

# SCIENCE AND SERENDIPITY

## *finding Coca-Cola in China*

---

SUSAN GREENHALGH

**ABSTRACT** Four years of wide-ranging anthropological research yielded a surprising discovery: the Coca-Cola Company, working through an industry-funded scientific nonprofit, had quietly reshaped China's obesity science and policy to align with Coke's position that exercise, not food and drink, is what matters—a view few experts accept. Hoping to get the results to the key audiences, the author submitted a capstone article to a series of high-impact medical journals that was repeatedly rejected. Eventually the article was published in a top journal, but not as “scientific research.” This prompted reflection on the differences between the methods of anthropology and medical science. Anthropological research is distinguished by methodological openness, serendipity, narrative sense-making, and personalism. It is personalistic in that the body is a research tool, and a solo researcher at the center acts as data clearinghouse and marshals regional expertise to show how things make cultural sense. Using the Coke-in-China research, this article illustrates how this systematic yet self-consciously subjective approach was effective in breaching the walls of industry science and uncovering the social ties and institutional mechanisms that allowed corporate schemes to remain hidden while gaining such power. The author encourages readers in medicine and public health to think about the complex, human process by which they reach their own conclusions. A better understanding of how each science is human in its own way might open up space for greater dialogue and even more collaborative knowledge-making at the crossroads of anthropology and the health sciences.

---

Department of Anthropology, Harvard University, 21 Divinity Avenue, Cambridge MA 02138.  
Email: greenhalgh@fas.harvard.edu.

*Perspectives in Biology and Medicine*, volume 62, number 1 (winter 2019): 131–152.  
© 2019 by Johns Hopkins University Press

“COCA-COLA FUNDS SCIENTISTS WHO SHIFT BLAME for Obesity Away from Bad Diets.” Thus began the August 9, 2015 *New York Times* article that alerted the public and the wider scientific community to the secret tactics the soda industry was using to protect its profits on a product known to harm health and contribute to the obesity epidemic, one of the leading public health crises of our day (O’Connor 2015a). Following the lead of the tobacco industry, Coca-Cola was funding leading exercise scientists to promote the message that physical activity was the main solution to the obesity epidemic—a claim few obesity experts accept. The response was condemnation and a deeper appreciation of the political obstacles to regulating soda consumption, seen by many as a key component of strategies to control obesity.

Perhaps because public health scientists study health and health policy, but rarely the politics of health, few scholars have taken up the challenge of applying rigorous methods to uncover the dynamics of soda-industry intervention in obesity science and policy (important exceptions are Aaron and Siegel 2016; Nestle 2015; see also Kearns, Schmidt, and Glantz 2016; Serodio, McKee, and Stuckler 2018). Such work is important. Obesity is not just a disease in itself, it is a risk factor for other chronic diseases that are major killers in the US and worldwide (including diabetes, heart disease, stroke, and some cancers). Despite decades of research, proven solutions remain sparse and obesity levels continue to rise in much of the world (NCD Risk Factor Collaboration 2016). Corporate intervention in obesity science may help explain why progress in curbing the epidemic has been elusive.

Since mid-2013, well before news of Coke’s secret science strategy came to light, I have been doing wide-ranging anthropological research to unravel the history of obesity science and policy/politics in China. My central concern has been to understand the role of the pharmaceutical and food industries in making and managing China’s obesity epidemic. Through extensive fieldwork, documentary research, and internet research, I discovered that the Coca-Cola Company, working through a scientific nonprofit, had quietly reshaped China’s obesity research and interventions. The key institutional vehicle for industry influence, the International Life Sciences Institute (ILSI), was a corporate-funded scientific nonprofit with headquarters in Washington, DC, and (in 2019) 17 branches around the world. The China branch (below, ILSI-China), working with the Chinese government, was the lead organization in the creation of obesity science and policy in China. My investigations revealed that, in the decade starting 2004, when Coke declared its commitment to being “part of the solution” to the obesity epidemic, there was a marked, statistically significant shift in focus of science and policy toward physical activity, aligning China’s approach with the company’s message that exercise, not food and drink, is what matters. While helping to protect its China market, the company distorted the country’s science of chronic disease and may have compromised the people’s health by effectively

blocking more balanced solutions that included regulation of the food industry. These findings had potentially important implications for how we address the global obesity epidemic.

Hoping to get the results to those with the keenest interest—the biomedical and public health communities—I set out to publish a capstone article in a high-impact medical journal. I taught myself to write a medical article (or so I thought), straining to squeeze the most critical points into the allotted 3,000 words, and in late 2016 submitted it to a leading medical journal. Six weeks later I received an email from the corresponding editor indicating that the journal was quite interested in the topic, but could not begin to develop the article for publication until I had addressed some basic problems. Three external reviews were included. All found the work important or provocative. Yet, the commentaries said, the article was insufficiently scientific in two ways. First, it would be stronger and more credible if it included greater detail about the methods used. Second, the language was problematic. The piece read like investigative journalism. I should stick to the facts, remain objective, use neutral language, and refrain from stating opinions. In other words, I was to avoid engaging language, forego interpretation, and eschew the use of a narrative structure to braid the facts into a compelling story. The editor also suggested in passing that an article by a single author was inherently suspect, but did not elaborate, probably because there was little I could do about it.

With cautious encouragement and exacting instructions from the editor, over the next few months I spent a very substantial amount of time revising the article. I created an exhaustive methodological appendix and did my best to drain the color out of the language. I hired graduate students to formally transcribe and translate the interview audiofiles from the fieldwork, perform tests of statistical significance, and create a figure visually displaying the complex funding, institutional, and social ties connecting Coke to China. Ten weeks later I submitted the significantly revised article along with two supplementary appendixes. I expected positive reactions with perhaps a few suggestions for further change. Three weeks later the work was officially rejected. The reasons were not disclosed but had something to do with disciplinary fit: the article, I was told, did not adhere to generally accepted norms on how research should be conducted and presented in a leading medical journal. I got the sense that despite my fancy degrees and titles, and all the original research I had done, my work could not quite be trusted.

That was the first of three rejections by top-notch medical and public health journals following full external review by largely enthusiastic reviewers. Though the editors used different language, in each case the fundamental problem was this: despite strong interest in my findings, they could not publish the work because it was not medical science. (It eventually was published, but not as medical science. I tell that story at the end.)

