

# Neoliberal science, Chinese style: Making and managing the 'obesity epidemic'

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## Abstract

Science and Technology Studies has seen a growing interest in the commercialization of science. In this article, I track the role of corporations in the construction of the obesity epidemic, deemed one of the major public health threats of the century. Focusing on China, a rising superpower in the midst of rampant, state-directed neoliberalization, I unravel the process, mechanisms, and broad effects of the corporate invention of an obesity epidemic. Largely hidden from view, Western firms were central actors at every stage in the creation, definition, and governmental management of obesity as a Chinese disease. Two industry-funded global health entities and the exploitation of personal ties enabled actors to nudge the development of obesity science and policy along lines beneficial to large firms, while obscuring the nudging. From Big Pharma to Big Food and Big Soda, transnational companies have been profiting from the 'epidemic of Chinese obesity', while doing little to effectively treat or prevent it. The China case suggests how obesity might have been constituted an 'epidemic threat' in other parts of the world and underscores the need for global frameworks to guide the study of neoliberal science and policymaking.

## Keywords

Big Food, Big Pharma, China, chronic disease, healthy lifestyles, neoliberal science, obesity epidemic, policymaking

The global spread of neoliberal thought and practice in recent decades has brought tectonic shifts in the political economy of science. State focus has shifted from public welfare to market creation, corporate influence has spread, and science has been reoriented to commercial value creation. Driven in part by concerns about the corruption of

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scientific inquiry and the perversion of the ends of science (Hackett, 2014), Science and Technology Studies (STS) has seen a rapidly growing interest in the commercialization of science (recent reviews include Boggio et al., 2016; Lave et al., 2010; Pinto, 2015). Across a wide range of (mostly) Euro-American institutional settings and sciences, corporate influence on knowledge-making is now normalized (e.g. Lam, 2010; McLevey, 2015; Wadmann, 2014), though not without variation and pushback (Boggio et al., 2016; Holloway, 2015). The mechanisms of corporate influence, operating at organizational and individual levels, are often subtle and deliberately concealed, as actors in the neoliberal knowledge economy struggle to meet market imperatives while ensuring that their products appear value-free (Lave et al., 2010: 668; Pinto, 2015). A striking example is the huge underground industry of article-production in which large pharmaceutical corporations quietly get academic scientists to serve as authors on articles that, though produced for commercial benefit, are designed to look like traditional academic work and are even considered legitimate and valuable by editors of top medical journals (Sismondo, 2009, 2012). Where states, influenced by neoliberal ideologies, have embraced market promotion over welfare provision, and market relations are spreading throughout society, we can speak of not just commercialized, but of neoliberal science. Though unevenly deployed and contextually specific, such transformations are having major impacts, reshaping not only science itself – its methods, organization, and content – but also state policy and, in turn, many domains of human life (Abraham and Ballinger, 2012; Nik-Khah, 2014).

The newly emerging field of pharmaceutical studies has highlighted the role of market forces and logics in the co-production of medical markets and knowledge (see, e.g., the contributions in Sismondo and Greene, 2015). In his groundbreaking study, *Prescribing By Numbers*, Jeremy Greene (2007) relates how, in the post-World War II era, a powerful pharmaceutical industry, realizing that profits could not be sustained by curing disease, began using large-scale studies to identify risk factors for the newly identified ‘modern epidemic’ of cardiovascular disease (CVD), and defining them as precursor conditions needing long-term treatment through pharmacological prevention. Beginning in the 1950s, first hypertension, then diabetes and then high cholesterol were designated as chronic diseases to be managed by long-term pill consumption. As the logic shifted from curing disease to creating and growing the market for drugs, chronic disease itself was redefined as a market that could be delineated in terms of specific drug products. The market was then enlarged by screening more individuals for risk factors and by expanding the numerical criteria for diagnosis and treatment. In each step of the process, disease expansion and market expansion went hand in hand, with the result that what counts as a chronic disease is now determined largely by Big Pharma, on the basis of clinical trials and the availability and profitability of drugs. This corporate-dominated system of disease construction has not entailed ‘bad’ science; quite the contrary, corporate interests generally align with quality science (Greene, 2007: 234). Yet it poses unrecognized dangers. For the individual, taking drugs for life may bring no benefit and even some harm. For the public at large, what Dumit has called the structural contradiction in American medicine – drugs are developed and marketed primarily to enhance profits, and only secondarily to improve health – means that only diseases representing commercially attractive markets are named and rendered treatable (Dumit, 2012: 12).

