; Lucy 1992). One major difference between Whorf’s linguistic determinism and the neo-Whorfian view is that neo-

Whorfianism does not emphasize the role of grammatical categories. Rather, it views language as an output system in which “the output must meet the local semantic requirements” and the input must encode for the correct distinctions and relevant features needed for the output system (Levinson 2003:301). This metaphor essentially proposes that language is restrictive and in order to meet the specific restrictions made by the language they speak, humans must think in ways that will satisfy those restrictions. For example, English is a language that requires plural marking, but Yucatec is not and in a study performed by Lucy (1992) it was made evident that speakers of Yucatec did not remember things with as much specificity about number as did the English speakers. This brings us to the ideas of experiencing-for-speaking, thinking-for-speaking, and spoken thoughts which Levinson (2003:302-3) describes as distinct types of effects of linguistic patterns on thinking or “Whorfian effects.” The most interesting of these effects to me is that of experiencing-for-speaking—the idea that at the time of experience, an event will be coded for memory in a way that lends itself to expression through language at a later time (Levinson 2003:303).

I find it easiest to think of the proposed relationship between (spatial) cognition and (spatial) language as similar to the relationship between the possible human sound inventory and the phonological system of a specific language, respectively. Human cognition may allow for an unbounded amount of spatial distinctions to be made; however, the fact that the particular language used around a person does not make all of these distinctions, but rather a small set of them, would eventually cause the person to dull the perception of distinctions not made in this language. Just like humans have a loss of sensitivity to certain non-native speech sounds and distinctions between these sounds as they acquire language, the same thing may happen with spatial cognition where there is a loss of sensitivity to those cognitive spatial distinctions not

made in one's native language. This is most clearly evidenced in studies on language acquisition in children such as Bowerman and Choi's (2001) study that shows infants are sensitive to the spatial distinctions made in their language (such as the English distinction between 'on' and 'in' and the Korean lack of this distinction). Even more illuminating are the recent studies investigating the acquisition of linguistic frames of reference in children. For example, Brown and Levinson (2000) found that around the age of two, Tzeltal children began learning the linguistic expressions associated with the absolute frame of reference and the most complex forms by three and a half. As Levinson (2003:310) points out, this early acquisition is surprising because of the highly complicated nature of such absolute directions, but believes it can be explained by the effect of language on cognition. If this system is used by adult speakers in the presence of children, the children will realize that this system is important to understanding adult language and work to figure it out.

Across languages and cultures, the variation in the way spatial relations are expressed is evidenced in a number of ways. One of which is looking at basic locative constructions (in the case of this thesis, via responses to Bowerman and Pederson's "Topological Relations Picture Series"). These constructions evidence the topological systems employed by speakers, which "seem to be near universal, conceptually simple and early learned by children" (Levinson 2003:106). Given the universality of the experience of space and the use of topological systems, one might think that spatial cognition would not be the most likely domain in which to find variation in human thought. However, "the ways in which spatial information is encoded in language are as varied as the conceptual parameters that are coded" making spatial language a very rich area of study (Levinson 2003:110). Therefore, Stephen Levinson (1996:356) claims that speakers' responses to these pictures of the "Topological Relations Picture Series" as

examples of spatial language use, can offer “more than just a privileged access to [cognition],” which is “the intermediate variable that promises to explain cultural propensities in spatial behavior.” The theory, as discussed above, is that the way a language encodes for spatial relations is reflective of how one thinks about these relations. So if certain patterns are found among speakers’ language use it indicates a common way of conceiving space that may be different from the conception of space held by speakers of a different language. Further, “spatial orientation is the key to understanding myth, art, camping arrangements, gesture—almost every aspect of social life” (Levinson 1996:377) so the study of space could lead to a better understanding of social interaction.

In this section I have reviewed the progression of one specific viewpoint about the relationship between language and cognition. There are many others that deserve further review, but there is no room within the scope of this thesis to do so. Differences in scholarly treatment of the relationship between (spatial) cognition and language aside, theorists agree that there is indeed a relationship. While they disagree as to *how* exactly they are related (which influences which), they seem to agree that there is a connection between the two, making the study of spatial cognition and spatial language a valid one that if pursued by more researchers in more contexts could lead to new findings that could lead to a better understanding of this relationship between language and cognition.

Given the large body of works dedicated to space, it is obvious that anthropologists recognize the importance of space to the understanding of culture and the human condition. However, as Levinson (1996) points out, as of yet there has been little to no intersection of that interest with other disciplines, like linguistics or cognition. Although the anthropological approaches taken towards the study of language have proved themselves to be important and

yield interesting results, there are ways to do more standardized analysis of language that can contribute not only to anthropology, but other disciplines as well. Eliciting spatial language is one such facet of the documentation process that could lead to a better understanding of a culture and the way in which the mind works.

### **3 Data Collection and Analysis (Fieldwork and Methodology)**

To acquire the data used in this paper, I visited Toñampari, “one of the largest of more than thirty settlements in the [Waoorani territorial] reserve with a population of 150-250 people” in the eastern region of Ecuador (High 2009:722) (See Figure 2). I traveled with Ramón and stayed with his family, many of whom became my consultants for this project. I did not just speak with Ramón’s family about my project, but neither did I, as could be expected given my time constraints of about a week, speak to everyone in the community. Therefore, I strategically chose speakers in order to most accurately represent the Wao terero speech acts that I was eliciting. First, I needed to work with members of the speaking community who were fluent in Wao terero. In choosing fluent speakers, I did not disregard speakers who were bilingual in Wao terero and Spanish. To have done so would have made doing this research much more difficult for I would have had to rely on Ramón as a translator at all times. Secondly, I focused on choosing participants who represented a range of age groups, although in the end my range was not that large—pretty heavily centering on younger members of the community. I interviewed eleven speakers in total: two under the age of 15, four in the range of 16-20, two in the range of 21-30, one around the age of 45, and two elders over the age of 70. Finally, I made sure to have as close to an equal number of male and female speakers as possible and therefore for each age range I spoke with an equal number of consultants of each sex (except for the one around the age of 45). Interviewing in this way was an attempt to avoid biasing the results in terms of older versus

younger people's ways of speaking as well as sex/gender differences that might be found in speech.

