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Clinical Reality and Illness Experience in Rural Niger

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Abstract
Health is an issue that concerns both individuals and institutions. In the 21st century, Africa has been subject to the integration of western medicine into their society and traditional healing practices. In Niger, the health crisis is not entirely due to lack of medical personnel or facilities, but rather, a lack of understanding between western trained doctors and tribal people. The philosophical causation of illness has a dramatic impact on treatment and recovery. The western health paradigm understands biomedical pathology as the processes underlying disease and treats the patient according to scientific reason. However, in the traditional Hausa health paradigm, disease is a result of supernatural intervention or illness entities that are inherent agents inside the body that can only be treated rather than cured. Both health paradigms are deeply entrenched in the social relationships that contribute to illness and healing. My research aims to understand how Hausa tribal people experience illness and healing in a western healthcare institution.

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Clinical Reality and Illness Experience in Rural Niger

by

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# Table of Contents

Abstract .................................................................................................................. \textit{i}
Acknowledgments ....................................................................................................... \textit{ii}
Introduction ............................................................................................................ 1
Literature Review ..................................................................................................... 14
Methodology ............................................................................................................ 21
Analysis
  1. Babo Lafiya: Western Medicine in the Bush .................................................. 36
  2. Ciwon Allah: Hausa Character, Illness Experience, and Clinical Reality in the Hospital Setting .......................................................... 47
Conclusion ............................................................................................................... 56
Works Cited ............................................................................................................. 59
Appendix .................................................................................................................. \textit{x}
Abstract

Health is an issue that concerns both individuals and institutions. In the 21rst century, Africa has been subject to the integration of western medicine into their society and traditional healing practices. In Niger, the health crisis is not entirely due to lack of medical personnel or facilities, but rather, a lack of understanding between western trained doctors and tribal people. The philosophical causation of illness has a dramatic impact on treatment and recovery. The western health paradigm understands biomedical pathology as the processes underlying disease and treats the patient according to scientific reason. However, in the traditional Hausa health paradigm, disease is a result of supernatural intervention or illness entities that are inherent agents inside the body that can only be treated rather than cured. Both health paradigms are deeply entrenched in the social relationships that contribute to illness and healing. My research aims to understand how Hausa tribal people experience illness and healing in a western healthcare institution.
Acknowledgements

This project has been a journey of the heart and mind into the darkest reaches of human suffering and the extraordinary resilience of the human spirit. I am forever grateful to the multitude of individuals who have made this project possible. I could have never set foot in the field without the emotional and intellectual support of my family, friends, professors, and doctors. I am particularly thankful for my parents who have given me their blessing to pursue my work in Africa, despite what they describe as “many sleepless nights” and “worry-induced high blood pressure”.

I also wish to express my utmost gratitude and affection to Dr. Cheelen Mahar PhD and Dr. Chris Wilkes PhD who have guided me throughout my academic career and senior thesis work. Their invaluable knowledge, support, and insight gives me courage to confront the deeply complex issues of healthcare and human suffering in both my project and personal field experiences. They have also given me countless opportunities to expand my personal and academic horizons through their guidance and support. Because of their profound inspiration, I have discovered direction in my life, and will continue to study medical anthropology in Nigeria on a Fulbright scholarship in 2008.

My research would have never been possible without the kindness and collaboration of the Serving In Mission (SIM) staff and their families working in SIM hospitals in Galmi and Danja, Niger. In the summer of 2006, I stumbled off a bus in Galmi to meet Dr. Don Townsend M.D. and his family; the people that first inspired my research. They so graciously welcomed me, a hungry and dirty traveler, into their home; and they shared with me the beauty and pain of the Nigerian people. They also facilitated my return to Niger in January 2007 by connecting me with Dr. Chris Zoolkoski M.D. and his family, who made all of the arrangements for my field research. This incredible family also warmly welcomed me in their home and community, for which I am forever grateful. I arrived during one of the busiest months at Galmi Hospital, and yet they went above and beyond to accommodate me and my research objectives by coordinating my home stay in the village and transfer to CLS Hospital in Danja. They kindly fostered my research and personal journey in understanding illness and healing in rural Hausaland.

The staff at CSL Hospital in Danja is close to my heart for many reasons. I am profoundly humbled by their compassion and dedication to their work in one of the world’s most challenging environments. The Danja community welcomed me with phenomenal openness and trust. I worked closely with the doctor and nurses in all branches of the hospital, and I am thankful for their kindness in answering all of my questions and supporting me throughout my research. I would especially like to thank Dr. Assoumame Issa Ibrahim for his invaluable help in navigating and understanding Hausa people and healthcare in Niger.
Introduction

In a ward crowded with women tending to malnourished children, a young Hausa mother clutches her baby apprehensively as a doctor reviews the charts. "Is your baby eating?" inquired the doctor in her native tongue. The woman nodded her head as her gaze fell upon the mothers across the aisle of cots. Many babies had feeding tubes threaded through their nostrils, and she knew that many of them would die as she had already seen. The doctor shook his head as he traced the graph's steady decline. Four kilograms. The baby had a very slim chance of survival, especially if he continued to lose weight and the mother refused the feeding tube. Again the doctor asked in Hausa, "has the baby eaten?" "Oh yes," insisted the mother, "he eats very well".

After the evening's last call to prayer, the mother quietly packed her baby and slipped away from the hospital, frightened by the needles, and feeding tubes, and all of the sick children. She took her child back to the village where the family and community prayed for Allah's mercy. Even after consulting the local medicine man, the baby passed away. The mother, like so many in rural Niger, faced the loss of yet another child for reasons she did not quite understand. Why had such misfortune befallen her family? Were evil spirits to blame, or was this retribution for a wrong doing? And what were those foreign doctors doing with the tubes, and why were the children still dying?

At the heart of medical anthropology is the human experience and how our notions of illness and healing are shaped by culture. Illness is a condition endured by all people of all cultures, yet it is experienced differently by different people. Healthcare systems reflect our fundamental beliefs about life, death, and the ways of the world, both natural and supernatural. In effect, the very notion of illness is a cultural construct
because how we understand the nature of illness and our chosen responses to it stem from fundamental belief systems and worldview. Individual illness experiences are deeply impacted by these collective attitudes and behavioral patterns of society. The immense range of belief systems and social organization results in a wide spectrum of healthcare systems. Through the lens of medical anthropology, my project explores the unique culture of illness, healing, and healthcare systems in a traditional African society.

I first became interested in medical anthropology during my travels in the sun scorched land of Niger in the summer of 2006. I had traveled for four days by bus from Accra, Ghana where I was studying at the University of Ghana, to Galmi, Niger. I had been invited as the guest of a family friend to volunteer in a mission hospital. SIM Galmi Hospital is located close to the Nigerian border and is the only western medical institution in the area. People traveled days by foot, donkey, camel, and bush taxi to be treated by the doctors who come from all over the world to serve the hundreds of tribal people that wait at the gates each day. On hectic days, the four or five doctors in the Out Patient Clinic (OPD) saw several hundred patients. The wards were crowded with women and children admitted for severe malnutrition, which is the root of almost all illness in Niger. While the hospital was well supplied with medicines, the facilities still

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1 Although I am not an evangelical Christian, I greatly respect and value the work that the missionaries are doing in the hospitals to bring western medicines and healthcare to the world’s most impoverished people. Serving In Mission (SIM) operates numerous hospitals in Niger and provides healthcare to people who would otherwise die from treatable illnesses. While anthropologist are sometimes skeptical of evangelistic organizations, mission hospitals are among the top providers of western healthcare in underdeveloped nations. In anthropology, one must work with what is in the field. And in my case, I worked in mission hospitals because of my personal ties, and because they served the rural populations that are the focus of my study. My personal connections with the Townsend family opened the door for me to pursue this invaluable opportunity, and I am forever grateful for their kindness and hospitality. I am also humbled by their dedication to their work and their courage to face the hardships of living in Niger, as it has required many personal sacrifices.
lacked the capacity to accommodate the number of people who show up each day, and the equipment to treat the most complex and fatal illnesses.

During my time at SIM Hospital, I worked closely with Dr. Don Townsend in the Out Patient Clinic. Like many of the doctors in the hospital, Dr. Townsend spoke the predominate tribal language Hausa, and was well oriented with the culture, allowing him to better connect with his patients. I was impressed at how the staff treated their patients with great sensitivity to their culture and condition. Even though their encounters were often brief, the doctors took the time to explain the diagnosis in a way that might help the patients better understand, using an interpreter when needed. The medical staff was also sensitive to the emotional needs of their patients, and took personal interest in speaking with them about coping with illness.

Nevertheless, many of the doctors were puzzled by how the patients received them and their diagnosis. For example, patients would describe their symptoms in ways contrary to western science. Rather than describing a rational and linear progression of symptoms, the patients described an illness with characteristics unknown to science. Numerous patients would come in to the clinic complaining of pains "shooting" in one part of their body and out of the other. Dr. Townsend would often turn to me and say, "What are they saying? The body does not work like that." I began to wonder myself: How can this be? How can one illness be experienced completely differently by two people? At this point, I realized that illness must run deeper than its physical

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2 Most of the children admitted to the hospital for extended treatment were suffering from severe malnutrition. The most advanced treatment the hospital can offer is feeding tubes inserted through the nostril, even though intravenous nutrition therapy is the most effective for treating the condition. However, this method requires constant monitoring of metabolic variables for which the SIM Hospital lacks appropriate equipment. This limits the options of doctors to use the most affective method of treatment.
manifestations. To treat illness, we must look beyond what we see under the microscope, and examine the people, and the cultural environment in which they exist.

A Snapshot of Niger

The Nigerien landscape has the stark appearance of an over-exposed photograph varying in shades of brown. The people of Niger live in scattered settlements throughout the Sahel region, which is an arid but semi-arable stretch of land considered to be the banks of the mighty Sahara\(^3\). Sand stretches as far as the horizon in every direction, interrupted only by the occasional scrubby tree or forging camel. In a country twice the size of Texas, only 11.4% of its land is arable\(^4\). This harsh environment of blistering sun and minimal vegetation suffers through reoccurring droughts, resulting in crop failure and food shortages.

In addition to being one of the most extreme environments on the face of the planet, Niger ranks 177\(^{th}\) out of 177 countries in the 2006 United Nations Human Development Report\(^5\) as the most underdeveloped countries in the world. French colonialism left its mark on Nigerien history and culture, but the colonial masters did little to establish infrastructure before Niger won its independence in 1960. According to the CIA Fact Book, Niger has less than eight hundred kilometers of paved roads and

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\(^3\) The Sahara is often compared to a great ocean because the dunes move similarly to waves in an ocean. The wind redistributes the sand causing the dunes to shift and recycle themselves. The Sahel region which borders the Sahara is slightly less arid and can support limited plant and human life.

\(^4\) The country-based statistical data (arable land mass, life expectancy, literacy rates, etc.) presented in this paper is taken from The United Nations Human Development 2006.

\(^5\) In addition to Gross Domestic Product (GDP), The United Nations Human Development Report is a holistic evaluation of life chances amongst populations around the world based on both economic and human factors. It ranks countries based on factors that truly reflect the human condition including infant mortality, life expectancy, access to resources and healthcare, education, and wealth distribution. The United Nations Human Development Report 2006 “Beyond scarcity: Power, poverty, and the global water crisis” ranks Niger 177\(^{th}\) out of 177 countries.
many communities remain accessible only by foot or beast of burden\textsuperscript{6}. As a result, Nigeriens have little access to electricity, education, or medical facilities. Literacy rates and life expectancy are among the lowest in the world with only 17\% of the population able to read, and the average life expectancy of 43 years—almost half of that of western countries. As the Sahara creeps slowly southward due to overgrazing and desertification, famines occur almost annually. As a result, agriculture is homogeneous because only a few crops can survive the unforgiving African climate. Farmers depend primarily on millet to cultivate their fields and to feed their country. Even though millet is one of the few crops that can grow in the poor soil, droughts have led to crop failure in many regions of Niger. Life is a daily struggle in Niger with hardships lingering on every horizon. But, I am convinced that Nigeriens are among the heartiest people on Earth, because they have endured these ruthless living conditions for generations and still maintain a rich culture.

In all of my travels throughout West Africa, I found Niger to be the most unique. While many African countries are rapidly industrializing, Niger remains rooted in traditional ways of life. Culturally, people still live as they did thousands of years ago as subsistent farmers and nomads despite declining environmental and political conditions. Unlike other poor West African countries who have been decimated by war, Niger has never had any infrastructure that is standard to industrial societies such as road networks.

\textsuperscript{6} At one point in my travels, a local doctor agreed to take me on his motor bike out to a Zarma village where I was to stay with a Peace Corp volunteer who was ten kilometers from the nearest unpaved road. As darkness fell and the sparse landmarks disappeared, we circled the area for half an hour looking for the light of a cooking fire with no avail until we spotted a beacon shining from two lone huts. The lay-out of the village was huts dispersed over some twenty-five kilometers. Some communities are so isolated that their villages are constituted by a loose group of scattered huts with no central point. The organization of villages varies from tribe to tribe, and also in respect to what size of a population the land can support. This village occupied a very arid region of the country and the village was scattered so that a larger land mass could be cultivated.
or access to basic necessities. Because of its isolation, Niger has survived in relative
seclusion from modern technologies and the rise of mass culture. However, globalization
has begun to creep in through government administered structural adjustment and other
programs aimed at revitalizing Niger's economy. At times when I was out in a remote
village, I could almost believe that I had stepped into a story from One Thousand Nights
as elegantly turbaned men strode off to prayer and veiled women peered out from their
huts. Then a child would run by in a Goodwill-reject t-shirt⁷, and I would be reminded
that Niger, despite its isolation, is not immune to globalization.