And so I began to reflect on the differences between the methods of anthropology and medical science and whether the sort of scientific approach the journals required would have, or could have, produced the kinds of insights they were so interested in. Oversimplifying for the sake of argument, it was a study in contrasts. Though not authoritative statements of scientific methods, the commentaries suggested that good research in science is objective, impersonal, and replicable; it follows standardized, rigorous, clearly specified methods; and it relies on a plainspoken, just-the-facts style of presentation that excludes subjective interpretation and narrative structuring. To be credible, the scientist as human being must be absent from the research and the writing.

Based on decades practicing anthropology, I would say that good research in (sociocultural) anthropology is essentially the opposite. It is subjective and personal and virtually never replicable. It employs long-term, systematic fieldwork methods, but they are subject to interpretation and open to innovation. It values a personal style of presentation that starts with the facts but encourages the layering on of authorial insight, interpretation, and narrative framing. To be credible, the anthropologist as human being must be present and honest—that is, accountable for the impact of subjective or personal factors on the research and writing.

From there I began to muse about the methodological journey I had actually followed in making the discovery about Coke's influence in China. How had I figured that out? As I thought back over four years of data-gathering, it became clear that there was nothing tidy about it. The research was full of starts and stops, twists and turns, and through it all somehow just kept expanding in scope and complexity. Fortunately, I had kept meticulous notes and records not only on what I was finding, but also on when and how I found it out. Drawing on these records, I want to write here about those research methods (leaving reflections on the writing for elsewhere) as a way of thinking about the process of discovery, of how knowledge is produced and how fresh insights emerge at the intersection of public health and anthropology.

### ANIMATING QUESTIONS AND INVESTIGATIVE METHODS

First, a few basics about the research.

*Questions: Why Obesity? Why China?*

I had received funding to study the obesity epidemic in China, and planned to do fieldwork in Beijing in the fall to winter of 2013. I was interested in the politics behind the transformation of obesity from a cultural issue of fatness into a medical condition of epidemic proportion. In more theoretical terms, I was concerned with the emergence of the so-called “obesity epidemic” as a new object of modern science and governance. In this perspective, obesity is a real bodily condition, but it is also a constructed one, both the problem and solution framed

in distinctive ways that turn out to be profoundly consequential (for entrees into the theory, see Greenhalgh 2008, 1–44; Rose 1999). After working on the obesity issue in the US, where I had studied the “downstream” societal consequences of the scientific framing of obesity as a serious disease (Greenhalgh 2015), I was keen to study the “upstream” construction of obesity as a matter for science and policy/governance in China, my area of regional expertise where I had worked for decades.

China was an important yet little-understood site. Like many countries, at the beginning of the 21st century it had defined obesity as a disease, declared the existence of an epidemic, and set about creating policies and interventions to control and prevent it. When and how did those steps happen? Which social actors were most influential? What aspects of the larger context were critical in shaping the scientific framing of obesity and its ideal governmental solution? Why did it matter? China’s rapid marketization gave the question of industry’s role in the management of health enormous significance. Beginning in the late 1970s, the state had largely abandoned health care and public health to the market—with generally dire effects on human health. Though a few political scientists had studied the shifts in China’s overall health politics and policies, few had looked into how the growing influence of other market forces affected the making of science and policies on specific diseases (Duckett 2011; Huang 2013). A micro-study of the making and managing of one disease, especially a rapidly increasing chronic condition that was connected to many other diseases, would tell us which social forces were actually governing the health of the Chinese people—the government, corporations, nonprofits, or other actors. Unlike the public health research on industry influence in the West, which focused tightly on financial links, my project was thus conceived as a broad, open-ended inquiry into who made obesity science and policy, how, in what context, and with what effects.

*Methods: An Odyssey with No Evident End*

Reflecting my interest in this historical shift, my plan was to first create a detailed history of obesity science and policy/governance from around 1990, and then search for connections to the wider cultural and political context. Before leaving for China, I studied all the published research available, in China and internationally, on Chinese obesity, focusing on the applied or public health branch of the field. I then began constructing that timeline, filling in key institutions and individuals. The fieldwork took place from October to December 2013. The core of the project was a set of in-depth, semi-structured interviews with 25 experts on obesity or related topics, including most of the top researchers in applied obesity research. A key informant was the founding head of ILSI-China, Chen Chunming. I also learned about, and acquired copies of, the newsletters that ILSI-China published twice a year documenting its activities. These would become prized sources of information. In December I had the remarkable for-

tune to be invited to a major international conference on obesity prevention and control in China, where I was able to observe firsthand how obesity science and policy were made in practice. The fieldwork also involved informal ethnographic research in a variety of settings, as well as internet research on my informants, key companies, and government policies, programs, and guidelines for chronic disease control.<sup>1</sup>

The fieldwork produced much of the history and some of the context I had wanted to map out, but it raised as many questions as it answered. Back in the US, as I began following up on those leads, I started uncovering new resources and identifying additional organizations, which in turn led to fresh questions. Far from being a clearly bounded project, the inquiry continued to grow in scope and complexity. Although developments in China were fitting into place, as I tried to understand the larger forces at work I came to realize that the creation and management of China's obesity epidemic was embedded in, and to varying degrees shaped by, five large, internally complex institutional systems, each of which had to be understood. And so the scope of the project expanded further to include the International Life Sciences Institute (ILSI, embracing a cluster of interrelated organizations), the International Obesity Task Force (IOTF), the Coca-Cola Company, the Exercise is Medicine (EIM) program, and the World Health Organization (WHO). For each of these systems, there were many resources requiring study. Feeling the need for more international perspective, in 2015 and 2016 I visited and had lengthy conversations with 10 globally prominent obesity specialists based in the US and Europe. During all this time, I regularly monitored the websites of China's National Health and Family Planning Commission (before 2013, the Ministry of Health; since 2018, National Commission on Health), the China CDC, WHO, and other organizations for news items and policy developments. By the end of 2016 (to take an arbitrary date), my paper files had grown to 46 linear inches, while my computer hard drive had filled up with many hundreds of electronic documents sorted into 24 folders. And that does not count the files on the scholarly literature that would frame the project.