As I mentioned earlier, I “took the easy way out” to some extent because many of my consultants were members of Ramón's family. I did this for two reasons: convenience and repayment. Because I was staying in their home, Ramón's family members were the people I was most readily in contact with. They were also the people I was most comfortable speaking with for I had met them earlier. I also felt as though my presence in their home and my prodding was validated by the fact that I was accompanied by Ramón—who they know works with *kowore* ‘outsiders’ like me for a living. They are also people who are familiar with both Connie and Casey and since they knew I was associated with them, I felt as though I did not have to explain myself as much. On top of this, this family was allowing me to sleep under their roof, eat their food, sit on their hammocks, etc. Even though I came with gifts of food, I felt a certain obligation to help them out by giving them work<sup>13</sup> as a form of repayment for their troubles. After I was done with the interviews, I somewhat regretted having so many of my consultants from one household because I was not able to spread the little wealth I had among the families in the community more equally. This was less of a methodological regret and more of an ethical one.

I speak of Ramón's family and their acceptance of me highly, but it is not as though I was not welcomed into the homes of others. When I went to other Waorani homes, I was not necessarily “welcomed” in the more American understanding of the word—with a big ordeal of greeting, shaking hands, etc.—but neither was I turned away nor considered unwelcome. My presence was not something that was acknowledged with more than a glance or a smile and a

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<sup>13</sup> The Waorani Documentation Project has funds to pay language consultants for their time spent participating in these elicitation sessions.



few questions to Ramón about why I was there, what I was doing, and if he and I were to be married. I usually entered a home, smiled, sat down (on a hammock, a bench, or the ground) and let Ramón explain to those present what I was there to do. I asked Ramón if I should be greeting these people in their homes, saying something specific as I entered, asking permission before I sat down, or anything of that nature to which he replied something along the lines of, “no, this is a Waorani house.”

The research I conducted through these sessions with Wao terero speakers was an attempt to illuminate the relationship between language, culture, and cognition. Lucy (1997:296) outlines three types of approaches that he claims are equally capable of contributing to the study of this topic: structure-centered, domain-centered, and behavior-centered. The following study takes a domain-centered approach, choosing a domain of the human experience or reality—space—and then observing and analyzing how this domain is treated looking at specific instances in a specific language (to be later typologically compared with other languages). My specific research goal (within the scope of my more macro goal of further understanding the language, culture, and cognition relationship) was to learn about the way spatial language is treated in Wao terero through elicitation sessions with speakers.

Levinson and Meira (2003:487) call for implementing a standardized and structured method for the elicitation of spatial relations in order to be able to compare data across languages. They claim that using an “etic grid” could be the answer. An etic grid is a field tool that, independent of language, captures all the possible distinctions that could be made. Levinson and Meira (2003) also acknowledge the fact that a researcher may (unintentionally) choose a grid that only makes the distinctions that are made in the language(s) they are familiar with. For example, a speaker of English might choose an etic grid that makes the distinction between

situations where one would use *in* and situations where one would use *on*, but not the distinction between something that is above and something that is high above because English does not make this distinction in its prepositional use. Therefore, Levinson and Meira (2003) propose the construction of a grid by a group of fieldworkers experienced in different languages. Until such a grid is created, one viable and widely-used elicitation tool is Melissa Bowerman and Eric Pederson's (1992) "Topological Relations Picture Series" (hereafter, TRPS), which was used in this study of Wao terero. The TRPS is a set of seventy-one line drawings, such as an apple in a bowl or a flag attached to a pole<sup>14</sup>, that cover a range of topological spatial relations. In English these relations are expressed using simple prepositions like *in*, *on*, *under*, *near*, etc. and sometimes with more complex ones like *inside*, or *on top of*. Each of the pictures shows a figure that is colored in yellow and a ground (uncolored), and is designed to be used in the elicitation of static descriptions of location. Using this series, a researcher can ask a consultant "where is the yellow object (the figure)?" and ideally, be provided with a phrase in the target language that describes where that figure is located in relation to the ground.

I used the TRPS to elicit orally at first, but my (borrowed) recorder ran out of memory forcing me to improvise. I had those consultants who could, write out their responses to the TRPS. For those who could not write (the two older generations), I asked Ramón to transcribe as they responded to the TRPS orally. With those same older Waorani individuals I relied on Ramón to explain the idea of the exercise more clearly given that the older Waorani are typically monolingual and do not speak Spanish or English. In these cases, I explained and demonstrated the exercise as best as I could in Spanish and Ramón translated my instructions into Wao terero. Because I do not know more than a few key words and phrases in Wao terero, it made it almost impossible to know if the consultants were responding in a way that would be helpful to my

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<sup>14</sup> The pictures that correspond to the examples discussed in this paper can be found in the Appendix, page 79.

research. For example, were they saying something like “the belt is around her waist” or “that is a belt”? The former response was the kind that I was aiming for since it gives linguistic information about how Wao terero encodes space, while the latter, although a perfectly fine piece of linguistic data to enter into the lexical database, has nothing to do with spatial language and would therefore be unhelpful in my specific research project. Ramón was an invaluable resource throughout the process, especially in situations like these where, when present, he informed the consultants if the answers they were giving were not what I was looking for, which was something I was incapable of doing given the language barrier.

