MAT @ Medicine Anthropology Theory

INTERVENTIONS

Ethnography in a grievance

Documentary mechanisms in Nicaragua's chronic kidney disease epidemic

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Abstract

This essay discusses documentation as a critical practice that links ethnography and activism. It describes the efforts of Nicaraguan sugarcane workers to use World Bank mediation and corporate social responsibility 'mechanisms' to call attention to the health and environmental problems that attend plantation production. Documentation becomes essential to activism when the lines of cause and effect that link bodily conditions to ecological conditions are unclear or contested. As a form of evidence-making that blends the archival and the ethnographic, documentation helps not to isolate facts but to construct context.

Keywords

noncommunicable disease, international law, occupational health, Latin America, environmental health

Introduction

In the mid-2000s, the World Bank's International Finance Corporation (IFC) was preparing a US\$55 million loan that would allow Nicaragua's largest sugar company, Nicaragua Sugar Estates Limited (NSEL), to expand its plantations and construct an ethanol plant near the town of Chichigalpa. Before the loan was finalized, a group of former workers filed a grievance with the IFC's compliance advisor ombudsman (or CAO) office (CAO 2008b). Around that time, epidemiologists across Central America were coming to grips with a novel problem. Between 2004 and 2009, the number of cases of chronic kidney disease (CKD) in Nicaragua had risen by some 41 percent. Sugarcane plantation workers accounted for the vast majority of this increase (Chavkin and Greene 2011). Usually, CKD tends to affect people with diabetes and hypertension. The CKD-affected sugarcane workers were neither diabetic nor hypertensive. Rather, in the grievance, the workers alleged that plantation working conditions – the use of pesticides, long hours of exposure to heat and smoke, poor water quality – were to blame for their failing kidneys. In 2015, the IFC was preparing to make another multimillion-dollar loan in Nicaragua, this time to the Montelimar Corporation. Again, a group of CKD-affected workers filed a CAO grievance (CAO 2015).

My ongoing ethnographic work takes place on the margins of the CAO-mediated grievance process. Both grievances led to long-term dialogues, in which the complainants and representatives of the companies met in CAO-mediated discussions to explore possible solutions. These dialogues have been paralleled by a flurry of studies across Central America and elsewhere on what has become known as 'chronic kidney disease of non-traditional causes' (CKDnt). Without the mobilization of a few dozen ex-caneworkers, who were willing not only to publicly challenge their former employers but also to meet with them in nonviolent mediation, global attention to CKDnt would likely be much less intense than it is now.

As its name indicates, the question both of what CKDnt is and how to address it continues to vex biomedical experts and activists. Despite the uncertainty, one thing does seem clear. CKDnt is a slow-moving disaster. There is the mounting death toll, of course, but as both grievances suggest, the prominence of toxic chemicals and related elements of the plantation environment (uncontrolled fires, uneven access to water, decaying or nonexistent infrastructure) links this specific condition to a broader, long-term ecological crisis, one in which plantation agriculture has played a central role (CAO 2008b, 2015). The epidemic has appeared in a troubling environmental moment, whether we call it 'the Anthropocene', 'late industrialism', or even the 'Plantationocene' (Fortun 2012; Haraway 2015; Scammell 2017).

Leaving aside the politics of epochal terminology, I want to make the case for documentation as a critical practice under conditions of both planetary uncertainty and historically entrenched plantation inequality. Evidence suggests that we should not expect to find a single causal factor, be it a well-known nephrotoxin or a less tangible force like global warming. Under such conditions, documentation – amassing a heterogeneous archive that holds in abeyance the expectation of a totalizing resolution or explanation – has become an essential tool of intervention.

The two CAO grievances are undergirded by an array of legal, scholarly, and bureaucratic documents that link plantation history, global health, and environmental advocacy. These include the clinical record, the work record, the land title, the news article, the complaint form, the epidemiological survey, and even the anthropological ethnography. As Annelise Riles (2006b, 2) notes, 'documents provide a ready-made ground for experimentation with how to apprehend modernity ethnographically'. I see attempts by patients, activists, and lawyers to link different documents together – attempts in which I am now also implicated – as producing *documentary mechanisms*. The CAO, the body that received those grievances, refers to itself as 'a fair, trusted, and effective independent recourse *mechanism*' (CAO 2008a, front matter, section 'About the CAO'; emphasis added). More locally, my Nicaraguan collaborators have used sugar plantation companies' own 'grievance mechanisms', or *mecanismos de quejas*, to call attention to a variety of environmental and health problems beyond CKDnt.

The term 'mechanism' frequently connotes a functional relationship. The CAO's description of itself as 'mechanism' reflects an 'instrumentalism' that dominates in international law, where the law is sometimes seen as a neutral tool for solving problems (Riles 2006a, 54). That mechanism is fed by the proper presentation and vetting of documents, whether they come in the form of witness testimony, preliminary toxicological evidence, or unsealed corporate archives.