If CVD was the feared epidemic of the late 20th century, obesity is one of the most dreaded of the 21st and, according to the WHO, the threat it poses is global in scale. In its breakout 2000 report, *Obesity: Preventing and Managing the Global Epidemic*, the WHO warned that 'the prevalence of overweight and obesity is increasing worldwide at an alarming rate. Both developed and developing countries are affected' (World Health Organization (WHO), 2000: 16). By 2014, WHO statistics show, 39 percent of adults were overweight and 13 percent were obese. Associated with countless serious diseases, these conditions were linked to more deaths worldwide than being underweight was (WHO, 2015).

Despite the obsessive concern about obesity among governments, health experts, and general publics around the world, this latest epidemic has attracted relatively little attention from STS scholars (exceptions include García-Deister and López-Beltrán, 2015; Niewöhner et al., 2011). How obesity came to be labeled an epidemic disease deserves our attention for several reasons. The first is its prominence as 'the public health threat of the century'. Today there seems to be an unstated assumption that the concern about rising obesity levels simply reflects the results of the science (both the epidemiology of rapidly rising prevalence and the biology of multiplying health effects). If large corporations had a hand in those results, the global pandemic of obesity would take on a different hue.

The second is obesity's tremendous market potential. Those commercial prospects are complicated, however. What distinguishes obesity, understood as the excessive accumulation of body fat, from the better studied chronic diseases is the failure so far to find a pharmaceutical magic bullet. In the early days of the newly named epidemic, the late 1990s and early 2000s, global pharma took the lead with drugs such as Sibutramine (US trade name Meridia, Knoll Pharmaceutical, launched in 1998) and Xenical (Orlistat, Roche Pharmaceuticals, launched 1999). Despite the wreckage left by Fen-phen, the wildly popular weight-loss combination that was withdrawn from world markets in 1997 on evidence of heart valve damage (Mundy, 2001), the big pharmaceutical firms had high hopes that their products would become blockbuster drugs (Roche, 2000, 2001). Yet Xenical followed what would turn out to be the common fate of anti-obesity medicines so far: After a strong start, global sales leveled off before beginning a drastic decline. For its part, Sibutramine was withdrawn in 2010 because of its association with serious cardiovascular events. Although new drugs continue to be developed and approved, their low efficacy and myriad dangers have made them unpopular with consumers, and corporate expectations for a mega-market in obesity have (at least temporarily) dimmed.

With no good drug in sight and 'lifestyle modification' the most widely recommended approach to treatment (and prevention) (WHO, 2004, 2015), obesity offers profit opportunities for a huge array of lifestyle industries, from the food, beverage, and restaurant to diet and fitness industries. Indeed, industry pundits have estimated the worldwide market for non-pharmaceutical treatments at some \$53 billion by 2017, far higher than the \$2.5 billion for pharmaceuticals (Anthony, 2012). If commercial appeal largely determines which conditions become the object of corporate projects to produce medical markets and labels, then obesity would seem to be a promising arena for the joint constitution of an 'epidemic' and a host of products claiming (generally with little evidence) to fight fat. Studying obesity thus gives us an opportunity to look beyond Big Pharma to see the role

other industries are playing in creating the diseases of modern life. Finally, because obesity was transformed into an epidemic relatively recently, and at least some of the dynamics have unfolded on a global scale (as evidenced by WHO's involvement), a close look at the invention of the obesity epidemic should tell us what a more fully realized, globally ordered, 'neoliberal' process of disease making looks like.