On top of the technological issue and the difficulty in managing the language barrier, I experienced another type of issue as well revolving around cultural differences. This arose in the elicitations because some of the images in the TRPS are culturally dependent. For example, one image is of a stamp on a letter, which for many Waorani is a completely foreign object because there is no post near Toñampari and even if there was, there would be very few Waorani sending letters because most of the people they know live in their community or surrounding ones. The image with a book sitting on a shelf that was attached to a brick wall was also an issue for two reasons: i) books are not traditionally used in the community (this proved to be an issue more for the older members since the younger ones now go to school and use books) and ii) the traditional homes of the Waorani have curved/angled walls made of leaves, which would make having shelves essentially impossible and thus foreign. Not to mention the fact that the shelf was against a brick wall, which could be unrecognizable to some Waorani (perhaps those who have never left the community). Beyond the difficulty of explaining culturally dependent images, it was difficult to explain an image in general without priming the speaker to use a word that they associate with the translation of what I said. For example, when someone asked to explain a picture or clarify

what kind of response I was looking for, I had a hard time explaining the situation depicted in the image without using the preposition that I would use to describe the image. I felt that if I used *debajo* ‘under’ or even *a la derecha de* ‘to the right of’ I would prime the speakers to simply translate what I said instead of coming up with their own original utterance. Translating the thoughts of another person would not be the most helpful instance of language use for this research given that it intends to make a connection between what one thinks and what one says, not what one thinks and what another translates.

All things aside, from this field experience I “interviewed” eleven native speakers of Wao terero using the above outlined elicitation method. I used the program Toolbox to parse and gloss the data collected. I did the majority of the analysis after leaving Ecuador, which made getting the native researchers’ opinions about translations, glosses, and grammaticality judgments difficult. I had a few instant message conversations with Ramón to clarify some of the questions I had. However, in the end I had more questions than I could possibly ask over the internet in the few times we were able to talk, so there is therefore some data that has gone unanalyzed. Another obstacle in the analysis was understanding Ramón’s dialect of Spanish and him understanding mine. Both Ramón and I are non-native speakers of Spanish and thus have different ways of speaking Spanish that are influenced by our respective native languages. Our divergence from standard Ecuadorian Spanish was not phonetic, but rather syntactic or semantic in nature (so it was not as if it was remedied by our instant message contact). He would use constructions that I have never heard a Spanish speaker use, and I am sure he felt the same way about the way I constructed my utterances. This was only difficult in that sometimes we would not understand what the other meant by what they said and it would take a great amount of time and effort to get on the same page. Sometimes I simply could not get the kind of response from

him that I was looking for and did not know other ways to go about getting it, so there are also some data that have not been analyzed for this reason.

The Wao terero that is analyzed in this paper is an amalgam of the responses I received in response to the TRPS minus those that fall under the situations described above. The responses I chose to highlight in this paper are only a fraction of the more than seven hundred that I gathered in total; however, I chose these specific examples strategically in an attempt to represent the larger corpus of data. Sometimes they were chosen because they show a different approach to the same token, but most of these utterances were chosen because they were similar to the majority of the other responses given. If there were more than two responses that exemplified similar syntax, morphology, etc. I assumed that that response was representative of an acceptable speech form and therefore deemed it viable to be included in my analysis. There were some that I was not able to completely parse and gloss in a way that I was comfortable and I tried to avoid those phrases that were culturally dependent or confusing. There were also some that, although I was not able to completely parse and gloss them, I found too interesting not to include, so there will be a few phrases that include parts that are glossed with asterisks or question marks. There were some responses that I had to ignore because they did not include any relevant or helpful linguistic data. For example, in response to the picture of a dog next to a dog house one of my consultants simply responded with the word *ginta* meaning dog. Although this does confirm that *ginta* is the correct lexical item used to refer to a dog, it does not aid in the attainment of my research goal. Similarly there were responses that gave a phrase saying what the object in the image was such as, “that is a belt” or listing the objects in the picture like “dog, house” as opposed to an entire phrase that exemplified spatial relations.

#### 4. Results of the Analysis

This section provides a preliminary sketch of some spatial language features that I found Wao terero to exhibit. In the topological system of Wao terero shown in this analysis, spatial information is distributed throughout the clause in adpositions, locative case, positional verbs, and most likely spatial nominals, but not all must be used simultaneously. I say that there are most likely spatial nominals because although I had not glossed any word as a spatial nominal specifically, they could definitely exist especially since Levinson (2003:102) says that all languages “quite probably” have spatial nominals and some of my glosses could be mistaken. According to Levinson (2003:101), many languages that employ locative case do not make further distinctions within the case system. It therefore seems that Wao terero is like “many” languages, since it only has one locative case that is used exclusively with containment relations. However, although they do not appear to be cases per se, there are multiple locative affixes that attach to both verbal and nominal entities, further encoding the spatial relation. The relations depicted are also very dependent on getting information from verbal entities. There is a system of three consistent locative verbs, but the phrases below also employ the use of verbs such as ‘put,’ ‘leave,’ ‘have,’ and ‘tie.’ General idea in terms of word order is that it is relatively free among nominals when a case marker is used and more fixed when there is only an adposition. Adpositions can occur between the nouns, or after them both, but always after the ground. I have not seen a case where an adposition precedes the first noun—although it can be the first word of a phrase if one of the nominals is not explicitly uttered. Overall, I did not notice any features that would strongly challenge any prevailing theory, although there were definitely some interesting cases to be outlined in the sub-sections to follow.

## 4.1 Containment Relations

In English, when we use the preposition *in* when we are referring to a containment relation. English speakers also have the option of using the word *inside* to refer to these same spatial relations, but more specifically imply containment in an object, vessel, or structure that has sides within which the figure lies. At times the two words are interchangeable, but they have different connotations and sometimes *inside* cannot be used.

