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Obesity Science and Health Translations in Guatemala

Engagement in Practice

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Obesity Science in Guatemala

As reported deaths from heart attacks, strokes and diabetes in Guatemala increase, public health interventions aim to teach people about healthy eating, exercise and

weight loss. Between 2008 and 2009, I studied several of these interventions to learn how data about obesity was interpreted by scientists and how scientific findings about weight circulated within people's lives. Central to my research was the question of how Guatemalans, who traditionally associated fatness with health and prosperity, were making sense of public health education that linked their weight to potentially dangerous metabolic conditions.

In my fieldwork I saw diabetic patients add sugar to their coffee because it was fortified with iron and vitamin A. I encountered women with heart disease who avoided broccoli because they wanted to lose weight and were familiar with information about child health that linked vegetables and vitamins to (in this case desirable) weight gain. I watched mothers who were concerned about microbes in water and pesticides on vegetables feed their children chips and sodas to keep them from becoming sick. I observed that as different ideas of health collided, the outcomes of interventions often differed from those anticipated by policy makers and educators.

The expression *Ser gordo es ser sano* (to be fat is to be healthy) is something I heard from K'iche' and Mam highlanders, many of whom had lived through famine and knew first-hand the suffering of hunger. There is a tendency among Westerners to hear this statement and dismiss it as provincial, erroneous knowledge—the backwards thinking of someone who does not understand the true consequences of weight gain. But my research showed that many who understood fatness to be healthy were not scientifically mistaken, but instead evoked a notion of health that was irreducible to size. This notion differed markedly from the dietetic health advice proffered in hospitals and on sale at supermarkets.

The field of nutrition tends to locate health solely within the physical body, but Guatemalans I met linked health to the abundance of prosperity and the comforts of fulfillment, connecting health to land, spirit, kin and community. Whereas fatness was for educators bound and measurable—an attribute that belonged to a singular body— for many it was inseparable from place and practice. The problem of education wasn't just that the meanings of words did not match up, but that the practices in which these words were embedded also followed

Engaged Anthropology

While I was writing about how knowledge shifts as it moves across contexts, the Wenner-Gren Foundation, a major source of support for anthropological research, launched a new initiative to promote en- gaged anthropology. Engaged anthropology reflects a commitment to making anthropological knowledge and expertise relevant to the communities with whom we have worked. The grant was designed to help anthropologists return to our field sites and distribute our findings. Given that engagement will mean different things in different places, considerable flexibility was built into the grant description. But all projects were connected by the premise that anthropologists have a lasting obligation to the places where we carry out our work, and that it is important also to share our results with the country's academic community.

I had learned in my own research on obesity health education that scientific results are not fixed objects that can be transferred unchanged from one place to an- other; they are reshaped in the exchange. I saw the Wenner-Gren grant as an opportunity to put some lessons from my fieldwork into practice. Rather than simply report on my findings, a method that I found one-sided and often ineffective, I organized workshops where various health scientists could collaboratively discuss challenges to treatment and care that arose through the process of translation.

A range of Guatemalan nutritionists, bio- chemists, public health educators and epidemiologists attended my workshops. Many who participated worked in an emerging field of medical research titled translational research. Also dubbed "bench-to-bedside" research, a goal of translational research is to connect fields of investigation and intervention in order to make scientific results relevant to the population studied. Guatemala is a country where research ethics have been routinely violated, and concern for how scientific results can benefit the people who provide research data is laud- able. Yet many who are involved in translational science have found that making re- search applicable and useful is more easily said than done; intended impacts are not automatically achieved.

Given that anthropology has focused on the details of translation for quite some time, my workshops were met with enthusiasm. I invited a range of scientists and educators from the field of nutrition health, and

many of the people I worked alongside while carrying out my fieldwork were in attendance. At first there was some uncertainty about what to expect. One workshop member wondered how knowledge based in "critical reflexivity" could be replicated, and if it could not, how it could be used with confidence to shape policies. But those who participated were interested in learning about how ethnographic sensitivity to the research process might compliment the various methods they employed.

Cultures and Politics of Health

From the outset, I explained that the work- shops were intended to facilitate conversations about the challenges of working at the intersections of obesity research and public health education. I drew from my own studies to highlight situations in which under- standings about dietary health collided. I also encouraged participants to discuss difficulties they had encountered and urged the

group to consider ways to work through these challenges.

The largest gathering of roughly 20 doc- tors and scientists in Guatemala City was composed of all women, perhaps reflecting the gendered dimensions of nutrition, but also a sign of the emerging presence of women scientists in Guatemala. At this meeting there was an extended conversation about how the co-occurrence of mal- nutrition and obesity complicates efforts to craft a useful public health indicator for hunger. While everyone who voiced an opinion recognized the political utility of such an indicator, many were skeptical about the ways science had been deployed for such unabashedly political ends.

Currently the global health community relies on number of calories consumed and the Body Mass Index (BMI—a ratio based on mass and height) in their assessments of food security. Meanwhile, there is a growing scientific opinion that the kinds of calories eaten matter greatly and that the relation between body composition and health is not well-captured by the BMI.

