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Toward a Biocommunicable Cartography of Health Decision-Making in the Amazon Basin of Ecuador

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Toward A Communicable Cartography of
Health Decision-Making in the Amazon Basin of Ecuador

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Introduction

On an early July morning in 2013, a 72-year old man named Juan and I were trudging through the light tropical woods of his property in a village called Mushuk Allpa, on the bank of the upper Napo River in rural Amazonian Ecuador. Baskets were strapped to our foreheads and our arms were full of plantains. There was a quarter mile back to his house near the road. Juan's land is a typical woody plot in the tropical growth surrounding his village. The terrain is flat, and most of the plants are fruit-bearing trees that provide food and cash-value resources to the families of Mushuk Allpa. Before heading back to his house that morning, Juan led me across a fence into the next property where we found his son, Carlos, who was taking care of the land for its owner. Carlos had called my phone not long before, saying that he wanted to show us something important. I could tell from his tone that he was excited about surprising us.

As we reached Carlos' location, the rest of the family was already gathered around him, standing in front of a large pond. I recognized it immediately as a tilapia pond in the shape of a large U, which is a fairly common feature of semi-rural properties in the Amazon Basin. As Juan and I approached, I could see why everybody was gathered around, looking intently at the water. Floating at the surface were dozens of dead snails and small fish. Carlos' sister, Rita, was using a net on a long pole to gather up the dead snails, while her nephews played at the edge, daring each other to grab the floating shells.

When we approached, it was clear that everybody in the family understood the significance of what was going on. Juan smiled and clasped his son's hand in congratulations; Carlos' sisters collected the snails in a bucket. I, on the other hand, found the situation odd and confusing. In this area of Ecuador—the Upper Napo River valley—tilapia are normally eaten on special occasions, but there in the pond were dozens of small, dead fish, stricken dead before

they had grown to their prime size. Was this an accident? Did Carlos mean to kill all the snails? I put down my basket of plantains and went over to Carlos' brother Eduardo, standing alone next to the pond.

“What is all this?” I asked in Spanish. He laughed and explained that Carlos had bleached the pond to kill all the snails. Carlos had said that the snails would cause disease in the village, so bleaching the pond would prevent potential outbreaks. I asked Eduardo if he knew what kind of disease the snails carried, but he didn't. He said Carlos had heard about it on the television.

Hearing this account from Eduardo, it was obvious that the pond and its dead fish were not a routine task of tilapia farming. Rather, these acts were an attempt at disease prevention. A trained public health practitioner would probably call the bleached pond an “environmental modification,” akin to spraying DDT or filling in marshes to avoid vector-borne diseases. To me, a researcher in medical anthropology, this situation was the clearest example I had yet seen in Mushuk Allpa of a health-seeking decision, an action made with the intent to improve one's own bodily well-being. How people make everyday decisions about their health has been a topic of research in public health and medicine for decades, but in my investigation, I aim to learn about health decisions within the context of communication and culture. By working within medical linguistic anthropology, this paper maps processes of health discourse in Napo, Ecuador to show the relationship between the localized production of health decisions and the greater political economies that compete within and contribute to biocommunicable cartographies (see Briggs 2001; 2005; 2011). As evidenced by the ethnographic and linguistic data I will present, health decisions in rural Napo are socially constructed in conversation by speakers who can draw on a range of subjective knowledge made accessible by how they locate themselves within cartographies of biocommunicability.

Investigating the Subjectivities in Health Decisions

In the following chapter, I will develop upon the theoretical concepts for understanding health decisions by drawing on the growing literature on biocommunicability and related ideas. To return to the example above, I used the framework of biocommunicability to understand the explanation that Eduardo gave for how Carlos chose to bleach the pond. Eduardo's perspective attributed the source of Carlos' decision to the television, but I wanted to gain a fuller understanding of why Carlos bleached the pond. To discover any other factors of influence, I walked with Carlos back to the house and asked him to describe his narrative of why the snails needed to be exterminated.

As with most of Carlos' stories, he began this narrative with a description of his professional identity as a community health worker (CHW), a *promotor de salud* for Ecuador's Ministry of Public Health. For roughly thirty hours per week, Carlos works in a local public medical subcenter, giving educational talks to community members, offering advice to village leaders, and identifying community health problems that should be addressed by officials. Once, when I asked him about his job, he explained that many people in Ecuador become CHWs because they simply want a good, stable job with an income. But for him, a self-described public health enthusiast, he had found a deeply personal interest in preventing disease.

According to Carlos, roughly three months before I arrived in the village to begin fieldwork (circa February 2013), he and the rest of his family were at home watching television, as they usually do during the evenings. In between entertainment programs, he had changed the channel to the news, as is his common practice. That night, there was a story about a major illness outbreak along the coast of Ecuador. Apparently, the reporter described how a new

invasive species of snail, called the African Snail, had been found in several locations, carrying a parasite that humans could easily contract if in contact with the snails' habitats in small ponds and marshes.¹ I later learned that the *angiostrongylus* parasite carried by the snails can have detrimental effects on the human intestine.

After he saw the news story, Carlos found it difficult to remove the idea of the dangerous snails from his mind. Although the Ecuadorian coast is far away from his village in Napo, snails of many shapes and sizes can be found throughout Napo province and the rest of the Amazon region. Could a disease-carrying snail be there in Mushuk Allpa without it being detected? As a CHW, Carlos used the public health resources at his disposal and identified the African snail as being large and brown with marble-like coloration. He began watching for similar snails around his parents' property and then his neighbor's land, too. After several months tending the property, he discovered snails that resembled the pictures he had seen. When I asked Rita, his sister, about the snails, she emphasized that they were never really sure about the actual danger, but after seeing the news report, they wanted to eliminate any risks. So, when the fish population in the pond was low, Carlos decided to bleach the water.

The Complexity of Communication

The act of bleaching a pond is no small decision for a rural family in Napo. As Eduardo described the story, just seeing a news report on television was enough to prompt Carlos to pay attention to the risk of a snail-borne illness. However, few details of this story corroborate

¹ Similar reports of the African Snail invasion of Ecuador can be found online in the form of video clips taken from televised news. One report that aired on TeleAmazonas at a similar time to the one Carlos and his family saw on television can be accessed online at: <http://www.teleamazonas.com/index.php/noticias/locales/19110-ten-cuidado-los-caracoles-que-llegan-con-la-epoca-invernal-pueden-afectar-gravemente-tu-salud>

Eduardo's simplistic, cause-and-effect explanation. As a case study, the story of Carlos bleaching the pond is an archetype for examining how communication, knowledge, and thought interact in the social space surrounding health. As Carlos described it, the entire family was watching television that night of the news report. Why did only he take note of the suspicious-looking snails three months later? What factors led him to make disease prevention a priority, and how did he learn that bleach would serve as an effective solution? In examining health decision-making, these questions reflect themes of human communication that reverberate throughout my ethnography.

For instance, it is clear that Carlos' access to health information and his identity as a community health worker were important factors in paying attention to the snails. However, it would be a mistake to assume that his actions can only be derived from his public health background. In a later interview a few months after the pond bleaching, he described to me how his father, Juan, encouraged him to use bleach to kill the snails so that the disease risk would be minimized. Juan's advice was more than pragmatic; it emphasized to Carlos the importance of protecting their household and village.

From televised media, to family interactions, to work situations, it is likely that many overlapping discourses hold influence over a single decision-making process. As Mikhail Bakhtin said, "within the arena of almost every utterance, an intense interaction and struggle between one's own and another's word is being waged" (Bakhtin 1982: 354). In making a decision—especially a premeditated choice like bleaching a pond—such comingling of interactions from people in one's past and present clearly hold some influence over choices. Too often, researchers in behavioral health opt for a streamlined understanding of health decision-making based on surveys, similar to Eduardo's explanation of how the television resulted in

Carlos bleaching the pond. However, in this paper, I pursue a pluralistic understanding of discursive power in which multiple individuals' communicative interactions are complex, overlapping, and often paradoxical.

The Importance of Health Discourse Research

By following the discourses surrounding Carlos bleaching a pond, I have illustrated how decision-making involves a complex, communicative process. However, as his sister Rita suggested, the actual consequence of Carlos' action was relatively neutral. For example, epidemiological data on the African Snail shows that Carlos was likely mistaken about the risk of contracting illness from the snails in the pond. Basic research shows that African snails are not water dwelling (Raut and Barker 2002). In addition, even if Mushuk Allpa were at-risk for snail-borne illness, an isolated tilapia farming pond filled by rain water is much less likely to contain an infectious snail population than natural lagoons or slow-moving streams that are more frequented by human activities such as washing (Hotez 2006). As a result, the example of the bleached pond reveals much more about patterns of biocommunicability than just how a health decision is formed. The fact that Carlos misinterpreted the actual risk of snail-borne illness illustrates the potential consequences of ambiguous or overlapping discourses. Even a man like Carlos, who has been to school and whose education was meant to improve his interpretation of biocommunicable information, can still make misguided choices that do not lead to positive health outcomes. Thus, by fully examining health discourse, researchers have the potential to simultaneously trace the pathways by which health decisions are formed and learn how negative decisions about one's health occur across landscapes of biocommunicability.

Medical anthropology has become an increasingly important field for understanding and interpreting global health inequities because of its history of community-based research (Janes and Corbett 2009). In localizing their investigations, medical anthropologists have been able to nest their data “within higher-level social structures...in reference to upstream constellations of international political economy, regional history, and development ideology” (Janes and Corbett 2009: 407). Over the course of the past thirty years, researchers like Paul Farmer, Merrill Singer, and Hans Baer have best described the global evidence for health disparities as “structural violence,” which involves the process by which structures of power, such as governments, corporations, and the broader political economy, cause embodied harm to populations via social neglect, poverty, and poor infrastructure. As Farmer describes it:

Structural violence is violence exerted systematically, that is indirectly, by everyone who belongs to a certain social order: hence the discomfort these ideas provoke in a moral economy still geared to pinning praise or blame on individual actors. In short, the concept of structural violence is intended to inform the study of the social machinery of oppression... (2004: 307)

What is important for us to develop is an anthropology of affliction that can move easily from the local to the large-scale, tying together the ethnographically visible with the deeper structures that generate or perpetuate poverty (2004: 323).

However, in response to Farmer, some anthropologists have found that within “the social machinery of oppression” there are some health disparities that cannot be directly tied to *structures* of political and economic power. Rather, as evidenced by my brief example of Carlos

and the snails, health outcomes can be deeply influenced by flows of information, messaging, and the social production of knowledge (see Hanna and Kleinman 2013). As Scheper-Hughes argued in response to Farmer, anthropologists need to understand “other forms of violence and power, including discursive power, [that] must be clarified lest our analysis become too linear and deterministic” (2004: 318). In other words, everyday interactions with people, ideas, and social situations also carry weight in determining health, as these interactions reveal health-seeking agency.

In this vein, my paper analyzes the current state of health discourse in rural Napo, Ecuador in order to shed light on a fundamental relationship between discourse, the regional and global political economy, and the state of health in Mushuk Allpa. By exploring biocommunicability as a framework for understanding how discursive power influences health, I aim to map how violence (in the form of illness) has been produced by structures of power even when such structures do not have direct control over vulnerable communities. My analysis of ethnographic and linguistic field data will illuminate the ways in which health decisions can be sourced to institutional discourse through linguistic and cultural processes. Specifically, my research shows how people commonly participate in acts like everyday conversation, which ties together a variety of social discourses and allows people to access subjective knowledge for maintaining and improving health.

Chapter I.

Toward a Biocommunicable Cartography of Health Decisions

Challenges in Health Discourse

Although international health promotion programs have been in place around the world since the mid-20th century, relatively few frameworks exist for critically examining these programs' functional ability to predict and instigate healthy behaviors. Over several generations, public health fields have developed numerous theoretical understandings of health promotion activities, most often borrowing from social psychology and sociology because of both fields' methodological focus on quantitative and clinical methods (Yoder 1997). Included in these fields' theoretical frameworks are models of health behavior like the Diffusion of Innovations model (Rogers and Shoemaker 1972), the Health Belief Model (Janz and Becker 1984), and the Theory of Reasoned Action (Fishbein and Ajzen 1975). Based on population samples from Western nation-states, all three of these well-accepted social psychological models assume that increased knowledge about health will result in individuals changing their behavior. Allowed exceptions to the rule are explained by a number of factors, including an individual's disbelief in a given area of knowledge. These social psychological approaches to health behavior rely on a distinctly Western set of cultural traits that might not adequately explain health in all contexts. Anthropologist Stanley Yoder critiques these public health promotion models because they rely on a fundamental connection between belief (or knowledge) and behavior (or practice), even when evidence exists showing that this relationship is neither evident nor straightforward across cultures (1997: 131).

Whether from an applied perspective of efficacy in health promotion efforts or from a theoretical viewpoint, current public health paradigms are inadequate for understanding the relationships between communication and health-related behavior in non-Western localized

contexts. At present, a continuing hindrance to disease prevention across the globe is that health promotion results do not always show conclusive behavior-change outcomes (Torres et al. 2008; Airhihenbuwa and Obregon 2000; Pelto and Pelto 1997). Slow to react to this misalignment, observant fields like medical anthropology have been caught ill-prepared to critically examine health promotion in many cultural contexts (Whitehead 2002). As Yoder noted in 1997, medical anthropology largely “failed to provide a persuasive model of behavior change [related to health]” because they were “approaching research methodology in ways that regard theory as unimportant” (1997: 131). In essence, applied emphases within medical anthropology had limited anthropologists’ ability to develop new frameworks for understanding public health (see Hahn and Inhorn 2009: 27-30).

