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Metabola: Chronic Disease and Damaged Life in Belize

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METABOLA
Chronic Disease and Damaged Life in Belize

Amy Moran-Thomas

A DISSERTATION
PRESENTED TO THE FACULTY
OF PRINCETON UNIVERSITY
IN CANDIDACY FOR THE DEGREE
OF DOCTOR OF PHILOSOPHY

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Advisors: João Biehl
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ABSTRACT

Diabetes is the leading cause of death in the Central American country of Belize, making it profoundly emblematic of the emerging pandemic of metabolic disorders today. It is estimated that diabetes now kills 4.6 million people a year, more than double the global death tolls from HIV/AIDS. Approximately 80% of diabetics today live in low- or middle-income countries, but there is a dearth of social scientific literature about what it is actually like to live with diabetes in the developing world.

This dissertation is an ethnography of diabetes in Belize—its causes and treatments, communities and contradictions, and what it means to live with a new human condition often imagined as a disease of excess in a context marked by scarcity and chronic insecurity. It is based on fourteen months of fieldwork and structured around cases studies. Key questions raised include epigenetic links between diabetes and trauma; food systems warped by colonial legacies and neoliberal policies; the side effects of drugs that can hurt people as often as they help them; and makeshift forms of medicine, where supernatural healing might be enfolded into therapeutic ruptures.

As metabolic disorders play across time, policy, ritual, commerce, history, science and law, the calamitous burden of chronic conditions signaled by *metabola*—a mutation of disease, symptoms, and treatment—also speaks of broader mutations in the global political economy and the place of postcolonies such as Belize within it. The prevalence of diabetes shows how the intricacies of human biology are constantly interacting and keeping pace with deranged economies and overheated environments, unequal market policies, erratic medical and humanitarian interventions, violent histories, and unstable futures. The dissertation ultimately argues that diabetes is not non-communicable at all: It represents a category of *para-communicable disease* emerging between infectious and non-communicable disease as they are traditionally inscribed by biomedicine. The divisions and toxicities causing diabetes stretch far beyond the clinic walls and deep into the messy realities of actual life. We need more apparatuses of care that can do the same. Experimenting with elegy as an anthropological form, this dissertation draws from both life histories and death histories.

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Most of this dissertation was written in Guatemala, while my partner was completing his fieldwork. It is a strange experience to be in someone else's "field," and sometimes I wonder if it will be possible to tell which of these chapters was written in an colonial sugar refinery, which overlooking Lake Petén Itza, which at a tree stump desk while camping in the jungle, which on the edge of an erupting volcano and which back in a Princeton library. In any case, I am grateful to the Saturno family, whose humor and good graces made this possible, to Casa Herrera and Proyecto San Bartolo, and the patience of all those in Princeton who waited for emails and helped with sources while I was backpacking my library.

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Accordingly to Garifuna convention, the dead are affronted to be called by that blunt name if you want to address them directly. So this is for *uaña*: the departed.

While the clocks of the midnight hours are squandering
an abundance of time....
From that underwater world I save some fragments,
inexhaustible to my understanding:
grasses from some primal botany,
animals of all kinds,
conversations with the dead,
faces which all the time are masks,
words out of very ancient languages,
and at times, horror, unlike anything
the day can offer us.

--Jorge Luis Borges
The Dream

The Kettle Has Eyes For the Deep Ocean

There is a proverb in Garifuna: *gáguti gíndili lun ganali*. I remember reading the phrase in my dictionary and being puzzled by the translation. With no further explanation, it was rendered into English as "The kettle has eyes for the deep ocean" (Cayetano 2005: 155). I was struck by the line's cryptic poetry, but had no idea what it actually meant. This happened in the beginning of my fieldwork, during that halting period when I was always looking for excuses to talk to people, so one fall afternoon in 2009 I brought my dictionary to the Gulisi Garifuna Museum in Dangriga to ask the curator there. Peter smiled when I asked, and told me to sit down so he could explain. We leaned our backs against the cool cement block wall, surrounded by displays of dolls dressed in checkered colonial dresses and wall maps depicting various phases of the Garifuna diaspora, shattered lines across the sea: West Africa to St. Vincent, St. Vincent to Roatán, Roatán to mainland Honduras, Honduras to Belize.

"The kettle has eyes for the deep ocean," Peter repeated once, gently, as if trying to fathom a way of thinking where the meaning of these words would not already have been self-evident. "I can see why you would ask this question. It's like your research," he said slowly. "It's like love. The kettle looks out to the ocean and wants to be there, it is pulled by something… the mystery, we could say, of something real. It knows there is something in there deep… But it has no idea how many times over the ocean could fill it, or how the thing could keep washing away. That kettle could just sink to the bottom, who would even know it was there?" Peter let loose an exuberant laugh. I laughed along with him, amicably, even though I did not really understand what was funny. Perhaps he sensed my confusion, because Peter added with another boisterous laugh: "You see, my dear, the ocean will always be the ocean. But the kettle does not even realize, it is just a kettle!"

In the years that have passed since this conversation, I have come to realize how applicable this philosophy is for all ethnography (indeed, for writing of any sort). Yet its

relevance to this particular dissertation warrants special mention because of the broad scope of my subject, and I would like to acknowledge and discuss these significant limitations up front.

The people whose stories appear in this book speak not only English (Belize's national language), but also Belizean Kriol, Garifuna, Spanish, Mopan Maya, Mandarin Chinese, Yucatec Maya, Low German, and Kekchi Maya. My competency across this numerous list of Belizean languages is uneven, but universally insufficient. I found it very meaningful to track the way people brought their concepts into English, since they often used terms of translation that would have never occurred to me if I could actually fluently (or even semi-conversantly) speak their first languages along with them. But I also at times missed skeins of information and connection through these restrictions in my linguistic knowledge, and was occasionally cut out of important conversations altogether. I have tried to pay close attention to shifts in language by noting them in the text and tracing specific idioms and terms in the ways I could. For example, I often highlight key words or phrases in conversations and follow them through dictionaries and linguistic texts much the way I read poetry; looking for clues and rhythms, impressed with the beauty of terms and grammar, searching for patterns of convergence or moments when something suddenly seems to rise off the page. Obviously, this is an enormously different method than actually speaking these languages. Skimming widely over the many vernaculars of Belize might show something new, but the limits remaining in this fragmented approach to local languages are important ones. I acknowledge these readily.

A similar difficulty arises with the way medical science, global health policy, and history are brought into this text. These disciplines have their own languages and intricacies, and here I am also reading through the glosses of others. (The only exception to this caveat is chapter titled "The Side Effect," where I worked with primary source materials from the Rockefeller Archives. However, the social fabric I am concerned with there is a contemporary one, and undoubtedly I weave these fragments into a very different cloth than a historian might. I trust this is due to the fact that we work with such different looms, not any damage done to the integrity of the

threads.) For economists and medical scientists, policy makers and historians—just as with native speakers of Belizean languages—I invite suggestions and clarifications as out-of-context terms and scraps from these worlds make their way into this text (perhaps sometimes without the long pause that would be needed to fully unpack them). Yet the technical aspects of medicine and the details of history and policy often make their way into ordinary life through these same limited glosses and erratic ways of surfacing. However partially I am able to do justice to these complex dimensions of knowledge in this text, it seemed a much graver shortcoming to ignore their critical roles in shaping the texture of actual life.

Yet perhaps the translations I struggled with most of all in this text were those conversations that unfolded *between* Englishes. The majority of the dialogues recorded here took place with me speaking American English (over time inflected too with some Belizean phrases) and Belizeans speaking in either Kriol or English inflected with Kriol. The truth is that there is a large grey area between these registers. The orthography of Belizean Kriol is just now being standardized. Although it is the most widely spoken language in Belize, accents, inventions and mixtures between English and Kriol grammars vary widely from speaker to speaker. On one hand, it felt odd to transcribe recorded interviews as if with a correcting pen, changing the music of people's shifting grammars into the Queen's English. On the other hand, my early efforts to use the notations that are commonly accepted within Belize (for example, *de* instead of *the*, or transcribing with orthographies that might change from speaker to speaker and even sentence to sentence, as Belizean national newspapers at times do in order to reflect the speaker's actual words) felt charged with an ugly racial history when writing in an American university for English speakers who have different associations with these spellings and lexicons. (The controversy about whether Belizean Kriol is a language or a dialect of English is somewhat reminiscent of similar debates about Ebonics in the United States, with the major distinction that Kriol is spoken widely across ethnic groups in Belize—by Maya, Garifuna, Mestizo and East Indian Belizeans as well as the Kriol descendents of loggers and slaves—which

gives questions of linguistic integrity and racial representation a different valance *within* the Belizean context, but grow increasingly ambiguous as it travels abroad.)

Yet in the end I am a white American, writing in a country where the orthography of English dialects is a tangled thicket of stereotypes. As Ngugi wa Thiong'o has noted of such "Nation languages": "Their orthographic representation is problematic, and they are often written as if they were misspelled English or French words" (2009: 44). Without a background in linguistics, I felt unequipped to render Kriol words as they were actually spoken without these knotted issues obscuring the content of what was actually being said. Ultimately, it is *because* I believe it is crucial to treat pidgins and creoles seriously as languages that I chose to translate Belizean Kriol expressions and terms into standardized English (just as I would with words from Spanish, Maya, or Garifuna). When Kriol turns of phrase made their way into English, I preserved them only when—following Walter Benjamin—I felt that the original terms captured a sensibility that would be readily understandable and might add velocity to what is being communicated rather than give pause to the standardized English reader. Yet there remained a grey area where I could only follow my ear and instinct. Le Page has argued that "there is no such thing as a language except insofar as the idiolects of two or more people overlap" (in Taylor 1977: 225). These renderings are my imperfect attempts to find and balance that overlap between the real speakers and likely readers of this text. For all that might be lost in these accounts as they were transmitted to me and as I recount them to you, I hope this technique preserves more truth than it obscures.

As this long list of caveats begins to show, the attempt to plunge oneself in another world is always an act of deep-sea diving. Much anthropology is based on this risky premise, although in trying to immerse oneself in other peoples and places (or at least learn to swim in environments we were not necessarily born into or made for) ethnographers often risk drowning in the lives of others, the pain of history, and all that we cannot know. Perhaps the best we can

do, as Hannah Arendt (1968: 50) once wrote of Walter Benjamin, is try to resurface with some "thought fragments."

When collected with care and respect, human stories have a raw ethnographic force that persistently and productively escapes scholarly theories and academic models, demanding instead to be understood on their own unsettling terms. In any case, I hope these fragments of encounters might capture some of the *feeling* of life in Belize as I experienced it, "a world view in droplets" (Geertz 1983: 47). They are offered here as a small sampling of moments that help to show the raw tissue of ordinary life behind these overarching questions of globalization and chronic medicine—call them case studies or elegies, "death histories" or "specimen days." These scraps of time, though inevitably marred by my own misunderstandings and narrated from my own restricted horizons, constitute the interpersonal experiences that fill the space of this dissertation. Like any anthropologist, I am the constantly leaking and highly imperfect instrument of my craft. The same human vessels of care and loss through which this research was collected also mark its limits and shortcomings.

In the end, not only the immense global problem of diabetes, but also the tiny country of Belize—indeed, each of the chronic conditions and human lives this books seeks to capture in some small way—all "contain multitudes" (Whitman 1982: 87), are themselves a deep ocean. "From that underwater world," as Borges says in the epigraph here, I have tried to "save some fragments"—to place them in a public forum where others might continue to encounter lived moments and key questions from a time fast receding, a problem catastrophically growing, local places quickly changing and people now long gone. Only partial scenes and images, they are all I could hold. Please know that I mean the following chapters to be read as nothing more than chance samples brought from a vast ocean.

Because after it all, I still hear Peter laughing:

The kettle is just a kettle.

Introduction: Errata

> I unraveled what I had done, continuously tormented by scruples that were taking tighter hold and steadily paralyzing me….Even what I ultimately salvaged as a "final" version seemed to me a thing of shreds and patches, utterly botched. --W. G. Sebald, *The Emigrants*

Fieldwork and the Ethics of Mistakes

I have always been unsettled by errata: those strange little scraps of text appearing on the edge of feature news stories and journal articles, like misplaced footnotes that set straight some error from a past edition gone by. The irony of errata is a fundamental one: by definition, "corrigenda" are uncorrectable corrections. The flawed template has already gone to press, revisions no longer possible; all that is left to do is append, painstakingly detailing these mistakes, and noting how they might have been written otherwise. Errata are always details out of time and out of place, residues of errors coming to public awareness at least one issue too late. Yet it matters, not just grammatically but somehow ethically, to note "for the record" (what record?) any mistakes that are observed too late to actually be fixed.

It was in circumstances of grief and loss that *Errata* eventually became the title of this dissertation's introduction. In 2008, I originally went to Belize to trace the newly initiated "National Deworming Campaign." Yet as I tried to trace the implementation of this pharmaceutical distribution program, which administers deworming antibiotics to school children in certain regions of Belize, the unexpected reality that I encountered when entering local homes and clinics time and again brought me back instead to the issue of diabetes. Many of the Belizeans I met told their life stories in relation to the pieces of their bodies they had lost—typically first a toe, then a foot, later a necrotic ankle or knee. In addition to being the leading cause of mortality in Belize, diabetes also accounts for five out of six amputations in the country. People I spoke with were struggling with the disease in resource-poor settings, where the requisite digital blood sugar barometers or daily self-

administered injections of insulin were costly and difficult to access through the public health system. My questions began to shift: why was there an international focus on infectious diseases such as parasitic infection, when diabetes is the number one cause of death in Belize?

Seeking to account for the ways this epidemic of diabetes impacted people's actual lives, I ultimately shifted my research focus to address this chronic reality before returning to southern Belize for a year of fieldwork in 2009-2010. This dissertation's focus on diabetes grew out of this reframing (and, as Chapter 5 will discuss, during the course of my research, diabetes education actually did become an area of questionable intervention targeted by short-term international health teams operating in Belize). My research began by visiting archives to chart how health policies for these diseases had been morally figured in various phases of political history. I also began conducting interviews with diabetic patients at hospitals and clinics in the southern Stann Creek District in Belize, a region sometimes labeled "underserved" in the medical literature. During a 2006 nationwide survey, it was found that approximately 1 in 4 adults in Stann Creek—and 1 in 3 women—had diabetes (Gough et al 2008: 59-61). With this data now collected six years ago, these already-catastrophic rates have very likely continued to climb since then. It is no exaggeration to call diabetes in Belize iconic of an emerging pandemic of metabolic disorders in the world today.

Although these prevalence numbers in southern Belize are unusually high, they are also indicative of where the future of global health is headed. An estimated 336 million people in the world currently have diabetes, according to the International Diabetes Federation (IDF 2012). Diabetes now kills 4.6 million people each year, more than double the global fatalities caused by HIV/AIDS (Roglic 2010; IDF 2012; UNAIDS 2011). It is spreading like wildfire at a time when HIV/AIDS rates have leveled off. Approximately 80% of diabetics now live in low-income or middle-income countries,[1] a profound postcolonial

issue, but there is a dearth in the anthropological literature (no published monographs, for example) about what it is actually like to live with diabetes in the developing world.

In historian Charles Rosenberg's classic volume *Explaining Epidemics,* he writes of "the way that disease necessarily reflects and lays bare every aspect of the culture in which it occurs" (1992: 277). I wanted to understand what was being "laid bare" by this emerging epidemic of diabetes, and how scenes enacted in hospitals fit into the whole of people's lives as they moved in and out of treatments and translations. I began my fieldwork by spending several days a week interviewing patients in clinic settings and working with nurses or doctors. This helped me to understand issues of medical migration and broad treatment fragmentation in ways that guide the refrains of the case studies that follow. But my fieldwork was off to a halting start until I heard of a diabetes clinic in a village of the region, where I was invited to conduct fieldwork as a clinic volunteer. I soon moved to the village here called Mile 21[2] (which, like many places in Belize, featured luxury hotels in close proximity), using classic methods of anthropology to try to understand chronic disease there: community participation; conducting interviews and collecting life stories; following clinic actors on their rounds; language studies; going with patients wherever they invited me (be that a transnational clinic or ancestral ritual). But perhaps most important were the home visits.

Josep Comelles sees the disciplinary roots of anthropology in the history of physicians conducting home visits with their patients, dating from at least classical Greece (1998: 233-7). He views this tradition of home visits—which made doctors face the actual circumstances their patients lived within, often documenting life conditions and environmental milieu in the genre of "medical topographies"—as the birth of ethnographic practice itself. Interestingly, American diabetes pioneer Elliot Joslin thought home visits crucial to adjusting treatment for his patients. Yet in his own lifetime, Joslin saw his mode of contextualized care supplanted by clinical models designed for generalizability. Although

a legend in his old age, he had trouble getting published anymore, as "his meticulous attention to details of home care could no longer readily find its way onto the pages of medical journals" (Feudtner 2003: 194). But these messy pieces of actual life contexts are central to diabetes care, bringing place, family, food, neighbors, houses, practices and belongings back into the picture. The crucial realities that modern clinical understandings of diabetes care have come to exclude remain a core bastion of ethnographic knowledge.

Yet studying medicine outside of clinics and tracing the ways drugs circulate through domestic worlds means that you are often observing not a health care system, but its seams or its holes. And when you are inserted as an actor into that void, you come to know what happens there intimately—which was my intent—but oftentimes you are also asked to fill that void partially, in various ways—which was not intent at all. When this was first something I was asked to do during my fieldwork, I thought a lot about how participant-observation fits into my sub-discipline of medical anthropology. When I think of the other people in my cohort, for example, there is something different about the forms of participation available to them: one of my colleagues learned to weave as part of her research on textile production in Morocco; another played the lyre as part of his studies of music and memory on the Black Sea Coast. But because the practice I am studying is medicine, of course there is a very different cost to dabbling, without a true expertise. Maybe this is also a larger question about participant-observation in medical anthropology, specifically. What is there to participate in exactly—healthcare? What about when we aren't doctors? Does the thing we are participating in sometimes become the suffering of the sick people we speak with? No wonder suffering is often foregrounded in medical anthropology, at times even posited as an analytic in itself.

As I began going on home visits with a local clinic, I was very careful to repeat again and again I was not a doctor or a nurse (although people still called me both of these things constantly), and to act within the parameters of what a volunteer would be permitted to do

in an American care giving situation. I had worked for two private in-home care giving companies before grad school, so I did know what a non-specialist, non-licensed helper for a sick person was allowed to do. As a working definition, I would only use medical technologies that an amateur would be allowed to use in the US—for example, over the counter glucometers to check blood sugars. But I found it troubling how much expertise and medical power people were at times willing to allot to me even knowing that I was not a professional. I was asked to do things like remove stitches and give insulin injections—which I obviously I did not do, but I had to draw very firm lines about the medical forms I was not willing to wield.

I also tried to mark myself as an anthropologist by avoiding certain symbols of the medical profession—for example, I decided not to wear scrubs when going on home visits even though I was asked to do so by the clinic director, because I worried this would deepen people's confusion about my role. Meanwhile, other things I had used in the past to mark myself as an anthropologist—such as a field notebook, clipboard or paperwork forms—did not strongly signify anthropology in this case as it might during other interview contexts, because these are all signifiers our field shares with the medical profession. They seemed to confuse people more about my connection to the healthcare system more than they clarified anything about my purpose as distinct from that. So my digital tape recorder became very important to me during this time, as a marker of "not-doctor." The tape recorder often made conversations more awkward but felt like my most important tool in making sure that people were not telling their stories to me as a misperceived nurse, but to me as a storyteller.

There was one case, for example, of a woman who welcomed my visits after I had explained my project, but did something very strange the first afternoon I turned on my taperecorder: she began talking almost incoherently, answering my questions with completely unrelated asides about the sea. Although I visited her every week for nearly a

year, and technically have her on my digital tape-recorder saying yes when I asked permission about being an ethnographic subject in my research, I interpreted her pointedly off-topic responses when my taperecorder was rolling as a tacit way of politely refusing her consent to anthropological engagement altogether, including the very coherent things she had told me without the taperecorder. In other words, although I had an IRB yes, I interpreted this as a gentle (Garifuna?) no. Trying to respect what I understood as her wishes, I have not included the content of our home visits in the descriptions that follow.

I worked across many different clinical milieu (including hospitals, public and private clinics, and observing foreign "medical mission" trips), and found my ethical quandaries compounded by the fact that I began to notice some questionable medical practices unfolding in some of the settings where I volunteered. Turning away from these disturbing realities seemed just as ethically troubling as staying, reminiscent of the "missing the revolution" anthropology of another era. But just by continuing to engage these realities as an anthropologist—by *not* having the intention to write an exposé, and by continuing to witness and even directly support medical practices that were at times questionable, I often felt complicit in them.

It became apparent that there was also a local notion of research ethics circulating. This was explained to me very clearly during my first day in one Maya village where I worked, by my language teacher. She told me that the last anthropologist who had worked in their village had not "given back," and that as a result of this he had met a bad fate. (And it's true that this professor was suddenly killed at a young age.) But this was how the community read his death, and she kindly said that she wanted to warn me from the beginning, so I could go forward only if I felt comfortable with this risk. Her tone was nothing like a threat—more like disclosure of the risks that this research could entail for me. Was this a Maya version of informed consent? It would not be her acting, she said, if something happened—it was not like obeah. The language and cultural knowledge itself

had a force that would hold my life as collateral for upholding my end in the ethics and reciprocity in our relationship.

But one of the dominant concerns about what previous anthropologists had done wrong was not giving people in the village "credit"—that is, not attaching village linguists' names to the information anywhere in their books except in the acknowledgements. This sort of giving credit can be directly at odds with an anthropological code that demands anonymity. In such cases, it is the ethical rules designed to protect the privacy of ethnographic subjects that can sometimes make them vulnerable to not being recognized as experts whose names must be cited when their knowledge is drawn from (if the same thing happened to an academic expert, for example, and their knowledge or discovery was quoted without proper acknowledgement or with the wrong names attached, we would consider it sloppy scholarship or even plagiarism). Through such complexities, in trying to do the right thing, I often felt caught between different actors' ideas of what that even was. These competing fields of ethics are not compatible with each other much of time in part because they all locate power in a different place—the IRB-style ethics being the only code that seems to locate that power with the researcher.

The stakes of negotiating these different ethical fields felt much greater once people I knew started dying. Once in a while I would go to visit someone for an interview and find out they were dead. In addition to wider circles of less intensive interaction (people I interviewed once or twice), there were 15 people who I was visiting once or twice a week, every week for a year—the kind of gradually built relationship where you really get to know a person. Eight of the 15 are dead so far—more than half—and another three are not expected to still be alive by the time I go back next summer. And because this became personally devastating, it changed the kind of knowledge or information I began to collect—sometimes writing my field notes started to feel casting death masks of people in their final moments, trying to capture something beautiful or dignified about their lives before they

passed. The result was a very particular kind of data, more like memorial work than my usual ethnographic style.

At this time, I also became very interested in the Garifuna death rituals that were happening around me. Messages received from the dead were part of how people situated their diagnoses and used their pharmaceuticals from the hospital. Many Garifuna rituals centered around a notion of feeding the dead, cooking enormous feasts for the ancestors that would be thrown into the sea or buried in the sand. Since I was studying diabetes, this use of food interested me because they were often the very dishes that diabetics were not supposed to eat—white rice, rich soups with coconut milk bases, deserts and rums. The same foods being used to keep memories of the dead alive now seemed to be contributing to the leading cause of death among the living.

Such connections with the dead can be a source of vibrancy and stability in a world that often felt very precarious. There is a certain geopolitical sense in which Belize feels like a country always on the verge of its own disappearance. There were forms of danger that I had not anticipated there—I lived in an idyllic-looking Caribbean village with a constant stream of tourists moving through, not in Belize City (which has a reputation for danger). But as time went by, I learned that many of the expats slept with a .357 nearby. There had been several rapes and murders on the road that led to the village. I had not come to study violence so I didn't know what to do with it analytically when it reached the things I was trying to study, and it became difficult to mentally separate from the violent medical deaths I saw. I still think of them a lot, especially a one-month-old baby whose body I held. When I handed his body back to his mother, neither of us cried. A month after I left Belize, the baby's grandmother, an American national, was raped and murdered in the neighboring village. Whoever did it has not been caught, but they got into her house by cutting the screen of an upstairs window. And before I left, someone tried to break into the room next

to where I was sleeping one night (by cutting the screen to the window, but were unable to make it past the wooden hurricane shutters).

Yet I later learned that the thief who tried to break into the adjacent room was most likely just a child; elsewhere in the village that night, someone else reported a break-in where the footprints in the sand looked too small to belong to an adult. Only ham and a loaf of bread were stolen. Afterwards, I thought often of the little ham thief, and the way I was caught in the frighteningly unequal context that produced him. What does it mean for a child's hunger to coexist in plain sight of luxury resorts? Where is the breaking point at which it becomes inevitable for such profound inequalities over time to metastasize or rupture into something more blatantly violent? It was a context in which simply being white often gave me an unshakeable sense of complicity.

It was difficult to know how to process that sense of underlying danger. Here I was trying to understand diabetic medicine in the context of Garifuna notions of death, meanwhile in a very real way I also came to fear my own death. I got cholera in April. I got pneumonia in July. And shortly after someone tried to break into my place, I found out that I was—by sheer coincidence—working in a clinic built on the exact stretch of beach where the last anthropologist who worked in the village had lived in the 70s. The nurse I worked with actually tore down my predecessor's house to build her clinic in the very same spot. And he was murdered in Belize in 1996.

This figure of the murdered anthropologist was therefore a disciplinary legacy in both villages where I worked, which I came to feel unwittingly but inescapably connected to somehow. Just by choosing to stay there in the midst of all these bad omens, I myself felt touched by some kind of *thanatos,* which I saw as in some ways intertwined with the ancestral rituals unfolding around me.

At some point, this unsettling context of my fieldwork became more than the methodological realities of my research, but also the central heuristic through which I was

coming to understand the things I saw in Belize: medicine in the village where I lived; the way my friends there often thought of their illnesses as if they were inevitable and the imminence of death as though it were intractable; the way this intimacy became part of how they communicated with their ancestors through rituals, food and songs; and the way they bore their losses, by redefining love and communication as something which only grew more powerful in the face of death. Maybe this was participant-observation in a way too: I was forced not just to observe, but to participate in a perpetual reckoning with death.

I ultimately titled this introduction *Errata* because its accounts feel most like a postscript to a series of mistakes, which I witnessed and often felt complicit in, and other times felt myself mistaken for engaging with in first place. Of course, to some extent errors are part of the human relationships themselves, and therefore inherent to anthropological research—perhaps even part of the conditions for ethnographic possibility. Carl Jung believed that "mistakes are, after all, the foundations of truth," while Salvador Dali wrote of mistakes: "understand them thoroughly. After that, it will be possible for you to sublimate them." Yet that does not change the fact that I still consider certain events and choices *as* mistakes—some only witnessed, and others my own. Many of their consequences are unfixable. But I like to think maybe they can be appended in a certain way through what I write about them now—perhaps in the sense of ethnographic theory or questions of accountability, maybe in the sense of elegy. While "The Primacy of the Ethical" in anthropology has been envisioned by some as "a cadre of alarmists and shock troopers" engaged in a "militant anthropology" (Scheper-Hughes 1995: 417), I am interested in exploring elegiac genres for the possibility of another kind of ethical commitment. Susan Sontag once wrote of W.G. Sebald that he "was not just an elegist, he was *a militant elegist*. *Remembering, he wanted the reader to remember, too*" (Sontag 2003: 89, emphasis added).

The following chapters experiment with elegy as an anthropological form. The Garifuna have beautiful elegies, sung on haunting scales at the ancestral temple. There is a certain sense in which my writing now feels like a foreign mirror held to their death rituals. Just looking at my fieldnotes when I work at night, hearing the voices of my dead friends from Belize in interview tapes, and looking at pictures from fieldwork is an experience of constantly encountering ghosts, and of trying to find ways to engage the dead and their memory. This work feels heavily borne because of my sense of complicity in being unable to prevent their deaths. Yet at this point, finding a way to tell these stories feels like part of my own ethical response to the mistakes I saw—maybe the only one left available to me. Through this sense (of trying to transmute what could have been an exposé instead into ethnography), my writing feels like a postscript not just to my fieldwork and its troubled methods, but also like a gesture toward appending the lives of these untimely dead. My dissertation is a corrigenda in the sense of a place where they can continue to be alive.

Sweetness and Parasites: Policy Frames

The great majority of my time in Stann Creek was spent tracking diabetes, yet the issue of the deworming interventions I had originally intended to study remained on my radar as a framework for thinking about the treatment systems available for some diseases alongside the difficulty of addressing others. I followed a few short-term deworming campaigns in Belize when foreign teams visited through the diabetes clinic where I volunteered. To contextualize the historical lack of accessible therapy for diabetes in the developing world, I also found it interesting to trace policies for each health issue comparatively through archives, contrasting the available care systems for each of these two nutritionally-related diseases over time: one contagious (parasitic infection) and one non-infectious (diabetes).

The strange truth is that these seemingly unrelated topics are not so easy to pull apart. For example, some medical scientists have argued that intestinal worms are actually a protective factor against Type 1 diabetes and other autoimmune diseases—one team of epidemiologists even recently published a world atlas showing an inverse relationship between the respective prevalence of Type 1 diabetes and parasitic infection (Zaccone et al 2006). They argue that through complex autoimmune mechanisms, the loss of intestinal worms was a powerful causative factor in the rise of diseases such as Type 1 diabetes. (These debates will be examined in more detail in Chapter 4.) If these researchers are right, then what does it mean that international deworming campaigns could be one of many factors at play in precipitating the current rise in autoimmune forms of diabetes, too?

Yet there was no global or state program available to support therapy for children with Type 1, evincing policy priorities that also have a deep international history. Interestingly, the same Frederick Gates who was instrumental in the creation of the Rockefeller Foundation's legendary international hookworm efforts was himself a diabetic, and played a major role in persuading John D. Rockefeller, Jr. to support insulin therapies in their earliest stages. Rockefeller agreed, and his gift of $150,000 initiated a groundbreaking program in which select hospitals in the U.S. and Canada offered insulin supplies to needy patients who otherwise could not afford the new drug. Administered by the Rockefeller Institute, the funds were disbursed by a committee of Rockefeller philanthropic advisors that consisted of Gates, Simon Flexner and Arthur Woods. The funds were to be used to treat diabetic patients as well as to teach physicians how to use insulin to treat diabetes. The excitement of this program is palpable in the newspaper clippings from that year. The *Globe* called it a "Complete Cure" for diabetes. "New Serum Dooms an Age-Old Curse," read a headline in the *Evening Telegram*.[3]

But insulin, of course, does not cure diabetes. It only controls the disease, with doses measured carefully against glucose intake day after day. This did not stop the international

excitement stirred by the enthusiastic headlines announcing Rockefeller's support of insulin therapy. People wrote from around the world desperately describing their diabetic symptoms and that of their dying loved ones; some letters were followed by announcements about the death of the patient for whom help had been requested. The folders that contain these requests are filled with letters from Salvador and Costa Rica, Zaragota and Barcelona in Spain, India, Norway, France, Mexico and Hungary. But, as one woman's request for help outside the U.S. was answered in 1924: "[The Rockefeller's insulin provision] activities, however, have not gone beyond this country."[4]

But one fascinating file suggested that diabetes *could* be a pressing international issue—if it were contagious. A very interesting series of correspondence took shape around an "outbreak" of diabetes insipidus in rural India in 1952, as Rockefeller Foundation staff investigated the possibility that the disease may be caused by a virus. For several months, the campaign workers thought the diabetes outbreak was contagious. A flurry of urgent letters and observational studies passed back and forth between New York and British Indies field stations about the humanitarian efforts that would be necessary to control the spread of this contagious diabetes, as officials proposed work to isolate the diabetes "virus" and develop a diabetes vaccine; someone drafted a medical journal article. But eventually the officials realized the disease was linked to the spread of a new grain—not because the grain was transmitting an infectious pathogen, but because it was high in sugar—and the problem was simply let go, slipping quietly off the public health radar.[5]

There is something interesting about looking at these diabetes files side by side with reports from the Rockefeller's international hookworm campaigns. In the case of the ankylostomiasis program in British Honduras, by 1918 the hookworm pharmaceuticals were at times being forced on citizens who actively resisted them even at risk of imprisonment.[6] Meanwhile with diabetes, desperate pleas for insulin therapies were arriving from around the world, without institutional recognition of any medical need outside the United States.

This stark contrast underscores the fact that while hookworm was considered an international issue and security risk, diabetes from the beginning was inscribed as a domestic disease requiring only national intervention and patient responsibility. In past interventions, diabetes was considered a sickness of single individuals, so deeply associated with excess in public imaginations that when the disease *did* emerge in contexts of scarcity, it is often not recognized or acknowledged. Meanwhile hookworm from the beginning has been a symbol of poverty, a disease not of individuals but of groups, struggling populations and nations.

Even a brief comparison between diabetes and hookworm as seen through these policy histories begins to lay bare ideas of risk and contagion in global interventions, and the moral underpinnings at stake in philanthropic medicine. What meaning lies behind our continuing global focus on infectious diseases, when emerging statistics show that the human burden of chronic illness now often far outstrips contagious disease in much of the developing world? How can we understand the ways these conditions increasingly emerge together not only in same social contexts of scarcity, but at once within the same living person? And where is the point when medicines hide deeper disorders?

It is crucial to realize that diabetes can actually be triggered in otherwise healthy people by many pharmaceuticals, which alter the body's chemistry and can cause metabolic disorders as a side effect. For example, ART drugs globally distributed to treat HIV/AIDS have themselves been shown to cause metabolic disorders, insulin resistance and diabetes in 5-25% of patients[7] (Flint et al 2009; Grinspoon 2009, 2003; Murata et al 2000; Noor et al 2004), an iatrogenic factor now contributing to the diabetes epidemic throughout the developing world. Yet insulin is often much harder to consistently access than ART. Between 8-18% of patients with cancer now also have diabetes (Cazzaniga et al 2009; Giovannucci et al 2010; La Vecchia et al 1994; see Livingston forthcoming for an ethnographic view of the cancer epidemic in a context of scarcity), a complex picture of

reinforcing risk factors as many cancer drugs can contribute to insulin resistance, and continued exposure to elevated levels of insulin can stimulate the progression of some cancers (Currie et al 2012; Psarakis 2006). A recent study found that diabetic patients were 46% more susceptible to malaria infection than non-diabetics (Danquah et al 2010). Risk of tuberculosis is also three times higher for a patient with diabetes, although patients with diabetes are less responsive to treatment drugs for TB that can also affect blood sugar levels (Alisjahbana et al 2007; Dooley and Chaisson 2009). It is clear that the growing complexities of *drug-induced* diabetes, and the realities of living in poverty with synergistic infectious and non-communicable diseases, will be a crucial area for future research in the social realities of global health (see Agyei-Mensah and de-Graft Aikins 2010; Motala et al 2003).

Yet this disordered entanglement of distinct diseases and drugs makes it extremely complex to chart the muddled ways they affect actual lives. My own attempts to document pharmaceutically-induced diabetes in Belize begin to suggest the complications of this picture. For example, in April 2010, I met a patient in the hospital who had developed diabetes after being diagnosed with HIV, likely triggered or exacerbated by his ART drugs. He was a young man with hard eyes named Irvine, wearing pajamas printed with the pink words "Who Wears the Pants?" His "common law" (wife) came to the hospital each night after work, he told me, and slept in a chair next to him. Irvine was having difficulty breathing. He asked if I could return the following day for an interview, since it would be painful for him to "use his air for talking" until a working oxygen tank arrived. I returned the next day for our interview, only to go numb at the news that Irvine had died unexpectedly during the night at the age of 36. It is strange to meet somebody on the day they are going to die. I imagine that Irvine would have preferred to spend his last day on earth doing something besides talking to me; I imagine that he would have preferred to die wearing something besides those ill-fitting pajamas. When his doctor laughed and told me

that his patient's cause of death was "unknown," I took this to mean it was not any single factor—his HIV/AIDS, his diabetes, the many drugs he had to take for both these conditions—but some uncertain yet lethal vulnerability created by the biological knot of all of these forces. Co-morbid diseases might be separated into vertical treatment programs in intervention policy, but people live and die in their unparsed entanglements.

What is the moral fabric underlying a set of global health practices whereby the non-urgency of diabetes comes to seem like a self-evident fact? In *Contagious*, Priscilla Wald examines the "outbreak narratives" underpinning modern epidemiology, which pose infection as amenable to "heroic" intervention and "influence how both scientists and the lay public understand the nature and consequences of infection, how they imagine the threat, and why they react so fearfully to some disease outbreaks and not others at least as dangerous and pressing" (2008: 3). Diabetes has become emblematic of those conditions minimized by the contagion "outbreak" narratives Wald describes, which consistently allow experts to overlook issues of poverty causing disease (and oftentimes instead draw from rhetorics of danger that follow colonial contours of race and hierarchy, locating infections' origins within infected peoples and "at-risk" populations).[8]

Such imaginations impact the way diabetes is morally figured in global health domains, through a language of "ascetic" compliance (Whitmarsh forthcoming) that assigns responsibility for care to the patients themselves[9]—as "the disordering capacities of state and market society are projected onto those against whom that power is used" (Austin-Broos 2005: 184). Moralizing narratives often obscure the social realities incommensurate with patient adherence (such as constraints in accessing healthy foods in contexts of poverty), reminders of how certain senses of human life are crystallized around the negotiation of global health priorities (Fidler 2007; Garrett 2007; Greene 2010; Magnusson 2010; Nguyen 2010). Yet the International Diabetes Federation states:[10]

> Far from being a disease of higher income nations, diabetes is very much a disease associated with poverty.....[T]he global community still has not fully appreciated the

> urgent need to increase funding for non-communicable diseases (NCDs), to make essential NCD medicines available for all and to include the treatment of diabetes and other NCDs into strengthened primary healthcare systems. The evidence for the need to act will soon be overwhelming… (IDF 2010)

Jean-Claude Mbanya, the charismatic president of the International Diabetes Federation, first became interested in issues of insulin access when his father slipped into a diabetic coma during his entrance exams for medical school in Cameroon (Schatz 2008). He recently published a groundbreaking overview of the medical literature on diabetes in Africa together with his colleagues (Mbanya et al 2010; see also Allotey et al 2011; Amoah et al 2002; Beran and Yudkin 2006; de-Graft Aikins et al 2010a, 2010b; Hall et al 2011; Motala et al 2003). Non-communicable disease in the developing world is also a growing area of anthropological research (see Fullwiley 2010; Good et al 2010; Livingston forthcoming; Kleinman and Hall-Clifford 2010; Manderson and Smith-Morris 2010; Whitmarsh forthcoming). Susan Reynolds Whyte has vividly documented the growing realities of "lifestyle" diseases such as hypertension and diabetes that now exist alongside the HIV/AIDS she has studied for decades in Uganda (forthcoming); as one of her informants notes, these non-communicable conditions are "the real Neglected Tropical Diseases."

The ways populations and conditions may be conjured or disappeared through global health statistics remains a broad backdrop to this research. But this ethnography seeks to examine such categories and exclusions on a more intimate scale of jurisdiction. As Virologist Philip Mortimer has noted, "[a]n outbreak, like a story, should have a coherent plot" (in Wald 2008: 19). While ethnography obviously entails its own weavings and omissions, it can also give shape to different types of stories and experiences that might run counter to the assumptions at work in sustaining conditions of disregard. These case studies try to allow people's own stories to cohere into an alternate plotline—one that shows metabolic disorders as intricately related to warped colonial and neoliberal political economies. Diabetes itself also has, and *is*, a character in these stories, and I try to juxtapose fields of social and medical knowledge, working to translate some of the cellular

mysteries of metabolic disorders. In response to those public imaginations and policy narratives suggesting that disproportionate risk for diabetes is due to a maladaptive "thrifty gene" or patients' own moral responsibilities and poor choices, these chapters are offered as some errata.

Belize: Lines of Adjacency

Belize is an interesting place to think with, keeping a constant tension between what is emblematic of larger global realities and what is singular about its peculiar history. It would be hard to put it better than anthropologist Richard Wilk, who writes: "You cannot understand the uniqueness of Belize without understanding just how typical it was—and vice versa" (2006: 69):

> Though most people today see Belize as a backwater (if they see it at all), the country has never been isolated or cut off from the world during 300 years of constant immigration and population movement, with an economy based almost entirely on imports and exports. It is both completely global and thoroughly local at the same time—caught in the paradox of a place simultaneously distant and close, and completely traditional and totally modern. In this, Belize is a microcosm of all the ways globalization had worked for the last 350 years. (2006: 12)

Belize is an underpopulated country in an overpopulated world. Its national territory is about the size of Massachusetts, but in 2010 the country's entire population was only 312,698—less than half that of Boston. It is the only English-speaking country in Central America, carved into the mainland just below the Yucatan peninsula in Mexico and just east of the Petén in Guatemala. Belize also has a sizable stretch of Caribbean coast and tiny beautiful islands called cayes (pronounced "keys"). They are frequented by movie stars. Tourism makes up 22 percent of Belize's GDP, and 1/7 of the country's population is employed in the tourism sector (Cruise News 2011). A special fenced-in "Tourist Village" has been constructed for cruise ship passengers by the sea in Belize City. It holds pastel-colored patio tables serving daiquiris and shops selling tropical souvenirs, empty and locked on the days when no cruise ship arrives. Approximately 800,000 cruise ship passengers

visit Belize each year, figures now approaching triple the country's population. An estimated 43% of Belizeans now live below the poverty line, and this number is rising.

When I speak of "neoliberalism" in Belize, my use of this loaded (or more worryingly, emptied) word occurs in tension with the grit of ethnographic realities described here. As anthropologist James Ferguson notes, it is often hard to tell just what social scientists are talking about when they invoke neoliberalism, and some of the meanings this word carries are even contradictory (Ferguson 2010). Yet many of the human conditions and lived realities that have come to mark neoliberalism are contradictory too. When I use the term neoliberal in the stories that follow, I mean it as shorthand for the ways in which Belizean economies also plug into larger political shifts linked to globalization today—state reforms, often occurring in response to terms of credit lending by market institutions (such as International Monetary Fund and World Bank) in conjunction with spiraling national debts; the pervasive divestment of public services from sectors such as healthcare in the name of efficiency; and an ideological preference for service provision by private sectors and transnational market forces (which in Belize includes tourism and volunteerism). In this global mix, corporations and non-governmental organizations often come to stand in for absent state services—"an alphabet soup of acronyms and programs that make a rendering of accountability virtually impossible" (Nguyen 2010: 177; see Sutherland 1998). Achille Mbembe analyzes such processes accompanying neoliberal "reform" as an effective undercutting of citizenship itself: "that is, the emasculation of the interplay of rights and claims enabling people to have not only duties and obligations toward the state but also rights against it, rights that can be asserted politically, for example, in the form of entitlement to such public services as education or health care" (2001: 74). The effects of these policies can become ethnographically visible, deeply shaping the economies of food and medicines circulating at the level of domestic care and human lives, as "social effects of neoliberal reform are not

limited to the vertical relationships between state and society, but they also affect the lateral relationships among individuals—even intimate relations, as well as communities and intersecting publics" (Greenhouse 2010: 3).

"Nevertheless," anthropologist James Boon writes, "it is important *generally* to undo pat sequences of 'isms,' which to do not happen the same way the world over" (Boon 1999: xix). Belize was a latecomer to independence. It remained a British colony until 1981, and missed out on the crucial period of self-definition and service building that countries such as Ghana underwent before structural adjustment policies hit. (Belize had to opt-in to a few extra decades of British colonialism due to threat of invasion by the adjacent country of Guatemala—due to an old land dispute, Guatemala considered British Honduras part of its own national territory, depicting it as part of their country on maps. England protected Belize during this time, sending Harrier Jets when the Guatemalan army was poised to invade and adding an ambivalent layer to their colonial relationship. Today, Guatemala no longer threatens war and a treatise has been worked through (see Shoman 1994), but the issue is still so touchy that the frontier between Belize and Guatemala is not called a border—it is referred to as "*the line of adjacency*.") Instead of Sen's neoliberal "withdraw of the state," scholars have asked whether Belize instead represents a "hollow state" (Brechin and Salas 2011), with few services to scale back and an economy already defined by its permeability to transnational interests. For example, in many parts of the world, structural adjustment policies brought a shift away from small-scale farming and toward imported food dependencies. But as the following chapters will show, these unequal markets were written into Belizean history from the country's inception. In this regard, perhaps the country's catastrophic diabetes rates could be read as a sneak preview of much of the world's future.

The word neoliberalism still makes me somewhat uneasy. It might be an interesting experiment to rewrite this work without using it. For now, it signals how these political

diffusions and forms of medical fragmentation seen from the ground in Belize—while distinct in many ways—are also related to broader mutations that now characterize the ways state structures are being reshaped elsewhere in the postcolonial world in this particular moment of global interconnection. How many islands within populations, how many Belizes exist in the world today?

By way of brief orientation, let me take you to my fieldsite from the national airport. A social scientist in Belize feels their terms begin to slip almost immediately: the first hotel on the way into Belize City is called "Global Village." The bus station is on the edge of southside, near one of the canals where pelicans gather at the fishermen's scales. Any repurposed school bus to Dangriga will inevitably contain a cross-section of humanity that looks straight from a world diversity poster. Belize's spectacular ethnic diversity includes Kriols (descendents of British woodcutters and West African slaves), Mestizos (many who immigrated from Guatemala and Honduras to escape political violence in their native countries), Garinagu[11] (of mixed West African and Amerindian heritage), Mennonites (many of whom speak a Low German dialect, some refusing to use any modern technology), East Indians (originally brought to farm sugar by Confederate plantation owners in the years after the Civil War), three major groups of Maya (Mopan, Kekchi, and Yucatec, each speaking their own distinct language), in addition to highly visible populations of Chinese shopkeepers, Cuban, Nigerian and Taiwanese healthcare workers, recently arrived speakers of Hindi, Arabic, and Turkish, and a growing population of North American expatriates.

Along the road south, plants grow out of car frames-turned-flowerbeds and scenery shifts from bayou to beautiful mountains, pine trees intermixed with tropical vines and palm trees. Passing Quam Hill, a sign reads "TRESPASSERS WILL BE PROSECUTED OR SHOT." There are little poles along the highway, like signposts without any signs on them, which I was told were designed so that drug planes cannot land directly on the main highway or their wings would be clipped off. Instead they land on dirt strips or the more

remote highway running north-south, although there is only one lane in each direction. A key of cocaine found by a farmer or civilian is sometimes called a "silo" instead of a kilo (derived from "sea lotto," since the bricks sometimes wash up on the beach). Now that Operation Kingfish has put a dent in Caribbean drug trafficking, Central America is increasingly embroiled in drug violence. Belize remains a double corridor.

Godfrey Mwakikagile estimates that today "95% of black families in Belize have a relative in the United States that they depend on for some form of assistance," although these numbers are "not the same for Mestizos, Chinese, Mennonites, and Arabs and other ethnic groups in Belize" (2010: 134). In Dangriga Town, the seaside capital of Stann Creek District about four hours south of the capital, those missing feel somehow palpable—in the building projects that the savings of these migrants make possible, empty streets lined with old tires, and all the stretched relations inevitable to such distance. During the first massive wave of out-migration, Garifuna anthropologist Joseph Palacio coined the term *lisurnia* (Palacio 1982) to refer to a temporary phase of migrants seeking work or education in the U.S. before returning to Belize again. But as Myrtle Palacio details (2002), most of them never moved back.

During my fieldwork, I also engaged in these comings and goings, returning to the U.S. or visiting my partner in Guatemala. One of the most upsetting deaths the occurred during my fieldwork happened the morning after I had returned from a trip home to the U.S., and I always wondered if things might have unfolded otherwise if I had been around. In July of 2010, a concerned friend in Dangriga commented that I looked too thin during a particularly stressful period of fieldwork. "Your *áfurugu*, your shadow spirit," Erica said to me one afternoon. "It's like she's lost. Maybe because you have been traveling too much. You can just leave out some water and light at candle." (I had flown home to Philadelphia from Belize twice that summer, once for an academic conference and once for a family wedding.) Anthropologist Kathryn Staiano (1986) describes *áfurugu* as the "other-of-a-

pair," while Garifuna linguist E. Roy Cayetano (2005) defines it as a "spirit-double" contained within every human being. At that time, it made sense to me that I had lost some part of myself in the long year of constant displacement and perpetual doubling.

There was never a revolution in Belize, so it is considered politically stable. By contrast, nearby Guatemala, for example, was known for terrible violence during and after its civil war (see Warren 1998). Yet today, Belize's homicide rates are higher than those in Guatemala (Gayle et al 2010). Before diabetes became the number one cause of death in Belize, the leading cause of death in the country was murder. Murder still continues to be the leading cause of death among Belizean men. The following chapters will examine how the connection between violence, trauma and diabetes can become biological too. This deeply gendered entwinement was recently captured by the Belizean newspaper that ran a story about the country's leading causes of death, under the headline "SUGAR AND BULLETS" (Trapp 2011: 1).

Pernicious dependencies undercut independence. As the long-awaited dream of nationhood is torqued by continuing uneven terms of trade and migration, the fragmentation grenades now being thrown in Belize City have become sadly iconic of the shifting sensibility of frustration and violence there. The literal fragmentation of bodies—visible through people caught in the crossfire, as well as in those with dismembered limbs due to diabetes—connect "sugar and bullets" today in ways that seemed two distinct yet conjoined points of implosion, a postcolonial tension that reminds me of Langston Hughes' famous fragment (1959: 268, emphasis added).

> What happens to a dream deferred?
> ...
> Does it stink like rotten meat?
> *Or crust and sugar over, like a syrupy sweet?*
>
> Maybe it just sags like a heavy load.
> *Or does it explode?*

Metabolic Derangements

The (somewhat rare) English word *metabola* means "a change or mutation; a change of disease, symptoms or treatment." It comes from the Greek *metabole*, which Aristotle used to describe a special type of change: "The process occurs between the contraries of generation and destruction" (Kàlimtzis 2000: 105). Other translators of Aristotle render the word *metabole* as "transformation" or "revolution." (Aristotle was writing mainly about societal and political changes of constitution; but breaking down the word further, *bole* is a unit of momentum.) Outside medicine, *metabola* can also mean a creature that undergoes metamorphosis. The word *metabolism* comes from this root.

I use the word *metabola* to signify fundamental mutations marked by the recent dramatic shift of global disease burdens from infectious to chronic conditions, and the related mutations in global politics over time that have precipitated this metabolic epidemic. Diabetes is only one disease in a deadly constellation of related metabolic disorders that affect approximately 1/4 of the world's population today (others include hypertension, obesity, blood clotting, high levels of lipids and internal inflammation). Collectively, these metabolic disorders are often known in medicine as "Syndrome X" (Galliard et al 1997), a catastrophic and somewhat mysterious global disequilibrium in the way foods' basic building blocks are turned into tissue and energy. While I will also examine the medical meanings of this condition's cataclysmic rise, the root word *metabola* reminds us that the human body is a locus of a much larger ongoing story that both includes and exceeds the clinical. As historian Caroline Walker Bynum writes in *Metamorphosis and Identity:*

> In an Aristotelian sense, story involves *metabole*, the replacement of something by something else. Story spreads out through time the behaviors or bodies—the shapes—a self has been or will be, each replacing the one before. Hence a story has a before and an after, a gain and a loss. Even if it is the story of repetition, or of salvation or destruction by a return whence it began, story has sequence. Moreover, shape or body is crucial, not incidental, to the story. It carries story; it makes story visible; in a sense, it *is* story. Shape (or visible body) is in space what story is in time. (2005: 180)

What stories are carried today in our bodies' changing shapes, such obesity or diabetic amputations (so common in Belize today that such necrotic limbs are now referred to in Kriol simply as "sweet foot")? Just what has replaced what, in this unfolding sequence of gains and losses? Between generation and corruption, how do we understand the sequence of a story when someone's visible body (in space) becomes governed by the time of a broken clock?

This is not a metaphor. Pharmacologists at the University of California have demonstrated how biological rhythms (or in their words, "our own body clock") interact with metabolic processes through the "essential molecular gear" of an enzyme protein they have named CLOCK. CLOCK coordinates many other "[m]etabolites and signaling proteins—like the horns and strings of an orchestra." Levels of CLOCK are one of several proteins crucial to sending metabolic signals through a channel called the "NAD+ salvage pathway," a series of complex processes "creating a tightly regulated codependency between our circadian clock and metabolism." Through CLOCK, diabetes mellitus (like human metabolism in general) is impacted in ways we do not yet fully understand by external cues—such as rhythms of sleeping and eating, even aspects of the built environment like having electric lights on around us after nightfall. These researchers hope that studying CLOCK will allow for drug development that curbs the cell dysfunction and death causing diabetes (Eckel-Mahan et al 2012; University of California-Irvine 2009).

Meanwhile, cell biologists at the University of Pennsylvania are investigating "the clockwork gene." These neuron-level clocks can be disordered by "complicated feedback," head researcher Amita Sehgal says; she has found two *separate* time-keeping systems in the molecules of fruit flies. "Thus, clocks can drive rhythms of metabolic function, and metabolic signals can affect the clock." But instead of working together like gears, sometimes the two run "*at cross-purposes*" (American Society for Cell Biology 2009).

It seems to have gone unremarked that the etiology of diabetes strongly resembles a miniature colonial plotline playing out deep within the cell's molecules. Type 2 diabetes (which accounts for about 90% of the world's cases) occurs when "non-native conformations" of beta proteins intrude on organelles in the pancreas, "dysfunctional aggregations" that cause thermal "overheating." When this occurs, the close assistance of the beta cell's "chaperone molecules" becomes compromised. Like harried labor that must continue without experienced elders, the young cells try to keep going without this molecular guidance, but they quickly lose their ability to handle stress and deal with reactive species (of oxygen). This causes further stress to the cell and its neatly stacked proteins begin misfolding, and the unguided coils continue in their "metabolic derangements." This cellular breakdown—which, in the case of diabetes, causes beta cells in the pancreas to cease being capable of their traditional labor, reliably producing insulin—is literally known in biochemistry as a "disruption of the native state" (Goldberg 2003; Hayden et al 2005).

Through such misfoldings, metabolic disorders such as diabetes emblematize chronic breakdown or contradiction within the body's molecular clocks. But once the pathology of diabetes begins, it accentuates this same disarray: time moves in fits and beats, getting stuck and slowing down. Through metabolic arrhythmia, heartbeats and breathing rates can decelerate at the same time cellular processes overheat, vital molecules exhausting themselves—over time causing organs to fail, appendages of the human body to spontaneously develop ulcers or begin rotting in pieces. Metabolic disorder therefore represents, at the most visceral level, a condition where "time is out of joint" (Shakespeare 2003 [c.1599]: 1.5.188).

In the chapters that follow, I consider how these metabolic processes and disequilibrium can be situated within and against larger stories of disjointed or misfolding time in Belize. Tracing the stories of individual lives helps us to examine the actual

experiences and consequences of the way physical shape and time are now bound up through particular orders and disorders—as social history and human biology are not simply reflecting each other, but actively constituting and *damaging* each other in ways we are only beginning to understand.

In his inspired historical study *Bittersweet: Diabetes, Insulin, and the Transformation of Illness,* Chris Feudtner focuses on the complexities of diabetes treatments that simultaneously stretch and damage time: "reality unfolded with bitter irony as the transmuted course of diabetes—the product of singularly efficacious medical innovation—revealed one distressing complication after another" (2003: 138). Focusing on the human stories and charged affects that accompanied this creation of a new category of chronic life, Feudtner describes the questions of responsibility, hope and guilt that surrounded these "choices of incomplete control" since insulin's discovery in 1922. The value-laden ways that technologies were used or withheld in this daily work of "inhabiting the diabetic world" become part of a chronic negotiation, for caregivers as well as patients. He quotes a doctor Thomas Watson: "It is better to keep a man on the edge of a precipice, if you cannot pluck him away from it, then to let him fall over. And many diabetic patients are kept in this predicament of *dangerous safety*" (169, emphasis added). In one sense, my own study implicitly picks up the key ethical questions Feudtner raises of diabetes care in mid-twentieth century Boston and follows them out to a very different context in twenty-first century Belize, charting the different valances these issues assume in a specific corner of neoliberal medicine—in a context of scarcity where both medical treatments *and their absences* both become part of the ambiguities of self-care to be worked through each day.

People often use the word "neoliberalism" for lack of a better term to describe our current phase of late capitalism, when market sectors have come to fill in for functions and services (such as medicine) that might, in previous formulations of liberal capitalism, have been the purview of the state. In this sense, neoliberalism is also a *metabole*—"the

replacement of something by something else" (Bynum 2005: 180) in the story of world politics.

There is a sense in which neoliberalism can also be considered a "predicament of dangerous safety." Complaints about "fast" foods have long accompanied the spread of diabetes (here again we have conceptions of time and tempo built into the chemistry of eating), leaving Sidney Mintz to suggest that perhaps what we need is not a return to slow foods, but "food at moderate speeds" (2006: 3). Yet as Peter Singer reminds us, in the 1960s many scholars believed the world was going to experience vast famines due to a "population bomb" (Ehrich 1968) wherein "hundreds of millions of people" would die of starvation. Instead, food production increased per capita, and now "the proportion of people living in developing countries who were not getting 2,200 calories a day—a basic sufficiency—declined from more than one in two to just one in ten" (Singer 2009: 121). There is much that is unhealthy about the nutritional quality of the food produced to fill this gap as well as the uneven trade policies through which they circulate, at times undercutting local agriculture through diseased market institutions. On the other hand, there is also a complicated sense in which cheap imported foods, too, have become part of the "choices of incomplete control" as we try to stretch time and resources against suspicions that (as Levi-Strauss reflected on his 100th birthday) "the world is now too full." These ingested frictions and overheatings, and the metabolic damages they are known to cause, will characterize our future.

We really know very little about the 4.6 million people who die from diabetes each year. In "The Million Dead…Summ'd Up," Whitman wrote of the impossibility of understanding such unfathomable statistics of the dead. Describing a particular Civil War battle in North Carolina where "the known are only 85, where the unknown are 12,027," he asks how we are forced to face "singly or in masses, to thousands and tens of thousands, the significant word *Unknown*" (1982: 777). James Baldwin (1998) grapples with similar

problems of scale in his searing essay "Many Thousands Gone," noting that specters of stereotypes ("non-compliance" being the particularly prominent one in the case of diabetes) are born out of all that we cannot face in the horror of collective losses.

By paying attention to the "countless minor scenes and interiors" (Whitman 1982: 778) through which diabetes is treated and lived, I am trying to find ways of writing that gives form to people's own experiments and ways of inhabiting their conditions. Hannah Arendt notes the way that pity "depersonalize[s] the sufferers, lump[ing] them together into an aggregate—the people, the suffering masses" (1963: 85). I use case studies of individual lives and relationships to try to avoid this narrative effect, while working to keep a sense of larger scales at play. As a long history of anthropological work shows, the lives of singular people can be much more than ethnographic illustrations of things we already know.[12]

These are not anecdotes. A series of scenes might begin to build into a thinking-through of lived paradoxes and moral questions. Precedents in case law, for example, have their origins in the fundamental notion that a detailed examination of the particulars of a single life circumstance holds a larger ethical meaning for others in comparable situations. My description tries to keep alive this tension between cases studies and fragments, singularities and scales, and between the patience it takes to live in tedious circumstances alongside the urgency of these characters' questions. Case studies can help us think through what we as a society believe or are willing to uphold, and how that might mesh with or grate against our personal ethics. I call the moments of literary venture in my writing "experiments" because I realize they will sometimes fail. But my aim at least, as Lacan said of writing, is "to find something that is transmissible" (2006: 129).

In the end, I do not think the edge between humanistic evidence and public health data is a difference of lives versus numbers, though often posited, or even a divide between singular stories and collective experiences. Perhaps it is the difference between *irreplaceable* versus *interchangeable* lives. Within a sum like 4.6 deaths, there are still

stories of people—one, one, one, one, one—not yet a tally, but an elegy; before dissolving into sums of bureaucracy, a single moment of literature.

Chronic Life: Chapter Outline

In his classic study *Risk Society*, Ulrich Beck points specifically toward "diseases of civilization, such as diabetes" (1992: 176) among those problems caused by toxins and pollutants "in the air, water and foodstuffs," all with potentially dangerous and "multifarious effects on health and social life of people" (25). Beck describes the way our scientific figures of risk are accompanied by a "loss of social thinking" that "excludes many socially unequal risk positions," until "this absence seems to strike no one, not even the sociologists themselves" (25). "[T]he underlying thought *short-circuits*," he wrote, "…as soon as *consequences for people* are to be drawn from it" (26).

This work attends to human lives in that place of short-circuiting. The following case studies focus squarely in on the lives and homes where risk for diabetes is unevenly borne and managed, taking as their starting point precisely the *consequences for people*. By dwelling in the ethnographic texture of ordinary life, ethnography becomes an instrument of visibility in its own right, helping us to understand what life is like within the chasms and blanks spaces of policy data or institutional knowledge. The country of Belize itself represents a similarly overlooked space of scholarship, a tiny and poorly understood corner in a region long known for its deadly history of sugar. By exploring densely layered causes and imperfect treatments of diabetes within larger chronic histories, this dissertation attends to the specificity of place and remains close to people's real lives, origins, symptoms, medicines, homes, and care practices, charting what it is actually like to live with "metabolic derangements" in a fragile postcolonial state.

Each of stories that follow shows a different aspect of biology and social change interrupting each other, coterminous and yet "out of joint." In this context of fragmented time, my goal in each chapter was simply to keep writing until the worlds of patients who had been labeled "non-compliant" might give way to a different picture of human struggle, showing the impossibility at times of living within the contradictions of this system. Following anthropologist Carol Greenhouse, I understand this foreclosed horizon as part of a deeper relational structure, socially produced graspings of time enmeshed in the very fabric of power through which a category of dismissal such as "non-compliance" might arise: "nam[ing] the practices of recognition by which some forms of agency and some agents are acknowledged, while others are denied. Such denials are at the heart of whatever 'postmodernity' might mean," and often obscure the "indeterminacy, fragmentation, and rupture" (Greenhouse 1996: 234) of time. The pages ahead will continue to revisit the ways that damaged biology plays or falters across time and law. Taken together, perhaps these stories of untimely deaths can also be read as a catalog of different ways that human lives can be discarded in a context of neoliberal medicine.

Chapter 1, "Fragments of a Belizean History," assembles a sampling of some moments and snapshots in the country's making. These scraps are offered here as a brief montage of colonial histories through which social and political fragmentation first became a dominant trope in the country. Their chronology pivots and shuffles various points in time, pausing on moments that let us glimpse important precursors of diabetogenic food economies, metabolic disequilibrium and makeshift medicine. Flipping toward the present, this patchwork backdrop also acknowledges the way national health is impacted by the difficult modern realities of violence in Belize (which I view as not only entangled with colonial history, but also as part and parcel of the way an American model of democracy—full of both promise and terrifying holes—circulates in the world today). This chapter ends by introducing what will become a refrain throughout this dissertation: using the local

figure “London Bridges” as a frame of thought, it traces the ways people engage these traces and remainders of history through their own practices of care, salvage and rearrangement, in search of what Carolyn Smith-Morris (2010: 22) powerfully calls a “*defragmented*” future.

The history of food in Belize is revisited again from the vantage of more intimate economies in Chapter 2, “The Chronic State.” This case study begins—rather than ends—with a death, an out-of-order sequence that also reflects my engagement with the 20-year-old diabetic named Jordan whose story it charts. I was shaken when he died unexpectedly between ethnographic interviews in the spring of 2010, and after his death I found myself trying to place the fragments of life he had shared with me in some broader context that would make their meaning visible. This chapter is an effort to locate the pieces of his own story within the larger social fabric and national structures through which his young death became normalized. The processes of domestic triage through which his family came to limit the foods and medicines he received, nicknaming this diabetic teenager “Muerte” (Dead) during his lifetime, provides a partial but vivid window into one important strand of logic in how accountability is assigned and causation understood in Belize today. Understanding the series of assumptions (through which Jordan’s death became seen by those who knew him as not only acceptable, but natural and inevitable) entails not only noting the historical ruptures in continuity within the national care system for diabetes, and missing legal channels for making claims to health—it also cuts to the heart of a strange history of grocery politics and multiple entangled registers of foodways, debt, and credit that mark Belizean sociability in general, and inflect Kriol cultural histories and gender roles specifically. I will argue that diabetes, like the astronomical problem of violence in Belize City, marks a point at which human bodies become collateral in cycles of debt that have characterized social ties in Belize from the country’s earliest origins. In fact, the Kriol word “det” means not only debt, but also *death*. By examining the economy in which

Jordan ran out of time, a world is pulled into view where figures of the "living dead" are often not seen as horrific or even liminal—but instead as utterly mundane, already in their proper category. Finally, by tracing idioms of "sweetness" as they are applied to corrupt governmental transactions, the chapter closes by considering not only Jordan but also the young Belizean state as a hyperbolic case of chronicity—a postcolonial body politic born into debt and damages, often blamed for decisions that could not be chosen otherwise, poisons already accruing.

Of all the pieces in this dissertation, it was Chapter 3—"Blood Sugar and Damaged Kinship"—that most surprised me while writing. The text originally began because I wanted to trace blood sugar as a "structure of feeling" as it surfaced in people's stories, since it was often used within family relationships to speak of stress or intractable pain. Sugar is perhaps the principle sign of colonial violence in the New World, and I wanted to understand how these traumatic histories might bear on diabetes' continuing entanglement of sugar and death, as the disease is now both managed and transmitted between generations. For example, uncontrolled diabetes can make a woman unable to have children, or cause her to pass risk for the disease to her child during pregnancy. Yet as I tracked across accounts of "blood sugar" (glucose levels) alongside historical documents describing "blood sugar" (a common colonial phrase linking sweetness and violence), I came to believe this association was more than a symbolically charged way of speaking about damaged kin ties and family relationships—it also has the potential to illuminate the specific nutritional pathways through which individual biologies have been systematically damaged in Belizean history.

Building on Michael Montoya's critique of current genetic research practices in diabetes (2010), Margaret Lock's formulation of "local biologies" (1993) and Duana Fullwiley's demonstration of how social constructs of disease may ultimately become inhabited and *lived* (2011; see Rouse 2009), I investigate perhaps the most scientifically

relevant of this dissertation's arguments. It has recently been shown that the neonatal and childhood plasticity of *any* baby born into nutritional stress will expose them to a much greater risk of metabolic disorder such as diabetes, and that such risk (meant to protect the baby against starvation) can be passed from mother to child, which can account for up to one third of diabetes risk today. Yet when read against violent colonial histories, what does this new biomedical finding mean for how we understand the two-to-three fold higher risk for getting diabetes in populations labeled "Black," "Hispanic" or "Native American?"

With special attention to associations of "sugar" and trauma, this chapter follows the intergenerational story of a Garifuna mother and daughter. Their intimate accounts and care practices show the gaps and holes in knowledge where fleshing out ethnography entails a turn to science, and the implications of such science are best understood in light of the human realities that anthropology is designed to capture. Interweaving various anthropological modes—including not only ethnography but also ethnohistory, physical anthropology and archeology (through which devastating metabolic shock is evinced by the colonial skeletal record)—together profoundly complicate the binary nature/culture debates about diabetes that have raged on for decades, showing how many studies have excluded a crucial third term: social histories of annihilation, and their continuing echoes in contemporary normalized violence. This chapter explores the way metabolic disorders can represent "damaged biology" (Petryna 2002: 5) that might also be "enculturated" (Fullwiley 2011) in any person through social circumstances of intergenerational hunger and violence. It ethnographically charts how diabetic complications are actually being treated in contexts of therapeutic scarcity through returns to causative history and the dead. In this light, the expression that someone has "got sugar" is more than a folk colloquialism revealing profound structures of affect and registers of loss—it may also speak of the visceral consequences stemming from the ways specific social constructs of race have been deployed

in “the terror of history” (Brown 1959), making it more risky for some people than others to engage the markets of the present.

While this dissertation’s first three chapters examine bodily reworkings of history and social ties, Chapter 4, “The Side Effect,” queries another emergent scale of entanglement: the interval of foreign health interventions. It also examines a different type of metabolic disorder, tracing the story of a girl named Elisa whose increasingly high blood sugar was only a secondary symptom of the drugs she was taking for a far more serious condition, a mysterious autoimmune disease that caused her skin to “virtually become unglued.” This chapter surveys epidemiological evidence suggesting the *unknowable* possibility that her disorder might itself also have been a side effect of circulating drugs, such as those distributed by short-term medical mission trips. This is a question that cannot be answered, but leaves others resonating in its wake: What is the meaning of a context when it is no longer possible to distinguish treatment from disease, and what do we really know about the ways loosely circulating drugs are changing human biology? Who is accountable to make sure that an intervention does no harm, even (or especially) when the health campaign is a philanthropic one? To add historical depth to these messy questions of ethics, I also draw from archival evidence of Rockefeller public health campaigns that circulated through Belize in the early twentieth century, to examine policy over time and discuss how diabetes is biologically entangled with other co-morbidities. Instead of a “system of belief,” this ethnography details a system of doubt.

As Elisa’s family fought for her life by seeking both biomedical drugs and supernatural diagnoses for her unresponsive disease, I became increasingly drawn into their work of tinkering across these multiplicities, and surprised by the ways these two seemingly counterpoised domains had a similar sensibility—in fact, the quality of immanent encounter in this version of biomedicine led me to query seriously the interrelation between local therapeutics entwined with seeming “magic” and the fleeting forms of global health

intervention called "magic bullets." By tracking the erratic intervals of experimentation that have moved through this Maya village over time, we are faced with the complexity of a world where the supernatural might become a force of survival and stability against the volatility of often unregulated and unpredictable biomedicine, viewed through the realities of a family caught in its lethal paradoxes.

Chapter 5, "Ms. Lazarus, or Straddling," interweaves questions of citizenship against a background of mutated ecology. It begins with the story of a diabetic woman named Cresencia being revived by ancestral intervention after the hospital had released her for dead. Pushing up against the limits of biomedical knowledge about diabetes, she crossed borders of many kinds looking for effective medicine, drawing force from the understanding that being Garifuna is itself a nationality—indeed, a powerful nation bound by spirits that Cresencia increasingly relied upon to support her life. What do biopolitics look like in this case of states beyond states, nations overlapping nations? As she negotiated the borders, commitments and terms of the collectivities that might support her, Cresencia's precarious *straddling* unfolds against a backdrop of village life that is hardly incidental to her story: dying farmlands where healthy food is increasingly hard to come by, the present absence of all those who have migrated to the inner city United States, and the land-grabs of a tourist market where development is damaging the natural environment in ways that cannot yet be gauged. With recent evidence showing that invisible environmental pollution to land and food sources actually causes diabetes, how might Cresencia's damaged biology and this damaged ecology prove to be viscerally interlocked? This chapter considers the accruing environmental poisons (both social and chemical) that we have no way yet to measure, and what it takes to survive among them. Yet this story is perhaps less about damages than it is about the struggle to heal against them, as Cresencia moves in and out relationships, symptoms, communities and patienthoods in an effort to locate death somewhere besides the point at which science runs out.

The final ethnographic chapter, "Bricoleur Nation," foregrounds the thread of improvisation and makeshift medicine that weaves its way through each of these stories. It revisits the ad hoc structures that Belizeans call "London Bridges" as a framework for thinking, exploring the notion that bricolage might also at times have a working *architecture*. Tracing the conceptual richness of people's own creations and losses, this chapter follows individuals with diabetes as they move through the precarious terrain of four actual ongoing medical projects in Belize: 1) the Belize Diabetes Association, alongside informal "biosocial" (Rabinow 1999) collectives and support networks that are taking shape in the gaps of care; 2) the country's first prosthesis center, where a legless man cobbles substitute appendages for amputees in his workshop; 3) a Mennonite "herbal hospital," which incorporates vegetables as a component of treatment and has been credited with saving the legs and eyes of diabetic patients; and 4) the country's first patient activist movement, a campaign that unfolded during the course of my fieldwork to demand the government partner with an international program and provide public dialysis for Belizeans dying of renal failure. By tracing the real lives of diabetic patients as they move in and out of these improvised clinics and partnerships, we get to questions at the heart of politics: Where does the idea of a right to health come from, if not from the state? Under what circumstances can makeshift care actually become institutionalized? When law is not a viable way of enacting claims to care (even for state actors themselves), through what precarious channels or on what alternate fronts are rights and access being forged?

The word chronic comes from the Greek *khronikos*, meaning "of time" (Oxford English Dictionary [hereafter OED] 2012). At its most literal, then, a chronic disease *is* a disease of time. Each of these stories shows the play of time against life, in turns splintered and sustained through a collection of bureaucratic encounters that might rupture, parcel or fragment time in new ways. Through their roots in both colonial histories and diseased markets of the present, such metabolic disorders could be read as a window into (and

chilling mirror of) broader "postcolonial disorders" (Good et al 2008). Fragmented human lives and catastrophic losses are part of this disequilibrium of broken bodily rhythms, shifting market tempos and damaged inner chemistry. History resurfaces and then disappears again; causality does not add up to a clear picture; cells remember things that people cannot quite recall; imported foods gain velocity, disconnecting people and places; metabolic clocks unwind.

By displacing questions of diabetes causation from public imaginations of individual moral responsibilities and racialized "thrifty genes" (just as it would locate entry points of care stretching beyond the space of hospitals and clinics), ethnographic tools have immense potential to teach us something that other sciences cannot. This dissertation's main argument is that it is only by considering diabetic medicine and circulating science within people's actual lives—kinship and daily care practices, returning ghosts, profoundly uneven and shifting economies, precarious medicines, resurfacing interventions, legacies of food and nutrition, changing routines of labor and dispossession from land, traumatic social histories, polluted ecologies, death rites, medicines and rituals that reckon with the often terrifying past—*in short, the mainstays of anthropological research*—that we will ever be able to account for the metabolic damages now subsuming the future of our fractured world.

Working against what he called the "untrue whole" (47), sociologist Theodor Adorno took it as his task to work with splinters and fragments as he documented the disturbing consumer impulses of capitalist society after the horror of World War II. Nietzsche had it wrong, Adorno announced in *Minima Moralia: Reflections From the Damaged Life*—it was the "sorrowful science" (2000 [1951]: 15). My own title's nod toward Adorno's "damaged life" draws from a notion that part of being human today means living in an ongoing aftermath, with toxic mutations in neoliberal capitalism and traces of colonial horrors that

do not always seem so "post." We are all somehow caught within—and implicated by—these diverse yet shared globalized realities, "without exception" (Adorno 2000 [1951]: 33, 37).

Emerging neoliberal mutations in economies of labor and care, like other histories of dispossession before it, bring new realities that alter the very tissue of human relations. Yet accelerations in technology today also extend these changes and toxicities to a cellular level—for example, through environmental pollution, shifts toward corporate agriculture, processes of "pharmaceuticalization" (Biehl 2007)—which open new forms of life but also have side effects of their own, at times with potential to damage our biology at the most literal level. And in the stories I recount, medicine hurts people as often as it helps them. Without relationships of committed care and understanding, the very sites, programs and drugs intended for healing can sometimes tragically deepen the very bodily injuries they are intended to cure. I follow anthropologist Carolyn Rouse in finding it crucial to analyze ruptures of care and distanced clinical relationships as holes that need to be understood within the disordered system in which they surface, as medicine is increasingly being asked to address much broader social inequalities today (Rouse 2009). Perhaps that is why I am compelled by Adorno's vision of dialectical anthropology as an ontology of "the wrong state of things." Writing after the war and seemingly always looking back at its ruins, his work is also permeated by a sense of the untimely, or in his own words a "philosophy that lives on because the moment to realize it was missed" (2007: 3). In a certain sense, then, he saw the form of knowledge he produced as one long string of errata.

Yet untimeliness can have its own ethics (for perhaps death is always the point at which time begins to slip or get stuck). In what ways might we understand these derangements of our metabolic clocks? How can social scientists relate those stories of lost time in turn? In this dissertation's conclusion, I return again to broken molecular clocks and the narrative implications raising questions of how to bring back misfolding time, reviewing the refrains of these chapters' particular cases and losses against a backdrop of

what I believe is an elegiac inheritance in anthropology. Like errata, elegies by definition come too late. Yet this final chapter asks how elegiac forms might tear at the fabric of time itself. It begins probing the varieties and capacities of this mode in ethnographic writing—not only for artistic value, but as an experiment in making ethical claims on another time.

The subtext of this final analysis is the painful realization that many of the case studies I recount here are not really anthropological "life histories." Many of them are death histories. [13]

1. Fragments of a Belizean History

> Assemblages: Things whole and not whole, what is drawn together and what is torn apart, the harmonious and the discord. --Heraclitus, *Fragments*

"Violence and the Health of a Nation"

In Belize City, a fragmentation grenade was recently thrown on Flamboyant Street, in the territory of a Bloods gang known as P.I.V. The name P.I.V. has two meanings, standing at once for both "Peace In the Village" and "People In Violence."[14] In some ways, this double-speak serves as a metonym for the paradoxical realities of Belize today, because the two meanings of P.I.V. are neither a joke nor a contradiction. They are a double truth.

In 2009, *The Economist* world pocket guide named Belize City the "Murder Capital of the World." In 2010, the year I conducted fieldwork, the city's murder rate reached a startling 106.4 per hundred thousand; that is, one in every 943 (United Nations 2011b). (To put this in perspective, this is over double the per capita fatalities that occurred in Baghdad that year. Closely attuned to such world politics, one Belize City gang recently named itself "Gaza.") Although gangs in Belize have long spoken of being in a state of war, this now extends beyond "soldiers" (their term) with escalating implications for all citizens. When the city's first grenade attack occurred in 2008, a local news station reported "it was as if something changed irreversibly in Belize" (*7 News Belize* 2008). We are presented here with two seemingly contradictory imaginations—the breathtakingly beautiful, and the terribly violent—dual realities which many visitors to the country tend not to see, and which many Belizeans find painful to speak about. How could the same tiny city of 70,000 people simultaneously be envisioned as both a portal to "tropical paradise" and a community embroiled in an unofficial state of war?

It is hard to say it better than the local group of Crips who named their gang "Complex City." Groups of Crips and Bloods first spread to the country through Belizeans

living in the US, escalating as the gentrification of American cities resulted in the sudden deportation of many Belizean gang members in the 1980s (Gayle et al 2010: 307-8). These gangs maintained connections with the US, but also took root differently in Belize. It is estimated that per capita gang participation in Belize City is now five times higher than that in L.A. Much of this violence is concentrated in Belize City specifically, especially the poverty-stricken delta area known as Southside, but its reverberations are now increasingly being felt throughout the rest of the country as well. Nationwide homicide rates reached 41.6 per hundred thousand in 2010 (nearly double national figures for Mexico, for example), rising firmly above the "civil war benchmark" of 30 homicides per 100,000. Elsewhere in the Caribbean, poor and uneducated youths are most likely to possess and use firearms (UN 2006). But this is not true in Belize: "Not only are weapons very easy to access but the reality that someone can shoot another and escape conviction makes the practice of having unlicensed handgun commonplace and even somewhat traditional in urban Belize" (Gayle et al 2010: 289-90). Teenagers who feel responsible for families often get their own guns, which is "why so many middle class youth in urban Belize who would never join a gang still possess an illegal firearm" (296).

As Belizeans are increasingly brought to reckon with the sorrowful realities of escalating violence in their country, so too are the anthropologists who work there. In 2010, Jamaican anthropologist Herbert Gayle partnered with Nelma Mortis and others from the Belizean government to complete the first major study of social violence in the country (Gayle et al 2010). The landmark study translated many uncomfortable social realities into clean statistical data, which gain powerful analytic depth alongside extensive qualitative interviews. Among the study's more disturbing findings, Gayle and colleagues found that "Only 1% of Belizean children had no exposure to violence (direct or indirect), compared to 42 percent in Jamaica where some parents have been successful in protecting [their children]" (2010: 290). He explains that this is surprising, because Jamaica has periodically

been ranked as the most violent country in the world. But he found that almost nine-tenths of all Belizean children had the traumatic experience of "Seeing at Least One Dead Body," compared to less than half of urban children in Jamaica (2010: 290).[15] "This would be equivalent to living in a place where war has been declared" (2010: 301), Gayle writes. He also found that 41.1% of Belizean youth had witnessed a shooting; 38.8% had lost a family member to shooting, and 72.6% knew someone who had been shot (298), while 23.5% had lost a family member to stabbing (296). Thirteen percent of boys and 8% of girls have personally been stabbed (2010: 302), while 25.6% of youth have been beaten by police (300). But unlike Greater Kingston in Jamaica or Port of Spain in Trinidad, Gayle writes, his findings in Belize City evince a unique problem of scale: "the fragility associated with small size. Not only is the core city small but the total population of Belize is small and people are closely related even across class and geography….There is no complete safety net from trauma by class or gender, because there is no place to hide. Gunshots, murder and mayhem are all part of the social landscape" (290). "Without geosocial exception," Gayle writes, dead bodies are now becoming for people of Belize City "part of their social reality and everyday life" (296).

With my fieldwork based in the south of the country, my own limited brushes with violence came mainly through indirect and incidental moments: wondering what it meant in Dangriga when I walked past Crips graffiti down an empty street to go visit a patient, or watching a soft-spoken boy at the village clinic have his multiple stab wounds bandaged after he had been knifed a few feet from where I worked each day. I knew several diabetic women in Mile 21 whose sons or husbands had been murdered in Belize City, and saw how grief traveled back to the villages and through homes, impacting health there. (Yet these realities also become part of the fabric of life outside Belize City; before 2009, I had never personally known someone who was murdered nor sat alone holding a dead body in my arms, although a year of fieldwork in the southern district of Stann Creek brought both

these experiences.) There was also great discontent among the Cuban medical volunteers countrywide after one of their doctors, a 28-year-old woman, was knifed in the face. This April 2010 slashing incident prompted Dr. Bernard Bulwer, the head of Karl Heusner Memorial Hospital in Belize City—whose own brother was recently murdered on the family farm by an escaped convict—to write a passionate editorial in a national paper, powerfully titled "Violence and the Health of a Nation." He wrote: "violent crime and accidents often leave the emergency cupboard bare—and expensive medications, instead of going to the sick, end up diverted to the victims of violence…which causes you more frustration with your medical services—since victims of violence take priority over your child who is sick, or you with abdominal pain, or your high blood pressure or diabetes that is out-of control" (Bulwer 2010: 2).

Gayle also reports on this problem in Belize City, documenting that "gang violence can wipe out over a third of all resources allocated to hospitals, thus retarding the very ability of the state to provide basic health care" (Gayle et al 2010: 50). This problem has continued to escalate after the time of the 2010 study. In June 2012, all outpatient services at Karl Heusner Memorial Hospital (the country's main referral hospital in Belize City) were cancelled for several days due to the murder of a Critical Care Unit doctor, Guatemalan-born Dr. Ivan Enrique Garcia (Ciego 2012). He was strangled to death at home in his boxers. All specialist clinics (including the diabetes clinic) and elective surgeries at the hospital were suspended in grief: "somebody has to start something somewhere," Dr. Nelita Zayden told local press as the hospital staff marched in protest, holding posters about societal violence and unsolved murders (7 News Belize 2012). The previous year, in November 2011, a doctor named Larry Johnson from New Mexico had also been murdered in Belize, thrown into his van and doused with gasoline before the vehicle was set on fire. "Villagers who knew Johnson told local media he often provided free medical care…They

were going to open a clinic there to try to help people of Belize," a news story reported of Dr. Johnson and his wife. "They were going to be treating diabetes" (Kim 2011).