In both sociology and epidemiology, 'mechanism' is a synonym for cause (see Hedström and Ylikoski 2010). What, the sociologist might ask, brings a group of sugarcane workers together to sign their names to a grievance directed to an office of the World Bank? And what, the epidemiologist might ask, is the mechanism that causes otherwise healthy kidneys to fail? These kinds of causal mechanisms are rendered plausible through documentation: the compiling of data sets, randomized control trials, surveys, and clinical reports.

But it is notoriously difficult to identify causal mechanisms in environmental health. The effects of toxins can often take years to manifest, and studies of environmental diseases are costly, time-consuming, and frequently contrary to the interests of corporations and the states that support them (see, for example, Ottinger 2013). Likewise, in the midst of the slow disasters of late industrialism, predicting how and why people will choose to become

politically or socially active is equally difficult. This is often because, as Rob Nixon (2011, 4) notes, those who confront such disasters are almost never 'single issue' actors.1

The few paragraphs above sketch out some ways in which the tendency of the mechanism concept to favor instrumental action or linear reasoning is undone by anthropogenic environmental change, from pollution to carbon emissions to monoculture. For Nicaraguan activists affected by the CKDnt epidemic, however, mechanism (*mecanismo*) is not an abstract sociological or epidemiological concept. For them, the mechanism only exists in doing, in practice, in a kind of real-world experimentation. The collection and dissemination of documents, whether for the corporation or for the World Bank, is what makes *mecanismo* thinkable and actionable. With the term 'documentary mechanisms', then, I want to highlight something of which activists are already aware, namely that people cannot record the slow effects of activities like industrial agriculture without at the same time participating in those activities, as farmers, agronomists, occupational health scholars, lawyers – or anthropologists.

I should make clear that my work as an anthropologist in this case is not merely observational. I have been following both CAO grievances since 2015, when I first met and interviewed CKDnt-affected workers from NSEL. At that time, I also became acquainted with a group of North American lawyers and solidarity workers, one of whom appears in anonymized form in this essay. These North American interlocutors informed the Montelimar activists of my interest in the situation. Since 2017, I have regularly accompanied ex-sugarcane workers and others at Montelimar as they work to collect various kinds of documents from residents living in the roughly forty villages dotted across the plantation. I have joined them as they filter these documents through the company's *mecanismo de quejas*, as well as the circuits of the Nicaraguan legal system and the CAO's grievance mechanism. These documents include official papers such as work and pay records, clinical reports, and land titles. They also include photographs and videos, recorded on cellular phones, depicting what activists understand as the contamination of waterways by the sugarcane mill, aerial spraying of chemical pesticides, and large-scale deforestation. The activists agreed to allow me to record interviews, take photographs, and tour villages during their regular visits to the

Science and technology studies (STS), including the versions that critically engage global health, has consistently pushed back against a tendency to understand mechanisms as merely functional. In STS, a mechanism is not a stable social or material fact, nor is it a neutral instrument; rather, facts and instruments are co-constituted. One example is Andrew Pickering's (1993, 576) discussion of the mechanism of bubble formation by charged particles, in which he argues that how bubbles form was not a fact waiting to be discovered, but a result of 'a dialectic of resistance and accommodation' (see also Barad 2007). homes of current and former workers. Since the activists were involved in an ongoing dialogue with the Montelimar Corporation, through the CAO's own mechanism, the corporation was aware of my presence on the plantation.

Although I did not explicitly set out to do an engaged anthropological project, this kind of open collaboration, which includes the sharing not only of data but also of the costs of food and fuel, has become essential to my anthropological research on CKDnt in Nicaragua. There is certainly a degree of risk in this methodological turn. As Scott Knowles (2014) has pointed out, whether they are acute or slow, disasters tend to summon calls for documentary investigation, usually by various kinds of elite scientific experts. Precisely what such investigations will yield is always uncertain. They might be politically co-opted by corporations or states, they might 'pave the way for legal proceedings', or they might simply 'channel the anger of interest groups' (Knowles 2014, 780).

CKDnt activists' pragmatic attempts to make documentary mechanisms work reflect an effort to address 'one of the most stubborn dilemmas of advocacy', namely, that ecological and industrial crises are both historically and geographically particular and the results of generalized dysfunctions that demand a systemic, global response (Fortun 2001, 14). Effectively confronting such crises means finding ways to split the horns of this dilemma: to consider the uncountable, intimate 'context' and the datafiable 'system' at once. On one hand, by producing and circulating documents through a *mecanismo de quejas*, Nicaraguans affected by CKDnt are trying to act locally, as historically marginalized people who have reached the limits of their tolerance for exploitation by the sugar industry. On the other hand, when linked to the CAO grievance mechanism, those same documentary practices demand that they act as global subjects, subjects of nothing less than the World Bank, where problems tend to be framed not as historically and politically (much less environmentally) particular, but as generalizable and standardizable. In a process of 'looping', or 'circling back', different documentary mechanisms shape one another (Fortun 2012; Riles 2006a).

