

Biehl International Research Fellowship

Proposal by Gil Horner C'20

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What features of modern ethnomedical customs in the Loreto region of Northeastern Peru
conflict or converge with biomedicine?

Introduction

Situated at the confluence of the Amazon, Itaya, and Nanay rivers, some two thousand miles upstream from the Atlantic Ocean, lives the “Capital of the Peruvian Amazon”: Iquitos. With a population nearing half a million, Iquitos is a sizeable and rather surprising settlement given its disposition within the Amazon Rainforest.¹ The conurbation’s four districts—Maynas, Belén, Punchana, and San Juan Bautista—are interconnected by market-lined streets just wide enough for colorful *motocarros* to flash by in bright, noisy pursuit of their destination. The city is the largest in the world to be accessible only by boat or plane. While the Amazon Rubber Boom of the nineteenth century played a certain role in the growth of this far-inland river port, today Iquitos is a major hub for eco-tourism, ecological research, and natural resource exportation.²

Iquitos is the capital of the Loreto Province, which is the northernmost district of Peru that spans nearly one-third of the country’s territory. Forty-five percent of Loreto inhabitants live in Iquitos, and the rest are dispersed throughout the Amazon Rainforest region, which covers approximately 98 percent of the province. Most people outside of metropolitan Iquitos live in small communities that line the Amazon River and its tributaries. These river villages tend to be remote, with limited access to municipal provisions such as clean water and health care facilities.³

Several systematic surveys of health amongst the inhabitants of rural Loreto—wherein Indigenous and *mestizo* (or mixed heritage) people make up most of the population—indicate high poverty rates and poor access to healthcare.^{3,4,5} In the mid-twentieth century the *Ministerio de Salud del Perú* (*MINS*A, *Ministry of Health*, the most prominent health care provider in Peru) was established, which, as of a 1995 operates over seven thousand health facilities of all types across the nation. While MINS

uncommon for residents of the river villages to have to travel several hours, or even days, by boat to access care. Additionally, the health workers at many rural posts are untrained, often unable to offer more than low strength analgesics.^{4,6} It appears that despite a growing economy and recent efforts by the Peruvian government, such as the 1997 *Ley General de Salud* (general health law) or the 2001 update to *Seguridad Integral de Salud* (SIS – universal health care), the issue of inadequate medical resource distribution remains.⁷ One 2015 study found 42 percent of the Loreto population to be classified as living in poverty (subsiding on less than \$1.25 a day), with one of every three children under the age of five malnourished.⁵ It is evident that the isolation of many rural communities in Loreto, coupled with the government’s bias towards more accessible regions such as Iquitos, results in poor health outcomes.

Despite limited availability of biomedicine in Loreto, traditional medicine is deeply ingrained in the region’s culture and is still prevalent today. Brierly (2014) notes that “a paucity of medical resources and deeply embedded cultural beliefs mean that rural Amazon communities are heavily reliant on traditional medicine, use of plants, and traditional healers.” Traditional medicine, or ethnomedicine, is defined by the World Health Organization (WHO) as the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health, as well as in the prevention, diagnosis, improvement, or treatment of physical and mental illnesses.⁸ Forty-five percent of the Peruvian population uses traditional medicine today, with heightened reliance in rural areas such as the many river villages of Loreto.⁷ The “three As of traditional medicine” are often cited when discussing the importance of traditional medicine in global health: affordability, availability, and accessibility.⁹ Fulfillment of these conditions in the greater Iquitos region makes

the area an ideal location to consider the cultural interplay of ethnomedical customs and biomedicine.

There has not been significant research on the ethnomedical customs throughout the Peruvian Amazon and, amongst studies that have been conducted, there is conflicting evidence regarding preference for ethnomedicine versus biomedicine. For example, Nawaz and others⁴ and Brierly and others³ found a majority of respondents at their study sites to understand traditional medicine as always or sometimes effective and to be equal or better than modern medicine, whereas Williamson and others⁵ discovered an abating interest in traditional medicine and preference for modern medicine, despite the ubiquity of traditional medicine. Other research has considered how ethnomedical customs diminish uptake of available evidence-based treatments.¹⁰ A study of the indigenous peoples among the Andes shows that biomedicine may operate in a hegemonic fashion, positing ethnomedicine as “a resource for cultural affirmation”.¹¹ All of the studies conclude that for healthcare situation to improve in the region, biomedical initiatives must be culturally relevant, taking into consideration people’s complex conception of health as inextricably linked with ecological and spiritual realms.¹²