Hausaland

The people of Niger breathe life into the barren landscape. The land is peopled
by four major tribes: Hausa, Zarma, Fulani, and Tureg. My project focuses primarily on
Hausa people and Hausa culture because of their high concentration in the regions where
I conducted my research. Southeastern Niger and parts of Northern Nigeria are the
traditional territories of the Hausa tribe and are commonly referred to as Hausaland.
While they are not the only tribe to occupy the region, the Hausa language and culture is
often seen as the dominant influence on Nigerien life ways in Hausaland due to their
traditional occupation as merchants. Hausa is the common language spoken between
tribes as a result of their long history of trade. The Fulans are nomadic pastoralist that
also occupy this region and have a close, symbiotic relationship with the Hausa. As

⁷ The United States ships tons of second hand clothing to Africa each year. Local merchants buy the
clothes in bails and sell them at local markets. Although it has created a new source of income for
merchants, this practice has undermined the local textile industries as well as threatened the craft and job
security of tailors.
cattle herdsmen, they provide meat, milk, and hides to the Hausa run markets. In return, Fulans are able to generate a small income that they need in order to buy goods unavailable in the bush. The two tribes co-exist peacefully and mutually benefit from each other in this land of scarce resources.

Hausa people who make up over fifty percent of the population have a rich culture, firmly rooted in tradition and Islam. They are very spiritual and humble people as well as devout Moslems. Shame and honor play a large role in their society along with a very rigid code of conduct and system of values. Gender roles are particularly distinct. I dare to argue that women are the backbone of society. Hausa women carry the heaviest burdens of labor that makes life possible in this hostile environment. They toil each day in the fields, in addition to maintaining their households. Women rise before dawn to pound millet for the day’s meal and continue working until long after the sun slips below the horizon. Because the majority of the population is scattered in rural villages with little or no modern conveniences, a rural Nigerien woman’s primary duty is to bring water from the wells. Water is scarce, and women spend the majority of their day going to and from the well to satisfy the needs of the family and livestock. Men’s work, on the other hand, comes mostly during planting season and harvest when they work their own fields or are hired as laborer for others. Men of higher status manage the family’s money (if they have any), run the markets, and work in skilled labor jobs.

Fulans provide an indispensable contribution to sustaining life in Niger. Because the land is conducive to supporting only hearty crops such as millet and some vegetables (mainly onions, carrots, and tomatoes), the Fulani’s cattle herds are a primary source of protein for all of the tribes in the region. Islamic values and Hausa culture are further discussed in the Literature Review chapter.

Villages deeper in the Sahara often have less access to wells. Women sometimes have to walk three kilometers to reach the nearest well.
The Hausa are a very community oriented society. They live in large families, and some men have multiple wives-- if they can afford it\textsuperscript{11}. In one village, I met an ancient looking man who was going hut to hut selling kola nuts. Through his toothless grin, he told me that his goal was to save enough money to buy a second wife. In a land of such scarcity, large families symbolize wealth and prosperity. Girls are married as young as twelve years old and start having babies as soon as their bodies are mature enough to conceive. Many Nigerien women have around eight children in their life time. However, of those children, two or three will die before reaching adulthood most commonly due to malnutrition or related illnesses.

The vast majority of families that I encountered had lost at least one child. Providing for a family is extremely difficult under such unforgiving conditions. Because of this, Nigeriens have a very intimate relationship with death from which I gained a new respect for life. Death lingers in most rural villages, especially in the early summer months when a family’s food stock runs low\textsuperscript{12}. They are often too poor to buy millet at exorbitantly inflated prices and suffer because of it. This period of food insecurity is marked by what they call “the hungry season”. As a result, hospitals are flooded with severely malnourished children and infant mortality rates spike\textsuperscript{13}. I was humbled by Niger’s struggle just to sustain the population of people whose history is tied to the land

\begin{itemize}
  \item[\textsuperscript{11}]Hausas are traditionally polygamous. However, marriage is just as much of an economic transaction as a social institution. Men are required to pay the woman’s family a bride price in exchange of the labor and children that she will provide to the husband’s family. Even though Niger is an extremely poor country, wives are not cheap. I was told that the bride price is roughly equivalent to the cost of a camel- around CFA 30,000 - which often limits men to affording only one wife. Aside from royal or exceptionally wealthy families, I mostly encountered families with only one or two wives.
  \item[\textsuperscript{12}]After harvest, most families sell a portion of their crop because it is often the family’s only source of income. However, they rarely have enough millet to last them until the next harvest. Therefore, in the months before harvest, families food supplies run out, and they are forced to buy back their own crop at up to 200% more than it had been sold initially.
  \item[\textsuperscript{13}]Children brought into the SIM Hospital were often half the weight of their American counterparts. Healthy one-year olds weigh around ten kilograms, whereas most one-year old children admitted to SIM Hospital weighed around five kilograms.
\end{itemize}
for thousands of years. I also realized that I had never in my life been in a condition of need. I had never before understood the true range of discrepancies and inequality in the human experience. The resilience of Niger's people impressed upon me a profound sense of respect in my understanding of their people and culture.

**The Unintended Other**

Struggle and suffering is only one reality of life in Niger that shaped my relationship with the villagers that I intermingled with throughout my initial travels. Amidst the hardships Niger's environment imposes, Nigeriens are unbelievably warm, gentle, welcoming, clever and intriguing people. Everywhere I went, people peered at me with interest as I was a person from a different world, and I stared back at them with the same curiosity. The children would giggle and pinch my skin. Women would gather around and murmur to each other in Hausa with shy smiles about the stranger in their midst. The men would regard me from a distance with an inquisitive gaze. While I was conscious of the fact that I was a stranger from a strange world, I had never recognized myself as "the other" until I spent several weeks staying with a Hausa family. Most foreigners or annassara (the common Hausa nomenclature for non-African people) in Niger are aid workers. Aside from Peace Corps volunteers who live in the bush, most Nigeriens have only brief interactions with foreign aid personnel who work in villages but reside mostly in the cities or compounds. Thus, my attempt to live amongst the Hausas in their villages was perceived as a bit peculiar.

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14 Needless to say, a poor nation like Niger is not the vacation destination of many western tourists. Aside from the aid workers and missionaries, rural Nigeriens have little contact with people outside of their own ethnicity and nationality.
For most people, I was just a novelty, “the other”. But to many, the company of a stranger was an honor. Because Hausa people regard themselves with great pride, respect and hospitality given to guests are hallmarks of Hausa culture. People opened their homes to me in their esteemed tradition of hospitality. I, a person with great resources at her disposal, was deeply humbled by how people who had barely enough food for their own families welcomed me into their homes.

The way Hausas accepted my presence as an outsider allowed me to explore their culture from a participant’s perspective. It is from the Hausa people that I learned how to study anthropology. Everyone became my teacher: women around the cooking fire, children in the streets, and old me in the markets clued me in as how to live like a Nigerien. They are proud of their culture. “Oh yes, Niger is sweet,” one girl so poignantly replied after asking me what I thought of her country. By simply being with whoever I found myself in the presence of at markets, in a bush taxis, or at the tea shop, I began to understand the basic framework of their society. From there, I worked my way deeper into their culture via a process of trial and error.

I learned first that as an anthropologist or traveler in Africa, my most basic survival ultimately depended on my ability to adapt to the environment. The physical climate in Niger is dangerously intense, and over-exposure and dehydration can be fatal. Nigeriens spend the high noon hours in the shade and relief of their huts—which I quickly learned was the only way to co-exist with the African sun. During these times, the women gathered to socialize and relax. As I sat with them in the shade, I soon

\[15\] Most of the foreign aid workers I encountered often asked me why in the world I had wanted to come travel in Niger “just because”. Travel is often difficult and sometimes dangerous, so most foreigners avoid travel outside of their work. I soon gained a reputation amongst the Peace Corp volunteers as “Niger’s First Tourist”.
appreciated that these precious hours were the highlight and only break in the women’s
day. By adapting to the physical environment, I gained a window into the lives of
Niger’s hardest working women. This led to further insight into the lives of Hausa
people and their cultural systems.

Not only did I realize the vitality of adapting to the environment, but I also better
understood the gender roles that are so deeply entrenched in Hausa culture and Islam. I
learned how I was to apply them to my person in order to be more accepted into the
community. In doing so, I positioned myself to relate more easily to the people with
whom I interacted. It does not take great insight to know the guidelines for being
culturally sensitive. I covered my head and wore long skirts out of basic respect for the
modesty and reservation that women are supposed to embody in conservative Moslem
societies. But, I took to heart much more of the gender roles than just the dress code.
Because many girls my age were already mothers to several children, I was regarded as a
woman in the Nigerien context. From their perspective, I should have a husband and
three kids to care for at home. I believe that the villagers were most puzzled not by my
presence, but by the fact that I did not have a family to raise at home which required the
total dedication of my time.

The ladies gathered under the shade at midday showed me the art of being a
Hausa women. I saw how they were the humble servants of their family, tending to the
babies and the men. I also saw how they giggled amongst themselves in private and how
they walked with dignity through the village. In many ways, I tried to mimic their

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16 Women are up hours before the sun and the men to pound millet. The daytime is filled with pulling
water from the well and farming. The women serve at the mercy of the family and in particularly the men.
behaviors. In doing so, my social interactions with both men and women opened the channels of communication and understanding.

In villages, I often insisted on pulling my own water from the well even though it was frowned upon for guests to do work. Since pulling water is fundamental to a woman’s role in society, it was only natural that I follow suite in order to prove myself as a woman in Niger. I believed that such attempts to shoulder the roles and responsibilities of another culture gained respect from the larger community and built trust with the locals. However, most people laughed at my awkward efforts to carry buckets of water on my head. I too was amused by the fact that I will always be “the other” regardless of my intentions. Yet, I was amazed at how such simple gestures could break down barriers and establish me in the community.

As a foreigner, I was often regarded in the context of Hausa culture but at the same time, incapable of learning their ways. This duel role as someone held to the standards of society as well as someone completely alien provided a unique position for my data collection. Because most people honestly did not know what to think about me, I had the liberty to inquire into situations that were not always discussed. I found that the most effective way to express my interest in a person and culture was to simply ask questions. I believe that the women were particularly flattered by my intense questioning because questions are usually directed to men in Niger’s patriarchal society. Also, my position as an outsider allowed me to talk with some of the most important members of the community. In Galmi, I, along with a few people from the hospital, met with the head of the Koranic school to discuss the group of children who would soon be completing their studies. In my experience, I found that community leaders were
inclined to talk with me under the supposition that I was someone of high status because I
was foreign. While I was uncomfortable with this association, I did realize its usefulness
in accessing higher ranking member of society, and those who hold the sacred knowledge
of their people.

My travels in West Africa have given me a de facto education in anthropological
research. The people I encountered throughout my travels clued me in on how to
participate in Hausa society. I also learned about the adjustments anthropologists must
make in order to accommodate their study in the field. Once I understood my role as a
woman and as a foreigner, everything had a way of falling into place. Those skills have
allowed me to dig deeper into a culture to uncover the links between belief systems and
healthcare delivery. I have used my understanding of Hausa culture and my place within
it to collect data specific to illness and healing in rural Hausaland.
Literature Review

Wanda zai mutu magani
bay a tsaishe shi ba
Hausa Proverb

Medicine will not revive
One who is doomed to die

Statistics from the United Nations Human Development Report 2006 recognize Niger as the most underdeveloped country in the world. Absolute poverty is a harsh reality for many Nigeriens living in rural areas. Poverty and underdevelopment blocks the majority of Nigeriens from accessing many life saving vaccines, medicines, and healthcare professionals. However, western medicine is slowly starting to reach even the most rural villages through international aid agencies such as Medicins Sans Frontieres (MSF), The World Health Organization (WHO), and the United Nations Children’s Fund (UNICEF). As a result, many rural people are coming into contact with western medicine for the first time. The integration of western medicine into traditional societies faces many challenges. My project investigates the fundamental beliefs that govern healthcare practices amongst the Hausa in south central Niger in order to address the cultural gap between western medicine and tribal people. This requires a critical analysis.

The United Nations Human Development Report (UNHDR) is an annual report that ranks the well-being of nations based on three major components: life expectancy, education, and over all standard of living. In 2006, Niger ranked 177th out of 177 nations included in the census. Data from 2004 notes life expectancy at 44.6 years, adult illiteracy 71.3%, children underweight for age group (% under 5 years old) 40%, infant mortality rate (per 1,000 live births) 152, and population living below $2 a day is 85.8%. See appendix for the complete UNHDR evaluation of Niger.
of illness and healing through cultural and anthropological lenses. Medical anthropology provides the tools and theoretical framework needed to understand how Hausa people experience illness and healing in the hospital setting. I base my research on a model of health care systems presented in Arthur Klienman’s Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry (1980)² to analyze my data collected at CLS Hospital in Danja, Niger.