The history of anthropology’s role in public health is important to note here because I aim to operationalize a concerted anthropological attempt at “catching up” that will highlight anthropology’s relevance in public health. While many public health scientists have acknowledged that predominant psychosocial approaches are weak, anthropologists’ most recent work in health promotion has not yet been put to full programmatic use. The applied intent of my research is to utilize the progress made by medical anthropologists in the last fifteen years in areas like biocommunicability to propose new ways of constructing, understanding, and monitoring effective health promotion programs.

Adopting a Critical Discourse perspective

As I have previously suggested, medical anthropology’s response to Yoder’s critique of the field has taken a full decade to gain momentum. As Wilce pointed out in 2009, many linguistic medical anthropologists continue to focus on patient-physician interactions using

conversation analysis, rather than on less dialectical forms of communication, as exemplified by health promotion situations. My introductory example of Carlos bleaching the pond, for instance, demonstrates the importance of understanding the role of mass media in health promotion. Although patient-physician interactions and other healthcare worker conversations are also an informative part of health promotion, anthropological approaches should not limit research to conversation analysis because in doing so, the field reduces its analytical power for understanding how multiple channels of communication influence real behavior (Wilce 2009; Yoder 1997). Thus, in researching health promotion comprised of many channels of linguistic interaction anthropologists must look toward alternative understandings of communication that trace discourse across spatial and cultural contexts in macro- and micro-level forms.

Biocommunicability as a Heuristic for Health Discourse

In positing my research on rural health promotion within an applied framework of medical anthropology, the active group of researchers developing theory on health discourse has coalesced around the notion of “biocommunicability” (Briggs 2001). First coined by Charles Briggs, biocommunicability is the social capacity for the transmission of health communication when mediated by various parties’ institutional and economic power to transmit messages (Briggs 2005). As a framework for methodology, biocommunicability builds on critical discourse studies (CDS), with the goal of using linguistic anthropological techniques in medical anthropological contexts (Briggs 2005). Research in biocommunicability ties localized communication, such as a social interaction or speech event, to broader sociopolitical discourse derived from structures of power. In operation, the theory aims to expand on the limitations of conversation analysis by constructing a conceptual basis for tying speech events to

“cartographies” of social discourse (Briggs 2011). For Briggs, the notion of “cartography” is specifically chosen over “geography” or “landscape” because of how participants in health discourse *organize* both the knowledge-making and circulation practices that shape health in a variety of locations (2011: 467).

Where biocommunicability diverges from CDS is its foundation in biopolitics, a concept derived from Foucault, which states that structures of political economy operate to control populations, and, by extension, their health. In this way, attention to health becomes another channel through which social actors must attend to the will of those in power. By tying discourse to biopolitics, biocommunicability enables anthropologists to describe how localized communication reflects biopolitical discourse (at a micro- or macro-level) and how these discourses are embodied (i.e. somatized) as health and as violence. In this way, Briggs’ theory also answers Scheper-Hughes’ critique that medical anthropology and other health-related fields underestimate the role of “discursive power” (2004: 318) in the somatization of violence.

In describing biocommunicability in terms of “cartographies,” Briggs relates how discourses of health information are “multiple, competing, overlapping, and shifting...bounded fields of power” (Briggs 2005: 274) without order or complete structural components. The construct of cartographies works to “spatialize” communication in social contexts, rather than confining it to the medium of transmission as is the traditional mode of analysis for linguists and other non-social scientists. Rather, from Briggs’ perspective, communication media (including human speakers) fall within a domain of biopolitical control, in which messages as well as populations are controlled by relationships of power (Briggs 2011).

Importantly, the research agenda in biocommunicability by Briggs and his circle of fellow researchers has generally not been focused on social interactions but rather on discourses

circulating in mass media (see Holland and Blood 2012; Bulled 2011; Briggs and Hallin 2010; 2007; Briggs and Nichter 2009). In each of these studies, the data analyzed involved impersonal communication and broadcast messages. Very little research links interpersonal, social interactions to greater biocommunicable cartographies. Thus, as a matter of methodological review, biocommunicability is still mostly untested in community-level interactions, especially in development settings such as the context in which I conducted my research.

The Potential of Biocommunicability

Separate from Briggs' framework of biocommunicability, Pigg (2001) offers another understanding of health discourse with the goal of addressing how overlapping and contradictory discourses become transmitted as health knowledge. Where Briggs' theory provides a framework for relating macro-level, biopolitical discourses to other kinds of communications, Pigg describes how knowledge about health and illness is produced in many contexts, producing variations in people's means of knowing and manipulating the body (2001). Pigg's description of decision-making locates knowledge production within localized social interactions, but, like Briggs, she shows how this socialization process relates to the discourse of broad political economies. As if she were directly answering Yoder's call to separate knowledge and action, Pigg articulates how knowledge for decision-making is not just a matter of successful transmission, i.e. learning, but a process of social interaction (2001). From her research in Nepal, Pigg explains that social acts and communicative interactions between individuals lead to a co-creation of knowledge that often becomes institutionalized. Over time, this knowledge can become dogmatic, leading to the establishment of ideologies and cultural practices for health that are reproduced even without clear discourse directives (2001: 483).

The differences in description between the works of Pigg and Briggs reflect how biocommunicability remains a new and unsettled branch of medical anthropology. At present, critical questions for the field are (1) how to best describe the flow of communication in a biopolitical context and (2) how to operationalize a theory of health discourse for useful application in public health. The data that I will present in this paper show that these two questions are integrally related. If researchers of biocommunicability cannot accurately describe the relationship between multiple strata of biopolitical discourse, then they cannot effectively map discourse to behavior, which is the main value for public health institutions.

In his most recent explanation of biocommunicability theory, Briggs uses the analogy of cartography again to draw upon metapragmatic understandings of medical anthropology's role in global health discourse (2011:467). Briefly stated, "metapragmatic understandings" constitute here the ways in which medical anthropology (as well as other health fields) create the world's knowledge and understanding of health, even as the discipline attempts to analyze it. While this point may seem overly self-reflective, Briggs' awareness of the metapragmatics of this type of research is important because just as medicine and public health shape access to healthcare through their cartographies, so can anthropologists' remapping of biocommunicability. From an applied perspective, medical anthropology remains most relevant by highlighting and reconstructing how inequitable cartographies of biocommunicability are created.

While Briggs' analysis of the metapragmatic dimensions of biocommunicable cartographies enhances the theory's usefulness in critiquing the political economic forces shaping health discourse (including those related to medical anthropology), a disadvantage of Briggs' reflexivity is that the underlying theory of biocommunicability becomes somewhat external to the micro-level interpersonal interactions in health discourse. Pigg argues these

interactions are vital to analyzing how health knowledge becomes transmitted and embodied. Because the metaphor of cartography so accurately describes the pragmatic and metapragmatic dimensions of health discourse in biopolitical contexts, Briggs' field of vision becomes disconnected from the localized conversations that seem to reflect individualized accounts of knowledge production, especially where mass media is not concerned or cannot reach. Thus, Briggs' biocommunicability theory as it currently stands portrays the circulation of health information and illness knowledge as a spatialized and broadly social process, but it does not articulate clearly how localized experience of health discourse leads to dialectical production of health knowledge.

In contrast, Pigg's ethnographic analysis demonstrates how communicative acts of social production, i.e. localized micro-level discourse, often seem to index the point at which individuals' knowledge interacts with their behaviors of social and bodily self-maintenance. Pigg's work specifically looks at the gradated distinction between knowledge and belief, as indexed by discourse and behavior. From a CDS perspective, this work approaches a dialectical dimension of discourse analysis in which conversational discourse, occurring between two or more people, reflects broader sociopolitical discourses by means of the content of the conversation (Wodak 2010; van Dijk 2010). Simultaneously, these broader discourses to some extent determine the nature of the conversation-level discourse because, as Pigg suggests, social production is the process by which knowledge and beliefs are learned (2001). Hence, a dialectic materializes between the ability of interactional co-participants to shape knowledge on the one hand and the power of institutions to dictate conversational content on the other. In other words, the conversations analyzed by Pigg in her work on AIDS in Nepal demonstrated how two people could co-create knowledge about health, but were also reflective of institutionalized discourses

propagated by the political economy of international health programs. Yet these same personal conversations helped to produce the ideological discourse that influenced how the local health program worked on a broad scale. Thus, the dialectic in Pigg's view of health discourse incorporates micro-scale production of knowledge through interaction with macro-level circulation of institutional discourse to show how each informs population-wide health behaviors.

A Bakhtinian Synthesis

While the dialectical relationship in Pigg's explication of knowledge production makes an important contribution to medical anthropological research, the approach I intend to use as a synthesis for Briggs' and Pigg's perspectives is that of Mikhail Bakhtin. As Pigg's analysis has already demonstrated, localized discourse between a few individuals can be linked to political economic levels of social discourse. While the field of CDS commonly refers to this as the critical-dialectic approach, Bakhtin describes this as *dialogia*: the proposition that people can (and commonly do) speak within multiple channels of discourse (Bakhtin 1982:274). Through the use of content, voicing, and choice of code, Bakhtin argues, social language such as allusion, quotation, mimicking, emulation, and other creative language is not actually creative (from a cognitive perspective) because human beings are actually alluding to and borrowing from multiple discourses of different sizes and shapes. In other words, any single utterance or act of communication of a speaker is informed by the many similar utterances they have heard and responded to in previous interactions; interactions, including those regarding health decisions, draw their meanings from prior discussions within the participants' social worlds.

Using Bakhtin's dialogic perspective, we then can begin to piece together how Briggs' work on broad media discourses relates to Pigg's social production model. Like Briggs, Bakhtin recognizes that discourses of all types seem to occur in "multiple, competing, overlapping, and shifting spheres" (Briggs 2005: 274), which are not easily interpreted by an individual. Building on his dialogic foundation, Bakhtin posits that language exists as *heteroglossia*, meaning that by default, all communication involves multiple discourses and all discourses have multiple interpretable meanings. Thus, human beings require "a dialogic imagination" in which we socially produce knowledge from the wide range of heteroglossia by communicating in a dialogic mode (Bakhtin 1982: 420).

Thus, in this synthesis, Briggs' biocommunicable cartography operationalizes heteroglossia by suggesting that the heteroglossia, i.e. the field of competing discourses, changes as the community creating health discourses changes and transforms its dialogic patterns. Every cartography discursively produced is like a social communication that can be dialogically drawn upon in other discourses. Thus, as biocommunicable cartographies are created (in Briggs' terms) by localized, social productions of knowledge (in Pigg's terms), a discourse community draws on the larger landscape of biocommunicable cartographies (as Bakhtin might have it, heteroglossia), to create and perpetuate knowledge through dialogical use of language.

In this dialectical relationship, Bakhtinian discourse enables anthropologists to trace historic and present cartographies of biocommunicability by observing and recording a broad scale of interactions from broadcast communication to localized conversation. Briggs' argument for spatializing these cartographies allows us to set the parameters for understanding the dialogic relationships that occur, and Pigg's model of social production describes in detail the processes by which such discursive processes become embodied as knowledge and behavior. Using this

adaptation and synthetic understanding of biocommunicability, my research aims to demonstrate, in ethnographic detail, how health-seeking decisions result from inequitable access to discursive power, as determined by biocommunicable cartographies of control.

Chapter II.

Cartographies & Discourse in the Upper Napo Valley, Ecuador

Setting: The Upper Napo River Valley

From intimate conversations to broadcast media, all communication is mediated by space. Thus, in a project on social discourse, the principal bounding parameters should be spatial, rather than demographic. While people, their languages, and their identities exist within the scope of my research, space—instead of these cultural characteristics—serves as the bounding parameter for investigating



how health communication influences decision-making. In contrast to recent cultural anthropologists' research in the Ecuadorian Amazon (Uzendoski 2005; Wroblewski 2010), my approach does not center on the Napo Kichwa or any other ethnic group exclusively. Instead, this paper traces the various communicable cartographies overlaid on the upper Napo river valley, all of its people, and their various histories. Following the theoretical path laid by Briggs (2011), I aim to map human discourse as it is created, perpetuated, and circulated in localized urban and rural contexts. In this chapter, I will describe the setting of my ethnographic research, the methods I used to explore biocommunicable cartographies, and the data I have obtained. Through this “placing” of my research, I will show how individual discourses can be located within broad biocommunicable cartographies. My evidence for these cartographies begins at the level of regions, moves into my research site, the village of Mushuk Allpa, and ends with a mapping of the historical cartographies affecting healthcare.

In basic physical description, the area comprising Napo Province marks a natural transition between the Andean highlands and the Amazonian basin of Ecuador. Streams and rivers flowing west from the highlands converge in the basin to form the Napo River, one of the thirteen major tributaries of the greater Amazon River. Along the Napo and its offshoots sit numerous villages, towns, and the provincial capital, Tena, with a population of roughly 50,000 people (Asociaciones de Gobiernos 2014).