In this article I examine the making and managing of an 'obesity epidemic' in the People's Republic of China during the period 1999–2011. These years saw the remarkably rapid creation and institutionalization of an 'obesity epidemic', in the context of very slowly rising obesity rates. During the 1980s and 1990s, obesity was not a recognized health issue. Then, quite suddenly, around 2000, the country acquired an official (that is, state- and science-recognized) obesity epidemic. Within eight years, the disease was formally delineated and named an emerging public health crisis, official guidelines for its control were created and promulgated, and a nationwide campaign was launched to fight it. Since around 2007, it has become cultural commonsense, in China and around the world, to talk about the nation's 'looming' and 'alarming' 'obesity epidemic' (e.g. Chelela, 2013; French and Crabbe, 2010; Huang et al., 2014; MacLeod, 2007).

China's global heft – demographic, economic, geopolitical and, increasingly, scientific and technological – and its recent embrace of virtually all the major tenets of neoliberalism also render it a promising site for investigating the role of global capital in the invention and management of disease. Since its historic embrace of 'reform and opening up' to global capital in 1978, China has pushed to become a wealthy and powerful nation through marketization, the privatization of some state enterprises, the deregulation of commodity and labor markets, and the reduction of state welfare commitments. In their important new book, *The Global Rise of China*, So and Chu (2016) coin the term 'state neoliberalism' to capture the distinctive features of China's post-socialist development trajectory. State neoliberalism, they argue, combines a strong communist party-state bent on ensuring its survival with a development strategy, introduced gradually and experimentally, based on 'rampant neoliberalization' (2016: 19; also Harvey, 2005). In this regime of development through globalization, the government has mostly welcomed foreign firms, seeing them as important sources of financial support and technical know-how. In the health sector, business has generally enjoyed a cozy relationship with the state; aside from times when political factors necessitated a crackdown, firms have been regulated lightly if at all (Huang, 2013: 112–134; Kroeber, 2013). Enamored by the promise of market governance, the state has virtually abandoned health, creating a healthcare system that has prioritized profits and delivered generally low-quality care unevenly, inefficiently, and expensively, with dire consequences for China's people (Duckett, 2011; Hsiao, 2014; Huang, 2013). In this article, I show that commercial forces have also penetrated the scientific heart of health, the definition of disease itself. In tracking disease-making in China, I use the term 'neoliberal science', a useful heuristic because it ties the Chinese case to the more familiar Euro-American ones, and because the dynamics of science- and policy-making fit the general pattern remarkably well.

Since the late 1970s, China has embraced modern science and technology as the key to national development and global ascent, investing heavily in the advanced biosciences and biotechnologies that it sees as pathways to global glory and might (Simon and Cao,

2009; So and Chu, 2016: 119–139). The small body of STS writing on Chinese science is largely preoccupied with these cutting-edge, innovation-oriented fields, leaving us perhaps with a skewed view of China's science sector. China has a highly stratified knowledge-creation system in which some fields enjoy access to an extraordinary level of state resources and recognition, while others must struggle simply to survive. Somewhere in the middle, routine biomedical (including public health) science remains, as in the past, closely tied to the state, with the great bulk of research conducted in the China Center for Disease Control (CDC) and academic institutions with close ties to the Ministry of Health (MOH) and other central-level agencies.

Within biomedicine, fields like public health, which offer little profit and no glory to the state, have suffered the greatest neglect. Dependent on whatever funds they can cobble together, mostly from external sources, these fields of research have little capacity to innovate and must fall back on older narratives of China as a 'backward' nation 'advancing through imitation' (of the West) (cf. Mason, 2011). In the wake of the disastrous handling of the 2003 SARS epidemic, the state has sought to regain face internationally by quickly rebuilding the public health network. That investment helped meet a critical need, yet the overwhelming emphasis has been on preparing for infectious disease threats (Mason, 2011). The chronic diseases of modern life, which now make up 87 percent of total deaths (with cardiovascular disease, cancers, chronic respiratory diseases, and diabetes leading the way), remain political and thus also scientific backwaters (WHO, 2014). The science of obesity is one of those neglected fields.