In an effort to address the disparity in the awareness and recognition of important traditional medical customs of the Loreto Region, I will conduct intensive fieldwork with a dynamic cultural scope: by leveraging the help of a variety of contacts, including researchers and medical doctors from the United States and Peru, I will examine how people understand health and treat disease in urban Iquitos as well as river villages of the Amazon and its tributaries. My research will be a valuable starting point for future community health programming and policy work, as application of the anthropological lens to the rich customs of Loreto is cutting edge, effectively serving an end that most medical efforts have not otherwise afforded.

As a Hippocrates Fellow and candidate for the community health-centric Certificate in Civic and Global Leadership, I have extensive experience considering effective health interventions both inside and outside of the classroom. The opportunity to combine my interests in community engagement, global health, anthropology, and Spanish through fieldwork in the Peruvian Amazon would be invaluable to the elongation of my medical perspective.

Statement of Objectives

To learn how someone engages with wellness is to endeavor for deep cultural understanding. A central tenant of medical anthropology is *holism*, which brings forth the notion that no cultural feature exists in a vacuum. This is to say that we cannot investigate what cultural anthropologist Clifford Geertz would call “thick description” without paying attention to ecology. Thick description, in this case, refers to the ethnomedical customs of people in Loreto. My work will evaluate deep-rooted medical customs that attend to the culturally-identified illnesses of the region, paying close attention to the roles of both ethnomedical and biomedical treatment. I will attempt to consider both systems, however from my preliminary research I suspect I will find medical pluralism to be common practice. Medical pluralism is a concept that emerges from consideration of etiology and explanatory models, and is understood to be “when multiple healing systems are represented in a culture”.^{13, 14, 15}

While anthropologists understand medical systems to reflect the beliefs and values of a group, it is not unusual for conditions—such as displacement of Amazonian people due to resource exploitation—to give rise to a pluralistic reality. This seems to be the case for much of Loreto because, while traditional medicine is inextricably linked to culture, varying degrees of modern medical initiatives have left much of the population ‘double dipping’, often using

whichever is most convenient.^{6, 11} With this information, my proposed research question translates into the following objectives:

- To learn how reliance on traditional medicine in and around Iquitos has shifted, if at all, with increased prevalence of biomedicine.
- To understand the decision making processes of health seeking behavior in low-resource (e.g. further from a health post or seldom visited by medical missions) versus easy-access areas.
- To learn what similarities and differences people conceive between ethnomedicine and biomedicine.
- To consider how ethnomedicine and biomedicine could be integrated.

Methodology/ Plan of Work

To execute my research I will rely heavily on participant observation and semi-structured interviews. In the 55 days I will be spending in Iquitos and the surrounding river villages I will harness the strong relationships I have cultivated with contacts (many of which are local to the Loreto region) in the project development process. Because my research aims to consider health from a holistic viewpoint, my fieldwork will resemble ethnographic research. I have selected ethnographic research as the best strategy because it will encourage my adaptation of the perspectives of the people I am spending time with, effectively yielding me an understanding of wellness and health seeking behavior that is needed for further health program and policy design. The contacts that I have will provide me a wealth of opportunities to actualize my desire to do ethnographic work.

My strongest contacts, around which I will center a bulk of my plans for fieldwork, are through the Peruvian American Medical Society (PAMS). PAMS is a nonprofit organization that

was founded in Atlanta in 1973 by a group of American physicians.¹⁶ Today PAMS has chapters throughout the United States that organize medical missions across Peru, primarily addressing healthcare disparities of underserved populations. I first heard about PAMS after getting to know Gail Vines, the chef in McClurg's vegan line last year (has since left), who was in Sewanee for a year housesitting for her friend who was serving on medical missions in the Peruvian Amazon. At one point in the spring of 2017 Gail, after learning of my interest in global health, brought me a pamphlet for the mission her friend was on at the time. Given my obligations for the semester and summer, it was unrealistic to consider going. When I began to formulate a reasonable research project, however, my one Peruvian connection came to mind. I immediately reached out to Gail, however over a month would pass before she would be able to connect me with her friend, who I now know to be a lady named Anita Vargas. In the mean time I made a plethora of valuable connections on my own.