Tena's population is attuned to prevailing nationalist ideologies that posit Napo as the essential geopolitical transition point between the highlands, or the Sierra, and the Amazon region of Ecuador, known as the Oriente (Wroblewski 2011). Physically, the city sits at the base of the Andean foothills, elevated 410 meters above sea level, and straddles three main tributaries of the Napo River. Historically, Tena grew as Kichwa-speaking peoples emigrated from the Andean highlands into the Amazon in response to Spanish aggressions from the east (Uzendoski 2004). Today, as the capital of the province, Tena has become significantly more urbanized than any other city in Napo province, with large minorities of Andean Ecuadorians, people of Spanish descent, and a smaller Afro-Ecuadorian population. Wroblewski says Tena's inhabitants are "self-proclaimed 'civilized natives,' weekend macheteros ('machete-farmers'), professionals and artisans, students and jungle guides...These Amazonian urbanites further challenge outdated notions of indigenous authenticity held even by members of their own families and communities of birth, forging new local identities rooted in bilingualism, strategic essentialism, critical cultural awareness, and international consciousness" (Wroblewski 2011: 33).

In contrast to Tena's complex urban identity, the rest of the upper Napo valley is simultaneously more homogenously indigenous and also increasingly connected to Tena as the center of commerce, information, and government wealth. In mapping the relationship between

space, communication, and health in Napo, Tena seems to disrupt the region's otherwise equal distribution of population and wealth because of its hold over nearly all economic pathways. Rural farmers in Napo depend on Tena as a distribution center for the rest of the province, and all Napo residents must travel to Tena to access public services like hospitals or social assistance programs.

Beahm links the ethnic construction of Tena and its growing economic dominance in the rural Napo region to early agrarian reform laws established in 1964 and 1973 by Ecuador's national government.

Encouraging settlers from other parts of Ecuador to carve out a piece of Amazonian territories in places such as Tena, the reforms aimed to mitigate population pressure along the coasts and in [Quito], and to fill the sparsely populated Oriente, or Amazonian region of the country. Many residents with whom I spoke were old enough to remember Tena before these agrarian reforms were instituted. The influx of outsiders...represented a seminal change in the area. The demographics of the town shifted sharply, as land was territorialized and fenced, and once-communal lands were lost along with traditional land-use patterns familiar to the Kichwa (Beahm 2011: 71).

These new land-use laws were created in response to growing land tensions in the western highlands and coastal regions, and they led to increased neo-colonization into Napo province. In turn, these laws turned non-cultivated lands, largely used for hunting and gathering, into fallow lands (Perrault 2003).

Thus, as Tena has become transformed into its urbanized form by trans-regional immigration, the upper Napo valley's previous distribution of economic trade, largely defined by Kichwa harvest traditions and light horticulture, has been replaced by a capitalist, Tena-dominated mode of economy initiated by the federal government. The geographic consequence of this continuing political and economic shift is that access to Tena, either by proximity or automotive transportation, relocates resources away from the natural landscape, and it centers residents' cartographic focal point on the city. As one rural informant described his geographic reality, "going to Tena is necessary for all that is life. Yes, we can grow chicken here in the forest, but with our large family, we also need to buy food...Tena has everything: food, money, the Internet, and the hospital. All those things are needed, so we go to Tena." I heard similar perspectives from people throughout rural Napo, even those who lived in villages as far as three hours east of the city.

Tena: Bending Napo's Social Cartographies

As Tena's importance within Napo's social cartography has changed because of political economic shifts toward capitalism, new conceptions of regional cartography have grown from the urban and rural identities that have evolved since the 1960s. As demonstrated by my informant, rural Napo residents tend to locate Tena at the center of a disparate and disconnected collection of communities because families visit the city on a daily and weekly basis. Accelerated road construction in Napo Province became a political priority starting in 1967 because of new oil exploration. Over the last 45 years, rural villages have had increased access to the capital city. While their perspectives tend to describe Tena as dirty, polluted, and hosting a population with a less authentic form of Kichwa culture, non-urban villagers, like my previous

informant, understand it to be the commercial focal point of daily life. This conception of the city seems to augment the political influence Tena holds over the province, beyond its status as the capital. At the level of social cartographies, Tena distorts the rural villagers’ map of the upper Napo valley because it controls the political economy of the province. From my biopolitical perspective, the power exerted by Tena creates a social construct of the province that leads to unequal distribution of health information.

In contrast to rural cartographic understandings, urban social cartographies sourced from Tena depict a limiting perspective for the rest of the region. For the bulk of Tena’s residents as well as policymakers and business leaders in the urban community, the rural villages of the Napo river valley are construed with far less detail than would be described from the rural perspective. For example, one informant working in Tena’s public health system showed me a political map that included locations for many small villages, even as small as 5-10 households. The public health worker noted that many of these communities were mapped incorrectly, even if their names were present. He said:

N	Spanish	English
01	Las comunidades que son adentro, ellos	The communities that are in the forest, they
02	no se conocen bien por el gobierno.	are not known well by the government here.
03	Son dificiles de poner en su lugar.	They are difficult to put in their location.
04	Pero...son...tal vez...	But [pause] they are [pause] maybe [pause]
05	muy pequeño, sólo un poco de poblacion.	very small, just a little bit of the population.

In his words, he described what I found to be the essential Tena perspective on rural Napo communities: There are two kinds of villages in the Ecuadorian Amazon (not including larger towns). Some are “en la via” (on the road) and others are “adentro” (*inside* meaning “in the forest”).

Notice that these phrases are in quotes. They represent real speech by real people. In Tena, a person describing a village will nearly always say whether it is on the road or off in the forest. It is their way of giving directions to a taxi driver, but it also ties the community to its level of access to resources, its date of foundation, and its ethnic composition. As these associations are socially created throughout the urban sphere of Tena proper, they are subsequently integrated into real, political imaginings of Napo Province.

Outside of Tena, village residents almost never categorize their communities into a simple dichotomy based on access to transportation. One regular commuter told me that the politicians and mapmakers often forget about correctly mapping communities in the forest because they only know villages in relation to available roads. Rural residents, by contrast, commonly describe communities in relation to rivers, streams, and other boundaries of property. For people who have lived in rural Napo since birth, every village has a personality of its own with social ties to other communities and ecological relationships that shape the sociality of the Upper Napo region. For Tena residents, most buses and some taxis will not take a person all the way to a village in the forest because of difficult terrain and inadequate dirt roads. Thus, Tena-sourced understandings of rural living have become increasingly simplistic as parts of rural Napo are completely cut off from access to the city by the social barriers of “urban” and “rural” designations.

From the perspective of history, the first roads into the Ecuadorian Amazon were built in the 1960s, and communities on the road arose around natural resource interests, such as rubber and oil (Borman 1996). Today, the roads signify a softer set of resources: access to Internet, cellphone signal, employment, imported foods, and cash. In the mid-twentieth century, road construction was a geographic change motivated by physical resource extraction. However,

increased interconnectivity because of automotive transportation has shifted the economic map away from physical resources toward the resources of urban Tena. Continued road growth complements and depends upon Tena's expansion, and together, these two developments will likely continue to reshape the cartographies of discourse throughout the region. Inter-rural buses connect villages to Tena, which then increases commerce in the city and leads to a perpetuation of urban importance. Communities on the road interact more intensively with this Tena-centric system, and thus, they benefit from the current political economy. They also participate more actively in the cartography of social discourse in Napo.

In contrast, communities in the forest have less access to Tena. A community in the forest is usually situated twenty to forty minutes away from a main road in the upper Napo valley. For men and many students, this geographic separation from the Tena economy remains accessible because of priorities set for cash employment and schooling, but women, children, and older individuals often cannot easily travel to the road; thus, they do not often participate in the culture built around Tena. The consequences of these villages' disconnectedness extends from individuals' life histories to broader ideologies about communities in the forest, connecting them to ancestral living patterns, ignorance, and a lack of cultural complexity.

Still, the Tena-based discourse of "adentro" and "en la via" holds relevance not only because Tena controls access to many resources; Tena is also the site of many current social practices for all of Napo. Regardless of a Napo resident's home location, nearly all people in the upper Napo region visit Tena at least once per year. Festivals, both national and ethnic, are often held in Tena, as well as events like weddings, birthdays, and graduations. Thus, what is socially decided in Tena affects the rest of the region, whether deemed good by the rural population or not.

In this vein, past sociopolitical choices derived from social cartographies, such as road construction, become modern geographic features—roads. As with rural ecological viewpoints, “adentro” and “en la via” are two community categories that connect a physical geography—where roads have been built—to a representational one, mapping community understandings, political recognition, and legal versions of rural categories. For instance, in Misahuallí, one of the many “parrochia” (parishes) in Napo Province, the only villages with garbage management—listed as a “basic service”—are villages on the road. The total number of villages with garbage management was 14 out of 40 villages recognized by the local government. In contrast, only two villages on the road have primary schools (La Parrochia Puerto Misahuallí 2011), because children in roadside communities are mostly sent by bus to nearby urban centers where educational resources tend to be greater than in village locations. These differences in access to vital health-related resources, such as trash removal and education, reflect the pseudo-legal distinction between communities on the road and in the forest. Because of this recognizable distinction, I argue that “adentro” and “en la via” form a linguistic archetype for understanding the relationships of social discourse among people of the Upper Napo. By reviewing how socially constructed cartographies relate to transportation (and thus, how far a villager must travel to find a good doctor), my research charts discourse as it circulates into and out of rural communities.

What is a Rural Amazonian Community?

The value of analyzing the broad, historical geography of the upper Napo valley is related to Briggs’ argument that spatialization is fundamental to describing biocommunicability (2011). Health and communication circulate within cartographies produced by society, just like human

beings and disease mingle within an ecosystem of agents and resources. By analyzing spatial aspects of communication and the historical development of discourses over time, we can trace health information at a systems level, and understand decision-making at the level of an individual's interaction.

Even in small villages, local social cartographies interact with greater political economies to define how health knowledge is distributed and understood. For instance, where people are when they interact, how they got there, and where an interaction might move are all non-linguistic variables, but they influence understanding nearly as much as the spoken language, metalinguistics, and other conversational features. This conceptual intersection between communication, spatialization, language ideology, and political economic cartographies constitutes a critical component of the ethnographic analysis presented below.

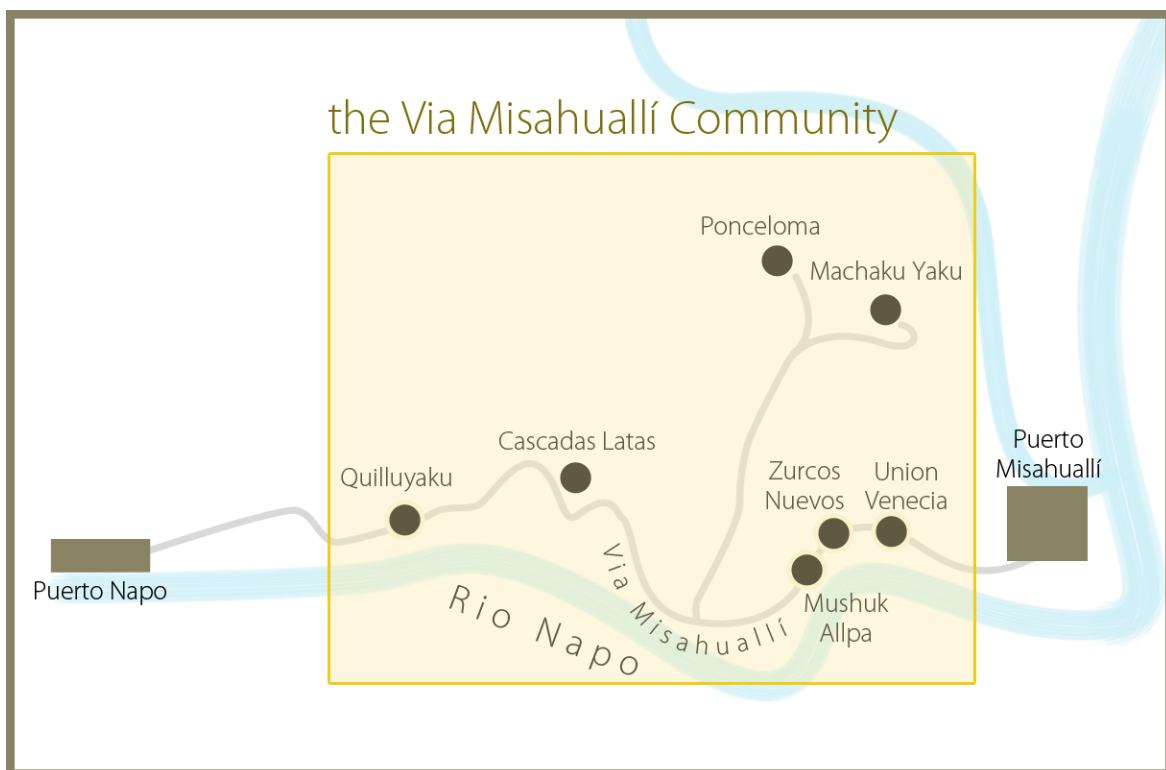
The focus of my study is a small community area on the north bank of the Napo River, which experiences resource deficiencies and a history of racialized discourse, all the while maintaining a distinctly Kichwa identity and pride. During my four months of ethnographic data collection, including highly participatory observation, conversation recording, and unstructured and semi-structured interviewing, I utilized participatory mapmaking to construct a visual representation of what comprises the localized community. This technique revealed interesting insights into how the residents of this area viewed their lived cartographies in relationship to Tena and other points of social discourse and power.