In the past two decades, China's government, under constant pressure to reduce expenditures, has come to rely on a variety of interstitial organizations – called non-governmental think tanks, non-profit institutions or NGOs (I use that term loosely) – for policy input and advice (Duckett, 2011; Huang, 2013: 68–72; Zhu, 2011). Scientists in low-priority fields, seeking freedom from bureaucratic constraints and facing sharp limits on government research funding, have taken the opportunity provided by new NGO rules to set up novel kinds of hybrid organizations permitted to look for funds elsewhere, including from foreign firms. Aspiring to influence official policy, many of these scientific entities actively maintain close links to the state, which even today controls many things they need (Zhu, 2011). The organization that led the effort to make obesity China's newest disease is an ideal-typical case of such an organization.

In this article, I ask three sets of questions. First, how did obesity join the list of official diseases in China? Did its emergence in that neoliberalizing environment resemble the profit-driven, corporate-dominated process that drove the creation of other chronic diseases in the US? More generally, is obesity a market in China and, if so, for which industries? Second, by what mechanisms did industry come to influence public health science and policy? Was secrecy vital to their operation? Finally, if there has been significant corporate involvement, what difference does it make? At the risk of stating the obvious, it should be clear that my object of study is the scientific and governmental figure of discourse 'obesity' (or an 'obesity epidemic'), not the material phenomenon of growing fat accumulation on human bodies. The causes of the rise in obesity levels around the world are extraordinarily complex, poorly understood, and in any case beyond the scope of this article.

I will show that, largely hidden from view, transnational corporations influenced the science and policy of obesity at every step in their creation. I identify two main vehicles that transmitted corporate influence, both of them industry-funded global health entities that reflect today's emphasis on 'public-private partnerships' in the governance of global health (Lee, 2009). Structural and discursive features of these organizations enabled actors from the Global North to place the obesity issue on the local research agenda, and to nudge the development of obesity science and policy along lines beneficial to paying companies, while denying they were doing so. A third mechanism, personal ties, played a vital role in enabling industry influence to penetrate Chinese science and policy, again while keeping that influence mostly out of sight. Though structured personal connections (*guanxi*) have long been central features of Chinese social life (Yang, 1994), cultivating such ties has become essential to scientific success in the unpredictable, rapidly changing, entrepreneurial world of reform-era China (in health fields, Mason, 2011; Sui and Sleeboom-Faulkner, 2015; in science generally, Hong and Zhao 2016). In the construction of obesity science, carefully nurtured connections enabled industry influence by creating an affect of trust and standardized ways of doing things that helped bridge boundaries between scales of organization (global and local) and institutional domains (industry, government, and science). Two features of the PRC context left an indelible imprint on how these forces played out: the political economy of state neoliberalism, described above, and a political culture permeated by narratives of China as backward and of Western actors (both scientists and corporations) as key contributors to China's national advance.

## Following the 'epidemic': A note on methods

Though critics of the 'epidemic' framing of obesity in the US have long stressed the economic interests of the diet and drug industries and pointed to industry funding of science as support (Campos, 2004: 41–54; Saguy, 2013: 48–49), no one has documented, let alone systematically tracked, the influence of corporations on the making of obesity science and policy. That is what I do here for China.