Health is a state of being that cannot be defined solely in biological terms. Medical anthropology is a unique way of understanding the intimate link between belief systems, lived experiences, and healthcare. While illness is a deeply personal experience, the way in which people understand themselves and their bodies is inseparable from the cultural systems that give symbolic meaning to everyday life. Kleinman describes healthcare as a cultural system in its own right:

In the same sense in which we speak of religion or language or kinship as cultural systems, we can view medicine as a cultural system, a system of symbolic meaning anchored in particular arrangements of social institutions and patterns of interpersonal interactions. In every culture, illness, the responses to it, individuals experiencing it and treating it, and the social institutions relating to it are all systematically interconnected... The healthcare system, like other cultural systems, integrates the health related components of society. These include patterns of belief about the causes of illness; norms governing choice and evaluation of treatment; socially-legitimated statuses, roles, power relationships, interaction settings, and institutions. (Klienman 1980, pg. 24)

By approaching healthcare as a cultural system, anthropologists can produce a holistic analysis of how people experience illness and healing. Rather than limiting healthcare to

standards set by western medicine, medical anthropology examines individual experiences within a socio-cultural context\(^3\).

Culture is the context in which all individuals identify and respond to disease. Therefore, the very idea of illness is culturally defined. George Peter Murdock addresses the cultural origins of illness in his seminal work *Theories of Illness: A World Survey* (1980)\(^4\). He states that the term “disease” suffices to describe the pathological nature of viruses and bacteria, but fails to encompass the phenomenological relationship between human and the body. Murdock suggests “illness” is a more appropriate term because it includes the socio-cultural systems in which individuals encounter disease. The western concept of illness is founded in bio-medical rationale. In other words, western medicine identifies illness as a condition caused by a scientific, rational progression of biological disturbances that compromises physiological equilibrium. However, this understanding of illness is neither universally accepted nor superior to the vast spectrum beliefs that constitutes illness in cultures around the world. In order to better understand how illness is culturally defined, we must start by examining the cultural explanations for illness causation, and the socially organized response that constitutes a healthcare system.

Illness in all societies is attributed to a source or causation. This concept, known as etiology, allows a culture to catalogue illness, and to organize their response according to the determined logic of causation. Nosology, the term referring to illness classification, is the foundation from which healthcare systems are built. In Murdock’s

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\(^3\) Klienman (1980, pg. 25): “For scholars from the health sciences, this is an “alien” concept that imposes a way of looking upon health related phenomena that runs counter to the ethnocentric and reductionist view of the biomedical model, in which biological processes alone constitute the “real world” and are the central focus of research interpretation and therapeutic manipulation.”

survey of 139 societies, he found that all societies recognize illness as having either a natural or supernatural source, sometimes both. The theory of natural causation is the dominant ideology governing western medicine, and consequently the foundation for the entire western healthcare system. Murdock subdivides theories of natural causation into five distinct subcategories: infection, stress, organic deterioration, accident, and overt human aggression. These five types of natural causation represent culturally sanctioned beliefs that illness results only from the physical intrusion of microorganisms, prolonged physical strain, the decline of biological functions due to old age, unprovoked physical injury, or intentional harm inflicted by another person. The western health paradigm denies any relationship between illness and the supernatural. However, supernatural theories of illness causation are a prominent theme in many healthcare systems, including Hausa healthcare.

The Hausas are a deeply religious people, and religion carries tremendous weight with regard to how they categorize illness causation. Islam is the cornerstone for both their social and moral order. Therefore, it comes as no surprise that the relationship between Allah’s almighty power and illness are closely linked. Medical anthropologist and physician L. Lewis Wall has spent many years studying Hausa healthcare in Nigeria. His book *Hausa Medicine: Illness and Wellbeing in a West African Culture* (1988) has been an invaluable resource for my research because of the thorough analysis of Islam in relation to Hausa healthcare. Hausas identify illness as the imbalance of good and evil within a person that is punishable by Allah. Hausa traditional medicine operates on the

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5 An in depth explanation of Murdock’s five types of natural causation and supernatural causation can be found in chapter 2 of his book.

premise that there exists a delicate balance in the universe created by Allah. Lafiya is the
Hausa word that refers to this natural balance of the world, as well as the state of well-
being or health. Hausas understand illness in terms of a loss of balance or babo lafiya as
a result of misdeeds or the displeasure of Allah. Wall discusses the roots of the Hausa
health paradigm in Islam by identifying six presuppositions of Hausa traditional medicine
that maintain balance or lafiya in Hausa culture:

Six Presuppositions of Hausa Traditional Medicine (Wall 1988, pg. 288)

1. Allah is the one, the only supreme God, the creator and ruler of the universe. He
   is the ultimate cause of everything that happens and nothing happens that is not
   ultimately His will.

2. Allah has made Himself known to mankind through the prophets. The last and
greatest of the prophets is Muhammad, through whom Allah transmitted his final
revelation in the form of the Holy Koran.

3. Subordinate to Allah there also exists a body of sentient (but capricious) beings
   with lesser but still substantial powers who may establish relationships with men.
   Such relationships... may result in sickness, disablement, or death. These beings
   include a wide variety of spirits, the souls of the recently departed dead, and
   witches, whose evil intentions are carried out through the unique powers of their
   souls.

4. Proper well-being (lafiya) depends upon an individual’s ability to live in
   harmonious balance with his surroundings, which include the moral, physical,
   and spiritual realms. Illness results from the disruption of this balance within the
   body by the intrusion of environmental factors (especially cold) or through the
   actions of spiritual powers.

5. For each illness Allah has ordained a remedy, according to His will. Success in
   the treatment of illness comes from proper knowledge of these medicine.

6. The ingredients of successful medicines are to be found in the trees, shrubs,
   plants, and animals created by God... The essence of medicine is the knowledge
   of the correspondences among these things and the ailments of the patient.

This analysis of Islam is the ideological foundation of Hausa healthcare. Presupposition
number four resonates the strongest in how Hausas experience illness because it directly
refers to the identification of illness and illness causation.
Popular beliefs regarding illness and illness causation provide the framework for healthcare systems. Cultural systems, including religion, shape the three components of Kleinman's model for analyzing healthcare systems. Healthcare systems are collectively recognized and used according to culturally sanctioned beliefs about illness and healing. However, Kleinman suggests that all healthcare systems are pluralistic in nature because individuals make decisions to seek treatment based on personal evaluation of their condition. Forces influencing these decisions can be understood as three interconnected spheres of existence: symbolic reality, social reality, and clinical reality. The union of symbolic and social reality creates the conditions in which healthcare is delivered, forming a unique clinical reality.

The concept of social reality refers to the social world in which individuals engage in everyday based upon culturally recognized norms, values, and roles. The practice and repetition of these norms, values, and roles allows individuals to attach and internalize symbolic meaning to the functions of everyday life. The internalization of culture bridges the gap between an individual and society by creating a symbolic reality. As a result, individuals construct their own worldview based on the symbolic meaning of their social reality. For Hausas, Islam plays a huge role in shaping the norms, values and roles that constitute their social reality. In effect, Islam also greatly influences the

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7 Clinical reality is a term coined by Kleinman, but he also cites works by Michel Foucault (1965, 1973) as "coming close to being historical reconstructions of clinical reality".
8 Kleinman (1980): "Medical systems are best examined as local social systems, which can be related to a potentially large number of variables impinging on a specific setting and which may differ from one locality to another".
9 The concept of social reality was most notable developed in the 1967 works of Berger and Luckmann to be later applied to the medical field by Eliot Freidson in 1970.
10 Kleinman (1980): "Social reality is constructed or created in the sense that certain meanings, social structural configurations, and behaviors are sanctioned (or legitimated) while others are not. The individual absorbs social reality as a system of symbolic meanings and norms governing his behavior, his perception of the world, his communication with others, and his understand of both the external, interpersonal environment his is situated in and his own inter, intrapsychic space during the process of socialization"
symbolic reality of individuals because Hausa society is built upon the values and beliefs that govern Islam. The six presuppositions of Hausa traditional medicine in relation to Islam outlined by Wall form the fundamental framework of Hausa social and symbolic reality with regard to illness.

The application of this social and symbolic reality founded in Islam to healthcare systems creates a distinct Hausa healthcare system and clinical reality. Clinical reality is the result of collective participation of patients and healers in a healthcare system that ultimately determines how individuals interact in and experience healthcare. Kleinman writes: “Beliefs about sickness, the behaviors exhibited by sick persons, including their treatment expectations, and the ways in which sick persons are responded to by family and practitioners are all aspects of social reality”. The social and symbolic realities governing society are transformed into clinical reality as a result of individuals interacting in healthcare systems in ways deemed appropriate by their cultural norms, values, and roles.

All healthcare systems are unique in that the individuals participating in the system have a reciprocal effect in shaping the nature of healthcare in a particular locale and under particular conditions. Based upon my understanding of social and symbolic realities in Hausa culture, I am able to apply this model to my data to analyze the unique clinical reality at SIM Hospital in Danja. The individual character of the patients and practitioners and their relationship to Hausa culture ultimately determine the clinical reality of my informants. By examining this clinical reality, I can better understand the unique experiences of my informants with illness and healing in the hospital setting.
Methodology

In order to investigate the belief systems underlying health paradigms in Hausa society, I employed a methodology that aims to understand the most fundamental aspects of lived experiences in rural Niger. This phenomenological data allows me to create a complex map of the relationships between living conditions, culture, illness, and healing. Through participant observation, interviews and network mapping, I used an inductive approach to gathering information in order to analyze the data and construct a comprehensive understanding of the local healthcare system in Danja, Niger.

My project, which is best described as a pilot project, consists of a two-part research design based on my four-week time frame. My time was spent in one region but two separate locations around Maradi in southern Niger. My schedule was slightly altered upon my arrival in the capital Niamey on December 29th, 2006 due to the Tabaski holiday, and I was stuck in Niamey for four extra days. Like most field work, delays from travel and holidays are only to be expected, especially in Niger where travel conditions depend upon everything from the weather to the personal ambitions of the driver. However, I used this precious time in Niamey to discuss Hausa culture with a group of Peace Corp volunteers who welcomed me into their hostel. These conversations enriched my foundational understanding of Hausa culture acquired during my previous travels in Niger, and prepared me for my ten day home stay in a Hausa village. I arrived

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Tabaski is a Moslem holiday celebrated in Niger. The holiday commemorates Abraham’s journey under God’s direction to Mt. Moriah to sacrifice his son Isaac. This holiday is observed with several days of prayer, feasting, ritual, and relaxation. Consequently during this time, all of the markets and transportation networks are closed, rendering travel even around town nearly impossible.
in Galmi village on January 2nd, 2007 where I conducted a portion of my ethnographic study while living with a local Hausa family. From Galmi, I traveled to Danja on January 12th, 2007 where I lived in the hospital compound and worked closely with the hospital staff. The bulk of my data comes from the ten days I spent in Danja collecting interviews, patients profiles, and other information to compile a medical ethnography of the local Nigerien healthcare system².

Medical ethnography approaches illness from a holistic perspective by using inductive research methods. Ethnographic method is the framework through which I have chosen to structure my research because it is an inductive, qualitative procedure for gathering and interpreting data. The data that I gathered from informants concerns personal accounts and interpretations of their lived experiences. Phenomenological data is the most appropriate term for the type of data I gathered for my research because it represents the reality that Hausa people live by, not simply statistical information describing their situation or living conditions. Through this data, I have identified reoccurring themes that provide insight into the underlying structure of Hausa society, and the cultural logic governing belief systems. These connections form my presuppositions concerning Hausa culture. I built upon my presuppositions of Hausa culture in my field work at Danja hospital. This has enabled me to link my data with the larger concepts that determine how people understand illness and their responses to both traditional and western treatments.

Participant observation provides the foundation of my methods for gathering data. Because I am not fluent in Hausa or French, I often found myself confronted with a language barrier and unable to ask direct questions without the help of an interpreter.

² The names of my informants have all been changed to protect their identity in this study.
However, participant observation in the daily lives and activities of the people that I studied in itself creates a text from which I can derive meaning and understand social networks. I applied several methods associated with participant observation to make direct connections from my observations to the conceptual map of Hausa logic. I analyzed my initial data from the field to develop a more complex conceptual map from which I based the further research that I carried out in the hospital.

**Village Ethnography: Building a Foundation**

In order to interpret the data that I gathered at Danja Hospital, my methodological framework required that I first build a foundation of understanding Hausa culture through my experiences in Galmi village. This foundation is a critical pillar supporting the methodology that I later employed to gather and analyze data in the hospital setting. During this process, I was a guest in the home of Auta and Dauda, a warm and welcoming Hausa couple. By observing and participating in their daily life, I gained new and valuable insight that allowed me to place illness within the Hausa cultural context.

**In the Nigerien Context**

In Galmi, I was particularly interested in the relationship of environment and its influence upon the life ways and culture of the villagers. Niger is a vast country of bush. Dense populations are concentrated only in a few cities while many of the citizens reside in remote villages inaccessible by road. Because of Niger’s fragile environment, people have gathered in the southern reaches of the Sahel along the Nigerian and Benin boarders to farm and graze cattle. The one main road runs from the capital Niamey in the west to
Zinder in east. This is the main commercial road through Niger. Trucks often come from Nigeria to deliver goods and buy cattle from the Fulani—a nomadic tribe whose livelihood is intertwined with livestock herding. Many of the major markets in Niger occur in villages along this road because they are the primary distributors of imported goods such as plastic objects\(^3\) and other manufactured products\(^4\). Trade is a mainstay in the local economy that gives security to many families during the hungry season when food security is threatened. In many aspects, these villagers are more prosperous than isolated communities because of their access to resources, both economic and social.