Although I focused my research in a village called Mushuk Allpa, the villagers' understandings of "community" and "locality" extended much further. Through the participatory process, I found that Mushuk Allpa could more appropriately be understood within a larger, integrated community comprised of six nearby villages connected by highly regular bus

transportation. Just as the construction of a large highway or rail system sometimes separates neighborhoods in metropolitan cities from one another, regular, hourly transportation on the road can integrate rural communities, especially when they are tied to one major destination—in this case, Tena.

As previously explained, communities on the road tend to support weekly or even daily commuting to Tena for work and commerce opportunities, and the road on which Mushuk Allpa sits is very clearly aimed toward the city. Built and maintained for tourism, the Via a la Misahauallí parallels the Napo River as it runs between a small town south of Tena called Puerto Napo and the larger Puerto Misahuallí, a major draw for international and Ecuadorian tourists eager for eco-tourism opportunities in the rainforest. Because of its situation at a strategic point on the Napo River, Puerto Misahuallí connects nearly all tourists looking to travel by canoe into the protected rainforests further east. Because the town attracts such a regular stream of tourists coming from Tena, the route of commercial buses spanning Tena and Puerto Misahuallí has a highly regular, hourly circuit. By comparison, buses on other routes that end at small villages usually run only once per day. In the midst of this situation of heavy traffic, Mushuk Allpa is a central village located halfway between the Puerto Napo and Puerto Misahuallí, which means that it is one of the many villages on the path that benefits from such regular access to Tena. As European and American tourists take the bus route east to Puerto Misahuallí, indigenous Ecuadorians catch the transport west toward the commercial hub of Tena.

As I was able to discover through localized interviews, the true community, in terms of relationship building, socialization, and shared traditions, involves six villages surrounding Mushuk Allpa on or near the banks of the Napo River. To the east, nearer to Puerto Misahuallí, are Union Venecia and Zurcos Nuevos, and to the west lie Cascadas Latas, Quilluyaku, and two villages in the forest called Ponceloma and Machaku Yaku. As with many communities, the relationships between these places have often been fractious or even in conflict; however, residents also come together regularly, and they have historically supported one another in maintaining access to resources.



This community, which I will call the “Via Misahuallí community,” also shares a past history perpetuated in patterns of current living. In the post-1960s era, communal lands in Kichwa communities were replaced by a capitalist system of property ownership in the Amazon.

Unlike the villages further into the forest, such as Machaku Yaku and Ponceloma, villages on the road have only family-owned properties, which can weaken community self-governing associations, especially when such communities are young. Land along the road is property to be bought or sold, as it is in Tena, and often, it seems, the people buying land are aiming to escape urban Ecuador for the opportunity to do light farming and engage in a cleaner, more simplistic lifestyle.

Communities off the road, however, were not removed from change either. In the early 2000s, Machaku Yaku, an off-the-road community, opened itself to the emerging tourism economy by becoming a site of Kichwa community tourism, called *turismo comunitario*. Although it has long been a traditional spiritual site for local Kichwa people because of its small stone-laden waterfall, it has become more closely aligned with Mushuk Allpa and the other roadside communities as it becomes increasingly focused on the Tena-based economy and draws tourists to its rural village location.

In these ways, the villages spanning the small strip of land between the northern bank of the Napo River and Via Misahuallí, although rural and unorganized, have gradually become a loosely integrated community with a growing population. Broad, sprawling, and intentionally rural, these villages are built on individual land ownership instead of common lands. Most people use light jungle gardening instead of slash-and-burn horticulture, and now, villages have a growing mixture of people from around Ecuador and beyond. Nevertheless, their identity of association with each other remains important for many reasons, including the community's relationship with healthcare.

The rural situation of the Via Misahuallí community in between two centers of modernization, tourism, and healthcare (i.e. Tena and Puerto Misahuallí) marks the irony

between physical geography and the political economic cartographies that continue to shape the community. Although the Via Misahuallí road, connected directly to Tena, positions this community in distinct economic advantage over communities farther from Tena, there are still other, related discursive cartographies that map poverty and poor health onto the six villages in this area. By showing how these discourses carry biocommunicable notions into localized communities through normal interpersonal communication, we can begin to understand the discursive power at play within social cartographies that ultimately shape living and dying in Napo.

Spatializing Discourses of Healthcare

Principal to understanding healthcare discourses along the Upper Napo River are the various cartographies of healthcare that determined how accessible it was for each household along the Via Misahuallí to reach health resources. As with all aspects of the political economy in Napo Province, healthcare has been largely driven by the nationalist ideologies that developed within Tena through its increasing political dominance over the rural areas comprising most of Napo Province. Based on data gathered among the residents of Mushuk Allpa and other communities in Napo, health systems in Napo during my fieldwork operated within a structure of centralized and racialized power located in Tena.

For Mushuk Allpa and the surrounding villages, the nearest local subcenter of the Ministry of Public Health was in Puerto Misahuallí, where a physician was stationed along with nurses, community health workers, and health administrators supervising the parish of Misahuallí (a subsection of a county). In this geographic context, Mushuk Allpa's healthcare access is one of relative ease. Puerto Misahuallí was just one hour's walk or a fifteen-minute bus

ride. However, with little funding and poor staffing policies, subcenters rarely provided reliable care. Most often, emergencies required a visit to Tena, which was the only hospital in the province. In addition, preventative care at the public health subcenter was unfeasible because the public health subcenter in Misahuallí has a large population to manage. Between infant care needs, birthing mothers, common trauma, and illness outbreaks, a simple subcenter clinic cannot handle basic check-ups. Thus, preventative care was rarely possible outside of Tena; on the other hand, in Tena, a variety of healthcare options including private and specialized care were offered for a price alongside more concentrated public healthcare options.

In general, the cartography of public healthcare in Ecuador was positioned within a landscape of major demographic inequality across the nation. Although the Amazon region now occupies more than 40 percent of Ecuador's landmass, it has only four percent of the population (Bilsborrow et al. 2004). Because of Ecuador's healthcare training situation, very few students from the indigenous Ecuadorian population have become physicians and even fewer have been Kichwa. Thus, in subcenters near the Via Misahuallí community during my research, most doctors were not from the Amazon, and many are young residents, required to stay and learn in their location. Given that rural Kichwa families have only recently become Spanish-language dominant, this means that some families in rural Napo have never seen a doctor that speaks their native language, nor their dialect of Spanish.

With fluency in Spanish varying greatly, the accusations by the Napo Kichwa about racism in clinics was probably founded in very real experience. From one physician's perspective, regardless of his ideological agreement with Ecuador's racial hierarchies, he reported that Kichwa people's inability to understand and their unwillingness to speak clearly were major problems in clinics. From one female Kichwa patient's perspective, however,

Ecuadorian physicians at subcenters do not listen to the Kichwa people. She reported that doctors in the Misahuallí public health center were quick to diagnose, and often, she said, they assumed that health problems were due to Kichwa cultural practices such as drinking too much *aswa*, a root-based alcoholic drink. She also said that Ecuadorian doctors would assume young women with stomach pains were pregnant, even if they were not yet sexually active. She presumed this assumption was made because of Euro-ecuadorian stereotypes of indigenous customs and lifestyles.

Thus, in this context of racial separation and this cartography of broadly disparate healthcare, it is relatively easy to understand how physician rooms become locations of perceived inequalities in discourse (e.g. when physicians use their authority to denigrate) and racialized medical communication (e.g. when patients and physicians misunderstand one another across ethnolinguistic barriers). Fortunately, the nurses and CHWs I met in public healthcare situations were most often Kichwa in Napo subcenters, a policy which helps the situation. Between the lack of strong infrastructure in clinics and few positive experiences, most residents along Napo's northern bank reported in a survey (Cripps 2013) that they are unwilling or hesitant to visit the subcenter clinic except in emergency situations.

The Racialization of Social Cartographies

Often, when I talked to taxi truck drivers as we left Tena for a more rural area of Napo, the dualistic way they would characterize communities would not only reflect the difference in the required transportation; they could describe racial dimensions as well. In one such instance, a taxi driver, who was originally from Ambato, a city in highland Ecuador, described how he believed communities on the road to be safer for *gringos* (foreign people). He offered a story of

how one foreign woman—he couldn't remember her nationality—got very sick and had trouble reaching the hospital because she was working in a Kichwa village, which was in the forest. He called the Kichwa “*indigenos*,” which is a linguistic preference for not referencing their cultural group and instead grouping all indigenous people together. Although he admitted to not understanding them or their culture, he told me how all indigenous people are lazy because they “drink too much *chicha*.” In Napo, this reference to a very traditional, nearly trademark, manioc wine made by Kichwa people (which they call *aswa*) is an ubiquitous racial stereotype.

The night I was talking to the taxi driver, I was not going to a village in the forest, but he offered his viewpoint of off-road communities in what I guessed was gladness that I was not headed there myself. It is in these private situations where I, as an ethnographer, witnessed the most racialized understandings of communities. For the driver, and many other people, a community on the road is better because it is much more likely to be of mixed population than to be traditionally Kichwa. More often than not, communities on the road are positioned there because of the space the road created, rather than because roads had connected a loose set of communities. In fact, roads in Napo were most often created for the transportation of resources like oil, and thus, they tend to follow straight cuts into the lowland Amazonian terrain. With the historical agrarian law reforms, people from across Ecuador not only came to Tena; they spread throughout Napo based on the new access and open property created by new roads.

Thus, in the middle of rural Napo, historically established as the territory of the Amazonian Kichwa, demographers now find Afroecuatorians, people of mixed ethnic descent, Euroecuatorians,² other indigenous groups, as well as Kichwa people. However, their

² For the purposes of this article, I will not draw a large distinction between white, mestizo, and other classifications of Ecuadorians from European descent, using the term Euroecuatorian to avoid following any one construction of Ecuadorian race.

distribution is not random; it is based largely on access to sociopolitical power. Migrations have created rural communities of nearly all Afroecuadorians, such as one village called Union Lojana, as well as communities dominated by Euroecuadorians, like another nearby called El Carmen. Both villages are on the road. Euroecuadorians, in particular, have often been able to buy highly valued land with good access to Tena, while poorer populations such as the Afroecuadorian population of Union Lojana have settled further out from Tena, nearly 75 kilometers away. In this way, persistent racial hierarchies have percolated into the previously non-stratified map of Napo province. The process of racialization may have occurred because of practical land settlement choices made by immigrating populations, but the social cartography that resulted from these choices reflects a racial hierarchy and biopolitical stratification of Napo's populations. As a result, with many new Euroecuadorian and Afroecuadorian villages, indigenous Kichwa villages in the forest are less known, often unmapped, and not legally recognized. Many times, this corresponds to deficiencies in important public resources, such as healthcare, sanitation, or accessible schooling.

Ethnolinguistic Tensions in Historical Perspective

Undergirding the politically entrenched cartography of racialized healthcare in Napo Province is a deeper landscape of communities' sociocultural histories. Mushuk Allpa and its neighboring villages in Napo each have individualized, local histories that form biocommunicable knowledge passed from person to person through social narratives and shared memory. Although remembered histories are not always communicated vocally, their influence on a person's decisions and mindset should not be undervalued. Therefore, during my ethnographic work in Mushuk Allpa, I asked informants to recount stories of the past in an

attempt to trace the cartographies of health, healthcare, and ideologies of health that influence how decisions are formed within social settings. In the same vein as Bakhtin's view that socially produced memory is a form of subtle dialogic discourse, my goal was to reconstruct these models of memory and history within the lens of biocommunicability. Through unstructured and semi-structured interviews, I aimed to collect these mental constructs of the past by listening to stories of health discourse and community history in Mushuk Allpa.

According to Juan—one of the oldest residents in Mushuk Allpa—families in his community mostly include nuclear families that moved to the area by purchasing the land they own, but nearly every family in the village is connected to one another in some form of kinship. In Mushuk Allpa, of the four main family groups in the village, the Andi Tapuy family is remembered as the family who has lived there longest, dating to a time before any village was yet recognized. By aligning Juan's estimations of time with actual dates, a reasonable account of Mushuk Allpa's history is that the Andi Tapuy has lived there since at least the mid-twentieth century, and other Kichwa families started to buy riverside property in the 1980s, nearly twenty years after Ecuador established the first agrarian laws that reset Kichwa ownership practices. In general, Mushuk Allpa's timeline reflects the broader pattern of resettling land since the 1960s. Once roads were constructed and land was made available, villages on the road would form.

Juan's family migrated to Mushuk Allpa's rural location from Tena, where his wife Anita grew up with her family. Anita comes from a town called Pawshiyaku that was once on the outskirts of Tena, but has since become absorbed into the growing city. As Anita describes it, the Pawshiyaku she knew as her childhood home has become part of an increasingly dirty, unhealthy, and crime-ridden Tena. Although international standards might show Tena to be a fairly hospitable place, Anita's perception of the city, mirroring many rural Kichwa people's

perspective, is that the city's air is full of pollution and that the city is not an appropriate place to raise a child. Although Pawshiyaku remains a mostly Kichwa community within a more demographically diversified Tena (Wroblewski 2011), the crowded living spaces and the inability to farm food contributed to Anita's decision to take her family elsewhere.