Yet Belize did not *feel* like a violent place most of the time; this edge surfaced as an undercurrent, a vague sense of unease that would seem to suddenly condense and hang sizzling in the air, like a vapor often dissipating as abruptly as it arose—a piercing gaze dropped, a corner safely turned—but occasionally would expand until it engulfed an entire scene or moment. I got this sense most strongly while watching the 2010 Carnival[16] in Belize City's Southside. The nurse I was with asked me to hold her purse, which I handled carelessly before she announced it contained a revolver (a .357 that had recently been stolen, but she arranged to purchase her own gun back from the thieves for $1,000). I just laughed nervously in response—what else was there to do?—and sat on a cooler, equal parts tense and captivated as we watched the parade go by with its bright haphazard choreography. Someone pointed out a bank building in the distance and said it still contained shackles in the basement. It was where the slave ships that once pulled into the Southside docked, and captives from Jamaica or Bermuda markets were manacled to the wall to await purchase. She said that the building owners do not keep the restraints as historical sites of memorial; the shackles simply could not be removed from the stone, because they had been built into the structure's very foundations.

From the corner of Iguana Street, I looked on as military trucks of BDF [Belize Defense Force, the national army] soldiers drove by on patrol, trying to prevent any grenades from being thrown. (The grenade explosion during 2008 Carnival came from a box of twenty-four L109a1 fragmentation grenades stolen from a British army base in Belize, two of which were thrown during January of my fieldwork, and 18 of which are still missing. Since then, fragmentation grenades have also surfaced from other sources, including K400s from South Korea.) The Carnival parade was a stream of exuberant costumes, sequins and feathered masks. But I instead found myself watching a young man

about my age a few feet away whose dark blue baseball cap was smeared with J'ouvert mud, because he had Belizean dollar coins placed inside his ears and a 9 millimeter open in his waistband.

Between 3:35am and 7am that night, there were four murders in the tiny city. Among the dead was an eight-year-old girl named Eyannie Annika Beyonce Nunez, killed by a spray of bullets that pierced the clapboard walls of the bedroom she shared with her siblings.[17] The crowd at Eyannie's funeral matched or exceeded the number of spectators at Carnival. At least 4,000 mourners overflowed the church, closing down stores throughout the city and crowding the streets in vigil. The procession was lead by the family and an anti-violence group called Belizeans for Justice, "a mark of respect for what her death represented to this tired, crime-ridden city," the national newspaper *Amandala* reported. "In life, Eyannie belonged to her mother, but in death, she came to belong to all Belizeans who want to live in safety, and peace" (2010).

Counterhistories

The problem of violence is profoundly entangled with metabolic disorders in multiple ways (including not only the division of scarce medical resources, but also the impact of insecurity and trauma in diabetes' spread). Yet these conjoined epidemics also share another characteristic: although they became visible in the years following independence, they are often blamed on current governments and lifestyle changes in ways that tend to obscure the deeper repertoires also at play. In this chapter, I want to briefly evoke a sense of the piecemeal colonial history that created such political fragmentation to begin with.

Like Michael Stone, I begin here from the "hypothesis that the Belizean past is materially and ideologically coterminous with the present," and try to be attentive to the

way ethnographic reality also "keys on the vital points of active, selective connection between past and present" (Stone 1994: 6). Diana Taylor calls such repertoires "againneess" (2003: 21), bits of history and politics that are not deterministic but return nonetheless, often haphazardly and largely unbidden. "To create a life," in philosopher Kwame Anthony Appiah's words, "…is to create a life out of the materials that history has given you" (2005: 231).

Yet trying to sketch some of those basic scraps and scenes from Belize's history is no simple task. For starters, the country's colonial history was continuously being erased. The Settlement's important papers and documents had to be sent away regularly for protection during Spanish attacks, in case Belize was burned to the ground once again. At these times, all records would either be packed into chests and carried overland to Merida in Mexico, or loaded onto wooden ships bound for Jamaica. But these preservation efforts "exchanged one danger for another," because one year, the ship protecting the colony's records crashed into a coral reef and sank into the sea, carrying Belize's archives with it.

The sunken archives are the most emblematic in a series of episodes when the country's historical records were lost. We are also told that important colonial records were destroyed by a hurricane in 1787, by the "disasters of 1750 and 1770" (among the missing records are perhaps those documenting what occurred on these dates), and by a burning of the Public Buildings during a 1918 race riot (Burdon 1931: viii). The archives of Belize that survive today are mostly comprised of "scattered references, unintelligible without great labour," which "are unfortunately too fragmentary and defective to make the history of the early period clear" (1931: xv).

My own collection of fragments gathered here certainly does not seek to clarify this murky history; only to page through the years and highlight a few moments that feel especially relevant to my interest in Belizean medicine and fractured nation-making. This chapter is a catalog of time that one can flip through, or skip altogether. Obviously, these

fragments were not selected at random, but are representative of processes I want to revisit later in this work. Therefore, this is a biased sampling of history.

Walter Benjamin famously encouraged historians to stop relating events as if they were the beads of a rosary. Here I experiment with the limits of what this might look like in practice, trying to evoke a backdrop of patchwork history for later ethnographic stories to unfold within, while still letting these jumbled fragments remain as such. There is also a sense in which this text is not just a cataloguing, but a *re*-cataloguing of the selective archival bits that Governor John Burdon copied in 1931 and published as a problematic secondary source which historians of Belize must constantly struggle with (some of his original sources were destroyed in a subsequent hurricane), but which as an anthropologist I have taken the liberty of embracing. For anyone concerned with the deeper context of these historical moments—some far back in time, others close in ethnographic proximity—I highly recommend exploring the small and precious store of work that delves into the making of Belizean social history, which has been productively examined on the fronts of health, gender, race and ethnicity (Anderson-Faye 2007; Ashdown 1979; Bolland 2003, 1977; Cayetano and Cayetano 2005; Clegern 1967; Gann 1918; Gargallo 2005; Gayle et al 2010; Gonzalez 1988; Grant 1976; Johnson 2003; Kane 1993, 1998; Kerns 1983; McClaurin 1996; McClusky 2001; MacPherson 2007; Moberg 1997; Moss et al 1992; Palacio 2005; Payne 1990; Shoman 1994; Stone 1994; Sutherland 1998; Thompson 1930; Wilk 1989, 1999, 2006). Yet after having many of these scholars' accounts in the field with me, and frequently flipping through their underlined and tab-noted chapters at night in an effort to understand the living questions I had encountered that day, these works have also become part of my ethnographic engagement. I imagine this chapter as somehow analogous to taking a few highly select pages from each of these scholars' works and shuffling them together like a deck of cards. What you are getting here is far from representative, just one

of many possible hands that could be dealt. (But so it is also with the real ways people live with history).

Clearly, this somewhat ethnographic sensibility is far more anecdotal than a traditional historical snapshot. Yet literary scholars Stephan Greenblatt and Catherine Gallagher (2000: 49) call anecdotes "counterhistories." In some ways, Belize itself seems like a counterhistory in the archives of colonialism: a swathe of land the British authorities actively *resisted* absorbing into their empire; a country that persisted for several hundred years with no state; a place where revolution never came; a nation that had to decline England's initial offer of independence, due to political tension so tenuous that the new country was forced to remain a colony for military protection until 1981, in order to prevent being overtaken by Guatemala.

Stone has noted that by the twentieth century, "Belize is strictly footnote material in the so-called Central American literature" (1994: 11), as the country continuously falls between the cracks in both Caribbean and Central American historiography. I sometimes sensed that this lack of clear chronology and narrative in Belizean history did not make the past feel further distant, but somehow *more* elusively present in ordinary life. Perhaps precise historical dates and clear knowledge about events can help anchor the specters of the past in their set place. Without these constraints, it often seemed that the phantoms of history were left to travel in the space of Belizean Kriol's "unmarked verbs," known to linguists as the "continuous present." I pictured these grammatical structures as buried tunnels because they can make movement between the present and the past indistinguishable; the verb *do* becomes tenseless and applies laterally to the ghosts of human actions traveling as they wish through the present and future.

"What is a Country If It is Not a Nation?"

In the beginning, there were no forts built or flags staked. As Sir John Burdon, a colonial Governor (cum-historian) of British Honduras wrote in 1931, "no definite Settlement was ever deliberately founded. Occupation presumably came into being gradually, from individual Buccaneers, first seeking refuge and later staying long enough" (Burdon 1931: 3).

After being founded by shipwrecked white pirates, for nearly 200 years Belize simply remained unbound as a territory, a confusion which its earliest settlers used to their advantage and at times actively promoted in order to facilitate their continued squatting on the land. "The boundaries were fixed on an unintelligible Spanish Chart," someone complained of the confusing map of Belize Settlement that inexplicably became an official cartographic record in Europe, further clouding the Spanish territory disputes. "It is extraordinary that such a crude, incorrect map should have been accepted by the British Plenipotentiary when a far more accurate map…has been published in London in 1775" (Burdon 1931: 20-1). For over a century, the country did not have official borders or even a name on many colonial maps. A subsequent 1786 map of the settlement was titled not "Belize" or even "British Honduras," but rather "A Map of A Part of Yucatan or That Part of the Eastern Shore Within the Bay of Honduras Allotted to Great Britain For the Cutting of Logwood." This vague placeholder label became a way of charting land that could only be possessed if it was *not* formally claimed. In the first years of the settlement, rogue British logcutters who settled on the unpopulated swampy coast initially met conflict not with the indigenous Maya (who lived deeper inland) but their own home government, as the British colonial administration actually tried to evict them from Belize in 1682, "on the grounds that the country was Spanish and the trade valueless" (Burdon 1931: 42). But the British Crown troops in charge of evicting these English settlers in Belize mutinied en route,

deciding to become pirates themselves, thus marking the first in a long string of failed attempts at colonial intervention in "the Bay of Honduras."

In all, Belize spent over two centuries as a squatter community of uncertain status—settled by unauthorized British rogues on Spanish-owned land, yet under the consolidated control of neither England nor Spain and largely inventing their own laws—before the Settlement finally became recognized as British land in 1850. This means that Belize did not even *become* a European colony until the countries surrounding (Mexico, Guatemala and Honduras) had already won their independence from Spain and became sovereign nations. The country thus spent much more time in this liminal phase of its existence (230 years) than it did as an officially recognized British territory (21 years), a Crown colony actually being governed by England (110 years), or as an independent nation ruled by constitutional monarchy (with an elected Belizean Prime Minister and the official head of state remaining the Queen of England) from 1981 until the present. Yet even early in its origins, the people who lived in Belize wrote of "their country," although the place was part of no nation's empire. When Clifford Geertz spoke of the "central interpretative issues" raised by the "uncenteredness of modern times," he thus hit on a question that Belize has wrestled with continuously from its early history. Geertz asked: "What is a Country if It Is Not a Nation?" (2000: 228)

Mutilated Laws

In 1755, Spaniards raided the town of Belize, burned all the houses, destroyed the provision gardens that the settlers were not permitted to grow, and left again, saying that the place was "only fit for the English." Yet Governor Knowles reported with confidence that the Baymen "would soon repossess themselves according to their usual custom" (Burdon 1931: 16).

With the constant Spanish threat, the early settlers in Belize frequently wrote to English authorities begging to become part of the British Empire. A 1747 letter to the Privy Council finds the settlers "Praying for a Governor and a Protective force" (Burdon 1931: 74). Our "people of this Country have hitherto lived without any Government and without any Laws…," another letter from the period reads. Although deferred by the Crown, these pleas for governance kept the Bay Settlement on the imperial radar. In 1744, the Governor of Jamaica was ordered "To send some discrete person to Belize to take an account of the situation and condition of the place, as well with respect to the number of inhabitants as to their trade and manner of life" (Burdon 1931: 71). The first official account of Belize describes 154 whites, 170 "Mullatoe" and "Mestize," 800 "negro and Indian" slaves or freeman. "Great Injustice is done to these People," [the census-taker added]…indeed they are without Lawes; but nevertheless they live with admirable regularity" (1931: 85). Recent arrivals to Belize complained they were treated as only "half British subjects" (1931: 24). Governor Burdon adds, "The endurance of the Settlement with no authority to support it almost passes belief" (1931: 4).

These realities challenge the two central ways that Belize's early history is often imagined—a British colony in all but name, on one hand, or a romantic anarchy of pirates, on the other hand. A closer look at the Bay Settlement's administrative and judiciary records quickly disrupts both these narratives. Rather than emphasizing the Baymen's lawlessness, I am interested in the ways these early Settlers in Belize—many of whom were, it is true, British outlaws[18] and riffraff—came to grapple seriously with questions of rights, governance and authority in the absence of a sovereign, trying to invent a form of law for a place they began calling "our country" long before any colonial administration recognized it as such. The fascinating fragility of their statecraft might productively be examined in light of what historian Shannon Lee Dawdy calls "rogue colonialism."[19] She writes that colonialism's "brutality has too often been attributed to a nearly faceless state power located

in Europe….The idea of rogue colonialism provides a way of thinking about agency beyond and beside those that follow the transcript of 'domination and resistance' between colonizers and the colonized. Rogues are improvisers. Improvised and 'masterless' forms of agency were crucial to the founding, making, and undoing of colonies" (Dawdy 2008: 19-20).

Gradually, the settlers began to engage in a fragile and paradoxical practice: rogue governance. They instituted a tax on all liquor looted from shipwrecks or stolen as prize goods, at the rate of six dollars per gallon, in order to support the Public Treasury (Burdon 1931, 278); and later passed a law that it was illegal to cut down coconut trees on tiny islands dotted throughout the Bay, for the "protection of castaways" who would likely die without the trees' shade and coconut meat. Over time, the Baymen also invented various modes for themselves to officially act outside forums already established: they held what they called "Transient Courts" (Burdon 1931: 188)[20] levied "Transient Debts" (145), charged "Transient Tax" (278), and legislated "Transient Laws" (215-216). The preface to the nationally famous "Burnaby's Code" noted that "the Original Laws and Regulations established for the benefit of this Community, are in a very mutilated, obscure and perishable state, from which it requires thy should without loss of time be preserved." Yet even after their apparent codification, a visitor wrote of the Belize City settlers: 'They have been severely threatened for not submitting to their own Laws and Regulations, calculated for their general good, but it is dangerous to put these threats into execution'" (1931: 115). "The weak point in the Constitution was the absence of any police system capable of enforcing the authority of the Magistracy" (1931: 33).

"…Until the Pleasure of Governance Be Known" (Burdon 1931: 282), one letter sent from Belize City settlers to the British colonial authorities read. The year was 1800.

Health or Lives of Others

When the Spanish captured the Belize Magistrates and their families in 1779, marching them to a boat bound for Cuban prison, only 250 of the Settlement's slaves were later evacuated to the Bay islands—leaving a full 90% of Belize's slave population unaccounted for. Bolland writes of "some 2,500 other slaves who may well have taken the opportunity to flee, which, if they did, constituted the most massive escape in the history of slavery in the Bay" (Bolland 2003: 31). When Superintendent Codd wrote to Guatemalan authorities in 1823 to inquire after 39 slaves who had escaped from Belize in the space of two months, a Petén official breezily responded that the escapees who "emigrated from your Establishment" had joined an entire "Town of black People" living in Guatemala, where they "already enjoy the privileges of Citizens" (Bolland 2003: 71). The Central American minister in London went so far as to declare that England's five percent customs duty was owed because of the large population of escaped British slaves that Guatemala was supporting (Clegern 1967: 8). Ex-slaves residing in the Petén were also documented secretly revisiting the town they had previously escaped from in dugout canoes, visiting friends or family in town and trading for goods in Belize before returning again to Guatemala. This international community of escapees added further complexity to the constellation of maroon villages already existing within Belize, especially two larger towns rumored to be nestled along the Sibun River (a tributary of which to this day is called Runaway Creek), although these communities of escaped slaves were said to be "very difficult to find, and guarded by poisonous snakes" (Burdon 1931: 184).

Even within Belize City, slave communities developed forms of governance that nested within (and often proved more stable than) the Magistrate's official attempts to consolidate a colonial authority. It is said that the first black men and women in Belize were "Congoes, Nangoes, Mongolas, Ashantees, Eboes, and [from] other African tribes" (in Bolland 2003: 53). Slaves bound by language and history often organized themselves into

"nations" in Belize City, electing their own "governors" and "kings." Many slaves were brought from the Bight of Benin, and Ibo families in Belize City traditionally lived in a territory called "Eboe Town," which continued to be called by that name for decades after it burned down in 1819 (Bolland 2003: 90). The slave "nations" would regroup during Christmas seasons, after the men spent long months working in scattered groups logging in the jungle. Their holiday gatherings were marked by "flag-men" and dancing, "with colors flying and music playing" (88), distinct nationalities marked by authority:

> In order to preserve themselves distinct and to uphold their customs, each nation selects one from their body to whom they give the title of king. This is observed by almost every tribe or nation; consequently we have a variety of sable monarchs, who exercise a certain species of lordship over their respective subjects, and receive, in return, the most marked attention and respect. (in Bolland 2003: 90)

The colonial government condoned these slave rulers, "as they can be allowed consistently within the regulations of civilized society," but became somewhat panicked when medicine and magic threatened to consolidate new forms of power and control within such political collectivities. The Magistrates became especially anxious about "the wicked art of Negroes going under the appellation of Obeah Men and Women," communing with spirits and making slaves "deluded into a Belief of their having full power to exempt them whilst under their protection from any Evils that might otherwise happen." Concerned that this would cause "Slaves to depart their Masters Service" or "promote the purpose of Rebellion," the Magistrates passed a "Regulation Respecting Obeah" in 1791, which read in part: "It is hereby RESOLVED that any free person of Colour or Slave, who shall hereafter pretend any supernatural Power in order to affect the Health or Lives of Others" could "suffer Death or such other punishments as the Magistrates and Jury shall think it proper to direct" (Burdon 1931: 196). This is noteworthy because it was not through the tiers of elected kings and governors, but by medicine's "supernatural Power" over "Health or Lives of Others" that the slave nations became perceived as dangerous.

Fingarico: A Founding Myth

It is against this backdrop of fragmented history that the Battle of St. George's Caye occurred in Belize in 1798. Perhaps it is not surprising that the victory has turned into an event that many Belizeans today see as the country's founding myth, since the records of the battle not only paint a surprising picture, but also were among the first detailed descriptions from the Settlement to survive into the present. The battle's centrality was further emphasized when a passing yacht crashed on the coral reef in the 1950s, and the tide carried a shipwrecked American sailor named Emory King to shore in Belize, where he lived out the rest of his life writing widely popular books about the country. (Considering that so much of Belize's history has been tied to the flotsam and jetsam of foreign politics washed up on its shores, it seems only fitting that the country's first popular historian should arrive in this same fashion.) King, a "self-proclaimed propagandist" for Belizean nationalism, had no qualms romanticizing St. George's Caye as the pivotal moment in the country's history: he wrote a famous play that portrayed masters and slaves fighting side by side in battle, resurrecting an image already in circulation by the colonial authorities in Belize, who in the late 19th century had printed postage stamps depicting black and white men in combat against the Spanish "shoulder to shoulder" (Shoman 1994).

Yet in many ways, the romanticized myth of racial harmony at the Battle of St. George's Caye is less spectacular than what a fine-grained look at the peculiar historical record presents us with. One could begin the story in 1798, when a British outpost north of Belize intercepted a naval message written in rather poor cipher. Examining the note, officials there deduced that the attack it described on "the Bay of Dublin" was Irish code for the Bay of Honduras (the Spanish were still hiring Irish seamen during this time, united in a Catholic front against the British; the note describing the Spanish attack on Belize was written by an officer named Captain O'Conner). The British outpost could spare no troops

but sent the Belize Settlement warning, and some 9lb and 18lb iron guns that settlers there might affix to their fishing and turtling vessels.

When this news of immanent Spanish attack was received, the Baymen seriously discussed evacuating, and "Old Thomas Paslow," a notorious firebrand and leader of the stalwarts, "nearly came to blows with the Public Meeting" (Burdon 1931: 26). But after several days of heated debate, a narrow majority of 14 votes finally carried the Public Meeting (of 116 votes recorded) in favor of defending the colony: the Baymen would stay and fight. They were offered one small regiment of troops by England (along with two boats from Jamaica that did not arrive until long after the battle was over, perhaps intentionally; earlier that year, a key British ship promised to Belize in letters that never showed up was evocatively named the *Brutus*). The Baymen grew alarmed when they learned that a brigade of Irish troops was being sent by England to support them, who might be overwhelmed by their Catholic allegiances during battle with the Spanish. The Belize Settlement requested, and received, a brigade of black soldiers instead, although it turned out to be a small force "quite inadequate in strength." The Baymen also gave their slaves uniforms, burned their own homes on St. George's Caye to the ground so that the Spanish would not be able to use these structures as shelter, and waited. Governor Burdon notes: "It is doubtful the Settlers had any idea of the overwhelming force which was to be brought against them" (1931: 25).

The Spanish Armada arrived in Bay waters on September 3rd, 1798, with a flotilla of 31 war ships and 2,500 men. The makeshift Belize army had one small war ship, the *Merlin*, carrying 25 men. The Baymen also strapped seven logwood rafts with 9-pound guns, and deemed them "gun-flats." Rounding out the fleet was a handful of the locals' larger fishing boats mounted with cannons: *the Teaser*, *the Tickler*, *the Mermaid*, *the Towser* and *the Swinger*.

But the Belize Settlers knew the mangrove swamp-covered islands and shallow waters by memory, slipping past Spanish detection and creating an unassuming network of surveillance through "look-out canoes" (1931: 262). During the first days of battle, a Belize boat also managed to uproot all of the beacons and navigational flags that the Spanish had staked into the coral to mark safe passage for larger war ships through the "the narrow, crooked channel" between the shallow reefs, a turning point for the Settlers. After several days of intermittent skirmishes, victory came for Belize when "the Dons, unable to stand our fire, cut their cables and retreated in the utmost confusion" (Burdon 1931: 254).

Registers of myth and history can be impossible to disentangle, but it remains true that a group of merchants, squatters, and slaves in pitpan boats and logwood rafts strapped with borrowed guns—under no real authority from the British crown, and led by Paslow wearing a brocaded Royal Court Suit allegedly once belonging to King George II—fought against 31 ships of the Spanish armada for the sovereignty of a place with no set name, recognizable state or sovereign, and won the right to live there. While writers like King have romantically emphasized a racial harmony between black and white makeshift soldiers that quickly crumbles under closer historical examination (especially given the fact that 15 of Paslow's slaves too later become runaways due to his violent mistreatment), one factor above all evinces the kernel of something important at the heart of this propaganda: Belize's improvised force somehow actually defended the country, with a tiny and poorly equipped fleet "manned by a very few white men, of little or no experience, the rest all negroes" (1931: 254). One observer wrote shortly after battle that "The alacrity shewn on this occasion was by no means expected …it became impossible to restrain the eagerness of the Colonial troops, who possessing canoes, dories, and pit pans, without thought or retrospect of those left behind, hastened with impetuosity to join their companions, and share in the danger: Hence arose difficulty and disappointment to the regular troops, who being under arms, and anxious to proceed with all expedition, suffered delay from want of the necessary boats

and craft to embark in" (1931: 259). Whatever the slaves' reasons were, if they had not been fighting for *something* with remarkable heart, then there is no reason why such an unevenly matched battle should have been won.

The problematic romanticization of this history began almost immediately. As early as 1799, it was reported in the colonial records: "We have rendered the galling yoke of Slavery so light and easy as to animate our Negros to a gallant defence of their Masters, by whose sides they fought with the most determined bravery and fidelity" (Burdon 1931: 272). Yet like slavery throughout the region, violence and terror were integral to the workings of power in Belize. For example, shortly before the battle a "negro man named Joe" was convicted for murder of a white man and was "condemned to be hanged this day & his body afterwards to be hang up in Chains….Example is certainly wanting among the Negros, who have of late acted as if they thought it impossible for this Country to punish them" (Bolland 2003: 65). With similarly brutal public exhibition of force, in 1796 the Magistrates Court sentenced a slave not only to be "hanged for the murder of another Negro slave," but then also "afterwards decapitated," his "body burnt and head exhibited" (Burdon 1931: 216). In fact there were several laws in Belize that were actually illegal by colonial British code, including an official law that allowed masters to mutilate runaways with "amputation of the right ear" after three days of lashing. The fact that there were no plantations in Belize did shift the forms of political control in use, as the next chapter will discuss, but it is clear who was writing the books when an historian arrives at the rather astonishing assertion that slavery in Belize was "egalitarian" (Caiger 1951: 26) or that "slavery existed by name only" (see Dobson 1973 and Bolland 1977 for critiques).

Yet the Battle of St. George's Caye means something real to Belizeans today, and acknowledging this vision of the event as the beginning of their country also seems important. Rather than assuming, as King does, that these slaves' convivial dedication was to their masters, I find it meaningful to consider their war cry, yelled again and again during

battle: "Yarborough or Fingarico!" Yarborough is the local cemetery where all Belizeans at the time were buried (including Paslow, who to this day has a wreath hung on his grave every September 10th to mark the anniversary of the St. George's Caye battle, now a national holiday). But no one can say what the cryptic "Fingarico" signifies; the word has come down to us through history, even though no one knows what it means. But somehow, these slaves were faced with the choice: Death or Fingarico?—and together they chose Fingarico, defending it with their lives.

What was this option they were inventing? What was the meaning of this battle yell behind which an anomalous country came into being? "His war cry is presumably something like death or glory," Governor Burdon wrote in 1931, "but the meaning of 'Fingarico' has not yet been discovered" (1931: 28). It is possible that those men did not know what Fingarico means with any more clarity than we do today; or that its meaning for them would not translate to "glory" but rather the idea of Belize, still waiting to be defined.

Interestingly, in the Public Meeting held after this pivotal victory, a discussion about health and medical treatment—indeed, about citizenship itself—dominated the assembly discussion. What form of care was owed to these troops in return for their service? One speaker noted the "spirit of attachment" to the country that the slaves had demonstrated during battle would soon "languish and dye away" because the black troops, "when afflicted with sickness from being exposed on Duty" were "left to Languish Without Assistance." The Public Record noted the "Melancholy truth that generally speaking their Owners find the utmost difficulty in procuring bare subsistence for their wives and Children…which a Sickly and Convalescent State render absolutely necessary." Yet the assembly members decided that "the Exhausted State of the Public Treasury" would preclude any medical intervention by the government. It was noted this would equate to foregoing a powerful form of potential control over the slaves, because neglecting the ill troops and their families badly in need of basic care would quickly shift any fleeting notions of duty they might be feeling

toward the Settlement. "Under the circumstances it were the height of Presumption to expect or rely on their future Attachment, in which however everything valuable depends" (Burdon 1931: 264[21]), someone somberly wrote in the country's official record book.

The Public Meeting soon grew tense, and "After some 'general disorderly conduct' which the Chairman was unable to stop, the majority of Members left" (Burdon 1931: 265).

Self-Governance: Borders and Ends

Shopkeepers from Belize City regularly sold weapons to the rebelling Maya of Santa Cruz in the Yucatan, and later Winchester rifles, thus supporting of their war against the Mexican government and earning themselves the name "merchants of death." Yet this fragile alliance was suddenly shaken by the events of 1859, when the superintendent of British Honduras dispatched an envoy to the Maya of Santa Cruz in an effort to negotiate for some Spanish prisoners being held for ransom. While the Spanish had for decades been marking their territory claims by staking large wooden crucifixes into the land, trying to fix the boundaries of Belize (these crosses' geographic locations duly being noted in the 1786 map), the Maya claim to a new state also came to figure around the cross. The famous "talking cross" of Santa Cruz "acted as a sort of oracle, to whom all matters of importance—civil, military, and religious—were submitted to decision" (Gann 1918: 41) during the Caste War. But the hostage negotiations in Santa Cruz took an unexpected turn for the Belize City administrative envoy. As the colonial secretary of Belize described it:

> That night as usual all the available Indians in Bacalar arrived in front of the home where the Santa Cruz is kept. The boy attendants or sentries on the idol, called angels, were in front of it and the drums and bugles sounded at recurring parts of the song. The chief was inside with the image and the angels. The subordinate chiefs and soldiers knelt outside, and did not rise until the service was over, when they crossed themselves and rubbed their foreheads in the dust. About 11 o'clock the Indians were heard running backward and forward, and an order was given to bring out the prisoners…They all knelt down in the road. There were about 40 female prisoners, with one arm tied to the side, and 12 or 14 men pinioned by both arms. All were calm, except the children, although it was known Santa Cruz was

> pronouncing their doom. A squeaking whistling noise was heard issuing from the oracle, and when it ceased it was known the Santa Cruz wanted a higher ransom from the prisoners....another body of soldiers closed the rear; the Englishmen were not allowed to follow. The procession halted under a clump of trees about 150 yards off. And soon the butchery commenced; shrieks were heard, but in 10 minutes all was over.[22]

The diplomatic officials sent from Belize City found themselves personally witnessing the execution of the colonial hostages they had been sent to negotiate for; in fact, it was made a point to kill them squarely within the colonists' earshot. Afterwards, they hurried in a state of outrage to Corozal, the closest town in Belize, planning a military response to this show of Maya force. But once there, officials "found that it was impossible to organize a punitive expedition, or even a satisfactory local defense. The local militia troop refused to mount guard during the crisis" (Clegern 1967: 14). With no leader, authority or funding for organized war, the colonial administration never mounted any retaliation to the mass execution. The oracle of Santa Cruz had effectively out-legislated the colonial administration of Belize City. (Later, after being captured by the Mexican government, the oracle cross of Santa Cruz also entered State bureaucracy by writing a letter from prison to its citizens, on papers authenticated with the signature of its own image) (Reed 2001).

Two years later, a British boundary-marking expedition was sent to clearly delineate the northern borders of Belizean territory for the first time. For unknown reasons, the expedition fell apart and did not finish their measurements, a sign which the Maya inhabiting the area did not fail to notice: "Abandonment of these operations encouraged the Indians to believe that the British had serious doubts about their right to lands near Blue Creek" (Clegern 1967: 16). A series of territory disputes between the loggers and the Maya ensued, led by the Ichaiché chieftain Marcos Canul, who threatened violence to the loggers if rent was not paid for use of Maya lands. Several camps of Belizean colonists actually began paying rent to the Ichaiché Maya for permission to log—apparently for

matters of expediency rather than principle, although the rental payments unsurprisingly only deepened the confusion over the question of to whom the country belonged (Clegern 1967: 47). The Maya rebels raided a mahogany camp at Qualm Hill in 1866 and successfully held no less than 70 Belizean loggers for ransom. The following year, Canul went for the jugular by attacking Belize City itself, where he destroyed a key mahogany bank and made off with another group of hostage woodcutters. "Stunned by the boldness and proximity of threat," the Belize administration managed to recruit a small West India Regiment of soldiers to cut off the retreat of the Ichaiché Maya rebels. The ensuing fiasco did little to change the Ichaiché's perception that the government in Belize City was weak and vulnerable enough to attack. As one commercial agent reported on the subsequent withdrawal of the British regiment, after only a few rounds of fire from the Maya forces:

> [T]he retreat of the troops was so hasty and they were so terror stricken that they threw away arms, clothing, etc. And I have been credibly informed that the Major and one other officer ran away first and both on one horse without saddle. This has been one the most disgraceful retreats ever known. (Clergen 1967: 47)

Also left for dead in this excursion was Mr. Ed Rhys, Editor of the Belize *Colonist*, the city's leading newspaper. He was never seen again. "British Honduras was thus in a state of crisis with its entire northwest section under martial law and in fact occupied only by Indians" (Clegern 1967: 48). It was in the midst of these disasters that the legislature began to seriously discuss converting British Honduras into a Crown colony, since the "imperial government could then do what was necessary in respect to frontier defense." In Belize City, there "was strong opposition to such surrender of self-government, but the burdens of self-government were not solved with rhetoric" (Clegern 1967: 51). Centuries of precarious self-governance finally brought to a breaking point by the Maya threat, the Belize City House of Assembly voted to abolish itself. Amidst much public objection to the idea of being ruled by outside forces, the country received its first English constitution and British governor in 1871. Belize finally became the late Crown colony known as British Honduras.

My Country

This excerpt from a poem titled "My Country," was published in the British Honduras newspaper the *Clarion* on May 15, 1902, under the name G. Witty Kerr (in Wilk 1989: 32):

> I speak of my country, yes, of thee,
> Bleeding land of poverty....
>
> Want to make these sinners stare?
> Tell them that the Treasury's bare.
> Then together they will flock,
> Talk an hour round the clock...
>
> Life's a burden, gloomy, sad,
> Strangers come and take your bread;
> With good places they are fed,
> While Creoles may pine and groan,
> They get the meat, while you get the bone.

Population Unbound

The Belize national prison system had a serious problem with surveillance before its management was taken over by an American NGO called the Kolbe Foundation. The Christian NGO reported 56 prison escapes in a single year before they took over the institution (from a population of around 800 inmates, mostly incarcerated for "utensils possession" or drug crimes). Today the prison is known locally as the "Hattieville Ramada" (complete with gift shop) because the Kolbe Foundation is said to run it very humanely—to the point that people occasionally seek incarceration, for lack of other national institutions. As one man said in 2010 after being caught stealing 34 packs of M&Ms and one pack of Skittles: "He told Magistrate Frazer that he has nowhere to live, no food to eat and no one to care for him. He...thinks jail is a better place for him" (*Guardian* 2010). This humane prison treatment has a downside though, as even the *Lonely Planet* tourist guide to Belize cheerfully reports the ubiquitous rumor that "Hattieville residents have been known to break out at night to go drinking with nearby friends only to return in the morning before

head-count" (Vorhees and Brown 2008: 113). The NGO has improved prison security, but as of 2011 their institutional website still had a tab on their webpage labeled "Escapees," displaying pictures of the several dozen men currently at large who were fugitives from the prison in recent years.

To some extent, these fugitives, too, remain part of the social landscape of Belize, to the point of ethnographic visibility. At the southside bus station in Belize City, a colleague and I once saw a man wearing heavy handcuffs. We kept waiting for someone to say something when he got onto our bus, but even the driver pretended not to notice. His wrists were handcuffed in front, so that the man had to give his bus fare to the conductor's assistant with both hands chained together. I imagine that the rest of the people on the bus, like my colleague and I, were afraid to report the situation to someone (who?) and incur the anger of an apparent criminal who was obviously quite adept at escaping from authorities. The man got off the bus with us in Dangriga, and the next day while standing in front of the hospital we saw him again, his handcuffs now gone, a free man. He was riding a bicycle.

View From the Deck

As the Carnival cruise company (2011) describes its Belize City stop: "This tropical paradise promises adventure, both onshore and off. Crystalline rivers flow through impressive lowland jungles, home to a myriad of rare wildlife. Silky sand beaches, waving palms and colorful coral gardens are just part of Belize's natural wonders. Whether mountain biking through a lush rainforest or snorkeling with sharks, you'll experience things you've only imagined." [23]

Makeshift Medicine

When Rockefeller officials reached Belize in 1915, they found merchant shops already saturated with a global hodgepodge of imported drugs and therapies. Traces of

such era medicines are today on display in a bottle collection at the National Museum of Belize. When I visited in July of 2010, I was surprised to enter a museum room lined with display cases of medical relics: a triangular bottle labeled "Sharp & Dohme Baltimore"; a tiny brown bottle of Morses Indian Root Pills (Dose 2 to 4), manufactured by WH Comstock and labeled "Made in Japan"; a round bottle emblazed with spiral Dutch writing around its circumference, "Die Keisserliche Privilegirt Altonatichew Kronessents"; a pale green glass bottle embossed with the words "Ayer's" "Pills" and "Lowell Mass, U.S.A."; a bottle of "Lung Balsam" from Kingston; a liquid medicine formulated around 1900 by Karl Heusner (the German doctor for whom Belize City's main public hospital is now named); a bottle of "Reuter's Life Syrup" from New York; an unprovenanced dose of "Paine's Celery Compound"; a bottle of "Healy & Bigelow's Kick-a-Poo Indian Cough Cure" dated to the 1890s; and a therapy distributed by Finlay Dicks & Co from New Orleans (National Museum, Belize 2010).

"These bottles were closed with a cork concealed by a crimped white paper cap tied by a pink string," reads a museum sign marking the display. This period saw not only a steady flow of imported medicines into the country, but also makeshift standards of practice and safety that began to develop; for example, a "beaded mat design," almost a lattice texture embossed over the glass, was used locally to distinguish the bottles of poisonous compounds from medicinal drugs, as packaging protection for consumers who were illiterate or blind. People's wide use of these patent therapies and global pharmaceuticals alongside the foraged leaves and roots of "bush medicine" led Rockefeller official Lewis Hackett to complain in 1916 that local residents in Belize City "pay more credence and read more eagerly the printed matter accompanying any patent fake of medicine" than they did to the anti-hookworm pharmaceuticals he had been sent to administer; his own drugs lost their usual cache of technological novelty in the context of Belize's thriving import market.

As the modern versions of biomedicines now circulate through Belize's diverse cultural ecologies, "syncretism" is so common that the recurrence of this word in my early fieldnotes now strikes me as an understatement of comic proportions, the way a naïve but earnest scientist observing the sun for the first time might note "Its atmosphere seems to be characterized by heat." Yet I once charted the ad hoc overlay of domestic healing rituals and the circulating technologies of global health interventions as some sort of analytic insight in itself, rather than as the patent social climate so often noted in Belize, the inner chemistry and operating principles of which it was my job as an anthropologist to try to somehow meaningfully record and examine.

Makeshift forms of medicine characterize healthcare throughout much of the developing world, as Julie Livingston shows very powerfully in her recent ethnography of cancer in Botswana, *Improvised Medicine* (forthcoming). In many ways Belize is emblematic of this much larger reality in global health and inevitable corollary of limited resources, although there is also something specific about the forms of makeshift medicine practiced there—or at least, there was something distinct about how they appeared within the scale of my ethnographic focus. While Livingston focuses on the human interconnection and improvisation of an institutional context, I remained interested in how people move into and back out of such clinics and institutions, returning to their homes or villages. In Belize, national law and policy often seem to occupy a clear backseat to informal, domestic spaces for negotiating health, new publics also emerging from these intimate spaces.

After asking "What is a Country if it is not [just] a Nation," Geertz continues that "we understand at least something" about how power is composed in society, but

> in the face of social struggles phrased in terms of selfhood, of inbred feeling and primordial loyalty…we remain pretty much at sea. They seem to come like storms and evaporate with mere exhaustion or an unaccountable charge in the weather, or else, *more often, persist*…smoldering, half-hidden, and merely lived (or died) with, not really understood, not really resolved. (2000: 229)

Belize has been called many things over the years: a "Colonial Dead End" (Clegern 1967); "a meeting place for the strands of history" (Grant 1976: ix-xi); a "strange little fragment of empire" (Huxley 1934); "a residue" of British imperialism (Grant 1976); and more recently, "A Nation in the Making" (Leslie 2009). A tiny English-speaking enclave tucked into a Spanish-speaking mainland, Belize straddles dual roles as both "Caribbean Nation, Central American State" (Stone 1994), but these interfacing histories also mean that Belize is not easily understood by the usual shorthand of either regional ecology. In 1990, a Belizean Minister of Education announced that "we have no national culture"' (Phillips 1997: 163). In addition to Belize's multitude of diverse ethnicities and proud histories, there is also an ethnic category for "Don't Know" on the national census (Shoman 1994: 279). Colonial ethnographers characterized Belizean creoles as "human conglomerates," and the long history of interethnic marriage as producing "a bewildering racial kaleidoscope" (Gann 1918: 34). In the chapters that follow, I will take a closer look at these distinct cultural histories as read through medicine, food and nutrition, presenting a challenge of "finding the stitches that knit the patchwork together without disregarding the diversity of experiences the patches represent" (Dawdy 2008: xiv). Yet we might also think through the question of Belize's national culture in relation to another of Geertz's "central interpretive challenges" of modern times. Geertz asked: "What Is a Culture if It Is Not a Consensus?" (2000: 228)

London Bridges

From its origins, Belize has sustained itself though arts of bricolage (Levi-Strauss 1966), tinkering with existence rather than engineering its foundations. This is perhaps most literally reflected in the geography of Belize City, which stands only two feet above sea level in a notorious hurricane zone. Belize's coastal territory is actually not solid land but

swamp, so that in the history of Belize City, "any dry ground was created by filling in the swamp with sand" (Bolland 2003: 83). Belize City is "thought to be built on a foundation of rum bottles, logwood chips and loose coral." This improvised practice of land-making still continues (albeit conducted with less romantic kinds of trash), a process locally known as "dumping up." People who build their shacks in the swamp try to fill the watery terrain they call "the morass" with plastic bottles, wrappers and cans, which over years and decades might create solid ground. They cobble makeshift bridges out of driftwood and other scraps to stretch across the swamp, structures which Belizeans call "London Bridges" (so named because they are continuously on the verge of falling down).

As one official in Belize explained to Jamaican anthropologist Herbert Gayle, "There is no land space but in the swamp, and we do not monitor anything so that is where they are going to build…That is the only place were I see such unity among the poor. They come together and extend the bridge to each other's shack" (Gayle et al 2010: 134). The poorest people "go to Belize Port Authority and collect the crates and that becomes their home," or "They pull up pallets made out of pine bases used at the port or hardware and they bit by bit construct a shack that look like grandma's patchwork quilt." In certain areas "people live in the morass or wetlands connected to solid land by 'London Bridges' expertly built by people who are unafraid to run ahead of the Government" (151, 213), and solid ground is gradually created as "people constantly use garbage to fill in the morass":

> What is intriguing is that some 'morass' settlers…asked if they were doing something wrong 'other than squatting.' In most countries swamps are protected for both ecological and medical reasons…The practice of adding cans and plastic bottles to 'dump up the place fi we self,' as well as the reality that 'some people really do not have anywhere else to get rid of their bodily waste' create a cocktail of medical worries… In a country where there is a strong central political authority people are not allowed to live in a morass and dump around them garbage. Such pictures give the impression that people are on their own and there is little or no sense of parameters for social and physical action. (133)

It is interesting that Belizeans refer to these communities with the awkward English word "morass." Besides meaning a muddy area, the term derives from the Dutch *moeras* (OED

2012), meaning "alteration" (and also echoes the figurative meaning of the word morass, "a complicated or confused situation"). Biologist and poet Erasmus Darwin, grandfather of Charles Darwin, admired morass ecologies for the way chronological growth became visible in their "deep vegetable" minutiae: "morasses are in the process of time produced, and by their long roots fill up the interstices" (1795: 34). Yet as many Belizeans point out, "What people call [a] nice place now was morass and people dump it [in the] same way. We put the plan in place afterwards" (Gaye et al 2010: 134). The practice is so historically entrenched that even a colonial governor announced in his official annual report that "Mesopotamia has now been dumped up and fine roads have been built…"[24] Yet patch by patch, almost all of Belize City has at some point undergone this process of filling the morass in order to create land, a process leaving behind only faint traces of its former geography in official territory names like "Cinderella Town" or "Belama Phase 3." "Almost every house is entered by a bridge," reads one caption on a Rockefeller Foundation photo from a main street in Belize City in 1915.

Although morass communities have long been recognized as a potentially dangerous social and medical problem in Belize, the government has continuously deferred intervention. "It is only by reclaiming the swamps at the edge of the city at considerable costs that new areas can be made available," explains one 1958 Crown Colony report to the Queen (Great Britain Colonial Office 1958: 64). "The housing situation is grave and it requires immediate attention in order to avoid the creation of new and difficult social problems." Flash forward more than half a century later, where today these expanding morass communities are prime zones of gang activity and many families live in ecologies of poverty and despair. During Gayle's interviews, some children believed that the blue and red stripes on Belize's national flag represented not the country's two political parties (People's United Party and United Democratic Party), but Crips and Bloods (2010: 233).

On the other hand, in a country where 43% of the population lives below the poverty line, there are only 118 homeless people. For those in poverty, one does not need land to build a house (land can be made or bridged) or building materials (scraps can be found) or state housing support (which has now been deferred for longer than most Belizeans have been alive)—a makeshift home can be made in the morass through social connections alone. A whole typology of shacks exists in Belizean Kriol language—for example, a *daag sidong* shack is small and dilapidated, without stilts like an ideal wooden home raised above flood lines, but it is still qualitatively better than a *nak-ahn-stan-op* (as the literal translation "no-can-stand-up" house would suggest), and about equally as decrepit as a makeshift *kuboos* (Crosbie 2007). These are not new terms: the name "dog sit-down" shack dates to at least 1931, when an unnamed hurricane struck Belize City, "killing over a thousand people and destroying at least three quarters of the housing" (Bolland 2003: 167). Even the pro-government newspaper *Clarion* called the colonial government's slow and paltry response to the disaster "degrading and humiliating" (2003: 175). When the state finally built barracks for emergency shelter after a long delay, it charged exorbitant weekly fees to stay there, inaccessible and deeply insulting Belizeans who had just lost everything. Tired of waiting for government intervention, ultimately "[p]eople made their own shacks from the wreckage" (Bolland 2003: 175) by bricolaging the ruined scraps of their lives into new homes.

Such politics of the unresolved and undefined over time becomes more than a default measure or stopgap reality, but part of a way of life and national ethos (which is, after all, root of the word *ethics*). The fact that the entire country of Belize came into being by squatting on Spanish territory also inflects this practice with a different value and even the valence of an unwritten legal connotation. For over a century there was no legal system for land tenure within the Belize judiciary, so there was no such thing as squatting; building a hut carried legal property rights attached to it (Bolland 1977: 107). Echoes and ghosts of

this history live on in the "London Bridge" communities of Belize City today. After all, the slow process of proxy measures perhaps turning into something permanent through tinkering over time is already contained within the song verses that these structures are named for (as the famous nursery rhyme goes: *London Bridge is falling down – Build it up with wood and clay – Wood and clay will wash away – Build it up with bricks and mortar – Bricks and mortar will not stay – Build it up with iron and steel…*)

"So that's one of the crisis that we see in governance. It's been running for a long, long time, just on and on and on," Gayle said of his work in the morass (*Channel 5 News* 2010a: 1): "[W]hen you say to people how do you do this? They say, but you know Belize City sits on a delta. *The people of old have been doing this, so we're learning the technique and we're creating another space*. So we're expanding Belize City for you… All of these places, people are just extending it for the government."

The morass dwellers are mainly found in Belize City, but are not limited there. San Pedro, the legendary resort town that Madonna sings of in her famous song, now has a twin double called San Mateo on the same tiny island, where the "London Bridges" reach over half a mile long. In the southern Stann Creek District where I was based for this research, one could still see ancient plastic bottles embedded deep within the riverbanks, traces of a time when local people reclaimed and fortified land for themselves in the areas surrounding Dangriga.[25] "Dumping up" the country is thus part of Belizean national infrastructural history, even in places where the process is no longer ongoing. Although a minority lifestyle (Gayle estimates that about 1% of the population currently lives in the morass), these "London Bridge" communities are both an empirical reality and a figure of thought, an alternate vision of how countries are made**.** New terrain for development literally must be built by the people themselves, from the ground up—in fact, the ground too must often be constructed.

In these practices, a state grid arrives not by demanding it from the government or by waiting for a response from private market sectors, but by people inventing a new front of "unplanned development." If one continues persistently enough to fill the swamp with trash then the state may eventually bring sand, create solid ground. "London Bridges" cobbled from scraps of driftwood could one day turn into a dirt road, eventually perhaps even a paved one. In these "fringe-driven" practices, the makeshift *becomes* the template of development and not a deviation from it, or an improvisation on its theme. Hardly a footnote to strategies of governance, the makeshift often serves as a key force defining its fragile techniques of expansion in Belize. Improvisation itself becomes the very frontier of nation-making.

The same often felt true of medicine. Islands of care that would remain footnotes to the clinical encounter in another context become key spaces of health. The stories that follow—a patient given up for dead by the hospital but afterwards revived by her ancestors; a legless man in a workshop cobbling "extra feet" for other amputees with second-hand prosthetics brought from Texas in a friend's suitcase; a diabetic woman staving off her daughter's renal failure with offerings to the dead; a man refusing state dialysis sessions he needs to stay alive until other patients are given the same care; an adoptive mother trying to give life back to an abandoned diabetic teenager who lived for years without insulin—these are not footnotes tacked on to the record of how care is supposed to happen, but rather define the primary relationships through which science and medical technologies travel, perhaps also the very ground that might one day enlarge people's modes of access and care. The makeshift *is* the model. For better or for worse, Belize presents us with an alternate vision of the social worlds and medical realities that globalization can create—a different way "scraps, patches, and rags of daily life" (Bhabha 1994: 297) are being cobbled into a nation.

For this reason, I also include details about the moments of human connection in the stories recounted here: people's laughter and desires, realties that are endured through care, healing, *life*. This is not to aestheticize poverty or romanticize the bitter material constraints that clearly shape forms of exclusion, but rather to try to capture Belizeans' lived realties in ways that remain true to their own creative arts and actual ways of sustaining themselves (or more starkly, to highlight the specific capillaries through which these fragile ties to survival sometimes fail). Mario Vargas Llosa writes of certain art which "touches on the indecipherable mystery of life, that bottommost depth where… contradictions disappear, the beautiful and the ugly become interchangeable and interdependent" (Vargas Llosa 2000: 194). Since peoples' own arts of living unfolded in this depth, I try my best to write in ways which too might capture its vital ambiguities and paradoxes.

In other words, the ethnographic narratives that follow are in some ways also London Bridges, which by very definition remain on the verge of collapse. But by following the tenuous, makeshift connections that might form a cobbled passage between faraway homes and distant lives, I mean to try using my own perspective as a fragile pathway to take the reader on a visit. As writer Edwidge Danticat notes, "When we insert our 'I' (our eye) to search deeper into someone, something, or ourselves, we are always risking a yawn or a slap, indifference or disdain….Perhaps the craft, the art, in whatever form it takes, is our bridge. We are narrating, after all…slivers of moments, fragments of lives…" (2011: xviii).

With even the bridges often fragmentary, the patchwork nature of Belizean life has much in common with the way Gilles Deleuze once characterized American fragments in the essay *Whitman*, as marking a nation distinguished by "two aspects: spontaneity or the innate feeling for the fragmentary, and the reflection on living relations that must be constantly acquired and created" (1997: 60). Viewing Whitman's fragments of writing as iconic of the Americas in a wider sense, Deleuze saw this gravitation toward the "spontaneous fragmentary" as broadly distinct from a European artistic vision and integral

to "becoming" (Biehl and Locke 2010), in ways that remain evocative to think with in the context of Belize.

This (Central) American country also "brings together extracts, it presents samples from all ages, all lands, all nations," a context in which people come to innately grasp "the world as a collection of heterogeneous parts: an infinite patchwork, or an endless wall of [uncemented] stones." Deleuze believed that such fragments were key to grasping truth and history, but this is not a naïve vision of the social mosaic—parts of the patchwork are "dying parts, fragments of mutilated men" (1997: 59) in a country made up of "various immigrant peoples (minorities)—everywhere a collection of fragments, haunted by the menace of secession, that is to say, war…" (56-7).

Readers might wonder why I turn to an American poet (and a French philosopher) to understand a country that doubles as both Central American and Caribbean. Yet borrowing from the United States has always been very important to Belizeans in testing and defining their own democracy, perhaps because their own cultural plurality resembles that of the U.S. more than the countries that surround it. As Stone (1994) notes, political frameworks shaped in the Caribbean have trouble accounting for the Central American contribution to Belize's history, and vice versa. On the cusp of independence, Belizeans fighting for freedom protested British rule by singing "God Bless America" because they did not yet have their own anthem of freedom. For a time in the early twentieth century, many Belizeans hoped that their country might actually become part of the US—not as a colony or territory, but as a state of the union. Belize uses American dollars interchangeably with their own currency, and the entire country pirates American cable television. Today, some scholars estimate that more Belizeans may live and work in the U.S. than in their own country—nationwide figures are still sketchy, but we do know for a fact that the biggest Belizean city is actually L.A. (Wilk 2006). Today, the unequal seams and tears in our own political system—such as inner city gang violence—are exported to Belize as well, and they

spread there unevenly, the heavy paradoxes and failures attendant to our model of democracy in actual practice. It is for this reason, as I try to understand medicine and human relations in a context where national homicide rates now exceed "civil war benchmarks," that I find it helpful to examine Whitman's visits with sick and dying patients as he sought a genre to capture their stories and experiences in fragments of writing against a context of civil war.

It was during the height of the American Civil War when Whitman first visited the "make-shift hospitals" of Washington D.C. in 1862. The poet originally made the trip because he was looking for his brother George, who had been wounded in the Battle of Fredericksburg. But Whitman was haunted by what he saw, and spent the next four years of his life returning again and again for over six hundred visits[26] with sick and dying patients, moving back and forth between local clinics and "what we call the hospital here in the field, [which] is nothing but a collection of tents" (Whitman 1990: 98-9). Yet these records of his visits with patients were kept separately from his wartime poetry. In detailed scraps of non-fiction, he recorded the concrete facts of people's lives the best he could in untidy notebooks: speaking with surgeons and nurses, talking in hospitals with dying men. Walking around D.C., he documents jarring scenes, medical shortages, haunting images and dissonant voices over the years—from the endless streams of horse-drawn ambulances entering the city, to the funeral procession of President Lincoln (Whitman's hero, whom he saw almost every day before the shocking event of his assassination, riding down L Street on an "easy-going gray horse") (733). Yet as one of his biographers clarifies, Whitman's writing work with patients was neither that of a nurse nor a charity worker—"his actual role was that of *a very attentive visitor"* (Murray 1996). (As someone who approaches the ethnography of medicine from a role outside that of an anthropologist-physician, I too work in this tradition of the "very attentive visitor.")

In Whitman's time, many of the regular D.C. municipal buildings had been turned into clinics and hospitals—even the Patent Office, where patient beds were placed alongside the office's permanent display cases, "crowded with models in miniature of every kind of utensil, machine or invention it ever enter'd into the mind of man to conceive" (Whitman 1982: 717). Whitman interviewed the wounded and dying soldiers in the eight-foot openings between the glass cases (one wonders if the title under which he later published these fragmented accounts, *Specimen Days*, had its roots in this surreally horrific scene). Unable to prevent their deaths, Whitman's ethical commitment to these patients was simply trying to document last fragments of their lives, an act of companionship and deep listening. "Every one of these cots has its history—every case is a tragic poem, an epic, a romance, a pensive and absorbing book, if it were only written" (1984: 585), he reflected in one of his field notebooks in 1863. He was profoundly disturbed to later attend an Inauguration Ball in the same Patent Office, when "beautiful women, perfumes, the violin's sweetness, the polka and the waltz" had replaced "amputation, the blue face, the groan, the glassy eye of the dying, the clotted rag, the odor of wounds and blood" (1982: 761).

Whitman's ethnographically textured writing that grew out of this interaction shows a context where the work of survival and of art is to live among fragments, even *as* fragments, and to "invest nonpreexisting relations between them," faced always with the specter of violent edges and emerging holes when "the law is that of fragmentation" (Deleuze 1997: 57). Yet these "specimen days," Deleuze said, quoting Whitman—"the remarkable parts, cases, or views—must still be extracted by a special act"—the act of writing. "Selecting singular cases and minor scenes is more important than any consideration of the whole. It is in the fragments that the hidden background appears," Deleuze wrote. "The simplest love story brings into play states, peoples, and tribes" (57).

Although eminently social, there is also an "interiority of the relevant fragments," a relationship—which some anthropologists today might call subjectivity—that even in

solitude must be established "within each isolated dying man" (59-60). I find these reflections on the ethics of the fragmentary helpful for understanding the forms of accountability and value that *are* being forged in Belize. When ruptured law and market exclusion do not allow people to work through their concepts of responsibility and rights on state fronts, they are left to alternate modes of adjudicating moral questions and claims to life. Creating fragile social forums—whether a public newspaper story or a divination in candle smoke—becomes part of the tissue sustaining "a 'conclave,' a 'plenary session,' …inseparable from processes of companionship and conviviality, which are not preexistent givens but are elaborated between heterogeneous living beings in such a way that they create a tissue of shifting relations" (60).

This dissertation can be read as a social study of this "tissue of shifting relations" between fragments of care in Belize. It highlights the role that makeshift medicine now plays in the ways that connections are being forged, inflected and sometimes broken as human ties increasingly bridge new categories of disease and science. Although I take up diabetes and parasitic infection as topics of inquiry, "I do not want to place [the disease] in front of and at the expense of the character that had it" (Harding 2011: 26).[27] Instead I try to trace what locating accountability and trying to heal mean to each of the people in these stories, questions which crosscut wider domains (policy, law, medicine, kinship, cultures) but are often worked through in deeply interior worlds—terrains of dreams, waiting, tinkering, faith or chance; "plenary sessions" held across churches and temples, yards and kitchens. In this sense, I hope the ethnography that follows might somehow mirror the improbable cohesiveness of Belize as a country: "it turns out that a kind of whole must be constructed, a whole that is all the more paradoxical in that it only comes *after* the fragments and leaves them intact, making no attempt to totalize them" (Deleuze 1997: 58).

One common misperception about bricolage is that a world cobbled from so many fragments must be experienced as something disjointed. It is true that many para-

infrastructures of health in Belize are fragile, and their fracturing sometimes causes great pain. Yet as I observed it, the medical ethos that improvisation engendered could also at times become a committed form of care, integrative and forgiving, the painstaking art of making new wholes. Of all the things I've learned from Belizeans, perhaps this is the most vital: that damaged, chance bits can sometimes come together (even against all odds) to cohere into rearrangements more meaningful than any of their pieces, something that contains shards of traumatic history but creates possibility anew. Here I have tried to do justice to this way of living, by writing in a way that might trace the brittle statecraft and inconsistent access to science and technology as they enter people's intimate domestic worlds and actual ongoing lives—an ethnographic undertaking perhaps most fitting to a form that is not itself disjointed, but that more closely resembles a collection of moments drawn from gradually unspooling human stories (themselves often shot through with piecemeal bits of global connection, strange threads and unexpected frictions). In other words, in the chapters that follow, I have tried to use case studies in order to tell my friends' fracture-filled experiences of makeshift medicine just as they were lived: as fragments searchingly rearranged into whole worlds that often astonished me with the force of their improvisation and pain, but also with their love.

2. The Chronic State

> Dismembered from the land, from labor, from power, and from memory, the result is the destruction of the base from which people launch themselves into the world…the subject in active engagement with this environment is fragmented.
>
> --Ngugi wa Thiong'o, *Something Torn and New*

Gethsemane

The sinewy grass of the cemetery grew straight up to the edge of the sea. It was windy for a tropical April day, although already past the blustery months that Belizeans call "kite season." Loose hair whipping across my line of vision, I walked quickly between the rows of aboveground tombs. Many had sunk progressively lower into the soft ground with time, a few inches each decade, as if in measure with public memory; the oldest tombs were now barely visible above the earth. But the grave I was looking for was only three weeks old. Feeling uneasily alone at the back edge of town, I moved not with the slow pensiveness a cemetery usually brings but brisk steps, scanning for telltale signs of recent burial: a patch where the sandy soil had not yet been overgrown with weeds, a tomb where the concrete still looked fresh white. (When left bare, poured concrete tended to turn slate grey within a year against the Caribbean storms; I was assuming that no one had bothered painting this particular tomb in a bright paint, or fixing it with a cement cross or statue of a robed saint.) After failing to find his name, I doubled back to check again, this time checking for matching dates (1989-2010). But row after row, Jordan was nowhere to be found.

There were few flowers in the cemetery, although some of the tombs were dotted with other remembrances: ceramic mugs or glass bottles, rum and food for the dead. The air grew hot in the morning sun. I finally gave up looking and paused under a palm tree with ragged fronds. A tiny Maya Air prop plane drifted over the sea; I recalled that it had been Jordan's dream to become a pilot, and my sense of anger at the morning's failed quest deepened. Anger, because it felt like my futile attempt to find his grave was only the latest (perhaps the final) in a long series of ruptures and disconnections that had led to his death.

The plane descended below the tree line to land at the nearby Dangriga airstrip. "He is now flying God's Plane in Heaven," I will later read in Jordan's funeral program, a one page Xerox featuring a blurry close-up. In the photograph, his gaze is level, eyebrows slightly raised. It is difficult to say whether his expression is inquisitive, skeptical, or some other countenance of waiting.

For some reason, I remembered that the hospital corridors smelled strongly of fresh cut grass on the day we met. Jordan was cursing softly to himself on the way back from the bathroom, carrying his drip bag high above his shoulder as he approached the hospital bed. His wispy hair looked barely attached, like the fuzz of a dandelion at the end of summer when one strong gust of air can scattered it all in the wind. He smiled searchingly at me when I told him about my diabetes research, went through the usual caveats of consent and asked Jordan if he wanted to talk. "For your book? Yes, please," he said.

I pulled a chair up to Jordan's bedside, in a long open room with six other patients. His mother died when he was three, Jordan told me softly by way of opening, here in Dangriga. Her name was Tessa; she had type 1. Jordan had lived with type 1 diabetes "since I remember," along with his older brother—but he was not close to his family, he added quickly. "They don't care." As we spoke, I saw traces of a lifetime of chronic damages on Jordan's body: Ulcers spotted along on his legs, sunken planes of bones visible in his chest, one clouded brown eye through which he could only see vague shapes now. (I moved my chair to the side of his good eye so that he could see me while we talked.) But more concerning still were his damaged internal organs: at the age of 20, Jordan was in renal failure. At that stage of complications, I understood only later, dialysis is the only way to stave off death. But there were many more Belizeans needing dialysis than there were the 21 available spots in Belize City—patients must wait for someone to die in order to get moved up on the list—and Jordan said he was not in the running, because he would not have been able to afford the costly sessions even if he was selected. Let alone accessing

transportation to Belize City, he couldn't even get to Dangriga hospital many times when he was in medical crisis; it was about a 30 minute drive from his village into town, and Jordan spoke at length about his difficulties getting there. In fact, looking back at my notes, I realize that Jordan talked about the struggle for transport at more length than any other aspect of his chronic routine—not the medical care he received, but simply trying to get to the place where medicines might be available: the experience of waiting on the side of the open highway in the stifling heat, the hunger and dizziness as light traffic sped by his village—school buses of commuters and students, or resort vans full of tourists headed to see waterfalls and jaguars. When he was younger, Jordan's old elementary school principal would often give him a few dollars for the ride, but many times now he had no money for the bus fare and he had to hope for a compassionate driver to let him travel. Sometimes he walked down the highway for days, waiting for one vehicle that did not pass him by.

On the windy morning when I could not find Jordan's grave, part of me wanted to scream or sob as I left the cemetery. I took a deep breath, and decided to take a picture of the place (as if to salvage some substitute artifact from an engagement come too late), and suddenly noticed something that had escaped my attention before: the cement archway leading into the town cemetery bore the name GARDEN OF GETHSEMANE. The entranceway looked like it had recently been repainted. There were traces of weathered gothic script still visible, palimpsest-like, under neat handpainted block letters; yet the name of the cemetery had stayed the same. I felt my sense of guilt sharpen: the biblical Garden of Gethsemane is most prominently associated not just with the solitariness inevitable to dying, but with *abandonment* in the face of death. This is not a poetic pseudonym—Garden of Gethsemane is the real name of the seaside cemetery in Dangriga, the capital of Stann Creek District—yet the name seemed uncannily fitting. Interestingly, I would later discover that Gethsemane is the same figure anthropologist Angela Garcia (2010) evokes in her powerful ethnography of drug addiction, as she works to formulate an

ethics of care after several of her subjects have died. Beginning with a quote from the Book of Matthew, Garcia writes:

> *My soul is sorrowful even to death. Remain here and keep watch with me*. The passage comes from the moment in the gospel when Jesus has asked Peter to keep vigil with him in his hour of need at Gethsemane; soon, Jesus, abandoned by all his disciples, will face death alone. Although I am not a religious person, I have often thought of that passage in relation to this question of overdose and suicide, wondering, might things have turned out differently if we were to remain watchful with one another? Would Alma and Michelle still be alive?...
>
> To remain watchful *with* one another—not over or against the other—is to offset forms of alienation that accompany addiction and to insist on the persistence of certain intimate ties. It is a practice that opens up the possibility of being-together, which is, in the end, the very heart of social commensurability. In the midst of loss, insecurity, and abandonment, the healing potential of social commensurability, of keeping watch with one another, remains vital. (Garcia 2010: 181-2)

Although Garcia's book did not come out until later in 2010, walking away from Gethsemane that April morning, I already knew that I failed to "remain watchful" with Jordan in his death. A mangrove cuckoo with dark feathers around its eyes called out. The Garifuna say it is singing *náiguada, náiguada,* "I fall! I fall!" If the bird is lucky, another will answer back: *máiguada-ba, máiguaba-ba*, "Don't fall! Don't fall!" (Taylor 1951: 135).[28] But there was no response, and I listened to the silence sadly.

Working with Jordan, I often had a sense of something just on the verge of understanding between us. His worn path between hospital and home, his chronic symptoms, cyclic comas and scarred body all somehow seemed integrally connected to his repeating refrains and losses of the family and nation. Later, I would learn (from his funeral program, of all places) that Jordan's nickname was Muerte, Spanish for *dead*. This struck me not only for its violence, but because I had come across such labels of living dead before in Belize. Their sums and patterns seemed part of some encoded story being told "compulsively, in symbols and signs, in hieroglyphics" (Baldwin 1998, epigraph chapter 3).

"If we don't decipher, we will not be able to remember what actually happened, what was and what wasn't." A woman named Catarina spoke these words to anthropologist João

Biehl in a makeshift institution called Vita in southern Brazil, "a zone of abandonment" which served as a de facto dumping ground for unwanted people. "Vita creates a humanity caught between visibility and invisibility and between life and death—something I came to call, sadly, the ex-human," Biehl writes (2005: 24). He reflects on Catarina's efforts to write and decipher memory in her poetic "dictionaries":

> A cipher is an arithmetic symbol—zero—of no value by itself, used to occupy a vacant space in decimal numeration. A cipher is a person or thing that fills a place but is of no importance, a nonentity. A cipher is also a secret or disguised system of writing, a code used in writing; or a message written in this manner; or a key to such a system. According to Catarina, that which truly happened continues to exist in the lost and valueless, in nonentities such as herself. (86)

For Jordan—also abandoned as valueless, an "ex-human" named Dead—what was "that which truly happened"? I felt very acutely the reality that I missed my chance to fully document his own account. With a further stab of regret, I reflected that I had never even taken Jordan up on the invitation for a home visit. (Once I had tried to find the house and gotten lost on the back roads, then grew nervous because a man appeared to be following me and decided to return another day. It seemed there would be time). I had also gone to visit my partner in Guatemala right before Jordan's death, not realizing it would be his last week in the world. Thinking of it now, the poorly timed personal trip seemed frivolous and even uncaring, a terrible reminder of how uneven the stakes in our ethnographic engagement really were. I had hoped for a dialogic form of knowledge, however imperfect; yet these gestures of concern seemed feeble against the fact that for Jordan, death itself was on the line. Now it was several weeks too late. It was much too late.

Arriving back home in my room that evening, I looked at the fragments of his story scrawled in my notebook, messy notes scratched in half-legible ink. There was a strand of dark hair stuck to one page, and I wondered to myself if it was his. Could I still make sense of the bits of his account he had shared with me, place them in some broader context?

This chapter is my best attempt at deciphering the tenuous scraps of story that Jordan entrusted to me—placing them within and against overarching narratives of health and the nation, and trying to query how they "do and do not fit, keeping scales, explanations, structures, cultural meanings, and social forces in play" (Fischer 2009: 271). For like Catarina, Jordan also presents us with a disturbing social figure that emerges "beyond kinship, the right to live, and the taboo against killing" (Biehl 2005: 24). Yet unlike the destitute institutional contexts of Brazil, this story takes place against a very different backdrop: the seemingly serene background of tropical countryside, along a loose string of colorful villages set between the mountains and the sea. In the Stann Creek District (one of six districts in Belize), I did not know of a single institution that served as a place of abandonment: no nursing home or mental asylum,[29] no shelter or soup kitchen, no zone similar to Vita. Discarded figures like Jordan were rarely isolated from society; they moved through the day like everyone else, often still inhabiting their homes and villages, where the process of domestic triage started anew again each morning. What are the distinct rationalities, contradictions and socialities that result from abandonment in *intimate proximity*? In what contexts does neglect become concealed in plain sight?

Against a thriving landscape of four o'clock begoniaville vines and flowering trumpet trees, toucans perched on telephone poles and striped basilisk lizards running upright on their hind legs, Jordan presents us with an unsettling social figure moving across the country's great beauty: a shy teenager called Dead, shuffling down the road in an ill-fitting polo shirt. Drawing from fragments of other splintered histories, I write this out of hope that even an all-too-brief glimpse down the roads Jordan walked might help to add complexity to certain idealized myths of Belize. In my mind, at least, sometimes it seemed that the fragments of Jordan's account acted like shards of mirror, flashing light in unpredictable directions across surrounding rooms. As damaged biology plays across community, law and time, his story reminds us that chronic disease—its symptoms, idioms

and treatments—cannot be understood outside the "dis-ease" of its deeper context: A regional history where bodily insecurity and control of food have been interconnected since colonial times; the intricate networks of domestic credit and visceral debt that have historically filled in the gaps of care left by a disordered state; and the lethal ruptures in these same fragile collectives where abandonment has its own categorical and devastating logic, in neoliberalism's shifting politics of risk no less than in earlier eras of society. These spectral refrains add chronic dimension to the living realities and intimate decisions that diabetics like Jordan face each day—"fragile, yet life-critical negotiations" (Fisher 2009: 270) which also constitute a crucial part of "what it means to be human in a place advertised as paradise" (Rodriguez 2007: 221).

Diabetes Unclassified

The word insulin comes from the Latin *insula*, meaning "island" (OED 2012). This crucial hormone is produced in the human body by scattered archipelagos of cells in the pancreas, known as the "islands of Langerhans" (or today more often as the "*islets* of Langerhans," islet meaning "tiny island.") Type 1 diabetes occurs when these islets do not produce insulin, a hormone without which sugar levels in the blood cannot be regulated. No one really knows what damages cause the islands to malfunction this way (though there are many partial theories and scraps of knowledge). But anyone with this problem needs insulin injections several times a day, every day of their lives, in order to survive. Without this, the body will begin eating itself alive, part of a catabolic process called autophagy. This form of the disease usually emerges during childhood or adolescence, linked somehow to the autoimmune system. An increasing number of cases of adult-onset Type 1 diabetes are now emerging as well.

Type 2 diabetes takes longer to set in. It occurs when someone's pancreas used to produce enough insulin, but the supply has tapered off due to stressors and misfoldings. A

pattern of eating high-glucose food is perhaps best the understood factor of the many that can cause this effect, linking Type 2 to diet. Pills such as Metformin and Glyberide are the usual "first line" treatment, to help the body use its diminishing stores of insulin more effectively. Depending on treatment and circumstances in Type 2, the body's ability to produce insulin might become so impaired that insulin injections again become necessary to function. The confusion of these categorizations begins to become visible in old labels: "Non-Insulin Dependent Diabetes" remains a popular name for Type 2, yet this form can also become insulin dependent over time, a characteristic once used to label Type 1 as "Insulin-Dependent Diabetes." Likewise, the old distinction of "Juvenile Diabetes" versus "Adult Diabetes" to distinguish mechanisms has begun to fall part—an increasing number of children have Type 2, and an increasing number of adults have Type 1.

In my research, I was surprised that many people in Belize didn't know what kind of diabetes they had. Some would clarify "sugar diabetes" when I asked what type they had been diagnosed with, or look confused when I pressed about Type 1 or 2. (Many people also did know these labels, but a very significant number of people didn't.) Interestingly, doctors too sometimes have difficulty distinguishing the difference (Arnqvist et al 1993). Melanie Rock has critiqued the politics inherent to hammering down the many diseases that diabetes can represent into two types, terming the whole classification process "commensurating bodies of unequal experience" (2005) (and there are also constant debates about emerging variations between and among these two types, alongside "gestational diabetes"—which emerges suddenly during pregnancy and can dissipate afterwards, although sometimes it can also become permanent Type 2). Building on Rock's work, I faced these murky questions of categorization from an opposite direction. Although I had originally intended to focus on Type 2, I was brought by local realities to face a different type: unclassified diabetes, type unknown.

It is true that clinical science demarcates rigid categories of disease, and that much depends on how they come to be inhabited (which might be a biopolitical lens on this issue). Yet the loosening of these labels at level of homes and villages led me to approach the problem differently, trying to understand the meaningful unmaking of this typology. I believe there is something important about the idea of the disease as a continuum. It is often imagined that Type 1 diabetes is a risk one is born with and Type 2 is caused by lifestyle, yet these attributions (while holding some important truth) also begin to blur under scrutiny. Thus, this chapter will discuss some environmental aspects of Type 1, and the next chapter will examine debates of inheritance in Type 2. In the continuum of treatment, the two diseases share a great deal as well: a need for watchful diet and healthy food, symptoms and risks of progression, the same management tools for blood sugar measurement and key medications (especially insulin). It is estimated that about 90% of people with diabetes have Type 2, and as many as 10% have Type 1. If these figures hold for the district where I worked, this would leave a very sizeable population of people with Type 1. Yet we know little about Type 1 diabetes in the developing world. For example, there was recently a diabetes survey conducted to measure Type 2 and other chronic diseases in Belize, but as of 2010 there are still no actual statistics documenting how many Type 1 diabetics live or die there (Williams 2011). Although this chapter is about a teenager with Type 1 diabetes, I have come to agree with those Belizeans who suggest that all forms of "sugar diabetes" must be understood in relation to one another, all equally caught in the intimate regional economies and histories that this chapter tries to sketch.

The Life of Muerte

Without really knowing what I was looking for, I arrived one overcast morning in Jordan's village. The stilted wooden houses among the high grasses reminded me of sinking ships or small battered arcs, in permanent state of readiness for the next storm. Yet

there were also active signs of construction: piles of cement blocks, rusting metal rods jutting out of concrete foundations like 3-D architectural sketches outlining the rooms and floors people hoped to build one day. I stopped at a tiny grocery shop with an old rocking chair on the porch. They sold flour, rice, brown sugar and white sugar from four round trashcans next to an old-fashioned scale, their prices listed on a small chalk board hanging from the ceiling, along with prices for a few other items sold by the pound: Lard, Pigtail, Beans, Salt, Onione, Butter (butter was more than twice as expensive as lard). I bought a Coke and got good enough directions to wander in the right direction, soon intercepted by some bored children who led me to the right door, dispersing in giggles when I knocked.

When a Kriol woman with a side-set ponytail answered, I explained my research and asked if she would be willing do an interview about Jordan. She agreed, saying that Jordan had told her about working with me, and led me past her fire hearth and a hand-cranked press for making coconut oil, up the wooden steps of another raised house. I found myself sitting next to Jordan's stepmother Agnes in a small kitchen belonging to a wiry older woman, who told me to call her Aunt Lil. The kitchen's plywood shelves were lined with repurposed jars. The bright wooden shutters were tied back with string, and I caught myself staring out the window toward a jackfruit tree, unsure how to overlay my recollections of Jordan describing his abandonment with the animated women sitting next to me who were implicated in these stories. They waited for my questions through a long ambivalent pause.

Agnes started the conversation herself. "He take the insulin sometimes," she said, but Jordan was "not careful" about what he ate when he didn't have any medication. (Before the invention of insulin, in the early twentieth century a "starvation diet" was considered the only possible treatment to prolong life for Type 1 diabetic children and teenagers who otherwise would be poisoned by the sugar in their food, since their bodies were not producing the insulin necessary to metabolize it. It seemed this was related to

what Agnes alluded to in suggesting that Jordan was not "careful" by eating during times he did not have insulin coverage.) "Jordan always eat the worst things: Ideal, mango" (depending on their location, the fruit from many of the region's plentiful mango trees were considered public property. But this free source of filling food was very high in sugar). As a teenager, Jordan was constantly passing out from the increasing complications of his uncontrolled diabetes. In fact, according to the funeral paper that Agnes handed me, his full nickname was Muerte Shigidi Shack—making me wonder if the last part of this name was a reference to the Kriol definition of shack, a house that "No Can Stand Up." "Once, we found him right over there," Agnes said, gesturing with her chin to the east. "It was like a seizure, he was shaking like a leaf. He bought bad things from the shop when he got a little money: biscuits, Ideal, Coke. He was not supposed to eat those things. Once he was blacked out and we pulled a cracker from his throat, so we know." She reported that there were crumbs all down his shirt.

"The overburdened family" is today "increasingly the medical agent of the state," João Biehl (2005) writes of the circumstances through which Catarina was abandoned. "Illness becomes the ground on which experimentation and breaks in intimate household relations can occur. Families can dispose of their unwanted and unproductive members, sometimes without sanction, on the basis of individual's noncompliance with their treatment protocols." With diabetes (whatever your type), food and medicine are both part of treatment protocols. Yet insulin requires a monthly investment and a seamless continuity that is often precarious for poor families to maintain. There was no state program to provide insulin to diabetic children as Jordan was growing up. His family occasionally bought him a vial, or he might receive one from the hospital or someone's kindness, but this did not amount to anything like a constant supply. The ethics and politics of such insulin economies are deeply entwined with how the availability of medicines is normalized in a given context. To briefly note the extremes between which

Belize would fall: International Diabetes Federation president Jean Claude Mbanya has noted that in many rural regions of Africa, childhood diabetes often simply amounts to a death sentence; a consistent supply of insulin is simply out of reach. (Likewise, I once visited a diabetic clinic in Northern Ghana that started a program to treat children from the region with Type 1 diabetes, but there was only one patient left alive by the time of my visit in 2009.) By contrast, after the death of a California teenager due to interruptions in insulin therapy, courts in the U.S. recently held the parents accountable for second-degree murder (People v. Latham).

A recent study in southern India was designed to test the cost to families for treating Type 1 diabetes in a developing country. It found that to purchase treatment for a single Type 1 diabetic cost 16-23% of a family's income, depending on whether or not the child had to be hospitalized. In lower income groups, this figure was significantly higher: It cost 59% of the total money that a family made in an entire year to buy insulin as an outpatient for a single Type 1 person (Shobhana et al 2002). Although these figures would obviously shift a bit from country to country, they begin to show the impossible choices that many families are faced with. For families trying to meet these demands in contexts of scarcity, this juggling of finances and weighing of household priorities often amounted to a form of triage; and, as Vihn-Kim Nguyen observes, "triage is corrosive to social ties" (2010: 177). In this context, difficult decisions and experiments in care were effectively displaced, from what might have been the purview of the state to the domestic worlds of houses and villages.

After his mother's death, Jordan's father remarried and moved the family to Zericote Village. Jordan lived in a house with his stepmother, who over time had many children of her own; the youngest was still a baby during my visit, tugging at my earrings as I held him. In this context, it is perhaps unsurprising that spending money on insulin for an older child was not a household priority. Knowing Jordan as a young adult, I can imagine

that he was an awkward child (in a context of domestic triage, cuteness is a major asset, especially for a child with no blood tie to the woman raising him). In Belizean history, there is a mythical surrogate-mother figure named Long Bobbi Suzy. She is said to live in the woods and have very large breasts: "one breast has milk, the other poison; she forces children to choose a breast to suckle" (Crosbie 2007: 210). I thought of her as a figure of domestic triage, part of the social corrosions of scarcity through which Jordan ended up with poison.

By the time he was twelve, Jordan told me, he often went hungry. He relied on cheaply available foods that could be purchased with pocket change in order to live, although these were invariably high in sugar. The family pointed to this as his "non-compliance" with food; to me, this emphasis in their stories seemed a way of deferring accountability to explain why he had only limited supplies of insulin, like the nickname Muerte—implying that he was going to die anyway, as if any attempted intervention or treatment would have been futile, money thrown away. As anthropologist Claire Wendland argues, "technologies can be potent actors even when they are materially absent" (2010: 27).

Jordan's story is one of many broader trends in the ways partially accessible treatments are domestically stretched or rationed in contexts of scarcity, as people live from day to day with policy or legal rationales that exclude them from treatment access. In her study of global clinical trials, for example, Adriana Petryna has documented the ways patients with Gaucher disease live with "low-dose experiment[s]" and radically adapted treatment, trying to stretch not only their medications but life itself through to a time when regular access to therapy might come to include them (2009: 175-9). Yet this lived reality in Brazil, shaped at the juncture of market forces, cutting-edge pharmaceuticals and experimental patient practices in the face of judicializing a state right to health, also highlights an important difference from the case taken up here: while the rationed

medications for Gaucher disease are newly developed and expensive orphan drugs (costing around $200,000 annually per patient (Petryna 2009: 166)), the core drugs for diabetes (insulin, metformin and glibenclamide) are relatively cheap (each around $10 US for a month's supply) and many decades old, widely available in generics. Nguyen also inadvertently underlines this contrast in temporality and cost when he writes: "HAART [Highly Active Antiretroviral Therapy] marked the advent of a therapeutic revolution akin to the discovery of insulin for the treatment of diabetes. An illness that was previously fatal, in most cases, within a few years of diagnosis, is now treatable and has been transformed as a result into a chronic condition" (2010: 90). His analogy between life-saving therapies of insulin for managing diabetes and HAART for managing HIV/AIDS painfully highlights the altogether different moral economies that have characterized the two drug's very different histories of global distribution. While these HIV/AIDS treatment drugs are now becoming consistently accessible in most parts of the world within years of these therapies' initial development, the same still cannot be said of insulin, which was discovered in 1921—nearly a full century ago (Bliss 2007).

Studying sickle cell disease in Senegal, anthropologist Duana Fullwiley "found that people's ability to make-do with scant biomedical palliatives functionally filled a resource gap in which the state has proved incapable of adequately providing basic health care for most of its citizens" (2011: xviii). In the face of these lapses in care, Fullwiley documents how patients with sickle cell in Senegal "find ways to get by with its chronic reality" and "make-do" with their disease (xiii), manipulating their bodily thresholds with a wide range of substances that come to stand in as medications, such as coffee, sugar and water (67). Sidney Mintz (1985) also points to the potential for using energy-giving substances for treatment or intervention by calling sugar, chocolate and caffeine "soft drugs." During the years that Jordan spent stretching his insulin doses—or trying to survive until another dose could be obtained—cheap foods also became for him a way of "manipulating bodily

thresholds" (Fullwiley 2011: 67). Although food worsened his symptoms and risk, it was often the closest thing he had to a medicine. "Jordan is always buying Ideal," Agnes said of the dirt-cheap freezer pops, locally made of frozen sugar-water in a plastic tube or baggie. Their village had several grocery shops with freezer chests.[30] At around 5 cents U.S. (although variable in quality and price), Ideals are perhaps the cheapest food available at an average small grocery store; and because the liquid is frozen into a solid, it feels like eating. Although diabetic adults living in poverty were more likely to endure skipped meals with sweetened coffee or tea, Jordan became sick as a child. His "soft drug" of choice was popsicles.

People with advanced uncontrolled diabetes sometimes told me that I could not understand what their cravings for sugar felt like. "Like you need it. You can't think, you can't think about other things." "Your body calls for the sweet." "Like you can't keep going if you can't find it." Yet these sensations are not necessarily correlated with diabetes itself; such cravings are associated with *untreated* forms of the disease. Insulin—the hormone that Type 1 diabetics cannot produce—is what allows the body's cells to actually use the glucose you ingest ("that key unlocks that sugar," one Belizean nurse was fond of teaching her patients). This means that without insulin, your cells are starving for sugar, no matter how much food you have already eaten—the body has no way to access it. Without glucose, most cells in the body will face death (Zhao et al 2009). The brain receives signals that something must be eaten immediately, and unhealthy "simple sugars" (such as those in sweet tasting foods like Coke) require the least processing time for the body to access in a state of crisis.