#### *Anthropology's Methods—in Brief*

This research process may strike readers as hopelessly uncontrolled and virtually limitless, but in practice it was tightly controlled—in an anthropological sort of way—and firmly bounded by a steadfast focus on tracing the scientific governance of obesity in China. A certain mystique surrounds anthropological methods; even today, professional anthropologists tell their students that ethnographic methods can be learned only through doing. But when anthropological ways of knowing butt up against other ways of knowing, it is important to try to

<sup>1</sup>This is a relatively short stint of field research for anthropology. I had intended to return but, given the sensitivity of the topic, it became clear that an effort to conduct follow-up interviews would not be welcome.

strip off that layer of mystique and specify exactly what is being done in the name of anthropology.

Anthropologists are trained in the methods of the discipline, but how those methods are executed is open to individual interpretation. In practice, the methods used vary with the topic, the opportunities and constraints of the research site, and the anthropologist's training and predilections. Because I was trained in the late 1970s, when anthropology identified more clearly as a social science (rather than as a branch of the humanities), my approach was undoubtedly more rigorously scientific than that of some of my colleagues. It shared with science, including medical science, several aspects of what is generally considered good research. The approach to data-gathering was systematic and thorough. Before each interview, for example, I spent hours doing internet research on the informant, reading some of his or her publications, creating a professional profile, and developing a curated list of questions. The documentary sources were studied in the same methodical way. Like all anthropologists, I maintained detailed fieldnotes with empirical observations, interpretations, and questions to pursue. The research was also scientific in engaging in continual hypothesis constructing, testing, and reconstructing in the field. These procedures were designed to help ensure that the data gathered were as trustworthy—as valid and reliable—as possible.

Four other features marked my data-gathering efforts as distinctly anthropological:

*Personalism; the body as research tool.* Though rarely articulated, it is a truism of anthropology that the body of the ethnographer is the ultimate research tool. The field's characteristic method, participant observation, stresses the fundamental importance of being actively present and taking part with one's body. It emphasizes working "from our body in all its capacities, of talking, thinking, feeling, doing, seeing, and imagining . . . [and] seeing where an aware and active presence might lead us" (Scheldeman 2011, 131). Even in a relatively short-term, science-focused field project such as mine, where opportunities for participant observation (in this case, of science making) were limited, the use of bodily capabilities such as seeing, hearing, imagining, and engaging with people through conversation yielded information of great value.

The research was personal in a second sense, the sense of what anthropologists generally call the "lone ethnographer" and I call the "solo researcher." By being involved in all phases of the research, and drawing on a deep knowledge of Chinese politics and culture (anthropologists are expected to be specialists in their regions of study), I was able to accumulate insights from multiple sources, triangulate among different data sources, and, in the end, connect disparate observations to reach broader conclusions. Far from undermining the project's credibility, the personal and person-centric nature of the research was what gave it its power to produce original insights.



*Methodological openness.* The research was also marked by methodological openness. Rather than drawing a sharp boundary between legitimate/not legitimate data sources (or data/news, data/personal experience, data/hearsay), I treated anything or anyone that could possibly shed light on my questions as a potential data source and remained open to letting it take me where it would. Little nuggets of information were treated as clues to follow, hypotheses to pursue, or prods to find new resources.

*Serendipity.* The process was also full of serendipity, chance moments that occasionally led to fresh discoveries or shifts in direction.

*Narrative sense-making.* Finally, like narrative medicine, the project was driven by a quest for narrative sense-making, the search for pieces of evidence that fit together and the assembling and re-assembling of bits of evidence and facts into stories, with beginnings, middles, and ends, and with sentient actors populating the parts.

#### *Isn't Anthropology Journalism by Another Name?*

Readers may wonder how this differs from journalism. Anthropology resembles journalism in its use of narrative modes of depicting social life. Like journalism, the now popular “public anthropology” addresses critical issues of the day. Yet the differences far outweigh the similarities. Journalism aims at reportage—factual presentation of current events. Anthropology seeks to achieve deep, richly contextualized understandings of the world that address theoretical questions in the discipline. The methods of inquiry differ accordingly. Whereas anthropologists possess a large and systematized yet open methodological toolkit, journalists, with their tight deadlines, rely largely on interviews. If anthropology sees personalism as unavoidable and needing self-reflexive management, journalists believe in and strive for distanced objectivity. Though the practice of anthropology requires artistry at every step (finding the best methods for the problem, adapting to surprises in the field, and so on), it is an academic discipline with standards that include justification of methodological choices, and an established body of scientific literature that informs and is informed by empirical research. How interesting it was to me, then, that one of the medical editors, seeking to capture what was objectionable about my work, chose the label “investigative journalism.” Little did he know that beneath that explosive surface story about Coke in China lay an entire body of scientific thought and practice that was invisible to the untrained eye. I bring it to the surface now.

### **CASE 1: HAPPY 10, FROM ATLANTA TO BEIJING**

To illustrate how this approach to data-gathering worked in practice, and how it led to the discoveries of Coke's deep involvement in China, I want to offer three case studies, or concrete examples of the complex, sometimes labyrinthine



process by which I uncovered the hidden connections. The first focuses on a popular public health intervention, the second on a well-known scientist, and the third on the company's overarching strategy to combat obesity while protecting profits.

One of the most storied of China's interventions to control childhood obesity is the school exercise program known as Happy 10 Minutes (*kuaile shifenzhong*). I first heard of Happy 10 in the fall 2013 interviews, when the China CDC researcher responsible for developing the program with the support of ILSI-China cited it as an example of a successful policy intervention. Impressively, I learned, Happy 10 had become a component of the National Healthy Lifestyles for All Action, the government's main approach to curbing obesity and related chronic diseases. The same scientist gave a presentation on Happy 10 at the December conference, but I paid it little heed, as it seemed fairly inconsequential.

I began paying more attention in mid-2015, when, during my initial read-through of the ILSI-China newsletters, I discovered columns on Happy 10 in five separate issues published between 2003 and 2007 (ILSI-China Newsletters, Timeline and Ideas). According to the newsletters, Happy 10 was launched as a pilot program in Beijing in September 2004. Reportedly popular with students and successful in improving child health, it was soon expanded to cities around the country. One column noted that the program was based on the ILSI Center for Health Promotion's (CHP) experience of Take 10! That was an important clue, but I had not heard of the CHP, so I just squirreled away the information in the back of my mind. One piece of news did catch my eye: the launch ceremony for the National Happy 10 Campaign was supported by Coke-China (ILSI-China Newsletters, Timeline and Ideas). I puzzled over why the program was getting so much publicity.