I first located the PAMS website, and looked into the various medical missions taking place in 2018. I began to narrow down options by timing (i.e. over the summer) and scope. Thinking back to the pamphlet Gail brought me, I decided to consider one of the missions that took place in the Peruvian Amazon. Aware of the immense biodiversity of the Amazon and prevalence of ethnomedicine, I contacted the medical director of a mission to Morona Cocha, a neighborhood clinic of Iquitos. The physician-director of this particular mission, named Dr. Azucena Izquierdo, is native to Iquitos, and received her medical training in Peru. She now lives and practices in Fremont, Ohio. Dr. Izquierdo and I have since spoken extensively on the phone, and she is very interested in serving as a primary sponsor for my research. She described to me the need for culturally relevant care, and is excited by the prospect of having me on her team. As it turns out, Dr. Izquierdo's father was the first pediatrician in the Morona Cocha sect of Iquitos

55 years ago, and happens to have had his doctorate in alternative medicine. Having written his dissertation on traditional use of Ayahuasca in the region, he is assuredly knowledgeable of ethnomedicine in Loreto. Further, he served as the dean of a Peruvian medical school, and therefore has a good understanding of medical systems in the country. He is still alive today, but is terminally ill with cancer and under the care of his daughter, Azucena. Dr. Azucena Izquierdo has invited me her home in Fremont to spend time speaking with her father, who she believes is a precious resource for gleaning the medical biography of the Peruvian Amazon. Thus, my seven and a half week journey will begin with a flight to Fremont, Ohio on June 12, wherein I will spend three days gaining valuable historical context of medicine prior to commencing fieldwork in Iquitos.

On June 15 I will fly with Dr. Izquierdo to Lima, then from Lima to Iquitos. In traveling with Dr. Izquierdo I will have access to a wealth of information regarding medical care in the Peruvian Amazon. The PAMS mission takes place at the very medical clinic her dad founded in Morona Cocha, Iquitos. While the clinic is brick and mortar and, thus, does not mobilize to serve those of distant river villages, Dr. Izquierdo explained to me that it is not uncommon for the clinic to treat individuals who have traveled for upwards of eight hours by canoe. The mission does not formally commence until June 22, so in the first week I am in Iquitos I will assist the mission team in preliminary work and, depending on logistics, spend time getting to know the city and its people. I will make site visits to locations such as Belen Market—the “Shaman’s Alley” of Iquitos—and the *Instituto de Medicina Traditional*, the government-funded traditional medicine research center. Additionally, I will be spending time with Anita Soluna, Gail’s friend who I mentioned I would come to know after making other connections.

Anita serves as the coordinator for Selva in Action, a separate PAMS-affiliated mission to Iquitos and proximal river villages, and has traveled to Peru 20 times for medical work. She contacted me (via Gail) after I had already connected with Dr. Izquierdo, and, coincidentally, is close friends with her and will be joining us in the Morona Cocha mission. Anita will also be arriving in Iquitos a week prior to June 22, as she is part of the mission team.^a For between three and five days I will travel with the mission leaders, including Dr. Izquierdo and Anita, into 10 to 20 villages along the Rio Momón where we will conduct patient follow-ups from the preceding Selva in Action mission that took place in April. I will help with checking hemoglobin levels, blood pressure, and in verifying participation and logistics with the eye surgery patients. We will be camping during this time, and Anita has assured me that this brief time in the jungle will aid in my acclimating to the Loreto region. Further, Anita has told me about a man named Raul, an herbalist who, to access his medicinal garden near his home, must pass by a MINSA health post. Raul is an example of the type of person who will help me understand interaction between traditional and modern medicine from a “healer” perspective.

During Dr. Izquierdo’s mission I will again assist the physicians and nurses in tending to patients and, through participant-observation, collect data on health seeking behavior. It is in this mission that eye surgeries will take place. Dr. Izquierdo and I have not yet discussed the details of interviews, but she trusts that I will have plenty of opportunities to engage with patients. In the case that the clinic environment is conducive to speaking one-on-one with patients, I will conduct semi-structured interviews. In an effort to learn how people understand illness in the face of biomedical care, the following style of questions will be asked in Spanish:

- What brings you to the clinic today?