In the clinical and research spaces of global health, documentary practices often double as means of governance, helping to render the variable perspectives and experiences of patients, caregivers, and laborers into uniform, legible, translatable data. But documentation is never only a device for extending the legal, bureaucratic, or medical gaze (McKay 2018; Biruk 2012). Documentation can 'arrange and gather data about interventions in the world toward the possibility of making something different happen' (Murphy 2017, 80). In other words, 'health social movements shape and reshape science, and science in turn shapes and reshapes health social movements' (Morello-Frosch, Zavestoski, and Brown 2011, 15; Jasanoff 2004).

In the case of Nicaraguan sugarcane plantations, this shaping and reshaping entails the amassing of a documentary archive that is populated by sympathetic, legible human 'figures'. Figuration, as Anna Tsing (2009) argues, is essential in how justice works in global commodity chains. Figuration is equally important in the making of mechanisms, the chains of causality (and causal claims) that constitute global health and global environmental debates. While on the surface, the case I have thus far described appears to be about occupational health – meaning that the appropriate human figure for the problem is the sugarcane plantation worker – such a figure is just one of several that has emerged from the documentation process.

The complaints

The story of the CAO grievances starts in the early 2000s, when an undergraduate student from a major US university came to live with a group of indigenous Sutiaba farmers in an area called Goyena, located adjacent to the NSEL sugarcane plantation. NSEL is owned by the Pellas Corporation, the largest and most powerful in Nicaragua. Many of the residents of Goyena were not directly employed by NSEL. Instead, they operated small farms on land held by the indigenous council. When the student first came to Goyena, she befriended Don Silvio,² a farmer and local leader who was helping his neighbors amass a documentary archive.

When I visited Don Silvio in mid-2017, he showed me a pile of decaying documents, dating back as far as 2003. I tried to keep everything we collected over the years', he said apologetically, 'but the rain and the bugs have taken most of them'.

Most of the documents that remained were one-page 'Community Claim Forms', part of NSEL's internal grievance mechanism, or *mecanismo de quejas*. None of the claims in Don Silvio's archive mentioned kidney disease. Rather, in varying degrees of detail, they described how farmers' crops – *chiltomas*, squash, *ayotes*, *chayotes*, cucumbers, and plantains – had been damaged or destroyed as a result of NSEL's application of aerial pesticides. Each claimant put a monetary value on the loss and delineated the precise area of land under cultivation. These *quejas* were collated into a spreadsheet, with each page stamped and signed by the company's representative, along with representatives from the Nicaraguan Ministry of Agriculture and the León departmental authorities. To create this archive, Don Silvio and other leaders gathered their neighbors in a local community center and, one by one, helped them fill in the claim forms. In a context of stark inequality, in which limits to literacy made it difficult for some individuals to lodge grievances, the act of filling in the forms collectively

² This and all personal and village names are pseudonyms.

made a powerful statement. Don Silvio saved the papers not only to document each individual case but also to commemorate a punctuated moment of solidarity.

Around the same time that the Goyena farmers started documenting their problems, a few miles to the north, a small group of men had begun to hold a regular vigil outside the gates to NSEL's sugar mill. These men were ex-canecutters who were in varying stages of what later became known as CKDnt. Don Silvio encouraged the American student to make the short journey to meet them.

The ex-workers told her a story in which documents were conspicuously absent. Sugarcane plantation labor makes incredible demands on the body. It is so physically taxing, in fact, that a yearly medical exam is a prerequisite for plantation employment. During these exams, tests on these men's blood turned up biomarkers for early stage CKD. Over the course of the late 1990s and early 2000s, hundreds of would-be workers with such biomarkers were dismissed.

When they were dismissed, the workers were not given access to their medical records. Instead, they were advised to go to public or private clinics, get a diagnosis, and then gather the paystubs and work records they had accumulated over the years and visit the social security offices to petition for benefits. But clinical exams were costly, and the visits to the social security office to verify work records revealed a high level of under-reporting on the part of NSEL and its subcontractors. Many former workers had trouble documenting that they had ever worked in the sugarcane plantation at all.

The kidney disease was becoming a well-known scourge. The American student spent much of the rest of her first visit to Nicaragua, as she put it, 'just going to funerals'. Young people (overwhelmingly men), in their twenties and thirties, were wasting away.

The student's accompaniment of the Goyena farmers and the workers' group to funerals, community meetings, and informal venting sessions continued in subsequent years, as she began work on a graduate degree in environmental studies, and as the workers' organization evolved into an advocacy group, the Chichigalpa Association for Life (ASOCHIVIDA). By 2005, Don Silvio and his neighbors had decided that NSEL's internal *mecanismo de quejas* was a dead end. Even when they were compiled and submitted en masse, the complaint forms, in which the word of small farmers was set against that of a company, were proving ineffective. For their part, ASOCHIVIDA's members had come to believe that plantation working conditions – pesticides, excessive heat, long hours – were responsible for making them sick.