#### *Coke Claims Credit for "Happy Playtime"*

A few months later, in early 2016, when I was studying Coke's sustainability (or corporate social responsibility) reports to understand the development of its science-based strategy on obesity, I noticed a little item of interest. The reports of 2005 and 2007/8 depicted a Chinese initiative, "Happy Playtime," launched in 2004, as a prime example of the kinds of Active Healthy Lifestyle Programs the company supports (Coke's Shifting Strategy to Fight Obesity, pp. 3–5; below simply Coke's Shifting Strategy). Despite the different name, it was clear that this was none other than Happy 10. Why would Coke be claiming credit for a program that, according to ILSI-China, was supported by ILSI's CHP? This did not make sense.

In the summer of 2016, I was studying the ILSI-Global website to develop a timeline of its work on obesity. On the webpage on ILSI's Research Foundation, under the heading, "What We Do—Nutrition and Health," I found the official history of Take 10. According to that history, ILSI's leadership had recognized

the seriousness of the impending obesity crisis early, and had approached the CEOs of food companies (that is, ILSI's member companies), outlining comprehensive solutions. "The result was the establishment of one of ILSI's signature programs: Take 10 . . . now in over 55,000 classrooms in the U.S." and serving as a model for programs in seven other countries, including China (ILSI Research Foundation n.d.). So, Happy 10 was a Chinese version of an ILSI signature program. That helped explain the emphasis it was given.

### *The Magic of the 990*

In early 2017, hoping to understand how many of ILSI-China's obesity programs were initiated by ILSI-Global, I began trying to locate a run of ILSI-Global annual reports. I had looked for those reports several times on the organization's website but discovered that the links had been disabled. In mid-March 2017, determined to find them at long last, I began making phone calls to see if I could locate paper copies. After several unsuccessful calls, I phoned the Baker Library at the Harvard Business School. The reference librarian told me they did not carry the annual reports of nonprofits, but alerted me to the existence of nonprofit 990 forms (providing tax information for the IRS) available online through GuideStar. Elated, I quickly found and downloaded historical runs of the 990s for ILSI, ILSI Research Foundation, ILSI North America, and ILSI Center for Health Promotion (CHP).

Through a stroke of serendipity, I had found a valuable archive of information on the finances, boards, and activities of all the ILSI-Global entities. And here is where I solved the puzzle of how Happy 10 came to be. ILSI's Center for Health Promotion, based in Atlanta and headed by Alex Malaspina, had created the classroom activity Take 10! in 1999 (Kibbe et al. 2011). A little background here. Though it took me a while to figure this out, Malaspina was a central figure in the story I was unraveling. He was a vice president of the Coca-Cola Company and the founding president of ILSI-Global, serving as ILSI head from 1978 to 2001. Around 2000 he was retiring from headship of ILSI-Global and taking over the much smaller ILSI CHP in Atlanta. Childhood obesity—or, more accurately, promoting exercise as its solution—was one of Malaspina's pet concerns (I had learned that from his talks) (Malaspina 2000). He hired an Atlanta-based researcher to develop a prototype for a school exercise program that ILSI could propagate through its global network. In the 990s, I found the connection to China. During the full six years of CHP's existence (1999–2004), Chen Chunming, ILSI-China's founding director, was an unpaid trustee, and in 2004 the CHP awarded two grants totaling more than \$53,000 to the China CDC. The timing of the grants (on February 6 and May 13, 2004) and the launch of the Happy 10 pilot project (in September 2004) leaves little doubt that some if not all of the funds were earmarked for China to create its own Take 10 program. ILSI-China (in the person of Chen) had served as the intermediary and asked the China CDC to be the implementing agency.

That explains how the program traveled from Atlanta to Beijing, but it does not clarify how “Happy Playtime” ended up featured in Coke’s 2005 and 2007/8 sustainability reports. Though the CHP was an ILSI organization, the Coca-Cola Company had claimed credit for the Chinese program. Whether Malaspina (as Coke VP) served as personal intermediary, asking the company to list ILSI’s Happy 10 in its sustainability reports, or Coke provided additional funding for the Chinese program that would legitimize its inclusion, is not clear. Perhaps both were true. Whatever the hidden connections, triangulating different sources that I had been mining for other purposes had allowed me to see how decisions made by top Coke officers in Atlanta—in this case, to prioritize physical activity solutions to the obesity epidemic—found their way to China, where they left their imprint on the nation’s obesity interventions and on local perceptions of the best solution to the problem.

## **CASE 2: A COKE-FRIENDLY SCIENTIST WHO SEES EXERCISE AS THE ANSWER**

Coke’s science strategy on obesity involved working with prominent scientists to spread the message that physical activity is what matters most to obesity prevention. One of Coke’s first and most influential collaborators was Steven N. Blair, of the Arnold School of Public Health at the University of South Carolina. I first encountered Dr. Blair and his ideas at the 2013 conference on obesity in China. Like all ILSI-sponsored conferences, the 2013 meeting was designed to bring the best of international science to China, and Blair was one of three American academic scientists invited to present the best science. Blair’s talk, in the opening session, got my attention. My fieldnotes record my astonishment at hearing him declare at this obesity conference that obesity is not the issue. “Every week in the world’s best journals, physical activity is totally ignored,” he said. “Is physical inactivity more important than obesity as a public health problem? YES” (Fieldnotes and Reflections, p. 6; below, simply Fieldnotes).