- (1) *Oweta kenkare meñeka ögö-pa*<sup>15</sup>  
 bowl inside fruit be-DECL  
 ‘The fruit is inside the bowl’
- (2) *Maleta-kare-ne da win ögö-pa*  
 purse-\*\*-LOC place be placed be-DECL  
 ‘It is placed inside the purse’
- (3) *Oweta-kare in-te gëye owo-kä*  
 bowl-\*\* be-LOC fish be(floating)-3  
 ‘The fish is (floating) in the bowl.’
- (4) *Keñe kenkare gëye owo-pa*  
 pot inside fish be(floating)-DECL  
 ‘The fish is (floating) inside the bowl.’
- (5) *Oweta-kare-ne gëye owo-kä-pa*  
 bowl-\*\*-LOC fish be(floating)-3-DECL  
 ‘The fish is (floating) in the bowl.’
- (6) *Gëye keñe-ne ögö-pa*  
 fish pot-LOC be-DECL  
 ‘The fish is in the bowl.’
- (7) *Oweta-kare kenkare ögö-pa gëye*  
 bowl-\*\* inside be-DECL fish  
 ‘The fish is inside the bowl’
- (8) *Wipo epe-ne owo-pa*

<sup>15</sup> A few notes about the presentation of the data: I use \*\* to gloss the meaning of the morpheme *kare* because I have no way of putting into a small amount of words what it expresses. There are a few places where a single *m* or *n* are glossed as ? because I do not know if these are meaningful morphemes or just the result of phonological changes. Also, there are some translations that I am unsure about which are followed by ?? because they are estimated. Finally, on a few occasions I gloss something and follow it with a ?, such as LOC?, because I believe it is a locative morpheme, but I am unsure.

canoe water-LOC be(above/floating)  
 ‘The canoe is floating in the water.’

In Wao terero the word *kenkare* is translated as meaning ‘inside’ as seen in examples (1), (4), and (7). I assumed that *kenkare* could be broken down further, but Ramón insisted that it cannot since *ken* on its own is ‘the action of eating’ or ‘to eat’. In the case of *kenkare*, there is no reference to food or eating, so the separation of *ken* from *kare* in *kenkare* would not yield a meaningful morpheme. However, adding the suffix *-kare* to a noun intimates that the object has the quality of being able to contain something, but the addition of it is not necessary. This suffix is seen in (2) attaching the noun used to mean ‘purse’ as well as in examples (3), (5), and (7) where it attaches to the ground, a bowl. This would lead me to believe that there may be something more behind *kenkare* as it includes this morpheme *kare*, even though Ramón does not perceive it as such.

There appears to be a relatively free word order in expressing these containment expressions, one could say [ground, adposition, figure, verb] like in (4) or [figure, ground-locative, verb] like in (6) and (8), but given the data, the use of either *kenkare* or some sort of locative morpheme—either *-te*, *-no*, or *-ne* (the latter is seen as a morpheme attached to a noun, while the other two are seen in conjunction with verbs) is necessary. This is because word order is not used to distinguish figure and ground, rather this distinction is made evident through the attachment of a locative case marker (*-ne*) to the ground—allowing the speaker more freedom in word order. In the absence of the *-ne* like in (1), (4) and (7) the *kenkare* is used after the appearance of the ground, which may mean that this order is necessary to preserve meaning without the presence of a locative case marker to clarify. Perhaps using the marker *-ne* instead of the adposition *kenkare* could be thought of as the difference in English between saying *in* and *inside*. Nonetheless, this case marker *-ne* only surfaces in containment relations.



## 4.2 Support Relations: Attachment and ON

In English, when we use the preposition *on* the more complex prepositional phrase like *on top (of)* in referring to vertical support relations. Although there is a Wao terero word that is associated with this kind of relation, *konoin*, much of the spatial context is included in the use of morphemes.

- (8) *Okabo-ga-ta okabo gameno go-no-in*  
 head-3-LOC head ? go-LOC-be  
 ‘It (the hat) is on his head’
- (9) *Da wenka-te okabo enka-ka-mpa*  
 put seed-LOC head have-3-DECL  
 ‘He has a seed (hat) put on his head’
- (10) *Owe-ta-kare ei-be ko-no-in ögö-pa*  
 bowl-\*\* go up-high leave-LOC-be be-DECL  
 ‘The cup is put up high’
- (11) *Ko-no-i-pa-ro bekai-kare ögö-pa*  
 leave-LOC-be-??-LOC cup be-DECL  
 ‘The cup is (put/left) on the surface’
- (12) *Menkayonta ko-no-in awempa-re*  
 notebook leave-LOC-be furniture-LOC?  
 ‘The book is placed on the shelf’
- (13) *Awe yeka ño ke-in dari dari wini i-m-pa*  
 tree on top act of leaving do-be act of turning act of turning to be in a spiral be-?-DCL  
 ‘It was left coiled into a spiral on the tree.’
- (14) *Awempa-ro ño ke-in oñö-pa yewemoingo*  
 furniture-LOC leave do-be be(under)-DECL pencil  
 ‘Left on the desk is the pencil’
- (15) *Enka-ro-pa yeka-ro*  
 have-LOC-DECL on top-LOC  
 ‘It has it on top (on the end)?’