Insulin algorithms are prescribed to "cover" the amount of food that will be eaten. As Lil and Agnes shared stories that all seemed to have a common refrain of deflection or accusation, their accounts of the series of events leading up to Jordan's death also felt like "cover," enough to metabolize what they had to process. Lil's next story was about Johnny

Cakes, a Belizean fry bread made from white flour. "I try not to make powder buns when Jordan was around, sometimes I would make Johnny Cakes instead," Lil said, implying this was a thoughtful accommodation (although Johnny Cakes are not sweet tasting, they are still high-glucose dough, like thick fried pancakes—very filling but very unhealthy). "Jordan could take so many Johnny Cakes at one time! Once he came and he took 10 Johnny Cakes," she said. "I let him keep them all." I wondered how long it had been since he had eaten, and how long the fried stack of dough had to last him. Maybe Lil's baking day was a rare opportunity and Jordan was trying to stretch his food supply for the week ahead. Or maybe he just ate all 10.

When does the ingestion of sugar itself become an overdose? If we take seriously the notion that ways of eating can at times represent a food overdose for a Type 1 diabetic (in the form of foreseeable and potentially deadly coma), then we might return again to aspects of the question that Angela Garcia raises of other overdoses—although in Jordan's case, this was caused not by injections but their lack. But what dispossessions are spoken of in context where overdose might be intentional?[31] How can anthropologists write about unknowable pain at that point where one may stop caring whether or not it is possible to come back to life again?

Garcia describes the way a "chronic disease model" borrowed from conditions such as diabetes and applied to heroine addiction may give a sense of hopelessness to patients, reinforcing the idea that their condition is "s*in fin*," "without end" (2010: 71). Cycles of management and catastrophe become assumed, replacing the notion that a recovery into health is possible. The demoralization inherent to such schemata applies not only to the model of chronicity transplanted onto other realms of medicine—it also very much characterizes the diseases for which it was first formulated. Jordan's condition—between broken social ties, cycles of partial management and private needles, and coming in and out of comas that culminated in death—was also "sin fin." But sadly, for untreated Type 1

diabetes, the model that Garcia cogently critiques for addiction—"insisting on a schema of return and repetition, whereby each return recapitulates a sense of inevitable demise" (2010: 15)—is not a graft, but a physiological truth when the disease is not medicated. With Type 2 diabetes, management is possible without drugs and there are rare cases described where "cures" are even reported in the disease's early stages, offering hope of a way out of chronic cycles. But the very distinction between Type 2 and Type 1 is the severity of their reliance on insulin therapy—and "insulin dependent" Type 1 is defined by the fact that the patient will die without getting several insulin injections a day, every day of their life.

When I met Jordan two months before his death, he was already in excruciating pain. His tissue was dying, his kidneys were failing, his lungs were collapsing. I did not realize then what I know now; he was already long past what is known in diabetic medicine as "The Point of No Return" (Jax 2010). In U.S. hospice settings, the pain of such symptoms is treated with drugs such as methadone (Hays et al 2005; see Angelo et al 2011). In the absence of both treatment to prevent these complications and drugs to manage their pain once caused, the momentary bodily comfort of high-glucose foods came to function as a sort of palliative care. In this sense, perhaps Jordan returned again to the earliest use of sugar, from the ancient world to medieval Europe[32]: a medicine for the wound.

Metabolic Fate

Before I left, Agnes gestured toward one last place that Jordan's body had been found unconscious, in an adjacent wooden house. That time, she said, it was the middle of the day when they found him. There was a sweet alcoholic scent on his breath. "Drunk." The blame in her voice was suddenly less ambiguous. He must have friends and money they did not know about, she said, and gone out drinking rum with them. Lil agreed, shaking her head: The smell on his breath was strong.

In diabetes, perhaps the body's most acute state of emergency is known as ketoacidosis, which can cause severe illness, coma, and death. Ketoacidosis is the leading cause of morbidity and death among children and adolescents with diabetes (Bismuth and Laffel 2007; Newton and Raskin 2004; Patterson et al 2009). This condition has many possible symptoms that it shares with countless other conditions—decreased consciousness, nausea and vomiting, trouble breathing—but only one unique telltale sign: a sweet, alcohol-like scent on the breath, a smell reminiscent of cheap Schnapps which the medical literature describes as "fruity." Occurring more often in Type 1 than Type 2 (Wang et al 2008),[33] this state can be triggered in diabetics by acute infection, trauma, or use of street drugs (see footnote). But in this particular context of poverty, ketoacidosis is most often caused by missing doses of insulin.

Unlike hypoglycemic comas, ketoacidosis occurs in conjunction with high blood sugar. Yet it signals cells starving for sugar, but unable to use the glucose already consumed due to insulin deficiency (see above). Searching for alternate sources of energy to keep its cells from dying, the body instead begins relying on amino acids, oxidizing their carbon skeletons in order to release the emergency energy stores they hold. This is *catabolic* metabolism—the breakdown. Some of these amino acids are glucogenic, meaning they can be converted to glucose and allow the body to keep going. Yet breaking apart the carbon skeleton means releasing all the amino acids it holds, including those that aren't useful. Instead, these by-products are ketogenic, meaning they turn to poison. In biochemistry, this energy-or-poison difference is known as each amino acid's "metabolic fate." Instead of life-sustaining glucose, the ketogenic amino acids[34] yield acetyl CoA or acetoacetyl CoA—solvents related to the nailpolish remover ingredient acetone, which in ketoacidosis causes the fruity alcohol smell of "acetone breath." When escalating to toxically high concentrations, ketones cause the blood to become more acidic than the body's tissue and actually begin dissolving it. The major causes of death from ketoacidosis include collapse of

the circulatory system, crashing potassium levels (hypokalemia), infection, and brain swelling (cerebral edema)—potentially causing major organ damage for patients that survive, even "neuronal injury" and mental deficits (Hoffman et al 2011). Each amino acid's distinct role in this molecular breakdown has been carefully charted, labeled with a single name that always reminds me of a tragic poem: The Fate of Carbon Skeletons.

I read the meaning of Jordan's collapse very differently than Lil and Agnes; in fact, the rum-breath episode was only the most pronounced in our distinct ways of interpreting all the events that had culminated in his death from a disease that had started when Jordan was 8. His family interpreted the interruptions in insulin, healthy food and care as his own responsibility and moral fault; I read them as abandonment. Yet we agreed on the basic facts of what had happened: he was born with a disease where death is unavoidable without medications; he had eaten poorly when he had not had those treatments; he had gone into countless crises before the one that finally caused his young death. Here, perhaps we are back at the classic crossroads that Evans-Pritchard once used to explain Azande witchcraft—trying to explain "*why* events are harmful to man and not *how* they happen" (1937: 72). Such differing frames of belief "in no way contradicts empirical knowledge of cause and effect" (72), Evans-Pritchard explained, but instead taps into deeper understandings of causality, accountability, and human intention, as people search for "*the socially relevant cause*" (73, emphasis added) of disease and misfortune. I borrow from Evans-Pritchard's core framework to grapple with the accounts of Jordan's family and to guide the inquiries that follow. Evans-Pritchard insisted that although Azande understandings of causation might sound unrealistic to an unfamiliar outsider, they *were* logical and just emerged from a different fabric of common sense. The work of the anthropologist, then, becomes making this particular fabric visible—and to chart, as Evans-Pritchard does in such detail, the negotiations that go into sustaining these beliefs and the dissent between various actors in such a system of diagnoses. In the Belizean case taken up

here, what was the "tissue of common sense assumptions" (Geertz 1983) through which a child's diabetes appeared to others as his own responsibility to treat—healthy foods and medicines as unprocurable, and his treatable disease as intractable? How can we understand what has been normalized in a context where a teenager named Dead was not viewed as exceptional or liminal, but as an expired life already in its proper category?[35]

When it was time to catch the bus back, Agnes offered to walk me to the road. "It's like Jordan is in Dangriga. That's how I feel," she said. He was dead in life, and now living in death. A man approached on a child's bicycle to ask her who I was. Agnes introduced me as Jordan's girlfriend. There was cruelty in this joke, I thought as they laughed, and also an eerie intimacy: according to what Agnes told me as we continued down the dirt path, I was the first "girlfriend" Jordan ever had.

Pale ashes drifted down from the sky. Probably someone burning cardboard boxes, Agnes said.

Staring out the window on the bus ride home, I thought about the many places Jordan had fallen unconscious around the yard and surrounding shacks—collapsed onto patches of grass and wooden floor planks that looked too domestic for abandonment. His social death was not a one-time break; sustaining it when he was so close nearby took labor too. Yet Agnes remembered each of the places he fell. "He fall here," she had said. The Kriol verb tense that elides past and present made it sound as if Jordan had died again and again, and was still dying— although unlike Cresencia (whom you will meet in Chapter 5), his resuscitation was not news to anyone; he was already Muerte.

I wondered whether Jordan's final coma felt different than all the other times he had slipped into unconsciousness. Maybe it was a familiar dark, and he dreamed of flying an airplane.

Cultivating Dependence

Here I turn to examine the context of national histories through which foods and medicines became unavailable to Jordan. Why is basic nutrition so often imported and expensive in this relatively poor country? Through what economies do they circulate, and how do these high prices also ramp up domestic competition?

Trade dependency has a strange and tangled history in Belize, perhaps the single characteristic that most distinguishes the country's economy from other Central American countries around it. Time-entrenched imported foods, especially bleached wheat flour, salted meats such as pigtails, white sugar, white rice and beans, sweetened condensed milk, and various canned foods (almost all of which cause or aggravate metabolic disorders) are the staple foods available at the average grocery store. Vegetables are rarely grown for national sale in Belize today, and many are imported from Mexico and among the most expensive foods available for purchase (see Chapter 5). In many parts of the developing world, such diabetogenic economies escalated in the wake of neoliberal policies or came to mark changing postcolonial foodways; but in Belize, this shift has a much older history. A long legacy of broken ties to the land also shape the daily realities that Belizean diabetics face with each meal, limited economies that make it particularly challenging to manage chronic disease—and perhaps make eating imports part of both "mourning a lost sense of place" (Garcia 2010: 7) and a way of reworking (or in Jordan's case, being unable to rework) ruptured ties to others or to a larger body politic.

The first definitive factor in Belize's food economy came from the paradox of being an English colony on Spanish territory: the British settlers were uneasily permitted to stay on the land, but the Spanish Crown stipulated that they absolutely could not engage in agriculture. The settlers and their slaves were allowed to live there and extract timber (a piecemeal and impermanent operation), but not to grow crops or establish plantations. (Yet there were many small, supplementary provision gardens, such as those scattered on

the banks of the Belize River; it seems to have been unclear to all involved whether these were in violation of the Spanish law, or if the prohibition was only against commercial agriculture such as growing sugar for export.) In any case, the majority of the food consumed in the settlement arrived in barrels on British ships—and even early on, it is hard to say whether the marginal colony of Belize was more valuable to the English empire as an exporter of logwood, or dependent public of consumers who primarily relied on London imports to feed the entire population.

The Spanish prohibition of agriculture was readily embraced by the increasingly powerful merchants in Belize City, and gave them a pretense for perpetuating a systematically landless economy. These middlemen relied on (and profited greatly from) the continuation of this import-reliant system. Here lie the roots of the fact that, still today, Belize has land that is rich for agriculture yet grows very little—and most of what is grown is agribusiness (orange juice concentrate or sugar) for global export, instead of farmers growing vegetables for local consumption. Absentee foreign freeholders own a shocking percentage of the land in Belize today (see Bolland and Shoman 1977). This began very early in the settlement's history: "within months of the passage of the location laws in 1787, the Superintendent reported that 12 settlers held four-fifths of the available land" (Bolland 2003: 161). The remaining scraps of land were the least desirable swaths of swamp and savannah forest. In many cases, these vast tracts of land went largely unused, intended not for agricultural crops but primarily to *prevent* cultivation. In Belize City, "[t]he merchants become a powerful class who promoted both exports and imports, using their capital to share and manipulate local markets, and for two centuries they tried to discourage local farming that would undercut imported food" (Wilk 2006: 53).

It is telling that the very day in 1838 that the government in Belize agreed to emancipate all the former slaves held in "apprenticeships," they also "abolished all Sunday markets, thereby destroying the market institution generally preferred by the small

cultivator for the sale of his products" (Bolland 1977: 123). The difficulty of obtaining quality land, the instability of legal title under the capricious government (135), and the closure of markets together made small-scale farming risky and undesirable for freedmen in Belize, which was the intent. Freed slaves in other Caribbean contexts often began farming their own plots of land during this time, creating a relatively self-sufficient peasantry. (For example, between 1840 and 1845 in Jamaica, a robust internal marketing system "provided incentive for freedmen to buy plots from abandoned or ruined sugar estates and to make a living by small farming" (1977: 123), and Bolland reports that the number of Jamaicans holding small freehold farm plots during this five-year period increased from 883 to 20,724). But unlike the plateaued sugar market, Belize's extract of mahogany had skyrocketed in economic profitability after abolition, and there was much at stake for those in power to maintain a system of labor extraction. A system of debt servitude or "truck system" (like a mobile company store) became standard practice in mahogany camps, keeping the newly free slaves unfree to leave and insufficiently fed. Imported food was its lynchpin, ensnaring the workers in a cycle of debt by which they had no other choice than to continue working—to leave labor while in debt could mean being thrown in jail. As one account from 1888 Belize explained:

> It is well known that a system has prevailed in the colony unchecked…of labourers being kept in debt by their employers for the purpose of securing a continuance of their labour, as such labourers consider themselves bound to serve until such debt has been extinguished. Advantage has been taken…to keep them in debt by either supplying them with goods or drink for the purpose, and thus they become virtually enslaved for life. (in Bolland 1977: 155)

In *Home Cooking in the Global Village*, Richard Wilk (2006) provides a nuanced ethnography of food economies in Belize, beginning with the complex political histories and cultures of eating that went into shaping "Global Foods in Barrels and Bottles." "The ration that fed slaves in Belize was the first *global diet*…it was cheap, widely available and could be eaten quickly with minimum preparation" (63), he writes. These foods largely went unchanged throughout the years of the "pernicious truck system" (Bolland 1977: 154), which

lasted through until the twentieth century. Yet these "global industrial rations" became preference over time, their tastes and choices part of an idea of freedom itself. Wilk notes that by 1886, "each person in the Colony consumed about 139 lbs (63kg) of imported cereals (of which two-thirds were flour, and the rest rice and other grains), 30 lbs (14kg) preserved meats, a gallon (4 l) of imported hard liquor, 3 lbs (1.2 kg) of coffee and tea, and 3 lbs (1.2 kg) of refined imported sugar" (91). In other times this figure was even higher per person: "Sugar, 12 lb per year" (61). Coming out of a long history of import dependence, wage labor and landlessness, Wilk notes that in Belize, "coping the consumption habits of the British was, by a strange inversion, a form of *resistance* to colonial pressure" (70). "This steered Belize on a strange path toward Independence. In many newly independent nations in Africa and Asia, breaking loose from empire meant *decolonization* —leaving European food and fashion behind….But in Belize, moving toward political independence meant shifting from imported British canned soup to imported American canned soup!" (151)

Wilk recounts this messy picture in rich detail, including the modern twists of American television saturating Belize; the small groups of farmers (such as the Kekchi and the German-speaking Mennonites) now beginning to fill these agricultural gaps; and how after independence, dishes such as white rice and kidney beans (both imported) became a symbol not of dependence but national identity, binding disparate communities that often had little else in common, as food is prominently used "to create a sense of the nation at the same time that increased political and economic dependency has undercut national autonomy" (Wilk 1999: 244). Each region and people in Belize also has its own distinct dishes, as the following chapters will note; but for an average Kriol family living in relative scarcity, the core grocery list still sounds quite close to the list of imported slave rations noted above. These forces of regional politics shaped the economy of pricey food in which Jordan struggled to eat.

The next time I visited Zericote, I asked Lil if she could take me to see the place where Jordan had lived. I thought that even from the outside it might hold clues, just to see the place where he had spent time, gone hungry. I imagined an archive of Ideal wrappers near the door. But Lil was evasive.

"For he house?" she asked, using the typical expression for "his house." In Kriol, personal property such as houses are not *yours*, but always *for* you. (On loan from who?)

I could tell that Lil did not want to take me to Jordan's place. Later, I would be told that the house was a decrepit "no-can-stand-up" shack with one empty room. It seems likely that she did want me to see the ruined home that the family had charged Jordan a high monthly rent to live within. "Make I go," Lil said as she stepped toward the door to leave, a common phrase for *I'm going now*. In this Kriol idiom, "Make I…" was the usual expression to preface anything one was about to do, as if the speaker had not freely chosen the action, but was being *made* to complete it by force. (A force from where?)

Listening from the outside, I often thought that Belizean Kriol was a resonant but very sad language, peppered with terms emptied of choices and haunted by the indebted speech of slavery (some inanimate force overseeing the language that still *made* speakers do the actions they chose, giving people "*for* they" what was already theirs). Its grammar was forged in the violence of a colonial history when time, like houses, was something you could live in, but it could not be your own.

Det: Grocery Politics

This section provides a backdrop of the way grocery politics remain part of the torn legal fabric of a nation, outlining nodes through which economies of food and violence have become intertangled in Belize today. By pausing to sketch the societal context of grocery debt economies and an emerging wave of violence centered around food shops specifically, this next inquiry takes a detour from diabetes before circling back again. Yet I hope this

picture might help to show the convoluted ways in which treatment for a condition like Jordan's entangle medicine in broader registers of political and moral economies, together producing the "tissue of common sense assumptions" through which causation and responsibility for care are understood. To make sense of the fact that Jordan was renamed Muerte, we have to acknowledge the broader class of "living dead" persons and broken state ties from which this category of expired life arises. To account for the difficulty obtaining basic foods and medicines that cost Jordan pieces of his body and years of his life, it is important to also account for the larger economy of "grocery politics" lacking in mediating institutions—a context in which people's bodies themselves have become embroiled in a system of debt and credit, and politics of accumulation occur within bodies themselves (Schmoll 1993), the eating and obesity often associated with diabetes serving as the flip side of Jordan's disappearing self. To understand the debt he did not incur and yet paid with his life, we must understand the credit he was unable or unwilling to earn through violence.

Because of the imported food dependencies outlined above, grocery stores have long been at the heart of Belizean political society. In fact, for the 230 years of Belizean history when the colony was part of neither England or Spain, it would be fair to say that the debt systems of grocery politics became the key locus of control in a country that for centuries was unclaimed by the jurisdiction of any empire. For the most part, such dominant grocery interests were owned by the same oligarchy of Magistrates that ran Belize's makeshift government at the time. They had enough power, for example, to leverage trade connections with London merchants and have the democratically elected and enormously popular Superintendent Despard, an Irishman, recalled to England (where he was later put to death by the state). The Magistrates pulled these strings in part because Despard arranged for permission from the Spanish for poor arrivals from the Miskitu Coast to be permitted equal shares in drawing land for agriculture in Belize, after the impoverished immigrants could not afford imported food at local shops (Burdon 1931: 180-2). The stores

of these merchant-politicians were not only nodes of interconnection or chokepoints in global trade, they also took on a symbolic value for their links to governance. While tortures of slaves often became instruments of public terror elsewhere in the Caribbean, in the Belizean context we have legal records of torture that took place covertly *inside* such shops, conducted by the storeowner himself (here I refer to a prominent example involving the Magistrate Mr. Bowen—ancestor of the Bowen family, still dominating grocery interests in Belize today[36]) (*Defense of the Settlers* 1824: 62-63). Likewise, there is much you can tell from the place a given public gathers to protest political unrest. In the recent "Occupy Wall Street" movement in the US, for example, people picketed outside banks (the powerful holders of American debt and political power). But in Belize, such protests have often been directed toward grocery stores (the powerful holders of Belizean debts and political power). This is documented in multiple incidents through time, including the 1895 riots that targeted imported food stores in Belize City (Wilk 2006: 132); the twentieth-century protests of Brodies (still the largest grocery store in Belize) as independence began fomenting in the colony; and the grocery shop shut-downs in response to unaddressed murders that I documented during my 2010 fieldwork, a new chapter in grocery governance which will be discussed below.

In *Payback: Debt and the Shadow Side of Wealth,* Margaret Atwood calls debt "that peculiar nexus where money, narrative or story, and religious belief intersect, often with explosive force" (2008: 2). Enmeshed in the weave of national narratives, this is also true for tracing the thread of a single life. There is a sense in which Jordan was born into debt. After the death of his mother, no one owed him anything. He was charged with earning his own survival: money for food and insulin, bus fares to the hospital. Sometimes he was able to borrow pocket change from his school principal or other erratic sources, but he was unable to pay these small sums back. There was also another fallback credit system that has become largely no longer available. Throughout Belizean history, there have been options

for people who are hungry and have no money: buying food items through *chros*, a Kriol word derived from the word "trust" that means "to sell on credit." Although this inquiry into the intricacies of grocery politics draws from broad histories of debt in Belize, its prime aim is trying to pull into view the larger system in which Jordan came to run out of credit and out of time. In Belize, there is a proverb that captures the potentially devastating interpersonal dimensions of these economies: "Debt is the scissors of love."

Credit and debt are inherently tied to various mechanisms for regulating "sociality, time, space, and the body" (Peebles 2010; see for a review of the vast literature on credit and debt in anthropology). In *Life in Debt: Times of Care and Violence in Neoliberal Chile*, Clara Han notes: "The availability of credit has also significantly altered the nature of poverty itself," shifting the "very dynamics of economic precariousness" (2012: 56). It is interesting that the growth of credit and debt closely associated with neoliberalism in the case of Chile, are instead the credit economies now being partially snuffed out or displaced by neoliberalism in Belize. In fact, although Wilk explains that his goal is to "show how the food economy of the colony *became* backward and primitive" (2006: 129), there is also a sense in which Belize's historical foodways provide a striking precursor to economic forms that now characterize neoliberalism (though it is hard to say whether this is because Belize is in some ways quite modern, or because neoliberalism is in some ways quite backward.) Yet Belizean political society has long been shaped by private traders' interests rather than legal workings of state or military force of empire, and the absence of "discipline and control" environs of plantations resulted in a system of power that depended, instead, largely on people being disconnected from land and dependent upon imported goods. This system relied on mechanisms of governance that operated through stakes in internal market sectors; in later stages, replacing self-sufficient or community-level farming with export agribusiness, and influencing politics not primarily through law or discipline but rather by controlling trade through "selective, discontinuous, point-to-point" global

pathways (Ferguson 2006) and exerting pressure within the "vertical topography of market power" (Ferguson and Gupta 2002). In this sense, those who dominated Belizean grocery politics for centuries—working in a system of governance originally created by men who called themselves, after all, not pirates but *privateers*—shared certain core techniques with the privatizations of neoliberalism.

To track changing foodways in Belizean life today, it is helpful to look back at the country's recent history and ask how such political economies have reached domestic worlds. Intimacies of credit and debt were long embedded within a national economy predicated on the same. Yet on a local scale, such exchanges could paradoxically offer nodes of support and cushions of time, even within a broader system that was in many ways predatory. Mary Kenyon Bullard gives a detailed account of domestic economies of food and grocery debt at the time of her fieldwork, which occurred in 1971-2 when British Honduras was still a colony, approximately a decade before Belize became a sovereign nation. "Polished rice, red kidney beans, white bakery bread, lard, salted pork tails, and sweetened condensed milk form the basis of the diet," she describes (1973), explaining that she is using the Creole diet as an example. "Families with low to average incomes usually buy food in small quantities and on credit…very little food is kept in the house, and even staples are frequently purchased daily. It might be assumed that food is not purchased in large quantities because of lack of refrigeration and possible insect or rat damage, but many other factors intervene." Bullard describes the wide variability in quality that made purchases a gamble: "Lard may be rancid, pig tails may have too much fat, flour can be weevil-infested, bread is often stale, fruits are wormy, sugar is frequently 'dirty,' etc." The social texture of exchange between shopkeepers and customers captured in Bullard's description is well worth quoting at length:

> Aside from the uncertain quality of a food item (rice and sugar are about the only commodities that exhibit their quality in their appearance) another aspect of credit buying tends to keep purchases small. When one is only extended twenty dollars credit per week, it seems foolish to Belizeans to use a large percentage of it for only

one item, for example, a can of lard. They instead buy lard "loose" by the ounce when needed. They certainly realize that it costs more to buy one onion for five cents when they could get three onions for ten cents if half a pound were purchased, but this is of no great import. The significant fact is that for the same ten cents, they could manage onion and bread when they want both; and besides, the cook may not want another onion for a few days. Generally the only times families stock up on food are for special occasions, usually around Christmas, and when a hurricane appears imminent.

The mechanics of credit loss and reestablishment are much the same in Belize as all over the country, and it is a frequent cause of worry and quarreling. A family begins by paying cash in a shop for their food and dry good items and soon asks the proprietor for credit. He will open an account for them by putting their name in the credit book and will extend them a certain amount of credit according to what they ask, his assessment of their ability to pay, and their previous credit arrangements with him or other shop-keepers. Usually the account will be paid in full when it is due, every week or fortnight, rarely as long as a month. If it is not paid in full the balance will be added to the next week's purchases. If this continues to the point where the balance is equal to the amount of credit extended, the shop-keeper will stop their credit until the balance is at least partially paid. As the family must buy with cash now, they often transfer their business to another establishment and soon ask that shop-keeper for credit. He will likely extend credit to them even though he is aware of their current grocery debts. This is a result of the abundance of small shops and stores all over the country. There are so many of them, several to a square block usually, that most shop-keepers will take the risk because they need the business. They also realize that after selling a family hundreds of dollars worth of goods at the maximum price possible over a period of months, the shop can absorb a small uncollectable debt.

Even if a family leaves a trail of large bad debts wherever they shop, people will fault the store-keepers, saying that they should have known better than to extend so much credit. Some shop-keepers post a list of their non-paying customers proclaiming the family's name and the amount of the debt, titling the roster, "Hard to Pay. " But this is not a very effective strategy and few people would be very embarrassed to have their debts publicized. Shop-keepers are caught in a classic approach-avoidance or "double-bind" situation; they cannot stay in business without giving groceries on credit and they may go out of business if they do. Some attempt to control their customers' spending for them by not allowing such items as cigarettes, soft drinks, and liquor to be placed on account, but they often relent. Listening to a Belizean pleading for a drink or a package of cigarettes on credit is a moving experience. Few people grow up in Belize without experiencing some kind of deprivation and they feel a great deal of sympathy for a person who has no money and is deep in debt as well. In the case of groceries, shop-keepers are lenient with credit often because they pity the family of a man who spends much of his pay on personal enjoyment when there is no food at home, or “not even milk for the babies” as they say. But any merchant's limit will be reached eventually and many families need to go far for their purchases because they have exhausted all the sources of credit in their neighborhoods. (Bullard 1973)[37]

This extended passage describes the inner workings of an intimate food economy that had largely vanished by the time I first visited Belize forty years later. But that era was still close enough that there were signs posted in many grocery stores firmly stating that no credit was available. I remember one handwritten sign from Seine Bight in particular: "DO NOT ASK FOR MR. CREDIT. HE IS DEAD."

Him too? I remember thinking.

By the time of my fieldwork, something had changed. Many people (particularly those with low incomes) still bought similar "loose" foods in small portions at a time, but grocery credit had dried up. And the overwhelming majority of food shops were owned by Chinese immigrants—to the point that the new Kriol word for "grocery store" *is* "Chinese" (often pronounced Chiney,[38] as in: Go to the Chiney and buy one bread). Although people from China have been arriving to work in Belize since 1865, with notable waves in the 1960s and 80s, this population recently spiked when the Belizean government began an "economic citizenship" program that lasted from 1995-2002. Basically, this amounted to selling Belize passports and conferring the rights of citizens to anyone who "invested" a non-refundable amount of US$50,000 per family. This policy attracted economic residents from various parts of the world, but the growing Chinese population became the most visible. Coming from various parts of the People's Republic and speaking diverse languages, a Belizean Mandarin newspaper has become a major connection for this community (since written Chinese characters are mutually intelligible across languages). Guyanese scholar Ralph Premdas describes of his 2001 trip to Belize:

> Early in my visit, I looked around for restaurants and small stores to procure some groceries. It was very startling to consider that a very large number of these small shops found practically everywhere in Belize City and in many parts of the country were owned and operated by Chinese who had little command of English…It was clear that Chinese shops were family affairs and that nearly all of the Chinese who I have encountered had only the barest of links to the rest of the Belizean population…Asking Belizeans about the new Chinese residents in their midst, I found that there was some resentment in that the Chinese seemed to have gained control of the small scale stores, displacing many Belizeans…Many of the robberies

> in Belize are directed against Chinese storeowners, allegedly committed by Creole gangs. It is a sore area stirring some inter-ethnic malaise. (2001: 7-8)

By the time of my fieldwork a decade later, this "inter-ethnic malaise" had intensified to a point of major violence. Chinese shopkeepers were not only getting regularly robbed, but also routinely murdered. This included a teenage boy whom I used to see regularly while doing my grocery shopping at the Heng Heng Store during fieldwork in Dangriga. He died on April 5, 2011 from gunshot wounds received at his family's store while helping to stock groceries. His name was Hui Sheng Chen, but most people called him Sam. He was the only Chinese student in a class of 480 attending a local Dangriga high school (Cayetano 2011b). The article in which I first read about his death was titled "One More Asian Belizean Murdered" (Cayetano 2011a).

When it became evident to the Chinese community in Belize that they were not only caught in countrywide violence but increasingly its target, shopkeepers first tried pursuing justice through money. For example, shortly after my first fieldwork in 2008, a knifeman attacked four Chinese storeowners who were playing cards on Mahogany Street in Dangriga, killing Liping Zhen and Yue Lian Liu and leaving "two more seriously chopped up and left for dead" (including 28-year-old Xue Na Yan, who had witnessed her husband's murder while tied up in clothesline) (Swift 2008). For a sense of scale, these 3 ethnically charged grocery murders occurred in a small town with a population less than that of Princeton. Afterwards, the Chinese community offered a large reward for information. No one came forward.

Over time, people experimented with other tactics for responding to violence. On August 19th in 2010, I came into Dangriga one morning and found the town was buzzing with news, although also strangely quiet: All of the Chinese businesses in town were shut down for the day, and almost all of the grocery stores are owned by Chinese families. There was hardly anywhere to buy food or phone cards. This was how I first learned about the murder of a fourteen-year-old girl named Hellen Yu, who was shot along with her father in

the family's grocery store in Belize City on August 12th (Bodden 2010). This followed shortly after the 2010 murder of a Chinese woman named Zhen Zhennong, 27, which made national headlines when she was killed with her baby tied to her back on Mother's Day (which *is* celebrated in Belize). In the moment she was shot through the heart in her restaurant in San Iganacio, Zhennong managed to twist sideways and somehow save her son from the bullet's path (*Belize Times* 2010b). The country-wide shutdown of Chinese grocery stores was to express mourning and protest of a long series of deaths brought to a head by these particularly tragic cases. Edmund Quan, President of the Belize Chinese Association, said: "while the closure will have some economic bearing on business, the more important issue is to send a message to government about crime" (Ali 2010).

I wondered what this particular pattern of violence, so closely tied to food stores, had to do with the disappearance of credit. For considering the broader economies in which the victims and perpetrators of violence are both caught opens up another dimension of this story. The Chinese merchants who moved to Belize surely had little idea what a loaded sector they were getting involved in, by inadvertently replacing the intricate spheres of grocery credit and debt on which Belizeans living on the poverty line had long relied to eke by. As Julie Chu shows, through complex networks of relations and remittances, many immigrants from China are caught in their own bodily economies and "asymmetries of debt and desire" (2010: 218). "Chinese stores" were generally very well-stocked, but widely criticized by many Belizeans for rarely offering credit for food (the talk that rare exceptions generated only underscored this general perception). But many Chinese storeowners were deeply indebted themselves in the form of remittances to their home village, or paying back thousands of dollars to the person who fronted costs for their Belizean passport.

Yet importantly, Herbert Gayle reports that the prime source of income for gangs in Belize is actually not drug trafficking or weapon sales, as is often imagined—rather it falls somewhere between bargaining and extortion, centered around exchange with grocers and

other small shops. Against a backdrop in Belize City where "the biggest single problem identified at 51 of the 59 schools is chronic hunger" (Gayle et al 2010: 122), "many gangs extort money to provide children with lunch money on a daily basis" (313). When the anthropologist interviewed Belize City gang members, one young man explained that these exchanges were not approached through an idiom of threat but one of protection: "we go to a business and we tell them the importance of being safe in this violent place and how we have dem back. So it is like a security service" (313). Often gangs negotiating with shopkeepers do not actually ask for money, but instead facilitate arrangements between Chinese or Mestizo merchants to help care for a child: "Sometimes I almost think they genuine. You can send a boy to them for lunch and is like dem adopt that boy. Him get food sometimes and money sometimes" (313). Another gang member echoed this, saying "You have to keep the youth tem with at least a mouthful. For many of the youth they parents forsake them, government don't care. They only have us. We cannot fail them as everybody else already do that…We just fill the gap 'til things turn again" (311).

Many scholars have identified the ways that gangs may come to fill in for missing state services (Bourgois 1995; Goldstein 2003; Levy 1996; Venkatesh 2000), an assessment Gayle and colleagues agree with in concluding that such collectives have become "the welfare unit of Southside, as the Government had forgotten the youth there" (2010: 264). The reality that violence has become one of the few viable forms of labor in certain Belizean ecologies of poverty is directly marked in language: in Kriol, "catch" (*ketch*) is to look for piecemeal work, while "catch and kill" (*ketch aun kill*) means to engage in violence. Philippe Bourgois has powerfully described how toughness and violence, integral to gang members' "search for respect," becomes a form of *credibility* (1995). Meanwhile, working with scientists, Bruno Latour and Steve Woolgar (1987) have examined the way credibility can be materialized into exchangeable *credit*, "a cycle of capital investment." Perhaps these insights also have relevance for helping us to understand how violence has become part of

the exchange ongoing in Belizean food economies. In a context of missing state services where grocery credit has dried up and food availability is a daily issue for a significant number of people, the credibility of violence has become a real way of bargaining with merchants to access food credit.

Unlike Marx, for Max Weber there was not one but *multiple capitalisms*, economies operating on various scales and implying different formations of social action (Weber 1978: 164-6). In this case, perhaps what we see in these overlaid Belizean economies are *simultaneous* capitalisms—part of what Achille Mbembe (2001) has called "simultaneous multiplicities" fragmenting postcolonial worlds. Through transnational flows of people that increasingly characterize neoliberalism (such as the Belizean state "economic citizenship" program where legal belonging could be bought for a dollar price), former food economies based on credit and trust (*chros*) were replaced in Belize with a disjointed relation where people living next door to each other struggle to get by in debt economies—but their debts are not to each other. In other words, one could read the current problem of violence in Belize not as an *absence* of ethics, but rather an *overabundance* of ethical codes, social contracts and bodily economies that the state has failed to supersede or make mutually intelligible to each other. Killing and letting die are two distinct forms of violent rifts through which people's literal bodies become a medium of exchange, as social violence cuts across economies in a context where legal institutions are not or cannot.

One iconic image of body itself becoming a medium of exchange in debt economies comes from Shakespeare's *The Merchant of Venice,* in the famous demand that "a pound of flesh" be extracted for the British pounds of an unpaid loan. Strikingly, this is precisely the reference recently evoked by a Belize City gang member: "Me want my pound of flesh like in Shakespeare story" (Gayle et al 2010: 287). Yet in the Shakespearian play, the case is brought to court, and the state denies this is a valid transaction—a pound of flesh can only be legally taken for an English pound if no drops of blood are shed; in other words, never

(see Greenblatt 2004 for an analysis of the ethnic tensions embedded in Shakespeare's depiction of the alien Jewish merchant, which holds resonance for this case of alien merchants from China as well). Yet in Belize, there is rarely such definitive court or state intervention. According to 2010 estimates, the conviction rate for murder in Belize is about 7 percent—*including* guilty pleas (Ramos 2010a; Sanchez 2010). Now leveraging the same grocery politics that have involved them in risk, Chinese storeowners in Belize are trying to rework this system by putting pressure on the police and judiciary.

In April 2011, protests verged on riot-level after two Chinese women, Yan Ying Chen and Fei Lan Wu, were shot in separate Belize City grocery stores within a two hour time-span. The Chinese community was particularly upset because both women were behind iron window bars, and so nothing could even possibly have been stolen afterwards (Ali 2011). An unprecedented two-day nationwide shutdown of Chinese shops followed, and protesters dressed in white gathered around the Belize Supreme Court, carrying the two coffins that bore the women's photographs and chanting "Give me back a life" (Vasquez 2011a). Although the Chinese protesters (many grocers themselves) started at the courts and police station, they ended up at a familiar site of political discontent in Belize: the capital's largest grocery shop, Brodies. They were picketing for the return of the death penalty (which Belize was pressured to give up by foreign NGOs) and the possibility of trial without jury. (Given the fact that 93% of killers in Belize escape conviction,[39] it is perhaps unsurprising that many jury members are afraid to return a guilty verdict and an estimated two-thirds of witnesses to homicide are now unwilling to testify). In the wake of such visible protests, murders are increasingly resulting in arrests and these demonstrations are changing legal structures in Belize (Vasquez 2011b). The first national murder trial without jury was held in 2012, returning a guilty conviction.

This grocery violence has become a nexus of two sides embroiled in an impossible situation, a gap in legal institutions and basic access to food that reveal missing or

overstretched state support at multiple junctures. These brief sketches also give a glimpse into a larger ecology where "living dead" figures are a real category: the recent Belize City violence report describes some conditions in which "the state of the family was worse than dead" (Gayle et al 2010: 239), officials note of gang members that "prison does not frighten them – because they are already dead" (152), and youths themselves reflect that "we killing ourselves everyday anyway so the suicide is not any different" (271). Many people live in a bustling area of Belize City called "Ghost Town," a neighborhood which also gives name to the Ghost Town Crips. These spectral economies make fear of death part of daily life, as storeowners, too, live with the sense of borrowed time. "[E]ven in your own house you are dead every day," said one storeowner after his juice shop was robbed for the 15th time. He explained he would not call police. "We don't even want to report anymore because it's like they [the gang members] are the government—they dictate everything, they decide who dies and who lives and who does business" (*7 News Belize* 2011b).

With severed ties to the systems of labor, legal regulations and state support that help anchor people into living worlds, these figures share something with Jordon (aka Muerte), also branded living dead. At times, engaging in violence becomes a form of work and the only available way to earn back time—part of what Veena Das (2008) calls the volatile point where violence becomes embroiled with "gendered belonging to the nation state"—a channel to food, credibility and literal credit, and to perhaps regain life and respect, however unstable their forms. For those who engage these terrifying economies—often in search of dignity or on the behalf of others who depend on them—food and survival might be wrangled from a system otherwise unable to support life. The tragic costs of this makeshift extraction become visible in the recent spate of grocery store homicides, yet this is also a system where the alternative to violence may be dying oneself. For those like Jordon—severed from family support, unrecognized by the state, and unable or unwilling to engage in violent economies—may be simply left in debt, which over time means being cut

out of social ties altogether. In a moral economy where toughness makes a man, Jordan was sweet and awkward, soft-spoken and pensive. (Interestingly, this is another meaning of "sweet blood" in Belizean Kriol—the phrase can signify gentle kindness, as well as diabetes.) This debt became a very real part of his triage and letting-die. If you look the word "det" up in the Belizean Kriol dictionary, the word has two definitions. The first translation into English is *debt*. The second is *death*.

In his recent work exploring the history of debt as a sociopolitical contract, anthropologist David Graeber quotes an English proverb: "He who has run out of credit is dead to the world" (2011: 326).

One word for a sick person in Belizean Kriol is "haafa" (from the Kriol *haaf*, for half). Jordan thus had reduced value in this particular economy from the beginning. Without mediating currency or institutions, his own body consuming itself served to mark the limits of exchange's "timespace" (Munn 1986), its gains and losses. As Michel Serres once wrote: "When time and history are measured by the calculation of exchanges and brought back to this calculation, I fear that here and there will be some insolvents. People who can give nothing but their children, their muscles, their bodies, a pound of flesh" (1980: 31). Embedded in such physical arithmetic, it was true that many diabetics in Belize spoke of dying in pieces ("my arm got sick last week"; "my eyes died first")—as if people paid in body itself for what they could not afford in foods and timely medical treatment. Entangled in these same economies of food, patterns of brutal violence are now increasingly emerging from this same lapse in state presence, showing how an increasing part of the Belizean population is caught in a fatal nexus in the absence of working courts, medical systems or childhood nutrition programs. In Jordan's case, the internist gave his fractured prognosis shortly before his death: "His kidneys and his lungs are gone already. All that is left is his heart." Jordan also became part of the story of people caught in "a time of death and a history of death. People who can give only their life and their bodies, bit by bit…" (31)

In *Vita,* Catarina—who, like Jordan, was one of Serres' "insolvents" in the dehumanizing "calculation of exchanges"— put this into her own words on the pages of her dictionary. "I shall not pay a debt I didn't incur," she wrote (Biehl 2005: 327). Was this just a poetic turn of phrase, I wondered, or did this refutation also become part of her social death? Yet this theme resurfaces throughout Catarina's dictionaries: "Dollars, Real / Brazil is bankrupted / I am not to blame / without a future" (21). Through bankrupt policies, the country's debt became her own, paid in the time of life that might have been. And strangely, within her account of being abandoned by both her state and her family, Catarina alluded to the poisoning of her social ties in terms I found hauntingly familiar. "*Sweet blood, Sugar in the blood*," she wrote."...The tree that does not produce good fruits will be cut / And thrown into the fire" (322-3).

Things Break Down Here

The health system in Belize is unevenly contoured by the fact that the country itself is deeply in debt. In 2012, the country was downgraded once again by Standard & Poors to CCC-plus level (Reuters 2012), and Moody's Investors Service also cut the country's credit rating for the second time that year to "10 levels below investment grade, citing weak growth in the $1.4 billion tourism-based economy" (Williams and Levin 2012). Belize is now being heavily pressured by market institutions such as the International Monetary Fund and Greylock (the creditor who recently renegotiated Greece's national debt) to again "restructure," which has become a watchword of neoliberal policies of structural adjustment through which funding to state services (such as healthcare) are at risk of being curtailed due to external pressures to reduce government spending (Pfeiffer and Chapman 2010: 159). These possible threats to funding for the medical system in Belize are emerging layers within a longer history of insecure economies (Bernard and Iyare 2007), political histories

and neoliberal futures that both must be acknowledged when examining the current work of Belizeans to bricolage and mend a fractured system of medicine.

Books about Belize are very fond of a particular quote by Aldous Huxley (1934): "If the world had any ends, British Honduras would be one of them. It is not on the way from anywhere to anywhere else. It is all but uninhabited." The great irony of this line is that Huxley was himself passing through Belize on board a luxury British cruise ship—Belize's reputation as being "not on the way from anywhere to anywhere else" is exactly what gave it mystique as a desirable tourist stop. Even in 1934, the country's status as a beautiful "out-of-the-way place" (Tsing 1993) was being commoditized, by the same patterns of tourism that would later become a key driver in its economy.

Huxley published his travel notebooks from this cruise as *Beyond the Mexique Bay* (1934). The author of *Brave New World* was keenly attuned to dystopic futures; even in his very short visit to Belize he noted worrisome signs of things to come for the colonial economy profoundly entangled with British markets (the fickle tastes and current fads of which he knew well, as an Englishman himself). Typists were no longer chewing as much gum as they used to, so the market for chicle bleeding of sapodilla trees had begun to dwindle; and dark mahogany woods, Huxley reflected, once the marker of royal luxury, were now "hopelessly out of fashion" in England. "[T]oday, the highest luxury is a perfect asepsis," train cars and living rooms that "could be transformed at a moment's notice into a hospital (…the old is almost infinitely unhygienic)" (1934: 31). In Huxley's travel journal, he mused:

> Here, so far as the historian of taste is concerned, the matter ends. For the social historian, however, it is only just beginning. British Honduras used to live on the export of mahogany. But we prefer the lighter woods, we prefer metal and glass and ripolin. Result: a falling off of Honduranean exports and a corresponding rise in the death-rate from tuberculosis….
>
> If we knew precisely what were going to be the effects upon the British Honduraneans of our choice of metal instead of mahogany; if we could vividly imagine what it feels like to be chronically underfed, to die slowly of consumption; if

> our sympathy with them were what the word literally means, a genuine 'with-suffering'—should we then ever have the courage to buy anything but mahogany?"
>
> ....The evidence of things not seen is too much for us. (1934: 32-3, 36)

Here, Huxley raises a difficult, ugly question. What happens to human health when an exploitive imperial economy *goes away*? (As Whitman (1982: 711) put it: "Stupor passes—Something else begins.")

This history is embedded in the fragile health system that Jordan had to rely on for care. Most of Belize's land has been historically owned by absentee landlords, "who paid no tax at all until 1871, and only a tiny one until 1967. This is why the government had to depend so heavily on import duties for finance, and why there was never any money for roads, hospitals or other basic services" (Wilk 2006: 133). Because property was barely taxed and powerful traders had little interest in developing the country's infrastructure, by the late nineteenth and early twentieth century, government services were either privatized or largely outsourced to foreign charity groups—a random mishmash of philanthropists or missionaries in the case of schools, and visiting foreign doctors or volunteer contingents such as the Red Cross and Black Cross in the case of medicine. In Belize City, there were private wards in the public hospitals by the late nineteenth century, and private hospitals competing for expertise and resources with public ones by the very early twentieth. (Once again here, the Belizean colonial system built on a tradition of privateering shared certain key forms with neoliberalism.)

Today in Belize, the medical system—always a reflection of the state—remains caught in these economic forms and paradoxes. How does a young country emerge from this fractured history and try to create a health system? Certain doctors and nurses were kind to Jordon, letting him eat meals at the hospital or even checking him into an empty hospital bed sometimes, just so he would have a place to sleep. But such gestures of care are not easy to institutionalize into policy. Examining such questions in Belize, one sees many people working hard—from both inside and outside the government, on all levels—

trying to cobble loose parts. As pieces now begin coming together in diabetes care, Jordan's story provides a window into what it is like to live in these tenuous webs of care, or to fall between their gaps.

Gayle says that Belizeans have an "interesting ethnomethodology;" they sometimes tell symbolic stories instead of criticizing their country directly (2010: 128). One of the very first stories I heard during my initial visit to Belize seems oddly in this vein. In a village of Cayo, in the middle of an interview about herbal medicines, two old men grew visibly emotional talking about the sad fate of the polar bear the government tried to keep chilled on ice cubes for a Belizean circus. But the ice had all melted, they said. With a crowd gathered to watch, unable to do anything in the tropical heat, the polar bear died.

Because I had first heard this story in 2008, I was surprised to later discover a very close version of it repeated in Belizean writer Zee Edgell's famous novel *Beka Lamb*, published the year after independence but set in colonial British Honduras. Here is the passage:

> Once when Beka's mother had gone to Merida to see an eye doctor, Beka was in the kitchen helping her Granny Ivy fry conch fritters for tea. Her Gran was frying and Beka was grinding.
>
> 'Gran,' Beka said, 'Why didn't Mama just go see Dr. Lyban at the Belize Hospital?'
>
> 'He went back, Beka,' her Gran had replied, stabbing at a fritter.
>
> 'Went back to where?'
>
> 'Where he studied—England.'
>
> 'But he is from Belize, Gran.'
>
> 'I know. But nothin' lasts here, Beka,' her Gran answered. Her eyes looked funny. 'Tings bruk down.'
>
> 'Ah wonder why?' Beka asked, bringing the conch and minced habanero peppers to the stove.
>
> Her Gran leaned the fork carefully against the frying pan, pushed the window over the back stairs, and propped it open with a long pole. Then she said,
>
> 'I don't know why, Beka. But one time, when I was a young girl like you, a circus came to town. I can't remember where it was from, and don't ask me what happened to it afta. The circus had a fluffy polar bear – a ting Belize people never see befo'. It died up at the Barracks Green, Beka. The ice factory broke down the second day the circus was here.'
>
> Beka's Granny Ivy was crying. Her apron tail was over her face, and she said again and again,
>
> 'It died, Beka, it died.' (1982: 15-6)

I do not know whether this scene traveled from the pages of Edgell's novel to the Cayo kitchen where I heard it ethnographically recounted, or if this was an actual historical event (there was an ice factory documented in Belize City by 1900, and newspapers show that circus caravans often moved through the colony.) But even if the polar bear incident recounts a real episode, what makes it so emotionally charged? I understood the story as a national allegory for *life that can be sustained elsewhere*; an account of the technology necessary to support life that is *supposed* to exist in Belize but often breaks down in actual practice. Indeed, it seems no coincidence that this story of death is told in Belize's most famous novel in response to a question about a missing Belizean doctor who left to practice abroad (as many still do today), meaning Beka's mother is also missing from her family as she is forced to seek medical care in Merida, Mexico (also as many Belizeans still do today). Just when it seems that figures and technologies are stabilized in Belize, a gap in care often seems to emerge. "Nothing lasts here," Beka's grandmother says to her. "Things break down." Yet there are cases, for people as for polar bears, when *continuity* is the very thing integral to a system's ability to actually support precarious life. For the polar bear in Belize City, ice on some days—or even most days—was not enough for survival. (Among various analogies of insecure machines possible here, the most obvious one—polar bears are to ice as Type 1 diabetics are to insulin—makes these deadly breaks in the cold chain strangely literal, since insulin is supposed to be kept cool. Jordan's shack, for example, had no electricity and so the times he managed to procure a vial of insulin it went unrefrigerated, damaging the drug's efficacy.)

During my first visits to Belize, diabetic medicines were often difficult (and for some like Jordan, simply impossible) to access within the national public care system, fractured by scarce and often piecemeal resources. Through such realities, people's missing legs and dismembered hands seemed to speak of a care system that was also painfully dismembered.

But upon my return in 2009, I found myself documenting the rollout of a novel National Health Insurance program that suddenly provided certain anti-diabetic medications to half of the country's six districts. The informal triage behind this treatment rollout also began to show the individual actors in medicine and public health fighting to improvise a functional care system for their country from imported parts and scarce, deeply uneven resources. Yet in the other half of Belize, diabetics in the remaining three districts still had to pay for their medications out of pocket. Where do experiments end and rights to health begin?

A doctor who specializes in diabetes (a disorder of the endocrine system) is called an endocrinologist. But in 2009-2010 there was no endocrinologist anywhere in Belize, public or private. Hardworking doctors in public hospitals—mostly Cuban—tried to offer what advice they could to diabetics with their limited time and hectic schedules, but these stories show the many places that the fabric of an overburdened health system begins to stretch and tear, for complex patient cases and chronic disease care in particular. The medical technologies that doctors had to work with were also limited—the drugs on the national formulary, for example, included only Metformin, Glibenclamide, and Insulin, which one Cuban doctor referred to as "first-line" therapies. These drugs are central to diabetes care, but without vital supplementary analog medicines and ways for patients to measure their blood sugar, they also have critical limits. I often wondered what Jordan's fate would have been if the 2009 national health insurance program had been already in place when he was growing up. Beyond drugs alone, what institutions of care might have been enough to shift his *social* destiny?

In many cases, the patchwork of tools (many irregularly donated) that the Belize national care system had to work with simply did not fit with actual circumstances. One striking instance was the American aid institution that had developed a diabetes care protocol for Belize, pages which were stapled into the medical chart of most patients at the village clinic where I worked. The bureaucratic forms were intended to be filled out by a

doctor with each visit. But instead, the papers created a checklist of tests and technologies that would be standard care in the country where they were developed, often uncomfortably out of place in Belize. On each paper, the patient's name had been filled out on the top line a year or two prior, and then the rest of the spaces had been left blank, as if the form might be dated and filled out one day in the future when its questions finally began to apply. Most memorably, one of the things that the protocol asked doctors to fill in each visit was the patient's most current hemoglobin A1C reading, a test which measures blood glucose over the past three months.

The profound disconnect in this question becomes visible in the breakthrough statistical study that the Belize Ministry of Health recently partnered with the Pan American Health Organization to conduct, for the first time clearly charting nationwide information about diabetes, hypertension and chronic disease in Belize (Gough et al 2008). In order to make the survey questions relevant to actual realities, the Belize study did not measure what percentage of diabetics had *ever gotten* a hemoglobin A1C test; instead, they had to measure what percentage of diabetics had *ever heard of* a hemoglobin A1C test. Of the 10,622 diabetics surveyed in Belize, 85% had never heard of it. Another 5-6% were not sure. It is not reported exactly how many of the 9% of diabetics who ever *heard of* an A1C blood sugar test had actually ever received one (2008: 62).

In instances like this, the difficulty of using clinical tools produced for foreign contexts—in which it was expected that patients would receive this baseline test several times a year—becomes painfully evident. The American aid institution surely meant to help with the growing problem of diabetes in Belize, but instead their checklist underscored a series of absences. A protocol—intended to track accountability by its very nature—instead became a document of unfillable blanks. In this page stapled inside patient files, we can see the system of neoliberalism caught in its own paradoxes. It is *this* gap or disjuncture—the blank space on a bureaucratic form that I came to think of as a white hole of vacated

accountability, the empty fissure that remains between constructions of interchangeable patients and care that is not equally available to all—in which Jordan's story of medical fragmentation unfolds.

Yet wherever there are things breaking down in Belize, there are also people working to mend gaps and repair damages. Even Jordan's former profession seemed to reflect this wish. He always looked pensive when he described learning to be a mechanic, working at Vini's repair shop near the air strip. It made sense somehow that this became his passion, cars and trucks as well as planes: the piecework of mechanics, replacing worn parts with replacements, trying to keep things running.

These were forms of tinkering and repair that medicine might have made possible on Jordan's own rundown system, if he had been born elsewhere. If his kidneys had failed as a teenager in the U.S., for example, it would have been possible to receive dialysis or even a renal transplant (a new filter)—both of these measures have been covered by American Medicare since 1972 (Rettig 2011). Much of the wear and tear to Jordan's body also could have been prevented with technological devices. In developed countries, an insulin pump is the standard of care for Type 1; the majority of diabetics who wear them, sometimes referred to as "pumpers," can expect to live a long and full life. These little machines continuously connect the wearer's body with a beeper-like box holding several day's worth of insulin in a reservoir. They are small enough to be clipped on a belt or tucked in a pocket, connected with the blood through a plastic tube called a cannula, which is inserted under the skin for "continuous subcutaneous insulin injection." Insulin pumps today can be programmed to deliver bolus or basal doses in tailored intervals—in emergency bursts, or slow steady drips—depending on habits, blood sugars, and foods eaten. New models often come equipped with custom alarms, calculators, personal computer interface and Bluetooth compatibility (allowing electronic blood glucose meters and automatic insulin delivery to sync). These intricate mechanics, which Jordan and I spoke about, placed insulin pumps in

sad contrast with the lived realities of a context where basic injections of insulin and food to eat were often unavailable to him. (Like renal transplants, insulin pumps are not available anywhere in Belize; even people with money have to leave the country to obtain one, usually to the U.S., but such a cost must be paid entirely out of pocket. Working the device also requires training to install the cannula and stocking up on replacement batteries and parts if the patient should decide to return to Belize, since such things cannot be purchased there. Just before Jordan's death, I had been investigating the paperwork necessary to apply for a trip to the US for an insulin pump, through the same NGO I later worked with Cresencia and the Saqui family to file through.)

Perhaps Jordan's apprenticeship with a local auto mechanic stemmed from an interest in trying to rebuild damaged bodies, to play with the possibility of repairing a broken machine. But it was also physical labor. Jordan could hide his tremors and health complications at first, learning to angle his head to take in everything with his good eye once the other one started going blind. But by the time he turned nineteen, he was too weak to lift engine parts and spare tires. The shop owner let him go.

Once, I had asked Jordan what he did with his days now that he had stopped working at the mechanic shop, wondering about his other interests or pastimes. There was an awkward pause and he stared out the window in silence. His air of cautious dignity looked shattered, and I realized too late that the inept question made him feel ashamed. "I think a lot," Jordan said. "But I can't *do* anything."

Our conversation felt strained after that, although I sat around in the long hospital room until after lunch, when Jordan pulled a sheet around his chest and looked ready to fall asleep. I squeezed his arm awkwardly as I left, not sure whether to hug him. It was the last time we saw each other.

An Ephemeral Proof

Agnes said that on the day of his death, Jordan began talking to his dead mother. It was difficult for him to breathe by then, his lungs drowning in the fluids and poisons his kidneys could no longer expel. Jordan asked for two glasses of water. He said that he saw a woman standing by the door.

On the Xeroxed paper from Jordan's funeral, Ecclesiastes 11 is listed as the scripture reading. I looked up the passage, which ends with the dark line: "childhood and youth are vanity."[40] Yet I was somewhat surprised that there was a printed funeral page and mass at all, and learned that a woman named Lorel had sent money from the U.S. to pay for the service and burial. Jordan had told me about Lorel, a nurse who had helped him before she had to leave for the states; I saw in my notes that he told me he called her "Mom," and wished that I had asked him for more details. This crucial interval of kindness in his story had gotten buried under all the other episodes of abandonment he described. It seemed a long shot, but I tried getting in touch with Lorel, managing to get her sister's number from Agnes. I called and left a message in Dangriga to be passed to Lorel in the U.S., explaining that I was an anthropologist calling about Jordan. My cell phone rang from a Midwest area code early the next morning.

I barely had time to explain my project before Lorel began talking, as if the story had been pent up and waiting. "Let me tell you something," she told me. "This is a case of pure neglect." She described seeing Jordan one afternoon in front of a game room by the river several years ago. For some reason, the gangly teenaged boy looked familiar to her. "To me, I know this child from somewhere," Lorel said. Following her instinct, she asked his name and learned he really was her dead friend's son. Lorel asked if he needed anything. "'I'm hungry,' he told me." Lorel's voice was starting to break. "He was shivering, like in snow."

At first she had tried talking to Jordan's family, even offering them money. "His

aunt promised to take care of him, then sold his diabetes machine," Lorel said of the glucometer she had bought for Jordan. "I tried to get him back." Alongside hospital appointments, she had taken him to a private clinic in Dangriga run by a charismatic Nigerian. "With the diabetes, he was so far gone. When I found Jordan he was skin and bones."

By the end of the time Lorel lived in Belize, she virtually adopted Jordan, upset that his family was taking the money she gave him to buy food and charging him high rent to live in a shack. "One time he came home crying," she said; due to the damages caused by his uncontrolled blood sugar, Jordan was in renal failure by the time he was seventeen. One of the symptoms of end-stage kidney damage is uncontrollable urination—humiliating for anyone, let alone for a young man coming into adulthood. Jordan had wet himself on the taxi ride home from the hospital, and the driver had yelled at him for staining the vehicle's upholstery. It was the first time Lorel had seen Jordan cry, unable to hide his anger and shame. Incensed, she got on her bicycle and searched the streets of Dangriga until she found the taxi driver. "I yelled at him. 'Have compassion,' I told him. 'Don't you *see*?'"

Lorel was torn apart by the fact that she had to return to Chicago for work; although the money she earned from home caregiving there was the reason she was able to support Jordan, distance fractures too. "If I didn't have to go back to the states, maybe he would still be alive today," she said, her voice growing soft. "I tried to leave everything for Jordan, I bought him all this food before I go. And new sneakers."

The day before his death, a supportive nurse with Type 1 helped Jordan to call Lorel from the hospital. "Hold on, sweetheart, I told him," Lorel recalled. "He told me, 'Mommy, I love you.'"

She spoke about "this life I gave to Jordan," as if the debts of time and exchange were not always irrevocable. Time and flesh might be taken in bits, but they could be restored that way too. Yet the way distance stretched the support between Lorel and Jordan

is also a reality of life in Belize today—80-95% of families have someone abroad, often trying to earn money to send back, a real part of what is necessary for people to support each other. Lorel's absence as she worked "to save something" to send home for Jordan was simultaneously a link and a disconnect, a caring relation and a break in care.

"In your documentary," Lorel repeated, "it was a case a pure neglect, you have to put that. But…" her voice broke. "Maybe you could go see the barrel of groceries I send for him, my sister Jessica has it…" We were both crying now, thousands of miles away from each other, me an American in her country and her a Belizean in mine. "Sometimes I would go on my bicycle to take him some oatmeal," she said. I put down my notebook to hold my cell phone with both hands, and for a few seconds the many screens of difference that separated us seemed to thin and fade. I could feel the moment close again as quickly as it opened. But still, it would be her sense of bare grief that I thought about later when trying to cobble a memorial piece for Jordan out of the diabetes medicines he did not receive: that immanent second when we were two women each mourning a death we had been too late to prevent, remaining watchful together over a history it was no longer possible to change.

"Tell them that I loved him," Lorel said before we hung up. "He was my baby."

"It is an ephemeral proof. It does not count as evidence in some systems of reading and understanding, proper documentation and loving" (Muñoz 2009: 70). Yet against the violent cycles of a returning history that so often seems in danger of poisoning the future, Lorel's care for Jordan *matters*.

One of the scenes Lorel had mentioned kept flashing back up in my mind: she said that the last time she saw Jordan as a child, he had only been three years old. But when she noticed a teenager "shivering, like in snow" in the tropical heat of Dangriga, somehow she recognized the baby of her long-dead friend—Jordan's mother. And this made me realize somewhere I had forgotten to look.

Repeating Islets

"Jordan made history," Agnes told me on a summer afternoon in 2010. It was an especially muggy day, and my last visit to Jordan's old village. "Once his blood sugar was 1,000 and he was walking around. The doctors told us, we don't know how this was possible." Aunt Lil laughed with her, nodding at the memory. I wanted to keep talking about Jordan, but instead Agnes told me another story. She brought it up as though it were a related topic. It was about a woman who had recently drowned in a nearby pond, along with all three of her children. Two of the children had been swimming when they started to drown. Their mother jumped in after them, for some reason holding her baby. Maybe the pond did not look as deep as it really ran because it was muddy, Agnes said; perhaps the mother would have been able to help the other two children or at least save herself if she did not jump in with the youngest one in her arms. When they found the family of four in the pond, the mother was still holding her baby above her head, hands outstretched high toward the surface.

"Maybe she thought that she got him above water," Lil said.

"She had sugar too," Agnes concluded. "That's why she panic out of control, the sugar. They all died in it."

Died in what? I would wonder later when reading my notes from that day: The murky waters that ran deeper than anyone realized, the senselessness of motherly love in an often unforgiving terrain, her terror-sugar (which came to explain the causation of the tragedy)? Over time, I have come to think these things are not easily pulled apart—indeed, at times they are profoundly inextricable from each other—and that they also say something about the volatile history in which Jordan came to drown.

Before medical breakthroughs in the twentieth century, diabetes was long considered a "contraindication" for pregnancy. After insulin (initially extracted from the ground-up pancreases of pigs, cows and later water buffalo) was discovered in 1922 (see

Bliss 2007) and diabetes "was progressively transmuted into a chronic condition…the once-dreaded combination of pregnancy complicated by diabetes has become a clinical commonplace, requiring skill and tenacity but no longer an outright miracle to end with a healthy mother and child" (Feudtner 2003: 146-7). Historian and physician Chris Feudtner explores this multifaceted story in *Bittersweet,* including both the new promise and frustration for "insulin mothers" (who in previous generations were usually either dead before adulthood or rendered infertile by their disease). One of the major characters in his account is Priscilla White, who became an M.D. in 1923 and worked for many decades treating children and mothers at the famous Joslin Diabetes Center in Boston. In 1948, White noted that even with careful drug adherence, there were many things that could go wrong in pregnancy:

> stillbirths and macerated fetuses of the giant type are nearly as characteristic of diabetic pregnancies which are allowed to come to full term today as they were in the pre-insulin era. (157) [P]otentially child-bearing diabetic women …are concerned with the following problems: their chances for (a) conception, (b) surviving pregnancy, (c) for reproducing living children, and (d) for transmitting their tendency to develop diabetes. (Feudtner 2003:146)

This sobering list had much in common with the reality Jordan's mother faced in 1989. Having diabetes prior to pregnancy today is still "a major risk factor for spontaneous abortions and congenital malformations" (Trujillo 2007; Bell et al 2012), although this risk of damages to the fetus drops to almost zero in a context where excellent blood sugar control is maintained by using insulin analogs (such as lispro and aspart) alongside regular treatment (Durnwald and Landon 2011; Torlone et al 2009). Now standard care in American hospitals, these analog treatments are not available in southern Belize, where keeping a diabetic mother supplied with standard insulin injections or with access to a working glucometer remains an important accomplishment. In 2012, experts recommend that pregnant women with diabetes be kept on a strict regimen: "Pre-conception counseling, carbohydrate counting, use of insulin analogues, continuous subcutaneous insulin infusion (insulin pump) therapy and real-time continuous glucose monitoring with

alarms for low glucose values" (Ringholm et al 2012). I imagine that most doctors and nurses working in Belize would want to laugh or cry at this list of recommendations. As was described above, insulin pumps were unavailable in the country (let alone ones synced to continuously monitoring glucometers and sounding alarms for low glucose).

The stakes for Jordan's mother, Tessa, could not have been any higher: "The ultimate complication of type 1 diabetes in combination with pregnancy is maternal death" (Leinonen et al 2001). Neonatal growth often occurs during intense bursts, causing unexpected dips and spikes in the mother's sugar. A recent study in Finland showed that "the mortality of type 1 diabetic mothers was 109 times greater than in the general population" (2001: 1501). If the mortality toll is that high in an affluent part of Europe, it is likely much higher in regions of the world where technical tools of advanced biomedical management are scarce or missing. Maternal death can be caused by poisonous ketoacidsosis in cases when high blood sugars are untreated—or, in contexts of partial medical availability (such as 1989 Dangriga) maternal death is more often caused by blood sugars that crash *too low* to sustain life, a risk greatly increased when insulin must be injected without accessible instruments to monitor blood sugar daily. This results from the irony that "tight metabolic control of diabetes during pregnancy that is mandatory for the normal development of the fetus may expose the mother to life-threatening hypoglycemia" (Leinonen et al 2001)—in other words, the more carefully a mother tries to control her blood sugar and to protect her baby against damages, the more risk she puts herself in for a potentially fatal hypoglycemic episode. This risk peaks at night and can result in the so-called "dead-in-bed syndrome," which researchers believe may account for 24% of all deaths in young diabetics (Sovik and Thordarson 1999).

Somehow, with extremely advanced diabetes, few medical resources and very poor odds, Tessa managed both to survive the pregnancy and to have a baby that appeared healthy (Jordon's diabetes did not become apparent until years later, after Tessa's own

death). How she managed to keep her blood sugar controlled enough to pull off this double feat is anyone's guess. When he was born, Jordan's right ear was tucked closer to his head than his left one, which stuck out a little. But the mismatched slope of his ears was a tiny outward deformation, considering all the damages that toxic blood sugar in the womb can potentially cause. Maybe this distinct asymmetry of his ears was part of how Lorel recognized him all those years later.

Scientists once thought that Type 1 diabetes was purely genetic, but how the disease surfaces now appears to be a more complex play of inheritance and environment factors in early childhood. (When researchers study why one twin ends up with Type 1 diabetes and the other of a pair does not, they use the technical label "polygenic, multifactoral liability" (Hyttinen et al 2003). Yet complexly, *many* varieties of diabetes actually fall into the category of Type 1. One particular form, called Maturity-Onset Diabetes of the Young (or MODY), *is* strongly inherited in families (Timsit et al 2005), and in fact almost all the successful genetic tracing demonstrated for any sort of diabetes is related to MODY. Yet this form only accounts for 1-2% of all diabetes. In any case, I never heard *sub*-categories of Type 1 crop up in patient language of Belize.)

Many dimensions of the mother and child's life history need to be understood as at play alongside genetics, even in Type 1. Breastfeeding has been shown to protect babies against developing Type 1 Diabetes (and other autoimmune diseases) by conferring unknown immune protection, which in the case of diabetes helps prevent the development of auto-antibodies that attack the body's own insulin-producing islets (Orban et al 2009; Ziegler et al 2003)—in fact, this is a protective factor not only against Type 1, but also Type 2. It is not an unrelated fact that diabetes rates are skyrocketing throughout parts of the developing world where "grocery politics" and diseased economies in various forms have fostered dependence on imported baby formula (see Scheper Hughes 1992). (For families in Belize, as I imagine many places, the poorest usually do not purchase more expensive

infant formula but simple, cheap powdered milk—which many Belizeans refer to broadly as KLIM,[41] a brand of formula that long dominated the market, the way many Americans call all tissues Kleenex). Yet even simply recommending that diabetic mothers breastfeed instead of using formula is not an easy solution in a fragile health system. With diabetes, the safety of breastfeeding relies on the mother being able to curb her own blood sugar (Neville et al 2012). With highly uncontrolled diabetes, breast milk can become tainted by very high sugar, triggering a reaction that also may later contribute to childhood diabetes. When proper medical treatment is absent or only partially available, this becomes an impossible double bind. If Tessa decided to formula feed her new baby, Jordan was more likely to get diabetes. If she decided instead to breastfeed him in a context of missing medicines where her own blood sugar could not be controlled, Jordan was more likely to get diabetes. The game was rigged.

Alongside these complex factors interweaving immunology with economies of imported food and medicines, an emerging area of study examines another critical aspect of risk for Type 1 diabetes: insecurity and violence. While the following chapter will pick up this thread and follow it into the terrain of Type 2 diabetes, it is crucial to note that Type 1 is also impacted by childhood trauma and domestic stress. A recent study showed that mothers' experiences of domestic abuse, divorce or violence constituted a major risk factor for her child to develop Type 1 diabetes, increasing beta-cells stress that causes the child's body attack itself (Sepa et al 2005). The molecular and clinical researchers say they are trying to determine how Type 1 emerges "independent of family history" (although the anthropologist might say that here we finally get to family history, socially considered). Looking at babies aged 1-3, another study found that domestic stress among toddlers could translate into immunological stress propitiating Type 1 diabetes for children from insecure households (for a literature review, see Sepa and Ludvigsson 2006). The "Male Predominance" of Type 1 diabetes has been noted (Blohmé et al 1992), which may be

related to the fact that young boys are often more directly exposed to strain and violence than girls at young ages (as Gayle et al 2010 have shown in the case of Belize). Through these many social and pathological threads, immunology is part of political ecology in the most concrete sense, and the social history unfolding around a baby—medical shortages, grocery economies, domestic stressors—all factor into Type 1 diabetes too.

Antonio Benítez-Rojo (2006) uses the phrase "Repeating Islands" to describe how normative patterns within Caribbean experiences and social histories echo through time, often reproducing injustices. The pancreas' own islets of Langerhans—particularly when these tiny islands (*insula*) fail to produce insulin—make diabetes increasingly part of how "repeating islands" are experienced today. The echoing refrains of debt and cultivated dependencies that can fracture families; the grocery and market systems that overlay neoliberal inequalities with older forms of privateering; the unstable yet life-sustaining technologies that could not support a polar bear, but must be enough for people; the difficulty having "sweet blood" in an ecology of poverty where violence and actual bodies themselves remain a last available store of credit; the fragile state health system that could not prevent the death of Jordan's mother when he was 3, or prevent multiplying risks for him to inherit the same disease that distorted his own fate—all became part of the chronic story being repeated in his damaged islets.

Tessa's body was also etched with damages: the sum cost of all she had fought simply to have children in a system unable to support her, the toxic stressors of poverty surrounding her, and many years of inconsistent access to the insulin injections and glucose-balanced food which she required to live. These remainders accumulated, and things reached a breaking point in 1992, when Tessa died "of sugar" before reaching the age of 35. Yet she had gone through seemingly impossible odds and excruciating pain just to have Jordan, a decision which likely cost her years from her own life, and evinced a love so persistent that when her friend passed in town by the river after more than a decade, she

saw him immediately. With watchfulness and in Tessa's memory, Lorel tried to care for him as a "mom" too.

To really ask how Jordan became Muerte before he ever really got a chance at life, therefore, is not possible without first bringing into view the longer "interior history" of diabetes that nests his story of brokenness within another that contains its own opposite: far from always having been abandoned, so much pain and insecurity had already been borne in order to bring Jordan into the world that it was inevitable for his blood to be marked by this bodily risk (and its principle sign of sugar) too. For in the end, there remains an unsettling parallel between the colonial legacy of chronicity in this region and the waters of the muddy pond outside Belize City that opened this section: no one can see much past the surface, so most people assume that the bottom must not lie too far deep. Like the sugar-terrified woman who pushed her baby toward the surface as she drowned with her children in the murky water, Jordan's mother held him as high above her head as it is possible for arms to reach.

Chronic States

Slavoj Zizek once wrote: "Actual history occurs, so to speak, on credit" (1989: 142). Is this still true in the postcolonial world? I often thought that Belize itself, like Jordan, was born into debt.

In Belizean Kriol, "sweetness" can be used as an idiom to connote money and excess, often implying something corrupt about the exchange. This expression is found throughout the violence report discussed earlier: gang members reported that "police love sweets" [money] (Gayle et al 2010: 137); that "with a bit of sweets they remove any obstacle for us" (324); "you have other [politicians] who love sweets" (317). During a recent debate about Carnival cruise line, one Belizean used this language intertwining lucrative and potentially destructive exchanges to characterize sectors of the national economy: "Our oil is sweet, but

it isn't sweet for us. It is sweet for foreigners. The sugar's not sweet again. The citrus isn't sweet again either. The tourism is sweet, but sweet only for foreigners. So where do we stand? What will happen to us? …when food is scarce….the hungry man is the angry man" (Jer 2011).[42] (Strangely, the oil recently discovered in Belize—now generating massive public controversy due to allegations of corruption surrounding its extraction—is a type of petroleum known as "sweet crude," which is literally sweet in taste and smell due to its low sulfur content, signaling high value because it can be processed into gasoline.[43]) Although many Belizeans are well aware of the dangers and tradeoffs inherent in engaging notoriously risky economies (such as tourism, sugar and oil), this is perhaps another characteristic that Jordan shared with his state: despite the risk of corruption and harm, sweetness is often the only available means to sustain life at all. The fact that a system born into damaged economies can barely process "sweet" intake does not change the fact there might be few or no alternatives. When such toxicities are difficult to metabolize, government actors are often blamed for making choices that sometimes could not have chosen otherwise in the current world system.

A crucial line of anthropological thought grows out of the foundational notion that disease shows what has gone wrong with the body politic (Scheper-Hughes and Lock 1987), picking up a long theoretical thread that dates back to at least Herbert Spencer's notion of "the social organism"(Spencer 1891; Walter 1960). Indeed, intimate and legal registers can mutually constitute each other, as Lawrence Rosen notes; for just as states impact the treatments available to manage our interior conditions, "the ways we imagine our bodies and our interior states affect the powers we ascribe to the state and our gods" (2006: 4). In Emile Durkheim's vision, law was the "nervous system" of the social organism, the mechanism through which the many parts of the social body could be regulated and attuned (1984); while for Michael Taussig, *The Nervous System* (1992) shows the unraveled hardwiring connecting people and polities through strained nerves and pulsations of terror.

Interestingly, the severe complications caused by diabetes actually occur through damages to the nervous system, impairing blood flow to the body's tissue and vital organs (Watkins and Thomas 1998). As James Ferguson (2006) argues, the parts of the body politic that atrophy and die of neglect reveal the occlusions of regulating law and economic lifeblood. In becoming "Muerte," Jordan was designated part of this dead social tissue.

In *The Normal and the Pathological*, historian of medicine Georges Canguilhem found diabetes particularly interesting to think with as a model for reflecting on his foundational questions of how to define healthy states or distinguish them from diseased ones. He was interested in the "variable behaviors," "mobile thresholds" and "theory of *terrain*" through which the same amount of sweetness could trigger permanent symptoms in some individual systems and not others. To understand inner workings through which the chemistry of organisms begins to change, he believed it necessary to search for "real causes and not apparent effects, functional mechanisms and not their symptomatic expressions" (1991: 79).

This chapter has sought to do something similar, by placing fragments of Jordan's story in an unfolding national context that might situate the symptoms of his conditions (not just diabetes, but social abandonment) alongside the deeper mechanisms and political economies from which they arose. Jordan's innermost chemistry was part of a larger disordered body in which eating, treatment, legal protection of life, and survival itself became impossible. The overburdened state that could not treat him, the bitter economy that at times intertwined food and credit with violence, and the dismembered family that could not support him were each symptoms of a system out of balance, a nation's living tissue consuming pieces of itself to survive.

Perhaps what Canguilhem describes in the transition to metabolic disorders thus also holds for the postcolonial disorders now characterizing Belize. Using the example of diabetic patients finding dangerous sugar in their urine, Canguilhem said it might be easy to

mistake such pathological symptoms for "a new quality," when these symptoms actually show recent events *superadded* to past excesses—in the medical philosopher's example, that sugar appearing in a patient's urine to signal diabetes actually represents not only the high-sugar food that triggered this particular incident, but a long pattern of meals or incidents that were finally detectable in the urine because the sugar was "pouring over a threshold" in the kidneys. Understanding emerging issues in Belize today also requires taking into account the cumulative force of a long series of toxicities, habits, and changes over time, pushed past a limit where the body politic can continue to metabolize these lethal substances. In more than one sense, Jordan lived with a chronic state that was "not a simply, quantitatively varied extension" of healthy states elsewhere, but—as Canguilhem writes of the diabetic state—a damaged system that gave way to "something else entirely," "being really *another way of life*" (1991: 89). In his trajectory and fate, we see history also "pouring over a threshold" (Canguilhem 1991: 78).

Somewhere hidden in the cells of children like Jordan, the body begins to attack itself. Its immune system mistakes for alien threats the very islet cells it needs to process nourishment and survive (Notkins and Lernmark 2001). Type 1 diabetes results when the body kills off its own pancreatic tissue, creating a physical state where the person will die without constant outside infusions. Widening out to the social context in which Jordan lived, we saw how the disease can also be propitiated by early childhood stressors such as neighborhood and domestic violence—the family attacking itself. (Indeed, this factor is intertwined not only with causation, but also the difficult realities of domestic triage in which the significantly costly treatment must be managed.) Panning still more broadly across national economies of food and medicine in Belize, this wider context of societal violence also shows the body politic attacking itself. (The emergent pattern of violence targeting Chinese Belizeans in grocery stores almost hyperbolically epitomizes this autoimmune parallel: the social body's defense system misrecognizing its own vital tissue

for a foreign invader, killing off the parts of itself that make nourishment possible.) As the country's spiraling external debt begins to show, the young nation of Belize—only seven years older than Jordan—was also born into a disordered postcolonial condition (some interplay of inherited mutations and early stressors) requiring constant infusions in order to survive. Yet this broader political economy contoured profound limitations in the food, care and medical treatment for Jordan's diabetes in the most concrete ways. In this sense, perhaps we find not just Jordan, but Belize itself, caught in the refrain of these repeating cycles and damaged parts. Their chronic states were interlocking.

3. Blood Sugar and Damaged Kinship

> As is the inevitable result of things unsaid, we find ourselves until today oppressed with a dangerous and reverberating silence; and the story is told, compulsively, in symbols and signs, in hieroglyphics. --James Baldwin, *Many Thousands Gone*

In Belize, "sweet blood" and having "sugar" are often said to be local synonyms of diabetes mellitus. This chapter traces the intergenerational care practices and unnatural origins of the disease that lead us into a labyrinth of dark regional histories, and ultimately challenge us not to take for granted these most fundamental definitions. Tracking personal accounts and relational ties across broader historical events and emerging genomic science, I will argue here that the three terms "sweet blood," "sugar," and "diabetes" (while obviously overlapping) are often not synonymous, and that their deeper structures of affect and clinical trajectories can be more fully accounted for with careful attention to specific colonial histories of the Caribbean and the Americas—particularly in a region where "blood sugar" meant something for kinship and causality long before diabetes began emerging as an epidemic.

Medical anthropologists and clinical practitioners have documented how diabetics' understandings of their disease often center around seeming folk idioms that are linked to distress—for example, how "sweet blood" may become an idiom for social suffering (Rock 2003), the way many Mexican immigrants in the U.S. narratively link their diabetes to "susto" (fright) and depression (Cherrington et al 2006; Mendenhall et al 2012; 2010; Poss and Jezewski 2002), associations between depression, "azúcar y nervios" in Latino patients (Cabassa et al 2009; see Weiner 1999) or the way "fatalism seemed to characterize the nature of the interaction between the individual with diabetes and others" in "African American diabetics" (Egede and Bonadonna 2003; see Rothman et al 2008).

Meanwhile, scholars of colonial history have studied fatalism and sugar from a different direction, often foregrounding the role of sweetness in the Caribbean and Central

American economies, especially since the publication of the groundbreaking books *Sugar and Slaves* (Dunn 1972) and *Sweetness and Power* (Mintz 1985). Such histories suggest sugar as a principal sign and site of death in the New World (Brown 2008), describing the various ways in which people became *Slaves to Sweetness* (Plasa 2009), as histories of "Sugar, Colonialism, and Death" (Brandes 1997) have linked sweetness to blood specifically. These powerful associations also traveled full circle back to Europe; for example, in "Blood Sugar" Timothy Morton examines a colonial literary trope he calls a "blood sugar topos", "a powerful and ambiguous metaphor in which sugar stands for the blood of slaves" (Morton 2000: 174). This "anxious play" intertwining violence and glucose even resurrected a Renaissance poetic form called *gluochotes*, traceable through the anti-slavery writings of English Romantic poets such as Samuel Taylor Coleridge and intended to raise abolitionist consciousness: "The 'blood sugar' topos highlights the artificiality of certain wants, underscoring how acts of consumption can be complicit with the forces of colonialism and exploitation" (175). This association between sweetness and death today remains a general yet potent sign of colonial violence, even within histories not literally linked to the cultivation of sugar cane—for example, sugar and sweetness are dominant symbols of slavery's recurring traumas in Toni Morrison's unforgettable *Beloved*, even though the actual plantation fields mentioned in the novel are rice and indigo (1987). This symbolism of violent "sugar" originated in slavery's specificities, but also came to stretch beyond them and mark other exploitative colonial economies and dispossessions, such as those this chapter will discuss within Belize that eventually caught Maya, Mestizo, Garifuna, Chinese, East Indian peoples each in their own distinct yet densely layered colonial story where sugar marked a point of mass death, unfree labor, or other historical trauma.

My aim here is to put these two literatures of "blood sugar" in dialogue with each other and set them against an intimate ethnographic view of diabetes across generations, in order to explore a deep historical connection that continues to thread itself through both

hidden biology and lived experience. For if we simply translate "sweet blood" or "sugar" as *diabetes*, what dimensions of meaning and social history are elided or flattened away—of history and its poisons; the intimacy of damaged kinship; worlds where the art of both medicine and life have long meant not "control," but bearing pain and searching for dignity *within* the apparently intractable progression of an unfolding history well-known to be volatile and deadly? In a region where "sugar" has for centuries been the principle sign of violence and bloodshed, what does it mean—not only on a semiotic level, but a biological one—for someone to say they have sugar in their blood, and for this to be literally true?

Few would argue that imported high-sugar foods entering people's traditional diets are triggering catastrophic rates of diabetes today. It is fast becoming common knowledge that colonial and postcolonial foodways in the form of white sugars, white rice, white bread, and so forth are extremely bad for public health and clearly contribute to diabetes as they circulate in distinct ways through the world. But strangely, these unevenly imported "white" foods are for some reason not causing the same rates of disease among the very population where their spread first originated (with white people). In the United States, for example, rates of diabetes and other metabolic disorders are consistently much higher (often double or even triple prevalence) at the population level among groups such as Native Americans and African Americans, whose patterns of hypertension one team of researchers went so far as to call "A Paradigm of Metabolic Disarray" (Weir and Hanes 1996). A similar pattern is now emerging in the Belizean epidemic. In a country where approximately 23% of the population now has diabetes, Caucasians (n=348) were the only ethnic group in Belize where the survey sample showed 0 diabetics (Gough et al 2008: 59). We are left with a mysterious question that perhaps has always been at the heart of debates about diabetes causation: What makes it more dangerous for some people than others to participate in the unhealthy markets of the present?