I approached the topic by following the scientific and governmental life of the disease entity 'obesity' (*feipang bing*). In my earlier research on China's population science and policy, I discovered that the secrets to the one-child policy lay buried in the cognitive core of science, and that those secrets could be unearthed with a micro-political approach of the sort outlined in early work on lab-based science, modifying it to fit the 'office science' of population science (Greenhalgh, 2008; Latour, 1987; Latour and Woolgar, 1979). In the past two decades, these micro-methods have increasingly been set aside in order to follow science beyond the walls of scientific institutions to see how it helps to 'constitute states, markets, and civil spheres' (Jones, 2009: 843). Yet addressing these larger questions need not entail abandoning a micro-level study of fact-making, which is critical to ferreting out hidden dynamics. In the population science work, I combined a micro-political reconstruction of the historical making and advancing of a scientific fact with a thick embedding of those micro-dynamics in wider cultural and political context (cf. Geertz, 1973 on 'thick description'). I follow a similar strategy here, tracking the historical origins, making, and trans-sectoral travels of the scientific facts about China's obesity epidemic and its necessary management.

I began by conducting an extensive literature search in Chinese and Western science journals on the making of China's obesity science, focusing on the applied or public health branch of the field. Through this process, I was able to identify critical dates, events and the names of the major figures involved. In 2013 I spent ten weeks in Beijing conducting wide-ranging research on the post-1990 history of obesity science and policy. The core of the project was a set of semi-structured interviews with 25 individuals, including most of the top researchers in the applied branch of the field, as well as nine others involved in peripheral but illuminating ways (as a scholar of pharmaceuticals, for example, or an employee of a large PR firm). The interviews, one and one-half to four hours in length, were conducted in Chinese, English, or both, depending on the preference of the interviewee. The fieldwork also involved participation in two major conferences, canvassing of bookstores, discussions with Chinese colleagues in public health and STS, and informal ethnographic research in a variety of settings. These strategies have since been supplemented with extensive internet research on the scientists, organizations, and corporations involved.

To bring out the historical specificity of the dynamics, I tell the story of corporate involvement in obesity's making chronologically. After dissecting the organization that managed the process, I trace the making of obesity science and policy over four phases: its placement on the agenda of Chinese scientists, the definition of the disease, the creation of an official anti-obesity policy and the development of public health interventions. Reflecting both space constraints and the sheer complexity of the dynamics involved, the story I tell is necessarily partial, focusing on the main episodes and actors over the core period, 1999 to 2011. A conclusion spells out what is at stake for China's people and suggests how this case can expand STS's understanding of neoliberal science by shifting our gaze to processes of science- and policy-making at the global level.

## **ILSI: 'Doing science, not business'**

The making of obesity science (and policy) in China was managed by a prominent organizational exemplar of today's neoliberal hybridities, a self-described international scientific entity that connects industry not only to science but also to the state. Although its organizational structure and code of ethics were supposed to insulate the science from industry influence, in fact, I will argue, those very features of its set-up worked to allow member companies to directly impinge on the science, while obscuring that impingement. Ostensibly boundary-drawing devices functioned as boundary-erasing ones (Gieryn, 1999).

### ***ILSI-Global's boundary work: 'Guaranteeing good science'***

According to its website, the International Life Sciences Institute (ILSI), with headquarters in Washington DC and branches around the world, is a non-profit, worldwide organization whose mission is to bring together scientists from industry, academia, and other public sector organizations 'to provide science that improves human health and well-being and safeguards the environment' (ILSI, n.d.: Mission). Established in 1978, ILSI-Global is now funded mainly by several hundred corporations, primarily in the food,



beverage, pharmaceutical, and chemical industries. ILSI's membership is composed of the member companies of all the ILSI branches, some of which have representatives on the Board of Trustees that makes the key decisions. ILSI's interests span four topical areas; one of these, nutrition and health, includes obesity. Each of ILSI's sixteen branches agrees to comply with the bylaws, policies, and procedures of the ILSI Board in exchange for the privileges of ILSI association.

Although ILSI is often assumed to be a corporate lobbying entity (e.g. Center for Media and Democracy, 2014), its code of ethics and organizational structure are explicitly designed to prevent lobbying and to protect the integrity of its science from threats of commercial bias. The most important way that ILSI ensures 'good science' is to insist on 'multi-sector input and balance' on its Board and its scientific committees. ILSI's Code of Ethics also forbids lobbying and the recommending of policy, limiting advocacy to the provision of evidence-based science as an aid in decision-making (ILSI, n.d.: Code of Ethics, Media). That is in theory; let us see how things actually worked in the China branch.