^a Anita has actually also invited me to travel with her and, in the case that I find that to make more logistic sense, I will do that. This potential variation would only change the way I travel to Peru (e.g. Lima via Nashville, not Cleveland).

- Why did you decide to come to the clinic today rather than, for example, a healer?
- Did you try to help this at home prior to seeking clinical care?
- Is the clinic your standard for medical treatment?
- Do you find the clinic to offer helpful recommendations and care plans?
- Are there cases when you do not come to the clinic for medical care?

The medical mission will terminate on June 30, and promptly following then Dr. Izquierdo will travel home to Ohio. In our phone conversations she has made clear that before leaving the region, she will guarantee me a place to stay as well as regional contacts with medical affiliation. Because of a major fundraising campaign back home in Iquitos (that ends February 16, 2018), Dr. Izquierdo and I have been unable to make solid plans for accommodations in the time to follow, but she has mentioned that I could stay for an extended period of time at a discounted rate in the same hotel used for the mission volunteers (as her friend is the owner and makes deals). From July first to August fifth I will shift from clinic work in Urban Iquitos to more independent ethnographic work, peering further into rural Loreto. I have several important contacts that will facilitate my accessing rural villages and informants.^b

Through Dr. Lisa Burner in the Spanish department I learned about the Latin American Observatory at the Universidad de la Amazonia in Colombia, a research center with projects focused on water justice and peace in the Amazon Basin. While the contact Dr. Burner reached out to did not respond, my attention was caught by the work Dr. Juan Carlos Galeano, a faculty member at the observatory. Dr. Galeano is a professor, writer, and film producer whose work has been recognized internationally. His documentary film *El Río*, a work that considers the spiritual essence of the Amazon River, encouraged me to locate and contact him in hopes of his willing to

^b Anita will be in Iquitos until July eighth continuing follow-up work for PAMS. She is willing to collaborate with me and help as I become increasingly comfortable in the region.

help. This film, along with another of his, entitled *The Trees Have a Mother*, features shamans and the rich customs of *ribereños*, or people of the river. Soon after sharing an overview of my project with Dr. Galeano, we were speaking on the phone about local contacts and logistical considerations. Believing my research is “important”, Dr. Galeano has vowed to connect me with people he knows in the greater Iquitos region including shamans, professors, and *ribereños*.^c What’s more, he will be in Loreto for a period of time that overlaps almost exactly with the six additional weeks I will be conducting fieldwork. He will be there for *Journey into Amazonia*,¹⁷ a service learning fieldwork-oriented summer program that takes a student group from Florida State University into Iquitos and the river villages of the Peruvian Amazon. As such, he will be able to facilitate some introductions with me in person, which is important for establishing rapport. I will spend approximately two weeks (from July first to July 15) meeting with Dr. Galeano and his contacts, who will offer a range of perspectives on ethnomedicine and biomedicine. *Snowball sampling* is a research principle I will utilize to maximize contact with stakeholders in various domains of medical care (including providers and patients) who are affiliated with my local contacts.

Another contact who will serve an integral role in my fieldwork is Dr. Devon Graham, founder of Project Amazonas (PA), a group described on their website as “a non-political, non-sectarian NGO working since 1994 to serve the people of the Amazon and conserve the rainforest.”¹⁸ The organization was founded on the basis of rainforest conservation, but has initiatives to improve medical care in the river villages. The medical efforts of PA tend to be in collaboration with MINSA and other community health programs, so my relationship with Dr. Graham will allow me to see firsthand medical work in the villages. Dr. Graham and I have

^c Including teacher and philosopher, Rafael Anatari from the Shawi ethnic group, who works at Formabiap-Aideseep in Iquitos and ethnobotanist Elsa Tiana Sanfaro, a scientist who works at Instituto de Investigación de la Amazonía Peruana (IIAP) in Iquitos. I have sent each of these individuals a research overview written in Spanish (see at end of proposal), with the help of Dr. Marquez in Sewanee’s Spanish department.