In this chapter, following people's own accounts and care work across various registers of analysis requires understanding both the histories *and biologies* of sugar in play. Yet these distinct domains of knowledge often create holes in each other. In what follows, the biological causalities already present in ethnographic realities lead me through a critical literature review on epigenetic science, hunger, and metabolic disorders, to reframe the origins and mechanisms of diabetes not accessible through classic anthropological tools alone. Meanwhile, surveying deep regional histories and actual diabetics' stories also exposes the limits of molecular biology theorized into social models in the abstract, allowing the concrete force of anthropological evidence to play across these gaps and restore the *social contexts* of disease causality to help shape a different kind of sense-making. Reading genomic science against personal accounts from the classic ethnographic terrain of kinship, regional politics, care rituals and ancestral histories, various disciplinary jurisdictions and geopolitical moments together shape the constellations of meaning evoked in the life stories that follow—in other words, fields of scientific analysis which may at first sight appear as a foil to ethnography's narrative methods in unexpected moments might intersect, ephemerally align and deepen our knowledge of the questions they share. By aiming to tack through these interdisciplinary connections in all their complexity, this chapter ultimately reconsiders the nature/culture bind that has long marked the parameters of debates about diabetes risk by examining a third term: social histories of violence.

Arreini and Grace

"He said, how are you still alive?" Arreini's expression was both amused and proud as she recounted the doctor's words when he first diagnosed her diabetes. Her blood sugar that day had been "six change," over 600. "But I survive," she smiled mysteriously. The threadbare silk purse in her hands was filled with old prescriptions and forgotten pills, her

own archive of illnesses and healings gone by. Arreini shuffled through expired packets, pointing out the baggies of medicines that she was currently taking: Metformin and Glyburide for diabetes, Captopril for hypertension. Then there were the new pills in a small brown paper sack from her most recent trip to the regional hospital, when she had gone to seek treatment for the diabetic ulcer on her foot: a tiny ziplock of white pills called Piriton, a foil card of acetaminophen tablets for the pain, and a large box of antibiotic pills called Tro-Amoxiclav, too large to swallow without first cutting each in half with a fishing knife.

But weeks had already turned into months, and the pills had not been enough: the wound on Arreini's foot continued seeping and "jamming," her name for the most intense pulsations of pain. She had tried every medicine she knew, techniques learned in a lifetime spent healing others—everyone in the village still called her "Nursie," recalling a time when there had been no clinic, nurse or doctor in the community, when the Dangriga hospital was barely functional and reachable only by sea (and every family's dory boat had its own distinct sail-shape).[44] Now more than 80 years old, Arreini lived her entire life as a legendary healer and certified midwife. Yet in her plastic pail filled with bundled leaves, bark and clusters of herbal medicines—cloves in a withered but fragrant plastic baggie, Billy Webb bitters, balsamo, a bottle of blackened seed pods purchased in Guatemala, coiled bits of Contribu vine she picked herself, a shaker of oregano manufactured by McCormicks—there was nothing that could mend the rotting bit of skin, only enough to stave off disaster. She had tried a topical oil treatment like her mother once used on her grandmother's feet back in Honduras; it helped, but not enough—likewise with the boiled guava leaves she used to control the infection (which were partially effective but not fully curative, like the pharmaceutical antibiotics), and an experimental mixture of herbs that she prepared in a base of strong rum, stored in a cherry juice bottle. "My mother didn't have this disease," she said by way of explanation for her rare uncertainty about treatment recourses; nearly all Arreini's medical practices had been learned from her mother, who was also a midwife and

nurse. As a novel condition that only emerged as an epidemic within her generation, diabetes falls uneasily within a powerful Garifuna curing system centered on herbal knowledge passed down through generations.

She made frequent trips to the regional hospital and local clinic, but biomedicine came up equally unable to heal her ulcer. In the Belize City hospital, a doctor had put Arreini on IV antibiotics in hopes of controlling the infection enough that the foot would not need to be amputated, which she bore patiently, after having made the long bus trip to the city for this treatment. The complication which made her ulcer unable to heal itself, called diabetic neuropathy, can be extremely painful—high blood sugars over time severely damage the microvascular capillaries, causing a limb's blood flow to become restricted. Once cut off in this way from the body's lifeblood, tissue begins to wither and die slowly. While necrosis signals total tissue death and necessitates amputation of the appendage, partway-dead tissue in the hands or feet (making the cells either slow or utterly unable to heal themselves) can be exceptionally painful. (Later in 2010, for example, I met a diabetic mother in her thirties who tried to persuade the surgeon at Southern Regional Hospital to cut her legs off, even though they were both completely uninfected and looked healthy, because she thought an amputation at the knee might stop the pain she had experienced continuously for over a decade.) In the U.S., a variety of drugs might be used for managing this symptom of diabetes' complications: "Amitriptyline, imiprimine, paroxetine, citalopram, gabapentin, pregablin, carbamazepine, topiramate, duloxetine, tramadol, and oxycodone have all been used to treat painful symptoms, but only duloxetine and pregablin possess official indications for the treatment of painful diabetic neuropathy" (Fowler 2007). But these treatments were not available in Belize. To relieve the pain that increased while she was hooked up to the IV antibiotics at the hospital, Arreini waited until the doctor and nurses left the room, then stealthily applied topical copal resin from a small jar. The intervention(s) prevented amputation for the time being, but still, the wound refused to

heal. Seven years ago, Arreini told me, she had been able to contain a similar ulcer by creating an herbal medicine and injecting it into her foot with a syringe. All the skin had peeled off, and afterwards she was healed. "But now this diabetes has come," she said. "Now, this foot. It's black again." She looked up at me. "Did you hear me? It's *black*."

I looked up from where I was kneeling on the beach, trying to light the fire she had asked me to start, with the familiar feeling that Arreini was trying to tell me something I did not fully understand. She doused the dried coconut husks in the fire pile with more kerosene from an old water bottle and waited with sharp eyes for me to try again. But I have always been ginger with matches, and I struck the box too cautiously for the flame to hold against the wind from the sea. She took the package from my hands and muttered in frustration, a characteristic rebuke that was both her trademark gruffness and the hard-won right of very old women. But it still upset me that night, because it was the end of a long day, of many long days. The night before, I had fallen asleep facedown on my laptop keyboard while trying to type fieldnotes. The evenings I passed with Arreini were perhaps my favorite moments of fieldwork, but decoding her cryptic references and freewheeling English could also be exhausting, especially when her temper ran short. At the time, I was spending full days observing at hospitals, clinics, or doing homevisits (depending on the day of the week), and then coming home after a hot twelve-hour day to pass the evenings eating dinner and sitting around until long after dark with this old village midwife. The arrangement sometimes made me imagine that I was acting as a medical anthropologist by day and moonlighting as some sort of old-fashioned ethnographer by night.

Maybe Arreini realized that her sharp tone hit a nerve, because after the coconut husks began smoldering and her day's trash of peels and crumpled papers were going up in flames on the sand, she patted the bench next to her. "And thing done," she said soothingly. No matter what language she had been speaking, this was the English refrain that usually marked the end of a tense moment, all absolved. "Come, my beloved." I got up from where

I was kneeling and joined her, stepping carefully past her wounded foot. We sat together in the shadows under her stilted house and watched dusk fall over the sea. She pulled a cigar and a kitchen knife wrapped in masking tape out of her apron, slicing off a stub of tobacco to light in her pipe. "Time is passing, my darling." Arreini asked me to bring some gauze from the clinic, so that she could bandage her ulcer without dedicating her morning to the careful midwife's art of sterilizing her own cotton.

Like Arreini, the majority of her family now had diabetes: her husband who for decades had lived in Chicago, and 7 of the 13 children she had raised between his sporadic visits home. (She was famous for going fishing with the men in the village in her own dory each day as well as making cassava bread, playing the roles of both mother and father to her family. "I learned it from my mom," she said.) Even many of her grandchildren now had diabetes, the disease seeming to advance at younger and younger ages. Garifuna anthropologist Joseph O. Palacio recently commented in response to a media question about HIV/AIDS: "It is a disease that is killing our people. But there are other diseases that are not receiving as much attention. They are diabetes, hypertension, and glaucoma.[45] There is hardly one of us over 40 years of age, who does not have one or more of these public health problems." "I do not know a single house in that village where someone is not affected with this disease," a Garifuna nurse at Southern Regional told me when she found out where I was working in April 2010. She was a diabetic herself, as was Nurse C, the local nurse who ran the village satellite clinic.

In another interview I conducted at Southern Regional, one of the Cuban doctors voiced his theory of why his Garifuna patients were statistically at greater risk for diabetes: "Did you know they are black *and* [American] Indian? *Double risk*." I heard similar explanations many times during my research. Such "ethnic" labels drawn on the sort of naturalized categorizations forcefully critiqued by anthropologist Michael Montoya (2010) as part of the "genetic reinscription of race" (Abu El-Haj 2007) in diabetes research (for

examinations of the charged politics and cultural meanings of genetic research more broadly see Bliss 2012; Condit 1999; Duster 1990, 2002; Finkler 2001, 2003; Fullwiley 2011, 2010; Novas and Rose 2000; Rapp 1999, 2009; Rabinow 1999; Reardon 2005; Taussig 1997; Wailoo 2001; Wailoo and Pemberton 2006; Whitmarsh 2008). Yet "there is at present no consistent evidence to suggest that minority populations are especially genetically susceptible" to Type 2 diabetes (Paradies et al 2007). More than 50 years of genetic research searching for a race-linked "cause" of diabetes has been unable to identify such a gene (Benyshek and Watson 2006; Poudrier 2008, Rock 2005 and Whaley 2003). Indeed, diabetes has become rather emblematic of the more troubling "racializing narratives" (Fee 2006) unfolding within genetic research, often suggesting a form of "biological determinism" (McDermott 1998) embedded deep in the interpretive problems of how time is narrated or collapsed in genetic medicine, as Keith Wailoo and colleagues suggest with their title *Genetics and the Unsettled Past* (2012).

I saw my work with Arreini as an alternate way of attending to diabetes' entanglement in an "unsettled past." When I arrived one morning with the gauze she had requested, Arreini's yard was filled with people I did not recognize. It was Good Friday. A procession walked down the road, led by a man in sneakers and a fishing cap carrying a cross over one shoulder, enacting the Stations of the Cross. Several dozen people followed behind, singing hymns, dressed in the funeral colors of black and white. Arreini, who was soaking beans in a bucket and grating coconut, clucked that more of the village was not in attendance: "Cho! What are they doing, this young generation?" Her grandson Sheldon looked up from where he was tinkering with the oven in the corner of her kitchen (repairing the aged appliance so that Arreini could bake her cake), wiping the sweat off his forehand with a hammer still in his hand. "They are just living," he said.

As we sat around on the porch I began speaking with Grace, one of Arreini's daughters. She looked much younger than 58. Carefully adjusting the gold and red turban

wrapped high around her head, Grace stretched in the hammock and said that she wanted to walk in the Easter procession but felt too sick because of her diabetes. "My stomach is hurting me. I feel better after I vomit," she said. "But I hate to throw up." She had 10 children and 30 grandchildren, some of whom she pointed out to me in the bustling yard below: a girl on the beach, another "plaiting" Kevin's hair into an intricate geometry. "They are cooking for me now, early," Grace said, gesturing toward the women slicing chicken and pressing biscuits with forks. "Because of my diabetes, they know that when I have to eat, I can't wait."

Grace told me that she lived in "The City" now (there is no need to specify *which* city, because Belize City is the only one in the country). When her mother had visited earlier that summer to receive the IV antibiotics at the hospital for her infected ulcer, a young boy had been shot on the street in front of their house: "Muerto upon Muerto," Arreini said. "Fock!" Grace's first husband had died tragically there too, a painfully ordinary fate in the city. Murder is the leading cause of death among men in Belize. Grace, who was strikingly beautiful, in time fell in love again and remarried. She was pregnant with her 10th child in 1997 when she received the shocking news that her second husband had also been killed. The devastating news combined with the stress of pregnancy changed something in her body's chemistry; "that was when the sugar started," she said. The diabetes had never gone away.

Grace had tried everything over the years—pills, insulin, diet—but damages had accrued, especially during the time she spent working long hours in the U.S. The cold winds in Chicago became unbearable as she grew sicker, and she missed her children. After more than a decade away, Grace came home to Belize City. Now she was in renal failure as a result of her diabetes, an extremely typical situation in Belize. But kidney transplants were not done in the country for any amount of money, even in private hospitals. The very lucky might be able to find a matching donor in their family for transplant in another country,

and rich patients in renal failure might be able to go to Guatemala City and purchase an organ. I was told that even if one was willing to buy on the black market, a kidney transplant cost $20,000, plus travel expenses. But the diabetics most likely to be in renal failure were by far the poorer patients who had not received sufficient care to prevent these extreme complications; for the great majority, the astronomically expensive transplant that might save their life was a pipe dream. Even the cost of dialysis in Belize was far outside the realm of possibility for most. It was US$680 for one week (three sessions). There was only one dialysis unit in the entire country, which was started in 2003 by Guatemalan kidney specialist Dr. Miguel Rosado at a private hospital in Belize City. "If you are aquatinted with anyone who has suffered kidney failure, then you know that the unfortunate victim has two choices: go abroad for regular dialysis treatments or stay home and die," a 2003 Belize news article read, announcing the opening of the country's first dialysis center (Woods 2003). Since Rosado's death in a 2006 car accident in Belize, there had been no nephrologist in the country. There was only one certified dialysis nurse in all of Belize, a watchful Maya woman and diabetic herself, who kept the unit running, but the six-bed operation was so small-scale that sessions remained very costly for patients. Recently, a state program began offering limited subsidized dialysis for certain patients, covering 1-3 sessions a week. There were only 21 of those slots available countrywide, which people often referred to as "scholarships." You had to wait for someone else to die before getting moved up on the list. Grace looked so full of vitality that it took a while for what she was telling me to sink in. With renal therapy impossible, she was dying.

I stayed until after dark to help with the baking: creole buns, two of which I was given to take home in a plastic bag fogged with warmth, and the cassava cake, which I was not invited to taste. Arreini had asked me to come back in the morning, "so you can see how we do things." The next day was Holy Saturday; I heard humming when approaching her kitchen, and saw the family holding hands in a circle through an open door in the distance.

"She's been dreaming," one grandson's girlfriend told me. Slowly from bits of conversation, I pieced together that Arreini had been having dreams of her mother, and that this ritual was an offering for her, her *áfurugu* (a person's spirit double, which can be said to be hungry or thirsty both during life and after death). The food would be buried in the sand.

Since the girlfriends of family members were not in the back house, I waited for an invitation. Kevin, one of her grandsons, tapped me on the shoulder after awhile and brought me back to Arreini's "thatch kitchen," which stood adjacent to her cement kitchen and looked like a smaller version of an ancestral house. Inside was a museum of family artifacts and furniture, long serpentine cassava strainers threaded through the rafters, a cracked machete sheathe, old blackened pots and metal bowls. Arreini had me sit on one of three plastic chairs near the door. There was a small orange altar in the middle of the room, with something that looked like a sundial in the middle. On top of the altar were heaping plates of food, rice and beans with plantains, the cassava cake and huge pieces of creole bread. Lined up in front of the altar were five plastic or glass bottles, each partially full with a clear liquid, with caps unscrewed but a small tuft of cotton stuffed in the top. In front of all this was a carved wooden bowl of cassava wine, which Arreini instructed various of her grandchildren to sip as they helped to clean up and bring in two huge drums. There was hardened white wax pooled into the sand, and as her grandson picked it up, Arreini turned to me. "Everything is okay now, thank God." She nodded. "Thanksgiving for my mom. The candle burn good. The smoke went like this before it burned out," she said, twirling her index finger in slow circles. "She is happy."

Kevin and Arreini played together for awhile, her drum carrying the song. There were three pieces of wire stretched across the top which had a tune of their own, and she played them like a separate instrument. "Gran raised me since I was four," her grandson told me as he beat out a bass rhythm. "My mother brought me into this world and then she was gone. I love her like my mom. She's my mom," he repeated. A small cluster of family

gathered as they played. Grace leaned against the altar. She picked up her grandmother's old pipe in her hand, then as her mother sang she stood to do a dance that looked like a slow strut, her elbows lifted high. She started singing too and knew all the words, her voice higher than her mother's. The high chords sounded old and sad.

Her health too tenuous to dance for long, Grace handed the pipe back to her mother. "Everything is okay," Arreini repeated later, with relief. She told me that she would light the pipe later and leave it in the sand for her mom. I understood the ritual offerings for her mother as strengthening of precarious kin ties for the family's protection in general, but also a form of "active awaiting"[46] for Grace specifically, "a patience for the possible" (Han 2012: 31), trying to stretch time at the limits of care until treatment might become available. She picked up an ancient-looking cauldron filled with burnt leaves, their carbonized shapes still intact in the ash. "Herbs for my mom," Arreini said. Waiting on the edge of death, they offered medicine to the dead—perhaps hoping for the same in return.

There was a bottle of anise rum, her mother's drink, at the base of the altar, next to a Sprite bottle filled with holy water. I was surprised when Arreini poured me a tall glass of the strong clear rum. "Come, let's finish it off," she said. Its taste reminded me of Sambuca. There were two spirals of silver hair sticking out from under her tattered white hat, which looked like it had once been repaired with white string only to unravel again, its attempted sutures stretching decoratively across the gaping holes. She wore a red bandana tied tightly under the hat, its paisley edge patterned with skulls. Everyone in the stream of visitors trickling in for the Easter holiday weekend seemed to call her "mom," so often that I had trouble keeping track of when this was literal. Arreini had cared for Grace's nine children for a period after the loss of her second husband, to give her daughter time to grieve, and was close to her "grans" and "great-grans." Another woman Arreini and her mother raised came to visit, and recalled her words: "After I'm dead, I'll come for you." They laughed together, the threat revealing great intimacy.

Instead of her ubiquitous fictive kin term of "my daughter," Arreini sometimes called me "my husband." I was unsettled by the playfully serious term, which in her case implied intervals of great disconnection and distance: but it was true that after being around every night for a short while, sharing meals and spending time with her, like her husband I would leave the village and go away for years on end.

There were careful patches covering everything in Arreini's house: holes in shirts repaired with pretty bits of fruit-patterned fabric, red-and-white checkered dish towels of the sort most people would simply have thrown away rather than painstakingly mend, slivers of various material between flowers on her kitchen tablecloth, the repeatedly patched and repatched pockets of her bulging apron, in which she kept certain of her medical and kitchen supplies—and perhaps the work of domestic healers has long been trying to staunch gaps and seams in medicine. There is a sense in which Arreini lived her life as a patch on a fragile public health system, working in the holes of care that persisted at the level of homes and villages. She had never lost a baby in all her years as midwife, and was famous for her expertise in listening for infant pulmonary infections (which she referred to the national hospital upon detecting: "You have that certificate of human life. You have to *take care*".) Against this drop, the scrap of gauze she peeled from the diabetic ulcer on her foot look like yet another swath in her careful "repair work" (Morrison 1987: 96). So did the day's ancestral ritual itself. Yet where was the point, I wondered, when things were no longer patchable? And how might we understand the ways that invocations of history and the dead[47] became integral to this mending?

In Avery Gordon's sociological study of ghosts, she shows how spectral figures are entangled in histories of violence and loss. "To be haunted is to be tied to historical and social effects" (2008: 190), she writes, and supernatural threats are integrally part of how people "remember and forget," sometimes "stuck in the symptoms of their troubles" when emerging from histories shot through with deadly contradiction, part of the searching ways

in which people come to understand what Gordon calls "the things behind the things." The force or threat exerted by such spirits among the living, she notes, is part of "how that which appears to be not there is often a seething presence, acting on and often meddling with taken-for-granted realties…The ghost is not simply a dead or missing person, but a social figure, and investigating it can lead to that dense site where history and subjectivity make social life" (8).

The plates of high-sugar food and candlesmoke in the thatch kitchen felt like a visible edge of "that dense site where history and subjectivity make social life." I thought of the buried meal and herbal medicine being offered to her mother's hungry *áfurugu*; the unknown chronic threats against which her protection became necessary; the new epidemic of diabetes and hazardous foods now overtaking the majority of Arreini's family; her beautiful daughter dancing with her grandmother's pipe, dying from sugar triggered in part by violence, long ago yet ever-present in her blood; the unavailable dialysis that could have removed the toxins accumulating in her body—biomedical therapy also a phantom. What is being figured or re-stitched in this patchwork? How can observing the actual "repair work" of a social and medical fabric help us to better understand the nature of its holes?

Arreini lit her mother's pipe again and its smoke filled the night air. I noticed that the mottled white bumps of raw tissue were secreting tiny drops from the apparent infection in her ulcer, clear beads of liquid that caught the light each time another one slowly condensed and dripped away. (I had heard the expression "weeping wound" before, but not realized how disturbingly literal it could look.) It was probably due to the fact that I felt drunk after splitting the bottle of her mother's anise rum, but I found it disquieting that the single droplets of infection actually slid across her skin like tears. The concrete symptoms of diabetes sometimes verge on maudlin. But for her part, Arreini more or less ignored the uncanny droplets except to lean down once in awhile to blot her foot with a tissue.

Genealogies of Sugar

> Cane is sweet sweat slain;
> cane in labour, unrecognized, lost
> and unrecovered;
> sugar is the sweet swollen pain of the years;
> sugar is slavery's immovable stain;
> cane is water lying down,
> and water standing up.
>
> Cane is a slaver;
> cane is bitter,
> very bitter,
> in the sweet blood of life.
> --Faustin Charles, *Sugar Cane*. Trinidad

In Belize, there is not one, but many, strands of social history that intertwine dispossession and "blood sugar." The fact that commercial plantations of any sort were legally prohibited by the Spanish during the colony's early history only makes this repertoire more complex, knotting together both the Caribbean and Central American dimensions of the country's political economy. Because of the anti-plantation laws, slaves in Belize primarily worked in logging, but they were still caught and sold within a system founded on sugar. Most of the slaves who ended up in Belize were traded through the markets of the sugar islands, primarily Jamaica and Bermuda (Bolland 1977; 2003), and some also worked on different sugar cane plantations in the Caribbean before arriving in Belize City. Without the forms of control that regulated plantation life elsewhere, dependence on economies of imported food became integral to how masters disciplined their slaves working within the deep jungle labor camps of Belize, including the rationing of sugar as an incentive or punishment. These economies have deeply imprinted terms of exchange in Belize; in Kriol, to "get a food" indicates labor necessary for survival, while "sweet" (as discussed in Chapter 2) typically has a connotation of a surplus that is at once desirable and dangerous, often spoiled or corrupt.

Today in Belize, sugar is the number one national export (Abstract of Statistics 2012: 208). When colonial sugar plantations began developing in the nineteenth century, they

relied on the labor of Maya and mestizo war refugees from Mexico, and later also exiled rebels and indentured servants from East India as well as China. This swerve in typical Caribbean plotlines of sugar requires attention to political conditions within bordering countries. As ethnographer and medical doctor Thomas Gann, who worked along the border territories of Belize and Mexico's Yucatan, wrote of the Maya refugees' arrival in Northern Belize: "Before the rising of the Indians in 1848, they were throughout this part of Yucatan practically in a state of slavery, and were often treated by their Spanish masters with the utmost barbarity" (1918: 18). Although the *encomienda* system had technically been abolished, in fact a form of violent debt peonage quite like slavery continued in much of the Yucatan at that time. Originally oriented around haciendas growing henequen (dried agave fibers for weaving rope), an emphasis on plantation labor expanded throughout the nineteenth century with a boom in the Mexican sugar industry, bringing increasing unrest to the Maya area. (One surmises it was no coincidence that the sugar industry surged in Central America in the years following the abolition of slavery, when the sale of Africans became illegal and new sources of labor were sought for cane production.) The violent insecurities embroiled in this nascent Central American "sugar frontier" were a direct contributor to the fact that tensions in the Yucatan reached a boiling point in the "War of the Races" (Rugeley 1996). This problem also apparently persisted long after the Caste War; in 1910, John Kenneth Turner's account of slavery conditions in the region's "barbarous" debt peonage economies includes reports "that men are beaten to death in the sugar mills of Mexico" (1910: 231). At times, sugar cane was not only a key crop that the Maya were forced to grow on such plantations (Meyers 2012; Sweitz 2012), but also an instrument of control and even torture. Gann gives the example of a "well-known merchant" in Bacalar who was known to punish his Maya servants, "for no very serious offense," by shaving their heads and burying them up to their necks in the island's hot sand;

"their heads were then smeared with molasses and the victims were left to the ants" to be eaten alive, face first, by insects attracted to the sweetness (Gann 1918: 18).

Given this barbarity, as Gann notes, "It is hardly to be wondered at that such treatment left in the Indians' hearts an undying hatred for their masters…the shocking acts of cruelty reported as being perpetrated by [the Maya] from time to time are usually by way of reprisal for similar or worse acts on the part of the Mexicans" (1918: 18). Toward the war's end, Mexican colonial forces pursued the Maya who had survived the Bacalar Massacre of 1848, trying to discover the hidden locations of their mobile villages in order to plunder their food rations and burn cornfields. The Santa Cruz Maya went so far as to cut the tongues from their roosters, "to prevent them crowing and so betraying the situation of the village" (Gann 1918: 32). During this time, "Food was the problem, and starvation was the enemy that pursued the Maya no matter how deeply they penetrated the forest…the Maya managed to harvest enough for a grim survival. Bitterness grew with defeat, hunger, and loss of their apparent victory" (Reed 2001: 133). Many Maya sought refuge in the relatively empty northern territories of Belize around the same time that mestizos from the Yucatan began renting land there for growing sugar, piecemeal at first, on small *ranchos*.

These sugar plantations marked the first time in Belizean history that the country was actually able to grow agricultural produce for export; "the Superintendent was plainly overjoyed at the development, for sugar was the tropical export crop *par excellence*" (Bolland 1977: 139-40). The Maya worked on the new sugar plantations of Belize, as well as in mahogany gangs where they became known as *mozos* and continued to be caught in a debt peonage "system of hiring, or as I may truly call it semi-slavery," reported the Magistrate of Corozal in 1870 (Bolland 1977: 149-51). By 1930, anthropologist Eric Thompson reported that the "aboriginal American inhabitants" of Belize "possess many villages in the northern districts, supplying most of the labor to the sugar estates" (30). Even today, many decades later, the cane plantations of northern Belize remain dominated

by Maya and mestizo labor, a life hard-won and marked by continuing political contention (Moberg 1997; Stone 1994). When I was visiting Belize in February 2009, for example, a sugar strike in the north erupted into political violence when a group of protesting cane farmers drove a vehicle toward a government barricade and the national police opened fire on their truck, injuring 12 people and killing a 44 year old sugar worker named Anastacio Guiterrez (Reporter 2009; Belize Police Department 2009). This event took place in the town of Orange Walk, known to Belizeans as "Sugar City."

Today in Central America, there is also a newly emerging epidemic being called "sugarcane nephropathy" or "Mesoamerican regional nephropathy," referring to a form of chronic kidney disease that correlates closely with men working in sugarcane fields (Cedas 2005; Orantes et al 2011). (Now that sugar is being used experimentally as a biofuel, the cane sector has renewed importance in global trade; Central America today provides approximately ¼ of the U.S.'s sugar.) In addition to strenuous field conditions causing dehydration, experts hypothesize that these patterns of kidney damage may be linked to a toxicity specific to the labor conditions of cane fields, likely a sugar pesticide with yet-unknown health consequences (Chavkin and Greene 2011). Such poison also reaches a profoundly emotional register; for example, there was a seventeen-year-old Maya boy in Stann Creek who killed himself during my fieldwork by drinking pesticide of the sort used to treat industrial crops in his district. Drinking industrial pesticides and poisons (most often the herbicide paraquat) is also the leading form of suicide throughout most of the Caribbean (Hutchinson et al 1999; Escoffery et al 2004) and Central America (Gunnel et al 2007; PAEA 2002), speaking to the continuing trauma of plantation labor—in fact, statistical studies sometimes have difficulty distinguishing cases in which poisoning from pesticides is intentional suicide and when deadly effects are due to chemical overexposure in the course of normal work conditions, a telling continuum. Like "sugarcane

nephropathy," these continuing embodiments of sweetness and violence show that sugar's lethal histories are hardly a closed book.

It is revealing that Maya diabetics in Belize, when speaking English, tend to use the term "sweet blood" (or *ch'uhuk k'iik* in Mopan, *ch'uhuk wiix* in Yucatec; *kiha kiik* in Kekchi) for their disease rather than the Belizean Kriol expression "sugar" (*shuga*), because "sweetness in the blood" has long been an idiom of imbalance among the Maya. The blood could be prayed to, but (as the Maya there know all too well), anything forced from its place of life must find a new home; and so the healer would tell the disease about a better place it might inhabit instead, "where there is no pain, where there is no poverty." But first, the sick patient's blood had to be asked directly what had gone awry, its answers palpable in the body's pulse points. This is a fragment from one such divination in southern Belize (Bester 1973), addressed directly to the patient's blood:

> Tell us then, talk to us, converse with us, don't hide, don't conceal yourself
> What have you received, what have you found, what have you accepted?
> My only child mighty blood, my only child mighty lymph
> My only child person
> ....
> What is the sweetness, what is the poison?
> Is it his, is it his word?
> One powerful demon, one powerful devil, one powerful bad man
> Is it one powerful white devil, red devil?
>
> What is the sweetness, what is the poison?[48]

Given the colonial history briefly sketched out above, perhaps it is no wonder that "sweet blood" became increasingly common as an idiom of imbalance among many Maya and other Spanish speakers who lived around or fled diseased labor economies of various kinds,[49] long before diabetes ever emerged as a visible epidemic among these same populations. Indeed, the recent steep rise of "sweet blood" as a medical disease in Belize's Maya and mestizo populations constitutes a rather haunting alignment with one of the central way these communities *already* conceived of social disequilibrium. That is, "sweet

blood" did not start as a folk term created to name diabetes; rather, the diabetes epidemic is unfolding within a preexisting paradigm of poisonous "sweetness" in the blood, and the biological imbalances of diabetes now surface in the very form that local healers have diagnosed for centuries.

Later sets of immigrants and refugees in Belize also became quickly enmeshed in the history of sugar. The first East Indians in Belize were deported to the colony by the British Parliament in 1858, rebels who had been involved in India's First War of Independence (see Herbert 2009). The "1,000 Sepoy mutineers who were sent to sugar estates in the north of the Colony" (Darcel 1954: 3), and their families became a major source of labor in Belize. The modern descendents of this Indian population in northern Belize are centered in the village of Calcutta and have some of the highest rates of diabetes in the country; Belizeans today still call them "coolies," a term which is generally not considered a slur but a clarification, since in Central America "Indian" is understood as a reference to Maya people. Other waves of laborers—including "coolies" and former slaves—were also brought from surrounding sugar islands, often Jamaica and Barbados (Bolland 1977). During this time, a group of Chinese indentured laborers was transported to Aguacate and other sugar estates in northern Belize, and apparently treated so violently that within a few years of their arrival in 1865 nearly the entire group of Chinese workers had either died or absconded to surrounding Maya villages "due to bad food, overwork, or cruel treatment" (Bolland 1977: 143). Throughout later arrivals, the Chinese continued "being the most poorly paid workers" (140). To this day, many old Chinese families in Belize have unusual names because their names were replaced on the sugar estates; instead, they were referred to by numbers (Robinson 2009).

In a strange historical twist, there was also a sizeable population of several thousand Confederate plantation owners who moved to Belize from the U.S. after finding themselves on the losing side of the American Civil War (see Simmons 2001). Flying flags of Dixie,

many of these Confederates established sugar cane plantations (some tried growing cotton first, but the bails were quickly eaten by weevils and rotted in the tropical climate), believing that Belize would hold for them forms of economy and governmental "freedom" they imagined no longer available to them in the U.S. The ruins of their cane plantations and antiquated sugar mills can be seen scattered around northern Belize, outside Punta Gorda (where "coolies" transported from Jamaica supplied most of the labor) and dotted throughout the Stann Creek District (where it was reported that the sugar estates employed many "Charibs" [Garinagu]).

For all this, it is at times quite difficult to actually purchase sugar in Belize today; grocery stores sometimes run out for weeks on end, unable to consistently re-import their top national export. (This is because of uneven trade mechanisms and limited processing channels requiring that Belizean sugar be sent abroad for "processing," in order to turn the brownish granules into "pure" white sugar. These symbolically charged associations between purity and color are additionally laden by the fact that the actual "decolorizing" technique still practiced for sugar whitening by prominent sugar manufacturing companies such as Dominos sounds straight out of an *obeah* manual: the brown sugar is pressed through charred, ground-up animal bones, until it comes out whitened on the other side.[50])

To locate Arreini and Grace's accounts within this fragmented backdrop of sugar in Belize history, the Garifuna story brings yet another aspect of sweetness and trauma to this painful montage. This history, as it is most often told,[51] begins with two Spanish slave ships sailing from Nigeria that crashed into a reef outside the island of St. Vincent in 1635 (Adams 2002: 5). A group of West African captives who managed to survive both the Middle Passage and the shipwreck mingled with the Amerindians of Carib-Arawak heritage already inhabiting the island. Over time emerged a population known to the colonial forces as "Black Caribs," and an autonomous territory within St. Vincent that became known to runaway slaves of nearby sugar islands as a possible place of freedom. At a point in history

when the surrounding Windward Islands such as Barbados and St. Kitts had already been subjugated by the British for nearly 150 years, the Black Caribs managed to defend their land through adept diplomacy with the French ("the beginnings of what we might call a foreign policy" (Gonzalez 1988: 32)) and later, military strategy. They defeated the British colonial forces in multiple "Carib Wars" before losing a final battle. The entire population was exiled from the island, which they called not St. Vincent but Yurumein (meaning "Homeland"), in July 1796. This traumatic dispossession occurred because—why else?—the English wanted the Garifuna's homeland for a sugar plantation.

Essentially the entire living Garifuna population was imprisoned on a tiny island called Baliceaux, just off the coast of St. Vincent, while the British administration waited for ships to deport them further. Over 5,000 Garinagu were held on there for nine months, "starving and destitute" (Sweeney 2007), torn from their own farmlands after the war and with enormously insufficient rations provided by their captors. The majority of the prisoners had already died of starvation and disease by the time the British ships finally arrived in March of 1797 (Gonzalez 1988); it is estimated that only 2,248 were still alive to be sent into exile. Garifuna linguist E. Roy Cayetano once described this historical moment to me as "an exercise in genocide." The survivors were boarded onto several ships, lead by a flagship called the *H.M.S. Experiment*, which carried them to the island of Roatán in Honduras (Adams 2002: 58). Colonial records at the time comment on the emaciated state of the survivors, numbered at only 2,026 by the time they reached Roatán. Later, by sea, groups of Garifuna managed to reach the mainland of Central America, landing at the Spanish port of Trujillo in Honduras, which was embroiled in political violence of its own at the time. Horrifically, during this two-year period, approximately 75% of the entire Garifuna population died (Palacio 2005; Sweeney 2007).

Blood Sugar: Structures of Feeling

With these many interwoven strands in the Belizean history of sweetness—some violent events mourned or memorialized, others suppressed or largely forgotten—it is not surprising that "blood sugar" can have multivalent meanings for many diabetics there today. Many diabetics in Belize, when they get a high blood sugar reading, read their glucometer numbers in part as an index of relational ties, particularly *stress*. Although these social interpretations might be dismissed as folk idioms in the clinic (where adherence to diet and medication are much more emphasized), anthropologists studying diabetes in the U.S. have noted the ways in which emotional dimensions of diabetes can have powerful biological effects: linking the disease to histories of domination and oppression (Brave Heart 1999), loss of identity and ongoing demoralization (Ferreira and Lang 2006), and what Jason Weidman calls the "chronicities of stress" embodied in the world today (2010: 50).

As I observed "sweet blood" articulating with concepts of kinship and relationality in Belize, I began to think of blood sugar in terms of what Raymond Williams called *structures of feeling*: "concerned with meanings and values as they are actively lived and felt, and the relations… specifically affective elements of consciousness and relationships," " practical consciousness of a present kind, in a living and inter-relating continuity…defining a social experience still in process, often indeed not yet recognized as social but taken to be private, idiosyncratic, and even isolating, but which in analysis (though rarely otherwise) has its emergent, connecting, and dominant characteristics " (1977: 132). If diabetics often understand their blood sugar as an index of social distress, we can learn from their accounts to add layers to our own understandings.

I want to return here to the 2011 Belizean news article titled "Sugar and Bullets," which describes the country's leading causes of death. Although diabetes remains the #1 cause of death for the countrywide population—causing approximately 1 in 10 of all deaths

in 2010, according to Ministry of Health epidemiologist Dr. Aisha Andrewin—there is also a gender differential. Diabetes is the leading cause of death among women, but murder remains the leading cause of death among men (Trapp 2011: 1).

There is a sense in which these patterns of death in Belize—sugar and violence—represent two gendered ontologies that remain deeply interconnected. For instance, recall the tragic events that led up to Grace's diabetes in 1997—after already surviving the tragic death of one husband, she learned that her second husband was also killed while she was pregnant with her tenth child. Grace suddenly developed high blood sugar that stayed with her for the rest of her life. Pregnancy is always a window of high vulnerability for women to spontaneously develop diabetes, known as "gestational diabetes" when it emerges during pregnancy, a particular risk because the growing fetus draws on the mother's glucose in erratic pulses and bursts as it grows. Any additional disequilibrium during pregnancy increases the likelihood for the condition to develop. Such diabetes can dissipate after birth, or it can become permanent Type 2 and stay with a mother for life (McIntyre et al 2011; Vohr and Boney 2008). Key factors adding to this interplay, emotional shock and metabolic shock can be profoundly interconnected in the bodies' deeper chemistry: the neuroendocrine system is particularly sensitive to felt emotions, responding to feelings of threat or fear by intensifying the production cortisol, insulin, catecholamines, and glucagons. These hormones can change blood sugar, blood pressure and heart rate, preparing the body for danger or a "state of alarm." But these reactions become damaging when chronically activated (Knol et al 2006; Pouwer 2010). Through such biological processes, sweetness and violence remain bound as flip sides of how ecologies of insecurity are embodied today—particularly when histories of trauma intersect with violent shocks in the present. For Grace, the sugar in her blood remained as an indelible residue of her husband's untimely death.

Anthropologists have come to describe violence as part of an overlapping continuum

(Scheper-Hughes and Bourgois 2004). "You cannot cheat the *law of the conservation of violence*: all violence is paid for," writes Pierre Bourdieu (1998: 40). Paul Farmer has famously focused on the broad category of "structural violence," inequalities shaped by large-scale political and economic forces. Philippe Bourgois has built on his work with Nancy Scheper-Hughes to theorize various kinds of "invisible violence" (including categories such as structural, symbolic, and normalized). At the level of clinical experience, perhaps diabetes fits most closely with Bourgois' notion of *intimate violence*, which at first sight "appears to be the exclusive fault of individuals who are…irresponsible or organically sick" (2009: 18). It was this type of moralizing notion, framing diabetes as simply the choices of individuals, that led many doctors to focus primarily on whether patients stuck to a prescribed diet or treatment. "Stress" was a way of rereading the same number otherwise, to speak instead of the social conditions that might make those diets or treatments impossible.

Reading blood sugars becomes most intensely social in contexts where "constancy, safety, or trust cannot be assumed" (James 2010: 133), perhaps an ordinary way of monitoring status within what anthropologist Erica James calls "routines of rupture" (2008). I understood patients' language of "stress," "fret" and "pressure" as already keyed into the continuum of unseen violence that anthropologists have theorized, a site where diabetics were often interested in quantifying damages. Blood sugar could be an internal mirror, indexing the toll of social distress: Had you eaten, gone hungry? Was there strain in the household? (Just an argument, or death at the door?) Sweetness could also implicate and re-draw lines of tension in kin, speaking of the way intimate social ties have become strained by outside pressures. David Schneider once foregrounded the deeply layered meanings of blood in kinship (1968: 25), a form of "double speak" referring at once to both "that red stuff" and the social code of conduct it reflects. As a chemical sweetening in that literal biology, diabetes sometimes shows histories of sugar beginning to overtake "that red

stuff" itself. For people like Grace, sugar could indicate degrees to which blood (relations) themselves could be inflected or even poisoned—by violence, history, loss, pain. In Chapter 2, Jordan's catastrophic blood sugars over 1,000 were a quite accurate gauge of his social abandonment. The figure of terror-sugar also appears in the story of the mother who jumped into the muddy water with an infant and drowned with her three children, a tragedy locally attributed to her diabetes when "the sugar made her panic." A similar response came from an abandoned boy in Gayle's Belize City violence report, speaking of the only family member who used to care for him: "My granny had diabetes but she fret and died….I miss her." (Gayle et al 2010: 194). A diabetic taxi driver whose mother had gone mad explained it to me this way: "The sugar went to her brain."[52] Sometimes, blood sugar was not amenable to intervention, but simply a way of speaking about the terrible things one could not change.

The "mellitus" in diabetes mellitus comes from a Latin word for honey, a reference to an old eighteenth century medical trick of tasting a patient's urine as part of diagnosis. (There is a rare form of diabetes caused by accident or organ damage, diabetes insipidus, that makes the urine taste bland and insipid instead of sweet.) Some older diabetics I had met in Belize originally diagnosed or even monitored themselves this way, smelling and tasting sweetness in their own urine. Others realized they had diabetes by noting black ants or other insects gathering in the places they urinated, drawn to the sugar. (This is part of a wider method of diagnosis in the absence of medical technology; in Haitian Creole, one expression for diabetes is *gen foumi nan potchanm* (Freeman 2007: 30), "to have ants in one's chamber pot.") For such patients, "sugar" was not an abstract unit or technical term in a medical file—diabetes' sweetness was a sensibility and flavor, a literal taste.

Yet sharing sweet food is usually intended as a form of care, a painful double edge to this association—in economies of dispossession, the very mediums which families have available to nourish each other holds traces of threat and injury. When it occurs in ritual

settings, channels of communication with the dead also usually involve high-glucose foods, another way in which sugar remains interwoven in a deep link with death. This is hardly inherent to ritual itself, but can be integrally shaped by the violence of history. In his comparative study tracing the Day of the Dead[53] through Mexico and Latin America, for example, anthropologist Stanley Brandes makes much of the fact that such rituals are influenced more by European analogues than pre-Columbian roots, although diverging in scale, and unique in one particular detail: the ingestion of massive quantities of sugar. Given the regional history of sugar sketched above, the potent link between sweetness and death underscores this association. He focuses on these ancestral rituals as a symbolic undoing of death, asserting the value of life: "The casket and cadaver are eaten, the sugar and the colored icing—along with the death they represent—melting in the consumer's mouth…Is there a more concrete way of acting out a fantasy that the processes of death could be reversed or made to disappear altogether?" (Brandes 1997: 285)

Through many such intersecting histories, it would be difficult to find a Belizean today who could not somehow relate to the historically charged Kriol proverb: "Not everything that has sugar is sweet" (Young 1980: 24).[54] In this part of the world, many things might be said in sugar. Their social idiom is a saccharine idiom.[55] For playing in the blood—between excess and hunger, care and horror, intimacy and wounded ties—there remains the sugar itself, subtly indexing the shifts and excesses of a fragile web of relations "in the sweet blood of life" (Charles 1994).

It is to the living implications and modern resurfacings of this deadly history that we turn next.

Interlocking Generations

When Arreini and I were both around the village, we had dinner together almost every night. It was an unofficial arrangement, but it felt like I learned more about food from

meals shared with her than would have been possible from a hundred "food recall" surveys (the traditional tool of quantitative measurement for social scientists studying diabetes—although the affective meanings of eating have little to do with paperwork, and people are well known to lie or misremember on such forms). Sometimes I would help her a little with the cooking, shaping flour tortillas with the empty rum bottle she used as a rolling pin while Arreini flipped them with a fork over the stove. Other times she would send me to a Chinese grocery in the village for certain store-bought items: tins of Guyamex sardines (my least favorite meal, although it helped they were served in ketchup); wheat bread with spreadable Happy Cow cheese; or pigtails, which I had expected to look curly instead of obscene and did not know enough to choose carefully from their bucket of brine (Arreini promptly sent me "back to the Chinese," this time escorted by an amused grandson to help me select ones with less marbled fat). Such sources of protein were very important in Belize's colonial rations, although it represented a cut of meat[56] I had not previously realized was edible, preserved in such a deep state that (in Arreini's method of preparation at least) the pig tails had to be soaked in fresh water for a day before cooking. We ate the unevenly textured meat with pinto beans and a Tandasha mango, the last of the season to ripen.

Once Arreini made a delicious shark *serre*, which was my favorite of all her *serres* because I could enjoy the flavors of the legendary Garifuna coconut milk soup base without worrying about choking on fish bones. *Serre* went best when eaten with labor-intensive *hudut* dumplings, and on a few occasions I took turns inexpertly pounding the green plantains in a large mate (*hudut* literally means "it is pounded"), the grooved wooden bowl of which she cleaned fastidiously afterwards with a nail. More commonly though, Arreini prepared simple whole fish, usually fried with all their fins on in Malher (chicken bullion), doused in vinegar and a squeeze of lime, served for example with cooked ripe plantain. "Head fish or tails?" she would let me pick if we were sharing a larger fish (I always picked

tails after the night a snapper's eye had fallen out of its head onto my plate, where it was mistaken for a pea-sized vegetable).

Arreini had a midwife's firm touch. When she kneaded extra flour into the mix for creole buns with her bare hands, it looked like she was giving the dough a massage. Years ago, she had transplanted clump of fevergrass from her farmland to the beach near her house, and on more relaxed nights sometimes we would go just beyond the place where her laundry was hanging to pick thin tufts of fevergrass from a patch of dark sand. From this, she made a savory tea with the aroma of lemons, flavored with the Sweet-n-Low her doctor had recommended instead of sugar.

And always, there was the cassava bread. Most people in the village ate it occasionally, but Arreini was one of the few people I knew who was constantly able to keep a steady supply in a clear plastic bag in her kitchen, even with changing economies that made it increasingly difficult to acquire on an everyday basis. It would be difficult to overstate the key importance of this food as a staple in Garinagu history; the word "Garifuna" literally means "cassava-eating people" (Sweeney 2007).

This central food became oddly entangled in the history of diabetes education. For decades, scientists mistakenly theorized that cassava caused a risk for diabetes through the trace amounts of cyanide it contains (McMillan and Geevarghese 1979). Yet later science showed that this was simply untrue (Mathangi et al 2000)—in fact, now "[c]linical use of cassava bread is suggested for diabetic and obese patients" (Schnell et al 1993), because it is far healthier than white bread or white rice. Likewise, in the 80s biomedical research called into question another staple of Garifuna cooking, coconut oil. It was during an era when scientists could tell that coconut oil contained saturated fat, but did not yet understand more subtle points of the chemistry this entailed. (Because coconut oil is a medium-chain fatty acid and rich in omega-threes, it actually helps to speed up the metabolism and is now sold as an expensive dietary supplement in American health food stores). Acting on the

medical advice they were given by doctors, many Garinagu with metabolic disorders (who presumably needed coconut oil's metabolic-enhancing effects most of all) over time stopped processing oil from the coconuts growing in their villages and started buying cheap gallons of vegetable oil instead. (The scientists advising this switch had not yet realized that imported vegetable oil looks healthier on the surface, but actually has a low smoke point—meaning that the way it is used in most Belizean cooking creates a disease-causing "free radical" oxidation in food, the damages of which can only be curtailed by antioxidants. Antioxidants such as those, for example, now considered a major medical benefit of coconut milk, another staple Garifuna ingredient that many doctors have told them to stop eating.) This list of errors in the advice of nutritional scientists begins to demonstrate the serious implications of assuming that "ethnic" foods are the main locus of risk for a population's high diabetes rates, a pattern all the more worrisome because people's ordinary diets have often already been damaged by the time that mistakes in medical advice are recognized. But like diabetes education, eating itself has a moral force. Throughout several decades of doctors advising otherwise, Arreini had persistently continued eating her cassava bread and coconut milk dishes. Non-compliance has its health benefits, too.

"Manifestations of a culinary afterlife…" wrote Walter Benjamin in *Food Fair* (2005: 137). The powerful way that the flavor of food can trigger "an immense architecture of memory" is perhaps most famously captured in Proust's celebrated scene, as the taste of a madeleine cake dunked in tea (like those he ate in childhood) suddenly flooded his mind with memories of people and places long vanished:

> "When from the distant past nothing remains, after the beings have died, after the things are destroyed and scattered… the smell and taste of things remain poised a long time, like souls, ready to remind us, waiting and hoping for their moment, amid the ruins of everything else" (1998 [1913]: 63).

It is with this very evocation of Proust's "involuntary memory" of senses that Paul Christopher Johnson opens his recent book on Garifuna *Diaspora Conversions*: "For the

madeleine I substitute cassava bread…" (2007: 2). The sensual meanings of food and memory in relation to identity is a perennial topic in anthropology (for literature reviews see Holtzman 2006; Mintz & DuBois 2002), but it is equally important to understand the affective histories of things "destroyed and scattered" from which food conjures back connection from "amid the ruins," returning "like souls."

It is said that the Garinagu exiles secretly carried their staple food, cassava, with them through each leg of the violent journey from St. Vincent, hiding it under their clothing, the plants "kept alive by their sweat on the crowded ships" (Sweeney 2007: 34; Adams 2002). Yet this was the most major in a series of displacements through which cassava become one of the few links left between separated people. As early as 1802, Garifuna people first sailed to Belize in gradual waves of refugees, looking for safety from encroaching violence in Honduras. (An especially large wave came in 1832, after a point when many Garinagu men ended up as soldiers on the wrong side of a national war and a series of massacres ensued. They arrived in Belize on November 19th, the date that Garifuna Settlement Day today marks.) Wars and entanglements have continued in surrounding Central American countries over the centuries. In one particular Garifuna village of Honduras, a military force of approximately 200 armed soldiers invaded one day in 1937, leading the population to the town square at gunpoint and forcing 22 Garifuna men to dig their own graves in the dirt. According to oral histories, the following proclamation was read: "You Morenos of this village have been found guilty of the crime of treason by the High Command and Tribunal of the Republic of Honduras. And are thereby sentenced to death as revolutionaries by a firing squad on this day, June 19th, 1937. We are here to carry out that order in the name of El Supremo, our Glorious Leader and President Dictator Tiburico Andino Corias" (Flores 1979: 41; Cayetano 1989: 161). In front of their terrified wives and families, twenty-one of the Garifuna men were executed by the soldiers and buried in the fresh pit (one was allowed to escape, a personal friend of a solider in the firing

squad). Realizing the massacre would not be the end of violence, some women and children escaped to Belize with the help of a sea captain. Among this wave of refugees were Arreini and her mother.

Arreini talked about her mother constantly. She had learned her healing and midwife techniques from her, and when Arreini was coming of age she even returned to Honduras with her mother in order to acquire further training in Garifuna medicine: "It all comes from there." But only once did she speak to me of her mother's death. Their village was poor enough at the time that no one had a radio, she said. She looked away from the sea as we spoke, out toward the dark road, and continued: One night, there was a blood-red sunset. That was their warning that the hurricane was coming, although people recognized this sign only in afterwards. (I had heard from many older people that it was a devastating storm: tearing apart homes then made of thatch with walls of palmetto log and cabbage bark, uprooting trees and in Dangriga turning the then-rare luxury of corrugated zinc roofs into sheets of shrapnel, leaving their coastal village flooded and in pieces. The destruction was so total that they moved Mile 21 down a stretch before rebuilding, to a place I was told used to be lands used primarily for farming.) But Arreini's account focused not on the countless details of this destruction, but one fact alone: afterwards, her mother was gone.

As Arreini paused, I thought of a Pen Cayetano oil painting I had seen in the famous Garifuna artist's home studio in Dangriga. The image depicted a roiling Hurricane Hattie hitting the Stann Creek coast in 1961, the stormy green waves of the Caribbean foaming with the souls of the dead. It had been a Category 5 hurricane.

Her mother had already been missing for days by the time Arreini started dreaming of her. When she woke up the next morning, she followed the scenes envisioned in her dreams, taking seven men and telling them where to dig in the rubble. They found her mother's body quickly. "She was face down," Arreini said. "There was money coming out of her pockets."

Weather, especially hurricanes and tropical storms causing massive floods,[57] add another dimension to the history of chronic insecurity in Belize—and, just as with diabetes, the risk of these calamities is disproportionately borne. Major towns had been partially evacuated for Hattie, but Mile 21 apparently received no notice of the coming storm through the national emergency system. Listening to the heavy quiet, I realized that it was the saddest I had ever seen Arreini, and waited for her to speak first. She added that she had buried something under the cement house's present location. Straining, I could not understand what she said, but it seemed to have something to do with both her mother's protection and the many times she had told me empathetically: "Thing serious. This place is *fixed*." Often she would send me to the cement house to fetch something she had forgotten (usually her IcyHot thermos) with a giant ring of keys in hand, connected by bits of string and a sturdy diaper pin shaped like a yellow duckling. While fiddling with the difficult lock, I always found it unsettling to notice the unusual amount of dark hair visible under the door's blue paint, like living veins.

Arreini received phone calls constantly. It seemed like she was always fishing around in her apron pockets for the cordless phone. One evening, there was good news and bad news from Belize City: Grace had fallen into a diabetic coma, but the hospital was able to bring her back; she had gotten one of the limited 21 spots in the country for dialysis, but the government could only "help with this one" of the three sessions each week. She needed the standard therapy of three sessions a week in order to stay alive, but it would cost several hundred US dollars for each of the other two sessions, a total of around $500 US every week. "So she's going to stick with just one," Arreini said of the single subsidized session, and focused approvingly on the good care that her children were taking of her. This seemed to be the main news of the phone call, rather than the fact that Grace was on the edge of death—that her children were tending to her lovingly there; the girls on Iguana Street

Extension were sending food every meal; Sheldon purchased a used car to drive his mother to the sessions each Tuesday.

"What's that disease she have?" Arreini murmured to herself later. "Dialys," she answered herself, her careful truncation (of the equally truncated sessions) turning it not only into a Garifuna word, but also a disease rather than its treatment. "She's in Jesus' hands now," she said, and abruptly pulled a rosary from her enormous apron pockets. Arreini said her rosary prayers and improvised *misas* were most effective in Spanish, her mother's language of interface with the outside world—one more way that Arreini spoke *in* her history, if not always *of* it. That night she taught me the Prayer of St. Lucas. "Aquí tenemos el milagro," she recited for Grace, and I never knew whether this line—*Here we have the miracle*—was calling a miracle into being by demanding its materialization, or was recognizing the immanent marvel of what already was. "Santos, santos, santos," she prayed. Saints, saints, saints.

Although the ritual "thatch kitchen" (where the offering for her mother had taken place) was padlocked, Arreini's everyday cement block kitchen actually had *two* locks—one printed with the rusting word GLOBE and a second blue padlock sporting the Pepsi logo. Inside was a meticulous jumble: calabash shells, handmade cassava graters studded with jagged pebbles from the river, handwoven nets storing enamel bowls, hammered tin cups hanging carefully from nails on the rafters, intermixed with plastic mugs each bearing different scars of heat, and a smattering of shelved groceries. There were empty jars and plastic bottles of every size, a box of cornflakes, a plastic orange strainer that she used for grated coconut, a broom she artfully used to sweep the beach (treating the sand outside as a kitchen floor), a can of Diet Coke on the windowsill, a cardboard box from AccuSure 1cc syringes. (These were apparently leftover from before she decided to stop the daily insulin therapy that made her feel too sick to function, although she kept a single vial on reserve in

her refrigerator.) The syringe box was now used as a container to store fruit, avocados,[58] and saved plastic bags.

Once, after a violent illness caused me to lose 10 pounds in three days, I nervously broke the news to Arreini that I was going to start drinking only from my own water bottle. I was worried this might interrupt our rhythms of commensality in shared meals, but to my surprise she locked eyes with me and nodded empathetically, as if I was finally beginning to prove a worthy student. "Now you're like me. I *always* carry my own water," she said, looking at me intently. "You have to take care."

Her attentive protection of the kitchen each night before bed was also part of her daily work of *taking care*. She would begin with the bench under the front house where we most often sat to eat meals, tilting the wooden furniture at a forty-five degree angle and then resting against it a perpendicular stick of bamboo. Likewise in the kitchen, each and every opening and surface had to be covered: bowls turned concave-side down, every plastic bucket covered with a wooden board, all food and utensils covered one by one with towels, a black mat (like the kind underneath automobile carpeting) kept in the kitchen for the purpose of covering the stovetop, a special yogurt container to cover the spout of her teakettle. After the door had been closed for the night she would put in place the Pepsi padlock, the last step in her careful labor of maintaining security. "For protection," she would explain. Once I asked what she meant. "You don't hear me? It is for protection," she repeated. I understood her to mean that the world's many poisons could not be separated, and ingestion was one of the primary ways that something might reach you. On one occasion I saw her grow livid with one of Grace's youngest granddaughters after seeing her discard leftover scraps and water left in her glass carelessly on the beach by the porch steps. "Don't you understand what I teach you?" Because she spoke in English, I thought she was trying to explain to me as well. "You risk death," she said.

Outside those recorded in the historical record, the details of the events that killed the majority of the Garifuna people at the cusp of the nineteenth century have largely faded from oral history. But there is one prevailing exception: the memory of their food supplies being poisoned. Throughout history, many Garinagu have firmly maintained that the white flour they were given by the British while captives was poisoned with white lime (Gonzalez 1988). (Barreled flour was the main food the population was supplied with during their "transition.") While malnutrition and disease where both rampant on Baliceaux, it is documented that for some reason "the Carib death rate was 85 percent, compared to a reported rate of only 5 percent for the British slaves and Negro troops, who also suffered from the diseases" (21). An assistant surgeon named Dr. Dickinson in the British Navy observed this "malignant pestilential disease" firsthand and, even factoring in the Caribs' severe malnutrition at the time, reported that he was wholly unable account for the scale of these losses (Gonzalez 1988: f.35).

Was the poisoned white flour an idiom of mass violence, or a tool of mass violence? Through her attentiveness to obscured forces and insistent dead, Arreini kept bringing me back to history. In addition to foods' tastes and memories, for her, eating also evoked—equally Proustian in the "souls" it recalled—a need for protection and vigilance, a mindfulness of danger and the daily work of *taking care* to establish one more "interval of security" (James 2010: 164) in a series of chronic stressors. Traumatic history returns through food too, resurfacing in the everyday realities of nutrition and medicine. According to Arreini, the security and insecurity of each generation are interlocking. I thought of Grace, being kept alive on a machine now, and the white flour and violence that together had poisoned her too.

Occult Biologies: Diabetes and the History of Hunger

In *Making the Mexican Diabetic*, anthropologist Michael Montoya provides a gripping ethnographic critique of scientific research seeking to identify the genes that "cause" type 2 diabetes. "During the course of my research, not once did the living conditions for Mexicanas/os along the U.S.-Mexico border figure into a conversation about causality," he reports (2010: 4). Aptly noting that "[d]iabetes is not one disease but many" (3), Montoya documents "the ethical and scientific conundrums of race within the social milieu of the diabetes enterprise" (182). His ethnography demonstrates the micropolitics behind the labor, assumed categories, market interests, and often sympathetic experts driving these projects, shaping the genetic research practices that now has a critical role in "how race comes to be thought of and made material" (181) today. Montoya hopes his account might provide "a definitive strike against the grooves of racialization that accompanies so much population-based health research in the genomic era" (xx), as he views diabetes research as a way of approaching the troubling categorical reductions of race *already* at large in society. The following analysis is framed by Montoya's crucial observation regarding the assumption that "bioethnic" labels not only entail reductions that risk a "genetic reinscription of race" (Abu El-Haj 2007)—but by thus displacing the problem, they also curtail deeper examinations of how people's *mutated biologies* are being actively damaged by specific historical, social and economic processes in the first place.

In *Anthropologies of Biomedicine* (2010), anthropologist Margaret Lock revisits her concept of "local biologies" (1993) together with Vihn-Kim Nguyen. They write: "[B]odies are not everywhere the same because humans are inextricably entangled with historical, environmental, social, cultural, and political contexts, thus dislodging an assumption that bodies are readily 'standardizable'" (2010: 12). In interpreting the literature review that follows, I follow Duana Fullwiley in turning to Lock and Nguyen's insight that "manifestations of local biology are liable to be set to one side, or even dismissed, but they

also appear in the laboratory" (Lock and Nguyen 2010: 90). My examination of the disproportionate risk for diabetes among Garifuna people in Belize could be read as a case study in such "localized biologies" (Fullwiley 2011: 34-6) through which a population's social histories, immunological environments and broader power relations might—through the human body's plasticity over time—shape in turn biogenetic difference.

It is becoming evident that there is a fundamental relationship between malnutrition and diabetes that we do not yet understand. Although often imagined as a "disease of affluence" or at least of excess, in fact, debates about the cryptic biochemistry of diabetes in contexts of scarcity actually have a surprisingly long international history. In 1955, a doctor tracking several hundred diabetics in Jamaica noted that 13% of these patients seemed to present with a strange form of diabetes characterized not by obesity but severe malnutrition, appearing to fall between classic Type 1 and Type 2. He proposed calling this atypical form of the disease "J-Type Diabetes" (the J was for Jamaica) (Hugh-Jones 1955).[59] Later the same year, in 1955, a doctor in Indonesia described poor diabetic patients with a similarly strange form of diabetes characterized by emaciation and pancreatic calcification (Zuidema 1955), which he labeled "Z-Type Diabetes" (after his own last name). Sizeable burdens of malnutrition-related diabetes were subsequently reported in Nigeria (Kinnear et al 1964) and Uganda (Shaper 1964), followed by a scattered cascade of similar malnutrition-related cases across the global south: in Bangladesh, Brazil, Cameroon, the Democratic Republic of Congo, Ethiopia, Fiji, Ghana, Jamaica, India, Indonesia, Kenya, Madagascar, Malawi, New Guinea, Pakistan, South Africa, Sri Lanka, Tanzania, Thailand, Zaire, Zambia and Zimbabwe (Dodu 1967; Gill et al 2011; Mohan et al 1985; Morrison and Ragoobirsingh 1992; Rao 1988; Tripathy and Samal 1993).

Yet as more and more reports of "tropical diabetes" trickled in, they seemed to complicate rather than clarify a clinical picture of the diagnosis. After a publication from Ethiopia linked diabetes to the poorest sectors of the population, it was hypothesized that

the new form of diabetes might be a variation of the glucose intolerance commonly seen in *kwashiorkor* patients (Abdulkadir et al 1990; Belcher 1970). Meanwhile other reports have investigated the interplay of immunological factors (including polluting toxins and parasites) found in certain ecologies (Alruhaili 2010; Wang et al 2003). Pancreatic calcifications linked to protein deficiency were frequently reported, but not always present as an infallible diagnostic (Alberti 1998; Tripathy and Samal 1997). Today, evidence for the biological mechanisms underlying this form of "atypical" diabetes still remain uncertain (Alemu et al 2009; Opara 2006; Nwokolo 1986). Clinical reports documenting heterogeneous and even contradictory indicators have trickled in from around the world over more than 50 years, and the biological differences they document have led to a bewildering array of proposed names for this alternate form of diabetes, often overlapping but not quite synonymous: J-Type Diabetes, Z-Type Diabetes, Tropical Diabetes, Pancreatic Diabetes, Type 3 Diabetes, Protein Deficient Diabetes, African Diabetes, Ketosis-Resistant Diabetes of the Young, Type 1b Diabetes, and Malnutrition-Related Diabetes. A Nigerian research team suggested using "tropical diabetes" as an imperfect placeholder to refer to debates about such cases until more is understood about its actual causation, since "the syndrome known as tropical diabetes seems to be distinct from the two main types common in developed countries," despite the unknown impact of malnutrition and wide "clinical and biochemical variants" (Abu-Bakare et al 1986).

Today many scientific experts no longer believe that tropical diabetes should even be distinguished as a separate diagnosis. The World Health Organization added "Malnutrition Related Diabetes Mellitus" as a new category of diabetes in 1985, then deleted it again in 1999. Now only Type 1 and Type 2 are recognized, with "malnutrition modulated diabetes" considered a poorly understood subtype operating between the two (Samal et al 2002; WHO 1999). Meanwhile another atypical subtype of the disease called ketosis-prone diabetes has recently been identified in Africa, again blurring the presentation signs of types

1 and 2, and thought to be characterized by an emergency state of ketoacidosis at the time of diagnosis (Mbanya et al 2010; Mauvis-Jarvis 2004). Yet the condition of ketoacidosis represents the pinnacle of medical crisis for any diabetic, a potential complication of any untreated diabetes that can lead to heart attack, kidney failure, coma and death—raising the disturbing question of whether this characteristic of "African Diabetes" is a unique syndrome acting through specific immunological mechanisms, or rather the life-threatening end point of care systems so unequal that diabetics in certain parts of the developing world consistently experience complication burdens severe enough to make their symptoms appear as a clinically distinct disease (Gill et al 2009). Indeed, this underlying question of not only nutritional but treatment inequalities is also intertwined throughout the history of attempts to define "tropical diabetes." As early as 1961 (Tulloch and MacIntosh 1961), a follow-up study to the original 1955 identification in Jamaica suggested that "J-Type Diabetes" was not a unique disease after all, but a divergent clinical picture that resulted from the complications of very poor treatment of Type 2 diabetes in a context of poverty and nutritional insecurity.

While many unknowns remain, this fragmented debate might be productively read as a global catalogue of various ways that "localized biologies" (Fullwiley 2011) can inflect the ways and reasons that diabetes manifests itself (and is unevenly treated) across historical time and different social ecologies. What I ultimately take away from this half-century long controversy about "tropical diabetes" is a belief that we need to better understand the relationship between contexts of insecurity, histories of malnutrition and *any* form of diabetes.

The notion of a "thrifty genotype" (Neel 1962) that puts certain ethnicities or racial groups at risk for diabetes through an elusive gene has now been critically dismantled. This concept was premised on the ideas that native societies engaged in gathering food economies must have frequently experienced famine, and developed genetic traits that

allowed them to survive cycles of starvation intermixed with times when sufficient food was available. Yet later research showed that this model relied on several faulty assumptions—most prominently, the fact that the supposedly massive and ongoing pre-contact famines did not exist (Benyshek and Watson 2006)—and in fact, if anything, famines and food shortages are actually more common in agricultural societies. (This is not to mention that the "thrifty gene," proposed as inherent in the DNA of populations in the "races" of certain geographic zones, for some reason seemed to afflict not only American Indians but all minorities in the US, despite their diverse origins across quite disparate parts of the globe.)

Although increasingly apparent that a "thrifty gene" is not its mechanism, a cryptic historical link between hunger and diabetes remains. In 2011, scientists discovered the first known "cure" for type 2 diabetes: starvation. Their study found that the disease could actually be reversed—perhaps permanently—*not* by a reasonable, healthy diet, but by an extreme "starvation diet" of less than 600 calories a day. The pancreas's insulin-producing beta cells, usually understood to be in a state of irreversible failure with diabetes, suddenly normalized themselves, leading the team to conclude that the "abnormalities underlying type 2 diabetes are reversible" with a drastically insufficient nutritional intake (Lim et al 2011). Without assuming a genotypic root of the condition, I do believe that this experiment reveals for us the *social context* in which the beta-cell and metabolic changes that mark diabetes would instead be a healthy adaptation: near-starvation and chronic hunger.

Indeed, there is growing evidence that maternal and neonatal malnutrition can play a fundamental role in the later development of metabolic disorders. Rather than linkage to some racial or ethnic gene, more recent research suggests that nutritional stressors during *any* mother's pregnancy will later contribute to her baby's risk of insulin resistance—a biological plasticity activated during fetal life or infancy to help a child survive in the context of scarcity, which in adulthood increases the risk of diabetes up to threefold (Barker

2003; Barker et al 1993; Gluckman and Hanson 2005; Hales and Barker 2001; Lindsay et al 2003; Wells 2007).[60] Various biological mechanisms have been hypothesized to explain such intrauterine or childhood nutritional risk factors for diabetes, each filling in a piece of an etiological puzzle that spans both maternal and fetal undernutrition (Benyshek et al 2001; Begum et al 2012; Buckley et al 2005; Godfrey and Barker 2000; Martin et al 2000; Nolan et al 2011; Phillips et al 1994; Stocker et al 2005; Yajnik 2004) and malnutrition in infancy and early childhood (Cabero Roura et al 2011; Hanson and Gluckman 2011; Hales and Barker 1992). In fact, a mother having any form of diabetes—including gestational diabetes, which emerges abruptly during pregnancy and typically dissipates after the child is born—highly increases her baby's chance of later developing diabetes, especially if blood sugar is irregularly controlled during pregnancy, as is so often the case in contexts of poverty (Konig and Shuldiner 2012; Wright et al 2009). It is now believed that up to 30% of the burden of type 2 diabetes may be passed on through gestational diabetes alone (Lohse et at 2011; Osgood et al 2011), a veritable form of vertical transmission that is not linked to DNA inheritance at all and could be interrupted if the mother's blood sugar was controlled with adequate medical treatment during pregnancy. The cellular alchemy that produces these risks still holds many unknowns, but collectively these layered causalities suggest a picture of diabetes as part of a complex developmental system that interrelates maternal and childhood malnutrition with erratic blood sugar levels, and later insulin resistance and metabolic disorders across generations.

Consider this emerging biomedical information in light of Arreini's own account of her diabetes—for example, the spirits that speak to her from a ghostly history when approximately 75% of the Garifuna people died of starvation and disease. (Indeed, chronic insecurity continues cascading through generations of her family, such as the violence that turned Arreini's mother into a political refugee, or the tragic death of a loved one that contributed to the factors at play in her daughter's "sugar"). When cross-read against

cultural histories of the Americas, the implications of this emerging epigenetic information of diabetes causation points toward a gap in our cultural knowledge about "high risk populations" that requires close attention. If we take seriously this evidence demonstrating that metabolic disorders such as diabetes can be induced in previously healthy individuals by contexts of prolonged semi-starvation—and passed from mother to child in contexts of chronic insecurity or malnutrition, by activating epigenetic mechanisms of neonatal and infant plasticity present in *all* human beings that allow for bodily resilience in crisis—then this means that the unevenly distributed risk for diabetes can only be fully understood in light of specific historical crises that subjected entire populations to violent metabolic shock. This is a juncture where ethnographic and scientific knowledge tug at each other, together helping to fundamentally reframe the origins of risk for a disease so often slated as "inherently" ethnic, or moralized as the "cultural" product of patients' own decisions, poor choices, or excesses.

Metabolic Memory: Diabetes in Deep Time

The scientific tools of genetic sequencing, like any manmade instrument, draw from ways of measuring time that are embedded within particular constructions of social power, structures that both index and contour what other kinds of relationships or interpretations are possible within them (Greenhouse 1996). Genetic research examining diabetic risk often organizes its samples through categories such as "Mexican" or "African," which can only reproduce social constructs of race by assuming samples are timeless, naturally "inherent" in the body and representative of an entire population as such groups are imagined and inscribed by scientific practice (Montoya 2007), rather than engendered in historical time through an individual's specific social experiences. Meanwhile, when it comes to treating diabetes, clinics and hospital ERs situate the numerology of glucometers within the time of clocks, which begin anew again each day—so causations explaining high blood sugar are

limited by hours, what a patient ate for breakfast or how many units of insulin they have injected. Because such dominant framings of diabetes have no other way to measure, they also have no other way to understand causation outside what these two constructions are designed to capture: on one hand, the presumed volatile alleles inherited in the DNA of socially constructed "bioethnic" populations; and on the other hand, individuals in need of "lifestyle modifications."

Thus, our clinical models and care technologies for the disease, as well as "bioethnic" categories underpinning diabetes genetic research of the particular sort that Montoya describes (2010), have no way to account for social time that unfolds *during* an individual human life, let alone how such lifetimes' deprivations, excesses and exclusions are encoded in the inheritance that is passed on in the human body between generations. Without instruments to measure and situate death in other intervals, we also risk losing our ability to ask how past events (such as social histories of annihilation) impact chronic health at all.

Fragments of our bodies die constantly, but many pieces have their own memories and keep their own time. In diabetes, one clear example of this medical problem of time measurement can be seen in the recent shift toward hemoglobin A1C tests. While standard home glucometers can take a drop of blood and measure how much sugar it contains in that particular moment, an A1C test conducted on the same blood can tell the story of an individual's sugar levels for the past three months. This breakthrough was possible because it was discovered that traditional glucose tests read the sugar contents of blood cells as if peeking inside a container, but hemoglobin has a much deeper memory than what it is holding in a given moment—each cell actually archives memory of every trace of glucose it has *ever* carried in its individual lifetime. And so we now have a new interval of clinical measurement in diabetes care (the reason an A1C test goes back 90 days is because that is the span of a red blood cell's lifetime). The information was right there all along. We just

learned how to read it in a fuller way. What other of the bodies' imprints and memories of sugar do we not yet know how to measure?

Such questions are at the heart of an emerging science called epigenetics, a cutting-edge field now starting to examine how risks for certain conditions—metabolic disorders in particular—can be transmitted through a "non-Mendelian inheritance" (Youngson and Whitelaw 2008). The prefix *epi-* is a Greek word meaning "near to," "on top of" or "in addition to," so epigenetic science is the molecular study of what operates *in addition to* genotypes as part of biological inheritance. The actual science of this field is so new that researchers weren't even sure that epigenetics materially existed until a few years ago. But now, it is through these mechanisms that scientists believe they might soon begin to understand some of the mysteries of diabetes progression, including one enigma known in biomedical literature as the "metabolic memory." Like the hemoglobin cells of an A1C test that remember all the glucose they have ever carried, cardiologists and endocrinologists are now beginning to suspect that every organ in the human body has a cellular archive tracking its specific processes and stressors over time (Jax 2010), so that kidneys, heart, liver, and so forth each have their own separate bank of memory that mediates genetic expression. Seeming to operate through chromatin-based mechanisms, these epigenetic processes are believed to critically affect "the pathology of diabetic complications" (Villeneuve and Natarajan 2010), since each organ has a longitudinal memory of past strains and damages that *accrue* over time. And just as these metabolic damages are remembered by individual cells that later divide and can pass their altered chemistry onto the next generation, one of the key fronts of epigenetics is exploring when and how such processes occur between generations—not just of cells, but through those cells, also between generations of people (Heijmans et al 2008; Huang et al 2010; Murphy et al 2012: Tobi et al 2009).

Since this potentially brings people's lived social contexts and historical traumas into the fold of cellular biology, I am interested in exploring this line of analysis to better

understand distinct histories of sugar in the Caribbean and Central America. My queries into historical origins of diabetes risk here are clearly "suggestive rather than exhaustive" (Thomas 2011). Yet many Garifuna diabetics are still told at the clinic that their "double race" is also a "double risk" for metabolic disorder—and indeed, the "thrifty gene" hypothesis still circulates robustly among many genetic researches and certainly looms large in the public imagination (see Diamond 2003), despite decades of cogent challenges by social scientists as well as genomic experts themselves. Critically reviewing new epigenetic research *through* regional histories and actual people's stories also serves to complicate and deepen the human implications of these findings. To understand this emerging science, we need to recognize it as part of ethnography too.

Building on the insight of Benyshek and collegues framing diabetes as a "political disease" (2001; see Ferreira and Lang 2006), I understand the Garifuna's high rates of diabetes to represent an intertwining of both indigenous histories of annihilation (they are nearly the last speakers of Carib language, spoken by the native peoples first encountered by Columbus, remaining in the world today)—as well as a legacy of African ancestry with its own particular story of violence. (In addition to surviving the Middle Passage, recall that St. Vincent became a stronghold for runaway slaves from surrounding sugar islands throughout the 17th and 18th centuries). Some recent work has suggested examining slavery in relation to diabetes; however, the dominant formulation is essentially a repackaged "thrifty gene" hypothesis for the African continent. For example, diabetes researcher Cam Patterson recently theorized: "In essence, although African populations moved geographically as they came to the United States, their genes retained a pattern more suited to their ancestor's home, becoming maladaptive as African populations adopted a Western diet" (Forsloff 2009). This hypothesis still assumes that historical Africans in "their ancestor's home" faced food insecurity or some nutritional abnormality prior to colonial intrusion, a genetic theory unsubstantiated by evidence and already called into question by

anthropologists. As Benyshek and Watson have shown, famines and food insecurity are actually *more* likely as the scale of agriculture grows toward industrialization (2006). Likewise, there is a very important difference between epigenetic theories and the so-called "slavery hypertension hypothesis," which has been roundly critiqued for its assumptions. (Although it attempts to introduce the dimension of history to questions of metabolic disorder, this theory of "natural selection" still assumes there was something genetically "African" and somehow maladaptive within slaves' biologies before they boarded ships for the Middle Passage—in this case, genetic differences theorized to be caused by insufficient salt mines on the continent (which historians later showed to be factually incorrect). Therefore, there is a sense in which the "hypertension hypothesis" represents a more complex reformulation of the same problematic constructs of inherently diabetes-prone "races" that have marked debates about metabolic disorders since their inception.)

Anthropologist Duana Fullwiley's pathbreaking work on "reevaluating genetic causation" (2010) provides a useful vocabulary for explaining the difference in my own approach to interpreting the multiple frames of science and social history in play. Her ethnography of the politics of difference in sickle cell research spans both genetic laboratories in France and sicklers' homes and clinics in Senegal, showing how a theorized "mild" form of the disease—circumscribed and inflected in part by a colonial legacy of racial science—over time has become a *lived construct* of disease (2012: 35, 265) shaping the bodily affects and survival tactics for people who come to daily inhabit a constructed category of being. To place the case taken up here in a historical view, the colonial template of imagination in question is a very different one; the social constructs of racial science in operation were especially pernicious in degree, yet quite familiar in their assumptions that some human bodies had different biological thresholds of pain and hunger than others. The historical records of malnutrition and chronic disease in contexts of conquest and slavery (Handler 2008; Kiple and King 1981; Kiple and Kiple 1980) show the daily insecurities and

disorders that people faced, social constructs that they were made to either fit within or die from as they were forced to inhabit life beyond normal bodily thresholds in deranged "blood sugar" economies. Descendents of people who faced such historical situations of slavery and violent conquest are today statistically more likely to have what diabetic medicine terms "metabolic derangements." Assuming that a population was healthy prior to being caught in a system of "exceptional violence" (Thomas 2011)—and, like Juliet McMullin's "healthy ancestor" (2010), I see no reason not to—perhaps a diabetic's "deranged" bodily relationship to sugar can also represent a *lived construct*.

Digging deeper in the literature, Jacquelyn Patricia Price Robinson notes in an unpublished thesis that "none of the major theories for high Type II diabetes in African Americans acknowledges slavery as a contributing factor," although this history likely "affects the descendants of slaves wherever they live, whether in Europe, Africa, Asia, or the Americas" (2003: 7-8). Rather than focusing on poverty, her research examining a middle-class black community in Ohio with very high rates of diabetes helps to demonstrate that modern socioeconomic conditions alone are not enough to explain the high burden of diabetes among minorities today. Thus Robinson's work, like Benyshek's in the Native American context (2001), notes a crucial (yet often overlooked) interconnection between cultural histories of terror and metabolic science, prefiguring the new literature emerging today that examines "epigenetics and the embodiment of race" (Kuzawa and Sweet 2009).

Because it is a science of how experiences are passed between generations, the very concept of epigenetics already implies the influence of history. Yet the great majority of the scientific information we have so far about diabetes risk and epigenetic inheritance has been gathered in laboratory studies of rats (or occasionally mice and sheep). This molecular evidence is already beginning to make for productive theorizing about socioeconomic conditions and disparities (Braveman et al 2011; Drake and Liu 2009). Yet it remains difficult to fit this knowledge into geopolitical time or understand how it plays between

scales, let alone understand how threads of actual human experience become variously entangled in such metabolic processes. Like any anthropologist, I want to bring this information back to actual people and lived problems of social history. How might we help to add layers to this emerging field of diabetes knowledge with the tools of anthropological storytelling?

Although anthropologists frequently draw from written records, we also have our own disciplinary methodologies for accessing the past, which are particularly useful for filling out the bodily effects of social ecologies often known only through histories written by colonizers. As Alan Mann, a physical anthropologist in my department, constantly reminds his students of visceral human history: "Teeth function in a way that is part of your lifetime."[61] Teeth are also a recurring image in Toni Morrison's *Beloved*, a novel which depicts an enslaved mother's inability to breastfeed her own baby because her milk is stolen (dramatizing the common historical practice of requiring black "wet nurses" to give their breast milk first to white infants, meaning there was often insufficient milk left over to nourish their own babies). In the novel, an enslaved mother unable to provide milk for her baby instead gives the baby a rag to suck on soaked in sugar water; the crux of the narrative famously unfolds around the profound damages done to the mother-child relationship in a context where wounded kinship and love exist against a context of poisonous violence. Teeth reappear constantly throughout the story as a sign of the fragments of memory and shattered relationships that endure beyond death: "The breathing is gone; only the teeth are left" (Morrison 1987: 97).

Between art and science, both of these thinkers use their own craft to point toward a strange human truth. Teeth tell stories that outlast us, the one fragment of our bodies that preserves traces of places and events otherwise forgotten. When archeologists want to know where a person was from, for example, the most reliable method for ascertaining this information is by running an isotope analysis on the individual's teeth. Each layer of a

tooth mineralizes at a different moment in time, creating "a permanent signature of the place of origin as tooth enamel forms in the fetus, infant and child" (White et al 2007:162). By tracing oxygen isotopes (specific to the composition of local water sources) and levels of strontium (which leech from bedrock to leave traces in our groundwater and food supply), it is possible to zero in rather closely on the geographic place where an individual was born (160). Because they create a permanent record of what an individual has ingested, teeth also bear clear marks of childhood nutrition. Unlike human bones, which are constantly trying to heal themselves through remodeling (and thus might cover back over biological damages), teeth remember everything because they are unable to repair themselves, and pathologies there "leave clear and comparatively unambiguous signs upon the skeleton" (Scott and DeWalt 1980: 267). Teeth are also the last piece of us to remain intact after death, durable long after bones have grown brittle and bodies decayed (Handler and Corruccini 1986). Searching for a way to trace "damaged biologies" (Petryna 2002) of past generations as they related to metabolic changes that occurred within people's lifetimes, I wanted to experiment with using anthropology's "four fields" to their fullest and try to add another set of stories and bodily memories to the social science of diabetes causation. I began searching the archeological record.

A colonial slave cemetery in Newton, Barbados, stands on the grounds of what is still today a working sugar plantation. Anthropological work there has provided some of the most vivid concrete information we have today about the everyday conditions of slave life—obviously rooted in the specificities of a particular context in Barbados, but which the anthropologists write may in some ways "typify" conditions of Caribbean slavery more broadly (Handler and Corruccini 1983: 70). It is crucial to pay attention to the specificity of this information; after all, Barbados is not Belize (where archeological records of the sort I was searching for are not available). Yet it is equally important to make use of available evidence in trying to understand how Caribbean societal norms were patterned and ties

forged between colonies; for example, slaves and their descendants were brought from Barbados to work in the sugar estates of northern Belize throughout the nineteenth century (Bolland 1977), escaped slaves from Barbados became part of the Garifuna population of St. Vincent before the 1796 dispossession (Sweeney 2007), and Arawaks (part of the Garifuna's indigenous ancestry) were among the enslaved populations on plantations in Barbados in the seventeenth century (Linebaugh and Rediker 2000). (Valued for their knowledge of Caribbean agriculture and enslaved in equal proportion to Africans during early historical moments, according to a 1636 record announcing a plantation purchased with "one hundred Negroes, and one hundred Indians as slaves" (124)). These intertangled colonial economies of people erratically connect histories and places throughout the British Caribbean, and make the consequences of normalized practices at any one node worth examining for wider implications and interconnections.