But both groups needed more documentation.

The American student and one of her classmates began collecting samples of well water and soil and testing them for the presence of known pesticides. Everyone was convinced that agrochemicals would be the link between the destroyed crops and the destroyed kidneys. But they could find no definitive evidence of dangerous levels of agrochemicals or heavy metals.

In parallel to the environmental sampling, the students undertook another kind of documentation. They collected first dozens, then hundreds, of stories about farmers losing a year's worth of crops, about their fear of drinking well water, and about ex-sugarcane cutters being sent home by their employers to die. Despite the fact that epidemiological and toxicological studies weren't turning up any solid evidence, a mass of 'para-ethnographic' evidence, in the form of testimonials, photos, and films, had begun circulating through the quasi-legal, quasi-regulatory spaces of humanitarian aid, food justice, and labor rights (Marcus 2013).

Nicaraguan and international lawyers were central players in that circulation. In law, documents play a distinct role from that which they play in epidemiology or environmental toxicology. Partial evidence, anecdotes, and reasonably grounded allegations can be assembled together to ignite what I would call a 'justice mechanism'. In other words, making a case means assembling different kinds of documents, rendering those documents legible to judges or regulators through translation, and attempting to match a given legal or regulatory framework to an imagined context. In cases of humanitarian asylum claims, for example, lawyers call upon the testimony of physicians to substantiate asylum seekers' claims of physical abuse. This has the effect of making medically verifiably bodily harm a condition for the granting of asylum, as well as of conjuring a particular figure (for example, the tortured dissident, the battered woman) for intervention (see, for example, Kelly 2015).

In 2005, the students and the Nicaraguan farmers and plantation workers contacted the Washington, DC-based Center for International Environmental Law (CIEL). Together they learned that the IFC was planning to make the US\$55 million loan to NSEL. One purpose of the loan was to support construction of an ethanol plant, but the environmental assessments NSEL carried out for its application to the IFC only examined the impact of the plant itself, not health, labor, or environmental conditions in the surrounding villages. The IFC loan procedure permitted those with interests in its outcome to file grievances through the mechanism of the CAO.

In 2008, CIEL officially submitted the grievance to the CAO on behalf of the residents of Goyena and ASOCHIVIDA. The grievance made a disparate set of claims, alleging violations of people's 'right to freedom of association, right to safe and healthy working conditions, right to health, and right to water' (CAO 2008b, 8). Specifically, the grievance accused the IFC of failure 'to assure itself that NSEL's community engagement led to broad

community support for the project', failure 'to ensure local disclosure of NSEL's social and environmental assessment', and failure 'to conduct the necessary due diligence of NSEL's environmental and social track record' (CAO 2008b, 8). The grievance tells about the deaths of farmers' cattle due to contaminated groundwater, about the blockage of paths and roadways connecting villages and thus limiting freedom of association, about poor flood control, about damage to small farms and gardens, about air pollution from pesticides and burning sugar, *and* about suspected kidney disease. In sum, it is not clear either from the wording of this document or my subsequent discussions with those involved that the complainants were interested in using the mechanism only to address kidney disease. The section of the grievance that lists 'desired remedies' separates the demands of 'all complainants' from those of 'former NSEL workers'. The one conviction that all parties shared was not driven by hard data: it was an intimate, historically informed sense that the damage wrought by sugarcane plantation agriculture had become intolerable.

From complaints to complaint

The 2008 grievance resulted in a CAO-sponsored mediation between the complainants and the company. It was at this stage that the importance of figuration became most apparent. By the time the mediation began, the people of Goyena – those indigenous farmers who were not ever employed by NSEL but who did claim that their cattle and soil and crops had been damaged by the company's use of pesticides – were no longer involved in the process.³

By late 2008, ASOCHIVIDA and NSEL had negotiated a plan to appoint a US-based research team to study the kidney disease problem (Brooks and McClean 2012). Both sides scored this a success. CKDnt started making national and international headlines. Parallel research in neighboring El Salvador, Guatemala, and Costa Rica, as well as India and Sri Lanka, turned up similarly alarming rates of illness. The CAO's legal documentary mechanism had begotten a host of epidemiological documents aimed at isolating a biological, causal mechanism. Almost without fail, journalists reported the story as a case of 'worker injury'. Nonworkers tended to be depicted as grieving outsiders. Paired with the figure of the injured male caneworker was the aggrieved 'widow' (see, for example, Lakhani 2015). Reading these stories, it is difficult to discern that the landscape also included nonplantation workers like the people of Goyena. As Tsing (2009, 152) puts it, 'Businessmen, policy makers, voters, trade unions, and activists ... use concrete figurations to imagine which projects might succeed'. Even those who thought that the CAO mediation

³ The circumstances surrounding this are still hotly debated. Some residents I interviewed alleged that bribery and intimidation by the state and NSEL played a role.

process lacked transparency used the figure of the worker as their avatar of an alternative, more radical solution.