communicated over email, and will be speaking on February 23 about ways I can be involved with their work. Anita is familiar with PA, and thinks that Dr. Graham will be a helpful resource for getting deeper into the river villages of the Peruvian Amazon. This will be valuable to ensure a balanced survey that considers distance to Iquitos, which is a known factor for access to biomedical care. PA operates four biological research stations in Peruvian rainforest reserves which are welcoming to researchers, conservationists, and eco-tourists. I anticipate spending my final three weeks, from July 16 to August 4, conducting intensive village stays at two to three of the four field sites that PA operates East of Iquitos, on either side of the Amazon. Santa Cruz Forest Reserve, Sabalillo Forest Reserve, Madre Selva Biological Station, and Puacarillo Forest Reserve are the four field sites from which I will pick after speaking with Dr. Graham about pricing, accessibility, proximity to river communities, and local medical initiatives. Fieldwork during my week-long field site stays will primarily involve semi-structured interviews of health workers, people seeking care, people in public spaces (e.g. of casual encounters), and people in their homes. The questions will resemble those mentioned above, but will depend heavily on the context. For example, if I am speaking with someone about their use of ‘household medicine’, I will ask questions such as the following, again in Spanish:

- What do you do in the occasion that something feels “off” with your body?
- What do you always keep in your home for medical care?
- Are there times when always go to an outside care-provider?
- Can you describe the experience of going to a healer?
- What features of the different approaches to wellness do you like best?

Given the rather sporadic nature of anthropological fieldwork, I will defer to the conditions of my social environment when deciding how to collect data. While semi-structured interviews

(with closed and open-ended questions) and participant observation are expected to be the core of my fieldwork, unstructured interviews will certainly come into play as I develop relations in and outside of Iquitos. The data I collect will be logged primarily through recorded interviews (with permission), otherwise I will take notes during or promptly following hands-on engagement or conversation with informants. I will reflect nightly in a journal and transcribe notes and recordings to my laptop computer. At the end of my project I will consider my work holistically and develop my findings through a research report, which will also incorporate literature review from materials collected prior, during, and after my fieldwork.

The presiding limitations that I will remain mindful of throughout my fieldwork are inherent to interviews, the cardinal ethnographic medium. There exists the reality that I will encounter people who may appear to be great contacts, but would prefer to not be involved in my research. I will of course respect this, however I anticipate that my contacts, as well as any further connections I make via the aforementioned snowball sampling, will be happy to be interviewed. I am aware that my project, including each of the questions I anticipate will be used in my interviews, will need to be approved by Sewanee's International Review Board (IRB). This will ensure that my research respects ethical standards that are important for my research, as it could potentially tread on highly personal territory. Additionally, I have learned in Sewanee courses such as Bioethics, Introduction to Civic and Global Leadership, Medical Humanities, and Introduction to Cultural Anthropology key principles for pursuing research amongst foreign cultural groups.

Statement of Impact

My research will not only provide the scientific community with an understanding of health and healthcare initiatives that is more nearly aligned with the people of the Loreto region, but will also serve as an invaluable experience for me as I strive to advance my awareness of intercultural medicine. The work, while approached ethnographically, is rooted in phenomenological investigation of the evolution of ethnomedical customs with biomedical presence, an imminent cultural force. If allowed the opportunity, my work could be the beginning of important public health program development which considers deep-seeded traditions in the Peruvian Amazon, ultimately helping people live “well”.^d

Practical Details

Proposed Itinerary

- June 12: flight from Nashville, TN (BNA) to Toledo, OH (TOL)
- June 12 – June 15: meeting with Dr. Izquierdo and speaking extensively with her dad to gain biography of medicine in the Loreto region
- June 15: flight from Cleveland, OH (CLE) to Lima, Peru (LIM) with Dr. Izquierdo
- June 15: flight from LIM to Iquitos, Peru (IQT)
- June 16 – June 21: preliminary mission work in 10-20 river villages and site visits in urban Iquitos
- June 22 – June 30: Morona Cocha medical mission, including loosely structured interviews with patients and biomedical care providers

^d I have placed well in quotations to emphasize the subjective nature of the term. I know from findings such as those discussed in Carolina Izquierdo’s “Well-Being among the Matsigenka of the Peruvian Amazon” that improving physiological health does not always imply “wellness”.