Beginning in the 1970s, a cultural and historical anthropologist named Jerome Handler began archeological excavations in Newton, later joined by physical anthropologist Robert Corruccini, whose area of specialty is dental specimens. By examining individuals' teeth, they were able to trace patterns of childhood "metabolic shock" and "nutritional trauma" (1986: 114), resulting in damaged bodies and disproportionate young deaths traceable in large part to "highly improper foods." The particular sign they examined in the slaves' teeth is called *hypoplasia*, the "pitting, mottling, and bands and lines on teeth where enamel deposition stopped suddenly during a tooth's growth in its crypt" (1983: 72) due to a metabolic disruption that signals chronic malnutrition or epidemic disease. Hypoplasia can also appear in fainter bands, sometimes referred to as "fever lines," but the archeologists found that "extreme or severe hypoplasia was by far the most common type" among the slaves of Barbados, revealed by "deeply indented horizontal depressions running completely around the tooth. These growth arrest lines are generally considered indicative of extreme dietary deficiency or starvation" (72-3). Although the authors crucially note how closely

chronic malnutrition and disease "are interrelated," they repeat that the particular "periodicity" in these patterns of damage firmly suggests "severe metabolic crisis during childhood" (73). In this group of over one hundred individual slaves, *this signature of metabolic shock was recorded in 98 percent of the population* (72).

As archives of "metabolic memory" containing another interval of time by which to measure histories of sugar, these teeth document the very nutritional damages that the emerging literature about diabetes (reviewed above) has reported greatly increase the risk of metabolic disorder and insulin resistance *across generations*. This is a moment when epigenetics and anthropology together bring to light different fragments of evidence, showing the lived damages of a devastating Caribbean history. We have already seen how, through intrauterine chemistry and neonatal plasticity, such a history of metabolic shock could transmit a risk for diabetes from mother to child—and what about that child's child? Just how far back can our "bodies remember" (Fassin 2007)? Or, asked another way: how many generations would it take the body's "metabolic memory" (Jax 2010) *to forget* such shocks, even those events that may fall outside the limits of how clinical practice usually conceives of disease (or conceives of time itself, for that matter)? And what happens when racial disparities in modern healthcare systems (see Rouse 2009 for a compelling theoretical vantage on this vast literature) and continuing inequalities of nutritional access (Chaufan et al 2011; Liburd 2010) tend to reproduce or exacerbate such bodily damages, rather than interrupt or heal them?

Researchers of epigenetic science are already asking very similar questions, although phrased differently in a laboratory context ("the transgenerational rate of decay" of epigenetic signatures)—markers which sometimes change several times within a single individual's lifetime, but in other cases persist for unknown reasons across generations (Handel and Ramagopalan 2009). Just now on the cusp of being investigated by genome scientists and social scientists alike, these lines of inquiry will clearly fill in an imperative

missing layer in public debates about why risks for diabetes and metabolic disorders are distributed unevenly across different populations (Williams and Sternthal 2010; Drake and Liu 2009; Braveman et al 2011). Some extremely revealing laboratory studies, for example, have shown that taking groups of healthy, genetically normal rats—then starving the mothers during pregnancy—somehow transmits metabolic irregularities and insulin sensitivity (a precursor of diabetes) to their offspring *regardless of whether or not the baby is directly exposed to a negative nutritional environment itself* (Martin et al 2000; Pinheiro et al 2008; Zambrano et al 2006), a "metabolic programming" (Langley-Evans 2007) preparing the offspring to survive a life of malnutrition that can potentially be transmitted for *multiple generations* after the starvation event actually occurred (Benyshek et al 2006). These metabolic damages—which are *not* understood to be DNA mutations—are of great "therapeutic relevance due to their *reversible nature*," a mysterious signature in "epigenetic memory" which geneticists studying the transmission of such stress imprints through rat lineages have poetically termed the body's "secret language of destiny" (Zucchi et al 2012).

Nutritional imprints are passed from mother to child at the womb level (working largely through the incredible plasticity of the human umbilical cord), and at times these cellular phenotypes are even work on the level of mediating DNA, through the modification of epigenetic "promoter" methylation[62] (Godfrey et al 2011), which—to make an incredibly long and extremely intricate story short—plays a role in regulating RNA metabolism.[63] Instead of a mutation within the alleles, such mediators can influence the way genes are *expressed* and the chromatin structure controlled (through the tag of histone acetylation), without actually changing the DNA's underlying sequence (Handy et al 2011). (There are most likely multiple other epigenetic intricacies at work besides the two key mechanisms discussed here, but scientists do not yet understand enough to see or trace them.)

This fluid dimension of gene expression is a highly contingent inheritance, its influence depending on the second-generation individual's life conditions and how these

articulate with those of their parents, as well as their own social and natural environments (Ling and Groop 2009; MacFarlane et al 2009), even including choices and habits. For example, several months ago (Barrés et al 2012) it was discovered that a person can actually remodel their own DNA with strict exercise regimes (through the same mechanism of methylation modulation). Through such plasticity, it is now clear that metabolic information can be tied to previous generations without actual allele mutation—and because these specific epigenetic mechanisms "do not involve changes to the DNA sequence," this means that they are changeable: "*Unlike sequence changes, they can be reset or undone"* (Pollin 2011, emphasis mine).

By insisting we account for the bodily ways that chronic insecurities *interlock* across generations, these cutting-edge laboratory studies profoundly align with my Garifuna interlocutors' insights and care practices. Although social histories and molecular biology might appear to work with seemingly incommensurable units of evidence, uneasily cross-reading their various scales can make this interdisciplinary tension a productive one, together deepening our understandings of how emerging metabolic science actually surfaces outside the cages of laboratory animals and within the messy causal realities of the lived ethnographic world. The breaking "epigenetic" research surveyed here shows how consequences of chronic insecurity can be passed through generations—a startling thought when considering the region's astronomical diabetes rates alongside archeological evidence patterning Caribbean starvation in general, and the traumatic social history of the Garifuna specifically. (Indeed, *three* distinct histories of violence are actually evoked in the moment when a Garifuna patient is told they are at "double risk" for diabetes on account of being both "Afro" and "American Indian.") If diabetes appears more often in certain families, ethnic lines or "racial populations," the theory of risk reviewed here would hold that this is true not because of some ever-elusive racialized "thrifty gene" or a random "drifty gene" (Speakman 2008)—but because historical atrocities and profound inequalities hold the

power to damage human biology at the most cellular level. Perhaps this is a juncture where Bourgois' "intimate violence" is not invisible after all, only microscopic: bodily specimens measuring a *molecular violence*.

In this epigenetic view, the fact that a risk for diabetes could be mistaken as somehow inherent to "African" or "Native American" DNA tells us nothing except how chronically these same social constructs of race have been deployed in the "terror of history" (Brown 1959). Diabetes prevalence statistics, it would follow, often mistakenly ascribe to some causative idea of inherent "bioethnic" genetics what is actually an index of metabolic damages wrought by social violence, cascading in intergenerational chains that apparently remain largely unbroken by inequalities within our modern systems of medical, maternal and neonatal care and uneven nutritional access. The genetic researchers who are now searching for difference on the level of stress imprints and signatures (rather than DNA mutations) teach us that "metabolic *re*programming" for healthy metabolism can occur through the same mechanisms of biological plasticity that made changes possible in the first place, once the body is signaled that it is in a secure ecology over time. The astronomical burden of diabetes and metabolic disorders today borne by minority populations the world over teaches us just how rarely such secure ecologies (which must be stable enough to *undo damages*) are ever actualized in our neoliberalized world. In this light, diabetes mellitus could be understood as an iconic paradigm of anthropologist Didier Fassin's insight (2007: 32): "The epidemic thus invents nothing; it uncovers."

It is usually imagined that "nature" is that unchangeable material in us, and "culture" the shifting variable that might be altered through social relations or environmental contexts. Much anthropological research seeks to unsettle this divide (Goodman et al 2003; Haraway 1991; Rabinow 2002; Strathern 1992); and interestingly, in the case of diabetes and epigenetic remodeling we see the human body engaged in this same process of bridging and blurring. For this emerging scientific knowledge shows "metabolic

memory" at work within the human body's biological plasticity, revealing interstitial mechanisms in operation *between* such seeming binaries—indeed, beginning to turn the usual terms of nature/culture debates entirely on their head. A fundamentally inverted view emerges from an anthropology of diabetes that uses social history to trace metabolic shock across generations: It is resilient human biology that seems constantly shifting, and our cultural categories of exclusion that appear frighteningly staid.

"Wounds That Won't Heal"

A handwritten poster on the village clinic wall listed the signs of diabetes (extreme thirst, exhaustion, blurred vision or blindness,[64] frequent urination, unexplained weight loss, pain and loss of feeling in limbs), but there was one particular symptom on the poster that always stood out to me: "Wounds that wont' heal." This common symptom of diabetes, such as the ulcer on Arreini's foot that began this story, makes eerily literal the histories of injury outlined here.

Recent medical studies have discovered a strange treatment to help diabetics with "wounds that won't heal": for some reason, applying sugar topically to the necrotic wounds of diabetic patients in the hospital has been found to help new tissue to form and heal itself, closing foot ulcers and preventing gangrene (Biswas et al 2010). If the history of "blood sugar" already seems like a series of violent symbolisms quite literally embodied, then this new medical treatment brings these odd interconnections full circle. Indeed, when several centuries of scientific research about diabetes are boiled down into two sentences of biomedical advice, they sound straight out of a Sir James Frazer chapter on contagious magic (If your ancestors can be tied to violent "blood sugar," try not to eat much sugar because your blood might fill with sugar! But if it does and pieces of your body start dying, sprinkle some sugar on it.) There is something truly uncanny about how closely "blood sugar" (violent imperial history) overlays with blood sugar (diabetes). But when reading

emerging metabolic science as a "lived construct" of disease (Fullwiley 2011) alongside colonial history and emerging neoliberal dispossessions, perhaps we can only call these disturbing parallels ironic if we mean *irony* in the original sense of the word—"feigning ignorance" (OED 2012).

In *Profiles of the Future*, scientist Arthur C. Clarke writes that advanced forms of knowledge become "indistinguishable from magic" (1985) because science cannot yet conceptually account for how either arrives at working truths. The body's "metabolic memory," which scientists have documented in clinical trials even though they cannot actually trace its finer mechanisms, might be considered one example of this principle (like epigenetics writ large)—where truth falls somewhere just beyond what science can yet capture, yet often lands us largely in the same domain where the seemingly magic "folk idioms" of diabetes often might fall as well. Arreini's vigilance against poison and evocation of the hungry dead represent points in a continuum of spectral histories of blood sugar, in key ways articulating with concepts such as sweet blood, fright, shock, depression, trauma, sugar and nerves—which together may represent the closest we have yet come to understanding what diabetes has to do with the persistent ways that traumatic history can imprint itself as risk within human lives, across time and distance.

Two months before my fieldwork was over, Arreini began planning a trip to Chicago. Her diabetic ulcer still had not healed; the infection kept subsiding and reappearing again, despite an endless string of antibiotic pills and herbal treatments. The tissue had seemingly lost the ability to heal itself, and the doctors in Belize wanted to cut her foot off (apparently as a precaution, so that she wouldn't lose the whole leg or succumb to deadly toxemia). She was going to the States to try to save her foot, and also visit with her family there—several of her children lived in Chicago and Detroit. One son had even taken out a U.S. health insurance policy for her. She said that her husband wanted her to "come back" and visit him there, but she was unsure. "I buy this love for myself," Arreini said.

We were finishing our final meal together on the wooden bench when the cordless phone started ringing from inside the bulging pockets of Arreini's apron. Her Garifuna grew loud and anxious, but I couldn't understand. She hung up the phone, her head bent as if in exhaustion or mourning.

Finally looking up, Arreini shuffled around in her apron pockets and lit her pipe, stuffing it with pale, fragrant leaves that sounded brittle in the darkness. She told me that Grace's dialysis portal was infected, her breast on one side monstrously swollen with the sickness. The surgeon was going to "bore another hole" in her daughter's chest the next day to open a second portal, the opposite side of her heart this time. "It's rotting," she said of the first hole. "Now she has three things—the sugar, pressure, and the rotting. Like cancer. There is no remedy for that."

She fell quiet, looking around at the yard she was about to leave behind. "Well, only Jesus knows," she said. Complications of diabetes had now created an intractable wound in her own foot and also opened two literal holes (one decaying) in her daughter, bodily ruptures that spoke of a long history of violence that had been patched but not healed: a string of white foods' poisonings and losses that began with losing a distant homeland to sugar cane; the exclusions of neoliberal labor through which diabetes affected Grace much earlier than her mother; the fractional healthcare system and heavy losses that remade her daughter's treatable disease into a deadly one; a pit somewhere holding the corpses of 21 Garifuna sons and fathers that her mother had fled in Honduras, those missing men one more violent scene in an ongoing history of pathological economies severing Belizean families; the persistent biological risk that somehow led to 7 of her 13 children being plagued with diabetes too, "blood sugar" related to the body's cryptic metabolic memory of ancestral horrors just beyond the edge of conscious recollection. There were deeper histories they each bore, damages carried somewhere in the blood itself. Alongside all of Arreini's loving "repair work" and arts of *taking care*, there were also points where the

chronic holes being torn in her family were not always patchable. Arreini told me suddenly that as long as she was still alive, she would bury Grace in the village; "here with me," she said, staring at the dirt road. Her voice sounded far away as she puffed on her pipe with focus. Although she did not look back toward me once, I felt it was the most intense conversation we had ever had. "I can't stop the deadness," she said.

Earlier that evening, Arreini had already packed for her flight to Chicago (two suitcases and a vinyl "krokos sack"[65] patterned with Disney princesses), so she could go to bed early and be ready for the dawn bus the next day. She asked for help as we stood up from the wooden bench and leaned heavily on me as she got to her feet, her need surprising me with a jarring reminder that she really was 83 years old. As she moved the bamboo staff into place after tilting the bench in her usual routine of protection, I wondered sadly if I would really see her again. "I will miss you, my husband," she said, as if I had spoken the worry out loud. The pressure of her weight on my elbow seemed at odds with her fierce proud air, like walking arm-in-arm across the sand with a geriatric titan. She clenched her teeth when pressure fell on the wounded foot, and we hobbled toward the back house with careful steps.

"Dialys"

In August 2010, I made the trip to Belize City to visit Grace. She was getting treatment in the country's only dialysis unit. It was around eight thirty in the morning and she was hooked up to one of the six machines already, deep into the three-hour treatment. Though always beautiful, Grace looked slightly puffy when I leaned down to hug her, like many patients in renal failure—once the kidneys (the body's filter of liquids and toxins) stop functioning, this becomes visible from the outside as a painful swelling, signaling that the tissue inside is drowning in fluids. She showed me the "first hole they bored" in her, now patched with a blue medical bandage, and the new one that attached her body to the

machine through a plastic fistula. The doctors wanted her to put the second fistula in her hand, a procedure that required paying out of pocket for the surgery in Guatemala. She declined, because to her the fistula looked more dangerous in the hand, and for the time being she could still take showers herself; if her hand stopped working, then she would lose the independence to soap her own body. So the surgeons installed the new fistula on the other side of her heart instead. Grace did not remember falling into the diabetic coma that first sent her into dialysis, or anything about the panic that consumed her family as they carried her unconscious body to the hospital. Her first recollection was waking up and making out the face of her daughter, crying. "It was Danielle. She said Mommy, you almost gone. I pray, I pray. I still praying."

The bandana Grace had tucked around her hair was the same bold red color as the one Arreini was wearing in the picture I handed her, only patterned with paisley instead of skulls. Grace wore it because the private hospital was cool, and the treatment made her feel feverishly cold inside her veins. She was slowly going blind, which occurs when the blood vessels that nourish the retina are damaged by high blood sugar and become blocked. In its most advanced stage, called proliferative retinopathy, the eyes try to compensate by growing new blood vessels; but they are abnormal and fragile, sometimes leaking blood from their fragile walls and causing severe vision loss or blindness. Grace had scheduled a corrective laser surgery with a visiting NGO team, but then cancelled it earlier that week because she had heard of someone who went completely blind afterward instead of recovering their vision (see Chapter 5). "I can still see a little, so I need to keep that." To preserve her remaining sight, Arreini had advised her daughter to find an herb called *luda*,[66] and put it in holy water to wash her eyes. But with her mother away in Detroit, Grace couldn't find any *luda*. "Lone holy water," she said of her current treatment.

"Every Tuesday I am here. Just fighting. If I don't fight, who will fight for me?" Grace said. She usually had no appetite after treatment, thinking of foods she wanted but

could not eat (cantaloupe, strawberry, melon, papaya) and dropping straight into sleep. She was tortured by thirst, even though it was dangerous for her to drink too much water and she had to be careful of the amount. That morning, she was unable to sleep during the dialysis because she saw that the woman getting dialysis across from her was trembling and feverish, and wanted to keep an eye on her. (It was terrifying for all the patients when one went into cardiac arrest, as it was for the sole dialysis nurse in Belize at the time, who was charged with resuscitating them without a nephrologist and sometimes without any kind of doctor. She had brought several of the patients I interviewed back to life, and afterwards they felt a special bond with her.) "But it helps me a lot. I'm still living," Grace said of her partial treatment. Because she was only able to access hemodialysis once a week in Belize, it was still just a margin of survival, stretching the remainders of time. Although through the current government program she was only able to get one of the three weekly sessions she needed to live, Grace told me that she did not regret leaving the U.S., although she would have been able to get all three dialysis sessions a week if she had stayed in New York. "But I already spend so much of my life away from my family, 12 years there. Sometimes I think, why did I leave?" She had worked in home care for the elderly, perhaps a diaspora equivalent of her mother's domestic medicine, saving money to send her family back home. "Everyone said I should stay in the U.S. for treatment now, but time is short. Everything is dear. I had to come home to my kids. We are close. When their father died, I had to cherish them. Hold them and show them love."

The dialysis machine whirred next to us the entire time we spoke, causing us to pause when it interrupted with piercing beeps, like a shrill but persistent third voice in our conversation. It was removing toxins and fluids from her blood through the semi-permeable membrane of a very expensive imported cartridge. In many parts of the world, dialysis is considered a "holding measure" (Mitaishvili 2010) until renal transplant becomes possible; but the impossibility of such a transplant in Belize made the partial therapy

instead a “holding measure” against death. Yet it was somehow comforting that the medical tubes carrying her blood into the machine for cleansing looked more pliable than I expected: less the electrical wiring of a cyborg, more like an umbilical cord. Grace followed my eyes. “Still alive,” she smiled. Watching the machine’s centrifuge spiral counterclockwise was not so much hypnotic as dizzying, with nearby asymmetrical levers surrounded by points of electronic light. In the centrifuge floated microscopic traces of decisions and events that could not be erased, the debris of so many shared meals and partial medicines—stressors and sugars, cellular histories, the particles of a life.

When Grace asked me to pray for her I did not know what to say, so I reached for her hand. A delicate adhesive of electrodes and wires threaded the air between us, awkward and alive, into its tenuous machinery. Together we watched the centrifuge wheel the spools of her blood backwards like a wildly broken clock, trying to turn back enough time for the week ahead.

4. The Side Effect

> There are no side effects—only effects.
> --John Sterman, MIT Systems Scientist (2002)[67]

Biological Entanglements

In some ways, this chapter is an artifact of enmeshed co-morbidities coming full circle. In the introduction, I discussed my initial arrival in Belize to study deworming campaigns. Chronic realities on the ground quickly shifted my research focus to metabolic disorders before my extended fieldwork, as each of the others chapters here chronicle. Yet the research about parasitic infection I had done to prepare for my initial project remained as a minor chord in my thinking, particularly in relation to the complex interplay between diabetes and histories of malnutrition (see Chapter 3). Deworming campaigns crosscut this fundamental issue at its core—showing the dominant policy rationale through which issues of malnutrition have been understood and treated over time, through interventions that provide intermittent drugs instead of healthy food. The emerging diabetes epidemic demonstrates how these same issues of improper nutrition persist largely unaddressed by such "magic bullet" interventions, and can turn into metabolic disorders over time and across generations. In this way, two seemingly unrelated diseases actually both represent upshots of the chemistry of childhood undernutrition and uneven intervals of hunger, giving us a glimpse into the ways these chronic issues are brought into policy frameworks through quick-term pharmaceutical fixes—which very often leave critically entangled dimensions wholly unaddressed and catastrophically growing.

Yet beyond conceptual comparisons, the co-existence of parasitic infections and diabetes is also a lived issue in many parts of the world. (If a diabetic patient has severe hookworm causing anemia, for example, it can seriously throw off their glucometer readings due to affected hemoglobin.) The entangled places where one disease and

treatment intersects or collides with another can often lead to seemingly dead ends, wayward paths, and untidy junctures that raise confusing questions instead of providing answers. Trying to explore this shaky territory of biological entanglement, this chapter *is* somewhat off-topic from diabetes, but I hope it may be productively so—showing the impossibility of pulling medical conditions neatly apart. Metabolic disorders like diabetes can be triggered *by* other diseases and their drug treatments, and they can *cause* other diseases needing drug treatments. We are aware of such co-morbidities and "preponderances" through population-level statistics, but the ethnographic challenge is finding ways to document these messy realities and their human costs as experienced and lived. They are part of the entangled human economies through which circulating drugs, often-erratic interventions and neoliberal forms of living that are now altering people's intimate chemistry in the most visceral ways (Biehl 2005).

In fact, pharmaceutical side effects have also become part of the "epigenetic" inheritance passed between generations today (Neel and Sargis 2011), literally marking the chemical inheritance passed between generations through the mechanisms of neonatal plasticity described in Chapter 3. The drugs taken by a mother and the way they changed her cellular chemistry can become part of her baby's very biology, now making social histories of "pharmaceuticalization" (Biehl 2007) a visceral part of *damaged kinship*. I once thought that the case charted here might follow such a plotline. It took an unexpected twist, but the family struggles and losses charted show a painful dimension of damaged kinship too.

To put this more directly, I thought the life histories and friendships described here might become part of a project that unfolded over decades as I continue returning to Belize—following a case of emergent metabolic disorder caused by drugs, which often evolves into permanent diabetes that can be passed between generations. But instead, the bodily risks of these pharmaceuticals intensified and raised more immediate questions of

healing and survival. It came impossible to tell treatment from disease, disease from disease, symptom from drugs. Following one family's search for care as it unfolds, this chapter wobbles into another terrain. My intention to trace a potential story of pharmaceutically-induced diabetes gave way to another medical trajectory. But ethnography's capacity to trace *what actually happens* is one of its special qualities. Rather than consider this story "out-of-bounds" for my research topic (as many scientists of other stripes might have to) because the case of metabolic disorder being charted never developed into full diabetes—and in fact high blood sugar became a distant secondary concern (individuals triage symptoms within their own conditions too)—I tried to document the real lives and events embroiled in this jumbled plot arc, lead where they may. Following what really happened, the immediacy of other symptoms and origins led me back to my original research tracing historical hookworm interventions through archives. This prior knowledge surely influenced and likely biased my understanding of this particular case, but also left me unexpectedly equipped with historical information about how iatrogenic forms of similar campaigns had surfaced in the past, and what they might look like today. We are left with an account that intertwines the historical dimensions of health campaigns in Belize together with questions about modern deworming interventions that continue to unfold there—raising broader questions about the adjacency of some diseases to others (in both policy and ethnographic reality); and the biological inseparability of inextricably entangled conditions as lived, counterpoised against the clinical frames and policy allotments through which diseases can only be treated as separate entities.

These uncertain inquiries raise (but do not answer) moral questions that still lie at the heart of how policy triage unfolds today: the temporality of foreign interventions and the particular moral discourses that choreograph them; the different intervals of commitment that would be necessary to effectively address chronic conditions; and the uneven ways that families or patients are themselves held morally responsible for certain

illnesses, and pitied for others. Why do some diseases elicit sentiments of sympathy or even paternalism, and others attitudes of patient's or nation's own responsibility? How do available pharmaceuticals and narratives of development play a role in shaping ideas about which populations we think must be helped, and who is expected to save themselves?

As well-intended fleeting drug interventions play across registers of both causation and cure, "damaged biologies" (Petryna 2002) often keep their secrets, like lives losing longitude. Strangely, I can say it was tragic that the metabolic imbalance charted here never developed into diabetes. Yet inexplicably emerging metabolic disorders (such as the one that opens this chapter) nonetheless raise ethical questions that sometimes mirror, and sadly refract, chronic disorders in the ephemeral "fly-by" interventions that distribute drugs which might change local ecologies—but then disappear, leaving only individuals and families themselves accountable to enigmatic symptoms and unknowable squealae.

Becoming Unglued

Elisa wore a beige flowered hat and pink crocs to the hospital, wrapped up like a saint in the backseat of the truck. Her steps between the car and the wheelchair showed how deeply her spine was bent now. It looked as if an old woman were draped in the white bed sheet instead of a twelve-year-old girl. Suzanne had told me this hunchback curvature was probably a side effect of the Prednisone she had been taking for the past three months, like her swollen moon face and high blood sugar. But despite the strict regimens of powerful steroids and antibiotic drugs, Elisa's skin had continued falling off in parched scales and flakes. Her striking eyes were a shade of brown that seemed to have a mercurial layer of gold underneath. Their color reminded me of the Snickers bars she asked me to bring her through the tropical heat when I visited her village, with thin cracks of caramel seeping through the melted chocolate. Whenever Elisa cried it was terrible, because the saline of her own falling tears stung the raw skin on her face, perpetually mottled with the

wet yellow-pink texture of a scab still trying to form. She was too furious to talk to me that night, upset about being taken to the hospital once again, and although she cried mostly in Maya I understood a few words, especially "ma!" (Mopan for “no.”)

The Tacoma 4x4 I borrowed from the clinic had a bent front axle on the verge of breaking, so I kept my foot pressed carefully against the brake while we edged slowly down the steep hill toward the river. The Saqui family had moved to this makeshift home only weeks before. Together, the six of them had left behind their whitewashed plywood house in a nearby village. Since the family last returned from the hospital, a Guatemalan bush doctor had found a small figurine buried in their yard, a man and a woman made of graveyard dust and red pepper. There were needles through the woman’s legs and knees, another stuck through her head. The tiny dolls had been thrown into the river, but afterwards problems had continued. Another bush doctor advised that ghosts were “playing in the blood” as if Elisa was already in the grip of death. The entire family had begun locking themselves in after six o’clock each evening, boarding up the windows in the tropical heat without the evenings’ cooling breeze, together bearing the long nights in stifling candlelight as an experiment in protecting their home against bad spirits. When sickness still continued, they decided to try a new location. Like many Maya, they were attentive to potential signs of changing cycles and seasons; sometimes a place becomes unhealthy, and one must move on. But Elisa had only gotten worse since they moved into a family-owned thatched roof house by the bridge, where the “marley” contact paper covering the floor had its floral geometric print worn bare in places, pathways of relatives’ footsteps over years. The house’s proximity to the slow-moving water brought extra biting insects and flies that had laid five beefworm larvae in Elisa’s hip, attracted to the smell of her dead skin and open wounds. By the time I had taken her temperature during my visit that afternoon, she had a fever of 103, a tachycardic heart rate and swollen ankles and feet, signaling another infection. “If you don’t take her to the hospital she might die,” Nurse

Suzanne had said when I called the local clinic to report her symptoms. Paulo and Angeline looked equal parts panicked and exhausted when I told them the nurse's assessment of their daughter's condition. But even after many times down the same path before, we all agreed. What else was there to do?

A permanent bridge is the kind of thing you take for granted until you visit a country where they are hard to come by. The first time I crossed the slow-moving river in 2008, the Kendall Bridge had just been washed out by Tropical Storm Arthur and all of us on the school bus headed for Punta Gorda had to climb into motorized canoes. Two years later, a makeshift wooden bridge had been constructed, but it was low and regularly flooded in the rainy season. (I heard rumors that the EU had sent a steel bridge as a replacement, but it was 5 feet too short and had to be sent back.) Because the wooden plank bridge had no edges or guardrails, I drove the Tacoma very slowly across the high water. It had rained earlier that week high in the mountains where the river had its source, so the fast-moving water was swollen to within a few inches of the bridge. (This happened regularly enough that weather forecasts on national radio stations frequently reported whether or not the Kendall Bridge remained above water for the day.) But that evening, we were in luck. We crossed over the wooden planks behind a tanker truck labeled MOLASSES, and sped toward the hospital just as the July sun was setting.

Paulo and Elisa exchanged short words and then fell quiet in the backseat as I drove down the Hummingbird Highway, past the place where the banana plantations give way to Beefmaster's open fields of grazing cattle. The fence post holding in the cows had been made with such young saplings that the branches used for posts had re-rooted themselves in the soil at the base of the fence, sprouting new bright green leaves above the barbed wire. *"Kin wilik oox'peel wakax,"* I counted the three grazing cows, trying to lighten the tension with my bad Maya, but for once even my faltering accent did not make Elisa smile. On the way to the ER, Paulo made a valiant attempt to fill the silence as his daughter refused to

speak. (He was trying to prevent my feelings from being hurt by Elisa's silence, I gathered, although we had gone through this chronic cycle enough times in the course of that year that I came to expect both her hurt, sullen quiet and eventual forgiveness). Paulo spoke of his father, an extraordinary hunter who had once shot 17 gibnuts beneath a mamey fruit tree. He used to make clear rum from corn, rice and pineapples. "But once in the hammock he reach down and a bad spirit get on his hand," Paulo said. "It was curled up, like this. But then he took bush medicine and lil by little it come back." He shook his head. "But my mother, I worry that maybe Elisa is like her. When sickness caught her she fell straight down. There was no cure."

We entered the Dangriga Emergency Room through the same door Elisa's stretcher had been pushed the previous February, and I thought back to the first time we had made the long trip through winding mountain roads from there to Belize City. That afternoon, the regional hospital had given her their second-to-last burn pack, pads of Bacitracin and sheets coated with saline to help her endure the long ambulance ride. But the hospital had run out of the Vaseline that prevented the sterile gauze from sticking to Elisa's skin. "They waited too long to bring her in. Her fever is so bad that she's speaking in tongues," one nurse had said, as Elisa cried in Mopan about the pain that the bandages caused her open wounds without a protective ointment. I was disturbed by the nurse's tone, which seemed not troubled but flippantly dismissive. "That's Maya," I said.

The heat that day had hit me like a wall as I walked outside to the nearby highway, to hail a taxi and search the local Chinese grocery stores for Vaseline before the ambulance ride. I finally found some, sold in tiny tubs in a dusty aisle overlooked by an ancestral shrine bundled with unlit joss sticks, the whole time worried that I would not make it back in time for the departure of the ambulance that I had promised to be aboard. "Your special ride, Elisa," Paulo had said when the small vehicle pulled up in front of the hospital. None of the three of us had been in an ambulance before. Inside, it was metallic and bare, save

for a wooden bedroom dresser that presumably held medical supplies. Oversized padlocks held the bureau drawers shut. There was no rack for us to hang the IV drip. Paulo and I took turns holding it so that the tube would not hit Elisa's face as the ambulance swayed through the winding roads that cut through the Maya Mountains. "Look at that big truck that just moved out of your way," Paulo soothed his daughter as the driver put on the siren outside Belmopan.

It was a specialist at the Belize City hospital who first handed Paulo an article diagnosing Elisa's mysterious skin condition as *pemphigus erythematosus*, the exact causation and etiology of which (like most autoimmune diseases) remain murky. But what experts did know about Elisa's disease, the article explained, suggested that anomalous presentation of the disease in children with no family history of *pemphigus* is often linked to a drug-induced form of the illness, triggered by antibiotics and other pharmaceuticals.[68] Although the hospital staff continued commenting on Paulo's "non-compliance" (because her parents had taken Elisa to several herbal doctors after their first seven visits to public hospitals and biomedical clinics had proven ineffective), the context of this *pemphigus* diagnosis suggested a much more complex picture—in fact, it may well have been the family's openness to their biomedical doctors' antibiotic regimens that triggered or exacerbated the disease in the first place.[69]

Elisa's first symptom had been a single red boil, which appeared on her left ankle that October. Angeline popped it, releasing a foul-smelling liquid; but soon another appeared on her foot. Her parents took Elisa to the regional hospital for treatment, then to a private biomedical clinic after the hospital's topical cream had not helped. The pediatrician there gave Elisa six injections of antibiotics ("I remember because it was five extra bus trips into Dangriga," Paulo said of the long trips from their village to the private clinic for repeat treatment. He had taken out a loan from work to pay.) Yet afterwards, the strange boils had spread across her body and begun to "dry out" after blistering, cracking

and falling off in yellow flakes. Perhaps out of hope alone, the family had interpreted this as a good sign. No one yet knew that deep in the chemistry of their daughter's autoantibody proteins, something was changing; her skin was "virtually becom[ing] unglued" (International Pemphigus & Pemphigoid Foundation 2011).[70]

Now, as we waited together in the deserted ER that June, Paulo and I enumerated out loud the details that made this visit distinct from other times waiting for Elisa to be admitted to the hospital: it was night instead of daylight like usual, so there were plenty of chairs available in the eerily vacant waiting room; the new national computer system pulled up her records easily for once; and getting the IV in took only one stick, unlike the last visit when it had taken the nurse five sticks with the intravenous needle, Elisa shrieking with pain at each attempt. Finding these variations in detail between repeat visits to the same graying rooms felt like more than idle conversation, but subtle differences that urgently needed identifying and flagging—a lived version of the brainteasers in magazines with two pictures that looked the same at first glance, but in fact were filled with tiny variations that required careful observation to discern. Minor distinctions between hauntingly familiar clinical scenes served as points of orientation in a chronic cycle—traction against an overwhelming sense of déjà vu as hospital visits began to blur into each other, and sickness threatened to spiral forward in time as indefinitely as it seemed to stretch back.

Elisa's blood sugar was over 200. High, the nurse noted, although this was to be expected given her Prednisone regimen. This metabolic side effect of corticoid steroids often develops into drug-induced diabetes over time, a complication so common that it is sometimes simply called "steroid diabetes." For this reason, I was interested in tracking what happened with her high blood sugar over the years. Although steroids are one of many pharmaceuticals that can cause diabetes, drug-induced forms of the disease remain a poorly understood iatrogenic factor in the spread of the epidemic. It seemed that Elisa's unfolding story might speak of diabetes' multiple causalities, the way symptoms and

treatment often become profoundly entangled in people's real lives. Yet in her case, the steroid therapy's potential long-term side effects could extend beyond the risk of developing high blood sugar. Strangely, complications of Prednisone therapy sometimes come to mimic the symptoms of *pemphigus* itself (Baroni et al 2007). This meant that it became literally impossible to differentiate the side effects of the drugs from the symptoms of Elisa's disease. In root cause as well as potential cure, the pathology of her illness and drugs to treat it were slowly becoming inseparable.

"The Maya," one nurse sighed to me as she walked down the hallway. Anthropologist Carolyn Rouse examines "race and marginality as a kind of protonarrative" (2004: 518) in operation in the context of storytelling and "clinical plots" (Mattingly 1998). Given the degree of therapeutic ambiguity involved in treating Elisa's condition, such caregivers' general tendency to gloss any treatment failures as being due to the family's "traditional culture" continued to concern me, as if this displaced any need to account for the fact that the hospital's medicines had not been effectual. Many nurses' and doctors' comments about the family's use of herbal medicines seemed to blame "bush medicine" as if these treatments were themselves the pathology, displacing deeper questions. What had actually caused Elisa's sickness, and how were powerful therapeutic drugs also now profoundly entangled in her symptoms?

When the attending doctor finally admitted Elisa into an isolation room, I said goodnight and drove back to the village through the dark. In the backseat of the truck, flakes of Elisa's skin that had become enmeshed in the upholstery began drifting through the air as a breeze blew in from the open window. I thought of the prognosis given by one bush doctor Paulo had consulted. "Medical Associates will give her something to make it go away for a little while," the bush doctor said of the elite private clinic where we had taken Elisa to see a dermatologist that winter. (The doctor had taken on the case pro bono, as a favor to Suzanne). As months passed, it seemed to Paulo that the Guatemalan herbalist's

words were proving true. Even with strict adherence to the drugs, Elisa's symptoms cyclically improved and then worsened again, with no stability in sight. "Unless you address the root, it will keep coming back," the bush doctor had said to Paulo. "You will lose your little girl."

What *was* the root of Elisa's disease; did it matter? By then she had been taking the pharmaceuticals prescribed by a top specialist for several months, which somewhat curbed her symptoms and helped to stave off deadly infections. Yet later that same week we returned to the hospital, only to find that blood work done there would show that this powerful regimen of drugs had also brought Elisa to the brink of liver failure. I was also haunted by a line from the medical journal article on pemphigus that Elisa's dermatologist had handed us in Belize City: "Treatment usually needs to be continued for several years, which leads to the fact that mortality and morbidity are more likely to be due to side effects of the steroid and immunosuppressive therapy than to the disease itself" (Baroni et al 2007: 601). The article had been written in extremely technical language, and there had been no further explanation from the doctors. Paulo focused on a colored diagram of interacting molecules that accompanied its dense text, which he referred to as the "results" of the tests Elisa had been given the night before.

As I attempted to translate across registers and became drawn more deeply into her unfolding story, my intention to ethnographically chart Elisa's medical symptoms and social entanglements began to give way to an uncomfortable secondary truth: through gestures and favors, rides and phone calls, delivering medicines and discussing advice, I was slowly also becoming an actor who shaped the care Elisa received. It had once felt like an obvious ethical imperative to bring her to the hospital, and all too easy to envision myself as some kind of anthropological "cultural broker" (Fadiman 1998) who might help translate been the worlds of hospital care and Maya medicine. But it didn't take long for this theory to break into pieces. For starters, all the ethnographies about Maya healing and history I had read

suddenly began to feel less critical when it became apparent that her bush doctor was not practicing "traditional Maya medicine"[71] at all; he wasn't a Maya *j'men* but a Jamaican herbalist specializing in the treatment of *obeah* (a Caribbean word with West African roots that refers to witchcraft) who diagnosed ghosts in Elisa's blood and prescribed corticosteroid injections for treatment—the same therapeutic recommendation that the country's top dermatologist would provide months later, but which the family's first seven visits with biomedical practitioners had failed to yield.

I kept thinking about Elisa crying *no* to her father as we drove to the hospital that evening. After all the potent antibiotics she had received since her last visit to the ER, diagnostic evidence of drug toxicity and the cyclical reemergence of her symptoms had continued—even worsened—as weeks and months passed by. More than anything, it felt as if together we were running up against the limits of biomedical treatment for a complex autoimmune disease in a context of scarcity. Without the diagnostics to consistently manage and titrate doses or adapt combinations of the powerful drugs Elisa was being given, the ethical implications of my anthropological role became increasingly unclear to me. I began rethinking the bush doctor's opinion that the hospitals medicines given to Elisa were "too much for her blood." He recommended herbal baths to "treat her inside and out," proposing the integration of topical antibiotic treatments in order to reduce the ingested chemicals that Elisa's internal organs would have to metabolize. As time wore on, it felt more and more pressing to understand what such biomedical unknowns and ambiguous treatment complications had to do with the reason that the family turned to bush medicine for supplementary care in the first place.

Sofia, the second-youngest of Elisa's sisters, had sprinted out to the borrowed Tacoma pickup and handed me a ceramic statue of three dolphins before we drove down the hill on our way to the ER that evening. I put the figurine on a wooden rafter in my

sweltering bedroom and stared at it when I couldn't sleep later that night, as if searching for a sign we had done the right thing.

Worm Therapy: The Plot Thickens

Nurse Suzanne ran an NGO clinic in Mile 21 that began years earlier, as an ad hoc labor of care. A Belizean Kriol nurse who worked for years in American ERs, she had planned on retiring to the seaside village. Yet as she began building a beautiful home there (so well-appointed that some locals had hoped their village was finally receiving its first bank), local people who had heard she was a nurse in the U.S. began showing up at her door with symptoms, questions, emergencies, her improvised practice slowly building into long lines and midnight calls. (For a period the public clinic had no doctor; I was told that this was because someone there had hit a Cuban physician with a ruler, and after the incident Cuban medical volunteers did not come to Mile 21 for a several years.) In any case, the makeshift care that Suzanne provided in the meantime supported the village through this difficult patch, like a corollary artery opening around a clogged blood vessel. Through donations and foreign visitors, she had over time accumulated an extremely well-stocked clinic in her garage, including a clinic bed and defibrillator in the room she had once planned for arts and crafts during her retirement. Now that the public clinic was functioning again, both of the two clinics remained in the village.

Suzanne had met Paulo while doing diabetes and hypertension screenings at the resort where he worked. (Since she offered free medical care to those in the village who could not pay, the local beach resorts were her primary paying clients, who hired her to provide prevention and emergency services to their employees and guests). One morning, I was having coffee with Suzanne in her kitchen when she mentioned that an American nurse friend of hers had visited Belize with an article about a cutting-edge new therapy for autoimmune diseases. "I think this might be an idea for Elisa," Suzanne said as I passed the

can of Carnation condensed milk. She slid me a printout across the table. It was titled "WORM THERAPY."

The article described a clinic in Mexico offering a new experimental therapy for difficult-to-treat autoimmune diseases, by intentionally *giving* patients hookworm, whipworm, or a "combination therapy" of both parasites. The treatment involves placing worm ova on the patient's skin to "begin their transpulmonary migration" through the lungs and into the person's intestines, where "once in the intestinal track the worms will interact with the intestinal mucosa and modulate the immune system."[72] This therapy is based on recent studies suggesting that autoimmune diseases such as type 1 diabetes, lupus, multiple sclerosis, inflammatory bowel disease, allergies, asthma, rheumatoid arthritis, and Crohn's disease are now exponentially rising in the developed world because people don't have *enough* parasitic worms anymore (Croese et al 2006; Summers et al 2005a, 2005b; Zaccone et al 2006).[73]

The biological mechanisms behind this theory remain complex and unsettled, but in broad strokes, the core theory boils down to this: the body's immune system has evolved intricate chemical defenses to repel outside parasites, the evasion tactics of an elaborate immunological dance. When something shifts and there suddenly aren't any worms or parasites, the body's immune system is more likely to accidentally attack its own tissue instead, its millennia-old chemical defenses for parasites no longer counterbalanced (see Alruhaili 2010; Harnett and Harnett 2010; Kuijk and van Die 2010; McKay 2009, 2006; Okada et al 2010; Ramsey and Celedon 2005; van Riet et al 2007; Vannier-Santos and Lenzi 2011; Walsh et al 2009). "Worm parasites have co-evolved with the mammalian immune system for many millions of years and during this time, they have developed extremely effective strategies to modulate and evade host defenses…" reads an article elaborating on this theory that appeared in the journal *Parasite Immunology*. "[T]he human immune system has been shaped by its relationship with parasitic worms and this

may be a necessary requirement for maintaining our immunological health" (Zaccone et al 2006: 515).

Being handed this "worm therapy" article as proposed treatment for Elisa's disease startled me, because a medical mission program I was already tracking had been "deworming" the schoolchildren in Elisa's village each year. If Suzanne thought that a potential cure could entail giving Elisa *back* the hookworms that might modulate an autoimmune disease like hers, what did it mean that a philanthropic intervention's drugs had eliminated these potentially protective worms in the first place? As I began exploring the medical literature on this question, it surprised me to find that in the aftermath of deworming treatment, autoimmune reactivity for populations of children who have been treated with antiparasitic drugs has been shown to escalate significantly. Epidemiological studies in Ecuador (Endara et al 2010), Venezuela (Flohr et al 2009; Lynch et al 1993), Gabon (van den Biggelaar et al 2004), and Vietnam (Flohr et al 2006) have shown sharply rising rates of immunological conditions—particularly those related to skin sensitivity—in schools where children have been dewormed, when cross-sectionally compared with schools where students did not receive these same pharmaceuticals. I was struck by the possibility (however uncertain and ultimately unknowable) that annually receiving deworming drugs might have made Elisa more prone to the mysterious autoimmune disease that was overtaking her. There was no way to confirm whether or how this immunological factor could have played a role in the way Elisa's life-threatening condition emerged; although these risks and damages become visible through population-level comparisons, there is no way to actually know the role of drugs in triggering anyone's *individual* chronic condition.

"In this sense too, risks are *in*visible. The implied causality always remains more or less uncertain and tentative" (Beck 1992: 28). Yet the sheer chance that Elisa's eliminated worms might have protected her against a far more serious autoimmune condition does raise meaningful ethical questions. Now that there is mounting evidence that autoimmune

sensitivity increases significantly as a consequence of school deworming campaigns that distribute Albendazole[74], could the risk and cost of treating these autoimmune conditions (often impossible to manage and even fatal in a context of poverty) also be measured as part of cost-efficacy calculations or ethical considerations? And more broadly, how will we know what side effects or human costs a health policy leaves behind, if only its benefits are measured or estimated (or even just assumed)?

This first set of questions deals with dimensions of health policies that are not currently being measured, but perhaps could be. Yet I also tell Elisa's story in hopes that ethnographic description may qualitatively capture some ethical quandaries that numbers and statistical indices simply cannot measure. A doctor might understand the side effects of drugs or interactions with other complex diseases as a painfully inevitable fraction of risk inherent in any medical treatment; an economist or even a philosopher as a question of greatest good; a policy maker might figure it into the precise calculus of a cost-benefit ratio. But as an anthropologist, my first concern with the small but real possibility of patient side effects in this gray area (which earlier deworming policy officials had referred to as a "margin of error") is a different one: What it is like to live there? Could a glimpse into the inner social world of a single family's story lead us to ask different questions about values we might otherwise take for granted?

To be honest, the "worm therapy" article probably would not have summoned a red flag for me if it were not for the contents of my tattered suitcase, laying on the wooden floor in a corner of the room I was renting. It was filled with photocopies from a New York archive, which on a hunch I had ultimately lugged over 1,835 miles to Belize. These pages recorded hundreds of iatrogenic deaths due to drugs distributed by the Rockefeller Foundation hookworm campaign between 1915-1935. Upon first stumbling on these records in 2009, I had felt unsettled by the systematic way these treatment deaths had been easily discounted and quickly forgotten in their time; for reasons I had not fully been able to

explain, it seemed important to bring these cumbersome archival records to the field with me. By and large, risks of the Rockefeller campaign's anti-parasitic medicines (several of which were later found to be highly toxic substances) did not alter health policy of their era or raise questions of accountability. Yet the campaign's bureaucratic records still bear traces of people's side effects and even untimely deaths, grieving parents and siblings left behind in the lived consequences of the global program's "margin of error." The files hold scattered references to searingly intimate details: a girl who hid in the bushes when the public health nurse came, but was discovered beneath a mango tree and given the antibiotic syrup that killed her; two brothers in Georgia, playing together in a barn where their bodies were later found side by side, their fingernails turned black by drug poisoning; a mother who made a tea of orange leaves, trying to ease the vomiting of her five year old daughter whose name is listed in the death files only as "Girl." Many of these "deaths from treatment" records are collated into six bound volumes, the hardcover spine of each book labeled with the name of the drug that killed everyone listed in its table of contents.

It is startling to see the death files assembled in this way, knowing that each of the hundreds upon hundreds of patient names represents the truncated story of a human life—and realizing that the Rockefeller office assembled these stacks of death records but considered their cost acceptable or normalized. At times, hints and traces suggesting who the dead might have been remain scattered among the clinical records and standardized forms. For example, among the standardized typewritten forms, there is a letter from the barely literate mother of a girl named Dora written on a tiny scrap of torn yellow paper:

> Dear Editor,
> We see in your paper that some one have made a great mistake in saying that Dora did not take her salts…She took the hook worm medicine exactly as Dr. Rogers directed it to her to the full amount must sure have been in it. for she was in usal good health untill the last dose was took it is very Plain that it must have been the medicine that caused her death. I think People should take worming [keep their worms] and not take medicine unless their Doctor Prescribed it. Think that dose will do for the rest of the people in Adamsville, for a dear dose to cure are very much better than a free dose to die.
> Yours truly,
> Mr. and Mrs. D Newton.[75]

Often, doctors and campaign workers blamed the parents of the dead (or the patients themselves) for the iatrogenic consequences of the hookworm drugs—saying they had eaten the wrong foods in subsequent meals, or purged incorrectly, or were undernourished and already destined to die. For example, in 1929, a 7-year boy named JA Henao, "registered with the number 910," died in Colombia after being given Carbon Tetrachloride boiled in sugar water by the Rockefeller hookworm campaign. This drug, now more commonly called Halon 104 or Freon 10, is known today for causing kidney failure, liver failure, cancer, and death, and has been banned for use in fire extinguishers in the United States since the 1960s after being listed as a toxic substance (US Department of Health 2005). Yet in the official report, the boy's death was blamed not on the hookworm drug but on his family: "The principle factor in this death was undoubtedly the gross ignorance of the mother of the sick child…preoccupied with the thought she had given him pig meat on the eve of the treatment."[76] Through such insinuations and deflections, medical uncertainties and personal accountability were frequently displaced onto the grieving families—although in many cases, autopsies of the children showed that drug toxicity had in fact caused the death.

These iatrogenic deaths were statistically documented with the same "corporate-managerial ethos" (Palmer 2010: 123) that marked the rest of the Rockefeller hookworm campaign, but on a policy level, such fatal side effects never raised the question of stopping the program in New York headquarters. Yet the Rockefeller deworming campaign did meet with controversy in its time, often behind closed doors. In 1915 Panama, Rockefeller Dr. Lewis Hackett suggested to Dr. Claude Pierce, the superintendent of Colón Hospital in Costa Rica and veteran of several national sanitary operations, that they collaborate together on the hookworm campaign. Hackett reported that Pierce "flared up quite suddenly and damned my work from top to bottom—He got up and pounded the table and

declared that I had no regard for ethics or the standing of the medical profession—that…it was a criminal act, as well as unfair, to make doctors out of a lot of ignorant young fools and hand them a lot of medicine and let them run loose in the community" (in Palmer 2010: 85).

This question about whether a doctor's supervision was necessary to distribute powerful drugs was controversial enough that Rockefeller global policy became divided on the question, and different countries and regions were permitted to adapt national campaign norms. In Trinidad and Guiana, "nearly everyone who was treated was first seen by a physician," "which was deemed to be 'a great help in safeguarding them from the danger of receiving an excessive dose of thymol'" (Palmer 2010: 126). Meanwhile in Costa Rica and Nicaragua, the intensive "American method" was in full flourish, distributing high doses of drugs without the presence of a doctor. Death rates were higher in these places. As historian Steven Palmer explains: "An important outcome of this was that, in the British Caribbean, a physician deemed a significant portion of the infected people unfit for the harsh thymol treatment due to age, nutritional state, or medical conditions. While this was very likely a better method from the point of view of the patient's health, it obviously undermined the goal of eradication" (2010: 127-8).

It is easy to think of epidemiological campaigns and patient care as sharing the same priority—namely, health—but this tension where one approach might "undermine" the other raises a crucial question. What is the difference between treating an individual patient versus treating a member of a population? Annemarie Mol makes this very point in *Body Multiple* (2002): "What is good for individuals may be of little or no benefit for the very population they are a part of, whereas what is good for the population may have little or no value for its individual members" (and might at times even have a *negative value* for its individual members, these deworming case studies would suggest).

Interestingly, although the Rockefeller hookworm campaign was based on the principle of mass drug treatment, their standard practice was to first test each individual to determine whether or not they had worms—including which type of parasite, and how severe the infection. After microscopic examination of each individual's stool, the campaign workers would then treat the person only if necessary, and afterwards test again to see whether the drugs had been effective. In contrast, modern deworming programs (like the one that treated Elisa's school annually) are "blanket" campaigns, meaning they give drugs to all students—regardless of their health status or history, even whether or not they actually have worms. Today, the Kato-Katz tests for individualized diagnosis of parasite burden cost approximately two cents for each child tested (WHO 2004a: 3)[77] and are therefore considered exorbitant and unnecessary[78]—even though such diagnostic tests would allow campaign workers to identify the estimated 5-10% of children who actually have parasite burdens severe enough to affect their development and treat them one by one, without exposing the rest of the population to potential treatment risks. Outside those children with heavier worm burdens (in Belize this number is only 1-4% of children, lower than global averages)[79], mild parasitic infections might actually be protecting many children's bodily systems against developing complex autoimmune diseases, usually without significant health consequences. As a *New York Times* article recently reported: "Most worms are harmless, especially in well-nourished people."

It is true that this suitcase of Rockefeller archives made me think differently about the philanthropic programs I was documenting in my own ethnography. For all the many differences between this historical hookworm campaign and the deworming campaign that had reached Elisa, I noticed certain echoes of familiar ethical issues as I observed a "medical mission" clinic at work in another southern Maya village in Belize in 2010. The volunteer handing out the Albendazole tablets that morning had grown concerned that many of the campaign recipients were spitting out the pills on their way out the door. She instituted a

"direct observation" policy, placing the pills on each person's tongue herself and waiting for them to swallow. During a later interview with the village community health worker, he mentioned that he had just handed out Albendazole to most of the community two weeks previously; someone had given him a bottle to distribute, not realizing the American clinic would reach the village shortly afterward. I wondered whether the women had been spitting out the pills to save them for later.

Later in the day, we walked around the village. Many of the houses were numbered, or painted with more than one number, or had an old number crossed out with a fresher looking one in a different color nearby. The markings were remnants of research numbers for various health campaigns and studies that had moved through the village; in a place with no addresses, these research numbers were other coordinates in the world. The volunteers were looking for the home of a baby who had been in crisis the last time the church NGO had visited the previous year. Two of them had been present then and vividly remembered a young boy who had been dewormed, only to have parasites come out of his nose and mouth; although deworming pills themselves are now safe, their very efficacy in rare cases can cause the parasites to panic and block their host's breathing passages, as the worms occasionally try to escape from the medicine killing them. The volunteers wanted to find out whether the boy had survived after they arranged for a Medivac, but no one remembered his name and our inquires did not go far. The grotesque image had clearly left a deep impression on the volunteers, a horrifying image of poverty that meant something different to them than it did to me; I wondered what it meant that the drugs were being given without the presence of a doctor equipped to deal with this possibly fatal reaction on the part of the worms, a treatment risk I remembered reading about on the label of my own prescription for Albendazole when I had been treated for roundworm in the U.S. Yet the campaign volunteers often repeated to each other the hope that, while the rest of their

efforts to run a two-day medical clinic were unlikely to have a long-term impact, the "worm pills" were something different: "This is the most important thing we are doing here."

It seemed to me that the Albendazole distribution deeply appealed to the volunteers desiring to do good for the same reason these programs are favored by policy makers. Deworming pills suggested the idea that however short-term or fragmented an intervention might be, it would have lasting health benefits; even a fleeting one-day presence in a village could become part of permanent change for people living in poverty, without necessarily requiring long-term commitment or community engagement on the ground. To me, this sounded like one of the too-good-to-be-true technological quick fixes that scholars of development often refer to as "magic bullets" (Cueto 2006); and, like most "magic-bullet" policies, they are backed by galvanizing yet controversial evidence.

After decades of highly inconclusive evidence about whether parasitic infections actually influenced students' school performance, the Gates Foundation-funded "Disease Control Priorities (DCP) in Developing Countries" report found deworming among the most cost-effective ways to increase school attendance. Subsequently, the 2008 "Copenhagen Consensus" expert panel of Nobel Laureates ranked deworming the highest funding priority to target education—higher even than "lowering the price of schooling."[80] Yet a subsequent re-study examined the DCP2 calculations and found 5 separate errors. These mistakes, once corrected, changed the Disability-Adjusted Life Year (DALY) calculation by a factor of 100 fold (from $3.41 to $326.43 per DALY), moving deworming from one of the most highly effective ways of addressing school attendance to a not especially effective policy (Alexander 2011). (The biggest mistake in these miscalculations was due to the fact that schistosomiasis, a dangerous leach-like freshwater parasite that can cause major anemia, bloody urine and damage to the liver and other organs, was being measured in the original studies alongside soil-transmitted helminthes, such as roundworm and whipworm. According to economists' estimates, eliminating this schistosomiasis produced the great

majority of the deworming school benefits being measured—but then these benefit estimates were applied to the entire developing world, including the many geographic places like Belize where schistosomiasis does not actually exist (PAHO 2007)).

Likewise, a recent economics study using data from the 1910-1915 Rockefeller Hookworm campaign in the American south is now widely cited as evidence for the way deworming can increase school attendance (Bleakley 2006). Yet as historian John Farley has shown, even at the time of the Rockefeller campaign, debates raged about what had actually caused the decrease of hookworm in the American South: was it the Rockefeller campaign's interventions and medicines, or infrastructural improvement caused by economic growth in the U.S. after World War I that drained swamps, built clinics, and gradually improved schools and human living conditions (Farley 2004)? Bleakley calls the Rockefeller eradication campaign "ultimately successful," yet the picture looks different if we widen our historical perspective to consider that the United States was only one of over 80 countries where the Rockefeller Foundation International Health Board was working during this time, including "every country in South and Central America" and 15 countries in the Caribbean (Farley 2004: 2), with a intensive focus on "mass treatment" hookworm eradication campaigns between 1915-1935. If improved school attendance in the American South was in fact due primarily to the Rockefeller Hookworm Campaign's eradication tactics and drugs (rather than to general economic growth and infrastructural improvement in the U.S.), then why were there not similar results in Haiti, Guatemala, Siam, and Nigeria, or the many other poor countries where these deworming drugs circulated without concomitant infrastructural development?

In his widely-cited study, economist Hoyt Bleakley also writes: "*A priori* we would expect that adults would be substantially less affected by the hookworm-eradication campaign because adults were substantially less likely to have hookworm" (Bleakley 2006: 3), citing a Rockefeller source from 1911. We now know that this has been epidemiologically

updated. Adults are *more* likely to have hookworm than children (Behnke et al 2000; Bethony et al 2002; Brooker et al 2004; Lili et al 2000), meaning that any campaign that focuses on children alone will quickly lead to hookworm re-infection in the rest of the community (like most parasitic worm diseases, hookworm has a negative binominal distribution, and current evidence suggests that adults are more likely to be the so-called "super-carriers"). Perhaps for this reason, a recent deworming campaign in the Philippines found that despite a 98% adherence to the drugs, rates of soil-transmitted worm infection actually *increased* after a year of school deworming treatment (from 49.7% prior to treatment to 56.1% after Albendazole administration), leading the community leaders to focus on building latrines and clean water projects instead, since these structural projects would reach the entire community (WHO 2004b: 4).

By cutting out infrastructural improvements which might address the problems of poverty that cause worms in the first place, deworming campaigns have become emblematic of a growing phenomenon of the "pharmaceuticalization" of public health ongoing today (Biehl 2007)—a term referring to "magic bullet" models of intervention that rely on pharmaceutical treatments in the absence of supplementary forms of social support, institutional care, or development projects often necessary for sustaining health in real time. In recent years, these deworming initiatives have been further bolstered by drug donations from pharmaceutical companies (Albendazole tablets donated by GlaxoSmithKline and Praziquantel donated by Merck), leading to the creation of a WHO public-private partnership called "Partners for Parasite Control." Soon followed by charity foundations such as "Worm-Free World" and "Deworm the World," a variety of spinoff programs are now active at the micro-levels of small NGOs and church "medical mission" groups; for example, the deworming campaigns I tracked in Belize had their drugs donated by either a small California NGO or a Midwest church. In fact, these recent deworming studies have become widely embraced by all kinds of people wishing to make change in the

world, and are now seen as evidence of how effective even a fleeting and cheap medical intervention can be. In *The Life You Can Save*, moral philosopher Peter Singer also writes passionately of people's ethical imperative to give to humanitarian programs, mentioning in his book and highlighting in speeches school deworming programs as a model cause to donate money toward. Yet if we have a moral obligation to give, what is our moral obligation to also understand in detail what happens next—the after-effects of giving? Who is accountable to track the actual lived effects of philanthropic programs or assure that they will "do no harm"? These messy realities are also a question of human values and medical ethics.

This treatment logic stretches far beyond Belize. Surveying global clinical trials sites, Adriana Petryna documented actors in science and law "suggesting that their experimental treatments could only do good in such a desperate context" (2009: 40). In Chile, Clara Han also describes times when "[p]harmaceuticals became a damaging medium, even though received as a life-giving gesture" (2012: 224). Questions about the grey zones of medical humanitarianism continue to emerge (Dupuis 2004; Holt 2012; Hunt 2008; Kennedy 2004; Langowski and Iltis 2011; McLennan 2005; Richter and Norman 2010; Sheather and Shah 2011), and in Belize such worm campaigns have become part of the region's growing economy of volunteer tourism. This growing trend unfolds within the patchy and value-laden processes by which certain questions become *unaskable*, let alone unanswerable; "a new moral economy, centered on humanitarian reason, therefore came into being" (Fassin 2012).

In many parts of the world where school deworming campaigns are active, worms are considered natural or even necessary parts of the body,[81] treated locally when the parasitic infection becomes visible. But in countries where the presence of worms in the body is no longer considered normal, parasites seem to induce a horrified fascination, a symbolic value that often seems to shade real ways that policy makers assign funding

priorities: “biomedical concepts identify order with the maintenance of borders, which protect the vulnerable inside and the identity of the person and externalize and exclude other living things. The relationship to creatures transgressing these borders is conflict, in which both health and the order of life is at stake, and in which moral constructs of ‘good’ and the fight against ‘evil’ are evoked” (Geissler 1998a: 75). Extracting a worm from the human body has long represented the quintessential act of healing in medicine. Ethnographic accounts everywhere from New Guinea (Hoeppli 1959) to South Carolina (Hyatt 1978) give accounts of witchdoctors healing complex sicknesses as well as economic misfortunes by removing worms from their patients. This figure also appears in Claude Levi-Strauss’ essay *The Sorcerer and His Magic*, where the more potent sorcerer marks his power precisely by his ability to produce “a bloody worm,” his approach considered more efficacious than other healers because “he presents them with their sickness in a visible and tangible form” (Levi-Strauss 1966: 176). However unconsciously, this visceral symbol of removing a parasite from the body likely plays a role in how scientific and humanitarian publics view health policies focused on removing worms. At what point does the symbolism of a disease overtake other rationalities for structuring health interventions?

Archeological evidence comparing people’s pre-and post-conquest tooth enamel has shown that childhood nutrition among the Maya population of Belize has quickly plummeted since colonial contact, part of a widespread downtick in general health indicators (Song 2004)—suggesting that the prime locus of modern nutritional issues is not ancient intestinal parasites, but parasitic new political economies. Indeed, I imagine Angeline and Paulo would be surprised to learn that policy makers estimate that their five daughters live with a disability weight of 0.463—approximately halfway *dead*—because the girls are considered at risk for theorized cognitive impairment caused by worms. I share these social scientists’ concern with understanding root causes of global poverty; yet from the vantage of homes and villages like Elisa’s it is evident that educational and nutritional

gaps (such as those deworming programs seek to treat) are primarily rooted in poorly funded schools, untrained teachers,[82] missing textbooks, underfed children, and the endless mirrors of structural violence, not a problem most effectively addressed with a yearly single 400mg tablet of Albendazole. (High school is not free in Belize and the Saqui family could not afford for more than one of Elisa's sisters to go. The oldest, Coco, was selected to attend high school while her next-youngest sister Marlene is now out of school; at age 14, she started staying home to clean, cook and take care of the baby, so that there would be enough money to pay for school uniforms and shoes for Elisa and Sofia.)

The piecemeal school system in Belize is a loose aggregate of structures built over time by various sects of colonial missionaries, and in many villages primary schools are still run by religious groups with some state supplementary funding but relatively little oversight (Bennett 1979; Gayle 2010; UNESCO 1964). Students must rank well on a national standardized test at the end of primary school in order to even be eligible for the competitive spots for pubic high school, and many families cannot afford the out-of-pocket expenses for tuition, books and uniforms. By the secondary school level in Belize, the majority of children—60%—are "missing or out of place." Only 4% of children in Belize go on to receive tertiary education, the lowest rate out of any country in either the Caribbean or Central America (Gayle 2010: 111-3).[83]

To believe that worms are a primary root cause of poor education, rather than yet another of poverty's many symptoms, strikes me as a particular kind of wishful thinking. In fact, in an odd way, it felt like an echo of the same questions that Elisa's family asked as they sought "bush medicine." In the face of a crisis that stemmed throughout the whole system, both the deworming policies and the suggestions of Elisa's bush doctors seemed to reach for a tangible nexus that could be extricated, a removable root that might bring traction to an overwhelming problem (a doll made of graveyard dust and red pepper that might be thrown into the river, so that a child's failing body and future could be restored; a worm infection

that might be expelled with a single yearly pill of Albendazole, so that children's poverty would be eased, their education and life chances improved). Whether magic or magic bullet, I didn't think that either of these acts of intended healing would effectively treat the deep-seated problems they sought to redress. If only the roots of these complex pathologies were extractable with a single treatment; so easy to cast away, small enough to fit in the palm of one's hand.

"It is the mystery of ourselves in the world…," Paul Harding writes of human suffering. "[A]nd our madness is to think we can carve it from one another or from ourselves the way we cut bruises from apples" (2006: 53).

The Science of Symptoms

I borrowed the Star Wars movies from Suzanne's daughter for Angeline and Elisa to watch in the hospital, and we started the trilogies from the beginning. Although Angeline never spoke of her pain unless I asked, she was barely able to walk. Watching movies not only passed the long hours, but gave us new characters to talk about, a middle screen where we might connect over something besides sickness for awhile. "It's an animal-person?" Angeline asked as she watched JarJar Binks intently. "Do you think they exist somewhere now?" I murmured that I didn't think so. "Maybe in another world," she said softly. Later, as the Jedis descended into the deep lake where the Gungans lived, she commented on the beauty of the river. "I wonder what it would feel like to fly so fast," Angeline said thoughtfully as we watched Anakin Skywalker's pod race. "Maybe I would never walk again after. Or maybe I would feel like I was lost." Later, in a certain angle of the sun as I stood by the window, my reflection took up half the computer screen. "They are shooting you Amy," Elisa giggled as the Storm Troopers aimed lasers toward my reflection. When a nurse came in with a broom to sweep the floor, we all pretended not to notice that the

growing pile in her dustpan was not dirt or scraps of paper but fallen bits of Elisa, yellow flakes of her skin and dark clumps of hair.

The next morning, I received word that things had come to a head between the hospital staff and Elisa's parents, culminating in threats that "the law" would be called in for Social Services to take over custody of the case. Things calmed down once the pediatrician realized that Elisa had been taking her prescribed drugs all along, but there was still tension in the air by the time my bus reached the hospital. When I entered Elisa's room, Angeline sat stiffly in a plastic chair and Paulo was sitting on the tiled floor with his head in his hands. He looked frayed, his thin mustache overgrown. "They said that she will have to live with the medicines, and drink them everyday for the rest of her life," Paulo said, staring at the linoleum. "They said she will live with these pills until the day that she dies. But I do not believe this." He shook his head. "I have seen it in my dreams. She will be well again, her skin will be clear. When her skin is better again, smooth like mine," he said as he rubbed his arm, "then I will take her to the [bush] doctor in Belize City for one injection. He said it will protect her, to keep her good."

"We have tried these hospital pills for all this time, and still it look like…" Paulo trailed off, looking at the IV lead running through Elisa's arm. Its tubing accentuated the way her entire body started to shake whenever a doctor entered the room, the IV line a quivering seismograph of her fear and trauma at being back in the hospital again. "…It still look like maybe she won't get better," he added after a pause. From the way his voice cracked, I did not think Paulo was saying that life with a chronic disease would be unimaginable; I thought that "not getting better" was code for referring to the unmentionable possibility of his daughter's death. "She was never sick as a baby, not once. So I tell my wife, I have to try for her," Paulo said. Since we were speaking in the isolation ward of a hospital, I was struck by his intimation that this medical care was not "trying" hard enough; only a few feet away from us, Elisa was receiving all the treatments her

biomedical doctors deemed necessary. But Paulo feared that leaving her to the same pharmaceuticals that had failed to help before would amount to being resigned to her death, intractably looming. That was why he had decided to take the long trip to the renowned Belize City bush doctor, even if Elisa could not leave the isolation ward. He had saved up (and borrowed, although already in debt) a very significant amount for the trip, several hundred US dollars. "She was never sick as a baby," he repeated. "Now she already done grown. She can talk and tell me where the pain is. So we have to try."

The room was out of chairs, so Paulo and I sat on the floor with our backs to the wall as we spoke, while on the nearby clinic bed Angeline helped Elisa drink some peach juice through a straw. By then, Elisa must have weighed more than her mother, and was eating voraciously (another side effect of the Prednisone). "She's like a tiger, she want only meat," Angeline said, smiling a little at her own quiet joke. She rarely laughed, a weary and almost haunted solemnity to her stiff beauty. I sometimes thought that Angeline's oversized clothes hung from her gaunt frame exactly as they would from a hanger, early 90s style dresses with carefully mended buttons that looked leftover from a time when she had filled out their shoulder pads. She had never recovered from the birth of their last child, but felt strong enough to stay with Elisa at the hospital for the week.

Paulo left to keep an eye on their other four daughters around noon. Before he left to catch a bus back to their village, Paulo made it a point to show me the tin of powdered Nestle KLIM (like MILK spelled by a corporate dyslexic) he had bought for the baby. He presented it formally, as if his fatherhood was on trial and the can was a crucial piece of evidence in his defense. I realized that being berated by the hospital staff for failing to take care of his daughter (especially being told that Elisa could be legally taken away from their family) must have deepened all his anxieties and doubts already churning just below the surface. "I struggle hard for them," he told me. "This formula cost twenty three dollars."

The first time Elisa was in the Dangriga hospital, Suzanne had suggested bringing the bush doctor to the hospital so that he could complete the herbal bath, which is the textbook "culturally sensitive" thing to do in such a situation. She even obtained permission for this visit from the hospital pediatrician managing Elisa's case, who immediately agreed to allow the bush doctor to perform his healing ritual in Elisa's isolation unit. But when Paulo called the bush doctor from the hospital corridor to let him know the good news, the herbalist flatly refused to come to the hospital. "My work is spiritual," he said, explaining that he could not work effectively in the hospital setting. "You made a choice." The bush doctor said he would wait to special order Elisa's herbal treatment to be sent on a plane from Corozal (a particular root was needed for her bath that did not grow in Stann Creek and was being sent from Mexico), and asked Paulo to call his cell if the hospital diagnostics "found anything in her blood."

I had been taken aback that it was the bush doctor, not the hospital staff, who rejected the idea of collaborating in Elisa's care. "This would have worked in *The Spirit Catches You and You Fall Down*," I remember thinking to myself.

Now what?

Journalist Anne Fadiman's book *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures* (1998) documents the story of an epileptic girl named Lia Lee. Lia's traditional Hmong parents and hospital doctors each misunderstand the other's form of medicine, tragically culminating in the girl's permanent coma. Fadiman theorizes that a "cultural broker" (such as a medical anthropologist) may have been able to translate—not only linguistically, but conceptually—across these two systems of belief and medicine, allowing for more meaningful communication and perhaps preventing the tragedy altogether. When I first discussed this idea in a Princeton classroom, it seemed perfectly reasonable and even somehow satisfying—a resolution to the plotline, a solution to avoid such tragedies in the future. But

in the hallways of the regional hospital in Dangriga, this role seemed to continuously fall apart as I found myself trying to actually put the "cultural broker" theory into practice.

To begin with, the issue of translation seemed to continuously arise in different places opposite directions than I had expected. It was usually not the Maya, Garifuna or Kriol "cultural" patients who had trouble speaking Belize's national language—it was the state doctors and nurses. Approximately 3/4 of the doctors at the regional hospital came from Cuba, and I cannot envision how the health system would function without them in Belize; their presence was essential to ensuring that a patient who went to the ER in Dangriga would be able to see a doctor at all. Yet their distinct background also instantiated something new. Although most Cubans picked up a fair bit of vocabulary over their two-year service term, it was not a requirement to speak English before beginning practice in Belize and some doctors came with little or no ability to speak the country's national language. It was usually possible to track down someone who could translate something important, but no translators were provided at the hospital. More often, doctors and patients (who often knew some Spanish, although many times as a third or fourth language) would informally create a clinical creole between them, with numbers and touch their key cognates.

But perhaps even bigger than the question of language for these visiting doctors was the problem of continuity and permanence. (This is not a new question in Belize; a Rockefeller official visiting there in 1937 reported that of the three doctors working in the "ramshackley" hospital, one was a Jamaican and another a Cyprian Turk, while the only doctor he met in Stann Creek was a 40-year-old Hindu retired from the Malay Medical Service.)[84] The first Cuban doctors I met in Dangriga while planning my research in 2008 had already rotated out by the start of my fieldwork in 2010, and before my year of research was over, the second set of regional doctors I came to know also were sent back to Cuba, bringing in a third wave for training. Many of them were good and caring doctors, but

because their positions rotated within the hospital system as well, it was not easy for a patient to see the same doctor two times in a row or to build a relationship. Depending on the reason one needed to see a doctor, this lack of continuity might or might not matter—but certainly it influenced treatment for a complex chronic disease. There was no particular doctor that the Saqui family thought of as Elisa's primary caregiver at any of the multiple hospitals and clinics they visited, and none of them knew the Cuban doctors by name (when there was a need to identify who had told them something they fell back on adjectives, usually "the pretty one" or "the fat one"). It was Nurse Suzanne whom the family called in emergencies, and many times she rose to the occasion in the face of crisis. She thrived on her charismatic ability to connect with "difficult" patients, and loved the moment of rescue. Yet her clinic was not part of the state system but a one-woman operation, and Suzanne suffered daily from a chronic disease of her own. For the slow, tedious work of following up and tending to patients' medical or personal details, there were many days when she was too sick, busy, or just plain exhausted to even answer her phone when Paulo called. After getting her pacemaker put in, Suzanne tried to continue nursing, but it was a lot too keep up with. She began having recurring dreams where her heart beat faster and faster, pounding until it began pumping her full of air. The dream would only end when she turned into a balloon, and floated into the sky.

Like her, many of the Cuban doctors seemed to reach a point of fatigue by the end of their service. They were expected to "volunteer" in rural mobile clinics on their days off, and on top of seeming exhausted, many of them did not especially like Belize. (In fact, I was told that three Cuban doctors stationed in Dangriga had "run away" from their post the year before my fieldwork and "probably gone North", a shortage contributing to the problem of understaffing at the regional hospital). It was also emotionally difficult for the Cubans, trained in and accustomed to socialized medicine in their own countries (see Brotherton 2012), to suddenly find themselves working within a care system where the doctors often

knew they were writing referrals for tests and services that their patients would not be able to afford. "It's more human. Everything is free there," one told me of Cuba, sadly. "This is…what it is." Alongside the Cuban nurses, there were also a large number of Kriol and Garifuna nurses (an embraced social role that is perhaps a lasting legacy of Marcus Garvey's "Black Cross" program that reached Belize in the 1920s) (MacPherson 2007). Not infrequently, I heard Belizean hospital staff express concerns about the Nigerian nurses and doctors now working in Belize, protesting what was seen as a brusque bedside manner and underlying ambitions to leave Belize for the US. (As one Kriol nurse told me: "I do not like to see my country used as a stepping stone.") In any case, whatever kind of clinical tensions the Saqui family was embroiled within, there were far more than two colliding sides involved—in Belize, collisions of culture were happening *within* biomedicine constantly.

Because of a lack of diagnostic tests available in Belize for complex diseases like Elisa's, doctors and nurses often relied instead on "symptomology"—the science of interpreting symptoms. Yet symptoms are inherently non-objective (as opposed to medical "signs"), open to plasticity of interpretation and the bodily reworking of meaning (Biehl and Moran-Thomas 2009). Indeed, the word *semiotic* itself was originally defined as "relating to symptoms" (OED 2009), underscoring a potential for symbolic work that is only deepened in the absence of diagnostic technologies, where doctors too must rely on uncertain methods of reading symptoms for diagnosis. Perhaps it is not surprising, then, that alongside hospital doctors, the Saqui family was also at work interpreting Elisa's symptoms within their own matrixes of meaning. Yet these were moving frames, far more intertangled than what a "cultural broker" might be able to explain by turning to the ethnological pages of language or history. The lives of the Saqui family were affected by amorphous spirits that cannot be found on the pages of the *Popul Vuh* or *Chilam Balams*, non-canonical ghosts. They did not orient their cosmos by farming four-cornered milpas, the traditional Mopan "lifeway" (Paulo worked a luxury beach resort called Paradise

Orchard cleaning pools for a living); they did not even eat tortillas made of corn, but in the Belizean tradition preferred ones made of imported white flour. Although very proud of being Maya, the family's connection to that ancestral past did not amount to an inherited code of beliefs. The care they sought for Elisa was not guided by established "worldviews" or "cosmovisions" but forged symptom by symptom and moment by moment, a continuous search for healing within their reach that often crossed both national and ethnic borders looking for bush medicine as well as biomedicine.

If the medical system in Belize is a patchwork of cultures and resources, it seemed the Saqui family was not so much involved in dynamic "syncretism" as frantic *patching*, staunching the holes in biomedical care with bush medicine (and vice versa) whenever one doctor's treatments seemed to falter or reach its limit. In fact, the longer I thought about bush medicine in Belize, the more its loose structures seemed less like a "traditional belief system" than an otherworldly mirror held up to the country's biomedical health system: it was client-based and expensive, often incorporating imported therapies; its patients (who, like their caregivers, came from a hodgepodge of ethnic backgrounds) were continuously travelling and moving from one doctor to another when a given treatment failed or ran up against its limits; and the specialists were Spanish-speaking foreigners with clinics based in Belize City.

Perhaps this is also a process of translation in its own right—not an exercise rendering explanations or prescriptions from one language into another, but as a material practice. There is an old European cobblers' definition of the word translation, meaning "to transmute; to transform," as in "they translate old shoes into new ones" (OED 2011). It is in this sense of *repairing* something—or someone—from bits of new materials and contours of old ones that I saw the Saqui family engaged in translation, trying to cobble together a care system that would be able to keep their daughter alive.

Yet in the wake of ingested chemicals, the notion of a "science of symptoms" took on a strange double meaning. Not only were there multiple practices and forms of science being used to interpret Elisa's symptoms—there was the persistent possibility that circulating science might actually have caused them in the first place, triggering or worsening her condition through some unknown alchemy of pharmaceutical side effects. For me, trying to understand her symptoms became more than observing or translating between different interpretative systems of knowledge—it also entailed trying to understand how medical science had already become part of her intimate cellular biology. Between multiple systems of medicine in translation, how were drugs viscerally also part of the "transmutation" that resulted?

On the June evening when Elisa was finally going to be released from the hospital, the family prepared to return home with great fanfare. Paulo took off work for the occasion, although the family badly needed his day's wages. He found the engine part needed to get their car running so that he could drive Elisa home himself. It was a reddish-brown eighties Honda, with a heat-sutured windshield crack and a gaping rectangular hole that exposed green wires inside the dashboard. "I proud of this lee car," Paulo told me. He arrived at the hospital with a full tank of gas, and Angeline had already folded the family's blankets and packed up all their belongings into plastic shopping bags. Unexpectedly, the pediatrician managing the case came with some bad news after they had gathered: the liver function test she had run showed signs of liver failure, either due to the Prednisone or the triple antibiotics. They would have to keep Elisa for further observation, she explained. The entire Saqui family was upset. "Elisa says she will walk out of here herself," Angeline told me the next day. Paulo had already been concerned since the day earlier that week, when the IV had fallen out of Elisa's arm. "Like her blood don't want to take any more," he said. Now, Paulo worried that these first signs of liver failure in her labwork proved his suspicions right; his daughter's blood did not want any more drugs.

By that time, Paulo told me, he had already consulted with the "special doctor" in Belize City. For a minute I thought he was referring to the private dermatologist we had seen there, but he was talking about the renowned bush doctor; Paulo had begun referring to practitioners of both biomedicine and bush medicine interchangeably, simply as "doctors." (I tried to meet the "specialist" bush doctor the following fall, but Paulo called me sheepishly at the last minute to report that the bush doctor said my presence would "ruin the medicine.") Since Elisa could not leave the hospital, Paulo brought a photograph of her the first time he made the long trip to Belize City for his appointment. They sat together in the bush doctor's office as he prayed over a scrap of paper where Elisa's name and birthday were written down in ink. "He say her skin is just like a dead person in the coffin, it rotting," Paulo told me later. "After her skin it will go to the flesh. Before she dies, it will be just like you are talking to a skeleton."

Somber at this prognosis, Paulo meticulously followed the bush doctor's instructions upon his return to Dangriga. He asked Angeline, still in the hospital with Elisa, to cover their daughter head to toe in a sheet of thin cotton and then to press the fabric down firmly on her skin, only once, without pressing back up. A single impression had the greatest efficacy, the bush doctor had told him. Then Paulo picked up the cloth from the hospital and "carried it to Belize." Speaking Spanish with a Guatemalan accent, the bush doctor placed a scrap of the cotton sheet into a piece of tin, instructing Paulo to spit into the foil before folding it closed. Then he told Paulo "to squeeze it until he couldn't bear it no more." "I do like this," Paulo demonstrated for me with his fist, clutching it tight. "I squeeze for so long, it hurt me bad. And I could feel it heat, all up my arm," he told me. I pictured him there, holding onto a ball of crushed tinfoil with everything he could muster, trying to hold on. "I squeeze it so hard I shake. After awhile I start to cry, and he told me, Paulo you can let go now if you can't take it no more."

By the time Paulo finally opened his palm, he said, the tinfoil was smoking. When the bush doctor opened up the packet, his spit had turned to ashes. “That is the heat that is killing your little girl,” the doctor told him.

Fly-By Medicine

I recently searched through my Rockefeller archival photocopies for some trace of Elisa’s village. At the time the Hookworm Campaign reached southern Belize in 1916, the village was still called Double Haul Cabbage. (It was named for the harvestable cohune palm, which is known in Belize as “cabbage” and must have been plentiful in the area at the time, if the loggers were getting a “double haul” of it.) Like many places in Belize, the village’s odd name was an artifact of the time when it was founded as a temporary logging camp. Such camps were usually abandoned after all valuable trees were cleared from an area, leaving behind little or no permanent population and leading to what historical sociologist O. Nigel Bolland calls the “hollow frontier” of early Belize (1977: 2). Yet many of these placeholder names over time became permanent by default, still peppering the country’s modern cartography: More Tomorrow, Dump, Never Delay, Revenge, Young Girl, Baking Pot, Duck Hunt 3. The Rockefeller campaign treated any such temporary camps with equal thoroughness, documenting the hookworms expelled after treatment from woodcutters at Hells Gate with the same diligence it approached the inhabitants of major cities. Later Rockefeller campaigns, however, were confined to Belize City and other urban areas, such as the rather embarrassing 1937 yellow fever vaccination program; it was later discovered that multiple batches of the campaign’s vaccine serum were contaminated by the hepatitis B virus, not infrequently causing “infectious jaundice” and, eventually, a deadly form of liver cancer (Farley 2004: 176).

Although I located several other rather obscure places from my fieldwork in the Rockefeller files, including the old port at Commerce Bight, was no trace of Double Haul Cabbage. And in any case, I wondered, could I even consider it the same place? At the time the Rockefeller hookworm campaign was active, the Mopan Maya families inhabiting the area had lived much deeper in the jungle, in seasonal settlements with unknown names. It is estimated that the ancient Maya lived in the Cockscomb Basin since at least 1000BC. But it wasn't until 1983, when American zoologist Alan Rabinowitz began doing research there, that Double Haul Cabbage eventually came to be renamed.