Since the mediation process began, ASOCHIVIDA's membership has swelled from just a few dozen to over 2000, thanks in large part to the group's ability to be a convincing producer of documents. ASOCHIVIDA helps potential members collate evidence of employment by NSEL or one of its subcontractors, over a minimum period. The organization also helps them obtain written evidence of a CKDnt diagnosis. Benefits include access to subsidized medicine, clothing, and microcredit. Thanks in large part to its savvy company, epidemiological documentary practices, understanding of state, and ASOCHIVIDA has succeeded beyond most everyone's expectations. Its identity today is less that of an activist group than that of a health-inflected development project. ASOCHIVIDA is a community formed around a narrowly defined pathology, which allows it to make limited claims upon the corporation.4 Nearly all of its activities are routed through the figure of the CKDnt patient and ex-caneworker. In the small building that serves as its meeting space, pharmacy, and microcredit office, the broader environmental and social impact of cane production is rarely a subject of sustained discussion.

NSEL has helped to promote ASOCHIVIDA's efforts to help CKDnt patients and their families. While it initially disavowed a connection between labor and CKDnt, the company has now made the protection of workers central to its corporate social responsibility platform. Today, its website includes a section devoted to the epidemic.⁵ The CAO grievance mechanism has empowered actors like the members of ASOCHIVIDA, even as it has allowed NSEL to establish its bona fides as a good corporate citizen. NSEL now portrays its participation in the mediation process as a sign of its commitment to worker welfare. In 2017, the company was certified Fair Trade (Notipellas 2017).

Retrofitting the mechanism

The 2008 CAO grievance was the first of two that have been filed to date against Nicaraguan sugarcane companies. In 2013, the IFC was preparing a second multimillion-dollar loan, this time for the Montelimar Corporation, the smallest of Nicaragua's four sugar mills. To the

⁴ This outcome is similar to the emergence of a 'biological citizenship' in Ukraine, as described by Adriana Petryna (2002), but in this case, what was being reasserted was a relationship of clientage tuned to the corporation, rather than one of rights and visibility tuned to the nation state.

^{5 &#}x27;What Is CKD and CKDnT?', Ingenio San Antonio, http://isaresource.com/what-is-ckd-and-ckdnt/.

consternation of many of those involved, the Montelimar loan was announced shortly after the mediation between ASOCHIVIDA and NSEL had come to a close (Chavkin 2013).

After hearing of the IFC's plans, the American student who helped launch the NSEL case traveled to Montelimar. She accompanied Nicaraguan workers and community members in meetings and conducted interviews, replicating the para-ethnographic work she had done in Goyena and Chichigalpa. A household survey carried out in the villages around Montelimar indicated high rates of self-reported CKDnt. After about six months, a group of ex-workers decided to form their own organization, which they called the Asociación Montelimar Bendición de Diós (or AMBED).

AMBED filed its CAO grievance in 2015 (CAO 2015). As in the 2008 NSEL grievance, this one demanded assistance from the company for CKDnt-affected workers seeking social security benefits and work records. Though AMBED's membership was only comprised of ex-workers, the grievance did go well beyond working conditions. It mentioned damage to soil, air, and water due to pesticide application and poor environmental management. It demanded not only that independent water quality studies be conducted but also that the company 'recognize that all of us have the right to live a dignified life in a healthy environment' (CAO 2015, 6). In addition, AMBED demanded documentation of ancestral land tenure. Since many residents had lived for generations on land owned by the company or its antecedents (the entity now known as the Montelimar Corporation has only owned the plantation since 2002), they risked summary evictions as the plantation intensified its operations (CAO 2015, 6).

When I came to Montelimar in 2017, a CAO-sponsored mediation process between AMBED and the Montelimar Corporation was underway. Earlier that year, AMBED and Montelimar had signed an agreement that achieved some important goals. The company agreed to provide funding for some 120 CKDnt-affected former workers to open a textile cooperative. (One of the cooperative's first orders would be for a consignment of uniforms for the company's ethanol subsidiary, optimistically named 'Green Power'.) The company also agreed to provide food aid, transportation, and a small stipend to workers with CKDnt who needed dialysis, and logistical and clinical support to those who were awaiting approval for pensions from the national social security scheme (CAO 2017). Only patients who had worked for at least two years in the plantation since the Montelimar Corporation purchased it in 2002 were qualified for these benefits (CAO 2017, 6). The words 'pesticide', 'water', 'land', 'fumigation', and 'dignity' are absent in the 2017 agreement, though it does state that the Montelimar Corporation's corporate social responsibility strategy includes 'the Environment' as a 'central pillar' (CAO 2017, 5). The figuration process of the NSEL case seemed to be replicated in the Montelimar case, albeit with greater speed.