Several scientists at the workshops advocated for a health indicator based on the discrepancy between a population's actual median height and its expected median height—a measure referred to in global health circles as "stunting." Yet while compelling research shows that differences in height over a population can be attributed to nutrition and not population-level genetic variation, several people wondered whether stunting was not ultimately too crude of an indicator of health to be useful.

As explained by some of the scientists, although height is an apparently straightforward measure at first glance, when looked at more carefully, height can reflect differences in leg length, shin length or trunk length—each of which might correspond to health in different ways. There is also debate about when to measure height (babies grow, adults shrink) and while the current global health definition for stunting is based on the 2006 World Health Organization growth standards, the universality of these standards is debatable as well.

A deeper concern voiced by some was that although stunting is taken as a proxy for nutritional health, it might not, in fact, result from the availability of nutrients in the diet but from subtle and acute infections. These scientists wondered if some of the public health energy directed toward educating consumers to make "smarter" food choices as well as improving access to and avail- ability of nutrient-rich foods might be better spent addressing environmental toxins in the food supply.

A few of the researchers had also begun to study whether and in what ways stress experienced by mothers becomes transmitted to their children. They had hypothesized that stress a woman experiences during pregnancy influences the likelihood that her children will develop obesity-related metabolic illnesses later in their lives. As they expressed this, pregnant women might "transmit" or "communicate" these illnesses to their children. This is especially interesting because the public health community currently classifies metabolic illnesses as "non-communicable." The scientists' hypothesis, however, expanded the realm of communication to include non-verbal pathways of transmission such as feeding and eating. In other words, the scientists were not separating biology from the environment, but treating physiological development as intertwined with intergenerational communication.

Our conversation about hunger and stunting spurred debate between policy and laboratory scientists in attendance about what, if anything, they might be able to say about health. Several people felt the idea of health was too vague (what one person called "too obviously 'cultural'") to be

within the domain of good scientific re- search, including research on the ostensibly health-related fields of diet and human metabolism.

Yet even those scientists whose research was technical (focused, for example, on the chemical binding properties of iron) recognized that policy priorities influenced what took place in their laboratories. Projects deemed worthy of funding—and the eventual acceptance and dissemination of re- search results as well—were linked to cultural systems of value. As we spoke, it became obvious that clear delineations be- tween science and culture were as muddled as those between environment and biology.

I shared my view that this did not have to be a source of discouragement, but might be used to create innovative research de- signs and policy strategies. Instead of working to correct local understandings of fat- ness, for example, scientists might learn to work with them. I explained that in my re- search, local evaluations of fatness de- pended upon knowledge of a person's everyday life and not upon the fixed mea- sure of weight or on a visual assessment made by a detached observer. Weight should not be treated as a seamlessly trans- portable measure; fatness was not some- thing that could be reduced to numbers. Such assessment required knowledge of a person's life history as well as the conditions of his or her present environment. Health, in turn, could not be diagnosed definitively. It was far more fluid.

The participants were intrigued by this finding and its subsequent demand for deeper engagement with the specificities of the problem at hand. Several researchers were themselves running into obstacles in the process of collecting data on eating and health. On paper, the question of what and how much someone has eaten is entirely obvious. But accounting for the "what" and "how much" of eating is extremely difficult. In practice, meals are often not well-defined and people eat without conscious reflection on what and how much they have eaten. Food is shared imprecisely, making portions difficult to measure, and although scientists might consider the ingestion of any calories to be noteworthy, people are often uncertain about what to track: the sip of broth taken to ensure the drink would not burn the child's mouth; the single bite of cake taken at a party—not much, just enough to not offend; the oil in the pan used to keep the egg from sticking?

Some of the researchers suggested that organizing food into food groups might aid in participant recall. Others felt this would be a grave mistake, since most foods eaten in Guatemala blur the boundaries used by global food group guidelines. It is telling that Mayan languages do not categorize foods in global health terms. In K'iche' and Mam, the indigenous languages spoken where I worked, there are no words for fruits and vegetables since these are not locally meaningful categories. If one considers the region's foods—tomatoes, avocadoes, beans, squash, maize and potatoes—the public health categories fruit, vegetable and starch do not make very much sense. (Should tomatoes and avocados be classified as fruits? Should beans and squash be considered vegetables? Are maize and potatoes starches?) There is apparent simplicity in the lesson "eat more fruits and vegetables," and the phrase has circulated widely. But in Guatemala

this mandate can confuse rather than clarify.

While a possible improvement would be to pay more attention to indigenous strategies of classification, this is not as simple as it might sound. For example, a group of scientists in attendance who were researching postnatal nutrition had begun to study how indigenous beliefs influenced the consumption behavior of postpartum women by recording whether women were eating *caliente* (hot) or *frio* (cold) foods after giving birth. Ethnographic literature makes clear that indigenous classification of foods as caliente or frio refers to a specific effect that the food has on the body when eaten and not to a measurable temperature. But when coding their data, which had been translated into Spanish and would eventually be translated into English, the scientists could not easily discern whether the reference to caliente or frio was a reference to an effect or a temperature of food. They had the words in front of them, but not enough cultural history to render them intelligible.