Blair also stressed physical activity in the wrap-up panel on the second day. Again, from my notes recording his comments verbatim: “[It] will be controversial [but] let’s forget about weight. . . . Focus on healthy living. . . . If you’re active and fit, your weight doesn’t matter very much. . . . The U.S. is doing terribly. . . . We have proven that focusing only on weight loss . . . does not work. Let’s drop [the] focus on weight, let’s try something else” (Fieldnotes, p. 18). In that same wrap-up session, Chen Chunming, by then ILSI-China’s senior advisor and the undisputed leader of China’s obesity field, underscored Blair’s points, contending that his approach should become a national priority. Her comments revealed that Blair’s views had influenced Chinese thinking at the highest level, and that Chen had known him for some time. In her words:

[One] strategy is smart eating. . . . Also, the importance of physical activity. . . . Look at Dr Blair, he seems to be overweight, but he says he has lots of muscle. I've known him for years, he's very healthy. BMI is not important. This shall be our goal: become fit. Physical exercise is a must. This is another thing we learn[ed] from this meeting. (Fieldnotes, pp. 19–20)

Blair's name came up in some of the other talks as well. Rhona Applebaum, Coke's Chief Science and Health Officer, noted that Dr. Blair was involved in an ILSI-Coke fellowship program on physical activity and health, training Chinese awardees in sports medicine (Fieldnotes, p. 9). A Chinese speaker introducing the Exercise is Medicine (EIM)-China program mentioned that Blair had participated in an EIM meeting at the General Administration of Sports in Beijing (Fieldnotes, p. 14). (EIM is the US-based global initiative promoting exercise in all health care. I return to it just below.) These mentions of Blair's name told me that his involvement in China went beyond giving talks to include concrete participation in the design or implementation of at least two Coke-funded exercise programs. This raised a host of new questions for my research.

*Informal Chats: The Body as Data-Gathering Instrument*

During coffee breaks, I took advantage of my "body as research tool" to initiate informal conversations with Dr. Blair and James O. Hill, an exercise scientist at the University of Colorado. These chats shed light on the frustrations of the American scientists promoting exercise, as well as the social ties that had brought them to China. My fieldnotes record my reactions:

Break [chatting with Jim Hill and Steve Blair]: [They] said, with feeling, that, in the U.S., nutrition and physical activity research and approaches are even more separate [than they are in China]. Dominance of nutrition in field. Vast amount of NIH funds go to nutrition. There isn't even a category [on the] NIH website for funding of physical activity. (Fieldnotes, p. 6)

I puzzled over this. If there was so little support for the exercise solution at the US National Institutes of Health, how could it be the best of international science?

Break [chatting with Steve Blair]: Unlike Jim Hill, Steve was not that eager to talk to me on Thursday. . . . On Friday I sought him out and . . . asked him how long he had been working in China and how he got connected with the people here. Omg. He said he's been coming to China for about 4 years, and he was introduced to people here by Rhona, the Coke representative, who has been funding his research for a long time. [omg ★★ Coke is funding research that says obesity is not the issue★★] After all, he pointed out, Rhona used to be head of ILSI-Global, so she connected him up to ILSI-China. (Fieldnotes, p. 21)

In my reflections on the conference, I speculated that Blair may have been invited to represent the best of Western science to the Chinese because of his ties to Coke. A new hypothesis had emerged:

So, why is Steve Blair being brought to China and given such an important role? Because of his long ties to Coca-Cola, which founded ILSI. It's all about personal networks, including scientific networks that are international in scope. Will his and Jim Hill's exercise-first approach gain support here? Time will tell. (Fieldnotes, p. 21)

Little did I know, the approach had already gained widespread support.

*An Intervention by the New York Times*

A year and a half later, the new hypothesis received support from an unlikely source. On August 9, 2015, I opened my *New York Times* to discover that Coke had been funding a Global Energy Balance Network to publicize its exercise-first message. Arrayed across the top of the article were large color photos of the three principal scientists involved, two of whom (Blair and Hill) had been the main speakers at the Beijing conference. Applebaum—whom I also knew from Beijing—was coordinating the effort for Coke. The article went on to explain:

Health experts say this message is misleading and part of an effort by Coke to deflect criticism about the role sugary drinks have played in the spread of obesity and Type 2 diabetes. . . . despite evidence that exercise has only minimal impact on weight compared with what people consume.

Records show that the network's website, [gebn.org](http://gebn.org), is registered to Coca-Cola headquarters in Atlanta, and the company is also listed as the site's administrator. . . . "They're not running the show," [Hill said], "We're running the show" . . . . Dr. Blair . . . said that Coke had no control over its work or message and that they saw no problem with the company's support because they had been transparent about it. (O'Connor 2015a)

A series of follow-up articles in the *Times* reported the fallout. Coke showed contrition and, aiming to demonstrate transparency, published a list of US-based organizations and researchers it had funded over the previous five years. The energy balance network was shut down. Hill's university returned the money; Blair's did not. Applebaum was asked to resign, and Coke promised to change directions (O'Connor 2015b, 2015c, 2015d).

Staying open to nontraditional data sources and "letting potential data sources take me where they would," I turned to the company's transparency list to see how much money Coke had disbursed to collaborating scientists. I discovered that in 2008 (if not earlier) Coke had begun funding Steven Blair to conduct "energy balance research" (Coca-Cola Company 2015). By 2010 Blair had been

joined by Gregory A. Hand (also at the University of South Carolina) and James O. Hill. To check the reliability of the Coke records, I searched the internet and located two CVs for Blair. His university bio, dated June 23, 2015, indicated that since 2008 he had received \$4 million from the company, mostly for work on physical activity, energy balance, and the global network.

Though the list of grants was not necessarily complete, \$4 million was a large sum by any measure. Seeking to fill out the narrative about Coke's science project in China, my next question was: how much influence did Blair actually have in China? Put another way, what did Coke get for its money? To answer that question, I turned the company itself into an object of study.

### **CASE 3: COKE'S SCIENCE STRATEGY ON OBESITY: MEASURING THE EFFECTS IN CHINA**

My first glimmer of a connection among Blair, Hill, and Applebaum had come during the December 2013 Beijing conference, when I noticed that in different ways their talks all emphasized energy balance and physical activity. Although "energy balance" sounded neutral, the focus seemed to be largely on exercise. Since I was trying to take in everything that was happening at the conference, I didn't make too much of those observations at the time. In the late summer of 2015, the publication of the *New York Times* article changed that. Suddenly the friendly relations I had observed in Beijing began to make sense. I realized that the seemingly coordinated effort to promote exercise that I had witnessed in Beijing was real, not imagined, and that its ambitions were global in scope.