But in the course of my fieldwork, AMBED started using documentary mechanisms to refigure the problem. In a final element of the 2017 agreement, AMBED agreed to 'publicize [the] existence and function' of the Montelimar Corporation's *mecanismo de quejas* (CAO 2017, 2). The medium of this internal grievance mechanism was a standard form that bore an eerie resemblance to those filled out years before by farmers in Goyena. Each month, two of AMBED's board of directors would present these *quejas* to the company, whose representatives would give updates on their efforts at finding resolutions in regular dialogue meetings (CAO 2017, 12).

This short clause proved consequential. To be clear, the 2017 agreement did not create the *mecanismo de quejas*. Rather, in the agreement, AMBED committed to making its members aware of its existence. For the corporation, this likely meant that AMBED would be testifying to its members that Montelimar was a responsible, responsive partner dedicated to resolving shared problems. For AMBED, this section of the agreement opened space to expand the list of issues to which the company should respond. It allowed AMBED to work not just as a patient advocacy organization, as ASOCHIVIDA had done, but as a community health organization. It allowed AMBED to participate in the process of situating multiple human 'figures' within the struggle.

When I first began working with AMBED in mid-2017, I assumed that situating figures in the struggle was the proper role for me as the anthropologist. I was there to interview CKDnt patients and their families, to be sure, but I also intended to photograph and document scenes of everyday life beyond plantation labor. In a conference version this essay, I quoted Tsing's (2009, 154) warning that:

While it is possible to find recognizably generic figures of oppression and struggle, supply chains also team with politically ambiguous, liminal figures, caught within the contradictions between varied forms of hierarchy and exclusion. I suggest that we pay attention to these figures, rather than rejecting them as flawed protagonists. They can help us imagine forms of globally interconnected diversity: a capitalism that is big yet unpredictably heterogeneous.

With this in mind, I began working to put the CKDnt epidemic back into social and environmental context, to make up for what I saw as a lack of such context in the 2017 agreement. Over the course of my fieldwork, however, it became clear that the *mecanismo de quejas* was being mobilized by AMBED to do something similar.

For example, we visited the village of El Popol in July 2017 to meet a man with a known case of CKDnt. Though the man we sought was not at home, we were invited into the house of one of his neighbors, a woman of about thirty who informed us that she had an

uncle and a cousin who were also affected. By the end of the day, one CKDnt case had turned into four others.

In these visits, AMBED's leaders would always be sure to inform those they met about the *mecanismo de quejas*. Sure enough, one woman we met that day had her own *queja*. She had been visited some months back by a surveyor from the company, who had provided her with a map of her house lot. Everyone in El Popol got one of these. They were told that these documents would allow them to formalize their land tenure, which would protect them if the company ever decided to sell or develop the property.

El Popol, like many other villages we visited, is inhabited by people who were initially given land by the company as part of their compensation for plantation work. This land had never been legally distinguished from plantation land. But when people in El Popol took their new land surveys to the municipal authority, their documents were not recognized. They were told that they would have to pay to have a state cadastral surveyor confirm the findings. On the day of our visit, AMBED's representative helped this woman fill out the small grievance form and arranged a community meeting for the following weekend to document other similar cases. Over the course of several visits to El Popol, AMBED's leaders also collected other *quejas*, about a lack of steady domestic water supply due to the company's extensive well and dam system, field supervisors who withheld wages without cause, and, of course, the abiding problem of aerial pesticide application.

The corporate *mecanismo de quejas* provides space for testimonies and allegations. It does not promise transparent resolutions in all cases. Indeed, the 2017 agreement states that while AMBED may collect *quejas* from any member of any plantation community, 'With regard to the content of the response provided, the [Montelimar Corporation] is only required to provide such information to AMBED for complaints coming from former workers who are members of AMBED, not when complaints are submitted by active workers or members of the community who are not former workers' (CAO 2017, 13). The grievance mechanism is framed here as open to anyone, while transparent resolution of grievances is only guaranteed to some.

Despite this limitation, AMBED continued collecting and submitting *quejas* from anyone. It seemed to be both abiding by the terms of the agreement (to publicize the grievance mechanism) and pushing beyond its strict labor-management figuration. AMBED did this with good reason. While the company alone was asked to answer for some of the *quejas* – specifically the pesticide issue – many of them ramified beyond the remit of corporate social responsibility, implicating local and state government agencies from the water utility to the land office to the Ministry of Health and the National Institute of Social Security. For

AMBED, the *mecanismo de quejas* became a way of exploring other figurations (those of the citizen, the resident, the farmer, the parent), of getting the attention of other powerful actors (government deputies, municipal authorities, and, it seems, sympathetic anthropologists), and even of discovering other documentary mechanisms (the cadastral survey, the clinical record, the letter of complaint to an elected representative).

For example, while Montelimar owned or controlled nearly all the land that surrounded most villages, waterways are public property under Nicaraguan law. In one case, a group of AMBED leaders became concerned that aerial fumigation was penetrating a municipal reservoir located in the middle of a cane field. This reservoir served the residents of a nearby town center. When AMBED began to investigate, residents in El Popol, which is located between the reservoir and the town center, pointed out that while their houses sat along the route of the potable water pipes, they were not actually served by the municipal water system. Villagers in El Popol instead relied upon water from a nearby river, whose quality was the purview of the national environment ministry, rather than the municipality. What began as a process of documentation under the corporate *mecanismo de quejas* opened up potential avenues of documentation by other routes.