According to Juan, after saving money from his time in the military and working various low-paying jobs throughout Ecuador, he and Anita bought the property in Mushuk Allpa to raise their children. Anita's sister, Marta, was already living in the village, where she moved with her husband who bought land there earlier. Juan and Anita bought the property east of Marty's family, forming what would become one of Mushuk Allpa's four main family groups.

As the matriarch and patriarch of this family, Anita and Juan described their choice to purchase land in rural Napo as a choice to live in a healthier environment away from Tena. Anita describes Tena as a dirty place with air pollution that is bad for the lungs. Juan cherishes the wellness that results from growing his own food and being able to live in the forest. Together, Juan, Anita, and their children also commonly connect their living situation with their own ethnic ascription. When I asked Juan to explain why farming is more important to him than working in a city as he previously did, he said that *chackra* or "farming" is *la vida de Kichwa*, "the Kichwa way of life," or *un costumbre de la Kichwa*, "a custom of the Kichwa." In this way, Juan and his family seem to model their identity and history of migration as part of re-establishing their rural Kichwa identity.

Similar stories of families moving to live along the Via Misahuallí mirror that of Juan and Anita, but this understanding of local history has not been mapped by the political history of community growth in Napo Province. In reference to communities on the road, Napo Province reports community establishment as a process of property selling and population movement.

However, Juan and Anita's case illustrates that the Via Misahuallí community has grown because of a very specific model of ecological wellbeing and what comprises a good life for a Kichwa family.

This model of community history, while complementary to a materialist understanding of property ownership and family subsistence, is significant for charting localized biocommunicable cartographies because it ties the choice to live in a rural, undeveloped environment to traditional Kichwa values of family as well as Tena's growth and urbanization. To put it in the language of public health, moving away from Tena was itself a health-seeking behavior. Even though many essential resources can only be found in Tena, families along the Via Misahuallí have moved further away from the city to establish their families in what is known in the community as a healthier environment.

From the ability to grow one's own food to the perceived quality of air, Kichwa families in villages on the road have a different memory and understanding of living rurally than families of a non-indigenous background. Throughout the community along the Via Misahuallí, families come from a variety of ethnic backgrounds and geographic regions, but only a very few have lived in the area for more than two generations. In contrast to the Kichwa model of community history explained by Juan and Anita's family story, families of Euroecuadorian background clearly communicate a different cartographic view of their history along the Napo River from their indigenous neighbors. The narratives of migration that many Euroecuadorians will recount have few ties with the Kichwa people's narrative related to their ecological surroundings, a history of oppression, and perceived connection to the pre-colonial nation-states of Ecuador and Peru. Along the Via Misahuallí, Euroecuadorian residents' reasons for migrating to the Oriente

vary in relation to a number of factors external to the Amazon, which tends to be identified by the indigenous people as far removed from the Sierra and coastal regions of Ecuador.

It is no wonder then that in rural Napo, it is especially common to hear Euroecuadorians referred to as *colonos*, or “colonizers” or “settlers.” Kichwa residents of the Via Misahuallí community regularly and carelessly use *colono*, seemingly without animosity. The term is used as if a fact is being stated, rather than with a political slant. However, even though it is not a racist term, it still stands as a powerful discourse marker that separates the Kichwa from their Euroecuadorian neighbors in a linguistically significant way. As Briggs notes, however, discursive occurrences like these can become spatialized and institutionalized in politically consequential ways. For example, residents of Mushuk Allpa would commonly refer to the neighboring village of Zurcos Nuevos as a *comunidad de colonos*. Similarly, they would describe physicians who work in the Ecuadorian public health service as *doctores de colonos*. From a biocommunicable perspective, *colono* as a descriptor connects the disparities between people of different villages who experience interactions with their physicians in different ways because of separate ethnohistories. In effect, this semantic relationship becomes spatialized to form an ethnically defined, community-based cartography for tracing biocommunicability in healthcare.

On the provincial level, similar cartographies of historical discourse can be traced within the political sphere based on ethnicity and the politics surrounding ethnic relations. Until the 1960s, the Amazonian indigenous groups such as the Kichwa were under Ecuadorian rule, but to a significant extent, the region was ignored for the purpose of governance. It was not until the discovery of oil in 1967 that the Oriente became the main location for resource extraction. This development meant that indigenous politics, which had previously been a political issue focused

in the Sierra among Andean indigenous groups, started to center on the eastern part of the country.

The *colonos* coming from the Sierra were prompted to initiate colonial policies because of the international demand for oil, and over time, the Oriente became increasingly valuable for settling a long list of economic hardships in the Sierra. Oil revenue from the Amazonian region currently makes up roughly 20% of Ecuador's GDP (Gerlach 2003). When available land became scarce in the Sierra and the coastal region, the federal government passed agrarian laws that have given rise to the massive influx of settlers and the development of the "frontier culture" currently in place. Furthermore, governmental policies over the last forty years intended to "civilize" the Amazonian indigenous peoples have contributed to rapid changes in cultural identity among groups like the Kichwa, Shuar, and Hourani, all of which have populations in Napo (Gerlach 2003).

Specifically, the land use and "civilizing" policies contributed to the conditions of poverty that currently exist within communities like the villages along Via Misahuallí. By privatizing property and ending indigenous traditions of roaming horticulture, these policies forced the indigenous population in Napo to become dependent on the cash economy centered in Tena. Because heavy sedentary agriculture is usually unsustainable in rainforest environments, Kichwa communities have been forced to settle with light gardening to supplement purchased food supplies afforded through other economic activities, such as road construction, tourism, mining, or gold panning.

The political situation that created these drastic economic changes is analogous to the localized divisions between the *indigenos* and the *colonos* in the Via Misahuallí community. Changes to indigenous communities occurred as the migration of *colonos* increased because of

federal laws. Because the Sierran majority in Ecuador has historically dominated the federal government, the provincial government structure in Napo has consistently been racially motivated to favor Euroecuadorians. The Napo government has never been led by Kichwa politicians, and with Tena's increasing dominance over the political economy of Napo, it is unlikely that this racial imbalance will change in the foreseeable future.

A Brief History of Mushuk Allpa

While the indigenous political history of Napo offers insight into the racial and material dimensions of social interaction throughout Napo, Mushuk Allpa's localized history provides shape to intra-community discourse on health that plays a significant role in health decisions as the primary kind of situation in which health discourse is socially produced (see Chapter 4). In an attempt to understand how the village of Mushuk Allpa relates to and interacts with its nearby villages, I asked an elderly woman named Veronica to explain how Mushuk Allpa grew into the village that I knew in my ethnography.

As a Kichwa immigrant to Mushuk Allpa from Tena herself, she explained that she had moved before Mushuk Allpa had been named, but at that point, the Andi Tapuy family was already there, and several other households were also established. Veronica and her husband bought land and built an initial house made of wood with only three rooms. She explained that for several years, they raised their children and saved for a better house made of cinder block. Together, they had seven children, raised them, and, over time, the family has been able to afford improvements on their land and home.

According to Veronica, in the 1980s and 1990s, the entire area from Venecia to Cascadas Lalas on Via Misahuallí was known as Zurcos Nuevos (literally "New Furrows" in Spanish).

Non-indigenous Euroecuadorians established Zurcos Nuevos in accordance with Napo's legal structure, which is mostly dominated by people of non-indigenous backgrounds, even though the indigenous population continues to out-number the Euroecuadorian population. According to Veronica's story, it was after increasing numbers of people from across Ecuador began to move to this rural strip of land that ethnic tensions began to grow between the *colonos* (literally "the colonizers," referring to Euroecuadorians) and the Kichwa people living in Zurcos Nuevos.

She explained how at first, conflict would arise about cultural practices or communal decision-making. Later, the groups became polarized when an oil company began searching for mining opportunities on private land. While the colonos wanted to sell large portions of land to the oil company, the Tapuy Tapuy family, the Andi Grefa family, the Andi Tapuy family, and the Shiguango Grefa family, the four main households in Mushuk Allpa today, did not want the oil company to set up work in Napo.

Veronica explained the situation's intensity by recounting how one evening, representatives who she presumed were from the oil company came to her house, and she felt so threatened that she and her husband barred the door and hid their family as if the family was away. With the conflict as a rallying point for the Kichwa families in Zurcos Nuevos, around 2003, they legally formed a village association and elected Jaime, the patriarch of the Andi Tapuy family, to be the first (and current) president of Mushuk Allpa.

Even as the county government recognized the village's legal existence, the conflicts between Zurcos Nuevos and Mushuk Allpa have not been erased from the community memory, nor has the political discourse of Kichwa self-reliance and separation disappeared. Although Mushuk Allpa is legally separate from Zurcos Nuevos and can make decisions for itself, the proximity and interactions of individuals in these villages does not necessarily separate the

larger, interconnected community. Furthermore, Union Venecia, the village east of Zurcos Nuevos, is a larger village of mixed ethnicity (apparently living in relative harmony) with family ties to each of the communities further west.

Chapter III.

The Biocommunicability of Health Intervention

From a methodological perspective, the first critical task of my research in the Via Misahuallí community was to recognize and trace the basic social cartographies that shape how health decisions are made among individuals in community contexts. In the previous chapter, I explained a few of the salient social discourses that affect healthcare in the upper Napo valley; included were discourses from history and tradition, ethnicity, and social politics, as well as localized narratives of the Via Misahuallí community. Now, in order to hypothesize how people map their decisions with biocommunicable cartographies, I will argue that the local cartographies I outlined in the previous chapter are often understood using the overriding, dialogical cartography of *intervention*.

The Upper Napo Valley: A History of Intervention

With regard to nearly every discourse about rural communities in Napo or healthcare in the broader Amazon region (see Chapter 2), there is a common narrative of intervention present in the discourse of Napo residents. For instance, the earliest noted redrawing of Napo's social cartography occurred when roads were built in response to oil and rubber projects in the province. During the pre-1960 era when these projects began, there was virtually no legal access for the Napo Kichwa living in this region, so the oil project was a partnership between the Ecuadorian federal government (based in Quito) and the multinational Royal Dutch Shell Company (Gerlach 2003). This cash-driven neocolonial policy of resource extraction became the first of many interventions still remembered by the older generations of Kichwa in the upper Napo valley. By the next major intervention, the 1963 agrarian land reforms, the cartographic

borders of which communities could circulate the notion of intervention were clearly already defined. For towns and villages like Tena and Mushuk Allpa, anybody working in Napo from areas west of the province were *colonos*, i.e. colonizers. In short, the Napo Kichwa, like other indigenous groups, followed the existing regional distinctions between the Andes (*la Sierra*), the Coast (*la Costa*), and the Amazon (*el Oriente*), and now, they tend to describe a united Amazonia oppressed by interventions from beyond the Andes. In Napo, this discourse of intervention, of course, has become perpetuated in the major regional discourses I outlined previously, including the dichotomy of *en la via* vs. *adentro* and also the politics of Mushuk Allpa and its relationship with its *colono* neighbors.

In addition to the geopolitical history that has supported the widespread discourse focused on intervention, missionary work and foreign development programs also seem to have perpetuated a communicable cartography of intervention in Napo. The region around Tena has been a target of consistent efforts from evangelical Christian missionaries seeking to build churches and engage potential converts. Reactions to this form of ideological intervention have been both negative and positive, as evangelical Christians, specifically Pentecostal and Baptist groups, have assisted in building regional infrastructure and creating new networks of social engagement while also causing social divisions between their communities of practice and the older established religious norm of indigenous practice of Roman Catholicism (Borman 1996).

In a similar way, international NGO and foreign aid work has also expanded in the Amazon Basin since the 1970s with a particular focus on healthcare. In lieu of a strong public healthcare system, various organizations, some Ecuadorian and some international, began to arrive in the Napo region to offer charitable, often-religiously affiliated healthcare work. Even this line of work, which we can assume has mostly altruistic intentions for the Napo region, is

still often understood within the cartography of intervention. My informant, Marta, who worked in a public health support role in Tena described the problem to me as a matter of *la ayuda que duele* or “help that hurts.” She explained how there have been many charitable organizations working in Napo in the past, but when the NGOs leave and people no longer had access to that charity, then communities feel the pain and begin to distrust help. Throughout Napo, every rural community had a story like this. In the center of Mushuk Allpa, there was a row of four public-use toilets meant to support sanitation in the community, but according to the village’s residents, the toilets never became functional because the Canadian youth group who installed the toilets three years previously had constructed them incorrectly and never returned for their second mission trip.

Timmy Global Health as an External Health Intervention

There have been at least a few NGOs in Napo province that have recognized the potential problems caused by the uninsurable sustainability of charity work in Napo province. However, even very conscientious organizations can have difficulty understanding how a local population might perceive an altruistic organization to be an intervention. To coordinate my research in the Via Misahuallí community, I worked in an applied public health role with an American organization working in Napo called Timmy Global Health, which has managed to maintain its presence in Napo through partnerships with local, private organizations. In my analysis of the organization, Timmy Global Health models a modernized, efficacy-driven mode of health intervention, which reflects an overall improvement among most interventions in Napo; however, my ethnographic data among TGH’s patient population in the Via Misahuallí

community demonstrates that the organization has not been able to escape the constraints of Napo province's generalized cartography of external intervention.

As recently as 2005, TGH's operation in Napo was no different than most other medical NGO models in the area; it generally fit the mold of a "medical mission," which is a charitable, mission-based operation aimed at healing patients in hard-to-reach communities without putting effort toward changing the social determinants of healthcare. Both in 2005 and during my fieldwork in 2013, TGH's model included mobile medical clinics, which could utilize volunteer American medical professionals and college students as clinical staff for one-week periods.