#### *Soda Politics: A Corporate Strategy to Influence Public Health*

In late 2015, just as the *Times* story was winding down, I discovered Marion Nestle's recently published *Soda Politics: Taking On Big Soda (and Winning)*. Nestle was a well-known nutritionist and food-industry critic, and in this new book, with an afterword by the physician and anti-soda activist Neal Baer, she described an "astonishingly comprehensive" long-term strategy on the part of the soda giants to use partnerships, marketing, lobbying, and philanthropy to promote sales, regardless of their products' impact on human health (Nestle 2015, 104). Focusing on the US, she showed how, to counter the threat obesity posed to corporate profits, the large soda companies have emphasized "health" by creating coalitions with researchers to influence obesity science, reframing the issues ("soda can be part of a healthful diet"), and diverting attention to physical activity (106). Those were exactly the emphases I had observed in Beijing. The discovery of those industry tactics in Beijing suggested that China may be a target of an organized corporate campaign to influence the management of the obesity epidemic outside the US, and perhaps even globally. The implications were staggering.

Nestle's book was eye-opening. With its focus on the US, though, it left unanswered the question of what Coke was doing in the Global South. Also, the book documented a vast range of corporate tactics but did not address the inordinately complex task of assessing their impact on obesity science and policy. Those became my projects, and the unusual organization of obesity work in China made it feasible for me to tackle the question of impact.

Over the next few months the revelations about Coke's science strategy changed the course of my research. In light of the public health implications, I decided to set aside questions about Big Pharma, which were more historical, to focus on Big Soda, and especially on the Coca-Cola Company, which had been the dominant corporate player in the fight against obesity since at least the early 2000s. I had three questions. How big was Coke's influence in China; was there some way I could measure its impact? Second, what were the institutional mechanisms and interpersonal dynamics by which Coke was seeking to shape China's obesity work? Finally, what was the role of ILSI, both the global headquarters and the China branch, in the spread of the exercise-first approach?

*Sustainability Reports: Mapping Coke's Science Strategy on Obesity*

In early 2016, I began systematically studying Coke's website and downloading the company's annual sustainability reports to see what I could learn about the development of a corporate approach to obesity. Within a few months I had created a detailed chronology of what I began calling Coke's "science strategy" on obesity (Coke's Shifting Strategy). Put together and managed by Applebaum, the strategy had two main elements. The first, supporting scientific research on the exercise-first solution, I have already discussed. The second was investing in concrete, scientifically based programs to promote physical activity. Seeking to encourage "active healthy living," in 2008 the company set the goal of creating at least one Active Healthy Living Program (also known as an "energy balance program") in every country where it operated by 2015. China's so-called "Happy Playtime" was cited as an early example. The other important program was the Exercise is Medicine (EIM) initiative, described as a key part of "how we address obesity." The corporate reports proudly announced that in 2007 Coca-Cola had been the founding corporate partner of EIM, the exercise promotion program which China later adopted and in which Blair was involved. I was seeing connections everywhere.

The sustainability reports also revealed that Applebaum's science-based, exercise-first plan to fight obesity gained support from the highest levels of the company. In May 2013, Coke CEO Muhtar Kent described obesity as "today's most challenging health issue . . . across the globe" and announced the company's four global business commitments to help address it (Coca-Cola Company 2013; Coke's Shifting Strategy, p. 9). In 2013 and 2014, worldwide investment in Active Healthy Living Programs and EIM soared (Coke's Shifting Strategy, p. 10).



What this told me was that in late 2013, when Blair, Hill, and Applebaum met at the Beijing conference, Coke's science strategy to combat obesity was at or near its peak. The Global Energy Balance Network, an important part of the strategy, was being assembled, but its formation had not yet been announced.

*Newsletters as Data Source: Measuring the Impact*

I had now mapped out the company's science strategy and linked it to specific researchers, but I had not yet measured its impact on China. In mid-fall 2016, when I returned to the China project after a few months' break, I somehow hit on the idea of using the ILSI-China newsletters as a systematic source of quantifiable data on the emphasis (diet versus physical activity) of obesity-related activities sponsored by the organization. Each news item, which described a particular activity, would become a data point. I am unable to reconstruct the process by which this idea came to me, but my guess is that during the time away from the project, the journalistic finding that scientists were being paid to promote exercise had gelled in my mind into concrete hypotheses that I could empirically test. The *Times's* revelations suggested two hypotheses: as Coke's involvement in China's obesity work grew, the emphasis on exercise over diet would increase, and solutions such as taxing sugary drinks that threatened profits would not be adopted. Because ILSI-China was the go-to organization on obesity in the country, and it partnered with all the leading health organizations in China (the health ministry, China CDC, and the China offices of WHO and UNICEF), the ILSI-China newsletters covered the great majority of all obesity-related activities in China. Through this process, I could potentially reach conclusions about Coke's influence on China's science and policy overall.

Earlier in the research, I had created a chronology of obesity-related news items, but now I wanted to do a rigorous study that included all the obesity activities and coded them for emphasis in a systematic way. By grouping them into meaningful periods, I would be able to quantitatively assess any changes in emphasis over time. I reread the newsletters from 1999 to 2015, extracting all the articles on concrete activities undertaken in China concerning obesity or obesity and other chronic diseases. In the 34 issues published between 1999 and 2015, 72 news items (of 293) fit those criteria.

I then coded the 72 articles for emphasis (physical activity, dietary strategies, both, or neither), developing formal classification criteria and checking the classifications three times. I next grouped the annual data into three time periods and looked for trends over time. To my astonishment, the analysis showed a marked shift in the focus of research and interventions toward physical activity (from 0 in 1999–2003 to 37% in 2004–9 to 60% in 2010–15), aligning China's approach with Coke's message that exercise, not food and drink, is what matters. Both hypotheses were supported: not only did the ILSI activities show the hypothesized shift toward exercise, but discussions of dietary measures failed to mention taxing

or regulating sugar-sweetened beverages or junk food (ILSI-China Newsletters, Re-Study).