In order to function, the *mecanismo de quejas* requires the kind of paraethnographic groundwork that the American students, the people of Goyena, and the ASOCHIVIDA members had done years earlier in the NSEL case. The documentation amassed back then was collected in order to open a case, to jumpstart the CAO's more formal global grievance mechanism. In the AMBED case, the paraethnographic work continued after the CAO mechanism had already been engaged. In a reversal, AMBED is turning local, anecdotal documentary work – work that is supposed to culminate in a global, instrumental, institutional response – into the outcome of that very response. The *mecanismo de quejas*, both as archive and as action, permits activists to ask what Nick Shapiro, Nasser Zakyaria, and Jody Roberts (2017, 586) call 'the question before the question' – the kind of question that precedes the scientific study of things like the role of toxic chemicals or other working conditions in causing injury. The organization is just as dedicated to keeping alive concerns about land tenure and water access and household garden diversity as it is about accounting for people stricken by CKDnt.

Conclusion

AMBED's creative experimentation with the documentary mechanisms at its disposal brings the organization (and me as the ethnographer) into a process of what Kim Fortun (2012) calls 'looping' and Riles (2006a) calls 'circling back'. Enacted in villages like El Popol, the CAO mechanism and the *mecanismo de quejas* form a 'para-site', where anthropological critique, international law, global health, and transnational activism emulsify (Marcus 2013). While the documentation of context may seem like the proper critical province of medical anthropology, context is itself an intervention. It has to be cultivated, maintained, and cared for. Indeed, the context I originally thought it was my job to document could only emerge in collaboration with AMBED's efforts.

While it would be tempting to explain the events surrounding CKDnt in Nicaragua as a kind of 'biosocial' movement – a group of people coalescing around a common medical problem and establishing claims before big institutions on the basis of that condition – such an explanation does not go far enough, at least in the case of AMBED (Rabinow 1996). In the AMBED case, the existence of a medical problem is a necessary, but not sufficient, condition for activism (and for ethnographic critique), just as the long-term environmental damage wrought by plantation monoculture is necessary but insufficient. By working across documentary mechanisms, AMBED is able to experiment with multiple forms of figuration without privileging any particular one.

At the time of this writing, the CAO grievance process continues. The 2017 agreement may not be the final mark in the World Bank's archive of this case. There is definitely still a lot of interest in solving the 'medical mystery' of CKDnt – in finding and addressing a root causal mechanism. AMBED is as eager to find that cause as any other 'stakeholder'. But as global health institutions and researchers move into the murky waters where biofuel, land grabs, pesticides, and water quality mingle with biomarkers, clinics, and pharmaceuticals, anthropologists might do well to question the primary importance of such causal mechanisms. Even terms like 'social determinant' falter if they are tied to the notion that that the figure of the 'stakeholder' adequately captures the lived experience of environmental violence (Fortun 2001). Taking a lesson from AMBED's work, we might see the search for etiological cause as secondary to the messier, perhaps more humble effort to experiment with documentary mechanisms.

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References

- Barad, Karen. 2007. Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. Durham, NC: Duke University Press.
- Biruk, Crystal. 2012. 'Seeing Like a Research Project: Producing "High Quality Data" in AIDS Research in Malawi'. Medical Anthropology 31 (4): 347–66. https://doi.org/10.1080/01459740.2011.631960.
- Brooks, Daniel, and Michael McClean. 2012. Summary Report: Boston University Investigation of Chronic Kidney Disease in Western Nicaragua, 2009–2012. Washington, DC: Compliance Advisor Ombudsman.
- CAO. 2008a. A Guide to Designing and Implementing Grievance Mechanisms for Development Projects. Washington, DC: Compliance Advisor Ombudsman. http://www.cao-

ombudsman.org/howwework/advisor/documents/implemgrieveng.pdf.