In example (8) we see the use of the word *gameno*, which could be an adposition, but I am not sure as I was not able to confirm with my consultants. The *yeka* in (13) and (15) might also be an adposition, but I am more inclined to think of it as nominal since in (15) it takes the

locative suffix *-ro*. In example (10) and (12) *konoin* appears. As a single word it is translated as ‘be put’ and its usage does not seem to depend heavily on place given that it occurs in phrases that describe ON as well as UNDER (see § 4.3), but not IN situations. This also makes me question *gonoin* in (8), is it actually a different word or was it written incorrectly by the speaker? I originally thought that it was a mistake in orthography and that they are the same, especially since the [k] and [g] only differ in terms of voicing; however, Ramón has informed me that the difference between *konoin* and *gonoin* is that the former is when something is put on a table and the latter when something is put “like a pole” up high. *Konoin* is much like *woroin* which means ‘be put’ as in (18). I am not sure as to the difference in usage of these two, but you can see that they (and *gonoin* as well) are made up of some sort of verbal entity (*ko* and *wo*), a locative morpheme (*-no* and *-ro*), and the verb ‘to be’ (*i*, *ĩ*, or *in*). I knew of a few similar words from my elicitations (that I did not include in this analysis because they did not lend themselves to description) such as *poroin*, which translates as ‘to be laid out,’ but in search of more similar words, I asked Ramón if there was one that could be used if something was left on the ground for example. He offered the example of *ñonoin*. This caught my eye because the o-verb typically used for UNDER relations (see next section) is *öñö*, which shares the morpheme *ño* and the spatial domain (below/under/down on the ground). With more investigation this might prove to be significant, especially since if we look back to (14) we see the co-occurrence of *öñö* and *ño*.

(16) *Ginta oko-ro ögö-ga*  
 Dog house-LOC be-3  
 ‘The dog is outside the house’

(17) *Ononka-ro goto win*  
 Trunk-LOC tie be.placed  
 ‘It is tied around (the surface of) the trunk?’

(18) *Awe-n-karo wo-ro-in*  
 Tree-?-point put-LOC-be  
 ‘It is put at the tip of the pole’

Much of this type of spatial relations relies on the use of the locative morpheme *-ro*, which is translated as ‘on the surface,’ ‘at the end,’ and ‘outside,’<sup>16</sup> is seen in examples (11), (14), (15), (16), and (17). Example (11) is particularly interesting because the affix *-paro* is added to *konoin* changing its scope to not just ‘being placed,’ but being ‘placed on the surface.’ The morpheme *-karo* which translates as ‘point’ or ‘end’ as seen in (18) seems to have a similar function as the morpheme *-paro* except that it denotes not just any surface, but a point. What I assume is the same morpheme appears in more situations where it does not function as a nominal case marker, but a verbal one.

A smaller point of interest is the use of the morphemes *-ta* and *-te* in (8), (9), and (10) to create the words ‘hat’ and ‘cup’ from the nouns ‘head’ and ‘seed.’ This might happen because the former two words may not have existed since hats are not traditionally worn in Waorani society and liquids are traditionally drunk out of gourds. Also, in terms of the verbs used in these relations, I found many examples to use *enka* ‘have’ and less use of the o-verbs (and when one is used, it is the general *ögö*) which seems to bolster the idea that this type of relation is heavily dependent on the semantic meaning carried by the affix *-ro*. By using the verb ‘have’ speakers are phrasing the situation in terms of the ground. Further, (13) is one example where someone uses *impa* as the ‘be’ verb as opposed to one of the o-verbs. Given that this is unlike the other examples of its kind and I did not have the chance to check with Ramón, I am unsure if this would be considered grammatical.

#### 4.3 Non-contiguity Relation: UNDER

Much like IN relations, for use in UNDER relations there is a single adposition *enomegäre* that is translated as ‘under,’ but there are other ways in which the speakers code for this type of

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<sup>16</sup> In some cases *-ro* also seems to mark the causative case.

location. Again, as with *kenkare* I was told that *enomegäre* cannot be further broken down; however, the two words seem to display the similar morphemes *kare* and *gäre*. Perhaps one might argue that they are actually the same morpheme that has been affected by phonological change given the environment in which the phoneme underlying the [k] and [g] occurs. I cannot support or refute this hypothesis in this thesis for I have a limited amount of audio recordings of these responses—not enough to make a definite claim one way or the other. I also found one speaker used the word *enomega* to mean ‘under’, which would lead me to believe that *enomegäre* can at least be broken down into two parts: *enomega* and *-re*. The *-re* could in fact be some sort of locative morpheme given that it comes at the end of more than just *enomegäre*, but *kenkare* as well.

(19) *Kontaimpa enomegäre peibo öñö-pa*  
 chair under ball be(under)-DECL  
 ‘The ball is under the chair’

(20) *Kontaimpa yewa öñö*  
 chair down be(under)  
 ‘It is down under the chair’

(21) *Kontaimpa yewa peibo ko-no-in ögö*  
 chair down ball leave-LOC-be be  
 ‘The ball is under the chair’

(22) *(Awempa) enomegäre kiri ögö-pa*  
 table under cat be-DECL  
 ‘The cat is under it (the table)’

(23) *Enomegäre owo-pa*  
 under be(above)-DECL  
 ‘It is up under (the table)’

(24) *Enomegäre wigata öñö-pa*  
 under spoon be(under)-DECL  
 ‘The spoon is under (the cloth)’

In examples (19), (20), (24) we see that *enomegäre* co-occurs with the verb *öñö*, which would seem to be the most intuitive choice of verb since it translates as ‘to be below’; however, in examples (21) and (22) *enomegäre* occurs with the verb *ögö*, which is a more general form of ‘be’. Given the fact that numbers (20) and (21) are both grammatical and describe the same scene, perhaps the usage of one verb over the other would add emphasis or that in (21) the spatial information that needs to be coded is done in *koin* and thus it is unnecessary to use *öñö*. Another interesting is example (23) where *enomegäre* occurs in conjunction with *owo* which translates to ‘be above’ (among other things to be explained later) in describing something stuck on the underside of a table (see image 53 in the appendix). Also, the word *yewa* is to UNDER relations as *yewa* is to ABOVE relations (to be further discussed in 4.4. and 4.5).

Here we learn that the use of the *-no* morpheme is not restricted to use in describing containment or contiguity relationships as it occurs in (21) as well. However, we do not see the use of the other locative morphemes. We also do not see as much variation in word order in comparison with those discussed in § 4.1, all three using [ground, adposition, (figure), verbal predicate]. It is worth noting the optionality of the articulation of the figure, the ground, or both, which I liken to be similar to the use of the pronoun *it* although there is no pronoun like *it* in Wao terero. I do not know if this optionality has any correlation with UNDER relations, but it seem to appear extensively here.