Galmi is one such village situated on the main road. The residents are well connected with the trade routes running to and from Nigeria and the capital Niamey. The village is a hub for commerce as well as farming. The land is cultivated by hand-fed irrigation from wells in large plots around the fringes of the village. During gardening season (the dry winter months), families grow onions, carrots, lettuce, and tomatoes. On a daily basis, the villagers go directly to the gardens to buy vegetables. Surplus onions are exported all over west Africa by the trucks passing through, and provide a small income for many of the families. By understanding the livelihood of Galmi villagers, I am able to place Hausa culture in the context of their social environment.

The physical environment also greatly impacts the livelihood of Galmi villagers in relation to prevalent diseases that afflict the community. Poor soil and desertification

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\(^3\) Plastic buckets are found in every fold of Niger. In the remote villages, calabash gourds are the only containers. But, if you were to travel out of the bush to the main road, you would notice increasingly more women carrying plastic buckets on their head, rather than the traditional calabash. Plastic containers are highly valued for their durability and are very popular with the women as a symbol of prosperity. Because of this, plastic wear is traded extensively all throughout Niger. The most popular of all the products is what they refer to as a “Booda”, a kettle-shaped pitcher used to ritually purify for sallah (prayer). They are also used for hygienic purposes and can be found in almost every household.

\(^4\) Processed food products such as Maggi cubes and MSG are also favorites among families who can afford them. They are found in markets everywhere, especially in villages in close proximity to the road.
has led to widespread malnutrition in children, making them more susceptible to infectious diseases. As a result, meningitis, malaria, tuberculosis, leprosy, and cholera epidemics have thrived amongst poor Hausa communities. These illnesses are all associated with poverty and the extreme living conditions that Hausas endure.

Village Life

In the village, I also used participant observation to understand social networks. I drew a map of the village's composition and recorded the interactions of villagers in relation to their proximity to each other, tribal identity, kinship ties, or other social networks. For the most part, the women socialized with other women in their neighborhoods. Auta and Dauda are originally from villages further east near Zinder, and they moved to Galmi so that Auta could work at the hospital. As a result, their social networks are not based on kinship, but proximity. The women moved freely between the compounds, visiting and helping each other with chores. This helped me understand the role of different individuals in society, and their contribution to the lives of their fellow villagers. The younger, unmarried girls spent their time going from compound to compound, helping the older women cook for their families. Their help was welcomed
and rewarded by the sharing of food. I was interested in who interacted with who on the basis of need, solidarity, obligation, or compassion, and I learned that women’s social networks are assertions of autonomy. The strong links between women are based on the of sharing labor which collectively rewards individual women by easing their domestic work loads. This collective behavior also forges strong friendships amongst the women, and they depend on each other in order to survive Niger’s harsh environment.

The collective nature of Hausa culture has enabled human civilization to persevere in an environment where famine and thirst loom on every horizon. The sharing of labor and resources are vital in sustaining human life in Niger. This collectivity is a necessary function of Hausa culture and carries great symbolic significance for the community. Gift giving is commonly practiced to reaffirm the relationships between neighbors and families who share labor. Vegetables are common gifts that families share amongst each other. When women would come to visit Auta and Dauda in the evening, Auta would often give the guest a few tomatoes or a head of lettuce. She was particularly generous to families in need, and I was intrigued by how food was shared so freely in a land of such scarcity. The sharing of food is symbolic of Hausa culture’s collective nurturing of the community, and the special role of women in maintaining these relationships. I later linked these observations to those made during my research at Danja Hospital to draw parallels between cultural logic and illness experience.

The village itself is a jigsaw puzzle of mud brick buildings with high walls surrounding family compounds. Wires criss-cross the village, providing electricity to the compounds. Most families in Galmi can afford a light bulb or two; some even have a
televisions Auta and Dauda’s compound was similar to many of the other compounds in the village. To enter from the street, visitors arrived walking through a small room or entry hut that connected the inner compound with the rest of the neighborhood. Inside the compound, there are several separate buildings that constitute the domestic space. The compound consists of a large area walled on all sides entered through the entry house, or small mud room that leads into the courtyard. All of the rooms are independent. The concept of the home is “open air” as opposed to a structure contained under one roof. Rather, the structure of their home is contained by the walls of the compound. There is a kitchen storage area where the grandmother known as Mamma sleeps and some of the food is kept, a three walled cooking room with poor ventilation (the walls are black from smoke), the live stock pen, the latrine, the children’s room, and then the main building with three separate rooms (sitting room, parents bedroom, and grain storage). The main building houses a small sitting room and the parent’s bedroom. Separate huts provide shelter for the older children to sleep under. The three walled cooking hut is the hub of activity for the women who spend many hours of the day preparing meals for the family and guests. Because the family is a Hausa person’s primary social group, the compound provides a space in which culturally sanctioned roles are relationships play out. By observing how the family unit operated within their own

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5 The TVs are used mostly to watch Nigerian films because broadcast television is limited. Nigeria has a huge film industry, and their films are popular all over west Africa. The films are all low budget productions with common themes: love, money, power, black magic, and badly choreographed dance numbers. During my time in Africa, I have watched more of these movies than I care to admit, but everywhere you go, someone is watching them.
space, I better understood the roles and interactions of family members when they accompanied a sick person to the hospital.

**Women**

As I observed in the home, women are the primary care givers although they lack the social status of men. Women occupy an interesting niche in Hausa society. Because of the conservative Islamic values interwoven with a stratified, hierarchical society, Hausa women occupy a subjugated position. Although Galmi has a substantial Christian population due to the evangelical outreach of the mission hospital, Islamic values are the foundation for social relationships and organization. As a result, power and authority is in the hands of the men in most all aspects of Hausa society. However, women carry the greatest burden in sustaining the lives of their family and society in Niger’s harsh environment. The balance of life in the Sahel is delicately maintained by the women who work for many hours before the sun and late into the evening. In the bush, a woman can spend her whole day carrying water from a well back to her village which maybe several kilometers away. I once watched a Zarma woman in a village outside of Baleyara spend all day walking to and from the well with one bucket in each hand and one balanced on her head, with a baby on her back.

The women in Galmi have life a bit easier. For starters, there are several wells only a short walk away in the village, so acquiring water is not as labor intensive. Also, many of the families in Galmi can afford to have water delivered to their compound by young boys pushing hand carts who go door to door filling orders. Auta was also quite fortunate in that the family had a donkey who she would send with her son Yusuf to fetch water. However, “women’s work” in Galmi is still quite labor intensive. Cooking is
another responsibility for Hausa women which is very time consuming. While I was in Galmi, I attended a wedding celebration and helped the women in preparing the feast. The women spent all day cooking together for the wedding party, and then returned home to cook for their own families. Everything is made from scratch, and even the simplest of meals such as cous cous requires hours of work. Everything from making the sauce to killing the meat must be done by hand. The materials alone require tremendous preparation as everything must be bought from the market or brought from the fields, if not already at the house. Then, all of the ingredients must be chopped or pounded, and even the smallest details such as the seasoning demand the women’s time and energy. Cooking is a very long and involved process from which Hausa women derive great pride, and the women are diligent with their work. They view cooking as their way of providing for their family, and a duty which Allah has bestowed upon them.

Even though life in Galmi is not solely dependent on their intense labor, women are still the heart of the Hausa people. They spend most of their day preparing the meals and taking care of other domestic tasks. Galmi women are liberated from some of the labor that women living in the bush cannot avoid, such as carrying water great distances. They also have relatively greater access to power because some of them work outside the home and provide their families with a small income. Auta, along with a handful of other women in the village, work at the hospital as nurses and housekeepers for long shifts in the morning and afternoon, coming home for a few hours in the middle of the day to cook and relax during the peak hours of sun. Because she was gone most of the day, many of the household duties fell upon Mamma who cared for the compound while Auta was working.
Despite working outside of the home, women have little presence in the public landscape. Men wield great control over women and restrict women from venturing far from the home. In the traditional organization of Moslem society, public space is the domain of the men. Married women of childbearing age are particularly excluded from public space. Because a wife is a man’s property, Hausas believe that it is not proper for a married woman to be in the company of men without her husband. As a result, the public space is dominated by men. The markets which are at the center of village activity are overwhelmingly male. Women often send the younger girls or older women out into the village to do the shopping, as they are more accepted in the public sphere. In Galmi, women engage in the public space on a regular basis because it is necessary for them to work outside of the home. However, they do not linger in the markets or congregate in the tea shops as the men do.

Women in Galmi seemed to occupy a fairly moderate position in the public space. In some more conservative Hausa villages, men enforce the practice of “purdah” or wife seclusion. In these cases, their wives are denied all access to the public sphere and only rarely leave from behind compound walls. Not only are these women isolated from the public sphere, but also from other women who are their primary social network. Galmi women are not subjugated to this degree. The women were free to wander amongst the alleys and compounds in their neighborhood. However, women were still frowned upon if they strayed too far from home. In the evenings, Auta and I would go for strolls through the village stopping to visit with many different families and exchange gifts of food.
When women do engage in the public sphere, they are transformed into a symbolic vehicle. The fabrics they wear, the bowls they carry, their head scarves, and their jewelry are all deeply sown with meaning. Women act as the symbolic collateral of a family, because what they carry on their body is a public display of a man's wealth. A richly dressed woman with fine scarves and expensive accessories is a mark of status and prestige for two reasons—first, her husband can afford costly luxuries; also he can afford to hire help for his wife so she does not have to work. Women are also symbolic collateral for a marriage, an investment of sorts. Men shower their brides and brides' families with gifts as a part of the bride price. The commodification of women is closely linked to class and prestige. Therefore women are heavily controlled by men.

However, women do wield some power and authority in Hausa culture. They dominate the domestic space in a way that most of their influence is under the table and not acknowledged by the larger social order. In their homes, women are still servants to their husband and family. Yet, they control all life supporting functions in the domestic space. They are the primary caregivers to the sick, yet decisions to seek healthcare are exclusively made by the men who control the money. When women find themselves ill, they are often denied access to medical help by their husbands who do not want to pay for a woman to see a doctor when the same money might be needed to send a male member of the family to the hospital. Because of their subjugated social position, women are often the last to receive medical attention. This seemingly paradoxical relationship between women as healthcare providers and women as patients is what inspired me to focus on women at Danja Hospital.
Composing A Medical Ethnography in Danja

To better understand how patients experience illness in the hospital setting, I focused my research on how Hausas know when someone is sick, how they differentiate between illness and health, how they decide who to consult for treatment (i.e. traditional medicine man or hospital), and what they do in order to help people recover (i.e. pray, administer medication, etc). The second aspect of my research design investigates how these beliefs play out in the institutional setting. Overall, this data provided a comprehensive understanding of the relationships between people, culture, and illness experience in the hospital setting. CLS Hospital in Danja is a western-style institution that operates according to the logic of scientific reason in treating illness. This is the location in which I conducted participant observation and interviews with patients and doctors to gather the bulk of my data about the intermingling of the two health paradigms.

Interviews

Throughout my field work, I conducted structured and semi structured interviews with seven doctors and medical professionals. In Galmi, I interviewed several foreign doctors concerning their perspectives on illness in Niger and their patients. In Danja, I worked closely with Dr. Abdullahi, who is Nigerien and the only doctor serving the hospital during my research. Questions directed to him focused primarily on his knowledge of both the traditional Hausa health paradigm and western medicine. As a Hausa, Dr. Abdullahi provided me with invaluable insight into Hausa culture and acted as a translator when I conducted brief interviews with patients.

Participant Observation
During my field work in Danja, I conducted participant observation in many different parts of the hospital. Because I lacked adequate language skills to conduct in-depth interviews with patients, I relied heavily upon participant observation to gather data concerning how Hausas experience illness. I did participant observation in the clinic during the examination process to investigate the interactions of doctors and patients. Aside from my own observations, Dr. Abdullahi interpreted his conversations with the patients and allowed me to ask questions of my own. I made special note of informants' body language, interaction with the doctor, condition, and medical history. These observations led me to understand how Hausa people describe their symptoms, how they understand their diagnosis, and their compliance with treatment. I observed how Dr. Abdullahi explained diagnoses to the patients and how he dealt with patients who resisted treatment. I also observed Dr. Abdullahi in the operating room to see how patients coped during the operation. On several occasions, I observed in the delivery room and the women's ward to investigate how women's experience in the hospital differed from men. I believe this participant observation portion of my study provided a wealth of data to be analyzed along side that which I gathered while in Galmi village.

Considering the Anthropologist

Because every individual involved in healthcare delivery influences clinical reality, I have taken into account how my presence as a female, foreigner, and participant contributed to patients' illness experience in the hospital setting. In relationship to the healthcare system, I was both an outside observer and an active participant by assisting the doctor and administering vaccines. The patients regarded me as one of the medical staff, and often confused me with a nurse or doctor (why else would a foreigner be
hanging out in a hospital?). Ultimately, I believe this association may account for a gap in my data concerning the relationship between illness and the supernatural which patients do not commonly discuss with western medicine doctors. Because my role as the participant observer were closely aligned with Dr. Abdallahi's activities, I was able to conduct research in confidential scenarios (i.e. during examinations) and restricted areas (i.e. the operating room). While the presence of a foreigner may have changed the clinical reality to some degree, being female had a greater impact on individual illness experience. I was present during many sensitive examinations that required male patients remove their cloths and break social taboo by exposing their bodies in the presence of a woman. I was aware that such situations made some patients uncomfortable, and I removed myself from the examination on several occasions. However, I postulate that some patients, particularly female patients, found a female presence in the hospital setting to be somewhat beneficial because the majority of the medical staff was male. Women who were undergoing examination or surgery in the operating room could not be accompanied by friends or family, and I believe my presence in the OR's strictly male environment provide some comfort for the women who found it difficult to comply with intimate examinations. Because my presence contributed to individual patients' experiences, I have taken the liberty to include myself in the following analysis chapters.