The story of Rabinowitz's research and conservation efforts in the area are recounted in his book, *Jaguar: One Man's Struggle to Establish The World's First Jaguar Preserve* (1986). In order to create the Cockscomb preserve, the Maya people living in the rainforest were "resettled" into a small community—then renamed Santa Rosa[85]—on the edge of the jungle by the highway where the former logging camp had been located. The Maya families who had to move their homes were told that ecotourism would bring money into the community, but unsurprisingly, some twenty years later many original residents of the preserve feel that the development project did not live up to many of its promises; well-heeled tourists usually stay in luxury resorts staffed with their own guides, often cutting out the local Maya who offer services as guides through their former lands. Many of the local men have had to find other work to sustain themselves, mostly as "leafers" on banana plantations, picking citrus fruit, or digging up earthworms among the roots of certain trees. ("The backpackers still use us, but they don't really have money either," one local guide told me.) Allan Rabinowitz's name came up frequently in my interviews about diabetes in Santa Rosa. People spoke about the nutrient-rich crops they use to grow in the forest before they were required to move (see Abramiuk et al 2011 for an overview of this former "sustainable cultivation" of diverse agricultural crops in the south Maya Mountains). In 2010, residents talked at length about the way they now had to buy all their food (such as diabetes-inducing

white rice and white flour) from local stores. Many people had not realized they wouldn't be able to farm basic staples on their new lands until after they had already moved, but it turned out that the soil there was too poor to grow anything but oranges. Anthropologist Anne Sutherland (1998) would perhaps consider this part of what she terms the "NGO hegemony" in Belize, through which much land has been turned into protected nature reserves (sometimes at the exclusion of citizens' own priorities) to create zones of ecotourism. Sutherland is critical of how pervasively many non-profits in Belize have become politically powerful while dominated by foreigners, and anthropologist Laurie Kroshus Medina has recently documented how conservation-sector NGO governance has recently targeted the Belizean state for intervention (2010). Like foreign "medical missions," such conservation-oriented humanitarianism is also a form of governance that has both potential benefits and lived side effects for people and countries, each requiring careful attention.

Today in Santa Rosa, a Health Post has been built a few minutes' walk from the gift shop where many of the village women work, selling slate carvings of ancient gods and beaded bracelets. There was no one to staff the Health Post, but the nurse from Mile 21 Village was picked up every-other Friday morning and driven there in a government truck. If I came by the Mile 21 Health Center early enough on those Fridays, Nurse C let me tag along for the "mobile clinic" in Santa Rosa. There would always be a tired looking Cuban doctor from Dangriga in the front seat of the 4x4, assigned by a rotating schedule, and the nurse's assistant carrying a small white cooler of insulin on her lap, giving the makeshift operation the festive air of a picnic. The bed of the government truck had to be packed with supplies for the day, since no medicines could be kept in the empty health post —bottles of pills and syrups; a registry book and available patient files; a scale, stethoscope and blood pressure cuff; a glucometer with matching blood strips; syringes and a red sharps container. The building had fixtures for lights, but electricity had never been connected so the doctor

sat at a child-size desk and saw patients in the half-light filtering in through the slatted hurricane shutters. On the ceiling above us, long red electrical wires stretched out of the unused light socket like a doomed epiphytic plant.

It was against this curious backdrop that I first met the Saqui family. One Friday, when there were not many patients, Nurse C mentioned a "special case" that the local principal had asked her to follow up on when she had time. I followed her and a Cuban doctor named Marcos past vine-covered sapodilla trees and across a narrow bridge made of hewn wooden planks strung across wire cables. We ducked through a rose bush and past some aggressive roosters, finally stopping at a white clapboard house. The door was the kind that is cut in half, so the bottom part was closed when we approached, but we could see in through the top to the baby hanging in a sling from the ceiling. "Can we come in?" Nurse C called out, knocking on the doorframe. A young Maya girl got up from a hammock to open the bottom door for us, looking elated at the sight of this exotic company. Sofia, whose name I did not yet know, twisted in place the way that exuberant children feigning momentary shyness sometimes do as we trailed into the house.

As soon as we ducked behind the Sacred Heart of Jesus towel partitioning off a back room, a heavy, sickly sweet smell hung in air. The first time I met Angeline, she was sitting on a wooden chair and looked so thin in the darkness that at first I mistook her for the twelve-year-old patient we had come to visit. It was almost impossible to see the young girl lying in bed through the fine mesh of a pink mosquito net. There was a leopard-spotted towel covering her body and a candle flickering behind the bed, casting erratic shows across the room. Even from a distance, I could see that the girl's legs were shaking under the towel. "Why you have tremors, baby?" Dr. Marcos asked in his thick Cuban accent. "Does she have fever?" He pulled up her mosquito net slowly to look at the girl's face, and she cast her eyes away.

"She is afraid," Angeline said quietly. The bookshelf she leaned on was covered with the melted wax of used white candles, and held only one book—a thick red paperback labeled 'Holy Bible'—along with a hodgepodge of medicines in bottles and vials. There were several containers of Vick's VapoRub, a white tube of something called clotrimazole, a yellow bottle of antibiotic powder, and a vitamin syrup with a gorilla on its label that declared it fought anemia.

The conversation unfolded with seemingly predestined plotlines. "This girl needs to go to the hospital to get help. You need to care for your baby," said Dr. Marcos.

"I am caring for her," Angeline said evenly without making eye contact, gesturing again toward the array of syrups, ointments and bottles. "There is a man who comes to give her treatment. He puts oil on that is helping her." There was a tense pause. "We already go to the doctor," she added in a quiet voice. "After the hospital didn't know what was wrong, we take her to Dr. T [a private physician]. We spent money on so many medicines for her but they didn't help. We went there five times and it didn't help. So then we go to the bush doctor, and he said that he knows what is the problem. He says if she goes to the hospital she will never be cured, because it is not that kind of sickness."

"Has she ever had pink eye?" asked Dr. Marcos.

"No," Angeline said in a perplexed tone. I watched her during this time, her eyes downcast and long Maya hair pulled back in a ponytail.

"She has pink eye right now!" he responded, with a bit of a triumphant tone, as if he had shown that medical science could in fact diagnose this girl's ills. "Look at the secretions from her eyes."

"She's crying," her mother said quietly. No one said anything for a few moments. Finally Dr. Marcos asked if he could examine the rest of the girl's body. "Please, she is so scared," her mother said as he lifted up the net again.

It was only then that Dr. Marcos asked, almost as an afterthought: "What is her name?"

"She is Elisa," her mother said.

Marcos looked at her arms and back, then asked Elisa if she wanted to go to the hospital. She shook her head forcefully *no*, then stared at the ceiling through her pink mosquito net and ignored all other questions. The health workers asked Angeline to step in the kitchen area. While they spoke next to a mini-grandfather clock nailed to the wall, Elisa and I had our first conversation in whispers. The Ministry of Health team failed to convince Angeline that it would help things to bring Elisa to the hospital again. It was Nurse Suzanne who later talked the family into a clinic visit with her charisma and assurance she would cover any charges, driving Elisa and Paulo to the ER in her silver Hi-Lux.

"Is it 'bush doctor' or 'witch doctor'?" Marcos asked me on the way back to the clinic, trying to refine his English. He asked whether I had seen the electric chandelier with light bulbs that hung from the ceiling, even though the house was in an area with no electricity. "Poor people spend money on strange things," he said, in a tone both concerned and disapproving. I was struck by the intimacy inevitable to a home visit, and wondered where this form of medicine (at once both state and foreign) fit in with the fleeting visits by other kinds of mobile clinics that passed through the village. Jeremy Snyder and his colleagues call such volunteer clinics "fly-by medical care" (Snyder et al 2011: 6), yet the uncomfortable truth was that the state's mobile clinics were not so different than other fragmentary forms of medicine that passed through rural villages in southern Belize: caregivers trying their best with limited supplies, doctors who might not been seen again, uncertainties when such care might return.

Although almost every village had a concrete building labeled Health Center or Health Post, many of them were skeleton structures abandoned or very occasionally staffed; I was told that one, in a Kekchi village, had been built years ago but so far had never been

used. Santa Rosa was among the most active "mobile clinics" in the Stann Creek District, yet the same staffing difficulties that affected the rest of the Belizean system impacted these remote structures most of all. When the new wave of Cuban doctors were being trained, there was a gap of some weeks where the old doctors had already returned to Cuba but their replacements had not yet arrived in Dangriga. During this time, the mobile clinic first tapered off to every-other Friday, then stopped running indefinitely—it only made sense that if a doctor had to be missing somewhere, it be a rural clinic outpost instead of the town ER. Yet patients at the clinics were never given more than one month's supply of pills, and by the time I left in September, several months had gone by without the mobile clinic being able to resume operations. When I visited Santa Rosa later that summer, I was often approached by diabetics in the village who wanted to know when the clinic might come back so that they could start taking their medicines again. In this sense, the reach of the state programs at times shared the same characteristic discontinuity that raises concerns about foreign forms of "fly-by medicine": people came to rely on something unreliable.

Robert Desjarlais and colleagues (1995) have noted that the capacity to plan for the future is a key part of health. Uncertainty about when care programs would return to a village can at times make both national and humanitarian "short-term mission" medicine not the counterpoint of disease, but an additional layer enfolding insecurity into care experiments. After all, timekeeping is a key mode through which states formulate their power and structure relations (Greenhouse 1996). Throughout the history of Maya politics, daykeeping was important not only to state iterations of legitimacy (Saturno et al 2012), but also for public routines as ordinary people used chronological structures to gauge the cycles of events occurring in their lives. (As Ronald Wright (2000: 28) notes of the Maya in Belize: "Their very name is a cognate with *may*, a word for 'cycle'—so the Maya can truly be called the people of time.") In contrast to this historical "way of structuring time" where "intervals followed well-defined patterns" (Aveni 2011; 2000), this was a context in which

state health services scheduled to return each week might never appear, or foreign teams of doctors might show up unannounced on erratic days. Predictable cycles of time became unhinged, along with the political security and care work to which these intervals are tied. Perhaps these unstable "fly-by" intervals of medicine were also part of the fundamental reason that clinical medicine sometimes seemed to assume a magical quality in Belize—an *immanence of encounter* that often resulted when biomedicine was served from a long-term care relationship (so that if treatments did not work, they were frequently not adjusted or followed up but set side, along with whichever practitioner—whether hospital or *obeah* doctor—had prescribed the futile medicine.)

As the "mobile clinic" visits dried up in the village, I kept returning to visit Elisa's family. Like many things that grow familiar, the Saqui's house came to look different to me over time. There were slight misalignments in the white paint covering the wooden planks of the walls, some glossier than others or showing bare edges in places that it seemed strange a brush would have missed, as if the entire house had been broken down and reassembled plank by plank. It turned out that this was exactly what had happened—after saving up for his own plot of land, Paulo had moved their house one board at a time from a nearby village on the edge of a banana plantation. Although I continued to be afraid of the family's aggressive rooster, the wandering chickens began to grow on me when Angeline pointed out her favorites: one with a ridge of plumed feathers "like the silk of corn," another light-colored hen with pretty blue-green feet tinged yellow. "Like it's wearing stockings," she smiled, feeding them grains of imported white rice. (Later that summer, the chickens were sold to pay for Elisa's medicines.) There was no running water in the Saqui's house. I always felt both guilty and relieved that, when I visited for dinner, Sofia would run out to buy a bag of purified Crystal water to make my Kool-Aid while the rest of the family drank water carried from a village tap. They never failed to send me home with something: pieces

of uniced birthday cake, tamales wrapped in bright banana leaves still covered with ash from the fire.

One afternoon, it started pouring after lunch, and Angeline pulled out the family's photo albums for me. As I flipped through them with the girls, Sofia, who was prone to giggling, laughed uproariously at their baby pictures as we sat together at the table. She pointed out a picture of her and Elisa on the day they were baptized, standing with attitude on the coast of Dangriga with a thin line of the Caribbean just visible on the horizon. I liked the photo so much that they gave me a copy, since by chance there was a double (the other single copies they let me photograph for my research). The pictures were unevenly spaced in time—either sparse and scattered across years, or taken many at once in intensive bursts, apparently when a relative or friend with a camera visited. I stopped on a photograph of Paulo as a young man, riding his bicycle across the old Kendall bridge with a cousin. In the photo, the bridge over the river looks sturdy and permanent, as if it would never wash away.

After Elisa was released from the hospital, I visited the family the following weekend to drop off refills of medicines (although one of the antibiotics that the hospital had prescribed, Cloxacillin, was not available in Dangriga or even Belize City, so Suzanne had to substitute Amoxicillin instead). They were spending the Sunday in Kendall to charge their cell phones and to visit with Angeline's parents, who kept a few baby green parrots as pets. The girls showed me how they held one parrot's claws against their wrists and made him flutter his wings to flap wind towards their faces. "He is our fan when there is no current [electricity]," they joked. We sat around the thatched hut in the stifling heat, chatting about nothing in particular as the girls took turns with the parrot. The baby, Marielana, was getting so fat that it was hard to hold her for long anymore. She chewed on the red beaded bracelet around her wrist as Coco swung her around the wooden floor, and Elisa sang the High School Musical opening theme, hitting every high note. I wondered to myself how she had learned the song without a TV, and what its theme music meant in a place where the

majority of children will never finish high school. But Paulo was right: Elisa's voice was beautiful.

Paulo called me one morning to ask if I could help him find Johnsons & Johnsons baby soap, which the bush doctor suggested after the soap recommended by the hospital (Dove) had made Elisa's skin feel itchy. When he came by to pick it up after work one day, we spoke for a while by the sea, sitting on hammocks. He looked exhausted. Paulo told me that on his only day off from work each week, he had been "hitching" to Belize City to get a refill of herbal medicine for Elisa. Then he would return to their village later the same day, a gallon jug with the week's supply of medicine in hand. This took Paulo about eight hours round trip, depending on how long he had to stand on the side of the road waiting for the next bus or pickup truck willing to let him climb in the back for awhile.

"Sometimes my mind just goes blank. Like I just get dizzy and I don't know how to keep going anymore," Paulo said. The specialized bush medicine he sought for Elisa was neither easy nor cheap to keep in steady supply, and often took a good deal more effort to access than biomedicine. Some bush doctors charge hundreds or even thousands of dollars for specialty procedures like Elisa's—their range of prices more or less evenly match hospital prices, certain services affordable and others exorbitant for someone paying out of pocket. When Paulo couldn't afford the expensive bush treatments for a stretch, he instead picked ginger and sorrowsea from the garden of a nearby resort hotel. It was the herbal equivalent of over-the-counter medicines; mere symptom relief until they had enough money for a stronger proprietary blend that might address the root of the problem again.

On still days, the bugs could get bad around the river, and sometimes the family would "burn fish" for Elisa. (In Belizean Kriol, the word "fish" can refer to any method of insect control, such as mosquito repellant smoke coils or spray insecticides. I have a theory that this rather odd term has its origins in a 1920s-era Rockefeller vector control program in the region, which sought to decrease malaria by mandating the placement of live fish into

people's barrels of drinking water.[86] The program was based on research suggesting that the fish would eat the larva of the mosquitoes that serve as disease vectors, and therefore decrease the transmission of malaria. This particular method of malaria control was highly unpopular and relatively short-lived; unsurprisingly, Belizeans were not enthused about having fish feces in their household drinking water. But in making this association, I became disturbed by the feeling that even the fabric of language in Belize seemed shot through with fleeting traces of forgotten experimentation.)

Suzanne often had nurses or doctors visit her clinic in Mile 21, and once in awhile would ask me to bring one of her friends or visitors to see Elisa. I always felt torn about my role in those moments. On one hand, I liked to visit the Saqui family as regularly as possible, and bringing along someone with medical training meant that there was a person more qualified to take Elisa's vital signs and who might have a medical opinion to offer or expertise to help if something was wrong. Yet I worried that in the absence of continuity, the sudden appearance of a random doctor, nurse, or pair of med students who had never seen Elisa before (and usually never would see her again) was really more for the caregiver's benefit than for Elisa's—an "interesting case" to recount back home. Since Suzanne's clinic hosted a fairly steady stream of visiting nursing students, in particular, I sometimes found myself in the prickly position of feeling like Elisa's gatekeeper, firmly telling one-time visitors they would have to leave their cameras in the truck and occasionally inventing excuses why I could not take them to her village when Suzanne asked me. I knew of one case where Suzanne had been banned from visiting a patient's home because the mother felt she was treating her children's rare disease "like a zoo," bringing a long line of vacationing doctors and medical students into their bedroom, and I never wanted to be a part of something that made Elisa's family feel that way. It was uncomfortable to realize how often my social calls blurred into medical visits that relied on a fleeting form of healthcare akin to tourism, also becoming part of some unspecified experiment.

Among the erratic stream of visitors who moved through Suzanne's clinic, perhaps the most memorable was a sunburned American doctor who visited the village in August to scuba dive at a nearby coral atoll. When Suzanne mentioned Elisa's case to him, he offered to make a home visit and lamented that he had not known ahead of time, because he would have brought a specimen jar to collect a biopsy. Suzanne jumped at the suggestion. She had been trying to find a way to have a sample of Elisa's skin biopsied all along, but this diagnostic technology was unavailable in the country. A biopsy sent back to the US would be the only way to confirm Elisa's diagnosis, Suzanne said (she still had her suspicions about Stevens-Johnson syndrome, yet another illness caused by drug side effects, and many of the Cuban doctors still spoke informally about theories of scleroderma or lupus). I helped Suzanne scour the clinic's many boxes of random donated medical supplies, trying to find materials to make the biopsy possible. Although we were able to easily locate a sterile jar, there was no preservative solution to keep a skin sample viable through three days of heat.

But Suzanne was a dazzling improviser. She went online and found the name of the chemical solutions normally used to preserve skin biopsy samples, and read out loud to me the list of substances it was usually found in. The last item on the list said that one potential preservative, saponin, was also used for soap-making, and she grew excited. "The soap-making kit!" she called to me from across the basement, her eyes shining. Because Suzanne had first intended her retirement home's garage to be a craft-room rather than a clinic, she had bought huge quantities of art & craft supplies from a Michael's in the U.S. Seven years later, the art supplies were still sitting in plastic bins, largely unopened: glass and clay beads for necklaces, threads for embroidery, watercolors for painting and decorative paper for scrapbooking.

Suzanne sent me to a backyard storage closet filled with spiders and shy scorpions to look for the soap-making kit, in hopes its separate ingredients might contain the chemical

that could also be used as a preservative for Elisa's skin biopsy. For a minute, the whole situation felt so fated: the unlikely coincidence that the single missing ingredient now needed for Elisa to get a biopsy in the U.S., brought all the way from California in a craft box, had been right here all along. I searched through dozens of plastic storage bins, sweating profusely. At one point we declared success, but it turned out to be a false alarm (a candle-making craft kit that contained hunks of wax that I initially mistook for soap ingredients). This was both the creative force and the heartbreak of makeshift medicine: sometimes threads seemed so close to meeting across all odds, so close; to come so far and then to falter so close.

In the end, we just took the empty specimen jar with us on the home visit to Santa Rosa that day. It was all we had. When we arrived at the Saqui house, Coco was painting Elisa's nails with some new polish I had brought from Dangriga the week before, alternating toenails in red and white. Elisa wasn't wearing clothes that day because they hurt her skin too much, but she wrapped a bedsheet around herself before the stranger entered her room. The visiting American doctor asked her if he could take a few flakes of her skin for testing back in the US. Elisa said yes, but immediately her whole body started violently shaking just like in the hospital. Suzanne tried to soothe her and helped to hold Elisa's trembling arms still for the doctor. He plucked several scales off with tweezers as she winced and dropped them into the jar dry. I imagine that the unpreserved specimen of her skin must not have yielded any information once it got to wherever he was going, because we did not hear from him again.

What Was The Experiment?

Although I told myself that Elisa's story belonged in my research because of the drug complications giving her high blood sugar that would likely develop into diabetes as she grew into an adult, this specific side effect quickly gave way to other skeins of questions:

entangled pathologies, shifting caregivers, previous treatments. Tracing her story backwards and forwards in time, through the archives of her own family as well as medical institutions, often seemed to be a case of uncovering a loose archipelago of experiments within experiments. It was easy to label the visiting foreign one-day clinics and deworming campaigns as "fly-by medicine," but harder to know what to make of the fact that the state public health system's reach in her community seemed to share a similar ephemeral structure. The weekly state mobile clinic in Santa Rosa had not shown up in the village for more than three months by the day I took this picture; it was only then that I noticed the world "HEALHT" spelled incorrectly on the clinic doorway. With the village itself consolidated around a gift shop and reinvented as a prototype for neoliberal ecotourism, it felt like the very landscape was a trial in development.

Social scientific studies of health and development often focus on isolating the variables of particular factors or policies in order to understand their specific effects, but from an anthropological view, the messiness and entanglement of these experiments and their possible side effects is precisely the entry point for understanding the way they are experienced on the ground. Over time, multiply layered uncertainties and externalities cannot be pulled apart in human experience either—their unknowns become interlocking and overlaid, knotted and elided, felt and lived. Local people must find real ways to live within what remains unknown in policy and science—forces already enmeshed not only within the social fabric of their lives, but also within the very chemistry of their bodies. It was all too easy for hospital caregivers to blame the Saqui family, "witch doctors" and "cultural beliefs" for the difficulty of managing Elisa's condition, yet I couldn't help notice that Paulo and Angeline never turned to bush medicine until they had repeatedly tried biomedical treatments first. Their search for other doctors, other medicines and other causalities was most of all an effort to staunch the holes in a struggling and resource-limited health system—groping in the dark for new experiments in care to try as they tried to make

sense of the many uncertainties and risks that biomedicine had not resolved, and sometimes might even have caused or deepened. At what point were the hospital's drugs not treating Elisa's disease, but the side effects and symptoms of other drugs? (Was her disease anything *besides* the side effects and symptoms of other drugs?)

The family repeatedly turned to "bush medicine" when pharmaceuticals seemed to reach their limits, a choice which contained its own dangers but also its own efficacies. The obeah doctor on multiple occasions recommended the same medical treatments that Elisa's hospital doctors belatedly arrived at months later (corticosteroid therapy, multivitamin supplements with iron, oatmeal baths, and Johnsons & Johnsons baby soap), also incorporating the herbal treatments of "bush medicine" that have chemical potency of their own, including potential side effects and dangerous drug interactions. After all, many pharmaceuticals are bioengineered with compounds originally derived from herbs, barks, roots and leaves; even the Rockefeller hookworm program, in its time, was actually distributing an anti-parasitic medicine that many campaign recipients already had growing in their yards and gardens. (The Rockefeller Chenopodium drugs were distilled from the *epazote* plant, an herbal remedy that has been used in Latin America to treat worm infections since pre-Columbian times, leading some local people to accuse the Hookworm Campaign of having only "curandero's medicine" (Palmer 2010). The only chemical difference between the two drug formulas was that the Rockefeller campaign distributed the medicine in a one-time extremely high dose rather than everyday teas, which is what made their imported version of the treatment potentially fatal). Belize's rainforest is known for having an abundance of such medicinal plants, often with pharmokinetic properties that still remain unpatented. After reading books like *Sastun*, tourists interested in an American academy's work cataloging the potential applications of medicinal plants in Belize (Arvigo 1994) often travel from the U.S. or Europe to seek out "ethnobotanical" experimental cures for difficult-to-treat diseases after hospitals in their own countries fail to cure them.

In this treatment context, what counted as a drug? As doctors who passed through the village (state-sponsored Cuban internists and vacationing Americans alike) made random home visits to check on Elisa, and as visiting groups continued to run ephemeral clinics and distribute deworming pills to schoolchildren throughout southern Belize, where were the boundaries of the clinic? However much research I did about un-confirmable but possible contributing factors to Elisa's disease, however many technical articles in medical journals I tried to wade through or new questions they led me to ask, there was no way to draw a clear line around the point at which powerful pharmaceuticals had first entered the picture. Science had already been circulating. What was the experiment, and where did it begin or end?

Paulo and Angeline rescheduled their baby's baptism so that it would be held before I left Belize that September, and asked me to bring my camera to take pictures for them. When I arrived around dusk with a basket of cinnamon bread, Sofia told me they had a surprise, and pulled me into a shadowy room lit by the flame of a single white candle (which wasn't really enough to illuminate the room, but candles were expensive and the Saquis tried to use them sparingly; it is one of the many paradoxes of Belize's import economy that it cost more per month to light a home with boxes of candles than electric power.) Yet there was also an intimacy to the way the girls gathered together in the small arc of the candle's light. Sofia held her hands over my eyes as I bent down, and I felt Elisa tying something around my neck: a parting gift, a pale green stone carved in the shape of a saber tooth and hung on a cord made of knots. "It's beautiful," I told her after opening my eyes and touched the necklace against my chest, afraid to hurt her skin if I hugged her.

We sat around for a while in the dark, hot room where Elisa passed her days, behind the florescent pink mosquito net that Paulo had fashioned into a makeshift medical curtain to try to make the room more sterile for his daughter. He had affixed little metal fishing weights to the bottom of its mesh so that the curtain would hang taut enough to keep out

the flies, pewter-colored balls that clattered against the floor whenever anyone entered the room. Elisa giggled when she asked what I was going to write about her, peeling open the wrapper of a melted Snickers bar. She asked me to use her whole name "in my book"— not just Elisa, but Elisa Valentina. Her notebook was open on the bed, and she showed me the drawings she had been working on to pass the time until her markers ran out of ink. Among a menagerie of animals and characters, one figure was drawn with long blonde hair like mine, and she smiled shyly when pointing this out to me. The page was labeled "TEDDY BEARS IN LOVE." She also showed me some of her drawings that were sketched directly on the wall of her bedroom doorway, red and purple tropical flowers. They were labeled and re-traced in light pencil. "TULIP," one said in Elisa's careful block letters. "FLOWER."

Later in the night, Paulo started up a loud gas-powered generator outside. Someone ran an orange extension cord up to the electric chandelier, and suddenly the room was bathed in light. Seeing the fixture lit for the special occasion made me remember Marcos' comment about the "strange things" people spend their money on in poverty. When I commented to Angeline how pretty it looked, she smiled. "Current [electricity] already reach the other side of the river," she said. I realized that the little bronze chandelier, incongruous in their simple home, was not a frivolous purchase; it was a hope for the future. They were waiting for the national power grid to include them.

Angeline told me that Paulo's brother had held an outdoor healing service for Elisa the previous day. He was a preacher in the Church of the Nazarene. Later, Elisa stayed in her room and Sofia kept her company as the rest of the family gathered outside in the yard with neighbors and friends. Paulo's brother led the baby's baptism[87] service, accompanied by an electric guitar player. The preacher sang in Mopan and played an electric keyboard that was nearly drowned out by the generator required to power it. The attendees sat on makeshift benches in the yard, pieces of clapboard balanced across tree stumps. They swayed to the hymns in the dark with their palms stretched open.

Angeline was the last to say goodbye to me that night, holding her stiff hand clasped in the other and hugging me solemnly. We traded addresses and both cried, promised to write. I also gave Marin and Angeline a list of local numbers to call with any medical questions: Suzanne's clinic, the Cancer Center, the regional hospital. We had already submitted Elisa's file to an American NGO for the case to be reviewed over Tele-Med for potential treatment in Texas, and waited to hear back from the regional hospital about this option. I had also made sure each of these places had Elisa's most updated medical file and the family's contact information, and a new volunteer at Suzanne's clinic had promised to continue home visits and let me know how Elisa was doing. But I still felt uneasy as I drove away.

By that time, I had already begun to think of healthcare in Belize as something that comes in pulses and patches. This was true not only of care providers that came and often fleetingly went, but of their technologies: a nebulizer crafted from an apple juice bottle; Amoxacillin substituting not-quite-interchangeably for Cloxacillin; the sorrowsea and ginger snipped from a hotel garden when there wasn't enough money for a consult with an expert herbal doctor; a specimen jar that might have been functional for collecting a biopsy sample, if only someone could have located the soap-making kit. Sometimes this patchwork medicine could miraculously come together, piece by piece and one act of care at a time adding its strand to a fragile web. But the problem with a patchwork health system is an inherent one—when you take away a patch, it leaves a hole. I realized that for Elisa's family, I had also become one patch in the care system—deliverer of medicines, ride to the hospital, bringer of Snickers bars and baby soap.

In the end, I went away too.

Not only drugs have side effects, but also the social relations that cohere around them. And inevitably, my own anthropology not only charted the experimental factors at play in Elisa's care, but also became one more unknown presence—yet another study

moving forward with uncertain questions. But my friendship with the Saqui family was also real, and it felt like an act of mutual care to record what was happening with Elisa in all its complexity. I thought that following her story over the years would be a way of charting the complex and elusive entanglement of drugs, symptoms and lives over time; the profound blurring at times of cure and disease; and the careful, tenuous webs of relationships created to sustain care and hope in the face of such uncertainty, where the chemical and the social became inseparably bound up in new forms of living.

It turned out that Elisa's destiny was both more and less complicated than this. For Christmas I sent her a jigsaw puzzle of horses running down the beach, new colored pencils and a Sudoku book, and Sprite and Fanta-flavored Lipsmackers to share with her sisters.

This is the letter that arrived for me one day in Philadelphia:

Hello Amy
I am so sad to say to you that we lost our child Elisa. We all were heart broken on christmas and new years… thank you for the beautiful rememberings of Elisa you sent for us but tears ran down my face also Paulo when we open that little package. I showed it to all my family and Paulos family too. I know now that she is in the right hand of God watching us from evil O.K. Oh Amy my friend I appreciate and thank you for all the good things you do to comfort her in her illness all the special things you gave her in her little warm hand Amy. I know that when you come to belize again you will feel all the feelings…but please let us be faithful and strong that we all know that we will meet her if we trust in God. Thank you special friend Amy. I am so sorry
Love You Amy God Bless You
From Angeline

Reeling, I called Suzanne for details, my hands shaking as I dialed. She told me that she and another nurse had been working together on sending the Saqui family to the US through an NGO program, where Elisa and Angeline would both receive free treatment at a hospital. Although this would mean uprooting the entire family for an uncertain outcome, Paulo agreed. Suzanne had called in several favors from friends, and visas and paperwork were in the long process of being arranged for the family to travel to a hospital in Texas. In the meantime, she said, when Elisa's red bumps and now-familiar outbreak symptoms returned one day, Paulo bundled her into his rusting red Honda as usual. He drove her south to see a new doctor in Toledo. At some point during the drive on the highway, Elisa

stopped answering her father's questions; for awhile, he assumed she had fallen asleep. It wasn't until he pulled the car over that he realized she was dead.

Almost two years later now, I still can't bear to picture Paulo by the road in that moment.

The family buried her immediately, Suzanne said. Everything was already over by the time my Christmas package reached Santa Rosa, three days after Elisa's death. Soon afterwards, Paulo lost his job at the resort hotel Paradise Orchid. During times he was supposed to be cleaning the beachside pools, Suzanne told me, Paulo kept staring out to the sea and crying. His displays of grief were frightening the sunbathing honeymooners. He was given several warnings, then fired. Suzanne spoke with the resort manager and got Paulo the job back once, but even after time off, he continued to stare out to the shoreline and weep inconsolably.

As she told me this, I kept thinking of Paulo at the Belize City hospital, reading from the Book of Psalms on Elisa's pillow. "The Lord is my Shepherd," he had prayed. His hand hovered just above his daughter's arm so that he wouldn't hurt her skin. "…Show me the path I should walk." Earlier that morning, I had gone out to buy Styrofoam cartons of Johnny Cakes and beans for lunch from the Red Cross food stand and returned to find Paulo and Elisa both in tears. Elisa had caught a glimpse of her own reflection in my laptop screen when the sunlight hit it a certain way. She started to weep so uncontrollably at the sight of her changed face that, as he held her, Paulo started crying too. I thought of his expression when I walked in the room, a father's love and anguish and shame at his own helplessness to make it better again. It was then that Paulo had read Psalm 23 to Elisa, and she told him afterward that the scripture helped to take the pain away.

When Aldous Huxley traveled through Belize and Honduras in the 1920s, he visited the tropical ruins of Maya cities, writing in his journal that the cyclical depictions of repeating time that he saw etched in hieroglyphics there perhaps evinced not astronomical

knowledge but a "reckoning with death" (1934). Joan Didion (2005) describes "the vortex effect" after a death, dropping survivors straight into wormholes of memories from other times and places. I wondered which moments Paulo was reliving when he stared out to the sea. In our own ways, we were all now faced with "writing a story after an ending." Yet it was not just my short year of connection to the Saqui family that made their trauma feel personal; it was also a realization of my total removal from their continuing lives that shocked me. In recurring dreams, Elisa's labeled cartoon drawings near her bedroom doorway of "TULIP" and "FLOWER" began growing, covering clapboard walls with dense vines and purple blossoms, swallowing the whole house. In the dreams, her family members too were entangled in the vines, and we called out to each other, unsure whether I was inside the house or out.

Everything needs endings in order to function, even at a cellular level. Without telomeres, our DNA would replicate itself out of order. Time's sequence will unravel and information will seep into places it does not belong. And without any closure to cap this story with some moment of *telos*, a concrete end to provide cathartic shape to my recollections of the year when our lives became strangely intertwined, it's as if my memories of Elisa are themselves flaking away—not decaying but shifting, flashing up unbidden and out of sequence, like an unfinished movie spooling on foreshortened reels.

That spring, my thoughts began to dwell repeatedly on a made-up image. The first time it entered my mind it was like some kind of painful daydream, maybe a half-unconscious substitute for the fact that I had missed Elisa's funeral and part of me required some picture of how this story ends. But at some point the image I knew I was inventing became much more real to me than my fieldnotes from that day, to the point that I'm not sure I could entirely separate the two in my mind anymore if I tried. Perhaps one could say something theoretical here about how this reveals the parlor tricks of wounded memory, the

sublimated pain of loss. But more likely I just can't handle thinking of her in the ground, where the worms return again. Instead, this is how I picture it:

We are driving down the Hummingbird Highway like we did on the way to the ER that July, past the place where the banana plantations give way to Beefmaster's open fields: past the grazing cattle, past the sapling fenceposts with their bright green leaves above the barbed wire. I look over my shoulder to the back seat of the Tacoma, and Elisa is already silently breaking into flakes of skin as we speed toward the hospital. The blisters continue to fall from her and float through the air weightless as snowflakes, traces of unknowable wounds suspended somewhere between meaning and truth in my memory. Her body dissolves into flakes until when I look back again the little girl herself is gone, and only the scales of her skin drift in the tropical heat coming in through the truck window. Paulo and I reach out toward her empty seat and grab fistfuls of air. The yellow scales stick to our hands among tiny flecks the sheerness of pollen. Between the translucent flakes of Elisa's skin there is a pale cloud of pharmaceutical dust left behind by her body just visible in the sunlight, the powdery residue of Albendazole and Penicillin, Cephalexin and Prednisone. The drugs' last traces seem to hang too lightly in the air, as if drifting on their own chemical sheen.

5. Ms. Lazarus, or Straddling

> We gradually make the world our own,
> even its feeblest, riskiest portion,
>
> ....You sense the dead
> and you cringe when you hear the magic spells.
>
> You see, we have to manage some way
> With piecework and parts, as if they were whole.
> Helping won't be easy.
> -- Rainer Maria Rilke, *Orpheus 16*

Sickness of the World

This is the story of a young woman on a precipice. In *The Normal and the Pathological*, George Canguilhem wrote about the social ecologies that tend to be excluded from the picture of diabetes care viewed through a clinical lens. He believed that the disease had to be seen as an "inner relation to the indivisible totality," its origins sought in people's "*relations with the whole of their environment*":

> To return once more to diabetes...it is the disease of an organism all of whose functions are changed, which is threatened by tuberculosis, whose superated infections are endless, whose limbs are rendered useless by arteritis and gangrene; moreover, it can strike man or woman, threaten them with coma, often hit them with impotence or sterility, for whom pregnancy, should it occur, is a catastrophe, whose tears—O irony of secretions!—are sweet. It seems very artificial to break up disease into symptoms or to consider its complications in the abstract. What is a symptom without context or background? What is a complication separated from what it complicates? (Canguilhem 1991: 88)

By following Cresencia's story and symptoms over time, this narrative aims to place her condition back into the intricate worlds from which it arose, showing the lived fold of *what her complications complicate*. A closer look at her experiences and actual choices quickly breaks apart the "non-compliant" stereotype with which she was branded, showing a life filled with earnest attempts at care-seeking and revealing the painful limits of available biomedicine for a complex chronic condition. These uncertainties are accentuated by the resource scarcities of a fragile health system, but are also true of scientific knowledge about the deeper complications of diabetes treatment anywhere—giving rise to gray zones and

double binds within clinical milieu often unequipped to cope with (let alone prevent) the disease's grave complications.

Cresencia moved in and out of symptoms, treatments and communities in her search for healing. Although Belizean, she identified her primary nationality as Garifuna. This opened an additional register of tinkering, care and politics that vitally guided her uneasy movement through the national health system, across national borders and among many private clinics. Tracing her struggle for a life worth living reveals a far more complex and densely layered picture of health, borders and belonging than any labels such as "adherence" or "resistance," could contain, leading us to ask different questions. What do biopolitics become in a nation that is not a state? What are its terms and responsibilities, its roles and dues? Between the negotiations of inclusion and exclusion that characterize any form of citizenship, how does one make a claim to life? What collectivities and resources, modes of care and attendant limits, do such claims draw upon?

This is a record of how these questions were searchingly lived by Cresencia in the year we knew each other. By examining this account of how the Garifuna nation came to support her in a moment when the state health system could not, we encounter different ways of interpreting and responding to crises of diabetes that medical science could not resolve, observing the politics and care work of "a nation across borders" (Palacio 2005) in actual practice. As makeshift Garifuna healing rituals (adapted for a case of emergency medical relief) unfold against a backdrop of state clinics and hospitals across both Belize and Mexico, how do these various nations overlay, and what is the jurisdiction of each? Rather than theorize these matters myself, my aim here is simply to relate Cresencia's story in enough detail to show the way her own shifting experiments and relations illuminate preliminary responses and intimate corners within these deep questions of health and double citizenship.

Interspersed with sketches and scenes from the place where she lived, this narrative also asks how Cresencia's struggles with a chronic condition unfold as part of the larger social history of her village. The dramatic changes happening within her community are much more than a backdrop to her disease, but rather part and parcel to its symptoms and toxicities—as tourism brings new sources of income but also rapidly shifts people's connections to farmland and agriculture, and foreign development and coastal land grabs contribute to forms of environmental pollution now actually known to cause diabetes. If metabolic disorders represent a form of people's *mutated biology* (see Chapter 3), then what do the cellular damages to the surrounding land and sea have to with the disorders catastrophically growing within local populations? The question of who has the power to modulate these ecological intrusions also brings us back again to questions of double citizenship. What do plots of earth have to do with a nation? (Yet playing against land and law, these questions of doubleness and jurisdiction crystallize quite differently than they do in the case of improvised medical care.) It is hard to outline these thickening entanglements more philosophically than the Garifuna categorization into which most cases of diabetes would fall—as anthropologist Kathryn Staiano describes, those illnesses not caused by ancestral discontent or sorcery today make up "the vast majority of sicknesses" and "are said to be *lisándi ubáo*"(1986: 99), a local category of disease that can be translated as either as *sicknesses of the land*, or more expansively, *sicknesses of the world*.

Ancestral Discontent

Outside the house, a cluster of diabetic women laughed about how many units of insulin they would need to counter the ritual foods they were each given to eat according to the ancestors' instructions. (No one actually had any insulin; this was what made the joke funny.) I could hear close female family members humming in Garifuna through an open door, their pinkies linked, stepping in a slow shuffle as they sang. Separating them from the

food was a curtain made entirely of articles of clothing, the wire stretching across the room bent low under the weight of domestic items belonging to the dead for whom the ancestral mass was dedicated: floral skirts and folded bedsheets, checkered blouses and dark trousers, a row of enormous brassieres in yellow lace and white nylon underpants. On the other side of the partition, a table was lined with banana leaves, barely visible under all the dishes. As the women's songs floated across the curtain of clothing, I counted at least 43 plates heaped with food: quartered watermelons, halved pineapples, split papaya with black seeds in tiny wet spheres like frog eggs, bowls of white porridge, *hudut* plantain dumplings steeped in coconut milk, plates of manioc and other pale roots, whole gray fish with cloudy eyes, rice and beans, roasted chicken, huge triangles of brittle cassava bread between plates, a mottled brown cake with crusted syrup glistening in the candlelight. Alongside plates on the floor were glass Coca-Cola and green Lighthouse beer bottles refilled with rum or holy water, all stopped with tufts of cotton.

Since the ancestors had just been summoned to save Cresencia from death the previous week, she was not forgotten in the meal. Cresencia was handed some roasted chicken and a piece of purple yam when the dead instructed specific bits of food to be passed around and eaten by designated people. The leftovers were put into a massive silver bucket placed in a wheelbarrow, to be buried in the sand or thrown into the sea. "It's a miracle," people who hadn't seen her yet kept saying as they approached the place where we sat in plastic chairs at the edge of the yard. Because they chose to speak in English instead of Garifuna, I could tell their words were for my benefit too. "People are calling her Miss Lazarus. These doctors sent her home in an ambulance from the hospital to die; now she is walking around with us again."

"ThankGod," Cresencia would smile, the phrase one word on her lips. She had lost more than half her body weight: a tattoo on her wrist now shriveled, its few initials illegible inside the wrinkled ink knife-pierced heart. (When asked once what the letters stood for,

she just laughed and called me a rude girl, and I concluded the markings were the last trace of a glyphic love.) Cresencia weighed just 88 pounds then, her tall frame stooped. The sinews of muscle and contours of skeleton were sharply visible against her daisy-printed Garifuna dress and kerchief, ridges of ligament and bone gave her a haunting beauty. Her fingers were long and graceful, though one was lacking from a hitchhiking accident several years ago, when she had gone to the hospital for stitches and her doctor neglected to give her antibiotics. The infection that developed while she was an inpatient required an amputation of part of her palm and a pinky in order to save the arm. "It spoilt," she said in a faraway voice when describing this medical mistake, as if referring to an overripe mango that simply had to be discarded. She had to continue going to the same hospital for diabetes care. Each of her eyes had also been operated on earlier that year, by two separate university teams of visiting American doctors who ran a vision project in Belize City. Both surgeries had helped to slow the blurring vision caused by diabetic retinopathy, but left pink veins and a thin raised line of scar tissue across the white of one eye, subtle markings of damage and repair which deepened the impression that she looked both much younger and much older than 34.

Later, as we left the ancestral mass, the sun cast blue shadows across the dunes. We were walking slowly over the beach through the dusk, away from the sound of drumbeats, when Cresencia suddenly collapsed as if struck. "Ay!" she cried out before falling down next to me; the fruit and sesame candy she had been carrying scattered wildly. Her spindly arms made strange angles in the sand. I sank onto the beach next to her, reaching for her pulse and wondering whether I remembered to bring the glucometer in my backpack. I could feel the blue scarf that Cresencia's cousin had tied around my hair earlier coming undone. Before I even called for help, women in bright dresses ran across the beach toward us. They supported Cresencia and walked her back toward the drums, removing her glasses as she swayed and shuffled with short staccato steps. The music did not stop. Some girls I knew

encircled me, telling me not be afraid and gently laughing when I offered my glucometer to see whether her blood sugar was too high or low. "There is a spirit in her," Thera explained to me.

In the center of the circle, Cresencia's slumped frame suddenly became animated in the arms of the two women who had supported her weight, and she gestured toward the darkening sky. Later, I will learn that this shift in states has a name: a transition from stiff, glassy-eyed *adereha* possession to animated *agoburiha*, a full spiritual possession—in rough literal translation, "to become re-ancient."[88] Cresencia spoke with the high thinning voice of the dead, her face transformed with an old man's puckered lips and squinting eyes.

"It's her great-grandfather Fernando," Davis told me. "The one who healed her."

That night, it had been four years since Cresencia was first diagnosed with diabetes, and eleven days since the doctors in Belize City had given her up for dead. Two weeks ago she had arrived at the ER in a diabetic coma, after being transferred from the village clinic to the national referral hospital. In Belize City, the doctor told Cresencia's family that aside from her usual high blood sugar, the tests were all normal. Even after her blood glucose was stabilized, she had not revived. Several days of crisis passed, long periods of waiting in the hospital with hours measured out in injections of insulin. There was nothing left to be done for her, the doctor said. They were ready to release her to die at home. She was still paralyzed on one side of her body, emaciated and incontinent, drifting in and out of a coma.

"They give me up then. Hours to go," Cresencia will tell me later. "My aunts were all crying, my whole family." Her family could not accept the doctors' seeming resignation, and decided to attempt a rescue—they chartered a B.E.R.T. ambulance to take her back home. In retrospect, it's a striking image: the ambulance speeding *away* from the top public hospital and country's leading specialists, carrying an unconscious woman many hours through winding mountain roads and back to the village on the sea.

After her father died from diabetes when Cresencia was nine, her mother raised her with six brothers and sisters in a wooden house on the beach. It was in front of this same unpainted house that a group of village women gathered to meet her ambulance. Gaunt and too tall for the stretcher, Cresencia arrived in Pampers. The women cared for her as a child again, cleaning her, changing the diaper. Cresencia began murmuring in Garifuna when they bathed her with clear rum of the highest proof (which is often used to initiate commune with the spirits, but can also double as a powerful disinfectant and base ingredient for many topical medicines made of herbs). This abruptly eased her symptoms when the insulin and other drugs had not helped, signaling to them a spiritual cause behind her looming death.

Cresencia's parents were dead and her siblings lived elsewhere; it fell to her aunts, cousins and caring neighbors to manage the emergency ritual. The required ritual, normally planned in advance with elaborate protocols and collaborations, was in this case makeshift—held under a mango tree rather than in an ancestral temple. It was not officiated by a *buyei*; since the death of renowned Dangriga *buyei* Sarita Gonguez in 2008 there had been no such Garifuna shamans at that level left in Belize, and for everyday spiritual matters the people of Stann Creek increasingly depend on *óunagülei* or "messengers" (who have supernatural capacities but have not fully completed the many arduous steps of international training necessary to become a *buyei)*, although for major rituals a *buyei* could be summoned from Guatemala. In Cresencia's case, however, the women improvised, placing palm fronds and banana leaves on the sand, and with only two days' preparation the most crucial elements were in place: a pig sacrificed, certain foods prepared to offer, quantities of rum obtained, drummers gathered to guide their dancing.

Unable to move, Cresencia remained in bed during the outdoor dancing of the *malí*. They "knocked drums" for many hours, she said. (I was always struck by this English expression—that drums were usually not "played" but "knocked," something more akin to

rapping on a portal.) That was when Fernando, Cresencia's great-grandfather, possessed her for the first time. When he spoke through her in this state of trance, the news was reassuring: she would be fat again, restored to health. Fernando reported that the agent of sickness that was killing Cresencia had not been diabetes after all, but a spell deceptively made to look like diabetes, some evil that had been put on her by another person. He worked to remove it. "That was one miracle!" Antonia told me later, flapping a green towel over her shoulder to create a small breeze. "Came here dying; now she is okay. She spoke, her grandfather spoke through her and said what the problem is. When it happens you cannot remember what you said, only someone who was there has to tell you later. Have you ever seen the movie with Whoopi?"

First Cresencia sat up. "Can she walk?" asked an aunt; but the spirit chided, "Take your time! Do not rush. She will walk, but not yet." Later Cresencia stood, then sat down again. Next she took tentative steps. Her strength returned in uneven waves. By the end of the night, Cresencia was dancing along with everyone else under the mango tree.

"It felt like a snake inside of me," Cresencia later described the bodily sensation of sorcery, touching her stomach lightly. She spoke quietly. "There is good and there is bad. Sometimes you don't think about the bad part. But sometimes you have to think about that… Sometimes you don't have nothing and still people want to do a lot of stuff, like they are God." She paused. "They are not." Fernando, assisted by two anonymous spirits, had successfully removed the spell that mimicked the symptoms of diabetes, she said. "He took it out," Cresencia explained, "slowly, slowly."

Yet this healing was conditional, and it came at a cost. Cresencia had lived for several years with another woman, Allison, a lifestyle contrary to usual village gender norms. In order to stay healthy, Fernando instructed, Cresencia would have to move back to the old family house where she had been raised. "The spirits don't want me to live back there anymore with my friend," she told me, her tone a mix of regret and resignation. (This

unanticipated shift between homes was also the reason I had missed being present at Cresencia's first healing ritual in person; I had gone to visit at the house she shared with Allison upon hearing that she was back in the village, but I found an empty house and left the village for an errand in Belize City. At the time I didn't know where she had moved or what had happened, although the events of her makeshift healing rites and "miracle" were recounted to me by several people who had attended. I also asked Cresencia herself many questions about the first healing, although she pointedly explained that she had also heard her grandfather's advice second-hand because she could not remember anything after going into a trance, and our conversations on the topic usually ended with Cresencia's reassurance that she would have invited me if she had not been unconscious.)

Now that Fernando's spirit had returned again, I sat in the circle of people surrounding Cresencia on the beach and thought of Allison, alone in her house. Cresencia was slumped in a white plastic chair with a posture not her own, gesturing wildly into the night sky. Two bare bulbs hung from a yellow extension cord above her head. Behind her, the thatched kitchen glowed, and in front of her commanding women in button-up dresses and turbans packed a low wooden bench and guffawed at the spirit's slapstick humor. Occasionally someone would translate for me: "He said that my brother who died in a car accident is here" or "Phil is so jealous of the old lady" (said of a drunk spirit whose wife was on the bench and among other living men). Some people were summoned up to the center of the circle by the spirit to be asked questions, teased, given messages. "This is why we are not afraid," Davis said to me. "We can be with our ancestors this way, talk to them."

Probably because I was able to understand only scattered words of Garifuna, as time passed I became increasingly apprehensive that Cresencia might go into a coma after so much beer. A rail-thin diabetic just back from the brink of death, she had suffered renal failure only days ago. "The spirit wants some Johnny Walker," Davis explained to me, as a bottle of Black Label was obtained from someone's kitchen cabinet and poured into a brittle

gourd for Cresencia. Davis reassured me that the ancestors would consume the spirit of the alcohol with no risk to Cresencia's body, but I remained tense until the tremors ending her three-hour spirit possession ceased. It was a particularly long session and the spirit had trouble exiting; after being splashed with rum and encircled in plumes of smoke, she was taken to the back of the house. When I saw Cresencia again ten minutes later, she looked quite sober. Chewing on a fish, she calmly inquired whether I would be afraid of her now.

Fernando had reported that the ancestors were satisfied with their meal, happy and very drunk. He said that the dead had come in twelve boats across the water. The sea separates many worlds in traditional Garifuna cosmology, a place where time might dissolve; in fact the afterworld, Seiri, is often overlaid with Catholic heaven but also sometimes visualized as St. Vincent, the Caribbean island where the Garifuna people first came into being centuries ago. (See Chapter 3 for an account of the displacement from St. Vincent that killed 75% of the population, and later the violent political conditions in Honduras through which Mile 21 was founded by political refuges.)

Today this local memory is also popularly overlaid with Garifuna Settlement Day, now a Belizean national holiday celebrating the date when an earlier wave of Garinagu arrived on the shores of Dangriga. Each coastal Garifuna village held its own reenactment of this historic landing on November 19th each year, which I watched from the river banks of town in 2009. In Mile 21, this was also a major local event for which many women in the village had crisp new checkered dresses sewn in a flared two-piece colonial style. Nurse Suzanne's retired American husband was also recruited to participate annually. Of all the white expats, he was the village favorite for playing the British colonial governor of 1832, a role that consisted of puffing resolutely on a cigar while standing on the beach and repeatedly refusing to let the Garifuna's boats land on the village shores. The boats would return again and again, filled to capacity with people singing and shaking rattles, until he finally relented.

Mutated Ecologies

"You know the spirit knew you," Jodine told me later of Fernando. "He has seen you going to our houses." She handed me a plastic cup of over-sweetened orange Kool-Aid, which everyone euphemistically called juice.

"Jaguar people," someone said, nodding toward the road. I looked past the drummers for some totemic vision or animistic dance before realizing he was referring to the white van of tourists passing from a nearby resort, Jaguar Lodge.

This was the double-edged modernity of the Garifuna's proud seafaring history: land bordering their coastal villages was being purchased helter-skelter by Americans and Europeans who wanted to experience Caribbean "paradise." Beachfront developments had gone up to the east of the village, complete with fleets of golf carts and security gates to prevent uninvited locals from entering. The land west of the village was dotted with luxury honeymoon resorts, several of which Cresencia had worked at when she was still healthy enough to manage domestic labor. Like her, many Garinagu had come to rely on these hotels for work, with wage jobs ranging from menial to professional, while others tried to mitigate unemployment with piecemeal side businesses renting bicycles or peddling seashell necklaces to tourists.

Almost every family also had someone living and working in the US, a complicated web of relations that characterizes Belizean families countrywide.[89] (Early on in my fieldwork I had attempted to make kinship charts that traced diabetes and hypertension back through families, drawing any family members living in Chicago in red, New York in black and L.A. in green, while those who remained in the village I drew in blue. Yet there were so many double-belongings and missing locations that the genealogy charts soon became a confusing tangle of bundled lines, which looked strangely like the wires inside a telephone cable through which these complex families remained linked, and I quickly ran out of colored pens for all the cities and abandoned the effort.) At last count in 2010, there

were 13,985 Garifuna people in Belize, about 5% of the country's tiny population (Statistical Institute of Belize 2011). It is estimated that at least 50,000 Garinagu live in New York City alone (Cayetano and Cayetano 2009). A recent news story placed this number as high as 200,000 (Orr and Singh 2012).

Even for the Garifuna people who remained in Belize, life is quickly changing. While most of the country has long been known for dependence on external markets and imported foods, the Garinagu were active farmers on St. Vincent (Sweeney 2007) and continued this lifeway upon their arrival in Belize. In 1835, it was reported that the "Caribs" of southern Belize (as the colonial authorities referred to them) were "carrying on a constant traffic by sea with Belize [City], in plantains, maize, poultry, etc" (in Bolland 1977: 132). Observing coastal Garifuna communities across borders in the 1840s, Ephraim Squier reported that "All along the coast, generally near the mouths of various rivers, they have their establishments or towns. These are never very large, but always neat, and well supplied with provisions, especially vegetables, which are cultivated with great care. They grow rice, cassava, sugarcane, a little cotton, plantain, squashes, oranges, mangos, and every variety of indigenous fruits, besides an abundance of hogs, ducks, turkeys and fowls, all of which they export in considerable quantities" (in Gonzalez 1988: 109-10).[90] In Belize, the implementation of the Laws of Force Act in 1856 was likely intended to control this threatening autonomous population, which remained "largely independent, self-sufficient, and unincorporated into the colonial structure." This 1856 act legally "provided unequivocal recognition of the validity of location titles, [and] the Carib's provision grounds were not included" (Bolland 1977: 133), giving "retroactive legitimacy" to old settlers on the lands that the Garinagu had farmed for 50 years. The Crown surveyor at the time reported hoping "that we will by this measure attract near Belize a valuable body of labourers," which historian Nigel Bolland sees as a move "to convert the Caribs from a largely self-sufficient peasantry into a labor supply," for mahogany extraction and "to work on the developing

sugar estates in the south of the colony" (134; also see Stone 1994, Chapter 5). When Confederate refugees from the U.S. (who, in Stann Creek, ran the sugar plantations) arrived in waves throughout the1860 -70s, a special discount was given for people "of Anglo Saxon origin" to try to create incentive for them not to move on to Honduras or Guatemala, as many did due to the very high price of land in Belize. In this era, the "nonwhite population—Maya, Caribs, and Africans—who had pioneered agriculture in the colony…were either denied titles to land altogether or had to pay twenty-five times as much for Crown land as the white immigrants" (Bolland 1977: 144-5).

Tastes and appetites change along with labor and lifestyles (Mintz 1985). For a period of time when men began engaging in wage labor and increasingly living away, Garifuna women of Mile 21 continued farming plantains, cassava and rice; as the British Honduras Colonial Report read even in 1965: "Starch in this country is produced by the Caribs, mostly women, of the Southern Districts" (51). By 1983, Joseph Palacio notes that bleached white flour, rice and fish were the most important staples in the Garifuna village of Belize where he worked (Palacio 1983: 153). Anthropologist Nancie Gonzalez also notes the decline of herb and vegetable "kitchen gardens" that used to be "ubiquitous" during her first fieldwork in the Garifuna town of Livingston, Guatemala in 1965, and describes how "biscuits, tortillas, and pancakes with baking powder or soda, as well as coconut bread made with refined white flour and yeast, are considered 'typical' Garifuna foods and figure prominently in everyday meals. Informants believe their own people have always made them" (1988: 103). Now, baking even these homemade white-flour based foods (progressively less healthy) mark special occasions and extra labor in which many people do not engage on an everyday basis. Many Garifuna people in Belize increasingly rely on store bought groceries for cheap, quick meals to support new means of living.

Now that the majority of people in Mile 21 have hourly jobs (whether traveling into town offices or local agribusiness plantations for work, or employed at one of the numerous

local resorts), reliance on these imported foodstuffs continues to grow—much like the shifting appetites Sidney Mintz described during the Industrial Revolution in England, as sugary foods were easy to prepare and brought physical comfort and quick energy, becoming cheap and helping to keep workers going in the new tempo of wage labor jobs. Marshall Sahlins comments on Mintz's description of sweetened beverages such as tea, coffee and cocoa in his essay *The Sadness of Sweetness*: "None of the beverages in this list were sweetened in their countries of origin. All, however, were taken with sugar in Europe from the time of their introduction. It is as if the sweetened bitterness of the tea could produce in the register of the senses the kind of moral change people wished for in their earthly existence" (1996: 415). "But the medical and nutritional aspects of sugar's role were never far apart, any more than they are today," Mintz adds, alluding to the contested discovery of sugar's link to diabetes mellitus in 1715 England (Mintz 1985: 106). "In any event, transformations of diet entail quite profound alterations in people's images of themselves, their notions of the contrasting virtues of tradition and change, the fabric of their daily social life." (15)

Tourism has become an important new way of earning money for many local families in Mile 21—although many were also excluded from these economies or stuck in low-paying jobs, others found real ways out of poverty without leaving their village (a rarity anywhere in the world). In this, they are lucky compared to some other local communities in Belize. (For example, I once visited an opulent American-run resort in Seine Bight, a Garifuna village which some Belizeans now refer to as "Zimbabwe" for its increasing poverty and dispossession, and found the hotel staffed almost entirely by Yucatec Maya whom the hotel brought in from 4 hours away in the Cayo district. Being served by Maya in traditional dress apparently had more appeal for the tourists. Only one actual resident of the Garifuna village was working during the shift I visited, as security to keep other villagers off the beach.) In any case, the way that new tastes and appetites grow out of such embedded

realities and over time can take on lives of their own often made me think of what Catherine Austin Fitts refers to when she calls neoliberalism a "tapeworm economy." "The body politic has a parasite," she says. "As long as we keep feeding the parasite, it's going to grow and grow and eat more of the body politic." (And perhaps not coincidently, "tapeworms tend to thrive on sugar" (Contursi 2011)). Fitts concludes: "The tapeworm makes you crave what's good for the tapeworm, even if it's bad for you."

Although resort economies employed local people, the foreign expats and retirees generated more ambivalence in the village, since their resources were not so widely circulating. Unsurprisingly, along the stretches of Caribbean beach where white foreigners built multi-million dollar mansions within sights of local shacks, there was a lot of crime. Resort vans drove by bound for hotels advertised as "paradise," but on a cement fixture behind the beachside fruit stand someone had graffitied the words "GHETTO LIFE." At one bar where the majority of the clientele tended to be expats, Dennis Wolfe's hit folk song "Just Another Gringo in Belize" always roused impromptu sing-alongs (from the album *Cowboy Boots & Bathin' Suits*):

> …Now he'll drink a beer for breakfast, and chase it with rum punch (*glug, glug, glug)*
> He's smokin' up his dinner, he's snortin' up his lunch,
> He's been wasted on the mainland, now he gets stoned out in the cayes,
> And he's just another Gringo in Belize.
>
> Chorus: He's a planner, he's a dreamer, he's a sordid little schemer
> He seems to think that money grows on trees…
> He's a whiner, he's a loser, he's a pothead, he's a boozer
> He's just another Gringo in Belize….

It was interesting to see how this Spanish word circulated in an English-speaking place, because in this particular region I never heard the word gringo used by anyone who *wasn't* an expat. In Mopan Maya the color white is *sak*, a color anciently associated (either coincidentally or prophetically) with the cardinal direction of the North. In Yucatec Maya, speakers more often call white people *satay*, which comes from a pre-Columbian Maya root word for "destruction" and can be used to describe not only foreigners but any living thing that is expected to die out after a single generation, such as a tree that never grows fruit or a

man with no children. (The word comes from a pre-contact medio-passive verb in the hieroglyphic record, meaning "it destroys" or "it destroys itself.") In Belizean Kriol today, white people are still called *bukra* or *bakra* from the Efik and Ibo root word *mbakara*, which linguists believe comes from the highest cast of Abon death cults, gradually evolving to mean "divide and conquer" in general and "white master or slave hunter" specifically. When Belizeans compliment the lightness of a white person's skin (an unsettlingly common occurrence in Kriol villages), they usually refer to its pale color not as white but "clear," which I always found doubly unnerving, as though the person could see straight through you. But of all the diverse (and often haunting) words for white foreigners that existed across Belize's many languages, *gringo* was quite low on the actual usage list in Stann Creek. Expats there who referred to themselves as *gringos* frequently seemed to treat the term with a wink, as if this were an insiders' secret joke they were in on, when in fact (at least in the particular village where I worked) it was used almost exclusively by white people in self-reference, serving as an affectionate pet name for themselves.

In general, social interaction between these (mostly white) expatriates and local Garifuna people often felt like two parallel universes coexisting in the same village. The shared, fast-changing landscape and communal throughways remained the major point of interface, and often tension: the pavement on the local road into the village continuously crumbled under the immense weight of the trucks carrying building supplies for people's vacation homes, and expats sped around everywhere on wheezy little golf carts, sometimes kicking up major dust and pollution with their building machinery, land reclamation projects, and sea dredging. These latter changes were occurring largely at the north and south limits of the village, where foreigners continued extending the beach. A gated cluster of luxury condos, guarded by 24-hour security, had even gone up near the margin of land that once marked village boundaries: the above-ground cemetery at the edge of the village. Now the domain of tourists and expats, historically this periphery was the zone of dead.

The pollution of development has been demonstrated to contribute to metabolic disorders, particularly diabetes. In a recent groundbreaking study, molecular pathologists Brian Neel and Robert Sargis examined "The Paradox of Progress: Environmental Disruption of Metabolism and the Diabetes Epidemic" (Neel and Sargis 2011), demonstrating what they call "the new toxicology paradigm of endocrine and metabolic disruption" that reveals diabetes as a "hidden cost" to pollution exposure. This phenomenon was first grasped largely through industrial accidents: for example, in the 20 years following a chemical plant explosion in Seveso, Italy (Bertazzi et al 2001) and after military exposure to dioxin during the Vietnam War (Henricksen et al 1997), spiking rates of diabetes and other metabolic disorders were associated with those involved. Now through careful comparative studies, diabetes has also been linked to many synthetic chemicals and environmental toxins, including not only industrial waste but also air pollution (Anderson et al 2012), arsenic (Wang et al 2003), various heavy metals (Chen et al 2009), organic pesticides such as DDT (Everett et al 2007), and mercury (particularly methyl-mercury, a neurotoxin now commonly present in seafood) (Bollati and Baccarelli 2010). This last item is particularly tragic in a Garifuna village where one of the last traditional staple foods that people could still access on a more or less everyday basis is fresh seafood—fish, along with cassava, is such an important symbolic food that it dominates early Carib creation myths (Gullick 1980). Although fresh fish throughout history has been an extremely healthy food that helps prevents disease such as diabetes, fish is now widely becoming polluted with toxins that actually *cause* diabetes. The Garifuna population is already at risk for diabetes, due in part to all their ancestors survived in their violent history, and worryingly these new forms of pollution and toxic damages can also become part of the "epigenetic" inheritance people will pass on to their children (Baccarelli and Bollati 2009).

This pollution is deeply linked to what scholars have recently called "the gentrification of Belize," reporting that approximately 80% of all the coastal land in the entire country has been purchased by foreigners for development of resorts, condos, or retirement homes—many of whom hope for "beachfront property" and consequently remove the intertidal mangroves thickets and littoral forests at the edge of the Caribbean (Flomenhoft et al 2007). This endangers the many animals that live in those rare ecosystems (along with the local people that have long depended on them), causing sediment that the mangrove roots have long "buffered" and held in place to suddenly wash into the sea. "Rapid and uncontrollable development for residential and commercial purposes is an escalating threat to Belize's coastal zone," Belizean environmental scientist Colin Young (2008) also reports. Because the natural beauty of the country has become a prime commodity, much of what we know about pollution in Belize is based on how the environment is affected. Metal pollution has been found in sampling from the middle of the Belize Barrier Reef (Gibbs and Guerra 1997). More recently, a World Wildlife Fund study of the Mesoamerican Reef (spanning Mexico, Belize and Honduras) discovered some presence of toxic herbicide residues from industrial orange farming, as well as leakage from metallic waste (such as old batteries, machine parts, etc. being kept in "improvised dumping sites")— both factors contributing to the pollution of this stretch of the Caribbean (Vásquez et al 2007). A study on *Reefs at Risk in Belize* also traced high levels of coral disease and mortality along the Stann Creek coast, including observance of the so called "White Plague Disease" killing these fragile communities of coral. ("Factors causing increased incidence of disease are unclear," the study reports of the at-risk coral (World Resources Institute 2005), although rising ocean temperatures and pollution are common stressors affecting the coral's metabolism.) Due to weather events, continuing pollution, tourist encroachment, coastal land reclamation, epidemic disease and other unknown factors, there has been what marine biologists call high "coral mortality" over the past decades—more than 50% of the

population has died (Kramer et al 2000). "It's past time to tell the truth about the state of the world's coral reefs, the nurseries of tropical coastal fish stocks," ecologist Roger Bradbury wrote in a recent *New York Times* article describing the effects of this pollution, overfishing and acidity (2012). "They have become zombie ecosystems, neither dead nor truly alive in any functional sense, and on a trajectory to collapse."

And what about the health of people who live on the edge of those very same Caribbean waters? This question points toward a major gap in our knowledge about metabolic disorders today. We know that many kinds of pollution can cause diabetes, and we know that Belize is becoming polluted, although the actual human health effects of these toxicities remain to be measured. In Mile 21, the distant water still looked a beautiful azure blue and manatees with brown noses sometimes swam up to the dock near the clinic, although the tide often washed up bright plastics and other garbage. For me, the most visually disturbing of this tidal trash was plastic bags, floating in the waves like despondent jellyfish, and Styrofoam, known in local Kriol as "sea bread"—as if even the earth was being fed a sick diet. Yet the most dangerous chemical contamination is often hardest to see. What do these mutated ecologies have to do with the lethal metabolic changes today epitomized in the diabetes epidemic, slowly becoming visible in the mutated biologies of local people like Cresencia?

The road leading into Mile 21 village was surrounded by tracks of farmland in various stages of disuse. One could usually distinguish the active agricultural plots by certain signs: a machete resting under a tarp that someone had draped between trees to create shade, the refurbished scarecrow wearing an MIT hoodie. The scattered farming still ongoing was performed mostly by older people, less a source of sustenance than a labor of love; no one I knew considered their own farms a commercial enterprise. Tending plots was squeezed in around financially viable pursuits. A once diverse array of crops had now narrowed to root starches, especially cassava, crucial for making wafer-thin *areba* bread

required for any ancestral ritual. It is healthy for diabetic patients to eat such cassava bread on an everyday basis, as a more nutritious and lower-glucose alternative to white rice or wheat products like bread; but the ancient staple had become something of a people's delicacy, difficult to acquire in a continuous supply and labor-intensive to make, because cassava contains trace amounts of cyanide which must be removed during a lengthy process of grating, sifting and draining through serpentine basketry before baking. Whole swathes of the village land along the road were now marked by uncultivated farms, the orange soil where people had once grown vegetables tangled with dying grasses and weeds.

The road was crumbling and its pavement entirely missing in stretches. Still the white resort vans that ventured down it were driven at high speeds by employees who themselves would not have to pay for new shocks. These vehicles kicked up clouds of dust from the gravelly earth and damaged asphalt, a shimmering powder encrusting the low plants and palmetto tress with a coppery film that could sometimes completely obscure any traces of green. Until a heavy rain rinsed this away again, the dust-coated vegetation gave the vague impression of an elaborately wrought antique or an old sepia photograph of living farmland.

On the Other Side

Although she had grown up there, Cresencia did not settle easily back into her childhood home. She had no stove or way to prepare her own full meals, which made cooking a daunting prospect (let alone preparing any healthy diabetic foods), though she did have a fan and an electric kettle for heating water to make heavily sugared coffee and tea. Because the house had no electricity or plumbing, she ran a long thin extension cord from her Aunt D's nearby house in order to power these small appliances. She spent most of her afternoons on the steps of D's porch, where she could catch a better breeze from the sea and get away from the solitariness of her bare room.

Whenever I approached D's house for a visit, chickens scattered between the abandoned ovens on the beach. One could almost do an instant archeology of how long a household in a Belizean village had been supported by someone working in the States, by carefully noting the number and age of abandoned appliances surrounding it. Like the falloff point in carbon dating, the oldest artifacts proved the most accurate; a seventies-style oven was guaranteed to have been sent from New York, but a Toshiba TV from the past five years yielded almost no reliable information, as these were now omnipresent in Belize, within the possible budget of someone with a village resort job and available for purchase even in nearby Dangriga. The majority of the village's abandoned large appliances were four-burner ovens, but along the dirt road or in yards one occasionally also saw sinks, refrigerators and washing machines. I never knew whether people kept them out of reasons of nostalgia for the distant family members whose love they represented, or just because it would have been expensive to haul them away. Although tourists often complained about these as eyesores, personally, I found the incongruous outdoor presence comforting and familial. Scattered throughout the tropical landscape like so much outdated furniture, the appliances cumulatively gave the wild ocean scenery a domesticated and cozy air, as if the entire expanse of beach was the overgrown floor of one large open-air kitchen.

Cresencia and D took care of each other in the limited ways a dying young woman and an old lady can, sharing not material help but small loose gestures of grace. When Cresencia had been bedridden, D made her coffee the way she liked it, thick with sweetened condensed milk; and when D spent two days vomiting in a pigtail bucket, Cresencia moved her pillow to the steps and quietly kept her company by the sea. Despite their age difference, they shared many of the same hardships: each had diabetes; neither had any children or financial support from family; and both now found themselves unable to work, eking by on a trickle of income and the generosity of friends and neighbors. They were both afraid of losing their legs and tended any wounds carefully to prevent infection, although for

several months D had a gash from a jagged seashell that refused to heal. Some days, the pain in her nerve-damaged legs was almost unbearable; she applied lime juice to relieve the pain. Years ago she had been with her sister in the hospital at Belmopan when both her legs were amputated from diabetic necrosis, which left a sobering impression on D. She recounted how relieved she had been when the doctor told her that she did not have diabetes. But by the next time her blood sugar was checked ten years later in Guatemala, it was sky-high, over 400; D was indignant. "This disease is for the animals. It is not for us Christians. So how did we get this?" Among the roaming chickens on her beach property there was also a one-footed rooster, which limped and crowed in an odd pitch, but that was kept perhaps out of admiration for its tenacity. The rooster's stump always left strange tracks around her house, one row of bird footprints and one row of little holes in the sand.

Although Cresencia was close with several of her cousins and aunts, including D, this was not the same as having the support of an immediate family member, especially a mother or one's own children. Being bereft of parents and immediate family is a dreaded state with a specific name in Garifuna, *méteñu*. When such intimate family members die, it is considered a loss from your own physical being and said that they die *from you* (Cayetano 2009: 222-35).

Cresencia, already in *méteñu* by the age of 20, had gotten pregnant twice when she was younger, but both times had ended in miscarriages, she told me sadly. Particularly in a context of medical scarcity where blood sugar tends to be hardest to control, it can be extremely difficult and even dangerous for a woman with diabetes to have a baby. In some cases like Cresencia's, it becomes outright impossible. (See Balsells et al 2009 and Cundy et al 2007 for literature reviews of pregnancy loss due to diabetes.) The difficulty of giving birth with Type 1 diabetes is so significant that the disease was long considered a "contraindication" for pregnancy, as we saw in Jordan's story. Yet in their 2009 meta-analysis, endocrinologist Montserrat Balsells and colleagues review and compare evidence

of pregnancy loss, maternal death and fetal birth defects for both Type 1 and Type 2 diabetes. They ultimately conclude that despite mothers' much lower blood sugars with Type 2, "in terms of pregnancy outcome, the seriousness of their condition is similar if not worse." Type 2 diabetes "in pregnancy is a serious condition," they conclude, although the "pathophysiology underlying the higher perinatal mortality in women with type 2" remains unknown (Balselles et al 2009: 4290).

In short, medical science does not yet know why mothers with Type 2 diabetes are at a high risk of these losses and deaths before and during birth, even when hemoglobin A1C tests show that mothers worked to maintain a relatively low blood sugar during their pregnancy. To me, this represents a particularly devastating end point of blood sugar's dimension of *damaged kinship* (see Chapter 3)—poisoned by sugar while still in the womb, a new generation literally cannot be born. After the loss of her second pregnancy, Cresencia was left neither a mother nor a child of the living, roles that centrally define the ways Garifuna women have secured respect across the many chapters of their history (Kerns 1983). She was simply unable to have young children, *numamurari*—a word that in her language literally means "those who will carry on"(Valentine 2002: 31).

While some people were "too strong" to be caught by spirits, Cresencia had been possessed many times even before Fernando first appeared ("sometimes my grandma, sometimes my dad"), both a symptom and a momentary attenuation of her role as a liminal figure in the village. Geographically, the house she had shared with Allison was quite literally on the furthest edge of the road. When Cresencia became chronically sick, her diabetes further deepened this position; indeed, brought her precariously close to the edge of life itself. On several occasions she had collapsed outside temples and ritual settings, in turn due to either ancestral possession or medical seizures caused by blood sugar that was too high or too low. The similarity of these two semi-conscious states confused a local Kriol nurse, who was unable to distinguish between them when Cresencia arrived at her clinic.

Cresencia's recent miraculous healing had drawn her back from "being-on-a-threshold," the betwixt-and-between state that Victor Turner (building on the work of Arnold van Gennep) famously described as "liminality" (1967). As Turner would have predicted, these healing rites had drawn Cresencia back from an uncertain and ill-defined between, revived and reintegrated her back into the proverbial whole of *communitas* as a ritual anthropologist would expect. But which community; whose idea of a whole? Her grandfather's intercession—like biomedicine, and indeed any form of medicine—was inherently embedded with values and caveats of its own. If Cresencia's healing helps to show what Victor Turner once called "the human coefficient" (1974: 33) integral to the way ritual processes unfold, then Allison became its remainder.

Before Cresencia moved, I used to visit at the home they had shared, which she most often referred to as "on the other side." The unpainted wooden steps leading up to the door had been lined with potted aloe plants and sprigs of herbs sprouting from coffee cans. Allison worked steadily at a local resort, and had a nice stove. She wore her hair in magnificent braids that were usually pulled back in the heat. Unconstrained and with a full kitchen, Cresencia could eat well there, often making soups of meats and vegetables. They watched television together in a back room and played loud *paranda* on the stereo. I was frankly intimidated by Allison's imposing figure and wry countenance, and except for pleasantries I can only remember really speaking to her once, when I got up the nerve to ask about the cloves of garlic that were tucked around the room and clustered on a ledge above the inside of the doorway (another threshold). But Allison just laughed, with a gentleness that surprised me. "To keep out the bad spirits," she said.

A Style of Living

I usually walked along the sea in order to get a little breeze through the heat on the way to Antonia's house, less than a minute from Cresencia's. Thick tangles of seaweed

marked the surf line: plants with green blisters, spine-shaped columns of white coral, and thin glistening strips of brown seaweed that looked as if they'd been unspooled from the reels of an old cassette tape. Nurse C once told me that when she was growing up, sometimes they used to hear the sounds of dynamite in the distance as foreign entrepreneurs hunted for underwater oil on the reef. In the aftermath of the explosions, a tide of dead angelfish and paralyzed stingrays would be swept onto the sand. Many people in the village back then used to work for the citrus companies, loading boxes of tinned oranges onto giant cargo ships bound for Liverpool. Whenever the tins of citrus fruit later washed up on the beach in the village, children or fisherman would gather the providential groceries from the tide's flotsam and jetsam.[91]

Years ago, before she got diabetes and went blind, Antonia worked in the "section plant" of a factory where citrus fruits were dug out of their skins and canned. She was very tall, over six feet, with a boisterous laugh and rowdy sense of humor. There was usually a towel folded in a neat rectangle on the top of her head or draped over her shoulder, to swat against the flies or heat. Antonia was generous with everything. "That is the way we live with each other, in love," she said. "The poor ones live on lone grace." She continuously fed me whenever I visited: gibnut meat, rice and beans, cassava bread, tortillas and creole buns, "milky ways" (a kind of local popsicle made in a plastic bag). From her I learned a whole taxonomy of mangos—Lady Slipper, Hairy Mango, Number Eleven, Judge Wade (tiny green mangos that resemble lima beans)—circulating in an intimate economy of their own. I usually found Antonia in the same chair of her comfortable home, which had sparkling white titled floors and caught the sea breeze through its open doors. Yet, she often reminded me that the village had not always been this way; she remembered when the houses were made of palmetto and cabbage bark. "There is a history there too. I was born on the ground."

Antonia shared her stock of pharmaceuticals with D, and occasionally Cresencia. They helped to look after each other. Once, when they all converged at Antonia's to have their sugars taken on my meter, she burst out laughing. "The Sugar Girls," she said; biosociality in its first emergent unit.

Antonia never had her own children, but she helped to raise six or seven. "It's a sin not to raise any children," she said. Most of them now lived in the U.S. (although one was currently in the American army, fighting in the Iraq war); she was proud of them, and many kept in close touch with her. The first failed surgery for her eyes had been in Guatemala, while the second operation took place in Chicago. When they make *hudut* in Chicago, Antonia said, the Garinagu there beat their plantains in a bucket with wooden baseball bats, because it was impossible to buy a real *mata*. She enjoyed her visit to the U.S., but it was a difficult year for her. The man that Antonia loved, whom she always referred to as "my gentleman," died suddenly soon after she returned from Chicago. It was the same year she lost her mother. "Now it is just memories that is left behind," she said. "Only that."

When I first met Antonia, I initially assumed that her blindness must be related to retinopathy (yet another potential complication of diabetes: microvascular damage to the eye's fragile capillaries that can cause blurred vision and blindness). But it wasn't until we were talking one day about her futile surgery in Guatemala that she went further back in time to explain the events leading up to the operation. "I used to have some pretty eyes, pretty brown eyes. See? This one still brown," she pointed toward her unclouded eye. "But they condemn it."

Antonia described receiving "one letter from Nigeria with evil things in it." When she opened the letter and read it, her eyes were condemned by the evilness inside, she repeated. She had learned about the source of her illness through vivid dreams in which her ancestors spoke to her, indicating the responsible parties. "They grudge, jealous. Because when I start to build my house, that's where it happen… They just want to condemn you, but

still they will not own it. You understand? It doesn't profit." Antonia started toward the open door. "I should have been looking for a bush doctor. But I didn't know…I was not supposed to go and operate my eyes, I supposed to go look for a bush doctor so that they can cure me." But Antonia had sought biomedical care first, instead of looking for supernatural intervention; that was why the hospital's treatment had been futile, she explained. Now, "It's too late," she continued. "But I believe in the good Lord so much. Move to move, I pray to he."

Antonia explained that the second operation to try to save her eyes took place at the University of Chicago. "The doctor say the surgery is very good, because they find 90% vision. And where the 90% vision gone? Because it's evil….the vision just go back, like that." Antonia had become blind in both eyes again. "But you know, I don't think about it that hard, though…I just talk about it sometimes, not all the time," she said lightly. "*Us humans, you know, we have to talk. Because we know what's wrong with us.* But afterwards, I don't worry about it. Because I am not alone. I am *not alone*, Amy. Every day I see something different. Every day, every day, every day."

She described the images surrounding her as we spoke:[92] the room was crowded with children, so many that she could not see the door. "We call them the guardian angels," she said; some of them were holding flowers, dressed in baby blue or pink. She spoke of other images she had seen: saints in heavy wool robes, "pretty shine rods." At times there were only colors, a calming sea blue or "white white, like new snow." Some days she saw the children get into a beautiful bus, and travel away into a river. Boats of food also floated down the river, never getting wet. Once, she had dropped a tissue in the bathroom, and she saw St. Anthony illuminating it for her as she reached down in the dark. Another morning, she woke up early with a sense of urgency but was unsure why. Moments later, she saw a child by her bedpost waiting to lead her, and a transfixing image came into view: A group of people walking slowly down a great hill.

"One time I went to Belize [City], and they tell me I have to pull out this eye," Antonia continued; the surgery in Guatemala had already failed by then. "But I tell the doctor, I'm not gonna pull out my eye. There is a God above, and he can give me a miracle," she said. Now, "I get the miracle," although she remained blind. "Many are chosen. But the things that he shows me, you know…I think if I could see, then all this I wouldn't *see*. You understand me? *I see all of this*."

"'[M]iracle' names a rather different relationality, less of vertical emanation than of immanent *participation*," Brian Goldstone writes (2012). Anthropologist Loren Eisley notes:

> Miracles, by definition, are without continuity…The only thing that characterizes a miracle, to my mind, is its sudden appearance and disappearance within the natural order, although, strangely, this loose definition would include each individual person…. The common man thinks a miracle can just be "seen" to be reported. Quite the contrary. One has to be, I was discovering, reasonably sophisticated even to *perceive* the miraculous. It takes experience…One has, in short, to refine one's perceptions. (Eisley 1978: 57-8)

Interestingly, these reflections about miracles being inextricable from trained perception resonate with writer Jorge Luis Borges' account of going blind as an adult. Like Antonia, Borges continued to see certain things after he lost his vision. In fact, he described being unable to sleep at night because of the intense colors surrounding him, in his case usually a bluish mist. "The world of the blind is not the night that people imagine," he reported (for an anthropological account of blindness, see Rodas 2009); actually Borges could no longer see the color black at all. He became fascinated by the work of other blind artists: Homer, Milton, James Joyce (for whom he titled a poem on blindness, opening with the line: "Between dawn and dark lies the history of the world.") He ultimately came to call his condition "a style of living" (Borges 1995). "Blindness is a confinement, but also a liberation, a solitude propitious to invention, a key and an algebra," Borges wrote (2000: 345). "I have lost the visible world, but now I am going to recover another."

I wondered, could diabetes—like Borges' view of blindness—at times become a condition of training oneself to perceive otherwise, a "style of living"? What exterior exclusions, as well as inner arts of survival, allow someone to recover another world? Through the miracles and neighborliness that were equally part of their daily weave, Antonia and Cresencia both lived with bodily damages and painful complications that could have easily become overwhelming. This recalls Duana Fullwiley's description of how sickle cell patients in Senegal "are seen to 'live better' than their doctors would expect." She argues "that these answers lie in the role of affect, in people's ability to forge biosocial bonds and partial connections to others via their pain, blood, and life, in order to manage economic and health problems more generally" (Fullwiley 2011: 19). In a context where classic biosociality is still in nascent stages, the makeshift ties that connected "the Sugar Girls"—not only to each other, but to other realms and resources—show processes of learning to read other signs, multiplicities of meaning and domains of support alongside biomedicine that still left the former intact as a realm to draw from. These forms of sociality also cohered around altered biologies, showing how new relations to the miraculous and changing neighborliness might also become part of the fabric of biosociality.

I sometimes thought of these additional registers of belonging in terms of what Joseph O. Palacio (2005) calls the Garifuna "Nation Across Borders." Interestingly for studies of race and nation, a Garifuna term for "white person" actually *is* nation—*násiun*, from the Spanish *nación* (Cayetano 2005: 146). The Garifuna people's early experience in Belize must only have accentuated their sense of exclusion from this governing collective, as the titles to the land they had farmed for half a century were legally dispossessed. The Garifuna (like the Mopan and Kekchi) were "given 'reservations' of land…Over time it also justified a 'hands off' policy. Hardly *benign* neglect, this meant that through the twentieth century these communities were denied basic services including medical care, roads,

education, water, and sanitation" (Wilk 2006: 75). Many Garinagu in Stann Creek went on to work in various wage jobs, including the sugar estates in southern Belize run by U.S. Confederate plantation owners (who in turn arrived in Belize from a country where the 1857 Dred Scott Decision had ruled that even free black people were not actually citizens). Yet against the backdrop of this bleak moment in history, having lost visible ties to citizenship, the Garifuna were able "to recover another" nation.