#### 4.4 Another Non-contiguity relation: ABOVE

Some of the below listed ABOVE relations use the word *wenomeneka*, which might be similar to the use of *enomegäre*, but in situations where in English one would use ‘above.’ Again, I was told that *wenomeneka* cannot be further broken down into parts, but upon first glance I can see some similar features between it and other spatial terms (*enome-* occurs in both *enomegäre* and

*wenomeneka* and the existence of *ne* in the adposition is reminiscent of the locative morpheme *-ne* that surfaces elsewhere).

- (25) *Bogima anankiri weka owo-pa*  
 cloud mountain above/to the side be(above/floating)-DECL  
 ‘The cloud is above the mountain’
- (26) *Bogima ei-be owo-pa*  
 cloud go up-high be(above/floating)-DECL  
 ‘The cloud is high above the mountain.’
- (27) *Onkiyabo yeka bogima owo-pa*  
 hill on top cloud be(above/floating)-DECL  
 ‘The cloud is floating on top of the hill.’
- (28) *Anankiri weka oyomo owo-pa bogima*  
 mountain above/to the side near be(above/floating)-DECL cloud  
 ‘Above the mountain is the cloud’ could be: ‘Right above the mountain is the cloud’
- (29) *Onkiyabo wenomeneka owo-pa bogima emoga*  
 hill on top be(above/floating)-DECL cloud up  
 ‘Up on top of the mountain is the cloud’
- (30) *Ei-be owo ñan a-ki*  
 go up-high be(above/floating) light see-?  
 ‘Hanging high up is a light to see.’
- (31) *Apenika wo ke-in owo-pa*  
 telephone placed on something do-be be(above/floating)  
 ‘The telephone is [maybe: has been] placed on the wall.’

There seems to be no case marking or use of any other locative morphemes in these relations. However, there is extensive use of *yeka*, *weka*, and *wenomeneka*, which are translated to mean ‘on top,’ ‘above’/‘to the side,’ and ‘on top’ respectively. These entities always occur immediately following the ground, which seems to clear any confusion as to which is the figure and which is the ground. All of the examples listed use the verb *owo*, which has entries in the current Wao terero lexicon that include the translations ‘to be up/above’ and ‘to be hanging,’ both of which are proven in examples (25)-(31) (more about *owo* later).

## 4.5 Miscellaneous Relations

There are a few relations that I found interesting, that do not fit into my discussion of the other categories, however, I feel as though they should be introduced. The examples in this section are not as well analyzed (parsed/glossed/translated) than those preceding, but I have included them because I feel they deserve further analysis.

(32) *Oko yekamanka ögö-ga*  
 house on top of the roof be-3  
 ‘He is on top of the roof of the house.’

(33) *Aya-ta-ro-ka awe ögö-pa*  
 middle-LOC?-LOC-? tree be-DECL  
 ‘The tree is midway up the mountain’

(34) *Aya-ta-ra awe ögö-pa*  
 middle-LOC?-? tree be-DECL  
 ‘The tree is midway up the mountain’

(35) *Oñabo aya-boga*  
 leaf middle-stem  
 ‘The leaf is in the middle of the stem.’

(36) *Dikago ëmö-ka-pa*  
 earring have(face region)-?-DECL  
 ‘He has an earring (in his ear).’

Example (32) uses a very specific form of the word *yeka*, which is translated as ‘on top,’ *yekamanka* which is translated as ‘on top of the roof.’ When asked, Ramón said that *manka* does not mean ‘roof’ and added that *yekamanka* was one word. In trying to figure out the morphology, I asked him if you could say something like *wekamanka* or *yewamanka*. Ramón confirmed that *yewamanka* is possible and translates as ‘under the roof,’ but *wekamanka* is not. It would be intriguing to further investigate whether *yekamanka* and *yewamanka* are the only words of this type. The morpheme *aya* that surfaces in examples (33)-(35) is of interest for further analysis as well, especially because when trying to learn Wao terero I realized that there are words like

*minakaya* and which Ramón translated as ‘between two brothers.’ I don’t know if these two constructions are at all related, but it is worth further investigation.

Although (36) seems to be constructed in an active form and not necessarily a topological description of the scene, it introduces an intriguing feature of Wao terero that might contribute to the study of space—verbs that center on the body. When I asked Ramón the meaning of the verb *ëmö* (referring to example (36)), he responded saying “when you have something in your ear.” I then asked if the verb was only used for ears or if I could use it if I had something in my eye as well, to which he replied that it can be used for eyes and anything else on your face, but only on the face. Through this conversation I found that if you had something on your arm you would use *eme*, on your chest *entawe*, and on the rest of your body *eña*. The fact that these body part specific verbs exist might say something their conception of space—perhaps the Waorani operate on an intrinsic frame of reference.

#### 4.6 The O-Verbs: Existential Locative Verbs

Almost all of the above examples exhibits the use of a ‘be’ or ‘exist’ verb—*owo*, *öñö*, and *ögö*. However, each relation seems to have a certain ‘be’ verb that is more appropriate to use for the situation and seems to have its own intrinsic meaning. So what is it that distinguishes these three forms of ‘be’? I first thought that they might function as posture verbs like ‘hang,’ ‘stand,’ or ‘sit’ in English or something like ‘to be situated in manner X’. However, upon further investigation I think I am more inclined to call them positional verbs because they have little to do with the configuration of the figure; rather, the main distinction between the three is their use in distinguishing where the object is along the vertical axis.