I have chosen these methods of data gathering and analysis because they were appropriate to the time frame in which I was working as well as the environment in the village and hospital. To ensure that my data included all aspects of the healthcare system, my informants included patients, families, doctors, nurses, and myself- all of whom contributed to Danja Hospital's clinical reality. This information has allowed me
to build upon my preexisting knowledge of Hausa culture and western health care in order to link prominent attitudes and concepts to the social reality of the world’s poorest people. The combination of both data provides a comprehensive, ethnographic overview of illness and healing in rural Hausaland.
A beat up Toyota Land Cruiser emblazoned with a medic’s cross roars through the bush towards a remote village. The truck laps the village several times, and news spreads quickly that the nurses have arrived. The truck halts at large shade tree in front of the chief’s compound, and three people in white coats descend from the vehicle. Two nurses, Nasir and Hadi, and I have come to Dandije as a part of a vaccination campaign. We are greeted by another man in a white coat who operates the village health hut. As we prepare the vaccines, woman and children slowly emerge from their huts. As they near the tree, the women kneel, greeting us, as they shyly gather in the village center clutching blue record cards. Their soft voices give way to excited chatter as more women and children arrive, and our work begins. Nasir and Hadi start by addressing the women about the birth control pills:

“Before, you had big farms that needed many workers. But now things are changing, and small families are good. Family planning will help your family become fat.”

A few men linger in the shade of the tea shop and eavesdrop as the women receive this news with both interest and skepticism. They form a line and move quickly from the registry to the bench where vaccines are rapidly administered to each baby. Like a whirl wind of needles, we work quickly so that the heat sensitive vaccines do not spoil before we reach the last baby in line. As the mothers sit down on the bench, they present us with their infants decorated with charms and grigris that protect against evil spirits and illness.

1 While many villages are isolated from hospitals, government administered “health huts” can often be found in large bush villages. Health huts are small clinics that are operated by a trained local. These small clinics can offer some medical care, but often they refer the villagers to Danja hospital for serious care. Most importantly, the trained nurse keeps records of the village’s medical history including: number of live births to deaths, occurrences of highly infectious diseases,
Each baby receives a series of vaccines over nine months, and for many Hausa, this campaign is their first and possibly only contact with western medicine in the bush.

Illness and healing are deeply personal experiences. However, culture greatly influences how individuals perceive and interact in healthcare systems. By applying Kleinman’s model of healthcare systems and concepts of social, symbolic, and clinical realities to my data, I present an ethnographic sketch of illness and healing in rural Niger. My research is unique because I am applying this model to a unique healthcare system shaped by the individuals participating in the system. The clinical reality of this particular hospital is contingent upon the beliefs and behaviors of individual patients, doctors, and families.

In order to understand this unique healthcare system, the social reality of Hausas must be placed in context of the hospital’s locale and composition. SIM Hospital is a small hospital situated a kilometer outside of Danja. The village of Danja itself is a small community that remains relatively untouched by modern technologies despite its proximity to a large city, Maradi, only an hour away. The village is without electricity or running water, and its citizens live much like many Nigeriens, farming and trading. The hospital is situated between the road running through Danja, and the vast bush that extends northward towards the Sahara. Many of the patients seeking treatment at the hospital come from these isolated villages, and Danja Hospital is often their first contact with western medicine.²

² Patients also travel great distances to come to Danja Hospital. Some come from the large city Maradi to escape the long lines at the government hospitals. Several patients I talked with had come all the way from Nigeria. Most often, they learn of Danja Hospital through friends or family who had been treated there or they are referred by a nurse from a bush health hut.
The hospital itself sprawls across a large compound surrounded by huts that house the staff and their families. The facilities include a forty-bed ward, operating room, outpatient clinic, wound dressing center, vaccination clinic, injection room, eye clinic, leprosy center, lab, dispensary, pharmacy, delivery room, and huts to accommodate patients who cannot afford to stay in the ward. While the facilities offer space for patients to move freely and not be confined to a crowded ward, the hospital lacks the necessary resources to fulfill the needs of all their patients. The operating room and delivery room both lack the proper lights and tables for gynecological examinations which many women require. The facilities makes it very difficult for the staff to perform their duties, but this is the reality of hospitals in Niger.

**Western Healthcare as an Institution**

While a westerner might feel threatened by the hospital’s ailing facilities, the hospital as an institution is more threatening to the patients than the lack of resources. The fear and suspicion surrounding much of the arrival of western medicine is due in part because western medicine presents an alternative reality in which to treat illness. Western medicine approaches illness from a bio-medical perspective and a cultural logic different from traditional Hausa beliefs. The western health paradigm ultimately presents a set of values that are derived from scientific reason. Western knowledge of how disease functions creates a culturally biased perspective on what is good, bad, clean, dirty, healthy, and dangerous. Essentially, western medicine imposes a distinct system of roles, norms, and values that creates the institutional environment. Because the Hausa health paradigm often attributes illness to moral imbalance or Allah’s will, people are often skeptical of western medicine’s ability to treat them. Illness in Hausa culture is
traditionally managed by traditional healers with herbal and spiritual treatment. As a result, the sick often turn to traditional healers for treatment and come only to the hospital if they deem the traditional treatment ineffective. The arrival of western medicine has transformed Nigerien healthcare into a plural healthcare system by providing people with options. Danja Hospital offers an alternative to traditional medicine. However patients are often seek traditional and western treatments simultaneously. Patients, rather than the healthcare providers, integrate the two healthcare systems through their treatment decisions.

The ideological contrast between western medicine's bio-pathological perspective and traditional beliefs is not the only deterrence the sick encounter when making healthcare decisions. Traditional Hausa healthcare is most often administered by a local medicine man who lives amongst his patients in the village. Traditional healers are well established members in the community and are often believed to have the ability to cure any illness. Western healthcare delivery, on the contrary, is a system modeled on industrial efficiency. Danja hospital, like most western institutions, is highly bureaucratic and centralized, unlike traditional healthcare which is individual and localized. Instead of dealing with one person (the healer) as in traditional treatments, patients are passed through multiple screenings, long lines, and several nurses before their brief examination by the doctor. In Danja, patients first register in the waiting room. Then they go through the first screening where blood pressure and temperature is taken. The nurses then decides if the patient will be sent to Dr. Abdallahi or another department. The patients must first pay a small fee of CFA 1200 (approximately $3 American dollars), and then they are directed to either the OPD, dispensary, or pharmacy. By the time a patient
reached Dr. Abdullahi, he was only able to spend five to ten minutes with each patient due to the long lines.

Unlike traditional healers, western hospitals are removed from the communal space of the village, and patients must often travel great distances to receive western healthcare. Danja Hospital serves patients from all over Niger and Nigeria, many of whom live in rural villages. The time and money required to reach the hospital blocks many people in desperate need of modern medicine. Furthermore, small hospitals like Danja are unable to accommodate the needs of patients requiring serious medical attention. Although Danja has an operating room, it lacks the life support required for most operations. As a result, most patients are referred to other hospitals in the area. Almost half of the patients that came to Dr. Abdullahi had to be referred to the government hospital in Maradi, which had a reputation of being over-burdened. In most cases, patients did not understand why Dr. Abdullahi had could not treat them. Patients often insisted that they be treated in Danja despite Dr. Abdullahi’s attempts to explain that the operation must be done at another hospital. Most patients simply could not afford the time and expenses required to go to another hospital, and had no other choice than to return home. Such was the unfortunate situation for many patients:

**Patient**

A young man in his late teens comes to see the Dr. Abdullahi in the OPD. He is very nervous and only responds to the doctor’s greeting with a slight nod of his head. He is accompanied by his father who addresses the doctor. The father explains to Dr. Abdullahi that his son has had an arm condition since birth, but only recently consulted a doctor in Galmi. Dr. Abdullahi asks him to remove his jacket. The boy does so with great effort to reveal two severely deformed arms. He hides his face while his father explains that they had already been to see a doctor in Galmi, but they were told come to
Danja for an operation. However, his arms are so severely deformed that only a plastic surgeon could be able to help him. Dr. Abdullahi can only offer a referral to a hospital in the capital, several hundred kilometers away. The father says that they would prefer the treatment in Danja because they have already seen two doctors and cannot afford to consult another one. Dr. Abdullahi repeats with regret that Danja does not have the facilities for such an operation. He encourages them to go to the plastic surgeon in Niamey, but he knows that they do not have the money to seek out yet another doctor. Dr. Abdullahi turns to me and says that he thinks that this family may never see a doctor again because no one has been able to help them. After so much money, travel, and two different doctors, the fate of the boy remains the same.

Many patients face this same, unfortunate problem. Danja is unable to help many patients who desperately need medical attention. In a sense, western healthcare fails many patients who come to the hospital in hopes of being cured. So many patients must be shuffled around from hospital to hospital before finding a doctor or facilities that can accommodate their illness. As a result, many patients simply give up after one or two doctors without receiving any significant treatment. This results in greater mistrust in western healthcare, and discourages people from going to the hospital when they need it most.

The institutional aspects of western healthcare are ill adapted to Hausa culture, and many sick people simply fall through the cracks. However, the doctors and nurses working in the hospital are not to blame. Poverty and underdevelopment prevent them from providing the services that many patients require. Even though the facilities at Danja can be describe as nothing more than basic, the staff works with what is available. They are among the most dedicated team of healthcare providers in the world because they remain to work in adverse conditions. During the time of my research, the hospital was staffed entirely by Nigeriens, save for a female nurse from the United Kingdom.
Prior to my arrival, a western doctor was working there, but now only one Nigerien doctor remains. Dr. Abdullahi is a gentle, soft spoken man who cares deeply for his patients. As the only doctor at the hospital, he is on call both day and night— a job that demands all of his time and energy.

Alongside him are two registered nurses, four trained nurses, and a multitude of other employees, the majority of whom are male. I worked closely with Dr. Abdullahi and some of the nurses. They are true humanitarians, and I am struck by each one’s commitment to serving their community by staying in Niger. Many of them have the opportunity to work abroad in better conditions with better benefits, but they chose to stay in Danja. The head nurse Yakubu told me how he had gone to South Africa for training, and people were surprised when he returned to work in Niger. The reason for this, he said, was because he cried the first day at the hospital in South Africa when he thought of how it compared to the conditions in Danja. He knew then that he must return to Niger and lend his skills to help his people. The brain drain of qualified doctors and nurses in Niger has left much of the healthcare system to be operated by foreign doctors.

Aside from the conditions, the staff also make great personal sacrifices to manage the number of patients that wait at the gates each morning. Many of them work long hours from early morning until late into the evening. The staff with families have little time to spend with their wives and children, which strains the strong familial bonds that Hausas depend so upon so heavily. Nasir, a nurse who runs the delivery room in the absence of a midwife and organizes vaccination campaigns in rural villages, revealed to me that he rarely sees his wife or children because he leaves for work in the morning before the sun comes up and returns home after dark. This upsets his wife who must take
on more responsibilities, aside from her traditional domestic roles, to compensate for her husband’s absence. However, the Danja staff provides an invaluable service to the community and they are regarded with great respect.

The Hospital as a Dynamic Community

The hospital itself is a community, a sum of parts that make up a healthcare system. The Danja community is a dynamic system of relationships and interactions, laden with symbolic meaning, that constructs a unique clinical reality. I suggest that the hospital fosters a dynamic community because the individuals creating the social environment are always changing. Many patients require only a short stay at the hospital for treatment, and the composition of the hospital community was constantly transformed as patients come and go according to their needs. The medical staff also changes on a regular basis as they find opportunities elsewhere. Dr. Abdullahi has even moved on since the time of my research to pursue more surgical training at a university in the capital. Because individuals are constantly entering and leaving the Danja Hospital community, the clinical reality is also ever changing.

However, there is one segment of the hospital community that remains fairly consistent. Patients admitted into the ward often require long term treatment which provides a stable environment for building strong, communal relationships. In essence, the ward is a microcosm of Hausa society, and the relationships between patients reflected the organization of village life.

The Women’s Ward

*During the early morning rounds, the women’s ward is buzzing with activity as the ladies eagerly await the arrival of the doctor. Almost all of the women are being treated for*
leprosy, and will remain in the ward anywhere from six months to over a year. They sit at the foot of their beds, and present their legs and feet to the doctor for examination. Because leprosy causes permanent loss of sensation in the limbs, the women's feet are covered in ulcers that have the potential of becoming gangrenous. The air is light, and the women joke with the doctor as he comments on their treatment. When he arrives at the bed of an old woman, he affectionately addresses her as "The Queen" because she has been in the ward longer than any other patient. After the doctor moves on to the men's ward, the women begin cleaning and dressing their ulcers. Between the cots lay family members who have come to care for the sick. A five year old girl helps her grandmother rub ointment on the stumps where her hands and feet were amputated. Another woman's two children go to bring rice from the cantina to share with the other patients. As the day wears on, the women sit together and busy themselves with crafts that they will sell to generate a small income. One woman weaves a mat on the floor while her neighbor knits a baby's bonnet. Two women bathe the children as others rest on their cots. The women establish bonds identical to those in village life, and collectively look after each other and the children. The day progresses with hair braiding and more knitting until the afternoon when a patient's mother arrives. The ward is quickly filled with excitement as the visitor relays stories from back home, and produces gifts of food which the children immediately share with everyone. While
these patients will eventually return to their villages, the ward community provides a solid foundation and support for the women during their prolonged hospital stays.