The drive for narrative closure moved the research to the next stage. I had shown an increase in exercise-related activities, but not who or what was behind it. To what extent was Coke the driving force? I quickly saw how I could address that question. I created a subset of articles on events emphasizing physical activity, and then mined them for information on funding, participants, and key terms. There were nine conferences, five other scientific activities, and three interventions. I then examined them one by one to see if I could find any connections to Coke. The findings took me by surprise. I first looked at the foreign experts who were featured speakers at the conferences. Through internet searches, I discovered that the vast majority had funding, employment, or board-type connections to Coke, ILSI-Global, or the Coke-funded EIM. I then examined the other scientific activities and interventions and found that the great majority had extensive Coke involvement. This work strongly suggested that the tilt toward physical activity reflected the growing importance of Coke funding, ideas, and affiliated researchers in China. The implications were hard to fathom: it seems that one company, working through a well-connected corporate-funded nonprofit, had managed to redirect the course of a nation's science and policy interventions.

*Beijing Conference Redux: What Coke Got for Its Money*

In another instance of chance occurrences leading to major findings, in the spring of 2017, when I was working on a related project, I turned to the conference program that had been distributed to participants in the December 2013 obesity meeting. At 175 pages and including PowerPoint slides for every talk, it was an exceptionally valuable resource for my research (ILSI-China 2013). Repurposing the conference program, I began scrutinizing it for insight into the underlying structure, organization, and aims of the event.

Hoping to tie up the loose ends of the Coke story, I was looking for the mechanisms and effects of possible corporate influence on this scientific gathering. The four Americans, including two Coke-affiliated researchers and Coke's Chief Science Officer, were given privileged places on the program. Why were these speakers invited to present cutting-edge global science? I found the answer on the back of the first inside page of the program. Under the heading "acknowledgement," four of ILSI-China's supporting companies received special thanks, most certainly for providing funding for the event (ILSI-China 2013). Coke was listed first. In our discussions in 2013, Chen Chunming had told me that companies are supposed to get only scientific information from their support for ILSI. Yet the evidence from the program suggested that companies funding specific events got more—namely, a prime place on the agenda for affiliated speakers. Coke was represented by Applebaum. Given the global energy balance network then quietly developing, Hill's and Blair's participation may well have been funded by

Coke as well. Occupying some of the key slots on the program, those speakers established the main themes for the whole conference. Here was concrete evidence of Coke influence.

But what difference did it make to Chinese understandings of obesity science and policy? To answer that question, I studied the PowerPoint slides of the three Coke-affiliated speakers. The slides showed striking conceptual and thematic resemblances. The term “energy balance” anchored all three talks. Two stressed human motivation, placing responsibility for obesity control on individuals, not governments or corporations. The three talks fitted together into a kind of Coke-friendly science that made inactivity the most important cause of obesity, increased activity the primary solution, and, at its extreme (in Blair’s talk), suggested that obesity was not even the problem. So, with Coke funding, Coke-friendly, exercise-first science was presented to China’s public health community—health officials as well as scientists and clinicians—as the best of international science. I had come to a good stopping point in my story.<sup>2</sup>

#### **AT THE INTERSECTION OF ANTHROPOLOGY AND THE HEALTH SCIENCES**

If the history of the tobacco industry is any guide, these findings about Coke’s tilting of obesity science in China, and those of other researchers on the soda industry’s efforts in the US, are but the tip of the iceberg of a massive, multifaceted, mutating corporate project to protect soda profits at any cost, including human health. Despite Coca-Cola’s assurance that it has now abandoned its interventions in obesity science, given the colossal power of such corporations, especially relative to the health sciences, there is every reason to be skeptical and to continue—indeed, to widen—the scientific search for hidden corporate schemes.

The sciences of biomedicine and public health have powerful tools for understanding disease and health policy, but their methods are ill suited to uncovering subterranean corporate strategies to sway science itself. This article has proposed that the methods of anthropology are unusually effective in breaching the walls of corporate science and uncovering the social ties and institutional mechanisms that allow its schemes to remain hidden and gain such power. The Coke-in-China case suggests that what anthropology (at least the kind done here) can contribute to public health understandings of corporate influence are in-depth, empirically grounded narrative accounts of how industry sometimes manages to distort health science to serve its ends. Anthropological accounts are especially compelling because they are based on a wide range of data sources and because they are deeply contextualized, showing how corporate influence over science makes political, cultural, and historical sense.

---

<sup>2</sup>Later I conducted a systematic review of China’s policies on obesity and chronic disease to look for evidence of industry-favored terms. I discuss that work elsewhere.

Beyond crafting accounts of science's making, anthropology is especially adept at two kinds of analytic tasks: discovery and connecting disparate things. In this project, the felt need for narrative closure kept the research going and yielded a believable, even compelling story of science gone awry. The openness to new methods led to a steady accretion of new data sources—the transparency list, the conference program—each producing different insights. Sheer serendipity also sparked new discoveries. A random phone call led to the 990s, which revealed the money trail connecting Coke-Atlanta to ILSI-CHP to Happy 10-Beijing. The publication of the *New York Times* article illuminated the global scope of the problem, leading to a change in direction and a sharpened focus on Big Soda.

Perhaps the most unsettling aspect of the research—the part that, I suspect, stoked the medical journals' concern about its credibility—was the self-conscious presence of the researcher in the project. Subjectivity is a dirty word in science, but it has a more positive resonance and productive role in anthropology. In this project, the use of the body as a research tool led to numerous aha moments that would never have occurred were I not there in person. At the 2013 conference, for example, my shock at hearing Blair's dismissal of obesity and my surprise at learning that Applebaum had introduced him to China produced visceral reactions that left deep impressions. Jarring little experiences like these turned into hunches and then hypotheses for exploration down the line.

The second aspect of what I've called anthropological personalism—the solo researcher at the center of the project, ultimately responsible for everything—was critical in producing leaps of scientific imagination, and one in particular. It was because I had been operating as a data clearinghouse over several years, absorbing information from multiple sources and analyzing and re-analyzing the newsletters, that one day I suddenly realized that I could use the news items as data points to formally test the hypothesis that Coke had biased China's approach toward physical activity. Another advantage of the solo-ethnographer model is the regional expertise that the researcher brings to the project and is constantly drawing upon to make cultural and political sense of what is unfolding. Though I have not had space to write about this, my extensive knowledge of how science and policy are made in China (based on years of research on the science behind the one-child policy) helped me understand many facets of the data that someone lacking that background would find puzzling. It was the broader knowledge of the specificities of Chinese science and policy-making that allowed me to assemble the pieces into a larger whole and discern the shaping role of the wider context in how the obesity issue developed. A present anthropologist is not enough, however; the anthropologist must also be accountable—that is, she must be explicit about the impact of her presence on the research process and conclusions. This essay is my attempt to do that.