While Timmy Global Health has gradually moved toward a systems-level approach to improving healthcare, their work is still based on this mobile, selective healthcare system. In 2009, the organization reorganized for greater sustainability in patient care by linking clinics to a larger referral system of hospitals and specialist physicians. From a systemic perspective, these changes were important because they included specialized care options, including surgery, OB/GYN, and other specialist services. Especially for non-fatal debilitating diseases, this follow-up care, which was completely subsidized by the organization, provided healthcare relief that was not accessible in the Ecuadorian public healthcare system.

However, there are several key limitations that continually marked the NGO as part of the long history of external interventions in Napo healthcare. First, during my fieldwork TGH could only work in twenty communities in Napo due to the structure of their program. The potential for their work to extend to a population focus was fairly limited. Second, TGH operated through partnerships with a group of local private healthcare institutions and one ad-hoc public social services agency in Napo called Patronato Social Services. While these partnerships were well managed, the limiting factor for healthcare and long-term growth was that this mostly

private, NGO-led system of primary healthcare was done in little to no collaboration with the public healthcare system. Because these two constraints on the NGO meant that an holistic, population-wide focus was impossible with TGH’s mode of operations, Napo residents had no reason to adjust their view of TGH as an intervention.

The Via Misahuallí, one of the communities in which TGH works, was a perfect example of a set of villages that valued TGH’s work, but they understood it mostly acted as a patchwork solution for a problematic public healthcare system. Carlos Andi—the community health worker featured in the introduction of this paper—described to me in an interview why he often complains about TGH to his family and tries to think of ways that the organization could become more integrated into the long-term healthcare needs of Napo’s population. He said:

N	Speaker	Spanish	English
01	Carlos	Fundación Timmy es una gran	Timmy Global Health is a great
02		ayuda para mi comunidad y mi	help to my community and my
03		familia, pero Timmy es limitado	family. But Timmy is only limited
04		porque si hay un accidente de coche	because if there is a car crash
05		o me golpée en la cabeza, no puedo	or I hit my head, I cannot
06		confiar a ellos. Por eso, mi	turn to them. For that, my
07		comunidad necesita una clínica aquí	community needs a clinic here
08		en la vecindad. Es muy importante.	in the vicinity. It is very important.

Carlos’ perspective here indicates a generalized frustration with solutions that are doomed to be inadequate in the near future. According to Cripps’ survey research of communities that participated in TGH programming in 2013, many community members in Mushuk Allpa and other similar communities verbalized their hope for more infrastructure in their outlying communities, and they often suggested that TGH should focus more on infrastructural problems (n.d.). Within the larger frame of my ethnographic observation, these data points suggest that the Via Misahuallí community held a common understanding of TGH as mostly an external intervention without a great deal of ability to change communities’ long-term health outcomes.

Perceptions for Understanding Healthcare Decisions

While it may seem that TGH's portrayal within Napo's social discourse is a somewhat harsh evaluation for a generally altruistic organization, it is important to note that in 2013, every system of medical care in Napo was understood to be external to Amazonia, including the Ecuadorian public health system. As explained in the previous chapter, Euroecuadorian doctors currently dominate the public medical system, while some indigenous Kichwa staff serve in lower status roles, like nurses or CHWs. The racialized and underfunded situation that most public health clinics have faced in rural Ecuador has increased the perception that these clinics were not set up to care for people; rather, they should be a resource of last resort.

Thus, within this discursive context of external intervention, people in the Via Misahuallí community in 2013 had just two main choices for healthcare, TGH's charity-based healthcare solution or the public health clinic located in Puerto Misahuallí, a 20-minute bus ride away. For an ethnic Kichwa person, choosing the public healthcare system could have included the risk of racial discrimination, poor healthcare standards, possible misinformation, and a long wait to see an Ecuadorian doctor who may or may not want to be working in that clinic.³ On the other hand, the subcenter would always be available and staffed in case of emergency. If a person in the Via Misahuallí community decided to seek healthcare from TGH, then the clinic was set up right there in the community, with American doctors serving as volunteers, mostly who do not speak

³ In Ecuador, physicians in residency often must serve in rural Amazonian subcenter clinics to fill the need for doctors throughout the country. According to a physician based in Tena, because these young physicians often experience stressful situations and minimal oversight in rural clinics, they will sometimes shorten the number of hours the clinic is open, resulting in poor quality care in many rural clinics.

Spanish. The clinics were always well-stocked with supplies with a pharmacy on-site, and TGH even had an electronic medical record system for tracking care over time for specific patients.

In actual practice, no patient, in my observations, ever had to make a choice between the two healthcare options in the Via Misahuallí community because TGH and the public health ministry are not exclusive healthcare options. I found that every patient in the Via Misahuallí community I interviewed on the day of the August 2013 TGH mobile clinic also actively used the public health subcenter in Puerto Misahuallí and often they had gone to the provincial hospital in Tena, too. Thus, the situation for decision-making, when it comes to seeking healthcare in the Via Misahuallí community is not that patients must make a choice, but rather, that they can opt for a preference.

CHWs as Agents of Healthcare Discourse

In order to understand how these decisions about preference occur, I return to my original argument I made about health intervention—that Napo’s cartography of intervention serves as a dialogic mechanism by which people can understand the many other competing heteroglossic discourses that occur in healthcare situations (e.g. race, physician rapport, medical understanding). In the context of the Via Misahuallí community, localized understandings of health intervention have become realized in the lived experience of CHWs because these individuals socially produce the knowledge meant to be created by their respective institutions’ discourses of health ideology.

Especially since a CHW is not an occupation where a person’s role is defined similarly in all contexts, institutions have a broad number of options for encouraging CHWs to create certain health discourses. Conveniently, in the Via Misahuallí community, there were three CHWs

employed there during my research who, together, represented the three main categories for CHW employment. In the previous sections, I introduced Carlos in his role as a community health worker for the CHW. But during my research period, two of his other relatives were also CHWs. His sister Maria was a CHW for a government agency, and his sister Lisbeth was a CHW for Timmy Global Health. Because they each represented a different kind of health-promoting institution, each person was charged with promoting a different category of knowledge within their community targets.

The first category, represented by Carlos, included CHWs trained and hired by the provincial Ministry of Public Health. Their work centered on spreading actual health information through social acts, such as educational talks, public forums, or the distribution of public health materials. Because of this, Carlos had to take courses in order to become a public health CHW, and his role centers on being a health authority on proper prevention of disease.

Unlike Carlos' work, Maria's discursive focus did not address health knowledge so much as it involved how rural communities are selected for healthcare. The government agency she worked for used her knowledge of localized health disparities to appropriate resources for medical clinics. Thus, Maria's work demonstrated how an individual's role can allow for certain subjectivities—such as Maria's preference for one village over another—to create the biopolitical gradient of healthcare access.

Finally, Lisbeth, a CHW for Timmy Global Health, had only been in the position for two years at the time of my research, but her work demonstrated exactly how many CHWs in situations like hers are employed to, in effect, promote a certain discourse of healthcare. For the rest of this chapter, I will specifically focus on Lisbeth, to ask several questions about the biocommunicable cartographies of health interventions. First, what kind of messages does a

Timmy Global Health intentionally or unintentionally transmit through its CHWs? Second, how do CHWs working for TGH communicate the reasons for choosing the healthcare offered by the organization? And third, how do CHWs themselves understand and reconcile overlapping cartographies of discourse as they occur within the context of CHW work?

Institutional Expectations for CHW Discourse

For Timmy Global Health, whose CHWs had only been participating for two years during my fieldwork, the process of understanding and refining the discourse their CHW network produced was only as an experiment because the formation of the CHW network is still evolving. By the start of my research in Mushuk Allpa, there were few trainings for CHWs, and supervision was minimal because the TGH field coordinator had poor access to transportation to the communities where each CHW worked. When the CHW network was started in late 2011, nine health promoters, including Lisbeth, were hired to support TGH's well-established system of mobile medical clinics with the hope that in the future, they could be trained to hold a significant level of health authority within their rural communities. For Lisbeth, this initial position paid a nominal, but useful stipend, as long as she fulfilled the following expectations set by Timmy Global Health:

1. Before a mobile medical clinic, Lisbeth had to distribute tickets for the brigade to anybody in the Mushuk Allpa area who needed medical assistance.
2. Lisbeth would then have to prepare the community site for the arrival of the medical clinic, and she would help keep details organized throughout the span of the day-long clinic period. This expectation included setting up private rooms for patient-doctor interactions, tables for the various clinic stations, and waiting areas with seats.

3. Lisbeth would then work with the CHWs at TGH's government agency partner, who would provide logistical support for any health operations that might be needed in between the quarterly mobile clinics.
4. When instructed, Lisbeth would also contact patients who needed to visit a hospital for a referred appointment with a specialist, and she would provide them with the information for details of the process for getting to the hospital.
5. If hospital referral patients refused to go to the hospital, Lisbeth would then attempt to convince them to go to the hospital by talking with them.

Of these various expectations, some tasks were simply organizational, but others required significant social interaction. In this discourse, she had to represent TGH as a CHW while also fulfilling the community role of *promotora de salud* within her village, which emphasizes authority of one's health knowledge. By observing Lisbeth in her home and during her work in Mushuk Allpa, I was able to detail how her interactions with community members could be traced to broader discourses, including those institutionalized by TGH.

CHW Discourse in Decision-Related Contexts

For nearly five weeks, Lisbeth did very little work as a health promoter. In between the arrival of a mobile medical clinic, her role as a CHW was only ever on call, and even then, there was only a marginal likelihood that a community member would choose her to assist in an emergency over one of their own family members or friends. Her health authority in the community was certainly not unanimously well known. Lisbeth's main work only occurred in the weeks before a clinic or when a patient needed to go to one of TGH's private partner hospitals. Still, the process for informing a patient about the logistics of a hospital visit usually

took no more than one hour. However simple her role might be, the interactions that Lisbeth does have with TGH patients are one of the few conversational discourse channels that occurs between TGH and the community along the Napo River that are not based in a clinic. Specifically, Lisbeth's process of ticket distribution is especially important for decision-making because each conversation started by Lisbeth prompts a community member to decide whether or not he/she will visit the healthcare clinic.

In order to portray how these healthcare decisions formed, I will describe the various interactions and conversations that occurred on one day of ticket distribution in the villages of the Via Misahuallí community. Lisbeth conducted this process individually. Thus, to observe how these interactions occur, I followed her as she walked throughout four villages of the Via Misahuallí community. In the interactions I recorded between the CHW and her various community members, I identified two categories of patterned discourse: relational discourse and transactional discourse.

Relational patterns largely centered on processes of rapport building and/or relating to one's friends and relatives. Transactional patterns involved discourse on exchange in which broader elements of political economy, such as a commercial purchase, operate as a level of discourse within the words spoken by either participant. In addition, Lisbeth also demonstrated various self-designated strategies of health promotion; she chose who in a household to talk to or which houses should be skipped because of negative past experiences. These various patterns do not relate, in any particular way, to TGH. According to Timmy Global Health's field coordinator, CHWs were hired to "organize clinic sites in local communities and to help provide patient follow-up for visits to the referral hospitals." The amount of guidance given beyond their

five basic obligations outlined previously is relatively low, because the coordinator has only monthly interactions with each CHW.

In regards to ticket distribution, the field coordinator for Timmy described how, “we sell [the tickets] for fifty cents because it places a nominal value on the service for the people... By giving it a value, people tend to take pride in it more than a charity, and they are more likely to show up. Of course, if they can’t pay the fifty cents, we don’t make them pay. The price is completely nominal.” Regardless of the functional purpose of the tickets, this quote describes the semiotic value internally established among TGH staff for why tickets are useful. However, what the staff does not seem to recognize is that this organizational system also involves an implicit discourse to the communities TGH serves.

In essence, TGH’s directions to CHWs to sell tickets in their communities for fifty cents reflect a fundamentally capitalist view of healthcare that may or may not have already been present in Napo, Ecuador. Even though the price is just fifty cents, TGH’s process of organizing patients puts a value on the decision to go to the clinic, which in other contexts may not be there.

Standing in contrast to the transaction are the public services offered by the Ecuadorian Ministry of Public Health at local health centers and subcenters. There is no ticket distribution for these services, but neither is there the need to promote the healthcare service because the system is overcrowded. Rather than periodic visits in a mobile clinic, public medical centers are open daily, but attract people who need immediate care. There is no transaction for the services, but neither can the medical centers stem the flow of demand, which often depletes resources, causing general inaccessibility to the public healthcare system.

In critically examining the transactional discourse between a CHW and community members in Mushuk Allpa and surrounding villages, the language used in these ticket

distribution conversations explains how healthcare choice may involve long-term extending discourse about cheap healthcare, ease of access, and free resources. Looking at a basic interaction between Lisbeth and a man from Mushuk Allpa called Wachi, I have identified markers of a well-known transactional discourse, in which evaluations and understandings of TGH healthcare are clearly transmitted.

To start the interaction, Lisbeth would often begin with a greeting, then proceed to explain that a medical brigade was coming to the community on a specific date. In this case, like most, the community member needed no further explanation; they would say whether they wanted a ticket or not. Of the 26 interactions I observed, none of the community members Lisbeth visited mentioned an ailment that they needed help with. None expressed a particular desire to see a physician; instead the considerations for this healthcare option seemed to depend on other factors.