The interrelationships between patients provides the moral support needed to cope with their condition. The relationships between staff and patients also greatly influence how individuals experience illness. Power relationships impact both healthcare delivery and individual illness experience. This was most evident in the doctor/patient relationships in the out patient clinic. Doctors are highly respected in Nigerien society and are regarded with power, authority, and prestige. Patients act graciously towards the doctor and often thank him profusely for his services. Doctors are the keepers of scared knowledge who have the power to heal, and patients submit their bodies to them for treatment. However, some patients are threatened by this power relationship, which makes them reluctant to comply with the examination process:

Patient

After barging in on several patients in the OPD, the elderly Fulan man’s name is finally called to see Dr. Abdullahi. He looks ancient and weathered by his nomadic lifestyle. He speaks no Hausa, and Dr. Abdullahi has a difficult time communicating with him. After some tedious dialogue, the doctor suspects prostate cancer. He is asked to remove his tunic and lay on the examining table. This is a fairly routine examination, but the old man protests saying over and over again, “Please, I don’t have any money, I am poor, I have nothing for you to take”. Dr. Abdullahi who is a kind and gentle man laughs and says, “Don’t worry, I am not the police, please just remove your clothes for the examination”. After a few jokes, the doctor finally convinces the old man that he is not
going to rob him. The old man allows Dr. Abdullahi that to do the examination, but his 
distrust is obvious when he shies away from the doctor’s touch.

The fears that this old man expressed is indicative of how power relationships effect illness experience in the hospital. While, Dr. Abdullahi is always gentle and sensitive to his patients, rural Nigeriens are often fearful of authority. Police corruption is common throughout Niger and West Africa. Despite Dr. Abdullahi’s good intentions, the abuse of power by corrupt authority has tarnished the power relationship between the patient and healer.

Although power relationships govern many of the doctor/patient interactions, the relationships at work in the hospital vary in every scenario. The hospital community is a conglomerate of individuals whose relationships provide the framework in which individuals cope with illness and healing. By examining the numerous factors which influence these relationships and the different roles that individuals occupy in the healthcare system, we can better understand their impact on illness experience and clinical reality in the institutional setting.
Ciwon Allah: Hausa Character, Illness Experience, and Clinical Reality at Danja Hospital

There are many factors influencing how patients experienced illness and healing in the hospital setting. The foreign environment and the institutionalism of western medicine is often difficult for patients to cope with. However, the Hausa character helps patients navigate illness experience and shapes the unique clinical reality of Danja Hospital. The following analysis discusses the narratives of several patients whose illness experiences were influenced by many factors based on their gender, condition, personal history, and treatment that they received at the hospital.

Hausa Character: Fatalist vs. Faithful

The missionary doctors I worked with deeply cared about their patients. However, they were often frustrated by how their patients waited sometimes years before coming to the hospital. For many patients requiring serious medical attention, their illnesses had begun as a minor infection or a condition that could be easily treated with medication. By delaying a visit to the doctor, these conditions often progressed to serious, and sometimes fatal, illnesses that necessitated major operations or prolonged medical care. The doctors did not understand why patients would resist seeking medical attention when they were suffering so greatly. Many of the doctors described Hausa’s behavior and attitude towards illness and western medicine as fatalistic. While some patients did in fact die as a result of not coming to the hospital when their condition was still treatable or preventable, the doctors believed this fatalistic behavior was not
necessarily the fault of individual patients, but a flaw in the Islamic beliefs that shape the Hausa character.

The Hausa character is a cultural identity from which individuals internalize a collective understanding of the world and employ culturally legitimated attitudes and behaviors to function in their social reality. Hausa belief systems regarding illness reflect the role of Islam in the development of their character and shared patterns of behavior. Hausas understand and experience illness in terms of Allah’s almighty power that governs all happenings in the universe. Many patients postponed or resisted treatment at the hospital because they believed their illness to be *ciwon Allah*, or illness sent by God that can only be alleviated through total submission to his will. For this reason, many Hausas do not believe that western doctors can cure their condition because mere mortals cannot change what is the will of Allah. While this belief did lead to sometimes fatal results, my research suggests that the Hausa character itself is not fatalistic. Rather, I argue that Hausas are deeply faithful. This commitment to serving Allah is the foundation of their character and culture. They have total faith in the will of Allah to deliver to them health and prosperity, as long as they live as good Moslems.

These beliefs channel their behaviors in response to illness, but *ciwon Allah* does not totally inhibit them from seeking medical attention to ease some of their personal suffering. In such cases, patients complaining of *ciwon Allah* had come to the hospital in search of temporary treatment while they waited for the cure to come from God. Their unquestioning faith in Allah’s will helped patients cope with illness because they accepted their condition without anger or frustration, and rarely challenged Dr. Abdullahi’s prognosis. In fact, many of the patients I spoke with were very positive
about their condition because they strongly believed that Allah would either cure them or reward them in the afterlife for their unconditional submission to his power. They were able to derive strength from their deep faith, and dealt with illness with great stoicism so to not disappoint Allah with weakness. This strong faith and acceptance allowed patients suffering with terminal illness to cope with their fate more easily.

Patient

A man in his mid thirties returns to the out-patient clinic after Dr. Abdullahi had sent him for a series of test several weeks before. The man waits timidly in his chair while Dr. Abdullahi reviews the test results which reveal the man is suffering from a fatal liver tumor. After sometime, the doctor concludes that there is nothing he can do other than prescribe medication for the pain. Dr. Abdullahi gently explains to the patient that his condition is very serious. The patient stops the doctor and calls for his sister who is waiting outside of the clinic. She enters, and the patient asks the doctor to explain his condition to her, as she is the one responsible for taking care of him. Again, Dr. Abdullahi regretfully informs them of the prognosis. During this explanation, the couple responses only with “to”, a common Hausa phrase that signifies acceptance and understanding. Rather than being utterly distraught, the patient and his sister thanked Dr. Abdullahi for his help and departed for the pharmacy.

This man may suffer privately in coming to terms with his fatal illness, but he is able to draw upon the faithfulness and stoicism of the Hausa character to navigate his individual illness experience. While Hausas are very accepting of illness and the hardships the face throughout their lives as Allah’s will, there are other aspects of the Hausa character that enable patients to cope with adversity.
Humor

Hausas have a fabulous sense of humor, and joking is an essential aspect of their character. Humor is a functional asset of the Hausa character for many reasons. Foremost, humor mitigates all social relationships. People are always joking with each other, and humor acts as the basis for interpersonal interactions. Humor is a particularly functional aspect of the Hausa character when confronting illness in the hospital environment. The doctor and nurses joke freely with one another and the patients as a way of coping with the difficult conditions. Life in Niger is a constant struggle for resources, but Dr. Abdullahi claimed that everyone gets along because they share the same humor. Humor is an incredibly effective tool for making patients more comfortable in the hospital setting. The operating room is a particularly nerve-racking experience for many patients, because Danja does not have an anesthesiologist, and all operations are conducted with patients fully conscious. Because the doctor and nurses must compensate for the lack of medical comforts, they always joked with patients in the operating room to help put them more at ease during the surgery.

Patient

A young man arrives in the operating room for a routine surgery to repair a hernia. His physical presence suggests that he lives a life of intense physical labor, which is most likely the cause of his hernia. At first, he appears to be calm except for a quivering in his stomach as he lies on the table. As Dr. Abdullahi begins with the first incision, the patient’s whole body begins to shake with fear. The surgical assistant slides up next to his face and asks him jokingly if he is shaking because of cold, and offers to get him a blanket. The patient replies with nervous laughter, and the surgical assistant takes this
as his queue to continue joking. Teasing one another seems to be a way of keeping the mind occupied and entertained during difficult situations. For most patients, this is enough to calm them for the operation. However, the young fellow begins to lose his composure only thirty minutes into the surgery. Haladu, the prep nurse, and I gently restrain his arms to keep him from jumping off the table. Eventually, Dr. Abdullahi calls for an anti-anxiety injection in hopes of knocking him out for the remainder of the surgery. As the operation comes to a close, the patient returns to consciousness and the surgical assistant presents him with the tissue that they removed from the hernia. Jokingly, he waves it in the patient’s face and says “You don’t have to be cold any more”.

They share a laugh, and the patient appears to be greatly relieved.

Various aspects of the Hausa character, including their profound faith in Allah’s will and their fabulous sense of humor, help to ease the stress that many encounter during their treatment at Danja Hospital. The Hausa character helps patients navigate illness experience by connecting individual anxiety with culturally legitimated attitudes and behaviors that aid them in coping with their illness and western healthcare.

**Illness Experience and Clinical Reality**

While the Hausa character helps patients cope with their illness, an array of factors also contribute to individual illness experiences that collectively form Danja unique clinical reality. The factors influencing illness experience and clinical reality are symbolic of Hausa’s social reality and the difficulty of administering healthcare across a cultural and ideological divide. The research I have conducted included over three hundred patients, all with unique conditions and illness experiences. Because my research incorporated such a broad range of informants and experiences, I cannot analyze
all of the variables effecting illness experience and clinical reality at Danja Hospital. As a result, I have focused the following analysis on several women’s experiences by applying the concepts discussed in the previous analysis chapters.

Women’s Experiences

Gender relationships are the most significant factor shaping women’s illness experience at Danja Hospital. These relationships determine a woman’s access to healthcare as well as how she experiences illness and healing in a western medical institution. For many women, access to medical attention is completely denied to them by their husbands. Even those who are given the opportunity to see a doctor often fall short of receiving the care that they need.

Jamilah

Jamilah is an older woman in her fifties who came to Danja Hospital from a rural village not far away. She enters the out patient clinic slowly, almost waddling as she walks. She tells Dr. Abdullahi that there is something wrong with her vagina. He takes a brief medical history and asks her to lay down on the table so that he can examine her. He lifts her skirt to discover that her uterus had fallen out through the cervix into her vagina.

Jamilah’s condition is a result of having nine children throughout her lifetime in rapid succession. Dr. Abdullahi concludes his examination and explains that she must have an operation to remove the uterus completely. She says she must ask her husband “because he owns the vagina”. She calls for her husband and sits quietly while the doctor informs him of the situation. The operation requires that she go to the government hospital in Maradi where they have the proper facilities. Dr. Abdullahi says that he would do the operation, but Danja Hospital lacks the necessary light and table. The man appears very
unpleased by this news and suggests that the operation could be done in Danja anyways.

Dr. Abdullahi reiterates that it was not a possibility, and they must make the trip to Maradi for treatment. The husband gives the doctor a disgruntled look, but does not continue to challenge the prognosis. The man turns and leaves the clinic, and Jamila slowly follows. While I was unable to follow up to learn if Jamila’s husband took her to Maradi, I can only assume by their expressions that she would not be receiving further medical attention.

Women’s healthcare and obstetrics traditionally fall into the hands of midwives in traditional Hausa healthcare systems, but the hospital lacks a female midwife and surgeon to accommodate this sensitive issue. As a result, women have little choice but be examined by a male healthcare provider. Several chiefs from local villages find the practice unacceptable, and have complained to the hospital about their women exposing themselves to the male staff during examination. This has proven to be at times very difficult for young girls, because it goes against the established gender roles that permeate all aspects of Hausa society.