Gray Zones of Medicine

When Cresencia moved from the house on the other side, she left her medical records behind with Allison. The file contained hundreds of papers charting the past five years of Cresencia's search for medical help, neatly stacked in an oversized yellow envelope of the type that hospitals often use to jacket x-ray films. It held bureaucratic forms and slips of paper in all colors and sizes, conflicting diagnoses and dappled MRI images, pharmaceutical prescriptions in many handwritings and various typographic fonts and languages from countless doctors across half a dozen cities: Dangriga, Belize City, San Ignacio, Belmopan; Guatemala City and Melchor across one border; Chetumal, Mexico across the other.

One muggy afternoon, while eating an Ideal freeze pop, Cresencia called Allison and asked her to bring the medical file over to her aunt's house, so that I could examine and photograph its contents. Sometimes I wondered whether Cresencia chose to leave these critical documents behind when moving just to break with all the medical frustration that its pages charted, at least for a while. In addition to the repressed disappointment that the medical file resurrected through its systematic documentation of so many hospital procedures, ineffectual drugs, and fruitless recommendations, the receipts tallying the mounting medical bills had also been saved fastidiously—records that together constituted a stoically curated archive that registered precisely what years of bioscientific

disappointments had cost her. Or perhaps leaving the file "on the other side" when she moved was instead a way of signaling an enduring social tie, as if all the ghostly x-rays and MRI images and inscrutable photographs of her digestive organs (taken by the tiny medical camera Cresencia had once swallowed on an operating table in Chetumal) represented a technical yet intimate jigsaw of herself that still remained in Allison's possession and might one day be reassembled.

In contrast to biopolitical analyses where clinic bureaucracies or medical files often become constitutive of social or state control (Rabinow 1995), these papers had been cut out of institutional archives and had an intimate value, part of the material culture of her illness; Cresencia was *living her file*. Looking through its pages was mildly shocking. By the time we met, she took Tylenol only occasionally to ease the pain of walking, and sometimes drank the tart, resin-colored juice of wild noni fruit. She had told me there was a time before when she used to take Metformin pills and shoot herself with various insulins, alternating the injection sites between her arms, leg and stomach, but I had not really processed the many years of drug regimens and treatment experiments represented by this pharmaceutical history until I saw their bureaucratic traces spread out all at once before me on a table. She had traveled to virtually every clinic in the country, both private and public, taken every anti-diabetic drug on the national registry. There was also an extraordinary amount of duplication in the file, since Cresencia kept moving between doctors in search of one that could help her, and the newest specialists often unknowingly acted on the same hunch as their predecessors—for example, I found seven separate HIV tests in her file spread over two years, as doctor after doctor insisted on double checking her status because she was so skinny. (People who did not know Cresencia well often called her *maga*, a Belizean Kriol word that comes from the Scottish word *meager* and has historically meant something like "too thin to be healthy"—a characteristic that in Belize subtly implies some degree of social abandonment, since no one has fed you, and today often refers to AIDS, of

which many people had died in her village. "Maga season" can also refer broadly to poverty or hard times.)

"I used to take insulin, but I tell them, no more," Cresencia told me on the first day we met. It was February then, many months before she would first be called Miss Lazarus. "Now they just give insulin to me whenever I am dying." She laughed and adjusted her pink nightgown, sitting on a hospital bed that looked too low for her. A blurry Xerox was taped to the wall behind her, labeled "The Diabetic's Prayer," which had caught my eye while I was visiting the hospital on other business. That was when I had approached Cresencia for the first time, explaining my research and asking about the sign. She looked up at the Xerox on the wall with curiosity.

> THE DIABETIC'S PRAYER
> Our Father in heaven
> Thank you for being
> Our Teacher, Our Healer
> Help us overcome DIABETES
> By staying light through
> Diet and exercise.
> By living right
> Through not smoking nor
> Drinking
> By thinking bright
> Through positive thinking
>
> And lead us not into
> Temptation but deliver us
> From stress
> So we could live life to the
> Fullest.
> In Jesus name we pray,
> Amen.

"That's not mine," Cresencia said of the prayer. She shrugged. "But we could talk a little."

We had just discovered that I would be living in her village for the year when a nurse came in to test Cresencia's blood sugar. (It turned out that the sign on the wall belonged this nurse, a Type 1 diabetic who had acquired the prayer in Tobago, although it originated in the Philippine Diabetes Association.) Cresencia asked the nurse if she could stick her

own finger with the lancet so that drawing blood didn't hurt as much. The Accu-Check said her blood sugar was 218, fairly high; normal range is considered around 80-120. "Too low," Cresencia said of her measurement, wondering aloud if that was the reason she had vomited after breakfast. (A peptide hormone called glucagon commonly causes vomiting in diabetics, released by the pancreas to raise the body's blood sugar.) "When it gets low, my body isn't used to it; 300 down give me a lot of problems. I get sick and want to throw up, I can't stop shaking." Her ideal range was between 300 and 400, she said; she tried to maintain this, but only became really concerned on the days when her reading was so high that it did not even register on the glucometer, which in this case stopped at 700. The terrible, sick feeling Cresencia experienced whenever her blood sugar was within "healthy" range was the primary reason she had stopped taking her medicines. "When I do the insulin, the insulin makes my body shake, shake, shake. Cold sweat," she said.

Knowability and normalcy also have uncertain thresholds. In truth, the deep physiology of diabetes is still very poorly understood. Many clinicians have noted that the disease surfaces in distinct forms across different parts of the world, although it remains difficult to separate out the variegated complications of deferred treatment. Yet some specialists say that unknown forms of diabetes may even be fostered through different biological mechanisms in certain times and places. The rates of Latent Autoimmune Diabetes of Adults (or LADA), a previously unknown form of adult onset diabetes, have recently risen dramatically for mysterious reasons (Struan et al 2009; Stoever and Palmer 2002); some endocrinologists now propose calling it "Type 1.5 diabetes." (Likewise, Cresencia's doctors could never definitively agree on how to classify her type, because the disease seemed immediately insulin-dependent and yet was not diagnosed until she was 30 years old.) Doctors working in Cameroon also recently proposed a new diagnosis of ketosis-prone African diabetes (Mbanya et al 2010), and debates have continued for decades about the validity of "tropical diabetes" as a distinct form of diabetes related to undernutrition and

disproportionately advanced complications (see Chapter 3). Against this backdrop—and the fact that I routinely encountered people in the village with astronomically high blood sugars in the 500 - 800 range hanging laundry and reporting that they felt too good to go to the hospital—Cresencia's question about her symptoms is an urgent one. Could there be more than one human range of normal? (And if so, how does this become medicated?)

Looking back over my fieldnotes, I realized that Cresencia's experience highlights a persistent and disturbing trend: the *great majority* of the diabetic people I interviewed in Belize seemed to have a story about how their doctors were shocked by their impossibly sky-high blood sugars, telling them it was very lucky and wholly inexplicable they were not dead, let alone still walking around. For example, in the case studies recounted here, Arreini was told this with a blood sugar in the 600s; Jordan "made history" with a blood sugar over 1,000; and Cresencia regularly had a blood sugar somewhere over 700 since it would not register on the glucometer. In my other interviews, similar stories of doctors' shock were told starting with numbers as low as the 400 range, which is also the point at which some glucometer models stop measuring numerically, and begin showing blank screens or Hi/Lo where the digital numbers should be. (For a time when she was first diagnosed, Cresencia sought care at a clinic where the glucometer displayed any 400-plus reading of high blood sugar to the abbreviated word "Hi"—which, flashing up on the machine's little monitor, always made her feel like part of some secret dialogue, and she would respond in her mind: *Hello*.) Surveying the accounts I recorded in 2009-2010, it was *not* unusual but actually the definitive norm for diabetic patients in Belize to recall at least one incident of an implausibly off-the-charts blood sugar measurement.[93] What do we make of this pattern of unexceptional exceptions?

In *Diabetes Among the Pima: Stories of Survival*, anthropologist Carolyn Smith-Morris describes "diagnostic controversy" in the U.S. surrounding debates about whether there should be variable cutoffs for labeling patients diabetic or pre-diabetic. As Smith-

Morris notes of these controversies: "some researchers are calling for different diagnostic thresholds for different ethnic groups." "Although this falls dangerously close to the slippery slope of racism in diagnosis," she writes: "*If* the diagnostic threshold itself is already determined by statistical forecasting, then it seems appropriate to offer revised statistical forecasting for relevant, significant subpopulations" (2006: 96). In some ways, such recommendations align with the thinking of sociologist Tukufu Zuberi: "Before the data can be deracialized, we must derecialize the social circumstances that have created racial stratification" (2001: 102). More than a question of diagnosis alone, Smith-Morris also recounts the story of a Pima woman named Alice who started a program of diabetes education once her blood sugar reached 900, adding in a footnote that such a glucose level "typically puts a person into a coma. I have, however, heard of several anecdotal cases of readings this high" (175). This reminds me of the cases I documented in Belize (which I sometimes heard recounted anecdotally, but other times saw measured first hand). Yet when facing the potential long-term bodily effects of such dangerously high sugars in functional people, we enter into a profound gray zone—on one hand, risking the *standardization* and potential perpetuation of poorer health expectations for historically dispossessed populations; but on the other hand, turning a blind eye to the basic statistical truth that something is wrong with our classifications of "normal" when the majority of a local population has fallen into the category of "outlier."

In Cresencia's case, we see how these contentious questions of *uncertain thresholds* can also become real challenges of day-to-day therapy. Far more than a philosophical problem, this incongruity affected her care in the most concrete ways. Since going down to a "normal" blood sugar of 80-120 made Cresencia feel too sick to stand up, could this "healthy" level that she was forced to maintain in the hospital actually have become over time for her damaged body a form of hypoglycemia (a precarious state which can cause her exact symptoms, tremors and vomiting)? This is particularly concerning because numerous

medical studies have shown that low blood sugar is actually much more dangerous for the body than high blood sugar. What does it mean to discount a patient's own feelings of health or sickness, and instead continue treatment according to the textbook range of normalcy developed through statistical studies of comparatively affluent American and European diabetics?

To me, this is a situation where the individual patient seems like the only trustworthy scale for guiding therapy. The painful truth is that thresholds listed in diabetes care textbooks often do not correspond to realities on the ground in many struggling contexts, and treating patients *as if* a "normal" blood sugar is healthy when it repeatedly makes them feel sick clearly raises questions of ethics as well as pathophysiology. Jean Jackson uses the concept of "liminality" to understand why the experiences of chronic pain sufferers are stigmatized, as the ambiguities of their condition are perceived as transgressing social orders and "confounding the codes of morality surrounding sickness and health" (Jackson 2005). Her analysis combines Victor Turner's formulation of liminality with anthropological observations of the societal danger that arises from "category mixing" and "matter of out place," concepts developed by thinkers such as Emile Durkheim, Mary Douglas and others. Although in my experience diabetes did not have a patent social stigma (except when people mistook its wasting symptoms for HIV/AIDS), the clinical stigma of "non-compliance" for chronic patients was constantly in operation—perhaps a way for medical staff to put ambiguous symptoms and liminal figures *back into category*. The unknowable became the patient's fault and moral responsibility. For within hospital classificatory rubrics, there is no place for Turner's "betwixt-and-between" thresholds or Deleuze's "becoming" a new population; your blood glucose measurements are charted in milligrams per deciliter,[94] and Cresencia's count was many standard deviations from the mean. It might be possible to think of her own theorized range of normalcy (300-400) as dangerously liminal or the insulin injections she received through

hospital protocol as rituals that brought her back into a category (80-120) perceived as safe and whole—yet when being returned to "normal" classification for Cresencia induced seizure-like tremors, vomiting, and dizziness so severe she watched the world spinning through the bars of her hospital bed, it becomes clear that there are times when *communitas* is not restorative at all. As Liisa Malkki shows in her own study of people "as an aberration of categories," those "therapeutic interventions" aimed at recuperation can also be destructive (Malkki 1995: 8).

In *The Drowned and the Saved,* Primo Levi famously described "The Gray Zone" placing people in situations of impossible choices, a demoralizing context where right and wrong begin to blur and stereotypes become rampant (1989). Anthropologists such as Philippe Bourgois (2009) have used this concept to understand complications of poverty through which struggling people might come to be blamed for their own condition, sometimes even feeling they deserved their own misery. To some degree, a similar ethnical blurring and allocation of moral responsibility was in force in this treatment context for those like Cresencia who did not play "the good patient" role. Sometimes diabetics trying to stay functional might put aside clinical regimens when they could *feel* that these medicines or expected ranges of normalcy were either not helping them or giving them new symptoms; meanwhile, doctors who had no alternate standards by which to measure these feelings became frustrated that the only care they knew how to provide was being discounted, blaming the patients for not taking a treatment that was making them feel sicker. This was a nexus where doctors and patients alike became caught in a system of gray zone choices around diabetes, "typically in the form of double binds or impossible situations" (LaCapra 2004: 178-9).

There are times when the label of "non-compliance" becomes deeply implicated in the politics of "making live" and "letting die" (Foucault 1992: 172; see Biehl 2005: 49). But perhaps this tag is also a way for hardworking doctors to continue functioning, like rote

surprise at patient blood sugars that were off the charts of textbook thresholds (but which in actual practice they must have seen frequently in the ER). Calling someone "non-compliant"—like expressing shock at actually somewhat common blood sugar numbers that should have (but for some reason repeatedly did not) put patients into comas—was at times perhaps a way of sorting people back into established categories: affirming medical classifications necessary to continue work as intact and protocols as operational, rather than recognizing the lethal thresholds where scientific knowledge itself has begun to fall apart.

Annemarie Mol notes the importance of "tinkering" in living with diabetes (2009), a series of ordinary experiments and minor fiddling with medical routine as doctors and patients together try to adapt habits of care that actually fit within someone's everyday life. But in the Belize public health system, where nearly all the doctors were overworked Cuban volunteers on an intense rotation, this vital tinkering was rarely possible between caregivers and patients with chronic disease. Some of the Cuban healthworkers arrived in Belize with a very limited English vocabulary, and all had tight schedules; communication was largely straight to the point. The crucial nuance entailed in dispensing proper diabetic drug regimens—as medication doses need to be continuously titrated up or down, or reactions addressed and side effects monitored—often could not accompany the drugs that the Belizean government now provided for diabetics in Stann Creek.

Some patients stopped treatment altogether to avoid the medications' risks after a series of bad experiences and strange symptoms, which could potentially lead to quite serious events in the absence of subsequent tinkering: "bottoming out" into a coma due to an insulin overdose, or renal failure caused by the "occult toxicity" of Metformin pills over time (Perrone et al 2011). Since nearly all the diabetics I knew in Belize (like Cresencia when she was first diagnosed) took Metformin pills, this drug's potential toxicity is particularly worrisome because it can be quite serious—if a patient's kidney function

becomes seriously impaired, the medicine can longer be metabolized and turns toxic, adding to the very renal failure that patients taking their antidiabetic drugs are working to prevent. (Evidence of this toxicity could be detected through certain diagnostics, but it was relatively rare for these tests to actually be run; doctors tended to attribute any reported side effects instead to the diabetes itself, or the fact that drugs had not been taken sooner.) "Insulin is like a taboo to them," one internist in Belize City told me. "They say it makes your skin fall off. People have advanced complications by the time they start on it and then they think the treatment is what makes them worse." This was in some cases perhaps partial truth. Yet insulin (a natural hormone in the body, which injections just supplement for those whose bodies no longer produce enough on their own) is also one of the most risky drugs in existence, especially in a context where people might sometimes go hungry and not have a consistent routine of eating to gauge their dose by—nor a glucometer access to carefully measure blood sugars, numbers necessary to titrate their insulin according to an algorithm. Prescriptions were written for people to take a certain number of units of insulin—in Cresencia's case, 35 units of NPH twice a day—but there were no additional instructions about how to modulate their doses in times of hunger, for days when food was unavailable and blood sugars indexed an interval of starvation.

Although carefully monitored insulin therapy can stabilize blood sugar and help to minimize certain complications of diabetes, a recent study published in *The Lancet* demonstrated a crucial paradox of "control". This major randomized clinical trial of over 10,000 diabetics intended to compare microvascular damages (such as blindness and other nerve death) in two patient groups, one receiving "intensive glycaemia control" and the other "standard therapy." Yet instead of having fewer bodily damages, the patient group receiving the most blood sugar control turned out to be "at high risk for severe hypoglycaemia," making their overall health outcomes worse instead of better. The danger for comas and death in the "strict glucose control" group became so serious that the rigid

treatment arm of the study was actually cancelled midway through the study due to high mortality, and the highly controlled participants were put on "standard therapy" for diabetes instead (Ismail-Beigi et al 2010).

If this mortality was noticed in a context of affluence (the study was conducted in North America), then what becomes of such regimens for blood sugar control in a context of precarious medicine? Patients like Cresencia are often blamed for any side effects of insulin therapy; doctors assumed that dangerous events (such as surviving an episode of hypoglycemic coma) must be due to the patients own non-adherence, rather than real risk of the medications themselves. This risk was not acknowledged as a potential factor in insulin "non-adherence," although without the accompaniment of proper support, diagnostic tools and information, fear of insulin could be a rational informed decision. Insulin is powerful enough to kill a person in a single overdose; in fact caregivers have expressed concern because it is sometimes difficult to tell accidental overdose (Batalis and Prahlow 2004) from intentional suicide (Russell et al 2009). Due to such danger, Nurse Suzanne flat out refused to prescribe insulin for the majority of patients, and grew upset whenever reviving comatose patients to whom insulin had been prescribed elsewhere without support or careful parameters for its use. "I have seen so many more comas from insulin than from diabetes in this village," she said. "Do you know what it's like to think you might lose a patient because of a drug you gave them?" Besides the risk of death, hypoglycemic comas were also across the board more damaging to the body than high blood sugars, potentially causing organ (including brain) damage. Many private pharmacies would also not sell insulin because of this danger, although they readily stocked antidiabetic pills. (The public system and private clinics prescribed insulin widely, which was how patients most often accessed the drug.) Yet when asking who should or shouldn't get insulin due to these real safety questions, we are back to the deeply problematic "good patient" question that plagues so much chronic diseases care.

The most frequent concern that I actually heard people express about insulin, though, was fear of "getting addicted." Its accompanying syringes didn't help this rumor, but there was also real truth to the worry; many mobile clinics were ephemeral in their care, with foreign teams of nurses and doctors suddenly showing up one or two days during the year in "medical missions" and then leaving again after dispensing a supply of medication that would not last until they returned. Patients paying out of pocket might run out of money, and regional hospitals could occasionally also run out of certain supplies—for two weeks in the summer of 2010, for example, the entire district ran out of the key diabetes drug Metformin, which unfortunately coincided with mango season when everyone's blood sugar ran high anyway—and clinics at times had to give patients types of insulin they were not accustomed to, mixing bolus and basal as if they were different brands of a single generic drug, instead of wholly different chemical formulas with their own algorithms and half-lives. "I don't want to get addicted to the medicine, because maybe sometimes you can't find it," one diabetic Maya told me firmly. "My brother used to take insulin though," he added. "He is right over there." The man gestured toward a nearby tree, so casually that I was expecting another wisp-bearded mechanic to interview instead of the concrete tomb he pointed toward.

"We don't like to take insulin," Antonia said to me once, speaking in the collective voice she usually reserved for explaining new Garifuna vocabulary or some enigmatic bit of ritual. "It's like shooting your heart."

Although the harried Cuban doctor at the local regional hospital considered Cresencia hopelessly non-compliant, the traces left behind in her medical file defied any suspicions that she had not sought biomedical care with great investments of labor, time and money. When she felt worse instead of better after five years of treatment, she faulted and gave up on the drugs, while the care system in Belize seemed to fault and give up on her. (Cresencia's accounting of events was infinitely more forgiving, an altogether more

humane value than adherence; she even spoke generously of the doctor who had refused to give her the antibiotics for the infection that left her with only nine fingers). In a similar vein, one can find eerily beautiful laments about the inability to locate effectual medicine threaded throughout the Garifuna's *punta* songs, such as the following lyrics collected by E. Roy and Phyllis Cayetano. A woman sings to a sick loved one: "You are about to die from me. / I have traveled all over the coast, dear male relative, / In search of the 'kindness of your skin' (i.e. medicine). / I have caused the stores to go empty." Another woman foresees of her coming death and decides she would like to be buried in Livingston, Guatemala, singing: "I have roamed Honduras in search of medicine; / The supplies are exhausted" (Cayetano and Cayetano 2009: 233-4).

It was the following fall that Cresencia first came to believe that traveling to the U.S. was her only real hope of survival, she said. "I tried to have a little thing, to raise some money last winter," she told me. Many Belizeans sought help for unaffordable medical expenses through such small fundraisers: selling plates of food to friends or strangers; climbing from bus to bus holding collection jars plastered with pictures of intubated loved ones in hospital beds; telling their medical stories on the radio or newspaper and concluding with bank routing numbers so that well-wishers could send support directly. Paradoxically, even the International Belize Diabetes Association sometimes fundraised by selling the very fried foods their pamphlets instructed its members not to eat: conch fritters, johnnycakes. But in the case of Cresencia's makeshift fundraiser, a tragic and mundane coincidence had occurred. It so happened that she had purchased and prepared vast quantities of food to sell on the very day when a group of famous cooks in the village had made their celebrated specialty dishes for sale right down the road. "A whole cooler full of barbeque chicken," Cresencia said, her voice cracking. She started to cry. "All my savings." It spoiled, she said, again and again, using the English word that a Belizean might apply to any ruined talisman.[95] "It all just spoilt."[96]

Dr. Remainder

One morning in August, I met Cresencia and her Aunt Ruperta on a refurbished school bus, and together we headed for Mexico. My skin stuck to the black pleather seat covers in the long hours of tropical heat, but Cresencia (who had made the trip many times before) was well-prepared with a pillow from home, and slept soundly against a half-open window. I knew we were getting close to the border when the land flattened out into the limestone shelf topography I associated with the Yucatan: parched shrubs, abrupt hills, chalky soil. The bus sped north past the cement homes clustered around Orange Walk, then through Corozal, slowing only at speed bumps where vendors sell baskets of bottled seaweed juice or chicken tamales. We all piled off the bus at the Mexican border, passports in hand. On the Mexican customs form, Cresencia identified her *nationalidad* not as "Belizean" but "Garifuna."

Later, when the bus carried us into downtown Chetumal, the world seemed to suddenly shift to a macroscale: throngs of people, wide roads teaming with cars and SUVs, tall buildings (the highest structure in Belize is still an ancient Maya pyramid), endless traffic lights (nationwide, at last count Belize only had 3). I thought of the overnight shopping trips to Chetumal that I had seen advertised on flyers in southern Belize and occasionally scrawled on the chalk message board of Mile 21. Many considered the 16-hour roundtrip journey to the border-town Mexican shopping centers worthwhile because there were no international franchises or even corporate food chains in Belize; the country's population was just too small to make such ventures profitable for global corporations. (There had been two previous attempts to open fast food places in Belize City, first a KFC and later a Subway sandwich shop, but both had gone out of business before the time of my fieldwork.) This means Belize has some of the highest rates of diabetes in the world without having a single corporate fast food chain. But can a country be "McDonaldized" without even having a McDonalds?[97] I watched Cresencia and Ruperta staring intently out the

window as our bus passed dozens of Mexican mega-stores, interspersed with the massive parking lots of a Sam's Club and an Office Depot. "Welcome to the U.S.A.," Ruperta said.

That night, the three of us shared a windowless room in a small downtown hotel named for a non-canonical saint. The cement blocks of the room walls were painted yellow, and hung with a painting of a nude woman who looked alarmingly like an overweight Teri Hatcher. You had to flush the toilet with a bucket, but the room had a small TV. We took turns flipping through the five black and white stations. It was too hot to sleep, and in any case the alarm on Cresencia's cell phone was set for 4am. Same-day appointments at the private clinic were on first come-first served basis, so we piled into a decrepit taxi while it was still dark, arriving before dawn in order to hold her place.

When we arrived at Clinica Zaragota, a security guard waved us into an empty lobby bathed in a dim florescent glow. We waited in a hallway with glistening tiled floors for the first receptionist to arrive. After Ruperta found a coffee vending machine on the way to the bathroom, we all drank cup after tiny paper cup of heavily sugared café con leche. It helped curb the hunger and exhaustion until we ran out of peso coins, but after that we waited more or less in silence.

The three of us dozed intermittently in our chairs as slowly the clinic came to life. The pharmacist came in first, then a receptionist who tentatively scheduled Cresencia for an appointment at an unspecified hour. I collected several magazine-quality pamphlets on the services offered at the private clinic, and Cresencia quietly pointed out each of the diagnostic tests she had already had, which were listed by price inside a glossy folio. She had told me before that these tests were significantly cheaper in Chetumal than in Belize, offsetting the rather substantial cost of staying in a hotel overnight ($12US) and fare (total of $14US each direction) for the three chicken buses it took to reach Mexico. As the clinic hallways began to fill with passing nurses, doctors and clusters of other waiting patients, Cresencia looked increasingly anxious, fidgeting in her chair. Suddenly Ruperta tapped her

shoulder and gestured toward the door, relief visible on both their faces. I realized that the middle aged man she nodded toward must be Cresencia's doctor, and that they had traveled hundreds of miles without knowing for certain whether he would even be in that day. "There he is," Ruperta said. "Dr. Saldo."

That morning it was too early to laugh at her quick wit, although she and Cresencia exchanged a wry smile. But since then I have thought often about the nickname that Ruperta invented for Cresencia's private Mexican doctor as we waited in the clinic that morning. "Saldo" was both a play on syllables abbreviating his name, and a joke that (in the manner of humor the world over) cut to the heart of a deeper irony. Most English speakers (like Cresencia and Ruperta, and me for that matter) first encounter the Spanish word *saldo* on ATM receipts, so it has a certain popular association with money; one could loosely translate it as "balance," although if you look balance up in a Spanish dictionary it will most likely say *balanza* or *equilibrio*, words which cannot be used to figure accounting. In this context, *saldo* has no English equivalent that is quite right. It is the sum of accounts leftover after an exchange—a residue, a trace, a remainder. I came to think of the great lengths Cresencia had gone to seeking private medical care in Mexico in terms of this biting joke—the thing that was left now after so many exchanges, the last residue of a withdrawn medicine. It seems fitting to keep Ruperta's dubbing of "Dr. Saldo" as the pseudonym for Cresencia's doctor here. Perhaps the closest English translation would be "Dr. Remainder."

We had been waiting in the hallway for almost five hours by the time a nurse called us into his office. I was struck by how personalized the desk looked, after so many months observing Cuban doctors in Belizean clinics who were not around long or consistently enough to decorate. But Dr. Saldo had a vast collection of backwards-facing elephants, made from crystal and ceramic and clay. He also had an array of pharmaceutical company paraphernalia that I suddenly realized was missing from Belizean public hospitals; like the McDonalds or Office Depot, apparently the tiny country's population was simply not big or

wealthy enough to make it a prime target market for corporate saturation. (Although we usually think of drug companies' influence as corrupting, I realized that the absence of exploitation by cutting-edge "Big Pharma" and its generic competitors could be a form of exclusion too, that access and rights to treatments are increasingly bound up with therapeutic market forces that were largely missing in Belize.) But in Mexico, the doctor had an enormous assortment of branded pharmaceutical posters and anatomical trinkets, alarm clocks and snow globes, each etched with the name of a blockbuster drug. Lipitor alone had furnished a sculpted photograph holder, a statue of a Mayan temple with the name of the pharmaceutical carved into the platform in faux ancient lettering, and a key hanger decorated with metal etchings of a sun eclipsing the moon.

"How are you, Cresencia?" Dr. Saldo asked when we sat down in the opulent chairs surrounding his desk. Later he examined her gently, speaking some English, and she some Spanish. Unsurprisingly, her blood sugar was sky high after a morning spent drinking sweetened coffee in place of breakfast. Instead of chiding her, he listened closely as she spoke of her inability to keep down solid food over the past months, and recorded everything in a thick file detailing their previous visits together. She had lost six pounds since her last visit. At one point Cresencia became too choked up to speak, and with the moment feeling too charged for me to ask her to explain her reaction, I searched her face and tried to understand why she broke down into tears as we left his office: was it the sudden promise that these new prescriptions and tests might finally help her? Because she already suspected they wouldn't? Because he remembered her name? What part of her would it mean risking to hope for a cure again?

Great White Hazard

Waiting for a school bus headed back to Belize, Ruperta and I mulled around a labyrinthine market, both a little on edge, while Cresencia vomited in a nearby bathroom.

Of the many things for sale around us, Ruperta spoke of the colorful produce as we waited: seemingly endless tables of cilantro and other leafy greens, various shades of peppers, carrots and squashes. When Cresencia rejoined us, her eyes looking bloodshot and still holding the prescriptions tight in her hand, this was also her first comment. "Look at all the vegetables," she marveled in a slightly hoarse voice, and we climbed back onto a chicken bus headed for the border. It was almost midnight by the time we reached Mile 21.

Seeing flourishing markets just across the border in Mexico helped me separate out certain things I had noted in Belize but taken to be characteristic of relative poverty, rather than limits specific to the economy of a tiny nation. Yet like the pharmaceutical supplies and corporate franchises, vegetables too seemed to be circulating robustly in Chetumal. Belize's population was too tiny to function autonomously in the same way as Mexico, a target market—and this was true for local growers as well as global corporations. In the words of one guide book: "A walk through any Belizean market with its tiny piles of withered produce (mostly onions, tomatoes, and potatoes), is an accurate representation of the way in which such food is viewed here…all too often what you get is a starchy mass" (in Wilk 2006). The uncertainty of having buyers often limits Belizean farmers in how much they are willing to grow, as do the gaps in basic infrastructures to transport, store and sell their perishable goods. The vegetables that did make it to the local market in Dangriga were among the most expensive foods you could buy, often imported from Mexico.

Yet Belize has rich soil; for many years, the Maya of the Toledo District in Belize were famous for growing marijuana in their traditional *milpas* because the crop could be dried, and therefore did not depend on unreliable roads for transport before spoiling. Stann Creek District is also filled with banana farms, as well as citrus groves where oranges and grapefruits are turned into pulp for frozen juice concentrate. Yet what makes these commercial farms sustainable is the fact that their products are globally exported, rather than consumed locally. Anthropologist Richard Wilk carefully examines this same paradox

in his ethnography of food in Belize, noting that foreign development NGOs and consultants often try to "fix" the country's historical reliance on (often unhealthy and expensive) imported foods with technical interventions (training for farmers, soil enhancers, teaching local people to grow British-style gardens that quickly wash away in the tropical rains), but repeatedly fail to examine the actual market structures of a tiny nation that make local food economies untenable. Wilk writes that such experts "are acting as if Belize really has a *national* economy, like the USA or Germany, so development is a matter of government making the right local decisions. They treat Belize as if it were a country, a continent, a place with its own economy. But Belize has always had an *international* economy, its borders open to movements of people and capital….All the important decisions about Belize's position in the global economy—even today—are made *outside* the country" (2006: 135). Wilk describes the endless interventions and NGO "technical assistance" teams who come to Belize trying to boost agriculture without realizing "that the problems were structural and political, and had nothing to do with the farmers, the climate, Belizean pasture grasses, screwworms or vampire bats—all of which had been blamed at one time or another" (130). "The problems that frustrated their efforts were simply *not under their control*. They cannot be solved in Belize because they are part of *global politics*. No amount of TA (technical assistance) for famers in Belize will change that" (131).

The limited circulation of fresh foods and vegetables in Belize plays a real and often-unrecognized role in diabetics' actual abilities to access healthy meals. I thought of the bustling vegetable market in Mexico again the following week, when a nurse at the public clinic asked me to bring a stapled packet of educational photocopies to Cresencia the next time I visited her. A well-meaning retired American nurse on vacation in Mile 21 had dropped off an informational packet about diabetes for her there, after she and Cresencia had spoken in the village one day. I glanced quickly at the "Live Life! Scorecard" on the front page of the educational packet ("Healthy Living Made Fun & Easy!") and thought to

myself what little equivalence it had to Cresencia's world before slipping it into my backpack. I didn't know the American tourist who had left it for Cresencia or what their relationship might be, and assumed it might represent some gesture of care even if its contents were not applicable to the actual realities the village. Without much thought, I agreed to pass the information along as asked.

When I pulled out the wilted photocopies later that week for Cresencia, I expected her just to set the educational photocopies aside on a corner of her bed, perhaps even to make one of her wry jokes about the irrelevance of their contents. But instead she grew quiet and spent several minutes reading the pages closely. The cover page featured a long list of daily meal necessities for diabetes, recommendations like "5 or more servings of veggies (about 3 cups total)—best are any dark leafy greens/lettuce, cabbage, broccoli, cauliflower, brussel sprouts, carrots, sweet potatoes, onions, garlic, leeks, tomatoes, asparagus, red/orange/yellow bell peppers." It is hard to convey how extravagant the list sounded in Stann Creek, where out of this list only tomatoes and onions would be sold at the average grocery store. About 2/3 of these items would have to be imported from Mexico, and therefore be quite expensive to eat *once* a day—let alone five. But watching Cresencia's face change, I realized that pamphlet's breezy advice, given out of context, was something more than the ineffectual but harmless gesture I had mistaken it for. Making her fight for life sound like it should be so easy was not empowering; it was devastating. "No sweet beverages," the photocopies advised of her daily breakfast. "NO Great White Hazards—white flour products, white rice, white potatoes, or excess sugar." I realized that the prohibited categories were virtually a list of the staple foods available in the village. Looking up from the educational photocopies with a distant expression, Cresencia told me that sometimes the pain was so bad that she wanted to die.

That American tourist's well-meaning gesture was not just an isolated incident, but part of a larger countrywide trend in scattered, ephemeral and haphazard education for

diabetes. "Health development" spring trips have become wildly popular throughout Belize, as "teams" of university students, church groups, nurses and other foreigners with good intentions (often untrained) visit for a few days and provide medical screening, education or treatment to people in rural Belizean villages.[98] Individual tourists, too, often fleetingly inhabit these created roles. In 2011, anthropologist Christian Vannier accompanied one such university spring break trip to examine its long-term impact and ethical implications. "In addition to our trip, there was a different university running the same medical tourism trip directly before and directly after us," Vannier reports, describing going to a remote village for chronic disease screening only to find they were the second team to offer diabetes education there that week. "In fact, some NewHealth staff joked that during the spring and summer they worked ten to twelve hours per day with no days off due the sheer amount of U.S. based universities coming to Belize and setting up health screenings or clinics for diabetes and hypertension… These trips were run in partnership with NGOs on the ground in Belize, NewHealth being only one of many" (2011: 6-7).[99]

Following one such university team, Vannier discovered a troubling paradox: "though many patients did not have a relationship with a local doctor or hospital, many demonstrated an extensive knowledge of the chronic disease with which they lived. Individuals knew the causes, symptoms, consequences, and treatments of diabetes and hypertension." Visiting groups often assumed such knowledge would lead to "empowered" health decisions, but instead "patients demonstrated an extremely negative view regarding their overall physical health and mental well-being. The medical doctors were surprised. Strong knowledge [about] the disease and its treatments and strong beliefs in the management and even curing of disease should lead to greater beliefs in overall health and well-being" (2011: 6). Yet these high levels of education for diabetes and hypertension (instilled in part by the ephemeral visits of these teams) were associated with people feeling deeply fatalistic and depressed about their health and future.

Thinking back on the educational packet that Cresencia held that afternoon, this unanticipated correlation does not seem so paradoxical after all. (Nowhere on the team's American survey was there a question inquiring whether people would actually have consistent access to the high-quality medical care[100] or life-saving diets they were being educated about needing so badly.) Cresencia flipped back to the first page of the stapled packet, which featured a calendar grid with small boxes for each day of the week. Meant for patients to mark off the number of days they were able to stick to its listed recommendations, the chart in this context instead felt like a checklist of absences: foods that it would require considerable money and herculean efforts to consistently acquire 5 times a day in Belize (let alone without a vehicle in a rural village with gradually dying farms). This information about diabetes came from a world where the luxuries of variegated foods and infinite patient choices was taken for granted.

One American doctor recently stated that during the week he spent in Belize, his mission would be to teach local people that "diabetes is not my doctor's responsibility, it is my responsibility," a mantra common of the diabetes information such visiting foreign teams believed it their purview to impart. Yet Cresencia did not need "to be educated" that her health was her responsibility (she had already learned this quite well when her doctor and the state had given her up for dead). Rather, her problem was how profoundly she already knew that her health was her responsibility, living within the pain and weight of that knowledge. Perhaps being told, once again, that changing the course of her sickness would be so easy if she just individually complied with impossible demands only underscored the more bitter ironies of her life, because Cresencia again repeated the statement to which I found myself unable to respond: for a second time, she told me that sometimes she wanted to die, just to stop the pain. Everything I could think of to say in reply felt cheap, so I just hugged her awkwardly as she cried, finally breaking the silence to ask if I could do anything. Cresencia gave the educational photocopies back to me and told

me she was hungry. She asked if I would buy her a creole bun (a dense Belizean comfort bread made from coconut milk and a white flour base). "*I refer to these white carbs as the 'Great White Hazard'*," the educational pamphlet in Cresencia's hand read. "*These foods have a very high glycemic index (GI) which means they are rapidly digested and quickly enter your bloodstream as a surge of glucose (blood sugar).*" I tried to think of a healthier dinner option to suggest, feeling caught between not wanting to position myself as yet another outsider on some high ground offering short-term diet advice, but also worried about bringing Cresencia a sugary dinner that might hurt her or even trigger another coma. But what were the alternatives, since neither of us had a kitchen or stove? I quickly did a mental run-through of the restaurants in the village. The only moderately healthy foods available were sold at gourmet restaurants ran by expats, who charged American prices (upwards of $14US for a salad, which Cresencia didn't care for anyway); with $8BZ, we could buy a cheap local dinner, but this would inevitably involve white rice, white flour tortillas, sugary coconut milk or a baked good made of white flour, like the creole bread she had requested. In that moment, it felt like the "Great White Hazards" referred to more than the only available meal options, but to us as well: the tourist nurse whose educational packet brought Cresencia face to face with a world of life-giving choices largely unavailable to her; all the fragmented and ephemeral foreign diabetes education that in the end could not offer her livable solutions; the colonial machinations that had carved Belize into a tiny nation completely dependent on imported foods in the first place; the long history of political dispossession in Mile 21, in which tourism often felt like the latest permutation and which came from a world I too was painfully a part of. I think Cresencia sensed my hesitation, because she added: "Please, I'll be able to sleep if I eat creole bread or honey bun." She looked down. "My body calls for it. Something sweet." Without effective medicine, food remained her only palliative care.

Before I left, Cresencia suddenly asked if I wanted to take her picture. This uncharacteristic invitation seemed linked directly to her comments about the proximity of death. I felt an emptiness tighten in my chest as I pulled the camera out of my backpack.

"I am ready," Cresencia said.

Straddling

The day after returning from Mexico, I saw Davis on the local bus, dressed head to toe in a transcendental shade of white. He asked how Cresencia was doing, so I related the news from Mexico: The doctor there suspected a distinct underlying problem, some organic mystery still in need of diagnosis, perhaps somewhere in her lymphatic system. He believed that her diabetes was probably triggered only as a secondary complication or co-morbidity, which likely masked the more serious pathology for years with its easily discernable symptoms of high blood sugar.

"Sounds like Fernando was on to something," Davis said casually.

Ever since our return from Mexico, Cresencia had begun preparing for her trip to the U.S. to get the diagnostic tests that the doctor said she needed, although in a curious way. With her savings gone and her own three siblings in America unwilling to send money,[101] Cresencia had no way to actually get there. While her Aunt Ruperta focused on writing letters to Ministry of Health officials asking for assistance to get the unaffordable tests locally subsidized, Cresencia had begun the process of packing. She bought a few pieces of clothing in Dangriga, a yellow t-shirt and several pairs of new socks, since she reasoned that it might be too cold wherever she was sent to wear "slippers" (the Belizean term for flip-flops) as was her habit. Although her preparations were concrete, the whole thing increasingly unsettled me. The expression "to take a trip," like the phrase "to get a passport," double as Garifuna euphemisms for death (Gonzalez 1988: 78). During the last

month of my fieldwork, I helped Cresencia prepare an application file through a local regional hospital to leave Belize for medical help abroad.

A local nurse had first told me about the group, a small American NGO that chooses certain emergency cases from Belize for intervention. The NGO usually first tried to support local caregivers by providing consultation with American specialists through a Skype-style "Tele-Med" interface, but often eventually brought patients to hospitals in Florida or Texas for care. ("Application" was Cresencia's own word; local administrators who were also involved in selection called the process "preparing her case for presentation," as if this was just an e-version of medical rounds, but Cresencia's term is closer to the truth; the NGO's help was highly competitive and gatekeepers were forced to triage patients for the limited number of spots, usually giving preference to children and more exotic diseases.)

I wrote up Cresencia's file in clinical detail, replete with terms of the sort I imagined biomedical doctors favored ("Psycho-Social Factors") and trying to evoke a sense of urgency (a local administrator had already warned me that a case of diabetes was not likely to be chosen, and certainly not one where non-compliance might be expected after the NGO went to such lengths to secure treatment). Cresencia and I agreed that a twist of dramatized suffering might be an effective tool for the application, so in the file's three page overview I described her with words like "wasting" and made many strategic omissions from her complex history of care-seeking, instead portraying her as what I thought the reviewing doctors might consider a "good patient" who had always taken her medicine and now needed more. Yet once assembled, reading the file where she was cast in this image seemed to hurt her feelings profoundly; the thought of herself as a helpless object of pity had not previously occurred to her. (In our conversations together, Cresencia focused most often on her miraculous healing, which she viewed as a defining moment that showed her ancestors' and community's attentive care for her during a moment of diabetic crisis. She was concerned that I had left out this key event, a source of great pride and dignity, from the

application description. Worried that ritual might brand her as "non-compliant" in the eyes of biomedical doctors, I instead emphasized only paralyzing resource limitations and the complexity of her disease; I think she became worried that my ethnography of her life would be written in that pitiable image too, because our relationship never felt quite the same afterwards.) But quietly she asked me to submit the application anyway, and helped me choose a particularly unflattering photograph of herself to submit with the file ("this ugly one") that showed the bald spots where her hair had fallen out in tufts, patches that she normally disguised with zigzag braids. Then there was nothing to do but wait.

The following weeks found Cresencia "kicking up dust" again, possessed for a third time by Fernando. "Same old, same old," she told me later with a short laugh. In this state of trance, he told her to leave the village and head north, and ruefully she obeyed. D was the one who told me that Cresencia had gone to Caye Caulker and now felt well enough to ride a bicycle. But a few weeks later Cresencia returned again, even though the village was not good for her health, she said sadly; she was concerned about the cost of disobeying Fernando's wishes, but it was her home. Whenever she felt faint after returning to the village, she bathed in clear rum again, and also treated her rapidly swelling limbs with Florida water (a spiritual ingredient common enough to be purchased at any local grocery). Although the Florida water bottles were stamped with filigreed red images of conquistador Ponce de Leon, its label made me think instead of the Miami hospitals she still waited to hear back from, and all of globalized medicine's many life-giving fountains that seemed to slip continuously in and out of her reach.

Cresencia was not the only one in the village who had attracted the attention of discontented ancestors that summer. A young boy had abruptly lost his vision, which returned again after preliminary placations; as well as a "stiff-necked" old man who did not believe in "that culture thing," for which the spirits had punished him with repeated trance states characterized by loss of speech until bathed with cassava water.[102] This series of

otherworldly illnesses cumulatively signaled a deeper problem in the extended family line, and so in the late summer a *chugú* was planned, a briefer version of the famous Garifuna *dügü*. (Garfiuna anthropologist Joseph Palacio emphasizes the two rituals' differing scales of the same core elements by translating them into English as "feeding the dead" and "feasting the dead," respectively.)

I was surprised when Cresencia was not at the *chugú* when we arrived. The offering spread was mostly an expanded version of other ritual tables I had seen, with a few additions: enormous whole crabs with densely bristled claws; and a sacrificed pig with delicately arched ears accentuated by charring, the quartered section of its roasted head shining in the light of a St. Jude votive. With many young men working elsewhere and these shifting gender roles, older women sang the male *a capella* offering songs. A few men mulled about outside, but Jodine explained to me that most of those present could not assist in singing the male *arumahani* songs, having forgotten all the lyrics. They occupied themselves taking pictures of the women with their iPhones to send to absent relatives. Davis translated bits of the songs for me. "This is the debt that has been owed to the ancestors for a very long time," he said. "It is so long overdue."

The air was filled with the sweet incense of termite nests picked from trees and burned, shrouding the ancestral house (*dabuyaba*) in smoke to protect it from unwanted spirits. Much later, when the *malí* started, I sat on a bench inside the ancestral temple and watched the dance that months ago had healed Cresencia. Byron Foster (1986) was right; the drums pounded like a heartbeat.[103] There were swathes of pink and yellow fabric hanging in the corners of the room, which Davis told me represented the flags of St. Vincent, flags of families. Some women started collapsing into the arms of their sisters and mothers, possessed by spirits as they swayed. Once in awhile someone would start shrieking, resisting the spirit who tried to possess them, and their foreheads were smoothed with white rum. Their instruments hanging from their necks, the drummers would pivot at

certain points and turn back toward the sea of dancers, and the canon (who was also a Garifuna scholar and Anglican priest) called out the names of the dead from a stapled handwritten list. Afterward the swaying motion of the crowd would resume, singing in response and waving white *ahuragülei* "fans" above their heads. In addition to the counterclockwise circles, sometimes the drummers would lead the crowd straight toward one of the four directions, calling on the west, south, east and north as they continued reading the names of their ancestors. During Foster's fieldwork in the seventies, people still remembered when a grave-shaped hump of dirt used to be formed in the center of the earthen temple floor. I thought of this as I watched the beauty of the women's dancing, performed with rhythmic mashing steps. Taylor once noted that the ancient Caribs did not actually call these stamping footsteps dancing; rather, "*they trod down the grave with their feet*" (Taylor 1951: 141, emphasis added). I thought of Cresencia. How does one trod down the border of death, that final threshold?

The motion of so many bodies filled the temple with an electric heat that became too intense for me after a while, and I moved back out to the beach. The lagoon had flooded the previous morning, spilling a tide of murky water into the sea, but for some reason the muddish brown had not mingled with the Caribbean blue in the distance. People suspected this was due to developers disrupting the local ecology by filling in the adjacent swamp with sand in order to extend the beach for expats' vacation homes. Like the atrophied patches of farmland leading to the village, the unnaturally divided ocean tide made me question the consequences of the polluted landscape as tourism subtly altered the nature around it. I stared out to the two-colored seawater, by then cloaked by night, wondering once again what the disordered environment had to do with the metabolic disorders that affected the majority of the women whose bright dresses were visible through the *dabuyaba* windows.

Evelyn, whose diabetic father I had visited until his death the previous winter, approached me on the beach and handed me a calabash of something to drink. I thought of

the many afternoons we had checked his blood glucose together, the stereo music and yellow light spilling across the sand at his "ninth-night" *beluria* (which Taylor (1951: 100) translates more festively as a "farewell party" for the spirit double of the dead.) "Homemade coffee," Evelyn said as I took a sip of the warm liquid. "Made from burnt rice." But it tasted like sugar.

After midnight, very late into the ritual, Cresencia arrived. She looked unwell, and someone set up a folding bed for her close to the water. I approached the tideline where she leaned on a pillow a few yards from the lapping waves, but she seemed tired of talking. I asked her how she was feeling. Cresencia glanced at me with a weary smile, then tilted her chin and gazed toward the horizon, as if the answer to my question drifted over the sea somewhere. There hung imminent specters of times and places already passed, waiting to be invoked again: the many borders that she crossed seeking for help; Fernando and all the ancestors who looked on in concern and hunger; the disconnected x-ray envelope full of drug prescriptions and diagnoses from all the doctors who tried and failed to help her; Allison, alone now in the home they had shared; the fallow fields once farmed by the parents that left her in méteñu, with genes damaged by the hardship they had also borne; the two miscarried children that had died from her, poisoned by sugar; the songs of the women who gathered to meet her ambulance under a mango tree; whoever's initials were printed indecipherably inside her withered tattoo.

In many ways, the form of diabetes that Cresencia struggled with was highly unusual, more complex than an average case because of the apparent underlying cause that always seemed just on the verge of being diagnosed. Yet many of the difficulties and realities she faced seemed to me like exaggerated versions of the issues shared by any diabetic in Belize. The disease never has a cure, and there was chronic uncertainty in a biomedical system that looked functional on paper but often ruptured in practice, where one might reach for but could not rely on the ephemeral nature of foreign intervention that

fleetingly came and abruptly went. With powerful drugs often (but not always) available for ingestion, and little continuity in caregivers and institutions themselves, chronic patients like Cresencia were often left to discern the efficacy and side effects of drugs on their own, risks thoughtfully weighed against the cost of changing the very habits that most vitally supported them. High-glucose food often serves as lifeblood that sustains kin ties in Belize; for many Garifuna, this also cuts across the worlds of the living and the dead.

As Joseph Palacio recently said of the changing economy, emerging diseases and the sale of lands among the Garifuna in Belize: "these are issues that confront any group of people who are caught *between two distinct and disjointed worlds*. For us they are coastal Central America and inner city United States" (Castro 2005, emphasis added). Early on in my fieldwork, I sometimes thought of Cresencia as one of Turner's limen, the figure on the threshold. But whenever I thought she had been "re-integrated" into another collective, it seemed that in the next moment I turned around, there she was: back on another threshold. In the end, perhaps Cresencia was a less chronic limen than someone who embodies the original meaning of the word diabetes—"one who straddles." Etymologically, this ancient Greek root comes from the literal stance that diabetics often endure from the frequent urination that is a characteristic symptom of their disease (OED 2012); yet I argue that today this linguistic root still cuts to the quick of the layered meanings at stake for many diabetics in Belize who are, in a very real sense, straddling two worlds. They live between scarcity and excess, between phone calls and cardboard barrels sent from New York and L.A., between appointments and cities and precarious medicines, between histories of deep violence and uncertain futures, on the thresholds of nations and knowledges, between foreign encroachments and pollutions of their lands that continuously displace them anew and profound ancestral ties that bind them back again through the very foods they are prohibited to eat. They live with a disease that is both born of their chronic halfway condition and uneasily managed there: "those who straddle."

Cresencia stared toward the sea, her eyes at once attentive and far away. Boats can also represent coffins in Garifuna symbolism (Staiano 1986: 142), I recalled, and the expanse of night was growing between us.

Before we left the *chugú*, Jodine, who is studying to become a pharmacist, brought me to the sanctuary at the back of the temple. "To receive smoke," she said, and pulled me through a pink curtain. The *buyei* (brought from Guatemala for the occasion) wore his silver-threaded hair in dreadlocks. Solemn and radiant, he was surrounded by green beer bottles tufted with cotton. His assistant held a bowl filled with burning embers that smelled of copal. When the *buyei* blessed me with water from a calabash, he made the sign of a cross on my forehead, chest and inner elbows, dabbing the back of my neck as I turned in the smoke like I had watched Jodine do; just one circle.

Some Garinagu say that during such rituals, the rafters of the ancestral temple may fill with spirits, unseen by most. There are some that assume capricious shapes like fickle dwarfs, but more concerning are the amorphous waifs, attentive and demanding—*gubida,* the dead.[104] I looked up at fingers of smoke curling in the hollows of the thatched roof, wondering on which side I would find Cresencia during my return to Belize. The rafters of the ancestral temple were hung with pale bands of cotton, "fans" which people had tied there as the night wore on, the last traces of dancing a *malí* like the one that had revived Cresencia under the mango tree. Some knots had come undone in the ocean wind, loosening scraps of cloth that fluttered back to the ground. The remaining strips of white fabric flapped against the palmetto rafters of the house in uneven rows: like thin ties flickering through the dark between us, or bandages binding a very old wound.

6. Bricoleur Nation

> Theory is always a detour on the way to something more important.
> --Stewart Hall

Makeshift Medicine

One broad yet continuous refrain throughout these stories has been people's own science of their conditions and attempts to heal, including many varied experiments in care. Today, the role of "chronic patient" is slowly becoming a category that Belizeans with metabolic disorders are inhabiting or remaking in diverse ways, through processes and paradoxes charged with both possibilities and impossibilities. As Chris Feudtner ends his historical study of diabetes in Boston by noting, care for chronic disease is particularly laden with moral and political dilemmas that unfold "between value-neutral technologies and the value-laden choices that determine how they are used" (2003: 211). Among the many tensions that continuously play across this gap are the absences and presences of treatment in a postcolonial context, the politics of difference across an extremely heterogeneous population, and the fragile rights and undefined responsibilities entailed in being a Belizean citizen today. In this final ethnographic chapter, I want to foreground the dimension of "improvised medicine" (Livingston forthcoming) already interwoven throughout the case studies that make the body of this dissertation. It is important to widen out to a broader cross-section in the patchwork of countrywide care, as diabetic patients and their choices are now "carving themselves into the broader history of [the] nation" (Feudtner 2003: 211). This movement adds another layer to the scales at play in the conclusion that follows, layered contingencies that remind us how singular histories of people—and of countries—are at once unique and part of some larger story.

The accounts below describe four key projects for chronic disease care occurring in other regions of the country, add a few critical scenes and services to the record of available support and "repair work" (Morrison 1987: 96) that I observed underway by Belizeans

themselves. Writing of U.S. hospital care in the 1970s, Lewis Thomas wrote of "half-way technologies" that palliated but did not cure chronic disease. But what happens in a postcolonial context where even a "half-way technology" is only half-way available? Are people then down to a quarter, or some fraction that is thinner still? On what margins of clinical treatment are patients finding ways to survive, and how is the missing half of treatment being made or stretched across holes in care (or its partial realities and absences otherwise translated into the whole of a human life or death)? In a context of historically "mutilated law," how is it possible to move on policy or expand a system? In the stories that follow, we see the kernels of political life as people try to make up missing fractions of state medicine for each other in ways that somehow plug into a national scale. These scenes help us see the ways that patients and governments are responding to the diabetes pandemic, often in unexpected ways that might teach us more about the ragged edges and holes in current care models. The astronomically rising rates of diabetes around the world result from nothing less than changing ways of being human today—and it is crucial to be attentive to the emergent politics and forms of sociability that are implicated not only in the disease's cause, but in care for it as well.

Medicine has always been a crucial point of interconnection for people across ethnic and cultural divides in Belize. Even during the colonial era, when it is sometimes said that different populations had little to do with each other across villages divided by ethnicity and language, we find important intercultural connections captured in ethnographers' images. For example, in J. Eric Thompson's *Ethnology of the Mayas of Southern and Central British Honduras* (1930), Plate XXI.2 depicts a scene of healing that bears the caption "Hmen Cocom Curing Negress of Toothache by Incantation, Socotz," while the Garifuna bush doctor photographed practicing in Kathryn Staiano's monograph on "Garifuna understandings of illness" (1986) is practicing on a Maya patient. As different characters sneak into each other's monographs, we see a deeper history of Belizeans reaching out

across supposed boundaries to explore each other's ways of life in their search across difference for health resources and healing. Historical divisions between Belize's diverse populations are often emphasized, yet medicine is a place where negotiations *across* difference become at least as pressing.

Anthropologist Deborah Thomas (2011) asks how we might examine social change and political reckonings that occur *outside* legal domains and "normative locations such as Truth and Reconciliation Commissions." She seeks "alternative ways to envision political action *that is already happening on the ground*. If we reorient our gaze away from the tragedy of postcolonial crisis, what sorts of change movements might we see?" Thomas notes that within such "institutional spheres of the everyday," it can be difficult to recognize politics as such: "These are not easy phenomena to quantify as measurable indices of social change, especially not in the short term. Nor is it easy to track the effects of these processes beyond the individual participants." Yet she holds that "the aim is to generate the sense that the state is not outside its citizens but is imminent within each of us" (2011). In these chapters, we see people caught in postcolonial disorders *and* imagining alternate futures for themselves and for each other on the fronts of chronic medicine. Through what Paul Rabinow would call "biosocial" (1999) connections now slowly and tenuously being forged around diabetes care, we find Belizeans creating and testing new relations as they draw from resources to inhabit their own conditions of chronic patienthood or roles in caregiving, building social networks and sometimes bricolaging care—or even time itself—for another.

To understand how these cobbled parts are being built into a care system for chronic disease, I find it helpful to think with the Belizean idea of "London Bridges" discussed in Chapter 1. Recall that these makeshift bridges (so called because they are continuously built up and falling down) are constructed to tenuously link the houses within morass communities. Yet through repeated improvisation over time, these "fringe-driven practices" outline a terrain that might eventually be filled with sand and turned into solid

ground. Some of the nicest parts of Belize City were once London Bridge/swamp communities. Clearly, painful inequalities are rife in the processes of those who find haphazard scraps their only initial resource. But in the gaps of state support or regulation, there is also a powerful force in the work of people building their own ground to stand on.

In the figure of London Bridges, the bricoleur is not placed in easy opposition to the engineer after all. Their practices are intertwined and cumulative. Ad hoc structures also might having a working architecture or serve *as* a template for engineering. And conversely, seeming engineers or scientists might arrive with grids or expertise that turns out to be just a patch (or even a hole), rather than the bridge they had imagined. This is literal, for example, in the replacement Kendall Bridge that was apparently sent by the EU but was five feet too short to cross the river, making it unusable. But I am also thinking more figuratively here, for example of the many medical mission groups and ephemeral foreign caregivers that mark Belizean medicine today. The majority of these groups operate on a charity model that positions health as a privilege rather than a right. Coming from this piecemeal history, on what fronts are Belizean patients trying to cobble a different model?

I suppose that viewing London Bridges as a coordinating concept is also my own "experiment at giving certain representation to the way in which contradiction works" (Jameson 1994: xiii), emblematic figures in the "*conditions of possibility*" where "creativity lies in the response rather than in the initial givens and raw materials of the situation itself" (xv, original emphasis). As people's care experiments and moral imaginations build on each other in "para-infrastructures of care" (Biehl 2007) for diabetes and other chronic diseases, some structures are tinkered into something sturdy and permanent, while others might crumble and fall unrepaired. The scenes below briefly sketch four ongoing health projects or nodes of support that seem to be firming up into various forms of connected care. These actors each bridge different gaps in the existing state medical system, and the final story here coalesces into collective political action—including what is said to be the first patient-

lead advocacy movement for *any* disease in Belizean history. Mol's notion of "tinkering" (2009) with diabetes care might operate on the frontiers of policy, too.

In this sense, "London Bridges" provide a loose framework for reading these ethnographic sketches, while still leaving open-ended people's own experiments and concept-work. The state remains a pressing absence in many Belizeans' lives. Yet patients with diabetes and other chronic diseases continue testing their own provisionary notions of what might count as a caregiver, a community, or a country. The actors throughout these chapters have already been at work crafting a makeshift care system for chronic disease—pills, adoptions, rituals, herbs, prosthetics, miracles, ancestors, traveling, foods that stand in for missing or ineffective treatments—and these final experiments add a few final scenes that also push this improvisation to the fronts of nation-making. If Chapter 1 cataloged fragments as the shards of social histories broken by conquest, colonialism, slavery, and the violent inequalities haunting our world today, then this concluding assembly highlights another theme that has been equally present throughout these stories: fragments can also be like patches and piecework in the architecture of a people trying to rebuild the health of their country.

Just Live On

The donations were shipped to Belize in the kind of cardboard box nested inside with compartments for fragile things, drinking glasses or Christmas ornaments. But these boxes held glucometers. There were almost sixty people crammed into folding chairs and lining the crowded conference room, clustered around certain spheres of activity: blood sugar tests at one table, and a station giving away free machines, strips and lancets to anyone who needed them (after writing down their names in a book). It was a meeting of the Belize National Diabetes Association in the old capital, Belize City. Even though it was not a service that most of the patients I knew in the Stann Creek District were able to access,

I had made the long bus trip from Dangriga in August 2010 to see what was happening in the central branch of the country's most active patient support group.

The Easy Check glucose machines being distributed were donated by a group of Belizeans in Miami, and strips for them—more expensive than the machines themselves—had been donated by the Belizean Diabetes Association of New York. These patient groups had coordinated to purchase the devices to be sent back to their home country, where they knew times were hard for many. Such U.S. groups show the perplexing reality that Belizeans outside their country are often also at the heart of their country's political life. After the meeting, I stayed to speak with the association president, Anthony Castillo.[105] He described his new initiative to start a juvenile branch of the Diabetes Association, because there was no program for Type 1 children in the country. "They are ok if their parents are involved," he said, seeming to choose his words carefully. "But it would be good to have some support. We could at least get a registry of their names. So we will know."

Paradoxically, while the Belize Diabetes Association now has robust membership in its New York location, the Dangriga Branch had fallen into inactivity and no longer met by the time of my fieldwork.[106] There happened to be a strong eye care program in Stann Creek District, which I was told had become a fallback point for catching diabetes. Yet patients with diabetic retinopathy were already in a very advanced stage of the disease by the time of initial diagnosis. Vision loss and blindness are some of the only symptoms of diabetes that technology can usually correct with a one-time surgery, if not fully reverse (using tiny laser burns to the eyes, performed in Belize by visiting American doctors and professors—yet these visitors worked through a permanent building that was always staffed, which gave their comings and goings a more reliable and collaborative air). Once in the Dangriga hospital, I had walked past a whole bench of patients with little purple x's over their eyes, as a hospital administrator called around tenaciously trying to find anesthesia.

Although the Belize Diabetes Association did not officially exist in Stann Creek in 2010, many patients simultaneously tried to fill the gaps left by this lack and found themselves caught in its absences. "People don't understand the diabetes of them," a Garifuna woman named Sara told me from her hospital bed on the day we met in Dangriga. She was diagnosed when she was 26. "I knew it was coming for me, because my mom had it too. We all have it." It wasn't until months later that I learned Anthony Castillo, the President of the Diabetes Association, was part of that very "we"—he was Sara's brother. One of her feet, from which two toes had already been removed and the other three now curled sideways, had been spontaneously developing ulcers for years. The scars they left looked like cigarette burns. But that particular morning, Sara was worried because her doctor told her that this time, it was her "good" side needing surgery, the fully intact one that never hurt because it was numb. She called this dependable one her "pend upon" leg.

About a month had passed by the time I called Sara and she invited me over for a visit. I found her house by the ice-cream cart out front. Her husband supported their family with this business, and custom-built Sara a lumber ramp up to reach the door of their stilted wooden home.

Sara spoke from her wheelchair while I sat on a cozy and well-worn couch. She spoke of the leg that had been amputated since the last time we saw each other. "I am trying not to grieve for it, because *I am alive*. It was danger on the line," she said of the emergency amputation. "After, I was trying to heal. But then the infection was gone higher. The surgeon came back. He said, Ms. Sara, *let's go to the theatre*."

An orderly wheeled her past the sign that said OPERATING THEATRE through the doors into the surgical unit where so many amputations took place. Sara's repeated use of the word "theatre" to refer to surgery rooms gave the events of amputation a surreal quality in her description, filled with props and characters playing out parts in scripts born elsewhere. The first time Sara had a piece of her leg cut off there, they gave her an electric

shock to make her go numb. But the second surgery was easier because she couldn't hear the drill. "The prayers give you courage," she said. "I will never ask God why. Just, please leave this one for me." She nodded toward her remaining leg, grinning. "So I can still hop around the house."

Sara's voice grew thick when she spoke about being wheeled away. "I wish everybody who has this sickness would know that diabetes is not just you, it is your loved ones hurt too. My whole family was crying. My husband, my daughter, my brother, my sister. I always wonder why I didn't cry at that moment. You see that I am crying now, but I did not at the time of the theatre. My husband said to me, *gial*, and I could see that they think maybe they are going to lose me. I wanted to tell him that I was going to be okay, whichever way. But I could not talk."

With the Dangriga branch of the Belizean Diabetes Association not meeting regularly at this time, Sara tried to keep learning about diabetes through health segments on Oprah, widely available in Belize through cable that is nationally pirated from the U.S. "I keep watching it because I want to know. Dr. Oz [on Oprah] said the extra sugar in your blood is like a broken bottle with the damage, making cuts inside your organs and the flesh. That is so scary. It is good to have someone explain this to us."

Sara alluded to the things that might have been differently. "I used to say, oh, it is just diabetes. Sometimes I think about all these pasts. But I don't want to depress on that. It is better to share my experience because it gives the other ones a different chance—a person sharing the life that they live within it. We have to learn about this sickness so that we can go on."

Now that Sara was home again, she felt lucky that a friend with a nursing background could help her change the bandage each day. Sara always held a pillow over her face during the dressing. The next time I visited, she told me that she had been in touch with "a man in Orange Walk" who ran the only workshop in the country to get prosthetics.

He promised to work on a new leg for her. She wondered what it would be like to wear it to church, and was looking forward to the day he might measure her stump. In the meantime, she had devised a way to weave a vinyl strap (borrowed from a portable commode) across the handlebars of her walker. This left its metal handlebars functional to support her while walking, but also doubled as a makeshift high seat when Sara reached her destination. When her old roommate from the hospital heard that she might lose her own foot to diabetes, she called Sara. Now they phone each other often, for support or just to talk. "I told her that if you dwell in this depression, you can lose your whole body in it. We must survive. I want to see you again."

Sara missed her favorite Garifuna food of *durasa,* which literally means "slow." Her care work in the gaps of support groups also had a slow, patiently building quality, a sort of counseling function helping people through the trauma of dismemberment. "My love has a lot of meaning. It is not just family, or care. It is something I am creating—*the carefulness*. It is a bond." She showed me a family picture and pointed out another of her brothers. She said that he had died from renal failure a few years ago, and I realized why Sara's other brother had a sharp edge in his voice when he said during our interview: "Needing dialysis is a death sentence here." During the very recent past, that was the harsh truth in Belize.

Like many amputees, Sara experienced phantom pains, the nerve signals that left people still feeling pain of severed parts. When she told me this I found myself staring down at the empty space where her leg should have been, thinking also of her dead brother and all the pulsations that make the missing still present. But when I looked up, Sara's expression startled me. "Just live on," she said.

Effective care and education for chronic disease might be closer to counseling than pill-dispensing, inseparable from the human relationships in which it unfolds. Over a century ago, Elliot Joslin, the pioneer of diabetes care in the U.S., "reflected on how a patient and a doctor should interact: 'Between the two, a partnership must be formed'"

(Feudtner 2003: 215). When partially available diabetes drugs are dispensed by rotating doctors or transitory volunteers who are not able to establish ongoing relationships of care, patient-doctor relationships might be shifted or severed, but ties are continuously re-shaping themselves otherwise (as Belizeans in New York and Miami send medical technologies back to fellow citizens in their home country, or as Sara supports her hospital roommate through an amputation by drawing on knowledge she learned from Oprah). These emerging social ties and nascent support groups expand the locations of medicine and meanings of diabetes as "a style of living"—forms of care that have appeared in each of these chapters already, and which we see here being pushed to another jurisdiction at the level of countrywide and transnational connections over shared conditions. The operating room turned theatre-of-dismemberment seems almost a haunting reversal of Geertz's theatre state, where the breakdown of power is performed and made material behind closed doors. Yet these collectives show the sort of coalescing community that lies at the heart of biosociality itself, as Paul Rabinow (2007) quotes Foucault: "The *we* remains incessantly to be invented."

Prosthesis

I waited for my ride at the edge of Orange Walk Town by the New River, which some locals call "The River of Strange Faces." The evening before I had seen an weather-beaten tugboat passing on its way to port there, hung with old tires on all sides and pulling five rusted barges of bundled sugar cane toward the sea. The stevedore at the helm had been shirtless, his laundry and sneakers strung up on a makeshift cloths line. But now, the rivers' many lily pads were spilling over in the rain like overfilled teacups. When a blue pickup truck with mirror-tinted windows pulled through the storm, I climbed inside with relief.

The truck's driver, Adrian, ran the only prosthetics clinic in Belize. He was the one working on making a prosthetic leg for Sara, and in July I traveled north to see the

workshop I had heard diabetic amputees talking about all around the country. Adrian's baseball cap cast a shadow over his mestizo complexion and tidy mustache. He had been born without legs, and drove the vehicle using silver canes affixed to the foot peddles. When we reached his clinic in the heart of town, he swung himself down from the high truck on his palms with practiced ease. Lifting his torso onto a skateboard with his muscular arms, Adrian veered toward the door and unlocked it.

I followed Adrian as he wheeled around his cobbler's workshop (only he did not make shoes, but limbs). In one back room there was a cabinet labeled "Extra Feet" and other storage; in another near the door was a room filled with crutches along one wall, and shelves full of plastic orthotic braces, the smallest sizes patterned with rainbows and Flintstones characters for children. In the adjacent "laminating" room, there were jars of resin and bottles of pigment, deep chestnut through pale white, to paint the limb to match the skin tone of its new owner. The colors of Belize, I thought, taking in the extensive palette of colors and loose detail brushes. Another room was lined with shelves of donated feet, differing in makes and styles but sorted by types and size. One tiny baby-sized foot was laying next to a bag of cement on the floor. Adrian leaned on a drill platform as he described the process of handcrafting each limb: hand casting, plastics and parts, shaping and reshaping. His saws and other tools covered the low bench. I held a plaster cast of a knee as we spoke.

Adrian said that the majority of his patients were diabetic amputees and children born without legs, though he also worked with people who had suffered machete wounds and accidents. The project first began when he was brought to the U.S. by an NGO program in 1995, where he had met a professor of prosthetics from Georgia Tech. The professor had made legs for Adrian in Dallas. "I went to the lab and saw what he was doing," Adrian explained. He was intrigued. "I asked him to teach me." Adrian began a sort of informal apprenticeship with the prosthetics professor over the next four years, which grew into a

partnership. “I got to see all their tricks,” Adrian said. “So I make my own now.” The pair began traveling to Belize together, doing an evaluation in 1996 and their first actual fittings in 1997. “It was before 9/11 then, so we could send these big boxes of supplies on the plane from Texas,” Adrian explained. Today his American colleagues continue to bring specialized resins and extra prosthetics to Belize in their suitcases. They come about three times a year, but it happened that the team’s most recent visit to Belize had been just the previous week, when the professor brought three students with him. “We fitted six legs and one arm,” he said. Over the years, Adrian and his partners have made prosthetic limbs for over 400 Belizeans, he estimated. He and his partners call it “Project Hope.”

At least 5 out of 6 amputations in Belize are due to diabetes, but for decades Belizeans in need of prosthetics had to go to Chetumal, Mexico, with stacks cash in hand. “It is a business there,” Adrian said. The last he had heard, a leg in Chetumal cost around US$4,000. “They just give the leg to you in a box with a little paper of instructions.” The thought seemed to upset him greatly. “How can you just hand someone the leg and say, go home and put this on? How will you know this person will not be in pain later? That is my job here. I listen to them, I teach them what I know. We adjust the thing together. Sometimes we even redo the prosthetics that came from Chetumal to make it fit the person for real. You have to start step by step, little by little. You have to let them know that it will take work to learn to use it. If they go home and expect just to get it out of the box and run around…believe me, it is hard to wear a prosthesis. It takes a lot of strength. For someone who has been immobile, it is like learning to walk all over again.”

Adrian liked to meet the person he was making a limb for before he began the work. That way he could get a feel for their needs, and also help them to prepare. “Shrinker socks” were the most important step in this, he said. They were made especially for prosthetics, to minimize swelling of the stump and improve blood flow for the place a new limb would be attached. He showed me one. It looked like a tiny elastic white sock. They were especially

important for diabetic amputations, which were the most difficult, he said. You had to be very careful with putting pressure on the stump. "If the pressure points [of the prosthetic] are designed in the wrong place, that could cause a blister. And then the person might need another amputation, even higher." This was why custom fitting was so important to Adrian, as well as evaluating the person's mental state alongside their physical condition. He had to turn away 2 or 3 people over the years. "That has been the most heartbreaking part of my work," he said. "When I close the door after, I am just broken. Because I have been there, believe me. But I can't give someone a prostheses if I think it will hurt them, if there are senility issues and it is really likely they will fall and shatter something else. Maybe then they would loose their good side too. It just wouldn't be right." I could see that being a one-man triage unit was a burden to him, painful moments among the many life-changing ones that he also carried. "But it is better to keep on trying than not to try," he said.

Project Hope has recently fallen on hard times. Their primary donor was a man in Canada, who had been a big supporter of the Orange Walk clinic "until everything went crashing down" in the North American economy. Yet Adrian still had his workshop, which the donor had helped him to purchase, and with his colleagues' help he "tried to keep going with materials." A local bank, Royal Caribbean, had recently donated a generous sum that would be enough to keep the project going for another year. Adrian spoke of his earlier attempts to work with the Ministry of Health in Belize. "It's difficult when you don't have the support of the government," he said of the financial uncertainty that depending on donors brought to his work. But his early outreach to the government had raised red flags for the team. In addition to lack of funding, he saw his work being turned into a party issue. "Whoever is in power when you try to work with the government, then the politicians will say you are supported by this party. Then the next party that comes in could squash you, especially how small we are. That would be the breaking point of Project Hope." It was *because* Adrian wanted his work to be sustainable that he had not continued pushing for

incorporation into state structures. But where, then, does one seek stability? "It's hard, because then you don't have anyone else to help. But I just want to keep this all politically neutral. I want to do a good thing for the people of Belize."

Adrian had also tried working with Rotary Clubs and other organizations. "But they really want to turn it more into a business. They say that you *have to* charge," he said. "But if that is the case, then what will happen to the guy that cannot pay? That goes against everything we built this on." Project Hope charged based on a sliding scale of what patients could afford, and leveraged donations to provide free limbs to those that could not pay. "The poorest patients might arrive here without a dime. They don't have money for a hotel or food while they are here. For someone like that then even the bus fare to go back home, we take that all out of our pocket. So how can you turn something like this into business?" He looked faraway suddenly, his voice seeming charged with frustration as well as care. Adrian described going to school without legs. "It was devastating," he said. "And I will never operate something where only rich people can get legs. I think everybody deserves to walk."

On our way out of the workshop and back into the pouring rain, one weathered limb by the door caught my eye. It was much heavier than the other legs, a full prosthesis with brown resin on the thigh below the spot a bright yellow strap would hold it in place. Adrian showed me the piece of iron inside the plastic that the man had once used to walk, and pointed out the additions and repairs he had made to the makeshift leg several times over the years in his workshop. When the components finally arrived from the U.S. to craft its wearer a new prosthetic, the man had left his old one as a sort of present in return. There was a white string looped eight times around the knee just below its hinge, and a white foot bolted on to the scratched plastic shin. "Charles Crawford lived in this leg for 27 years," someone had written on the back of the calf in black marker.

Sherry Turkle notes that "technologies can be as much an architect of our intimacies as our solitudes" (2008). Prostheses have a moral life (Messinger and Wool 2012). As Adrian insists, such devices could be alienating or even damaging without close attention to the singular contexts. Instead of charity (often known to wound), his mode of exchange turns the prosthetics he creates into something more like a gift, charged with potential reciprocities pressing forward (as Derrida tells us, *"where there is gift, there is time*") (1992: 41, original emphasis; see Mauss 2000). Adrian's workshop brings the work of "tinkering" to its most literal, but maybe also its most figurative. Perhaps services like this also become prostheses of sorts for a nation lacking parts.

Herbal Hospital

I heard about another unexpected form of diabetes care while interviewing an East Indian community health worker named Edith, who had worked for decades with Central American immigrants in the banana villages of Stann Creek. Her daughter Lydia arrived midway through our conversation, bringing her mother a bag of mangos. They were both diabetic, and helped each other with insulin shots. Lydia sat on the threadbare red couch. When she heard that we were conducting an interview about diabetes, she immediately removed her sandal to display her foot, which was missing two toes. "The Mennonites saved it," Lydia said of her foot, which had been necrotic due to diabetic retinopathy. She credited their interventions with the fact that she only had to have some toes taken off instead of the whole foot. She described the "Mennonite Hospital" that she had visited, and their healing process of herbal therapies—both herbal pills and crushing up leaves to apply to her open wound topically. The clinic had also helped her to change her diet, incorporating more raw foods and vegetables, and done something she described as "removing stones." I had also met two other patients in Stann Creek, one Kriol and the other Garifuna, who told me that Mennonite healing had impacted their lives (one

explained that the Mennonites had saved her eyes when they were failing due to diabetes; another that they had helped her to have a baby using nutritional and herbal support, after doctors had said this would be impossible). I decided to make a visit to one of Belize's several Mennonite "herbal hospitals" that I kept hearing about. It was located in a tiny northern village.

The earthen road toward Sartejena was grayish white and unpaved but at least freshly graded, looking chalky in comparison to the orange-red soil of Stann Creek. Beyond the fields of sugar cane, it passed through a village called San Esteban, where each grave in the above-ground cemetery had a small triangular altar built into the cement, different than the cemeteries of the south. Many were filled with religious icons, fresh flowers and candles of the Virgin of Guadalupe under their small steeples, looking at first glance like a city of miniature cathedrals. A little later, I suddenly noticed the tractors had metal wheels. We were in Mennonite country.

"Their vehicles can have an engine or rubber tires, but not both," explained the talkative older mestizo man in front of me (because the compressed air to fill the tires is a restricted technology). "We call these one Mechanites, because they like these machines. But some of the stricter kinds won't use any machines at all. Some of them won't even use paint. And the ones at the border who do cocaine crossings and drug stuff we call Moneyites, because of how much money they have now." Besides the bearded driver of a horse and buggy, the only people we saw outside were three young children with white-blonde hair in front of a farm. They ran away barefoot into the house, dressed in the suspenders and modest dresses of tiny adults. "They are so pretty, but they always hide," the man said of the Mennonite children. We passed a blue lake. The houses were spread far apart as we drove up the hill, low buildings set back from the road and fields of corn.

After a while, I found the clinic, a sturdy cement building reinforced with rebar to withstand a storm (it doubled as a village hurricane shelter). Disappointed because the clinic looked closed for the weekend, I copied the sign hung on the frame into my notebook:

> Open Monday
> Tuesday + Wednesday
> Offen fuer Deutche
> Freitag u Sonnabend

I do not speak German, but a colleague working in Belize who does once described the Mennonite's language to me as reminiscent of "coarse Prussian from the 1830s." The Mennonites have been political exiles for many centuries, originating in an Anabaptist group in which many of the founding leaders were killed for their subversive teachings, a violent history recounted in the 1660s book *Martyr's Mirror*.[107] Survivors scattered across Europe and later the world, developing many sects. Today the Mennonites live in at least 51 countries across the globe, a multiplicity of diasporic histories recently cataloged in the *Mennonite Historical Atlas* (Schroeder and Huebert 1996). During the 2010 census, there were 10,865 Mennonites in Belize, meaning their population in Belize is now coming close to the size of the Garifuna population (13,985), and is already larger than the Yucatec Mayas (2,141) and East Indians (6,486) (Statistical Institute of Belize 2011). Mennonites are known for being very closely tied to their land and protective of their autonomy. By last national count, 6% of Mennonites in Belize had diabetes (Gough et al 2008: 51), the second-lowest rates for any ethnic group besides "White" (the census recording this information does not count the Mennonites as white, even though they have white skin. Caucasian is also a construction that breaks apart.)

A woman named Elizabeth approached me as I was copying into my notebook. She told me that she was from Canada. I would later read that the Mennonite population there originates in a group sent to the gulags of Siberia and Kazakhstan after becoming embroiled in World War II, when Germans invaded the area of the Russian Steps they had been

farming. Many of the Mennonites who made their way to Canada escaped from Western Siberia by dogsled (Schroeder and Huebert 1996). Elizabeth said that that she and her husband Isaac together owned the clinic, and asked why I had come. Her striking blue eyes matched her navy blue Mennonite dress precisely, even though she cast them humbly to the grass. I explained my project. Her head was wrapped in a black headscarf held in place by a single bobby pin, and her black apron partially covered the subtle pattern of tiny purple flowers on her dress. She kindly opened the clinic door and led me into a little wooden room that strongly resembled the way I pictured a nineteenth century apothecary.

Behind a counter, there were shelves lined with an endless array of herbal medicine bottles: bee pollen granules, evening primrose oil, horsetail and black cherry concentrate, capsules of manganese and chelated zinc. But intermixed with the "Puritan's Pride" brand selenium and dolomite bottles there were also a few more decorated boxes, one of Korean Ginseng Tea and another called Nin Jiom Pei Pa Koa, in a lovely red box from Hong Kong. Higher up there was an antique grandfather clock with a gold pendulum, another quartz clock facing it on the opposite wall. Under a red 1988 Physician's Desk Reference, there was a brown book with a battered but exquisite leather cover, embossed with a gold filigree letter O in the center. Isaac told me the book was over 140 years old. He brought it out and paged through, to the second crumbling page where the introduction was signed Cincinnati 27 November 1863. Those were the only words I could understand (save a handwritten slip tucked between the pages for a recipe containing the English words raspberries, catnip and skunk cabbage); the rest is written entirely in German, in an ornate font. Isaac told me that the book was about herbs, as he returned it to its prominent place on their shelves, next to bag of White Psyllium Husks and another of Black Licorice Root.

Elizabeth brought me in to a back room to show me her special collection of massage oils, which she keeps in a row inside a handmade cabinet and had me guess to see if I could recognize the smells, her hands hiding the label: Lavender and Lemon, Peppermint and

Thieves. "These oils can get so deep," she told me. In the room she had a massage table alongside a regular bed. As we walked down the hallway I saw her other tiled hospital rooms as well, where patients can stay overnight if they wish. There were two beds with simple bar frames and pristine white sheets in each room, their only decoration another clock and a pink conch shell.

We sat in two handmade mahogany chairs as I told her more about my research. "Diabetes is the most complex disease," Elizabeth said. "It is difficult to be released." She did have several patients who no longer needed their medicines though, she said, and even some who no longer needed her herbs. "But when the symptoms come, blindness or wounds and nerve issues and so, these are the last signs," she explained. "We try to get to the root, to understand why the body is suffering with these signs." She showed me acupuncture charts of the bottoms of feet and a diagram of the organs attached to the spinal column. There were also diagrams of two eyes sectioned into slivers, which they used to help cure the people who came to the clinic with symptoms of diabetic retinopathy. When I mentioned that the woman I'd met in Independence had spoken of "stones" removed from her, Elizabeth went to a stack of pictures and pulled out two, explaining their scale: "these are a little larger than life. Here, this one is of the real size." The pictures were of brown egg-shaped lumps, glistening an iridescent but distinct green color with purple around the edges. "These are gall bladder stones," she explained. "It usually takes one day and one night to pass these." Kidney stones, on the other hand, had to be treated for a longer period prior to passing, in order to wear down their razor sharp edges. "With that, it comes out more like a dust. Sometimes I tell people to let a glass of their urine sit for half a day, and then you can see it on the bottom."

Elizabeth next produced an extensive series of photographs documenting patients' excrement, highlighting certain specimens with their own patterns: bulging and swirled, narrow and ribbed. These forms meant something different, she explained. Next she

handed me an herbs book that spoke of wild carrots and choke cherries, dandelion, cattails and acorns. "These books have taught me a lot," she said. "But something of experience teaches you too."

Elizabeth's husband Isaac was a soft-spoken farmer, keeping his thumbs tucked in his suspenders, although the six languages he spoke (including several registers of German) evinced his family's global travels and layered histories. His own origins also blended the Mennonites' seemingly paradoxical history of nomadic staidness. After his family left Mexico, Isaac said, he moved to Spanish Honduras with his parents before finally settling in British Honduras in 1961.