N	Speaker	Spanish	English
01	Lisbeth	Como esta? Buenas Tardes [3s]	How are you? Good afternoon [3s]
02		Bien, a ver si quiere comprar tickets	Well, we're seeing if you want to buy tickets.
03		El día, Miercoles, outra vez estaba la	The day, Wednesday, again the
04		brigada aqui. Pero miercoles	brigade will be here. But Wednesday
05		siete de agosto. A ver si que quiere	Wednesday the seventh of August. To
06		comprar <i>un ticket</i> .	see if you would buy <i>a ticket</i> .
07	Wachi	<i>Siete de agosto?</i>	<i>Seventh of August?</i>
08	Lisbeth	Ahnh! (affirmative) Miercoles, siet-	Ahnh! (affirmative) Wednesday. Seven-
09	Wachi	Myah!	Myah!
10	Lisbeth	Si, quiere comprar? [1s] Como	Yes, you want to buy? [1s] Like
11		siempre se cinquenta centavitos.	always it's just fifty cents.
12		Quantos quiere? [1.5s]	How many do you want? [1.5s]
13	Wachi	bien, tengo que hablar con la señora.	Well, I need to talk to the Mrs.
14		No esta aqui. [1.5s] Ah, que hora,	She is not here. Ah, what hour,
15		que hora—	what hour—
16	Lisbeth	Hay, así, dijimos que usted puede	There is, well, we said that you can
17		comprar para los dos, y si que, y si	buy for the two of you, and then if
18		Doña Carmen no quiere, y usted	Doña Carmen doesn't want to, then

19		ese dia venga otra persona	that day, another person will come
20		que quiere.	that wants it.
21	Wachi	Ya.	Yep.
22	Lisbeth	Asi, asi otra.	So, there is another.
23		A ver, los dos nombres y dos	Let's see, the two names and the two
24		apedidos—	surnames—
25	Wachi	Así que, tienes una venta de un	So then, you got a sale of one dollar!
26		dólar!	
27	Jamie	[begins laughing]	
28	Wachi	[laughs loudly]	
29	Lisbeth	<i>Entonces, cincuenta</i> esta; a ver.	Well then, fifty it is; let's see.
30		Nombres.	Names.

With Wachi, it was clear that neither he nor his wife were ill, but he did not want to pass up the opportunity to get each of them healthcare. He ended up buying the extra ticket for his wife even though he was not sure she wanted to go. Clearly, there are motivations for going to the TGH clinic, even when you may not actually have an ailment. In its commoditized form, TGH seems to be inadvertently selling healthcare, rather than ensuring that healthcare reaches people who need it.

The interaction is very clearly a transaction rather than a promotion activity. Using the language of economy, Lisbeth begins by using the verb *comprar*, “to buy,” and refers to tickets before ever mentioning the clinic. Void of any semantics of health, Lisbeth only refers to the brigade—never a clinic or even a descriptor like *medica*. Then, again Lisbeth uses the language of selling, and Wachi in turn jokingly suggests that Lisbeth has made a sale. In this conversation, it's clear that the discourse of a transaction—which TGH says is for nominal, logistical reasons—has very clearly replaced what could be an interaction of a health promoter, whose role would ideally be more oriented toward care and advice.

At the end, when Wachi is laughing about his joke, Lisbeth noticeably does not laugh. Her demeanor and language are fairly short, clearly unfazed, and focused on getting the job

done. Again, the nonverbals indicate a tone of a business transaction. Given Lisbeth's deep care for her role as a health promoter, the entire situation of this interaction event seems out of place. In interviews, Lisbeth, compared to other health promoters, stressed more ardently than any other TGH health worker that her care is for her community, for helping to improve overall health. However, given the situation of ticket distribution, her register is clearly similar to a purchase interaction.

The reasons for this register and the implications for biocommunicability and decision-making are many. First, from my observations of TGH's internal discourse, it is clear that there is a relationship between how TGH staff talk about ticket distribution and how health promoters communicate the opportunity for the clinical healthcare to their communities. As I already explored, TGH staff tend to emphasize ticket distribution as an obligatory logistical task whose most important aim is to fill an organizational quota. For TGH, if the communities do not have enough patients, then important resources are wasted and the goal of providing care to underserved communities is not being accomplished. On several occasions, TGH program coordinators used the verbs "comprar" and "vender" the same way Lisbeth used them in her speech, except TGH coordinators were describing the process to a group of new health promoters.

The relationship between internal discourse and external discourse is transparent if constituent-facing personnel like CHWs are not trained to use other language. Thus, in the case of TGH promoters, the discourse currently espoused as part of their understanding of TGH reflects a capitalistic belief that healthcare is a commodity, which has been directly relayed to Napo residents in the form of a subsidized transaction. The consequences of such a non-care-related form of health promotion are that local understandings of the value of good healthcare do

not focus on the wellness of bodies but on getting access to healthcare resources when they are made available by TGH. Specifically, when Wachi decides to buy the tickets, he does not seem to associate the ticket with any specific kind of care, which suggests that Wachi may have viewed the interaction as a cheap, but precious commodity rather than actual healthcare.

The reverberating ethical question throughout healthcare economics is whether healthcare should be understood as a commodity or if it is a service that ought to be provided by public infrastructure, similar to education. Given TGH's roots in the United States' healthcare system, the staff's default mode of discourse reflects a distinctly American ideology, in which healthcare is more clearly commoditized than in most other parts of the world. By operating in Ecuador, to some degree, TGH may be mapping its understandings of health discourse onto the cartography of the Napo Valley. Although the healthcare itself is charitable, well-organized, and fully subsidized, the overarching discourse pattern portrays a particular, Westernized biopolitical orientation.

Chapter IV.

The Social Production of Health-seeking Decisions

In the previous chapters, my analysis of biocommunicability has focused on linking two levels of social discourse: broad cartographies of communicability and localized interpersonal interactions. However, in keeping with the theoretical perspective from Bakhtin, this study should also illustrate how decisions are made through dialogic constructs that help to illuminate the clashing cartographies of biocommunicability. Through the case study presented below, I will argue that health decisions are socially produced through long-term, dialogical interactions, stretching to memories of past conversations taking place even before individuals encounter the choice or question at hand. Understanding health decisions within the context of dialogic interactions presents a unique perspective and can help to address the challenges of how to create effective health promotion efforts that yield the intended results.

The Semiotics of CHW Interactions

If we recall Lisbeth's responsibilities as a CHW from the past chapter, her short list of duties included very few activities that seemed to require intensive interaction with patients. For Lisbeth, the most interactive, discourse-intensive act she can perform in her role is a consultation meant to persuade a reluctant patient to visit the hospital for a special operation or treatment. When I interviewed Lisbeth, she told me about numerous examples in her two years of being a CHW when a patient in her community could have received care at a hospital, but had been unwilling to go to a hospital for personal, sometimes mysterious, reasons. After two months of my fieldwork, Lisbeth was presented with yet another situation in which a resident needed a consultation, and I chose to record the interaction to better understand the discourses occurring during these persuasive health events.

On the day of the consultation, Lisbeth wore a navy blue vest with a large white handprint embroidered to the front. Encircling the logo were the words “Timmy Global Health” with “*promotor de salud*,” or “health promoter,” inscribed below. A CHW’s vest is both symbolic of her role and also a tool for health promotion. It reflects the biopolitical structures in which all CHWs work, and it communicates a semiotic message to the publics that CHWs influence. This vest was an important non-verbal form of communication that highlights the kind of discourse Lisbeth would use in her interaction. Lisbeth’s vest is one illustration that shows how CHWs communicate using multiple channels of discourse that can influence health behavior by reinforcing or competing with the communication directed to the patient.

In the social context of Lisbeth’s geography, the patient she needed to talk with lived in a village called Quilluyaku, just a few minutes by bus west on the Via Misahuallí road from Mushuk Allpa. Both can be understood as part of the same Via Misahualli community. When we exited the bus near the village, I followed Lisbeth to a small wooden house near the road. She was looking for an elderly, paralyzed woman that she had visited twice before. The woman was not home that day, but we found her close by, visiting a friend’s home.

The previous spring, elderly Eva had been treated by an American physician in the mobile medical clinic set up by TGH in Mushuk Allpa. After assessing Eva’s condition, the visiting doctor recommended that she be referred to TGH’s partner hospital in Quito. There, Eva could be treated for her paralysis—which seemed unrelated to previous trauma—and the hospital physicians could propose a TGH-funded treatment plan. However, in Lisbeth’s previous two interactions with Eva, the elderly woman showed significant resistance to traveling to Quito for the treatment. As we approached the house, it was unclear why Eva had been quite so hesitant to seek the free, ultimately life-changing care in Quito.

Dialogical Decision-making

By observing and recording this third interaction between Lisbeth and Eva, I encountered the clearest linguistic evidence of heteroglossia in action that I saw during my research. Although CHWs like Lisbeth intentionally aim to influence a community member's decisions, they often encounter unknown discourses that occur more regularly and with more persistent impact in a person's immediate surroundings. As Lisbeth approached Eva, she had no formal training or preparation to know exactly what kind of communication would be most convincing to the old woman. Furthermore, she also had very little ability to control the interaction she would have with the woman. As I have shown in this paper, health promoters are, very clearly, not the only agents of discourse with biocommunicable power; moreover, their work does not always prepare them to strategically position the discourse they use to influence health behaviors. Instead, Lisbeth and promoters like her must communicate within the same biocommunicable cartographies as other community members and hope that their discourse will be heard. The following selection of conversation between Lisbeth, Eva, and Eva's unnamed friend offers an interesting case study for examining how biocommunicable cartographies become negotiated and dialogically reused (or "remapped") in conversation.

To see Eva, Lisbeth approached the friend's home as a young woman of 20 years adorned with a blue CHW vest and clipboard in hand. Behind her lagged a young anthropologist holding a recording device and consent forms. To many of the Kichwa-speaking Runa people in Napo, this situation alone might be intimidating. TGH's system does situate the right kind of person—a fellow community member—to fill the role of CHW and conduct this kind of sensitive patient visit. However, because the direction of conversation unfolds through the emergent process of

turn-taking, even the most conscientious organization could not anticipate how an interaction like this could change suddenly. In this example, the variable that immediately changed for Lisbeth was that Eva's friend stayed in the conversation with her, and so the speech act was no longer an interaction between just a patient and a CHW.

N	Speaker	Spanish	English
01			[5s]
02	Lisbeth	Pero sí, usted está disponible para	But yes, you are available to go?
03		ir? Es por tu propio bien, para que	It's for your own good,
04		usted se sienta mejor.	So that you get better.
05			[4s]
06	Friend	[<i>Kichwa – sentence was translated</i>	<i>I have a friend named Hacinta who</i>
07		<i>on site by native speaker into</i>	<i>they took to Quito, and then they left</i>
08		<i>Spanish.</i>]	<i>her there.</i>
09	Lisbeth	No, se la llevaron, y luego la traen.	No, they take her there, and then they bring her back.
10	Friend	En una ocasión se llevaron a la	One time, they took
		mama de Hacinta, Juanita ,y la	Hacinta's mom, Juanita, and they
		dejaron allí—	left her there.
11		Ese momento en que Hacinta fue, se	That time when Hacinta went, she
12		fue con Normita .	went with Normita.
13		Lo que quise decir es con su propia	What I meant to say is with her own
14		hija. Y ella necesita para quedarse,	daughter. And she needed to stay,
15		pero Norma tuvimos que volver	but Norma had to come back
16		porque como un promotor, que tenía	because as a promoter, she had
17		que completar su trabajo	to complete her work
18		programado. Y como ella no trajo a	schedule. And because she did not
19		nadie que la acompañe,	bring anybody else to accompany her,
20		no sé lo que pasó en ese caso.	I don't know what happened in that case.
21	Eva	Es por eso que me están diciendo que	That's why they're telling me
22		no fuera. Dicen que si quieres morir ,	not to go. They're saying if you want
23		adelante y listo.	to die, go ahead and go.
24		Lo mismo le pasó a mi mamá.	The same thing happened to my mom.
25		El gente Patronato se la llevaron, con	The Patronato people took her,
26		Norma, y la dejaron allí.	with Norma, and they left her there as well.
27		La dejaron sola. ¿Quién va a	They left her alone. Who's going to
28		venir a buscarme? No tenemos	come get me? We don't have
29		dinero. ¿Quién va a venir a	money. Who's going to come
30		buscarme? "No te vayas, prima!	get me? "Don't go, cousin!
31		Lo mismo que le hicieron a mi	The same that they did to my

32	madre, que van a hacer para usted."	mother, they're going to do to you."
33	¿Quién va a venir a buscarme en	Who's going to come get me in
34	Quito? No tenemos dinero.	Quito? We don't have money.

Prior to this selection of the conversation, Lisbeth and Eva discussed, in Spanish, the various worries Eva had about a potential trip to the Quito hospital. Eva explained that she could not go without one of her children, and that her daughter's boss in Tena, the nearest city, refused to let her daughter off work for a hospital visit. After eleven turns between Lisbeth and Eva (prior to this selected part of conversation), Eva's friend also joined the conversation. Lisbeth explained the transportation process, the visit in the hospital, and how all the costs would be covered. Her tone and body language suggested that she had already told Eva these details in their previous interactions. Eventually, Eva downgraded her resistance from outright refusal to a statement that she would have to consult her daughter that evening before making a decision. And at that point, the conversation became punctuated by many lengthy pauses, which is where the selection of speech above begins.