Surgery is a stressful experience for many patients, especially women. For reasons of sterility, the operating theater is strictly off limits to everyone except for the staff and patients scheduled for surgery. As a result, patients are not allowed to be accompanied by family members during the operation. For women, this is particularly difficult because it is taboo for women to be alone with men without the liaison of another family member. Surgery, however, requires that women break this cultural taboo which places them under great distress.
Yassmina

Yassmina, a pregnant 16 year old girl, is brought to Dr. Abdulai in the out-patient clinic because she has had vaginal bleeding for over two weeks. She is covered from head to toe in her hijab, and only her face can be seen peering out from the great folds of fabric. Her mother accompanies into the clinic and does the talking for her. Dr. Abdullahi turns to me and says, “This is a very unfortunate and embarrassing case because she is pregnant without a husband”. Her mother accompanies her until she is taken to the pre-examination room. I watch as she undresses in front of the male surgical assistant, and she shakes and tries to cover herself in shame. This situation is extremely difficult for her because she is required to break a serious taboo in conservative Moslem culture by exposing herself and also being in a room full of strange men without the company of a relative. For the examination, she is told to lay flat on her back. She struggles to obey the doctor’s orders, but her body curls on to her side almost as a reflex. For Hausa women, it is extremely inappropriate for a woman to lay on her back because the position insinuates that she is ready to receive a man. For Yassmina, she has to be held down and her legs gently forced open on the table by the surgical assistants so that Dr. Abdullahi can do a proper examination. She hides her face with her hands and struggles to maintain her composure. The situation is quite traumatic for this young girl for many reasons. To begin with, women are not suppose to be in the presence of males without familial supervision because women are believed to be weak and promiscuous. This situation is a blatant violation of conduct from her perspective. Secondly, women have no control over situations involving men, and do not trust men alone. Yassmina may think that someone in the OR is going to take advantage of her, and she cannot do or say
anything if they did because men hold authority over women. If they were to take advantage of her (which of course they would never do, but from her perspective, she does not know that), she would be to blame. These feelings are all very apparent in of her body language as she cringes and resists the doctor's touch. What makes the situation even more unfortunate is that she is in critical condition and endanger of bleeding out. Dr. Abdullahi works quickly and says there is very bad news. The baby’s hand has poked through the cervix, creating continuous bleeding from the placenta which puts both her and the baby in great danger of bleeding out. When she is told that she must be transferred to another hospital for an operation, she breaks out into tears which seems to shock everyone in the OR. Outward displays of sadness, such as crying, are unusual and unacceptable in Hausa culture. Hausas maintain very stoic composure so to not show weakness or displeasure in Allah’s will, but this young girl is clearly overwhelmed by the experience. The doctor calls for someone to bring an ultrasound to check and see if the baby is still alive. As we wait, Yassmina lays on the table crying, and Musa, one of the surgical assistants, speaks to her gently. The ultrasound reveals that the baby is still alive, but the heart beat is very weak. Musa talks with her more firmly this time as she continues to cry. He tells her to stop crying and be happy that the baby is still alive. But she is inconsolable and completely distraught as she rolls to her side covering her face. We wait with her in OR while some of the nurses go to find a car to drive her to the Maradi hospital. Her condition is critical, but her story is hopeful. Unlike the majority of women who come to Danja Hospital, Yassmina will be transferred to another hospital where she will receive the medical care that she so desperately needs.
Conclusion

Hausa Parable:

A stranger approaches a remote village on the banks of the Niger River. He bears the news that a great flood is coming, and the villagers rush to gather their belongings. A mass exodus of villagers on foot pass by a lone hut with a man standing outside. They shout, “Have you heard the news, a flood is coming and will kill us all if we don’t flee. Come with us and you will be saved.” The man replies, “Yes I have heard the news, but I will not go with you. Allah is testing your faith. If the flood is real, then Allah will save me.” The fleeing villagers pleaded with the man, but he simply refused. Shortly after, a family in an ox cart rolled by the man’s hut and offered him space in the cart so that he may escape certain death. But again, the man refused citing that Allah would be his salvation. The waters soon breached the banks of the river, and a man galloped up to the hut on a camel. “Come quick,” he said, “there is no time, you must come with me on my camel or you will die.” And again, the man in the hut refused. Soon the waters filled the land and drown the man in his hut. When the man reached heaven, he asked God “Was I not faithful to your almighty will? Why didn’t you save me?” Allah simply replied, “I tried three times, but you didn’t listen!”

In the world’s most underdeveloped country, illness is a harsh reality of life in Niger. Hausas suffer greatly due to the extreme environment and blocked access to the most basic resources required to sustain human life. The arrival of western medicine has dramatically improved the lives of countless people, but not without difficulty. Because illness is a cultural construct, healthcare systems address the needs of the people who
identify with the same cultural logic. Western medicine in rural Niger faces many challenges in treating Hausa people because institutional and ideological differences clash with their traditional health paradigm. In order to develop a more effective healthcare delivery model for western medicine in the bush, we must examine the needs of Hausa people to better understand their illness experience.

Because there are fundamental, ideological differences in western and Hausa understandings of illness, western healthcare faces many challenges in meeting the needs of Hausa patients during the treatment and healing processes. My research suggests that institutional aspects of western healthcare, such as the bureaucratic and industrial structure of the system, conflicts with Hausas' traditional understanding of a healing environment. At Danja Hospital, patients were often referred to other hospitals because Danja did not have the proper facilities. However, patients often did not have the means to pursue other western healthcare providers, and returned to their villages to be treated by the local medicine man.

Despite institutional inefficiencies, Danja Hospital was a dynamic community where interpersonal relationships greatly impacted patient’s illness experience. Power relationships and gender roles had the greatest influence on how patients cope with their illness. For women, the conservative gender roles in Hausa culture inhibited them from feeling comfortable with Dr. Abdullahi. While Dr. Abdullahi is an excellent doctor, female patients found it difficult to comply with examination procedures such as undressing, laying on their back, and being touched in private areas. The need for female healthcare providers in the hospital setting is central to the problems women have coping with intimate health issues in western healthcare systems. I believe female midwives and
surgeons are necessary in order to address the cultural and emotional needs of Hausa women.

While my research highlights some of the shortcomings of western medicine to adapt within the Hausa cultural context, I believe there is an overall message of hope. Hausas are incredibly strong and resilient people whose character helps patients overcome the challenges that western medicine and the hospital environment present. Hausas’ humor and strong faith provide a symbolic infrastructure that helps patients navigate their individual illness experiences. Patients drew upon their strong faith in Allah’s will to cope with discouraging prognoses and complicated treatments. Humor also enabled patients to confront difficult and uncomfortable situations in the hospital setting, most notably in the operating room.

Illness experience and clinical reality are incredibly complex and require a lifetime to understand. While many patients face numerous obstacles in the hospital environment, they expressed tremendous respect and gratitude towards Dr. Abdullahi and the nurses. Western medicine is gaining greater acceptance amongst people in rural communities. Through education and outreach, many Hausas are beginning to understand that western medicine can improve their quality of life. Like the Hausa parable, many patients are beginning to understand illness as something treatable, rather than an unchallengeable will of God. In future research, I hope to build upon the data I have already gathered to give much needed depth and insight into the vast field of illness experience amongst Hausas. This research is the foundation from which western medicine can construct an ethno-sensitive healthcare delivery model that has the capacity to benefit thousands of lives.
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1. Human development index

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Education Index  
GDP index  
GDP per capita (PPP US$) rank minus HDI rank

1a. Basic indicators for other UN member countries

Life expectancy at birth (years) (HDI), 2000-05  
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3. Human and income poverty: developing countries

Human poverty index (HPI-1) Rank  
Human Poverty Index (HPI-1) Value (%)  
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Population living below $2 a day (%), 1990-2004 85.8
Population living below the national poverty line (%), 1990-2003 63.0
HPI-1 rank minus income poverty rank 3

4. Human and income poverty: OECD countries, Central and Eastern Europe and the CIS

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<th>Human poverty index (HPI-2) Rank</th>
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<td>Probability at birth of not surviving to age 60 (% of cohort), 2000-05</td>
<td>54.9</td>
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<tr>
<td>People lacking functional literacy skills (% ages 16-65), 1994-2003</td>
<td>..</td>
</tr>
<tr>
<td>Long-term unemployment (as % of labour force), 2005</td>
<td>..</td>
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<tr>
<td>Population living below 50% of median income (%), 1999-2002</td>
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<tr>
<td>Population living below $11 a day (1994 PPP US$), 1994-95</td>
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<tr>
<td>Population living below $4 a day (1990 PPP US$), 1996-99</td>
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<tr>
<td>HPI-2 rank minus income poverty rank</td>
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5. Demographic trends

<table>
<thead>
<tr>
<th>Total population (millions), 1975</th>
<th>5.3</th>
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<tbody>
<tr>
<td>Total population (millions), 2004</td>
<td>13.5</td>
</tr>
<tr>
<td>Total population (millions), 2015</td>
<td>19.3</td>
</tr>
<tr>
<td>Annual population growth rate (%), 1975-2004</td>
<td>3.2</td>
</tr>
<tr>
<td>Annual population growth rate (%), 2004-15</td>
<td>3.2</td>
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<tr>
<td>Urban population (% of total), 1975</td>
<td>11.4</td>
</tr>
<tr>
<td>Urban population (% of total), 2004</td>
<td>16.7</td>
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<tr>
<td>Urban population (% of total), 2015</td>
<td>19.3</td>
</tr>
<tr>
<td>Population under age 15 (% of total), 2004</td>
<td>49.0</td>
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<tr>
<td>Population under age 15 (% of total), 2015</td>
<td>47.9</td>
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<tr>
<td>Population ages 65 and older (% of total), 2004</td>
<td>2.0</td>
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<tr>
<td>Population ages 65 and older (% of total), 2015</td>
<td>2.0</td>
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<tr>
<td>Total fertility rate (births per woman), 1970-75</td>
<td>8.1</td>
</tr>
<tr>
<td>Total fertility rate (births per woman), 2000-05</td>
<td>7.9</td>
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6. Commitment to health: resources, access and services

<table>
<thead>
<tr>
<th>Public health expenditure (% of GDP), 2003</th>
<th>2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private health expenditure (% of GDP), 2003</td>
<td>2.2</td>
</tr>
<tr>
<td>Health expenditure per capita (PPP US$), 2003</td>
<td>30</td>
</tr>
<tr>
<td>One-year-olds fully immunized against tuberculosis (%), 2004</td>
<td>72</td>
</tr>
<tr>
<td>One-year-olds fully immunized against measles (%), 2004</td>
<td>74</td>
</tr>
<tr>
<td>Children with diarrhoea receiving oral rehydration and continued feeding (% under age 5), 1996-2004</td>
<td>43</td>
</tr>
<tr>
<td>Contraceptive prevalence rate (% of married women ages 15-49), 1996-2004</td>
<td>14</td>
</tr>
<tr>
<td>Births attended by skilled health personnel (%), 1996-2004</td>
<td>16</td>
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<tr>
<td>Physicians (per 100,000 people), 1990-2004</td>
<td>3</td>
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</table>

7. Water, sanitation and nutritional status

| Population with sustainable access to improved sanitation (%), 1990 | 7 |
Population with sustainable access to improved sanitation (%), 2004 13
Population with sustainable access to an improved water source (%), 1990 39
Population with sustainable access to an improved water source (%), 2004 46
Population undernourished (% total), 1990-92 41
Population undernourished (% total), 2001-03 32
Children underweight for age (% under age 5), 1996-2004 40
Children under height for age (% under age 5), 1996-2004 40
Infants with low birthweight (%), 1996-2004 17

8. Inequalities in maternal and child health

Survey year for inequality data in table 8 1998
Births attended by skilled health personnel (%). Poorest 20% 4
Births attended by skilled health personnel (%). Richest 20% 63
One-year-olds fully immunized (%). Poorest 20% 5
One-year-olds fully immunized (%). Richest 20% 51
Children under height for age (% under age 5). Poorest 20% 21
Children under height for age (% under age 5). Richest 20% 21
Infant mortality rate (per 1,000 live births). Poorest 20% 131
Infant mortality rate (per 1,000 live births). Richest 20% 86
Under-five mortality rate (per 1,000 live births). Poorest 20% 282
Under-five mortality rate (per 1,000 live births). Richest 20% 184

9. Leading global health crises and risks

HIV prevalence (% ages 15-49), 2005 1.1 [0.5 – 1.9]
Condom use at last high-risk sex (% ages 15-24), women, 1998-2004 7
Condom use at last high-risk sex (% ages 15-24), men, 1998-2004 30
Children under age 5 using insecticide-treated bednets (%), 1999-2004 6
Children under age 5 with fever treated with antimalarial drugs (%), 1999-2004 48.
Tuberculosis cases - prevalence (per 100,000 people), 2004 288
Tuberculosis cases detected under DOTS (%), 2004 46
Tuberculosis cases cured under DOTS (%), 2003 70
Prevalence of smoking (% of adults), women, 2002-04 ..
Prevalence of smoking (% of adults), men, 2002-04 ..

10. Survival: progress and setbacks

Life expectancy at birth (years), 1970-75 38.4
Life expectancy at birth (years), 2000-05 44.3
Infant mortality rate (per 1,000 live births), 1970 197
Infant mortality rate (per 1,000 live births), 2004 152
Under-five mortality rate (per 1,000 live births), 1970 330
Under-five mortality rate (per 1,000 live births), 2004 259
Probability at birth of surviving to age 65, female (% of cohort), 2000-05 40.2
Probability at birth of surviving to age 65, male (% of cohort), 2000-05 37.8
Maternal mortality ratio reported (per 100,000 live births), 1990-2004 590
Maternal mortality ratio adjusted (per 100,000 live births), 2000 1,600
11. Commitment to education: public spending

<table>
<thead>
<tr>
<th>Description</th>
<th>Year</th>
<th>Value</th>
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<tbody>
<tr>
<td>Public expenditure on education (as % of GDP), 1991</td>
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<td>3.3</td>
</tr>
<tr>
<td>Public expenditure on education (as % of GDP), 2002-04</td>
<td></td>
<td>2.3</td>
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<tr>
<td>Public expenditure on education (as % of total government expenditure), 1991</td>
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<td>18.6</td>
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<tr>
<td>Public expenditure on education (as % of total government expenditure), 2002-04</td>
<td></td>
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<tr>
<td>Current public expenditure on education, pre-primary and primary (as % of all levels), 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current public expenditure on education, pre-primary and primary (as % of all levels), 2002-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current public expenditure on education, secondary (% of all levels), 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current public expenditure on education, secondary (% of all levels), 2002-04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current public expenditure on education, tertiary (% of all levels), 1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current public expenditure on education, tertiary (% of all levels), 2002-04</td>
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12. Literacy and enrolment