- CAO. 2008b. People of León and Chinandega's Complaint Regarding the Operations of Nicaragua Sugar Estates Limited S.A., International Finance Corporation Project 25331. Submitted to the Compliance Advisor Ombudsman, 31 March.
- CAO. 2015. Complaint of CFI Project 32253. Submitted to the Compliance Advisor Ombudsman, 23 August.
- CAO. 2017. Agreement between Corporación Montelimar and Asociación Montelimar Bendición de Diós. 26 January. Washington, DC: Compliance Advisor Ombudsman.
- Chavkin, Sasha. 2013. 'World Bank Approves Loan to Sugar Plantation amid Concerns about Kidney Disease'. Center for Public Integrity, 28 August. https://www.publicintegrity.org/2013/08/28/13280/world-bank-approves-loansugar-plantation-amid-concerns-about-kidney-disease.
- Chavkin, Sasha, and Ronnie Greene. 2011. "Thousands of Sugar Cane Workers Die as Wealthy Nations Stall on Solutions'. Center for Public Integrity, 12 December. https://www.publicintegrity.org/2011/12/12/7578/thousands-sugar-cane-workersdie-wealthy-nations-stall-solutions.
- Fortun, Kim. 2001. Advocacy after Bhopal. Chicago: University of Chicago Press.
- Fortun, Kim. 2012. 'Ethnography in Late Industrialism'. Cultural Anthropology 27 (3): 446–64. https://doi.org/10.1111/j.1548-1360.2012.01153.x.
- Haraway, Donna. 2015. 'Anthropocene, Capitalocene, Plantationocene, Cthulucene: Making Kin'. Environmental Humanities 6: 159–65. https://doi.org/10.1215/22011919-3615934.
- Hedström, Peter, and Petri Ylikoski. 2010. 'Causal Mechanisms in the Social Sciences'. Annual Review of Sociology 36: 49–67. https://doi.org/10.1146/annurey.soc.012809.102632.

- Jasanoff, Sheila, ed. 2004. States of Knowledge: The Co-Production of Science and Social Order. New York: Routledge.
- Kelly, Tobias. 2015. 'The Causes of Torture: Law, Medicine, and the Assessment of Suffering in British Asylum Claims'. In The Clinic and the Court: Law, Medicine and Anthropology, edited by Tobias Kelly, Ian Harper, and Akshay Khanna, 72–95. Cambridge: Cambridge University Press.
- Knowles, Scott. 2014. 'Learning from Disaster? The History of Technology and the Future of Disaster Research'. Technology and Culture 55 (4): 773–84. https://doi.org/10.1353/tech.2014.0110.
- Lakhani, Nina. 2015. 'Nicaraguans Demand Action over Kidney Disease Killing Thousands of Sugarcane Workers'. Guardian, 16 February. https://www.theguardian.com/world/2015/feb/16/-sp-nicaragua-kidney-diseasekilling-sugar-cane-workers.
- Marcus, George. 2013. 'Experimental Forms for the Expression of Norms in the Ethnography of the Contemporary'. Hau 3 (2): 197–217. https://doi.org/10.14318/hau3.2.011.
- McKay, Ramah. 2018. Medicine in the Meantime: The Work of Care in Mozambique. Durham, NC: Duke University Press.
- Morello-Frosch, Rachel, Phil Brown, and Steven Zavestoski. 2011. 'Introduction: Environmental Justice and Contested Illness'. In Contested Illnesses: Citizens, Scientists, and Health Social Movements, edited by Phil Brown, Rachel Morello-Frosch, and Steven Zavestoski, 13–23. Berkeley: University of California Press.

Murphy, Michelle. 2017. The Economization of Life. Durham, NC: Duke University Press.

- Nixon, Rob. 2011. Slow Violence and the Environmentalism of the Poor. Cambridge, MA: Harvard University Press.
- Notipellas. 2017. 'SER San Antonio obtiene certificación Fair Trade'. Notipellas.com, 29 August. http://notipellas.com/es/ser-san-antonio-obtiene-certificacion-fair-trade/.
- Ottinger, Gwen. 2013. Refining Expertise: How Responsible Engineers Subvert Environmental Justice Challenges. New York: NYU Press.
- Petryna, Adriana. 2002. Life Exposed: Biological Citizens after Chernobyl. Princeton, NJ: Princeton University Press.
- Pickering, Andrew. 1993. 'The Mangle of Practice: Agency and Emergence in the Sociology of Science'. American Journal of Sociology 99 (3): 559–89. https://doi.org/10.1086/230316.
- Rabinow, Paul. 1996. 'Artificiality and Enlightenment: From Sociobiology to Biosociality'. In Essays on the Anthropology of Reason, 91–111. Princeton, NJ: Princeton University Press.

- Riles, Annelise. 2006a. 'Anthropology, Human Rights, and Legal Knowledge: Culture in the Iron Cage'. American Anthropologist 108 (1): 52–65. https://doi.org/10.1525/aa.2006.108.1.52.
- Riles, Annelise. 2006b. 'Introduction: In Response'. In Documents: Artifacts of Modern Knowledge, edited by Annelise Riles, 1–40. Ann Arbor: University of Michigan Press.
- Scammell, Madeline. 2017. 'Climate Disease and Kidney Injustice'. Public Health Post, 6 November. https://www.publichealthpost.org/research/climate-chronic-kidneydisease/.
- Shapiro, Nick, Nasser Zakyaria, and Jody Roberts. 2017. 'A Wary Alliance: From Enumerating the Environment to Inviting Apprehension'. Engaging Science Technology and Society 3: 575–602. https://doi.org/10.17351/ests2017.133.
- Tsing, Anna. 2009. 'Supply Chains and the Human Condition'. Rethinking Marxism: A Journal of Economics, Culture, and Society 21: 148–76. https://doi.org/10.1080/08935690902743088.