The first form of ‘be’ that we see is *owo*, which seems to include the understanding that the figure is floating, hanging, or is otherwise high up along the vertical axis. In the Wao terero



lexicon that has been created thus far in this documentation project, *owo* is translated as: ‘to be up/above’, ‘the action of being hung’, ‘to be floating’, and finally just ‘to be’. Since I had found no instance of an ON relation using the verb *owo*, I originally thought that while it is used for situations where the figure is higher than the ground on the vertical axis, but if the figure is in contact with the ground, it cannot be described using the verb *owo*. However, the semantics of *owo* is complicated by example (31) where the figure, a phone, is attached to the ground, a wall. This in combination with the way *owo* is used in (3), (4), and (5) where a fish is immersed in water and (8) where a boat is floating in water (in § 4.1), leads me to believe that *owo* is used in situations where the figure is high on the vertical axis, but not supported vertically. It is interesting to think about the examples involving water, especially (8) because one might conceive the water as supporting the boat, but this notion does not seem to be reflected in the language elicited.

The verb *õñõ* differs from *owo* in that it intimates that the figure is under the ground, and is translated in the lexicon as ‘to be below’ or ‘to be down on the ground’. Finally, *ögö* seems to serve as a more general ‘be’ form since it demonstrates no obvious specialization in the data analyzed so far. This is proven for example via the ‘under’ examples where (21) and (22) use *ögö* but (19), (20), and (24) use *õñõ* and it is used in some of the containment relation examples as well. The verb *ögö* is used in all types of relations covered so far in this analysis, crossing the boundaries of attachment versus containment, etc. Therefore, the relationship between *õñõ* and *ögö* could be seen as a one of hyponymy—where the meaning of *õñõ* is covered by that of *ögö*, but using the former would be more informative. In other words, *õñõ* is a hyponym of *ögö*. When the general o-verb is used it appears that Wao terero employs the use of locative markers in lieu of more the specific o-verbs to make those distinctions instead.

Another important thing to note about these verbs that supports the idea that they are not just copular, but spatial verbs with rich semantic content is the fact that they seem to be only used in phrases that are describing the location of something. When simply identifying an object or describing a state, Waterero speakers will use a form of the verb *i* (also written as *in* or *i*) such as those examples given below.

(37) *Ñowo waponi i-mo-pa*  
 now good be-1-DECL  
 ‘I am very good right now’

(38) *Meñeka in-pa*  
 fruit be-DECL  
 ‘It is a fruit’

(39) *Tei gabe-n-kare in-pa*  
 whack be.broken-?-\*\* be-DECL  
 ‘(whack) It is broken’

This does not mean however that the use of the verb *i* is limited to these types of sentences, in fact *i* is used in the description of spatial relations in example (13) for example.

#### 4.7 Ideophones

One distinctive characteristic of Wao terero as a language is its extensive use of ideophones. Since it is so prevalent in the language it is not odd to find them occurring in spatial language as well. From the data, we can see that ideophones tend not to occur alone and are often paired with one or more verbal items. In examples (39) and (40) the ideophones *tei* and *te* describe the action occur or that has occurred and resulted in the current state depicted in the photo.

(40) *Baroin te be-in owo-pa*  
 ? stick stuck-be be(hanging)-DECL  
 ‘It is stuck hanging (on the wall)’??

(41) *Oko kenkare we ke-in ögö-pa*  
 House inside encircled do-be be-DECL  
 ‘The house is encircled’??

In example (39) however, the ideophone *we* does not seem represent an “action” and I have heard this ideophone used and it has been accompanied by a circular gesture (starting with the hand near the body, extending forward, and then circling back towards the self). It is also important to point out the likeliness of some of the verbs glossed in the previous sections as simply verbs or otherwise might actually be ideophones. Nevertheless, ideophones and their pervasiveness in Wao terero spatial relations (as well as other domains of language) deserves further investigation.

## **5 Discussion of Results**

### **5.1 Limitations**

This type of study that I have performed, what Lucy (1997) calls a domain-centered approach, starts with a specific domain of human experience, in this case space, and investigates how a language encodes this domain. Although there are many advantages to doing such a study, such as the ease in comparing how the domain surfaces in different languages, there are also limitations. Lucy (1997:299) outlines the issues with the approach as: the focus on a domain that is easier to conceive or define as opposed to what a language might encode that is more typical or salient; the narrow view of a language’s semantics that it is given due to such a focus; the creation of “bogus structures” that can arise if certain features are thought to be unified properties of language when they actually have no significance as a structure; and the difficulty in finding significant results because of the focus on what is possible to say as opposed to what is typically said. I do not know to what extent, if any, my study has embodied these limitations, but it is important to note the misrepresentations that can happen with this type of study.

In terms of this particular study, one limitation lies in the fact that I was not able to spend much time with the consultants. This meant that I did not get the chance to ask about their

responses to clarify inconsistencies and delve further into semantics. Similarly, analyzing the data so far away from where I collected it definitely limited the depth of my analysis as I was unable to re-interview my consultants if I was unclear about their responses. I was also unable to audio-record the elicitation sessions; therefore, some of the consultants had to write down their answers. This could cause some biasing in the phrases given. For example, perhaps you would choose to say one thing, but you forgot how to spell the word, so you modify your response so that you only use words that you know how to write. Although this could have had a simplifying effect on the responses, it is also entirely possible that writing one's answers did not affect their use of language. However, having my most of consultants write their responses left me with very little phonological information so I had to trust that how the speakers wrote it is how they would have pronounced it. The inherent problem with this is that the orthography used in writing Wao terero has changed over time and is taught differently in different communities (if it is taught at all). For example, I found myself confused about the use of *emoga* because my consultants used it to denote 'up' as well as the verb used to say that something is located in one's ear (or any other part of the face). As it turns out these are in fact two completely different words, but were written the same by many speakers because the orthography they were using did not mark nasalization—the point of distinction between *emoga* and *ëmögä*. This demonstrates how my analysis is limited by not having audio recordings of my interviews and since I only became aware of this distinction recently, could not explore body-centered locative verbs like *ëmögä* nor could I investigate differences instances of contrastive nasalization.