<table>
<thead>
<tr>
<th>Description</th>
<th>Year</th>
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<tbody>
<tr>
<td>Adult literacy rate (% ages 15 and older), 1990</td>
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<td>11.4</td>
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<td>Adult literacy rate (% ages 15 and older), 2004</td>
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<tr>
<td>Youth literacy rate (% ages 15-24), 1990</td>
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<td>17.0</td>
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<tr>
<td>Youth literacy rate (% ages 15-24), 2004</td>
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<td>36.5</td>
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<tr>
<td>Net primary enrolment ratio (%), 1991</td>
<td></td>
<td>22</td>
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<tr>
<td>Net primary enrolment ratio (%), 2004</td>
<td></td>
<td>39</td>
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<tr>
<td>Net secondary enrolment ratio (%), 1991</td>
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<tr>
<td>Net secondary enrolment ratio (%), 2004</td>
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<tr>
<td>Children reaching grade 5 (% of grade 1 students), 1991</td>
<td></td>
<td>62</td>
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<td>Children reaching grade 5 (% of grade 1 students), 2003</td>
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<tr>
<td>Tertiary students in science, engineering, manufacturing and construction (% of tertiary students), 1999-2004</td>
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13. Technology: diffusion and creation

<table>
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<th>Description</th>
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<tbody>
<tr>
<td>Telephone mainlines (per 1,000 people), 1990</td>
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<td>Telephone mainlines (per 1,000 people), 2004</td>
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<tr>
<td>Cellular subscribers (per 1,000 people), 1990</td>
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<tr>
<td>Cellular subscribers (per 1,000 people), 2003</td>
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<tr>
<td>Internet users (per 1,000 people), 1990</td>
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<td>Internet users (per 1,000 people), 2003</td>
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<tr>
<td>Patents granted to residents (per million people), 2004</td>
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<tr>
<td>Receipts of royalties and license fees (US$ per person), 2004</td>
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<tr>
<td>Research and development (R&amp;D) expenditures (% of GDP), 2000-03</td>
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<tr>
<td>Researchers in R&amp;D (per million people), 1990-2003</td>
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14. Economic performance

<table>
<thead>
<tr>
<th>Description</th>
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<tbody>
<tr>
<td>GDP (US$ billions), 2004</td>
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<td>3.1</td>
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<td>GDP (PPP US$ billions), 2004</td>
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<td>10.5</td>
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<tr>
<td>GDP per capita (US$), 2004</td>
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<td>228</td>
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<tr>
<td>GDP per capita (PPP US$), 2004</td>
<td></td>
<td>779</td>
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<tr>
<td>GDP per capita annual growth rate (%), 1975-2004</td>
<td></td>
<td>-1.8</td>
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</tbody>
</table>
15. **Inequality in income or expenditure**

<table>
<thead>
<tr>
<th>Survey Year</th>
<th>Share of income or consumption (%) - Poorest 10%</th>
<th>Share of income or consumption (%) - Poorest 20%</th>
<th>Share of income or consumption (%) - Richest 20%</th>
<th>Share of income or consumption (%) - Richest 10%</th>
<th>Inequality measures - Ratio of richest 10% to poorest 10%</th>
<th>Inequality measures - Ratio of richest 20% to poorest 20%</th>
<th>Inequality measures - Gini index</th>
</tr>
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<tbody>
<tr>
<td>1995 4</td>
<td>0.8</td>
<td>2.6</td>
<td>53.3</td>
<td>35.4</td>
<td>46.0</td>
<td>20.7</td>
<td>50.5</td>
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</table>

16. **The structure of trade**

<table>
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<tr>
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<tr>
<td></td>
<td>22</td>
<td>26</td>
<td>15</td>
<td>16</td>
<td>..</td>
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<td>..</td>
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</table>

17. **Rich country responsibilities: aid**

<table>
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</table>

18. **Flows of aid, private capital and debt**

<table>
<thead>
<tr>
<th></th>
<th>Official development assistance (ODA) received (net disbursements) Total (US$ millions), 2004</th>
<th>Official development assistance (ODA) received (net disbursements) Per capita (US$), 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>536.1</td>
<td>39.7</td>
</tr>
</tbody>
</table>


5/14/2007
GDP), 1990: 16.0  
Official development assistance (ODA) received (net disbursements) (as % of GDP), 2004: 17.4  
Net foreign direct investment inflows (% of GDP), 1990: 1.7  
Net foreign direct investment inflows (% of GDP), 2004: 0  
Other private flows (% of GDP), 1990: 0.4  
Other private flows (% of GDP), 2004: -0.2  
Total debt service (As % of GDP), 1990: 4.0  
Total debt service (As % of GDP), 2004: 1.6  
Total debt service (As % exports of goods, services and net income from abroad), 1990: 6.6  
Total debt service (As % exports of goods, services and net income from abroad), 2004: 4.6678  

19. Priorities in public spending

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Public expenditure on health (% of GDP), 2003-04</td>
<td>2.5</td>
</tr>
<tr>
<td>Public expenditure on education (% of GDP), 1991</td>
<td>3.3</td>
</tr>
<tr>
<td>Public expenditure on education (% of GDP), 2002-04</td>
<td>2.3</td>
</tr>
<tr>
<td>Military expenditure (% of GDP), 1990</td>
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<tr>
<td>Military expenditure (% of GDP), 2004</td>
<td>1.1</td>
</tr>
<tr>
<td>Total debt service (% of GDP), 1990</td>
<td>4.0</td>
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<tr>
<td>Total debt service (% of GDP), 2004</td>
<td>1.6</td>
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20. Unemployment in OECD countries

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<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Unemployed people (thousands), 2005</td>
<td>..</td>
</tr>
<tr>
<td>Unemployment rate Total (% of labour force), 2005</td>
<td>..</td>
</tr>
<tr>
<td>Unemployment rate Average annual (% of labour force), 1995-2005</td>
<td>..</td>
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<tr>
<td>Unemployment rate Female (% of male rate), 2005</td>
<td>..</td>
</tr>
<tr>
<td>Youth unemployment rate Total (% of labour force ages 15-24), 2005</td>
<td>..</td>
</tr>
<tr>
<td>Youth unemployment rate Female (% of male rate), 2005</td>
<td>..</td>
</tr>
<tr>
<td>Long-term unemployment (% of total unemployment): Women, 2005</td>
<td>..</td>
</tr>
<tr>
<td>Long-term unemployment (% of total unemployment): Men, 2005</td>
<td>..</td>
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21. Energy and the environment

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Traditional fuel consumption (% of total energy requirements), 2003</td>
<td>85.6</td>
</tr>
<tr>
<td>Electricity consumption per capita (kilowatt-hours), 1980</td>
<td>39</td>
</tr>
<tr>
<td>Electricity consumption per capita (kilowatt-hours), 2003</td>
<td>40.9</td>
</tr>
<tr>
<td>GDP per unit of energy use (2000 PPP US$ per kg of oil equivalent), 1980</td>
<td>..</td>
</tr>
<tr>
<td>GDP per unit of energy use (2000 PPP US$ per kg of oil equivalent), 2003</td>
<td>..</td>
</tr>
<tr>
<td>Carbon dioxide emissions - Per capita (metric tons), 1980</td>
<td>0.1</td>
</tr>
<tr>
<td>Carbon dioxide emissions - Per capita (metric tons), 2003</td>
<td>0.1</td>
</tr>
<tr>
<td>Carbon dioxide emissions - Share of world total (%), 2003</td>
<td>(.)</td>
</tr>
<tr>
<td>Ratification of environmental treaties - Cartagena Protocol on Biosafety</td>
<td>..</td>
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<tr>
<td>Ratification of environmental treaties - Framework Convention on Climate Change</td>
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<tr>
<td>Ratification of environmental treaties - Kyoto Protocol to the Framework Convention on Climate Change</td>
<td>..</td>
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<tr>
<td>Ratification of environmental treaties - Convention on Biological Diversity</td>
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22. Refugees and armaments

<table>
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<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Internally displaced people (thousands), 2005</td>
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<tr>
<td>Refugees by country of asylum (thousands), 2005</td>
<td>0</td>
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<tr>
<td>Refugees by country of origin (thousands), 2005</td>
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<tr>
<td>Conventional arms transfers (1990 prices) - Imports (US$ millions), 1995</td>
<td>0</td>
</tr>
<tr>
<td>Conventional arms transfers (1990 prices) - Imports (US$ millions), 2005</td>
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<td>Conventional arms transfers (1990 prices) - Exports (US$ millions), 2005</td>
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<tr>
<td>Conventional arms transfers (1990 prices) - Exports (share %), 2001-05</td>
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<tr>
<td>Total armed forces (Thousands), 2006</td>
<td>5</td>
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<tr>
<td>Total armed forces Index (1985=100), 2006</td>
<td>227</td>
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24. Gender-related development index

<table>
<thead>
<tr>
<th>Description</th>
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<tr>
<td>Gender-related development index (GDI) rank, 2004</td>
<td>136</td>
</tr>
<tr>
<td>Gender-related development index (GDI) value, 2004</td>
<td>0.292</td>
</tr>
<tr>
<td>Life expectancy at birth, female (years), 2004</td>
<td>44.7</td>
</tr>
<tr>
<td>Life expectancy at birth, male (years), 2004</td>
<td>44.6</td>
</tr>
<tr>
<td>Adult literacy rate, female (% ages 15 and older), 2004</td>
<td>15.1</td>
</tr>
<tr>
<td>Adult literacy rate, male (% ages 15 and older), 2004</td>
<td>42.9</td>
</tr>
<tr>
<td>Combined gross enrolment ratio for primary, secondary and tertiary schools, female (%), 2004</td>
<td>18</td>
</tr>
<tr>
<td>Combined gross enrolment ratio for primary, secondary and tertiary schools, male (%), 2004</td>
<td>25</td>
</tr>
<tr>
<td>Estimated earned income, female (PPP US$), 2004</td>
<td>560</td>
</tr>
<tr>
<td>Estimated earned income, male (PPP US$), 2004</td>
<td>989</td>
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<tr>
<td>HDI rank minus GDI rank, 2004</td>
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25. Gender empowerment measure

<table>
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<tbody>
<tr>
<td>Gender empowerment measure (GEM) rank</td>
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</tr>
<tr>
<td>Gender empowerment measure (GEM) value</td>
<td></td>
</tr>
<tr>
<td>Seats in parliament held by women (% of total)</td>
<td>12.4</td>
</tr>
<tr>
<td>Female legislators, senior officials and managers (% of total)</td>
<td></td>
</tr>
<tr>
<td>Female professional and technical workers (% of total)</td>
<td></td>
</tr>
<tr>
<td>Ratio of estimated female to male earned income</td>
<td>0.57</td>
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26. Gender inequality in education

<table>
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<tr>
<th>Description</th>
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<tbody>
<tr>
<td>Adult literacy rate (female rate % ages 15 and older), 2004</td>
<td>15.1</td>
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<tr>
<td>Adult literacy rate (female rate as % of male rate), 2004</td>
<td>35</td>
</tr>
<tr>
<td>Youth literacy rate (female rate % ages 15-24), 2004</td>
<td>23.2</td>
</tr>
<tr>
<td>Youth literacy rate (female rate as % of male rate), 2004</td>
<td>44</td>
</tr>
<tr>
<td>Net primary enrolment - female ratio (%), 2004</td>
<td>32</td>
</tr>
<tr>
<td>Net primary enrolment - ratio of female to male, 2004</td>
<td>0.71</td>
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<tr>
<td>Net secondary enrolment - female ratio (%), 2004</td>
<td>5</td>
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<tr>
<td>Net secondary enrolment - ratio of female to male, 2004</td>
<td>0.67</td>
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<tr>
<td>Gross tertiary enrolment - female ratio (%), 2004</td>
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<tr>
<td>Gross tertiary enrolment - ratio of female to male, 2004</td>
<td>0.36</td>
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27. Gender inequality in economic activity

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<tr>
<td>Female economic activity rate (% ages 15 and older), 2004</td>
<td>71.2</td>
</tr>
</tbody>
</table>
29. Women's political participation

Year women received right to vote: 1948
Year women received right to stand for election: 1948
Year first woman elected (E) or appointed (A) to parliament: 1989 E

Women in government at ministerial level (as % of total), 2005: 23.1
Seats in lower house or single house held by women (as % of total), 1990: 5
Seats in lower house or single house held by women (as % of total), 2006: 12.4
Seats in upper house or senate held by women (as % of total), 2006: ...

30. Status of major international human rights instruments

International Convention on the Elimination of All Forms of Racial Discrimination, 1965
International Covenant on Civil and Political Rights, 1966
International Covenant on Economic, Social and Cultural Rights, 1966
Convention on the Elimination of All Forms of Discrimination Against Women, 1979
Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, 1984
Convention on the Rights of the Child, 1989

31. Status of fundamental labour rights conventions

Freedom of association and collective bargaining - Convention 87
Freedom of association and collective bargaining - Convention 98
Elimination of forced and compulsory labour - Convention 29
Elimination of forced and compulsory labour - Convention 105
Elimination of discrimination in respect of employment and occupation - Convention 100
Elimination of discrimination in respect of employment and occupation - Convention 111
Abolition of child labour - Convention 138
Abolition of child labour - Convention 182

Notes:
1 - Estimate is based on regression.
2 - Data refer to a period other than that specified.
3 - Estimates are based on regression.
4 - Data refer to expenditure shares by percentiles of population, ranked by per capita expenditure.
5 - Data refer to 2003.
6 - Country Included in the Heavily Indebted Poor Countries (HIPC) Debt Initiative.
7 - Completion point reached under the Enhanced Heavily Indebted Poor Countries (HIPC) Initiative.
8 - Data refer to 2003.
9 - Data are estimates produced by the United Nations Department of Economic and Social Affairs, Statistics Division.
10 - No wage data are available. For the purposes of calculating the estimated female and male earned income, a value of 0.75 was used for the ratio of the female nonagricultural wage to the male nonagricultural wage.