### *ILSI-China's boundary work: 'No commercial benefit'*

Soon after ILSI's establishment, the founding president of ILSI-Global, as part of his effort to build a global empire, visited China and met with Mme. Chen Chunming, a prominent nutritionist, to initiate cooperative projects. Chen had been a member of the WHO Expert Panel on Nutrition since 1979, and in 1983 she became the Founding President of the state-run Chinese Academy of Preventive Medicine (CAPM). In 1992, Chen believed that the time was ripe to establish a branch of ILSI in China. With the approval of the Ministry of Civil Affairs, she set up a unique entity, a branch of ILSI that was affiliated with but independent from the Academy of Preventive Medicine (which in 2002 became the China CDC). ILSI-Focal Point in China (ILSI-China for short) functions like an ILSI branch, but instead of members it has supporting companies, roughly 25 to 40 (the number varies from year to year), in the food, beverage, and pharmaceutical industries, whose contributions fund its activities (ILSI-C, 2013). What distinguished ILSI-China from other Chinese entities, Chen promised its corporate supporters, was its focus on major public health issues and its ability to not just hold scientific conferences, but also to translate science into public policy (IF3 – I refer to interviews by number: 'IF1' etc.). This promise might seem to violate ILSI's code of ethics, but Chen would find ways to smooth out that wrinkle. She served as ILSI-China's full-time head from 1992 to 2006, after which she became a full-time adviser.

If ILSI-China bridges academia/science, government, and industry, how do the three sectors work together? Let us start with the supporting corporations. In interviews, ILSI-China leaders explained that the companies help set the research agenda, but gain no commercial benefit from their association with ILSI (IF3, IF8). It works this way. First, ILSI-China establishes standard levels of support. Companies then choose the level they wish to provide. Companies are then asked to provide recommendations for ILSI activities; those who give more have more influence. If ILSI-China needs additional money for a particular project, it approaches the companies to request targeted funds.

To ensure that companies did not benefit financially, ILSI-China followed a strict rule, established by the PRC government, that there be no product endorsements.



Enforcing this rule guided the first kind of boundary work, that of separating ethical from unethical practice. The rule stipulated that supporting companies were not allowed to promote their company logos at meetings or to use their ILSI connection in advertising; ILSI experts could talk only about the science. One expert-informant explained it this way: 'What's important is to not link the research to any specific products. For example, we can talk about how good it is to drink milk, but not urge people to drink a specific milk product or brand of milk' (IF16). ILSI's leaders expressed complete and evidently genuine confidence that their strict abiding by this rule fully protected ILSI's science. Company influence on agenda setting was simply not an issue. Such views were reiterated by many informants who had been involved in ILSI activities over the years. As in other settings (Sismondo, 2009), in China adherence to a formal rule of conduct served to legitimize researchers' work and put their consciences to rest. As long as this simple rule was honored, influence of other sorts could flow freely, unquestioned by anyone.

Sensitive to potential charges of commercial influence, however, ILSI-China took every opportunity to publicly emphasize the scientific character of its activities. In a second form of boundary work, one familiar to students of STS, it used the word 'scientific' (*kexue*) in the names of its conferences to distinguish them from the many profit-oriented, company-sponsored meetings held in China (IF8). Similarly, in the promotional activities it sponsored, it took pains to ensure that all materials provided to the public were 'science-based' (ICN, 2006a: 3). Because ILSI's leaders were scientists, and science enjoys utmost respect in China, there was no questioning of the label.