Another limitation lies in the sample population used. Many of the consultants were from the same family, which limits possible dialectal differences and perhaps raises issues of idiosyncrasies in language spoken within a single family. Also, some might view the fact that

many of the speakers with whom I elicited were bilingual as a limitation to the study. These same people might argue that if I was really trying to see the affect of language on cognition, fluency in a second language might affect the results—making the speaker’s cognitive processes “impure” as examples of Waorani cognitive patterns or something of that nature.

## 5.2 Implications of Results

Through this study, a few characteristics of Wao terero spatial (topological) language have been uncovered. One such characteristic is Wao terero’s extensive use of verbal entities in encoding spatial information. Another is its use of case marking for only one kind of relation—containment. The most notable, however, is the great deal of attention paid to distinctions along the vertical axis, while much less (if any) to distinctions along the horizontal one. Although none of these characteristics are particularly “exotic” they do differ from the characteristics of other languages, the fact of which proves languages do not have the exact same treatment of space. These results disprove previously held hypotheses about spatial language such as the idea that spatial concepts are directly coded in “closed-class” spatial words like adpositions and that focusing on these adpositions can offer a comprehensive idea as to how spatial notions are expressed (Landau and Jackendoff 1993).

As they are, the results of this study only provide us with an idea of a few structures in one language. If we were to take these results, turn them into extensional maps (like Levinson and Meira (2003) have done with a sample of nine languages), and run a typological study comparing these results to those from other languages, we would be able to make claims about universals (or lack thereof) that might arise among these languages’ spatial language construction. It is through studies like these that theories can be refuted, supported, or conceived in meaningful ways. For example, Levinson and Meira (2003:513) believe that “an account of

this kind...finds universal structure in diversity: first, there are universal prototypes; second, there are universal constraints on category formation, requiring only neighboring prototypes to coalesce into composite categories; third, there are constraints on synchronic sets of categories, as represented by the routes through the developmental sequence.” Therefore, studies like the one I have performed are important to creating these kinds of accounts in that they provide much needed linguistic data for comparison.

### 5.3 Conclusion

Language endangerment is a grim reality experienced worldwide, but documentation projects offer an opportunity to preserve languages and culture that could become extinct in the near future. The languages spoken by indigenous peoples that are orally transmitted, language isolates, and threatened by majority ideologies and changes in the social sphere (like Wao terero) are at a great risk of endangerment or extinction. Carrying out documentation projects in collaboration with members of the communities where these languages are spoken, like the Waorani Documentation Project, aids in the preservation of their language and cultural knowledge. Materials collected during a documentation project can be used within the community as historical texts and for educational purposes for years after the project has concluded. In addition to benefits reaped by the community, the studies of linguistics, anthropology, as well as other academic disciplines, gain valuable information. Documenting endangered languages provides linguists with data to analyze and search for commonalities and differences with the (documented) languages of the world—contributing to the information known about what types of structures are possible in human language. Language documentation is important to anthropology as well because in documenting language, one is documenting culture. The cultural material is not only in the content of what is documented, but in the

language used because language is the means through which cultural views are expressed and transmitted. Whether studied for linguistics, anthropology, or any other field, the more that is understood about spoken language and cultural practices, the more can be understood about the human mind and culture.

Although any sort of documentation is beneficial, there are ways in which to do documentation work that will yield more valuable material for all parties involved. I argue that the structure of the Waorani Documentation Project is one that could serve as a model for future projects. The combination of collaborative work between researchers from the fields of anthropology and linguistics, training native speakers to be linguists and ethnographers of their own language and culture, and the inclusion of both linguistic and non-linguistic activities/tests to better understand the way the people experience reality is what makes the design of the Waorani Documentation Project a good one. Further, it is because the project pays attention to areas such as the conception of space that I was able to do the research that I did.

Through my research of topological relations in Wao terero, I have added something (albeit small in comparison to the work that can be done) to the body of linguistic knowledge about spatial language. I found Wao terero spatial relation construction to differ from that found in English, but not to the degree that any theories should be modified. Looking at such differences and comparing them cross-linguistically, linguists can create a typology that categorizes languages based on what kinds of distinctions they make. Such a survey could help to build a better understanding of the possible constructions in human language. I find that this specific type of language use is important to document not only because it reflects the way in which the conception of space varies across cultures, but because in studying this variation we might be able to understand more about human cognition. Ever since Franz Boas put forth the

idea that language determines the categories people use to think, there have been many studies of language (some about spatial language) and non-linguistic cognitive processes that have shown that language indeed has an effect on the way in which people conceptualize the world around them. The position I take in this thesis is that there is a definite relationship between language and thought, and that it should be further studied by looking at the way languages treat spatial relations. In conclusion, I feel as though documentation projects are important to the study this relationship along with the cultural and cognitive diversity that is found in language while simultaneously preserving the endangered language itself and the cultural knowledge and practices tied to the language.

#### 5.4 Further Investigation

This analysis of Wao terero in the spatial topological domain is only a small piece to the puzzle in understanding the spatial system employed by the Waorani in their language and cognition. In order to fully elaborate this system it would be beneficial to investigate other spatial language constructions like non-static constructions—those that have movement or directional contexts. Since gesture is such a salient feature of Waorani speech interactions, examining its use could also prove to be illuminating in terms of the conception of space. Examining the language used during hunting trips and treks (as a kind of way-finding) from one community to another could provide additional information as to how the Waorani conceive space. Possibly the most telling, however, would be to look at the frame of reference employed by the Waorani. This could be done by having different speakers give directions to a specific place, eliciting using a set of photographs that depict scenes where frame of reference would influence one's interpretation, or by setting up an activity such as placing a few items on a table and asking the speakers to collect



the objects, move to the other side of the table, and put them back in the same way that they previously were.

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**Appendix** Subset of TRPS Pictures