- July 1 – July 15: two weeks of fieldwork in river villages around Iquitos, likely keeping Iquitos as home base (i.e. making day trips to meet Dr. Galeano’s contacts, then returning to city)
- July 16 – August 4: travel to more distant river villages with guidance of Dr. Graham, fieldwork in river villages via two to three, one to one and a half week-long stays at Project Amazonas field sites
- August 5: flight from IQT to LIM
- August 5: flight from LIM to BNA
- August 6 – August 13: data compilation and analysis, development of final research report

Additional Contacts

I have embedded my primary contacts in the “methods” section above. Additional contacts who have helped me think through this project include the following:

- Cassandra Leah Quave, PhD
 - Ethnobotanist at Emory University who conducted fieldwork in the river villages of the Napo River, a tributary of the Amazon.^e
- Elizabeth Ivanovich, MPH
 - Director of Global Health at the United Nations Foundation in Washington, D.C. and Latin American Peace Corps Volunteer.^f

^e See Dr. Quave’s article in bibliography, “Helminthic infection and anemia in childhood...”

^f Elizabeth has provided me with contact information of individuals who are associated with The United Nations Foundation who live in Iquitos and other parts of the Peruvian Amazon. I will be reaching out to them in the week following the Morona Cocha mission, as Anita knows one of the contacts personally.

- Catherine Plumlee, MPH
 - Sewanee alumna and three year Peace Corps volunteer in Indigenous communities of Guatemala.
- Angelica De Freitas
 - Sewanee alumna and Peruvian Peace Corps Volunteer, now applying to medical school.

Language Training

I have taken through the 300 level of Spanish at Sewanee, thus I feel confident in my conversational capacity. Dr. Arturo Marquez-Gomez of the Spanish department believes me to be capable of pursuing Spanish-intensive fieldwork such as this (see letter of recommendation at end of proposal). We are working together each week at the Spanish table to strengthen my speaking skills. Prior to traveling to Peru I make effort to learn medical terminology and other phrases (e.g. conventional Peruvian lingo) that I may not have learned in my formal language training. I will familiarize myself with some Quechua, with the understanding that some ethnic groups of the Amazon speak this, or a mix of Quechua and Spanish.

Visa Requirements

United States citizens with a valid passport are granted a 60 or 90 day travel visa which will be stamped in passport upon entry at no charge.

Vaccinations

Before I leave for fieldwork I will meet with my primary care physician to ensure I am up to date with vaccinations. In the case that my routine vaccinations are not up to date, I will get them then. Per to the CDC's "Traveler Health: Peru" webpage, I will specifically be sure I have been given Hepatitis A and Typhoid vaccinations, which are recommended for extended-stay travelers.

Faculty References

The following faculty members have advised me in both academic and extracurricular contexts, and have agreed to serve as references for this project:

- Alyssa Summers, PhD (arsummer@sewanee.edu)
 - Hippocrates Fellowship advisor, Biology and Medical Humanities professor
- James Peterman, PhD (jfpeterm@sewanee.edu)
 - Certificate in Civic and Global Leadership advisor, Bioethics and Introduction to Civic Engagement professor

Estimated Budget

Note: conversions based on exchange rate as of February 15, 2018 and all flights are economy; details from Google Flights as of February 15, 2018.

1 United States Dollar (USD) = 3.25 Peruvian Sol (PEN)

Travel

- American Airlines flight from BNA to TOL: \$157

- Spirit Airlines flight from CLE to LIM: \$302
- Star Peru Airlines flight from LIM to IQT: \$81
- Star Peru Airlines flight from IQT to LIM: \$75
- JetBlue Airlines flight from LIM to BNA: \$430
- Transportation in city during preliminary week and mission: \$5/ day x 15 days = \$75
- Boat trips into river villages for span of trip: \$500
 - Fara Elonitas is a local contact who charges 60 Soles per day for boat chauffeur and will accompany me in any independent village visits, as she lives upriver and is well known.

Accommodations

- Victoria Regia Hotel in Iquitos during mission: \$50/ night x 14 = \$700
- Homestay/ hotel/ hostel in Iquitos following mission (TBD): \$430
- Boarding in Project Amazonas field stations: \$233/ week x 3 = \$700
- Food: \$10/day x 55 = \$550

Total = \$4,000

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