"Probably about 60% of our patients have diabetes," Isaac estimated. He described a woman who had come to them on the bus from Nicaragua, her knees swollen with uric acid. "She felt good when she left here," he said. He picked back up a photograph they had on the shelf of a woman with gangrene. In the picture, her foot was black and dead, the toes crusting white. She had spilled boiling water on it, Isaac said, but because of her diabetes she had not been able to feel the injury. By the time she reached their clinic, the woman had already been told the foot would have to be amputated. But Isaac and Elizabeth had worked with her closely during her stay, giving her the same fresh vegetables they ate in addition to her treatments. In another photo, a woman in her 40s wearing an orange American flag t-shirt looks amused, staring down at the dead foot as Elizabeth tends it. "Her flesh came back, and it could feel again," Isaac said with barely concealed emotion. "The feeling came back. Her sugar was 500 when she came and it was below 200 when she left. It was working." He shrugged helplessly as he told me that once the lady felt better, she grew tired of looking for vegetables. They heard that long after her foot suffered a relapse, and had to be cut off after all. "But what can one do?" Isaac said. "People also must care for themselves."

While we spoke, Elizabeth was bustling around mixing the powders of various spices from foil bags. They mix custom-made powdered ingredients specifically for each patient, and then Isaac mixes the various green, brown, and earth-colored dusts together in a plastic bag and pinches the mixture into clear gelatin capsules. "I can do about 200 in an hour," he explained of his capsule-making. In the room where Elizabeth made her mixtures, she had over 300 ingredients tucked into tiny wooden drawers. There was a scale for measuring powder on silver plate. It rested next to a hemoglobin meter and an unlit oil lamp, its glass lantern patterned with a ring of Spanish dancers. Elizabeth showed me Olive Leaf Powder and Spikenard Root Dust. "It's what Mary used to wash the feet of Jesus, in His Holy Scripture" she told me of the latter. I could hear the capital letters in her reverent voice. Again and again, when she handed me a bottle or spring, she says the same thing of the herb: "It is so precious."

Before I left, Elizabeth took me to her garden. Her close ties to the land were integral to the healing vegetables she used in her work. As we stepped between orange and lime trees, she pointed out a new tree she was trying to grow under a wooden crate. Inside, its leaves were yellow, a cracked eggshell next to the young sprig. Elizabeth led me back past the water tank to a fence where wild spinach grew among the sorrowsea, with leaves like feral jigsaw pieces. Next she showed me the nourishing leaves of the yucca and sweet potato that can be eaten like lettuce, and together we picked some for lunch. She also gave me some sticks of it to plant. "To spread its blessings," she said. (Only the spinach clippings made it through the bus ride back south. I gave them to Sara, who was trying to start a "kitchen garden" of greens growing next to her ramp.) "Sometimes you will see a lot of one herb growing outside a person's house," she said, "and by that you will know their sickness. The herbs they need are right there."

When I said goodbye, Isaac bent down to snap off a twig from a low evergreen bush. "He wants to give this to you to remember him by," Elizabeth said for him. When I found

the sprig of cedar pressed in the pages of my fieldnotes, I felt I couldn't leave the Mennonites' medicine out of this story. It is hard to know what to make of their anomalous presence in Belize, a group of drifting people with their own history of political persecution. Yet I left the herbal clinic of the village with a sense that Elizabeth and Isaac provided a form of holistic care for diabetes not otherwise available—nutrition and conversation, a place to stay if one needs it, shared meals and time, the human touch of massage for dying limbs, a more natural medicine. I seemed that Belizeans of all backgrounds who attributed their saved eyes and limbs to the Mennonites' healing had come in search of something that was missing from biomedicine alone, anywhere.

Civil Non-Compliance

Jose Cruz preferred to arrive shirtless for his dialysis sessions. "I like to come in and be covered," he said. "A sheet, a pillow." He also tended to sing during his treatment. "It kills the time a little faster." He favored Spanish ballads learned from his grandfathers (one from Mexico and the other from Guatemala, both of whom married Belizean women). But when I approached his blue chair in the dialysis unit for the first time, his tune was an English one: *Singing in the Rain*.

Cruz was already a public figure in Belize by the time of our interview in June 2010. I had first read about this kidney patient in a local news article. "Jose Cruz needs dialysis three times a week to stay alive but this morning he refused treatment," the article read, "…in protest of the government's policy which boils down to paying for the dialysis of twenty patients and neglecting the other twenty patients who can't afford it." As Cruz told a reporter (*7 News Belize* 2009):

> I need to see something happen. I need to see something happen. I am willing to stop doing my dialysis. I am willing to die for it. I want the people of Belize to understand I am for real, I am not joking. This might be a game and I maybe appear foolish to other people to stand up for the people but this is my life…

> This is nonsense. People are dying for God's sake. …We have people dying, literally dying and nobody's paying attention. So I am making the stand today.

After Cruz had called the national press to arrange for interviews, no less than the CEO of the Ministry of Health intervened in person trying to convince Cruz to receive his dialysis; Cruz's terms were a commitment from the government and dialysis hospital that the issue would be seriously addressed. He was also an active member of the Kidney Association, whose *Save Us* Campaign (motto: "Save us today so we can save others tomorrow") had made national headlines in 2009 and 2010 (*Ambergris Today* 2010). It was the first patient advocacy movement I had ever heard of in Belize's health sector, and I followed it closely in the news.

By the morning Cruz and I spoke, he was blind in both eyes and missing a leg. These losses, too, had made their way into national news. When Cruz's foot became infected, the dialysis nurse "complained to management that she needed a doctor but could not get one" (Ramos 2009). As a consequence, Cruz lost part of his foot. National papers covered the story. One article quoted the patient: "'I'm gonna be having a toeless Christmas. It's sad,' said Cruz, laughing to lighten the mood." Shortly afterwards, the only dialysis nurse in Belize quit, saying she would come back only if a doctor was also on staff. "Only in Belize can you get dialysis without a nephrologist present, only in Belize. That is not right," Cruz said; the patients had joined together refused to sign the permanent waiver that a doctor need not be present for patients on the dialysis machine. "When our pressure goes up, God is the doctor," added Camela Cruz (Jose's cousin, also in renal failure) (Ramos 2009). Jose Cruz campaigned the Belizean media: "From a patient standpoint we want a doctor, if it's even a General Practitioner…along with our nurse. We want our nurse back" (*Channel 5 News Belize* 2010c).

In the wake of public protest, the hospital accepted the dialysis unit nurse's terms. Something had started. Shortly afterward, another story about Cruz appeared in the paper.

"I need $150,000 by Monday because I could lose my whole hand," Cruz told the media; his left foot had been amputated only the month before (*7 News Belize* 2010a). The papers ran his bank account number and cell, for Belizeans to contact him directly. Support poured in from around the country. Amazingly, he got the whole sum (though it took costly time), and departed for Guatemala on February 10, 2010. With this medical intervention, Cruz lost two fingers but kept the rest of his hand. Later I would see a picture of him in the paper leading a march that protested the government's unwillingness to put their promises in writing (Ramos 2010b), talking on a cell phone in one hand and holding a pink handwritten poster that said "A Promise Is Consolation to a Fool" in what remained of the other. Even after his leg was later amputated, he continued leading protests in his wheelchair. In another photo, the stump of his leg still wrapped in a fresh bandage, Cruz holds another handprinted sign painted with a skull and crossbones. "WE WANT TO LIVE," it said.

"I'm a young man trapped in an old man's body," Cruz told me with a laugh. He was first diagnosed with diabetes when he was 28 years old. "The problem with diabetes it that it has different effects," he said to me. "For example, because they did not diagnose the problem in time, I suffer retinopathy in both eyes…my vision went in a span of about two years."

It turned out that Cruz live for many years with the diagnosis of diabetes, before finally learning that his high blood sugar was actually rooted in a deeper pathology: polycystic kidney disease. This genetic disorder causes constant little cysts on the kidneys to grow and burst, causing infection that in turn triggered Cruz's high blood sugars. "Over 500," he said of his glucose during times of infection. "When that happens, it makes dialysis…complicated." (Dialysis can also raise the sugar of the blood being returned to the body.) He said of the side effects of partial dialysis: "It is the same thing that happens with diabetes, you get amputations, you have eye diseases, circulation problems…after you go through all these different effects of it, then you can't work. How are you going to maintain

then? How will you pay?" After getting his kidneys removed in January 2008, doctors told Cruz that he would die without constant dialysis. The unit built by Dr. Rosaldo in a private Belize City hospital (see Chapter 3) was still in existence, the only dialysis center in the country, but it cost US$680 for a week of dialysis. That was the price of time. Cruz quickly went through his life savings and government pension. "I lost everything I had in less than a year. This is a rich man's disease. But in that year, I got the government to commit to subsidize dialysis for 21 patients for a year," he said. "I initiated that project." Prior to that, there had been no program for state-supported sessions at all. "It was a start," he said.

Yet as his own protest of these dialysis sessions begins to show, Cruz remained deeply unsatisfied with the initial program's partial coverage. Those who were waiting for dialysis in Belize soon far outnumbered the 21 who could then finally receive it, leaving the majority of patients in kidney failure to either die or seek care in other countries. (I was perpetually astonished by the dedicated patients who actually traveled by bus to Chetumal, Mexico three times a week for dialysis; a long and exhausting trip from Dangriga, as I learned from accompanying Cresencia to the clinic there). Cruz also objected to the fact that some people were given only one dialysis session and others (including him) all three, even though everyone needs three sessions a week are necessary to survive, and are considered a patient right by the International Federation of Kidney Foundations (Andreucci et al 2004). As Jose's wife, Mileni Cruz (who had pushed his wheelchair into the clinic that morning, and often joined him in his advocacy), later reported to the paper:

> He was upset because Adrian Harris only had one session in dialysis provided by the government and certain patients that would just come in will get two sessions because of political reasons….Not fair. He believed that if a dialysis patient had three sessions and the government is giving three it should be equal straight across the board. (*Channel 5 News Belize* 2010b)

Or, as the national press paraphrased Cruz's objection with a typical Belizean euphemism of the state: "he felt the government was treating some people *more equally than others*" (*Channel 5 News Belize* 2010b).

After four years of renal therapy, Cruz became the longest living dialysis patient ever in Belize. At 40, these years of life were bittersweet and hard-won. It meant that all of the other patients he had once sat in that room with when his treatment first began, talking to pass the hours, had already died. "It's a very delicate disease, it's not something you can play around with. You can be walking today and by tomorrow morning you are… *not here*," Cruz said. "As a matter of fact, we lost one of our patients on Saturday, he was here Friday morning and I spoke to him on Friday, he walked out of here. And that Saturday, he is…not around anymore." It was a Monday when he told me this. Hearing his voice shift from its usual playful tone, I realized that when Cruz pressed for publicity to prevent future patient deaths, these losses were acutely felt, not an abstraction to him. They were companions and friends. He looked at a particular chair of the six in the unit when he recounted this latest death, and suddenly I felt conscious of how many people had sat in these same blue chairs, hooked up to the same machines and eking by on the same precarious treatment policies, now *not here*.

"There is going to be a lot more, because of the erasure of diabetes and hypertension," Cruz said of kidney failure, due to the current partialities of treatment for these diseases. In his western home district of Cayo, patients still had to pay for insulin and antidiabetic medications themselves, or go without them. "Like here in Belize, most people can't afford to even buy the strips," he added of glucometer measurements—a familiar refrain throughout these chapters, and very real problem for managing diabetes in poverty. "You are talking about BZ $2 a strip, you are supposed to test 4-5 times a day? Most people cannot do that…It's not a home based thing that you can do on your own. So most people live on the grace of God. And the way they feel." Earlier that morning, the nurse in the dialysis unit had also told me that she worried that doctors prescribing Metformin when diabetic patients could no longer metabolize the drug was a serious contributor to the rising rates of kidney failure she saw, since it could turn toxic and begin causing instead of

preventing organ failure, and labs to test for this potential side effect were rarely done (see Chapter 5). Cruz continued: "Last time I heard, we have about 23% people with diabetes, of the total population in the country. Let's say 5% of that goes into renal failure at some point." His point was a frightening one: if treatment access and disease trajectories continue the way they are currently headed, eventually, hundreds and perhaps even thousands of Belizeans can expect to be in kidney failure. As Michael Porter examines in the US context, lack of access to proper treatments and nutrition in the early stage of diabetes cost the health system far more down the road, in the financial as well as bodily toll of expensive life-saving measures such as amputations and dialysis.

"For the individual…in the population, no? As part of the population," Cruz said, as if emphasizing how patient experiences played across both singular and collective scales. He worried about the way people accepted the fragility of healthcare in Belize—"used to it"—and often asked for nothing more. "Even to the people responsible for running the healthcare system that is acceptable. Because, they determine, because we're in a third-world country. That's the reason I am so much an advocate of critical dialysis," he told me. "We deserve to have good healthcare in this country."

He recounted the history of the new program he had initiated, in collaboration with the World Organization of Renal Therapies (WORTH). It began, he explained, during a meeting that the Belize Association of Renal Therapy (which he founded along with Andrea Cox) had with the Ministry of Health. "One day we were having a meeting and a letter surfaced that was there for some months that was not acted on. And I brought it out and I read it, I saw it. And I took it upon myself to call this guy and say hey, what are you offering?" The colleague whom Jose Cruz referred to was Wayne Trebbin, a Boston-based nephrologist who founded WORTH, an organization that recently helped to build a dialysis unit in Cameroon. "He thought it was a hoax," Cruz said of his initial phone call to Trebbin. "I had to send him an email after and say hey, I am a patient. And we started

communicating. Then he told me what all I needed to do. So, he said that I have to get the government to document. Here in Belize that is very difficult to do."

Cruz elaborated: "There is vested interests… They don't want us to have that equally responsive healthcare system like we are supposed to. We're a very small country. For 350,000 people we could have free healthcare system in Belize. We have oil. We have land. We have cayes, we have beaches, we have gold..we have a lot of good natural resources in Belize. The amount of land per person, at the rate we have, we are supposed to be able to live properly, but we are not. The government is too corrupt. The politicians get in there, they get rich, they get out…or they stay in there and eat everything, get in there and eat more, eat more. Keep all these big-blooded contracts and blockbuster deals for themselves. Belizean people have to pay first. I made a vow about some two years ago that I'm going to change that nonsense before I die for the healthcare system in Belize."

Cruz described calling every media outlet he could reach in the country to tell them about the organization, WORTH, being willing to partner with the Belizean government to provide equipment and expertise to begin a sustainable public dialysis unit: "to attack the conscience of the Belizean public, for them to get on their government to say, said hey, they…this is something good, we can't leave this." He smiled. "I've been hated by some politicians," he said. "They can jump all they want, I don't care." "I say it the way it is. What can they do to me? Take me to jail? I'll be happier because they will have to take me to dialysis three times a week" (saving enough gas money for a five-hour roundtrip three times a week remained a major expense for his family).

"I was told it couldn't be done," he said of the two coming dialysis units that WORTH was now helping to build in Belize, one at Karl Heusner and the other at Loma Luz hospital in Cayo. "But you can see the doctors are circling up already. That is what I'm doing. Despite the fact that I'm always fighting with them. That is part of it, fighting all the time or it is never going to happen."

If I could go back in time, I would ask Cruz where his approach had come from—whether it had been inspired in part by other histories of civil disobedience, or how much he invented as he went along. He described a road trip he had taken across the US, and I would later wonder if he had visited any of the Civil Rights museums along the way. I learned later that one of the major Memorandum of Understanding documents the Belize Ministry of Health signed before WORTH had been with the government of Brazil in 2009, a country where patient mobilization is extremely active and healthcare is a constitutional right for citizens (see Biehl and Petryna 2011). Had actors or traces of rhetoric from this partnership sparked Cruz's thinking or language of rights? Or had he just arrived at this politics on his own after witnessing so many deaths in close proximity?

By the time the question occurred to me, it was too late to ask.[108] Jose Cruz died of heart failure on a December morning, a few months after our interview, while his grandmother was "[an]noiting" and massaging his back to help with pain.

Plans and collaboration for the new dialysis program continued to grow and materialize after his death in 2010. Cruz's fight to change policy for renal therapy also grew into a language I had never come across in my fieldwork before—in the words of one Belizean newspaper, a "fight for justice and campaign for universal healthcare to be available to all Belizeans, whatever their illness" (*Belize Times* 2010a). In Cruz's own words: "This is a big victory for the Belizean people. For the first time in history we have a group of actual patients suffering from an ailment come together and demanding what they want. I hope that the Belizean people are taking notice…" (*Channel 5 News Belize* 2010c).

Before I left Belize that fall, I visited Cayo to see how the planned dialysis unit there was coming along. It was sweltering as I got off the school bus and climbed the seeming innumerable steps leading up the steep hill to La Loma Luz, the Adventist hospital just across the Hawksworth bridge (reportedly brought from Liberia by the British in colonial times) that connected the western towns of San Ignacio and Santa Elena. My appointment

that day was with Grant McPherson, the hospital administrator. Loma Luz had been chosen as one of two dialysis unit sites in large part due to his commitment. Besides being a longtime friend of "Fudge," the nickname by which he fondly referred to Jose Cruz, McPherson had recently gone into renal failure himself, then made an anomalous recovery: "so this is very personal for me," he said. "Maybe a little emotional, but that is not necessarily a bad thing." He had been an active member of the Belizean Ministry of Health task force that first outlined the program priorities, and which had drafted a Memorandum of Understanding that had been signed that June.[109] It now evolved into a "management committee" as things had began to actually materialize. "Thousands of hours went into what will happen in the next few weeks," he said, in Midwestern U.S. accent. He had a trim grey beard and soft eyes.

During their meetings in Belmopan, the Ministry of Health task force had agreed that "actual washing of the blood is only one part of the equation" in dialysis care. WORTH committed to providing equipment and supplies through their US contacts, as well as expertise to train teams of nurses and a staff biotechs until the Belize units were self-sufficient. Collaborating closely with Trebbin, who was also "dedicated to quality of care," the Belize task force (including the organization which Jose Cruz had helped to found, the Belizean Association for Renal Therapy) had expanded its outline of comprehensive treatment that the new units would offer, to include services previously unavailable in Belize: a nephrologist in the country; laboratory tests so that patients' levels could be gauged and treatments adjusted accordingly; a nutritionist to help reduce need for dialysis by providing diet advice; occasional ultrasound support to look at kidneys; a social worker to help support patients and their families; and pharmaceutical support.[110] When carefully used, such drugs have an immense impact on survival rates of dialysis. Yet before the new program was created, many of these critical pharmaceuticals for dialysis support were not available in Belize at all. With the government's new policy, dialysis sessions would be

offered to patients on an "Ability to Pay" scale, starting at BZ $15 ($7.50 US). Through the momentum and partnership Cruz and his colleagues had helped to bring to Belize, during the time of my fieldwork alone, a week of three dialysis sessions had thus gone from US $680 to less than $23 for poor patients (*Channel 5 News Belize* 2011).

Months later now in Cayo, McPherson led me out of his office and back into the searing sun. We walked across the grass to the building that had been chosen for the new dialysis unit. It was actually the first building on the hospital's sprawling grounds, he said, although they had refinished it in careful detail. It was a lovely pastel green structure on stilts, polished but cozy, overlooking the town below through small sliding windows. The tiles had been donated by an NGO, which had not also provided the certain laminate needed to actually install them. But a team of workers had devised a way to soak the tiles in bathtubs and scrape off the adhesive, making the tiles useful again despite the missing component. "I wanted it to look like walking into a home," McPherson said as we walked back down the steps. "Most of our patients visit the hospital 3 or 4 times a year—but a dialysis patient is at the clinic that number of times in a single week. That's 600 hours per year. We have to realize it is something they will actually live in."

The team planned for eight nurses in each of the two new dialysis units, thus taking the number of dialysis certified nurses in Belize from 1 to 16. The dialysis program was designed to be scaled up; although initial support would begin with 32 patients, it was hoped the government would soon be able to expand funding to all 80 who waited for treatment. (At the time of writing in 2012, this scale remains a point of public contention.) McPherson spoke of the team's efforts to make the program compatible for future growth, in case the National Health Insurance program rolls out in their district one day. He walked past boxes of dialysis cartridges and buckets of power tools, to an air-conditioned storage room filled with brand new dialysis machines with coiled plugs and delicate gauges in careful shrink wrap. "They just arrived last week," he said, seeming slightly in awe of their

tangible actuality. Transporting them to Belize had itself been a major operation. With their delicate membranes for reverse osmosis, the machines themselves required a cold train. They were shipped to Belize in refrigerated containers. The initial team of biotechs ready to train Belizeans on the machines' operation and maintenance were expected later that week. "Two days out in the tropical heat, and these would be useless," McPherson said as I photographed the new dialysis machines. He looked thoughtful for a moment.

"Let me show you something," he said.

We walked past a boxcar-like red shipping crate to a large storage building. McPherson swung open the metal doors to reveal a cavernous room that held the typical garage jumble of paintbrushes and lumber, with one unusual feature: it was lined with a haphazard assortment of medical equipment of different makes and models, including multiple old dialysis machines. "People just keep bringing them down here. Mostly our American volunteers," McPherson said. "I feel bad because they pay a lot for shipping." He respectfully described the visitors' excitement thinking that their outdated or broken machines would help people in Belize, and his own bewilderment about what to do with this equipment when it came with no parts, no training manual or operator qualified to train others to use the equipment, often in need of major repair; and, in the case of dialyzers, none of the specialized cartridges necessary to actual use them. There was one dialysis artifact in particular that McPherson wanted to show me; he considered it the most interesting piece in his inadvertent collection, describing the archaic knobs and dials with an almost curatorial pride. "It must have been sitting their garage for 3 or 4 years, then it sat around here for 7 or 8 years." I recalled what McPherson had said about two days in the Belizean sun ruining a dialysis machine, as he poked around the hospital garage, lifting blankets and peeling away cellophane trying to distinguish the antique dialyzer from other broken donations. We never found it in the hodgepodge, but I think I understood his gently unstated point. It was a veritable junkyard of good intentions.

In many ways, those two scenes have grown in my mind since that day. They strike me as opposite images of the impact that foreign medical resources might have on care systems in a developing country. The garage of abandoned equipment seemed a further fracturing in a historically disjointed system—evincing a charity imagination that cast-off, faulty, or hand-me-down machines that Americans no longer wanted would be good enough for Belizeans (despite little follow-through or continuity to see what would actually be needed to use them). But the new dialysis units planned with WORTH was designed through a very different model of delivery—a policy pushed for by Belizeans themselves, actively collaborating with American partners who brought additional resources and expertise. Some, like Cruz, had put their time and bodies on the line in the effort to push the government to take advantage of this chance for a sustainable and state-of-the-art health program—*as a right* that was overdue.[111] I remember the way that Jose Cruz looked at me when I reached for my tape recorder at the end of our conversation. One of his eyes was red with infection and the other almost too clouded to see its blue iris. But even though I realized he could not see me, it felt like we were making eye contact. "It is open for us to affect human history," he said.

Grace called me in the spring of 2011. I asked how she was feeling. "I am still here," she spoke with an easy laugh. She was tired from treatment, but trying to treasure her days and the time with her family; "each day," she said. One of her brothers had died; a new grandchild was on the way. Grace wanted me to know that she was now getting not one, but *all three* weekly dialysis sessions she needed to survive, at the new unit in Cayo. Later, I would check the Belizean papers and learn that the unit treated its first patients on February 4, 2011 (*7 News Belize* 2011a). There was a photo showing the building's new name on a sign by the door: JOSE CRUZ MEMORIAL DIALYSIS UNIT.

Though now strangely connected through the program Cruz fought for to his death and by which Grace now lived, I did not know if my two interlocutors had ever met. They

both sat in the same chair in the earlier dialysis ward, hooked up to the same machine, but their treatments were on different days. Grace told me that she was just leaving her session when she decided to call. There were voices in the background. I pictured her on the steep climb down from the hospital, and thought of all the many rites and "holding measures" that had been poured into keeping her alive this long. A comprehensive dialysis program had now arrived against all odds in Belize, a service that many had thought so impossible to obtain that it was not worth demanding. It was indeed "bittersweet" to think of those who had used life and death itself as something to build with. Dialysis service itself outlines new meanings and challenges (Hamdy 2008; Sanal 2011), including the pressing need for renal transplants (which remain unavailable in Belize), and the crucial goal of getting people effective treatment earlier to prevent expensive treatment for kidney failure in the first place. Yet in seeing patients who come from a long history of medical charity to instead test their actual citizenship—not exercising, but *forging* a relationship to their nation that had not previously existed—I had the distinct feeling that I was actually seeing a London Bridge turn into solid ground. Or whatever other metaphor one might care to use, in trying to name the hard-won realities and actual interstices that seem to hold the possibility of an alternate future.

Suddenly, an image of Antonia's that I had long been struggling to make sense of popped into my mind, the one she felt she had been woken up early one morning to see in her blindness. The poetic association was probably just my way of dealing with the sadness and uncertainty of that long string of losses as they followed me back home, and my wash of feelings at hearing Grace's voice—relieved she was *still here*, not ready to think of how close she likely was to joining Cruz and those who were *not there*. But for some reason I took comfort in the thought that Antonia's mystic image and Cruz's policy vision both overlaid with the way I pictured Grace now, heading away from Loma Luz for the afternoon with a cluster of other dialysis patients: a group of people, walking slowly down a great hill.

As people seek time against devastating losses, their emergent politics have a certain force. But instead of reading these moments as consoling, I intend them to show a social fabric where discourses of hope and annihilation can also be interlocking and non-contradictory. These brief accounts add another dimension to the paradoxes and double binds of chronic life that this dissertation has examined—showing something of the forms of compromise and precarious terrains survival now taking shape in a fragmented neoliberal health system, full of both meaningful patches and persistent holes. (After all, such makeshift bridges imply a pressing absence of state care; and when they fall down, London Bridges can be deadly too.) Yet these are the zones of marginal care in which an increasing percentage of the world's population lives, with technologies of medical capitalism that remain in sight but move continuously in and out of reach.

These scenes are important because they chart swerves from current diabetes care models, which are so clearly failing us (see Abraham 1993; Sheenan 2010). 366 million people in the world currently have diabetes, and according the International Diabetes Federation that number is expected to rise to 552 million by the year 2030 (IDF 2012), mainly in the developing world. Our current modes of "prevention" and treatment are obviously not working. Now that many interventions for diabetes in poorer countries are being spearheaded by pharmaceutical companies themselves, it will be a challenge to find modes of care that do not deepen the very cycles of dependency and insidious markets in which this epidemic has its root. This is why I document the labor of people trying to revise bits of this broken system as they tinker at its lethal edges and exclusions.

There is no telling where invention may come from. In 1941, Dutch physician Williem Kolff made the first working dialysis machine out of sausage casings, orange juice cans and a clothes washing machine, building it within the resource limitations of Nazi occupation and scarcities of war (Blakeslee 2009: 1). Yet when he cobbled the world's first

artificial organ (an idea that came to Kolff after watching a renal patient die in front of him), he tinkered with the future of medicine.

There is an unsettling force to patients' own care-work as they try to extend time for another and help each other remake dismembered selves. Yet their projects are also haunted by impossibilities and failures, lost pieces of who they were, the dead. Belizeans' own science of their conditions and arts of survival are not something to be "fixed" but something we can learn from, remaking diabetes education into a two-way venture. Emergent politics of rights and new biosocial collectives show patients pressing for more than pills and pamphlets, but human ties and communities that make these health technologies and care experiments mean something concrete for how people reckon with life, deadly exclusions, and questions of where they belong in a disconnected world, be it in relation to a neighbor or a nation.

Diabetes shows up in the clinic, but its roots are in every domain of life—foods, families, labor economies, poisoned lands, changing borders, traumatic histories. The divisions and toxicities causing diabetes stretch far beyond the clinic walls and deep into the messy realities of actual life. We need more apparatuses of care that can do the same.

Conclusion: Metabolic Time

> Nobody is accountable anymore for the exact time
> What will become of the world?
> -Catarina, *Vita: Life in a Zone of Social Abandonment* (Biehl 2005)

Body Clocks

It is said that metabolic disorder results from the failures of the body's overheated clocks to accurately keep time. Yet the sum of these chapters would suggest a very different reading.

Philosopher Michelle Bastian describes how current timekeeping systems have left people "fatally confused" (2012: 23) about changing ecologies and the annihilation of life ongoing around us. In the "demonic fast-forward" of capitalism, she writes that our watches and calendars continue to project an "unending future" (33). But a working clock should be a storyteller marking change and relationalities. As mechanical clocks prove insufficient to keep accurate time with the extinctions and depletions of a dying world, Bastian draws on a range of social thinkers to "pry open" questions about how we lose our ways of conceiving of these mass deaths or coordinating action. She takes her launching point from environmentalist Bill McKibben,[112] who suggests that "one of the key problems [in the failure to intervene] is not a lack of political will or capacity for agency," but rather a confusion that "rests on the implicit distinction Western societies make between the time of culture and the time of nature" (Bastian 2012: 23)—"the inter-relations between 'nature' and culture' are hidden because one is not thought to be in the time of the other" (25).

Searching for different ways of telling time that might not so fully erase disordered interrelations between culture and nature, Bastian draws on Nigel Clark's notion that an "attentiveness to long-term dwelling" alongside volatile histories of ecological change might provide "an alternative to both linear, progressivism narratives and flash-bang apocalypticism," a view that "puts the stress on enduring, surviving, living on through

whatever challenges the world delivers" (Clark 2008: 739). Bastian urges us to be attentive to unconventional clocks, believing that "each clock can be read as an affirmation of a shared social relation *to* something" (Bastian 2012: 31). By examining alternate clocks that might keep pace with time's fragmentation—for example, "the turtle clock," as leatherback populations alive since the age of dinosaurs now face their own countdown—Bastian writes, "*we are led into a complicated world where there is no clear path forward. And yet these are our times, and so this is arguably what we need to coordinate ourselves with*" (45).

Diabetics' out-of-synch metabolic clocks could be considered iconic of the very sorts of alternate clocks that Bastian challenges us to identify—able to keep track of time's actual changes, tempos and losses in the world today. In other words: What if damaged metabolisms are *not* the broken clock, but rather one of the few mechanisms still keeping time with something dangerously out-of-beat? Metabolic disorders show the human body's molecular clocks counting time in ways that are ruptured, moving in fits and beats, speeding toward "demonic fast forward" then getting stuck, malfunctioning as death begins to leak into life. Yet perhaps our molecular clocks in fact move in uncanny measure with postcolonial relations—viscerally linking metabolisms, governments, economies, toxins, and traumas. In this view, diabetes shows a "natural history of destruction" (Sebald 2003) that the body has registered and absorbed all too accurately.

Each of the chapters assembled here has sought to examine these disorders and their lived implications in a different way. In "The Chronic State," Jordan's body attacking itself through Type 1 diabetes could not be pulled apart from his family and larger body politic also attacking themselves. Yet these chronic states, each interlocking, can only be understood against a backdrop of historically mutilated law and the colonial fragmentation of independence that created such gaps. The distortions of grocery economies, systematic severing of citizens' ties to land, and instabilities or impossibilities of medical access together shaped a context in which "living dead" figures might be normalized. In the stories

of the midwife Arreini and her daughter Grace, the links between diabetes, scarcity and trauma were taken up as a central theme in "Blood Sugar and Damaged Kinship." Their meals, rituals, memories and ghosts open into larger debates about how histories of colonial injury and metabolic shock are imprinted into human biology and may be passed on as risk for diabetes across generations. Epigenetic debates are excavated alongside these characters' own reckonings of kin and care, as they stretch time against treatment gaps and bear the damages of violent losses. Meanwhile, in "The Side Effect," the choreography of policy priorities is brought into play, contrasting the available therapies for two (very different) nutritional diseases of worms and diabetes. Yet the "magic bullet" interventions holding unknown drug risks may have played a factor in the mysterious disease that left the daughter of the Saqui family struggling with a chronic condition and at risk for drug-induced diabetes. We see not only Elisa's skin, but many sorts of membranes through which life is typically protected, "becoming unglued." The patchwork of treatment also becomes a key refrain of Cresencia's story, her search for effective treatment set against the atrophied farmland of her village and an environment polluted by tourist economies on which many Belizeans now gamble for survival. Yet as metabolic time is being fractured or falling apart in states and bodies, people are already at work learning to inhabit their conditions and forging new forms of patienthood. "Bricoleur Nation" finds people trying to give each other time in a context where state is unable to provide many forms of care. Their experiments against death often hold the kernels of political life. Diabetes is thus embroiled at the heart of social histories "not only of terror but of healing as well" (Taussig 2002).

As patients and policy makers alike seek to make room for new categories of diagnosis and understanding, so too do the anthropologists who seek to understand their lives. In trying to name what seems to me a misfit between how the diabetes pandemic is actually spreading and the way it is most often analyzed or problematically imagined (through moralizing discourses and categories of race in genetic science), I believe that

diabetes is not non-communicable at all: It represents what I call a category of *para-communicable disease* emerging between infectious and non-communicable disease as they are traditionally inscribed by biomedicine (Moran-Thomas 2011). For as these stories show, many times diabetes *is* transmissible—not just allegorically, but biologically. It can be not only transmitted from mother to child in the womb, but also molecularly triggered by trauma or intergenerational histories of hunger. Diabetes can be caused by environmental toxins, as well as by pharmaceuticals with metabolic side effects. Complex autoimmune interactions often result in metabolic disorders, often laden with co-morbidities we do not know how to gauge. The epidemic quality of diabetes is a direct result of unequal economies through which healthy foods become unavailable. These strands of causation often cannot be pulled apart, and are always entangled with localized environments, forces of obscured economies and deeper regional histories. Yet it is only by understanding the registers next to (ie *para*-) this epidemic that we will be able to properly understand the epidemiology of its spread or locate more effective points of care. To view diabetes in a postcolony simply as a matter of patients' own moral responsibilities, excesses and "non-compliance" with diets or therapies, is to succumb to the logic of neoliberalism's larger myths and erasures—as if individual accountability can be figured in a vacuum, instead of in living relation to the severed support of the very political economies that have shaped risk for such chronic conditions.

The calamitous burden of chronic disease signaled by metabola—"a change or mutation; a change of disease, symptoms, or treatment"—also speaks of broader mutations in global politics. The link between metabolic disorders and "postcolonial disorders" today is hardly a metaphor. The prevalence of diabetes shows how the intricacies of human biology are constantly interacting and keeping pace with deranged economies and overheated environments, unequal market policies, erratic interventions, violent histories, and unstable futures—absorbing these stressors in ways that damage not only metabolic

time, but lived existence in turn. Yet these changes are inseparably at once biological and societal, with unstable vectors far-reaching across populations and damages working through the minutia of molecular change. (Recall that the cellular overheatings to the endocrine system that cause diabetes are literally known in biochemistry as a "disruption of the native state.") By tracking through some of neoliberalism's disrupted states now causing diabetes, at once diffuse and intimate, we are challenged to understand the misfoldings of state and society that are part and parcel of how chronic diseases such as diabetes are catastrophically growing and unevenly treated in the entanglements and displacements of our globalized world.

Seams of Days

Seeing old photographs of alarm clocks set on Garifuna ritual altars in Belize, I have wondered whether they are there to keep time, or instead to measure its breaks. "Clocks have been known to stop the instant the person dies," Valentine writes in *Garifuna Understanding of Death* (2002: 1). Yet descriptive writing is also charged with this task, or at least this hope—to "stop time" (Conroy 1967). Faulkner said that "time is dead as long as it is being clicked off by little wheels; only when the clock stops does time come to life." A pressing challenge of ethnographic writing today is to produce forms of knowledge that capture the human realities of a "demonic fast forward" without becoming subsumed by its breakneck pace, to try creating (as Ezra Pound once defined literature in distinction from journalism) "news that *stays* news" (1934: 29). Literary writing wants to hold the clock, trying to get outside time for a moment in the space of a word or flash of an image—some split-second connection or "untimely" (Rabinow 2008) evanescence.

As Neni Panourgiá reminds us in her own ethnographic "fragments of death," the Greek word for photograph literally means to "un-die" (1995: 160). This notion is at the very heart of elegy, a genre well known for its temporal fictions: "Mourning frequently

deploys a psychological trick of time, treating its retrospective concern for the other as if it were anticipatory or preventative of potential loss," Clifton Spargo writes (2004: 4). In this way elegy often "demands from its society a re-configuration of the very idea of ethics itself," whereby "failure of memory stands for the injustice that may be done to the living at any other given moment" (2004:5). A similar ethic charges anthropologist Sarah Lochlann Jain's powerful formulation in "life in prognosis," where "elegiac politics yearns to account for loss, grief, betrayal, and the connections between economic profits, disease, and death in a culture that is affronted by mortality" (2007: 90). And although some mistake elegy's backwards glance for nostalgia, Stanley Cavell (1984: 54) argues that in fact "*mourning is the only alternative to our nostalgias*, in which we will otherwise despair and die." [113]

Although classic elegies are associated with conventional forms and literary rituals, they are also rooted in song—and improvisation has its origins, after all, in makeshift music. There is a robust literature on English and American elegies, but here I am thinking on a more ethnographic scale. In Garifuna language, *iaua*[114]—phonetically, *iyáwa*—can mean not only photograph, but also shade, shadow, reflection, picture, image, or song (Taylor 1951: 122). E. Roy Cayetano also notes how "*a song may be thought of as iyawaü (an image or picture) of a person or event….people and events can be recorded in songs like little pictures which become public property and remain, long after the former becomes a matter of history*" (Cayetano 2009: 224, emphasis added). He also describes a "certain feeling of resignation, and perhaps even fatalism" reflected in many such Garifuna songs. "This is particularly noticeable in the songs dealing with sickness. Here the singers tell us they have done their best, travelling abroad to obtain medicine and using up all the available medicine, but in each case we find a feeling of despair and resignation." Yet, Cayetano notes, "this acceptance of one's lot…is by no means a stoic acceptance." He recounts a song "where the singer actually states, in the last line, that this lamíselu, the death of her beloved daughter, is 'my share, I accept it,' but this does not stop her from

raising her voice in anguish" (226). Instead, transmuting such despair into art and music "enables one to survive" (228).

It is in this sense that I began to think of such Garifuna death songs (like the foods that often might accompany them) as elegies, mourning verses not just of death but of survival, often outlasting the people whose passing image they might capture. Like Cresencia's increasing intimacy with spirits—and, for that matter, with the Garifuna foods that nourished her ancestors and that increasingly sustained her too, against all biomedical advice—I often thought her willingness to work with me was also part of a related fight against oblivion, a desire to leave some phantom traces of herself behind: scattered snapshots, in words or pictures, which too could be intimate offerings; *iaua*, shades, images; some ethnographic shadow. In addition to the apparent linguistic root that evokes elegiac ties between food and ancestors, or songs that could be like photographs, Taylor also reports a final, cryptic variation of the word *iaua* that surfaces only in Garifuna ritual placations: "pronounced *íaua* (íyawa), as in the song, with the stress on the initial vowel, it has no known meaning today," he notes. "However, it seems probable that, etymologically, both these terms mean 'that which comes back again'" (1951: 122).

I have tried my best to describe the characters in this dissertation with enough careful detail that they might occasionally, for the space of a sentence or moment, fall somewhere between picture and poem, remaining in motion—becoming part of that Garifuna root, "that which comes back again." In my own mind, at least, scenes and questions from their lives keep repeating, full of ambiguities and paradoxes. These characters' ways of mapping out their conditions, symptoms and treatments probe the parameters of the nation in which they lived, the exclusions and limits of medical science today—exposing the losses or claims of their history; asking what the signs of home become in the face of profound dispossession from land and place; constantly reworking definitions of the collectivities of care they can turn to; querying other ways to locate accountability in a

context of broken law, chronic states and neoliberal institutions, as they face questions of just how life is given or taken in the world today. In their lifetimes, many of these characters did not find satisfactory answers. But through the chapters in this dissertation, the dead and dying persist in staking their claims and enacting their questions and experiments, often restlessly. "Far beyond accident and death itself / they endure, each one with its particular story" (Borges 2000: 135).

Although Garifuna language has borrowed *horas* and *minutos* from Spanish, its vocabulary also bears traces of other frames of timekeeping. One example is the word for midnight, literally "the seam of the day" (Valentine 2002: 15). I find this a thought-provoking inversion of how the weaving of time is conceptualized in Western myth, through the three fates with their scissors and thread—time as a straight line of string, which will one day be snipped. By contrast, seams imply constant processes of fraying and mending, each day like a little patch of the immanent present cobbled into place. Time must be continuously stitched together again, its continuities not guaranteed (nor necessarily considered fatal if interrupted) but continuously extended and reworked at the edges. As Edmund Leach writes of timekeeping, "in fact we *create time* by creating intervals of social life" (1961: 135). In some way, maybe this dissertation is a document of both patches and holes, fragments of life and death from people emerging from a painful history and trying to heal—despite the absences, phantoms, traumas, and injustices that often "dissolve any possibility of distinguishing between past, present, and future except in mythical terms" (Greenhouse 2002: 6).

In some minor way, I hope these accounts of struggles against death also "may be thought of as iyawaü (an image or picture) of a person or event," descriptions not unlike "little pictures which become public property and remain, long after the former becomes a matter of history" (Cayetano 2009: 224). As metabolic disorders persist and grow—not just for these Belizean families and communities, but for people everywhere—anthropologists'

own unstable arts can also play a role in bricolaged care, stitching time in order to gather the splinted experiences of people whose stories might complicate or shatter those myths of non-compliance that affirm conditions of disregard. These chapters try to counter-synch a few fragments or filaments of time that its protagonists lost to broken metabolic clocks—although attempts at elegy are inevitably haunted by the specters of failed intimacy and the ironies of *irrevocable* loss. Indeed, elegy's original meter (six metrical feet followed by only five)[115] reflects an attempted reciprocity that can never actually even out. Certainly, this structure has echoes for anthropology's power differentials as well, which death perhaps only accentuates. Yet I agree with Adrian (Chapter 6), who said of his own project: "But it is better to keep on trying than not to try."

This nears the close of these stories and fragments as I am able to tell them, but not the end of the complications these people survived or the profound issues they faced: of adjacent medicines and disjointed nations; queries of which collectivities are accountable to support life today; the ways the future is viscerally being altered by the conditions and poisons borne by each generation; and questions of what resources might be necessary to continue living in a planet that is dying. This manuscript catalogs little patches of time and chronic experiences that might bind these scenes and seams of patients' struggles for life back together with the pernicious realities to which they served as living rejoinders.

The International Diabetes Federation recently publicized a press release warning that global burdens of diabetes would soon research 10% of the world population. Yet these projected numbers have a very different meaning in Belize, where diabetes rates are already more than double that countrywide (23%), and more than triple that among the women of Stann Creek (32%). In this difficult reality, Belize is at once unique and all-too-emblematic the emerging postcolonial epidemic of metabolic disorders. Increasingly conditions of the developing world, it is estimated that 80% of diabetic patients now live in low-income or middle-income countries (IDF 2012). At present, the frightening truth is that there appears

to be no end in sight to this precipitous global rise. And as Sidney Mintz writes, the Caribbean "present is, for better or for worse, much the rest of the world's future" (1989[1974]: xxi).

As chronic questions and metabolic disorders continue to persist and grow, there is much to be learned from these Belizeans' own arts and careful minutia of survival, their searching responses to the rending bodily paradoxes of these postcolonial conditions. Arreini's herbs, Grace's waiting, Jordan's popsicles, Paulo's dreams, Elisa's sisters, Cresencia's resurrection, D's rooster, Antonia's visions, Elizabeth's vegetables, Adrian's limbs, Jose Cruz's protests—these characters are tinkering with life and death against "the wrecks of Time" (Darwin 1795: 34) already.

It wasn't until Agnes extended a (personally declined) offer to mail me a photograph of Jordan's corpse in his casket[116] that I decided maybe these chapters are not like death masks after all. They try to peel back time to when things might have been otherwise.

In diabetic medicine, there is a stage of damages known as "the point of no return" (Jax 2010). This term is used by researchers to name the point where diabetes treatment no longer works effectively after long histories of injury and years of lacking care. Through the "metabolic memory," people's organs and bodily cells remember all they have withstood. In the earliest stages of pathology, careful treatment has a lifelong impact. But if therapies are belatedly started, the body's deep capillaries are already damaged by years or decades of high blood sugar, and even the best medical treatment has minimal impact—at times, no impact at all. The lived implications of this difficult reality have already been a refrain throughout these stories, appearing in delayed interventions and the fatal fictions of non-compliance (when many patients are far beyond "the point of no return" by the time of diagnosis, then blamed when treatments are ineffective).

Diabetics are increasingly being held accountable to maintain individual "control" in a world that is out of control—toxic markets; invisible pollution; "remainders of violence";

uncertain states; families fractured by parasitic economies; tourism that increasingly resembles gentrification on a planetary scale; medicines at times turned poisonous by capitalism's mutations; debts gaining interest; death bleeding into life. The visceral and sometimes shocking symptoms of diabetic disorders (such when people's bodies literally begin rotting while they are still alive) result from the distorted tempo of these "metabolic derangements." Yet with the emerging pandemic of metabolic disorders so deeply linked to damaged ecologies and damaging economies, we might also ask one last question of our wildly fluctuating metabolic systems. Where is "the point of no return" for any us—for our world itself? How long can we keep believing that there will later be time to treat and to heal? Seen in deeper context, people's struggles to live with these new human conditions suggest that broken molecular clocks prove a disturbingly accurate gauge of a world in chronic crisis. The sugar in people's blood might be better understood as the grains of an hourglass.

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NOTES

[1] This work unfolds in implicit conversation with the vast and important ethnographic literature charting diabetes experiences in affluent countries, which often focuses on uneven risks and treatment inequalities among minority populations; see Benyshek et al (2001); Bindon (1988); Garro & Lang (1994); Hagley (1984); Helman (2001); Hunt & Arar (2001); Fairchild & Alkon (2007); Hunt et al (1998); Lang and Ferreira (2006); Lang (1989); Larme and Pugh (1995); Liburd (2010; 2003); Lieberman (2003); Manderson and Smith-Morris (2010); McMullin (2010); Mendenhall et al (2010); Mull et al (2001); Rock (2003); Scheder (1988); Schoenberg et al (2009); Smith-Morris (2006); Thompson and Gifford (2000); Wiedman (2005a; 2005b; 2010) and Young (1979).

[2] Belize is so small that making up pseudonyms for villages feels a bit strange, because the area is so scarcely populated that many people from Stann Creek would be able to identify these places. For this reason, most ethnographers in Belize use the real names of the locations where they work, making anthropology part of the historical record there. I plan to do the same as this work moves toward publication, after I am able to have conversations about what I have written with those who are still there and make sure this would be their wishes. For now, I use the name "Mile 21" to refer to the village where I lived. There is a long string of villages along the highway in Belize that no one has bothered to name, which go by names such as Mile 18, Mile 23, etc. "Mile 21" is offered in this tradition of placeholders, although it is not actually located at the 21st mile along the highway.

[3] Rockefeller University Archives, Record Group 210.3, Business Manager's Subject Files, box 14, "Insulin" file. Acknowledging the discovery of insulin in Canada, the first grants from the special "Insulin fund" went to Toronto General Hospital and the Hospital for Sick Children (Toronto), with subsequent grants to Presbyterian Hospital of New York, the Physiatric Institute (Morristown, New Jersey), the Johns Hopkins University (Baltimore), Presbyterian Hospital (Chicago), Barnes Hospital (St. Louis), Lakeside Hospital (Cleveland), the Medical Department at Stanford University, the University of Michigan, Touro Infirmary (New Orleans), Royal Victoria Hospital (Montreal), New England Deaconess Hospital (Boston), University Hospital in Iowa City, Minnequa Hospital in Pueblo, Colorado and the University of Pennsylvania in Philadelphia.

[4] Rockefeller University Archives, RG 210.3, box 7, "Diabetes" file and box 14, "Insulin."

[5] Rockefeller Foundation Archives, RG 6.7, box 146, folder 1060. Today India has the largest population of diabetics in the world, estimated at over 50 million (World Diabetes Federation 2011).

[6] This was permitted by a law passed in response to persistent issues of community resistance to hookworm treatment in parts of British Honduras (particularly among the fiercely independent Garifuna in Stann Creek), which eventually lead to the proclamation of Ordinance No. 18 of 1918, known as the "Hookworm Ordinance." It read in part: "Any person who, without reasonable excuse, refuses or fails to bring and leave a sample of his feces at the appointed time and place, shall, on summary conviction, be liable to a fine not exceeding twenty-five dollars, and, in addition, if the Court so orders, to be detained in custody by such person and in such place as the Court orders until a sample of his feces is obtained." Rockefeller Foundation Archives, RG 5.2, sub-series 425, box 42, folder 254, "Hookworm Survey: British Honduras," p. 20.

[7] This has been particularly well-documented with certain protease inhibitor drugs for HIV/AIDS such as indinavir and lopinavir/ritonavir.

[8] In addition to epidemiological goals of containment, the foregrounding of infectious disease in global health practices at times also draws on underlying ideas of pollution and danger, as Wald discusses (also see Bashford 2001; Douglas 1966), including echoes of historical discourses and tropes of contagion evoked in depictions of the tropics (Sontag 1996; Wertheimer 2007).

[9] Perhaps such formations have been slow to crystallize in part due to the moral sense of patients' own responsibility, and the fractures in commensality that current medical treatment potentiates.

This isolating dimension is also something characteristic to diabetes itself; as Greek chronicler of chronic diseases Aretaeus the Cappadocian (who believed diabetes to be "a melting down of the flesh and limbs into urine") wrote of diabetes in the third century: "*How can shame become more potent than pain*?" (in Clendening 1942: 54-5)

[10] Recently, there has been increasing acknowledgement of the growing cost of diabetes' mortality and morbidity in the developing world. Non-communicable disease has served as a gathering point for major global conferences at the World Health Organization in 2010 and Partners in Health at the Harvard School of Social Medicine in 2011, paving the way for a United Nations High-Level Summit on Non-Communicable Disease in New York that took place in September 2011 (a rare event, given that the only prior global health issue addressed during such a high-level UN forum was HIV/AIDS in 2001) (see Beaglehole et al 2011; Mamudu et al 2011; Sørensen et al 2011; United Nations 2011). The initial evidence of overwhelming prevalence is there, but so far the actual funding on the ground remains incommensurate with figures of clear need.

[11] The terms Garifuna and Garinagu are both used here, at times interchangeably, which is how most Belizeans use them loosely as these words have circulated into English and Kriol languages. In Garifuna language, however, the word "Garifuna" actually refers to the spoken language or a single person, while Garinagu refers to people in plural.

[12] In this, I draw from the classic anthropological modes of life histories and descriptive writing (see Ashforth 2000; Behar 2003; Biehl 2005; Boon 1983; Borneman and Hammoudi 2009; Clastres 1999; Good 1994; Jackson 2011; Levi-Strauss 1973; Kleinman 1997; Rosaldo 1998; Wax 1971).

[13] The concept of "death histories" grew out of conversations about elegiac forms with anthropologist Jim Boon. I am very grateful to him for providing this phrase, and for many thought-provoking dialogues about intersections between literature and ethnography.

[14] This is sometimes also rendered as "Peace in the Valley" and "Professionals in Violence."

[15] This figure was actually higher outside of urban areas, where 96% of youth had seen a dead body, although in peri-urban and rural areas the homicides are more often stabbings than gun shot fatalities.

[16] It is interesting that so much of the smoldering inequality in Belize City, now brought to a new level of visibility by Carnival (the cruise line), tends to be expressed with particular violence on Carnival (the national holiday).

[17] A month later, the family's house burned to the ground in an arson incident.

[18] For example, an Irish brigade visiting the Settlement in 1798 leveled an accusation that the men living there were all "Convicts or Transports" cast out of England (Burdon 1931: 246), which apparently held some truth; by 1799, vessels arriving in Belize had to swear an oath that they weren't bringing criminals into the colony (Burdon 1931: 275).

[19] It is no coincidence that Dawdy's analytics, developed in her rich historical study of New Orleans, are useful here—Belize City and New Orleans had a close historical connection, to the point that one might consider them sister cities. The similarities between these two emerging "creole oligarchies" was not just analogous, but at times mutually constitutive—New Orleans served as a prime shipping connection to America for British Honduras, at certain periods handling their postal service and purchasing their earliest sporadic shipments of bananas, and "La Balize" was also the name of the port at New Orleans, meaning "beacon" in their creole (Dawdy 2008: 21). Most of the Confederate plantation owners from the American South who came to Belize in the nineteenth century traveled through New Orleans (see Chapter 3), and during the America Civil War era Belize also supplied New Orleans with ships full of contraband weapons, disguised with a thin layer of tropical fruit (Clegern 1967: 46). See Dawdy 2008.

[20] Burdon 1931: 188; for example, a "Transient Court" in 1790 ruled that in addition to three days of lashings, "amputation of the right ear" could also be punishment for runaways.

[21] From *Archives of British Honduras* (Burdon 1931: 264, including all quotes in this paragraph).

[22] Account by Henry Fowler, colonial secretary; Belize, 1879 (in Gann 1918: f.41-2).

[23] For further detail, see "overview" tab at Carnival Cruise Lines (2011). "Western Caribbean: Explore Belize." Available at http://www.carnival.com/cruise-to/western-caribbean/belize.aspx.

[24] This neighborhood became home to Belizean soldiers who were conscripted to the Queen's service during World War I after being stationed in Mesopotamia, honored at their homecoming with newly created roads given names like Baghdad and Basra Street, Tigris and Euphrates Avenue (all of which names remain today). Before being renamed and turned into solid land in the early 1900s, Mesopotamia neighborhood was known as "The Dump." See Jones (2003).

[25] For example, in response to the news story above, one man wrote about the Stann Creek District where I conducted research: "Being from [DAN]GRIGA, I know what political abandonment and abuse is all about… I remember the days that we use to go to school on a raft or dory from Lizicana until we the citizens of Gumagarugu and Lizicana Pen were able to fill up most of our neighborhood on our own" (Martinez 2010).

[26] Whitman estimated that during those approximately six hundred visits he encountered "from eighty thousand to a hundred thousand of the wounded and sick," although many just in passing (1982 [1882]: 775).

[27] As Harding continues, describing the epileptic character in his Pulitzer Prize-winning *Tinkers*: "My job was not to write about epilepsy *per se*, but about a man named Howard Crosby, who has epilepsy. My job was to write about his experience, his own personal perceptions of the disorder, set against the fabric of his particular family, in that particular town, at that particular moment in history. My job was not to explain or argue about the nature of epilepsy but to describe it as precisely as possible as a personal physical catastrophe that extended to the son and wife and society around him." (27)

[28] Due to commercialization of the Belizean coastline, the bird is now endangered.

[29] This absence created deep problems of its own; for example, shortly before my first fieldwork in Dangriga, a man there who should have been institutionalized murdered a 25-year-old local policeman, Ever Morales. This psychotic patient was originally treated at a mental asylum at Rockview, which served the country for years. It has recently been closed down, many patients released and others relocated to Belmopan.

[30] Wilk discusses the taste and sensibility of ice and cold foods in Belize in the late nineteenth century; see 2006: 94-5.

[31] However, see Sheldon and Quin 2005 for a review on special interactions and complications when drug addiction and diabetes coexist. A recent study in the U.K. suggested that 29% of young adults with Type 1 diabetes also use illicit drugs---particularly complicated in part because of 1) the forms of syringes and daily injections that insulin therapy shares with intravenous drug use, 2) self-medication due to the pain of diabetes complications, and 3) interactions between the various drugs. In particular, the authors note that crack cocaine may increase blood glucose levels through concentrations of corticotropin and cortisol (counter-regulatory hormones which also effect levels of the hormone insulin), while heroin addicts may have "a defective pancreatic B-cell response to glucose stimulation." While a link would be expected, few studies have yet explored the likelihood that illicit drug use may trigger diabetes (as prescription drugs have been show to do), although difficulty in diabetes treatment for addicts has been noted—for example, use of certain drugs (such as

ecstasy) can make diabetics more prone to potentially lethal ketoacidosis, and diabetic injecting drug users may have difficulty finding injection sites for their insulin treatment. See Sheldon and Quin 2005; Lee et al 2005; Lee et al 2009; Ng et al 2004.

[32] Interestingly, this was noted in a recent medical journal review in the *Journal of Diabetes Science and Technology* (Biswas et al 2010) discussing the potentials of sugar for diabetic healing (see Chapter 3).

[33] A recent study in Sweden estimated that approximately 2/3 of ketoacidosis cases arise in Type 1, and the other 1/3 from Type 2. See Wang et al 2008.

[34] Leucine and Lysine—and sometimes also the amino acids Isoleucine, Phenylalanine, Tryptophan, Tryosine and Thereonine, which can go either way, sometimes yielding glucose and other times becoming ketogenic.

[35] Nancy Scheper Hughes has famously grappled with similar ruptures in family care and letting-die through Engel's "false consciousness." For all her powerful ethnography and concept-work, this particular tag has never felt fully convincing to me. Marxist commodity fetishism is a key framework for understanding how structural forces and disconnects shape and warp our most intimate ties, yet the automaton-sounding label "false consciousness" often seems to imply a kind of moral vacating, instead of conflicts of souls and all the traumatic experiences entailed in making relations go numb. I try to explore the affective processes and choices deep within these breaks from a different direction, examining the specificities of political ecologies that might show how "living death" could become normalized in a place like Belize over time. Rather than a "suspension of the ethical," I use Evans-Pritchard's theories from Azande common-sense making as I attempt to unfurl a different layer of ethical rupture—trying to explore how such profoundly tragic decisions might not fall beyond a frayed moral fabric, but more starkly be integral to its very threads and ripped edges.

[36] Barry Bowen, who died in a freak plane crash during my fieldwork, in 2010 held a monopoly over almost every drink sold in the country—Crystal water, Belikin Beer, Gallon Jug coffee, and all Coca-Cola products. He is infamously rumored to have driven a competing beverage company out of business, even though they were said to have had better tasting beer, by collecting their reusable glass bottles and hoarding them for years in enormous warehouses until the competition went broke continuously importing new bottles.

[37] Bullard (1973) continues: "Few families have much money left over after paying rent and taking care of their credit obligations. Enough may be saved to pay for a child's new shoes or for a few yards of cloth to be sewn at home or taken to a seamstress or tailor. There may be doctor bills or perhaps an obeah specialist is being consulted and needs to be paid. Small weekly payments are often due on a refrigerator or record player and there are usually a few personal debts outstanding to relatives and friends. Any major expenses such as serious illness, the replacement of vital personal goods or tools, a son's wedding, or a funeral create economic setbacks from which it takes months of deprivation to recover."

[38] I understood this inflection to often be somewhat derogatory, at least as I heard it used.

[39] This problem is also complexly related to the country's tiny scale and interrelations across social boundaries: there has long been a social class known as "the Untouchables" in Belize, constituting the top rather than the bottom caste. Whether for reasons of status and money, threat of force, or family and social connections, they are understood to be "untouchable" by law.

[40] American King James version is excerpted here because I was told it was the same bible used at the village church.

[41] The same is true of "Pampers," which in Belize refers to any brand of diaper. In fact, at times it can be somewhat awkward to use the word "diaper."

[42] The original Kriol-inflected English reads: "we oil da sweet oil but e no sweet fi we. e sweet fi farinas. Di suga no sweet again. Di citrus dem no sweet again eeda. Di tourism sweet but e sweet onny fi farinas. So whe we stan? Whe wah happen to we. I hear tax gwayne up. u guys, mek wah stan cause if unu no do it now farinas wah kom in and run tings and deh no di run tings ya yet but diktatin to us take it or leave it. Just hope peaceful Belize no get too rowdy wid rebellion. We may jus reech deh. wen food scarce..... hungry man da angry man" (Jer 2011).

[43] This classification of "sweet crude" is used by the New York Mercantile Exchange, while "[o]il containing more than 0.5% sulphur by weight is said to be 'sour" (*BBC News* 2007).

[44] I was also told that in later years, when there was still no road to the village but the hospital had acquired an ambulance, it became possible to arrange for the ambulance to meet emergency cases on the other side of the lagoon (although the sea route could still be faster, depending on the weather).

[45] Although I focus on diabetes here, the other disease that Dr. Palacio mentions remain crucial areas for future study. Hypertension is a metabolic disorder that very often co-exists with diabetes; locally known as "pressure," its social indexing of distress are already in-built into a double meaning of the word, and my argument about origins and history would apply equally to this dimension of metabolic disequilibrium. Meanwhile, glaucoma is an extremely common complication of such metabolic disorders—specifically, open-angle glaucoma is more than twice as likely in diabetes than in non-diabetics, and neovascular glaucoma results from abnormalities almost always caused by diabetes. Both variations cause a great deal of blindness. See Glaucoma Research Foundation: http://www.glaucoma.org/glaucoma/diabetes-and-your-eyesight.php.

[46] Anthropologist Clara Han (2012) borrows this phrase from Stanley Cavell to develop "the temporal and moral textures of care." She writes: "I consider how this 'active awaiting' draws on a wider network of dependencies that provide the temporal and material resources for this care. Waiting reveals how domestic relations with neighbors and institutions of credit both mesh with and create cuts in intimate relations. It helps us flesh out the problem of responsibility for and to kin."

[47] It was assumed that there were other supernatural forces that could be at play alongside the dead (including, for example, malicious spirits called *mafia* and human sorcery), threats I understood Arreini to be referencing whenever she said "thing *serious*." But ancestral kin are widely understood to be the key spiritual force to be negotiated with, possibly amendable to therapeutic intervention against the specters of other insecurities.

[48] The un-translated text of these fragments, excerpted here from the prayer "Asking of the Blood" as rendered by Bester (1973, appendix) in the original Kekchi read:
Ye ut ke, achinako, sarak'eko, bamuk, babalab
C'a' xac'ul, c'a' xatau, c'a' xasumen
Jun chi cualal chajcual quic', jun chi cualal chajcual k'an ha
Cualal poyanam....
C'a' aj qui', c'a' aj may
Ma re, ma rachin
Jun chajcual xilic', jun chajcual elbal, jun chajcual ma-us aj cuink
Ma jun chajcual saki diablo, caki diablo
Ma jun chajcual saki xilic', caki xilic'
C'a' aj qui', c'a' aj may...

[49] The Kekchi Maya, for example, have a refugee history of their own; many settled in the Toledo district after fleeing the highlands coffee plantations of Guatemala. See Stone 1994, especially Chapters 5 & 7.

[50] A vast literature is available online about this use of bones to whiten sugar, authored primarily by irate vegans.

[51] The record referred to here was written down by a British major named John Scott in 1667, who described the population of St. Vincent as "all Indians and some negroes from the loss of two Spanish ships in 1635." Of course, this is a colonial account and not incontestable fact; other narratives have it as a Dutch ship, or in 1675, for example, and it is possible that emphasizing the accidental nature of shipwreck stories also assuaged colonial anxieties about the significant population of escaped slaves who appear to have quite intentionally trickled in from nearby sugar islands.

[52] Sugar can play erratic tricks with memory. Glucose metabolism (and its control by the "transduction cascade" of insulin signals) is critically involved in the protein trafficking that make memory formation and memory retrieval possible in the brain. Damage to the neurons involved in glucose metabolism and control "may, therefore, cause disturbances in memory function" (Hoyer 2003: s62) by interrupting the "activity and plasticity" of synapses. This mechanism marks Alzheimer's disease, for example, and suggests that this man's description of his mother's diabetes turning to madness when "the sugar went to her brain" may also intertwine loaded symbolism and complex biology.

[53] In Belize, the Day of the Dead is celebrated primary in the North and West of the country today, though in limited pockets .

[54] In the original Kriol: "No ebryt'ing weh gat sugar sweet" (Young 1980).

[55] The phrasing of this reference to the role of sweet food in sustaining social ties is also meant as a play on Evans-Pritchard's famous comment on Nuer kinship, "Their social idiom is a bovine idiom" (1940: 19).

[56] Better cuts of the pig, meanwhile, in Belize are packaged and advertised without any trace of euphemism, the finest cut being "Butt Bacon."

[57] I was told that a few years ago, the flooding was so severe that it was possible to jet-ski between Dangriga and Pamona village (about 20 miles apart).

[58] Although avocados are called "pears" in Belizean Kriol.

[59] Interestingly, this medical doctor who first identified malnutrition-related diabetes in Jamaica was the father of Stephen Hughes-Jones, who went on to become a cultural anthropologist.

[60] Such a research thus reframes the high incidence of diabetes for minority populations in the US as primarily a biological corollary of uneven access to maternal, medical and neonatal care, rather than an inborn genetic characteristic. While theories of epigenetics have been around for decades, there is an excitement in the air now that its science is becoming concretely traceable in the laboratory.

[61] Although I have heard Alan Mann bring this concept to life in various phrases during talks over the years, this particular quote can be found in a recent article about his work (Patel 2011: 1).

[62] In case a crudely simplistic metaphor is helpful, I have come to think of methylation's role in DNA expression as a sort of genetic DJ: dialing the volume of certain frequencies up or down, increasing or slowing the tempo—adapting chords to be more fitting for the particular social scene or moment, but working with original records (alleles) that themselves remain unchanged and intact.

[63] Scientists actually figured this out by studying the health indexes of a group of 9-year-olds alongside their umbilical cord DNA, essentially allowing the researchers to understand the womb conditions into which each child was born instead of their "Mendelian inheritance."

[64] "Blindness" is a Belizean adaptation of the list of diabetes symptoms that would be recognized in the U.S. (where only "blurred vision" would be listed), reflecting the normalization of very advanced complications in a context of scarcity.

[65] In Kriol, "krokos bag" normally refers to a burlap or crucus bag, shortened for of the botanical name corchorus which yields the jute fiber from which bags were once made (Crosbie 2005: 198); although Arreini used this term to refer to any open-topped bag of that size, regardless of its material.

[66] I have not yet been able to trace this plant in books, so the name of this herb may be spelled otherwise in other places.

[67] He continues: "There are no side effects—only effects. Those we thought of in advance, the ones we like, we call the main, or intended, effects, and take credit for them. The ones we didn't anticipate…those are the 'side effects'" (Sterman 2002).

[68] This drug-induced form of the disease is particularly characteristic of young patients who develop pemphigus; otherwise, the typical age of onset for *pemphigus erythematosus* is around 40. For a background on pemphigus and its treatment in the context of related bolus diseases, see Mahajan et al 2005; Deshmukh 2007; Wanankul and Pongprasit 1999; Amrinder 2006; Rashid and Candido 2008.

[69] For an overview of the medical literature on drug-induced pemphigus, see: Brenner et al 1998; Landau and Brenner 1997; Maruani et al 2008; Ruocco et al 1993; Mutasim et al 1993; Uzun et al 2006; Lin et al 2004; Mashiah and Brenner 2005; Patternson and Davies 2003; Brenner et al 1993; Nguyen et al 2004; Anadolu 2002; Nagao et al 2005; Wolf and Brenner 1994; Patterson and Davies 2004; Hur et al 2005; Brenner et al 1997; Brenner et al 2003.

[70] International Pemphigus and Pemphigoid Foundation. 2011. "Pemphigus and Pemphigoid Support and Information." Available online at www.pemphigus.org/wordpress/diseases/pemphigus/ (accessed March 24, 2012).

[71] Following the details of Elisa's case outwards, this chapter therefore does not delve into the ethnographic literature on "traditional Maya medicine" in Belize, although readers interested in deeper background should refer to Eric Thompson's classic *Ethnology of the Mayas of Southern and Central British Honduras* (1930). In particular, Thompson attended the healing "session" of a "quasi-sorcerer" for an eleven-year-old Kekchi boy who had a condition somewhat reminiscent of Elisa's, "suffering to a considerable extent from a number of deep suppurating sores that had at one time covered nearly all his body," which may give a general idea of how such conditions were treated historically in Maya communities of southern Belize (even then, the boy's treatment included "a spell in the hospital at Punta Gorda"). See Thompson 1930: 70-73.

[72] Although a variety of these "worm therapy" clinics and products are now springing up online, the specific printout that Suzanne handed me was for the site available online at www.wormtherapy.com. Quotes excerpted from this site accessed on 6 August 2010.

[73] For a thorough overview of evidence for this interaction, see Zaccone et al 2006. This hypothesis was originally tested at the laboratory level: non-obese mice kept in overly sterile cages spontaneously developed Type 1 diabetes at a much higher prevalence and faster rate than mice kept under conventional conditions, where they were exposed to naturally occurring pathogens. This finding has since been tested in human clinical trials, including a double-blind and placebo-controlled study where the ingestion of porcine whipworm ova was found to provide effective relief for 72% of patients with Crohn's Disease. (The study was so successful that a subsequent trial was held with human roundworms, with the finding that each unique species of worm may interact in specific ways with each autoimmune condition.) See Summers et al 2005a; Summers et al 2005b;

Croese et al 2006. Obviously, all types of worms are not beneficial for all autoimmune diseases; see Daveson et al 2011.

[74] Mebendazole, a deworming drug extremely similar to Albendazole, is also used by such programs.

[75] RAC, 'Death Following Treatment with Thymol.' South Carolina 1912. Rockefeller Foundation Record Group 5, Series 2, Sub-Series 889, Box 62, Folder 406.

[76] RAC, Gonzalez report on Columbia, February 1929. Filed in Rockefeller Foundation IHB Statistical Reports, Record Group 5, Vol. 30.

[77] According to the WHO, Kato-Katz kits to test for soil-transmitted worms and intestinal schistosomiasis cost about US $40 per kit and can be used for 2000 tests, thus costing around 2 cents per test. An additional urine filtration test can be given in schistosomiasis-endemic areas. Although this parasite does not exist in Belize, for countries were schistosomiasis is endemic, this second test costs about US $50 per kit and can be used for 500 tests, which would cost an additional 10 cents per child. Pricing information from World Health Organization's *Action Against Worms Newsletter* (WHO 2004a: 3).

[78] As the WHO's "Partners for Parasites Control" advises: "DON'T waste time and resources trying to examine each school or child. Deworming drugs are safe and can be given to uninfected children. No individual diagnosis or assessment of each school is needed." From World Health Organization's *Action Against Worms Newsletter* (WHO 2004a: 10).

[79] This variation is due primarily to age difference; data from southern Belize shows that before receiving Albendazole, approximately 4% of children aged 10-12 have a heavy worm burden, and only between 1-2% of the children aged 5-9. Data courtesy of Ethan Gough (Gough 2006).

[80] Full text of the resport is available online at http://www.copenhagenconsensus.com/Home.aspx

[81] For example, in Belize many people (especially men) will drink "bitters"—mixtures such as Palo de Hombre, Contribu, Jackass Bitters, often soaked with rum. Some say these bitters "make the worms run." Many people also drank these same medicines for diabetes, countering "sweetness" with bitter. I was initially confused how "bitters" could serve as treatment for both diabetes and worms (because worms "weaken the blood," one herbalist explained to me, which would then become sweet and result in diabetes). The goal of these bitters treatments was not a final cure, but a daily balancing of the encroaching death that always exists deep within us.

[82] It is estimated that less than a third of secondary school teachers are trained in Belize. The Ministry of Education pays 70% of their salaries, and the other 30% is typically donated by whichever church runs the school. See Gayle 2010: 115.

[83] For regional context, compare this tertiary education rate to Barbados at 38%, Jamaica at 16%, or Mexico at 20%. Even Guatemala, the second-lowest ranking country, has a tertiary education rate of 8%, double that in Belize (Gayle 2010: 111-3). Many Belizean students want to attend high school and college but are not able to due to the prohibitive cost. See also Crook 1997.

[84] RAC, Rockefeller Foundation, RG 2, series 1937, sub-series 425, box 150, folder 1110, p 1-3.

[85] Like the characters' here, these village names are also placeholder pseudonyms for the time being.

[86] As the Rockefeller official reported on Belize City activities in 1922 (the question mark in brackets is his): "the chief obstacle to the use of the fish was the attitude of the population toward the installation of fish in their water receptacles…the population vigorously objected to their water being thus polluted [?]. As a result of this feeling as fast as the fish were installed, they were removed

surreptitiously by the populace." Rockefeller Archives Center, Record Group 5, Series 2, Sub-Series 425, Box 42, Folder 256.

[87] Paulo later explained that it was technically a "name dedication" rather than a baptism, since no water is used in the Church of the Nazarene; but the family still kept referring to it as a "baptism" afterwards, perhaps for my benefit.

[88] This is a loose gloss of Taylor's more technical breakdown of *agoburiba*, "to be be-anciented." He also notes that these two phrases are sometimes followed by *áueba*, to pass out, "a stage not reached in every case. Nor is the initial stage always observed" (Taylor 1951: 123).

[89] Richard Wilk conducted a survey that showed 80% of households in Belmopan have a close family member living in the US (Wilk 2006). The percentage for Creole and Garifuna populations is likely even higher; as mentioned in the introduction, one recent estimate suggested that approximately "95% of black families in Belize have a relative in the United States that they depend on for some form of assistance. This is not the same for Mestizos, Chinese, Mennonites, and Arabs and other ethnic groups in Belize" (Mwakikagile 2010: 134).

[90] These observations were made of Garifuna communities spanning national borders; but in the Belize context specifically, for example, Garinagu during this time at in Punta Gorda were growing rice, cotton, cahoon, banana, coconut, pineapple, plantain, orange, lemon, and according to a visiting American, as well as "many other fruits which we do not know even by name" (in Bolland 1977:132-3).

[91] People likened this collection of tinned fruits to the manner in which that shrimp were gathered directly from the beach at that time (today, finding wild shrimp requires going into much deeper waters). Middlesex, a nearby village traditionally known for its citrus, has today grown into a shrimp farm employing many local people. Generally, men are engaged in more manual labor at the shrimp farm, such as feeding and moving the shrimp from pond to pond as they grow, while women spend their days pulling the tails off of cocktail shrimp before they are frozen for export. For an interesting ethnography of this agricultural transition in Belize (with special attention to the banana industry, for which Middlesex was also traditionally known), see Moberg 1997.

[92] A biomedical doctor might term this Charles Bonnett syndrome, which I would consider another flattening of the unknown complexity of patient's worlds into the reductive diagnostic frames of clinical "objectivity."

[93] Diabetic testing strips, like glucometers, were not covered by the experimental state health insurance plan, and blood sugar measurement is an extremely complex issue. Even those who could afford personal glucometers (quite costly, around $80-$100 US) at times went without being able to check their blood sugar for long periods when strips ran out at local pharmacies or after being sent the wrong strips from a relative abroad who did not realize the glucometer brand alone was not enough information (it might be an AccuCheck, but was it an AccuCheck Aviva or an AccuCheck Compact? A Compact or a Compact Plus?) Even the slightest difference would mean the strips didn't fit. There were no interchangeable parts. In the course of my fieldwork, I saw literally thousands of dollars worth of expired or mismatched strips and broken glucometers during home visits. (To further complicate things, the machines also required tiny specialized batteries and computer chips, as well as occasional calibrating fluid). Visiting medical interventions were part of this problematic variety of models; one university group from Arkansas, for example, had handed out attractive FreeStyle Lite glucometers in butteryfly-embossed boxes with a one-month supply of strips. But after the group departed, leaving behind their $80 gifts, refill supplies for this rare glucometer model were not available anywhere in Central America. Yet broken and working glucometers were both part of an intimate economy, and were often shared or pawned. Once, a man came in to Southern Regional with a jar of half-glucometer strips that he had sliced carefully down the middle with a fishing knife. They had cost $70 US, a majority of the money he made in a month, and he reasoned that by paring each strip into two he could double the number of days that he could

check his blood sugar. When the clinic nurse saw the severed computer microchips mangled at the end of each strip, making the test entirely unusable for the man's new digital machine, she laughed uproariously and called over the other nurses to see the damaged artifact. But the man did not laugh with them. His look grew detached and hardened, with faraway anger that certain men channel in order not to cry. For all their prohibitive cost and the intricacies involved in their use, perhaps it is no wonder that there is an emerging "gray market" for diabetic testing supplies around the world today (or that the corporations manufacturing these machines also print most of the available diabetes education literature in the developing world, priming their market). In 2012, diabetic testing strips became the most frequently stolen item in the U.S., followed by liquor and cigarettes (Reported on HLN News Now, CNN International Television. 7 June 2012).

[94] This is the unit of measurement used in the U.S. and most commonly Belize. Elsewhere in the world, millimoles/liter (mmol/l) are also used to measure blood sugar. To convert the measurements reported here (which are all given in mg/dL) into mmol/l, divide by 18 or multiply by 0.055, a conversion specific to the weight of glucose molecules.

[95] Taylor, for example, notes: "amulets would be 'spoilt' by failure on the part of their wearer to remove them before copulation, by being brought into contact with a menstruating woman…" (1951: 134).

[96] My spelling shifts here because "spoilt" is the actual word used in Belizean English, rather than my own more Americanized past tense "spoiled."

[97] Sociologist George Ritzer originally coined the term "McDonaldization" in 1993, although recent scholarship has argued that locally such restaurants have developed functions and meanings quite outside Americanizing rationalities; see Watson 2006. Although there are currently no corporate fast food chains in Belize, the imaginations that such restaurants help to shape nonetheless remain important forces. For example, although lacking a Burger King, Dangriga has a "King Burger," serving local specialty dishes alongside American sandwiches, and specializing in fresh tropical fruit juices.

[98] The Belize Ministry of Health is now taking legal measures to limit the drugs that transient groups are allowed to distribute without expertise, so screening and "education" for diabetes and hypertension (a still-unregulated domain) have recently become a prime area of medical focus for these visiting teams.

[99] Even one doctor coordinating such a trip expressed concern that "dol[ing] out these medications with only a modicum of information or education represented a significant breach of medical ethics and an extremely unsustainable method of chronic disease control" (Vannier 2011: 2). Yet the same doctor also noted: "The trip is going to happen every year…It's simply too popular and the medical school views it as a feather in their cap."

[100] The PAHO study of diabetes coordinated by the Belizean Ministry of Health (2008: 20) did ask this question of access, and found that 86.7% of people either could not afford their diabetes medications or only could purchase them with much difficulty.

[101] The death of Cresencia's mother had changed her relationship to her siblings. Working across several international Garifuna communities, Nancie Gonzalez describes certain aspects of kinship that remind me very much of Cresencia's circumstances: "Not only are marriage bonds brittle, but siblings seem bound together primarily by common ties to their mother and/or father, with ties to the mother being by far stronger. Once the dominant parent or parents are dead, siblings may have little to do with each other." (Gonzalez 1988: 93)

[102] This spiritual bathing ritual, *amuñadahani,* involves grating, straining, sieving, and baking the cassava on the same day (different than the process for cassava to be turned into bread), then bathing the ancestor's spirit in this preparation of cassava water in a hole dug in the beach before sunrise,

and often setting out a clean outfit for them under a new moon. Valentine describes this process with great care (Valentine 2002: 22). In 2010, I was also told that depending on the age of the spirit, some would have different requests (relayed through dreams) that varied from this outline of the ritual—for example, that some younger spirits now request being bathed in fresh water instead of cassava water.

[103] Here I am alluding to a minor debate about Foster's translation of *Lanigi Garaon* into English as "Heart Drum" (the title of his monograph about Garifuna ancestral rituals), words which Valentine argues would more literally mean in his native language "heart of the drums," a reference to the large center drum guiding the others (2002: iii). Yet after hearing for myself how powerfully many of the songs evoke the elemental sound of a heartbeat, I have come to think of this expression as a deeply layered Garifuna term that could easily carry double significance.

[104] Although *gubida* is the proper name of the family dead, interestingly this word is never used in common conversation, as Valentine notes: "It is not even used in the Ancestral House. None of the songs in any of the ceremonies of healing have this word." Instead, when referred to aloud the dead must be spoken of in other terms, such as *ahari* (a soul of the dead that elevates the simple spirit of an ancestor to a higher place of honor, to whom food is offered); *afurugu* (a person's spirit double, which can be said to be hungry or thirsty both during life and after death—see Chapter 3); *abübürigu* (forebears; parents); or *uaña* ("those that have come before"; the departed). For further detail, see Valentine 2002: 23, 46-7.

[105] Many of the characters in these chapters are public figures for whom being written about is also a political tool, and I have respected the requests of those who asked me to use their real names here.

[106] Although a few days before I left in September 2010, there was a meeting about diabetes education held in an old auditorium of Dangriga that suggested signs this regional support group might re-form in the future. About two dozen patients shared advice and experiences, and discussed strategies such as loosening their shoelaces before entering their clinic appointments, so that busy doctors would not be able to brush off requests to look at their numb feet for signs of necrosis.

[107] Published in Dutch by Thielman J. van Braght in 1659 or 1660, this book is a catalog of Christain martyrs that begins from the first century and prominently includes Anabaptist persecutions in the sixteenth century. Along with the bible, it became a major document for many Mennonites sects.

[108] Cruz also described his next project to me. "Right now I'm working on a program for kidney transplants. I've given the government the first draft and they've turned it down….I'm just giving them a little break to be diplomatic with them. But if they don't dig around, then I'm going to go back to the media and say what's going on," he told me. "I am going to work on it, because the Belizean people needs it." He hoped that transplant could also help to save costs for some long-term dialysis patients: "doesn't make any sense for them to be on a machine." The policy would not affect Cruz himself. "For me, this is it," he explained, due to his polycystic disease. "If I get another kidney, I'm going to go back the same way, so it doesn't make any sense… But for people who got kidney failure due to diabetes and hypertension, they can be salvaged." I do not know what became of Cruz's proposal for a transplant program.

[109] On the day the Memorandum of Understanding was finally signed in Belize (unfortunately timed so that Cruz had to miss his dialysis session in order to be there), he had been elated. "What I'm asking for is the best quality care for all Belizeans," he told the paper that interviewed him that day. "Today I'm here, tomorrow I might die but what we have accomplished here today, I would like to see it go on…"

[110] This included the phosphate binders Phoslo and Renvela; Calcium carbonite or Kexelate, for patients with special phosphate issues; and Nephrocaps, a vitamin supplement especially designed for dialysis stress to include extra levels of B 6 and 12, Pantonethic Acid, and Biotin, among others.

[111] As the papers reported at Cruz's death, "it is fair to say that the installation of two public health dialysis [centers] in Cayo and Belize through WORTH was made possible largely through his efforts" (*7 News Belize* 2010b).

[112] The phrases "fatal confusion" and "demonic fast-forward" are McKibben's, which Bastian examines and builds upon.

[113] I first tracked down this book after bumping into the above passage in James Boon's *Verging On Extra-Vagance*, which I imagine is the sort of thing he had in mind when packing the book with intellectual leads, itself a chromatic catalog. For his discussion of Cavell, see the book's final chapter, "Encores and Envoi" (Boon 1999: 263-78).

[114] This is part of a mysterious set of related words that anthropologist Douglas Taylor noted in Belize in the 1940s, as part of his interest in the double speak in Garifuna ritual dirges. He puzzled over the way that the ordinary word for "our grandmother," *uagoto*, in *dügü* ritual placations became replaced by an curious term *iáiaua*—which in everyday use simply means "pineapple," and only in this specific ritual context instead meant "dead grandmother." Although Taylor seems somewhat amused by this shifting signification, perhaps in the context of ritual food offerings it helps us to glimpse a deeper connection. A new pineapple tree is grown by planting the severed top of an old pineapple fruit; by nourishing the last traces of life gone by, another generation continues. Taylor observes that this same word *iáiaua* (not only meaning both pineapple and dead grandmother, but also used in a context where pineapple might literally be offered to a dead grandmother), also seems to have some enigmatic etymological connection to the root of the Garifuna word for photo, *iaua*—all part of "that which comes back again."

[115] Dactylic hexameter followed by dactylic pentameter, to be technical. These uneven metrical feet are why Ovid depicted elegy with one foot larger than the other.

[116] Taking photos of the dead in their coffins is common practice in much of Belize.