We discussed the problems of coding across languages—of forcing heterogeneous meanings into someone else's *lingua franca*, be it Spanish, English or the apparently smooth surface of measured calculations. By the end of the workshop, the question we had started with about the reliability of ethnographic methods had reversed upon it- self. Now at stake was the question of how to do good quantitative research given that translations do not hold stable.

Translational Competency

During the workshops we encountered several situations in which information did not move unchanged from site to site; it became transformed as it traveled. I conclude with a story that offers one idea of where to go from here.

It was the end of the day. I had accompanied a small group of scientists to a meeting of rural Mam women who had gathered to discuss things they found important, beautiful or challenging in their lives.

On other trips the scientists collected clear plastic vials of spit, later analyzing this for a biomarker (cortisol) of what many health professionals call "stress." But the re- searchers knew that these women did not use this concept and they were curious about local meanings of the biomarker. The day's meeting was a preliminary attempt to learn about the women's cultural perspectives.

As we walked back to the office along the dusty road from the bus terminal, I asked the lead scientist what the team was hoping to find. She said she wasn't sure, but three small babies had recently died in a community where they were carrying out their study, and they wanted to develop a richer language for communication in order to better understand what might have gone wrong.

They particularly wanted to know more about why the women, who largely de- pended upon midwives or received no formalized prenatal care at all, were afraid of the regional hospital. Many saw it as a space of death. The researchers wanted to better understand so that they might more effectively encourage local women to seek medical care while also helping the hospital to provide better services.

I was impressed by the obvious concern these researchers had for the lives and after- lives of their research—and for the women who make their publications possible. Yet it also struck me that beginning research out of a concern that women were not going to hospitals was itself disquieting. Why not ask instead why midwives and home deliveries are not better supported? Or what would change by taking seriously the women's views that hospitals were a space of death, and consider that they might know a better way to birth?

My questions were greeted with interest, but then they pointed to another site where different health priorities collided and rupture ensued. Nutrient fortification and nutrition campaigns are a recent occurrence in Guatemala, dating back no further than a generation or two. Many of these campaigns are directed at pregnant and lactating women, who are understood in public health terms as holding the keys to the doors of human capital. Emerging research suggests that when these campaigns are successful babies will be born bigger in size. From the standpoint of public health officials this outcome is wonderful, just what they want—except, that is, when the outcome of better nutrition is not health, but death.

While small women can certainly safely deliver large babies without needing to travel to hospitals, the risks involved might very well increase. Today, the same re- searchers who have promoted the use of fortification to treat dietary deprivations in the past are growing suddenly fearful about what happens when women who measure as stunted in height give birth to babies whose size and shape has been buoyed by these nutrients.

"Genocide at an unimaginable scale" is how one scientist referred to the potential consequences of improving health in a way that neglected to consider its distribution across generational time. Even skilled mid- wives may not be prepared for these biocultural transformations.

Continuous Translation

In keeping with the findings of a rich tradition of anthropological scholarship on global, environmental and health translations, my workshops emphasized the need for translational competency in addition to cultural competency. Many of the scientists were familiar with cultural competency, which in this context implied the respectful and attentive translation of meaning from site to site. Translational competency, mean- while, emphasized that meanings were never fixed (not in place, not in time). As a result, it was important to treat translation as a continuous and interactive practice in which translation does not just mediate be- tween meanings but interplays with structures, resources and people's lives over time. Participants occasionally reframed the examples of the transformations I had high- lighted as misunderstandings. But the idea that knowledge can ever be "understood" presumes a stable and correct version of the information itself. The exchanges I drew attention to did not have such a singular right or wrong valuation.

Women who give their children Pepsi be- cause boiled water is expensive and tap water might cause diarrhea do not do so out of ignorance. In a region where stomach cancer among children abounds, eating chips instead of vegetables washed in pesticide run-off may not be a decision made from poor education, but a difficult trade-off of one kind of sickness for another. What is at stake is not—or not only—an exchange of correct meanings, but an exchange of re- sources.

Many of the scientists who participated in my engagement project were invested in "translational research" and cared about the practical results of their studies. But it be- came clear as we spoke that translation is

not a singular, determinate process. Translation of knowledge about obesity is not a concrete goal to be achieved once and for all. Instead, knowledge has social life, and its movements and transformations must be addressed. To know is to engage.

As the conversations that unfolded during my return to Guatemala illustrated, the work of effective translational research en- tails staying close not only to the jagged edges of meanings as they shift from site to site, but also to meanings as they transform into practices, and to practices as they endure or fall apart with time. The process is not linear (from the proverbial bench to bedside) but entails dialogue, rupture, silence and further dialogue. This is not how the medical field typically frames the data- driven domain of translational research to- day. Yet it is an approach that resonated with the scientists and health workers with whom I met. Their research and teachings continue to unfold amid unstable translations.

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Note

Photos in this article are courtesy of Emily Yates-Doerr.

Suggestions for Further Reading

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