Lisbeth approaches Eva's hesitance by using the distinctive register of CHWs. This is a mode of speaking that reflects broader international discourses in public health about self-empowerment and the ability of an individual to change her health situation. To encourage the older woman, Lisbeth tells Eva, "It's for your own good" (Line 3). Unbeknownst to Lisbeth, these words connote the same problems circulating within the cartography of biocommunicability most familiar to them, the discourses of individual agency and neoliberal policies of self-motivated, self-directed effort occurring in their own community and reflecting skepticism about TGH's unreliable form of health intervention. It appears that in Quilluyaku, discourse of health intervention tactics and TGH's private hospital arrangements were particularly negative.

After the pause, the conversation ends and Lisbeth once again tries to convince Eva to go (lines 02-05), the friend enters the conversation once again, but this time, she speaks in Kichwa (line 06). This key piece of the conversation drew my attention because of the code switch from Spanish to Kichwa. Out of context, the short comment in Kichwa could be interpreted as a secret note of caution signaling alignment between the speaker and the friend's fellow Kichwa-speaker, Eva. However, within the full context of the conversation, the friend's viewpoint can be interpreted as not oppositional to Lisbeth's encouragement, even if it is said as an aside. Rather, from my ethnographic perspective, the code switch indexes the friend's participation in a different sphere of dialogic discourse that overlaps with the conversation here. Eva and her friend seem to have an on-going or previous series of interactions in Kichwa on which they are drawing for further corroboration of the decision not to go to the hospital. From my ethnographic data, matters of social history and family health often are expressed in Kichwa in this community, a language switch that might indicate more intimacy and shared co-participant understandings of cultural meanings. So, when the friend turns to Kichwa, she draws on a previous set of interactions that exist within the discourse environment unintentionally accessed by Lisbeth.

We can see the meeting of the two discursive cartographies occurring in Line 09, when Lisbeth speaks again. Lisbeth responds in Spanish at Line 09, revealing that she, too, understood what Eva's friend had said. The conversation returns to the dominant language of the area, Spanish, following this. But the code switch back to Spanish from Kichwa, with its implicit acknowledgement of understanding the Kichwa utterance, also hints at a change in Lisbeth's own register. By beginning to retell the narrative herself in Line 09, Lisbeth departs from her role

as a CHW and chooses to enter the discourse of community members—the conversation that we saw emerging within the Kichwa utterance. In response, Eva herself approaches Lisbeth in a previously unseen manner in Line 14. She talks directly about the story in question, and implicitly asks her the question that seems to be projected in her dialogic understanding of the conversation: Will I be left in Quito alone without any way to get home? By tying her friend’s suggestion from one channel of discourse (in line 05) to her own CHW-to-patient conversation with Lisbeth, Eva’s response shows how the interaction of multiple, overlapping maps of biopolitical discourse shape how a health decision is made.

Layered within this larger discursive collision, Eva’s reaction also suggests that her friend’s utterance in Kichwa has a direct relationship with previous interactions occurring within her family. Eva’s words at line 21 reflect a “double-voicing” of remembered interactions among her cousins about her referral to the hospital. Within this channel of family discourse, she mentions her mother’s past experience as well, quoting a “voice” that connects her mother’s situation to her own potential abandonment.

Given these multiple, overlapping spheres of discourse present in just a short interaction, Eva’s words show that her social experience includes an entire cartography of biocommunicable discourse including, but not limited to, the forthright conversation she is having with Lisbeth. From an external perspective, Lisbeth’s conversation with Eva is just one of many that matters in shaping health behaviors. By following the heteroglossic nature of the discourse, or its encompassing of a multitude of past and present voices, one can understand how the cartography of health intervention within her own community allowed Eva to disregard the pressure exerted by Lisbeth, and by extension, the entire ideological discourse produced by and about TGH-based healthcare.

In the end, regardless of Lisbeth's attempts to promote the referral hospital as a good, safe, and healthy choice to make, Eva chose not to go to Quito. Few public health practitioners would call the interaction a success in terms of patient follow-up, compliance, or overall health promotion. However, this case study provides clues to understanding how cartographies of biocommunicability can interact to influence individuals' decision-making about healthcare every day. For health promoters, any bid to influence individuals' decisions as part of an international NGO's initiatives must be designed with anticipation and understanding of the multiple discourses occurring in a community and the ways in which past experience influences present-day choices. To address why Eva did not follow Lisbeth's advice, we must begin to examine how discourses can involve better dialogical productions of knowledge, so that CHWs can more effectively address competing discourses in unyielding contexts of biocommunicability such as Napo's cartography of seeing healthcare as sometimes violent, but always external, intervention.

Conclusion

In this paper, I have described the social discourses that affect health decision-making in the upper Napo valley as well as suggested a theoretical approach for analyzing how health decisions occur in the localized contexts like the upper Napo valley of Ecuador. From the start of my research in the Via Misahuallí community in 2013, my objective was to trace the relationships between social discourses and the decisions people make to improve health. Instead, the communities of the upper Napo valley revealed a much richer discursive process that includes the social production of knowledge, dialogic decision-making and competing fields of discourse in the shape of biocommunicable cartographies.

Through the evidence collected in my ethnographic research paper, health decisions in Napo, Ecuador appear to rely on a number of social cartographies surrounding systems of healthcare as well as discourses of race, ethnicity, and politics. In analyses of these cartographies, external health intervention, an occurrence that reflects a long history of external interventions in Napo province, seems to be the primary dialogic process by which health discourses are understood in rural communities. As exemplified by the case of Eva, this biocommunicable cartography can, in fact, shape decisions by causing patients to distrust systems of healthcare. With data showing that Timmy Global Health may not necessarily understand its discursive locations within these cartographies influencing health decisions, CHWs cannot always access the knowledge or frame of discourse necessary to encourage health-seeking decisions.

In conclusion, I will return to the vignette I used to introduce the concept of biocommunicability in the first place. If educated, well-intentioned community health workers, such as Carlos Andi, can misinterpret biocommunicable knowledge available in mass media, as

he did when he bleached the pond, then health-related fields cannot rely on individual patients to make informed decisions amidst confusing and disorganized biocommunicable cartographies. By drawing dialogic connections for how decisions occur in Napo, it is my vision that research in biocommunicability can be applied in real settings to improve public health promotion, education, and many other forms of health interaction in local and global contexts.

Bibliography

Airhihenbuwa, Collins and Rafael Obregon

2000 A Critical Assessment of Theories/Models Used in Health Communication for HIV/AIDS. *Journal of Health Communication*. 5(1): 5-15.

Bakhtin, Mikhail

1982 *The Dialogic Imagination: Four Essays*. Translated by Caryl Emerson and Michael Holquist. Austin: University of Texas Press.

Beahm, Austin

2011 The Slippery Slope of Tourism and Oil in the Amazon: The Story of Tena, Ecuador. *Focus on Geography* 54(2): 70-74.

Bilsborrow, Richard with Alisson Barbieri and William Pan.

2004 Changes in Population and Land Use Over Time in the Ecuadorian Amazon. *Acta Amazonica* 34(4): 635-647.

Borman, Randall

1996 Survival in a Hostile World: Culture Change and Missionary Influence Among the Cofan People of Ecuador, 1954 –1994. *Missiology* 24:185.

Briggs, Charles

2001 Modernity, Cultural Reasoning, and the Institutionalization of Social Inequality: Racializing Death in a Venezuelan Cholera Epidemic. *Comparative Studies in Society and History* 43(4): 665-700.

2005 Communicability, Racial Discourse, and Disease. *Annual Review of Anthropology* 34(1): 269-291.

2011 Biocommunicability. In *A Companion to Medical Anthropology*. Merrill Singer and Pamela Erickson, eds. Pp. 459-456. Malden, MA: Blackwell Publishing.

Briggs, Charles, and Daniel Hallin

2010 Health Reporting as Political Reporting: Biocommunicability and the Public Sphere. *Journalism* 11(2): 149-165.

Briggs, Charles and Mark Nichter

2009 Biocommunicability and the Biopolitics of Pandemic Threats. *Medical Anthropology* 28(3): 189-198.

Bulled, Nicola.

2011 "You Can Find Anything Online": Biocommunicability of Cyber-Health Information and its Impact on How the NET Generation Accesses Health Care. *Human Organization* 70(2): 153-163.

Asociaciones de Gobiernos

- 2013 Mapa de Gobiernos Autónomos Descentralizados Parroquiales Rurales.
<http://www.competencias.gob.ec/listado-parroquias>, accessed 13 January 2014.
- Cripps, Stephanie
N.d. An Assessment of Community Health Promoters in Ecuador's Napo Province.
Unpublished MS, The Eck Institute of Global Health, The University of Notre Dame.
- Farmer, Paul
2004 An Anthropology of Structural Violence. *Current Anthropology* 45(3): 305-325.
- Fishbein, Martin and Icek Ajzen
1975 *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*.
Reading, Massachusetts: Addison-Wesley.
- Gerlach, Allen
2003 *Indians, Oil, and Politics: A recent history of Ecuador*. Lanham, Maryland: Rowman
& Littlefield Publishers.
- Hanna, Bridget and Arthur Kleinman
2013 *Unpacking Global Health: Theory and Critique*. In *Reimagining Global Health: An
Introduction*. Paul Farmer, Jim Yong Kim, Arthur Kleinman, and Matthew Basilico, eds.
Pp. 15-32. Berkeley: University of California Press.
- Hahn, Robert and Marcia Inhorn
2009 Introduction. In *Anthropology and Public Health: Bridging Differences in Culture and
Society*. Robert Hahn and Marcia Inhorn, eds. Pp. 1-31. New York: Oxford University
Press.
- Holland, Kate and R. Warwick Blood
2012 Exploring the Concept of "Biocommunicability" through an Analysis of Journalists'
Talk about Reporting the 2009 Swine Flu Pandemic. Paper presented at the Australian
and New Zealand Communication Association Conference, Adelaide, May 2012.
- Janz, Nancy and Marshall Becker
1984 The Health Belief Model: A Decade Later. *Health Education & Behavior* 11(1): 1-47.
- La Parrochia Puerto Misahuallí
2011 Plan del Buen Vivir y Ordenamiento Territorial de la Parrochia Puerto Misahuallí
2011-2020. Governmental Strategic Plan. Puerto Misahuallí, Ecuador: Escudo de la
Parroquia Misahuallí, Administración 2009-2014 Sr. Patricio Guevara B.
- Pelto, Pertti and Gretel Pelto
1997 Studying Knowledge, Culture, and Behavior in Applied Medical Anthropology.
Medical Anthropology Quarterly 11(2): 147-163.
- Perreault, Thomas.

- 2003 Making Space: Community Organization, Agrarian Change, And The Politics Of Scale In The Ecuadorian Amazon. *Latin American Perspectives* 30(1): 96-121.
- Pigg, Stacy Leigh
 2001 Languages of Sex and AIDS in Nepal: Notes on the Social Production of Commensurability. *Cultural Anthropology* 16(4): 481-541.
- Raut, Sushant and Gary Barker
 2002 *Achatina fulica* Bowdich and Other Achatinidae as Pests in. Molluscs as crop pests: 55-78.
- Rogers, Everett and F Shoemaker
 1972 *Communication of Innovations: A Cross-Cultural Approach*. New York: Free Press
- Scheper-Hughes, Nancy
 2004 Comment on An Anthropology of Structural Violence. *Current Anthropology* 45(3): 317-318.
- Torres, María Idalí with David Marquez, Elena Carbone, Jeanne Stacciarini, and Jennifer Foster
 2008 Culturally Responsive Health Promotion in Puerto Rican Communities: A Structuralist Approach. *Health Promotion Practice* 9(2):149-158.
- Uzendoski, Michael
 2004 The Horizontal Archipelago: The Quijos/Upper Napo Regional System. *Ethnohistory* 51(2): 317-357.
- 2005 *The Napo Runa of Amazonian Ecuador*. Urbana: University of Illinois Press.
- van Dijk, Teun A.
 2009 *Critical Discourse Studies: A Sociocognitive Approach*. In *Methods of Critical Discourse Analysis, 2nd Edition*. Ruth Wodak and Michael Meyer, eds. Pp. 62-86. London: Sage Publications.
- Whitehead, Tony
 2002 *Community Based Interventions, Definitions and Types*. The Cultural Ecology of Health and Change (CEHC) Working Paper Series, 2. Cultural Systems Analysis Group, The University of Maryland.
- Wodak, Ruth and Martin Reisigl
 2009 *The Discourse-Historical Approach*. In *Methods of Critical Discourse Analysis, 2nd Edition*. Ruth Wodak and Michael Meyer, eds. Pp. 87-121. London: Sage Publications.
- Wroblewski, Michael
 2010 *Voices of Contact: Politics of Language in Urban Amazonian Ecuador*. Ph.D. Dissertation, Department of Anthropology, University of Arizona.

Yoder, P. Stanley

1997 Negotiating Relevance: Belief, Knowledge, and Practice in International Health Projects. *Medical Anthropology Quarterly* 11(2, Knowledge and Practice in International Health):131-146.