In confronting the challenge of clandestine corporate intervention in science, the medical sciences may face a real dilemma. To advance knowledge of the

obesity epidemic, its causes, and its remedies, the fields need a clear understanding of the strategies large food, beverage, and other companies routinely mobilize to influence health science when profits are threatened. Yet if knowledge about those strategies created by nontraditional disciplines such as anthropology is deemed unscientific and so irrelevant, those findings will never be available to the medical sciences.

I eventually got the capstone article on Coke's influence in China published, though not as "scientific research" in a medical journal. In early 2019, the key findings were published as investigative journalism in the Feature section of the *BMJ* (Greenhalgh 2019a). How ironic that the work initially disparaged as investigative journalism was published by this top medical journal in that very genre! The tale of its transformation from anthropology into something approaching medical science and then back into investigative journalism is a lively one that must be left for another time. On the same day, the full scholarly version was published in the *Journal of Public Health Policy*, a less well-known journal with a progressive agenda and more flexible views of what counts as worthwhile knowledge (Greenhalgh 2019b). While the simultaneous publication of the two articles attracted a great deal of media attention, how the work will be received by the medical and public health communities remains to be seen.

In the meantime, by sharing these methodological self-reflections, I hope to foster greater understanding of anthropology (and other more openly personal ways of knowing) by explaining with examples the grounds for the credibility of its findings. I hope this essay might encourage readers in medicine and public health to think out loud about the complex, human process by which they have reached their own conclusions. After all, all science is personal to some degree. A better understanding of how each science is human in its own way might open up space for greater dialogue and even more collaborative knowledge-making at the crossroads of anthropology and the sciences of health.

## REFERENCES

### *Personal Research Materials*

- Coke's Shifting Strategy to Fight Obesity, 12 pp. (dated 3/24/17).
- Fieldnotes and Reflections, Fall 2013, 41 pp. (dated 12/28/13).
- ILSI-China Newsletters, Timeline and Ideas, 13 pp. (dated 6/15/15, modified 1/3/16).
- ILSI-China Newsletters, Re-Study, 9 pp. (dated 11/20/16).

### *Published Sources*

- Aaron, D. G., and M. B. Siegel. 2016. "Sponsorship of National Health Organizations by Two Major Soda Companies." *Am J Prev Med* 52 (1): 20–30.

- Coca-Cola Company. 2013. Coca-Cola Announces Global Commitments to Help Fight Obesity (May 8). <http://www.coca-colacompany.com/press-center/press-releases/coca-cola-announces-global-commitments-to-help-fight-obesity>.
- Coca-Cola Company. 2015. Our Commitment to Transparency. <https://www.coca-colacompany.com/transparency/our-commitment-transparency>.
- Duckett, J. 2011. *The Chinese State's Retreat from Health: Policy and the Politics of Retrenchment*. London: Routledge.
- Greenhalgh, S. 2008. *Just One Child: Science and Policy in Deng's China*. Berkeley: University of California Press.
- Greenhalgh, S. 2015. *Fat-Talk Nation: The Human Costs of America's War on Fat*. Ithaca: Cornell University Press.
- Greenhalgh, S. 2019a. "Making China Safe for Coke: How Coca-Cola Shaped Obesity Science and Policy in China." *BMJ* 364: k5050. DOI: <https://doi.org/10.1136/bmj.k5050>.
- Greenhalgh, S. 2019b. "Soda Industry Influence on Obesity Science and Policy in China." *J Public Health Policy*. <https://link.springer.com/article/10.1057/s41271-018-00158-x>.
- Huang, Y. 2013. *Governing Health in Contemporary China*. London: Routledge.
- ILSI Research Foundation. N.d. Take 10! Webpage (web address n.a.), accessed June 24, 2016.
- ILSI-China. 2013. *2013 Conference on Obesity Control and Prevention in China, Theme: Appropriate Technology and Tools for Weight Control* (in Chinese and English). Beijing: ILSI China. Program and presentation PowerPoint slides.
- Kearns, C. E., L. A. Schmidt, and S. A. Glantz. 2016. "Sugar Industry and Coronary Heart Disease Research: A Historical Analysis of Internal Industry Documents." *JAMA Intern Med* 176 (11): 1680–85.
- Kibbe, D. L., et al. 2011. "Ten Years of TAKE 10! Integrating Physical Activity with Academic Concepts in Elementary School Classrooms." *Prev Med* 52: 543–50.
- Malaspina, A. 2000. "Welcome Address: Third Asian Conference on Food Safety and Nutrition, October 3, 2000. Beijing, China." *Biomed Environ Sci* 13: 7–11.
- NCD Risk Factor Collaboration. 2016. "Trends in Adult Body-Mass Index in 200 Countries from 1975 to 2014: A Pooled Analysis of 1698 Population-Based Measurement Studies with 19.2 Million Participants." *Lancet* 387: 1377–96.
- Nestle, M. 2015. *Soda Politics: Taking on Big Soda (and Winning)*. Oxford: Oxford University Press.
- O'Connor, A. 2015a. "Coca-Cola Funds Scientists Who Shift Blame for Obesity Away from Bad Diets." *NY Times*, Aug. 9.
- O'Connor, A. 2015b. "Coca-Cola's Top Scientist on Obesity is Departing." *NY Times*, Nov. 25.
- O'Connor, A. 2015c. "Coke Spends Lavishly to Sugar-Coat Science." *NY Times*, Sept. 29.
- O'Connor, A. 2015d. "University Returns \$1 Million Grant to Coca-Cola." *NY Times*, Nov. 6.
- Rose, N. 1999. *Powers of Freedom: Reframing Political Thought*. Cambridge: Cambridge University Press.

- Scheldeman, G. 2011. "Beyond A to B." In *Redrawing Anthropology: Materials, Movements, Lines*, ed. T. Ingold, 129–42. Surrey, Engl.: Ashgate.
- Serodio, P. M., M. McKee, and D. Stuckler. 2018. "Coca-Cola: A Model of Transparency in Research Partnerships? A Network Analysis of Coca-Cola's Research Funding (2008–2016)." *Public Health Nutr* 21: 1594–1607.