### *ILSI-China: A porous line between science and state and a broad channel for industry influence*

What about the other two sides of the triangle? In the ILSI-Global framework, the state and society 'sectors' appear distinct (and in important ways they are in the US context). In China, however, the boundary between the two is quite porous. ILSI-China is not part of the CDC, yet they have close relations, in part because Chen had been the founding head of the CDC's predecessor. ILSI-China is physically located within the CDC headquarters in Beijing. It also uses the CDC's human resources, including staff members who remain under the personnel management system of the CDC. Most of the professional experts whom ILSI-China recruits are based in the CDC (the others are academics). ILSI-China is also unusual because it maintains close relations with the Ministry of Health. Bureaucratically, that can happen because ILSI-China is joined at the hip to the CDC, which is technically not part of the government but rather a 'professional unit' (*shiye dan-wei*) supervised by the MOH. Bureaucratic logics aside, from an operational standpoint, one could say that ILSI-China both was and was not part of the government.

Although this tight scientific-governmental nexus ill fit the model of three (distinct) sectors on which ILSI-Global's promise of unbiased science is premised, ILSI-China's ambiguous location between science/society and state gave it extraordinary advantages. The organization's semantic distinctions made it possible for Chen to take advantage of them. By emphasizing that ILSI-China merely 'provided scientific tools', rather than 'lobbying or influencing' the government, Chen was able to use her position to wield considerable policy influence. Here we see why formal boundary-drawing rules, such as

that adopted by ILSI-Global, tend not to work as intended; because of the interpretive flexibility inherent in them, individuals following the rules can still shape the knowledge they produce to reflect their interests.

One advantage that ILSI-China enjoyed is that precisely because it was *not* part of the government bureaucracy or the CDC, the organization could avoid red tape, do things that it (that is, its corporate supporters) deemed important, and do them rapidly. As a branch of a foreign non-profit (but not an NGO itself, per China's laws), ILSI-China also enjoyed a rare freedom to work with industry, government, scientists, universities, foundations and international agencies, allowing it to approach many sources to obtain funds and other resources (IF16). (ILSI-China sometimes worked under the formal guidance of another organization that was officially registered as an NGO, Think Tank Research Center for Health Development.) A second secret of its success was political. As former head of the Academy of Preventive Medicine, its founding leader enjoyed the status of a high government official (*gaogan*). With good connections (*guanxi*) and 'natural links' to leaders at the ministry (IF16) and personal prestige and good working relationships in the research community (IF2), ILSI-China could readily get things done. In Chen's ILSI, foreign corporations thus had the means to reach into and shape the agenda of one of the most effective and politically well connected public health organizations in China.

## Putting obesity on the agenda: Big Pharma and big advocacy

In the 1980s and 1990s, few public health specialists or ordinary Chinese were concerned about obesity. Problems of malnourishment and stunting, especially in the rural areas, were far from solved. Moreover, unlike in the US, where fatness has long been seen as a moral transgression (Farrell, 2011), Chinese culture had traditionally favored fatness, which was deemed a sign of prosperity in adults and cuteness and health in children (IF4, IF9, IF17). Throughout its first decade, ILSI-China was busy working on critical issues of food safety. How then did obesity finds its way onto the agenda of ILSI's China branch? The answer lies in China's place within the schemes of two global health organizations, both closely tied to the corporate world. One was ILSI-Global, whose hierarchical structure granted member corporations in the core the right to set the research agendas of branches around the world. The other was the International Obesity Task Force, whose charismatic and globally well-connected leader, compelling crisis narrative, and ample financial resources worked not through constraint but through persuasion and the securing of consent. Saturated by narratives of national backwardness, China's political culture proved highly receptive to the crisis story.

### *ILSI-Global and the logic of moral blamelessness/exemplariness*

Representing some of the world's largest food and beverage companies, in the 1980s and 1990s ILSI-Global kept a close watch on the rise in obesity in major markets. According to its website, in 1999 ILSI 'recognized the seriousness of an impending obesity crisis before the situation was widely discussed publicly' and outlined 'comprehensive ways to address [the imbalance between] food intake and physical inactivity' (ILSI, n.d.: Science

and Research). ILSI's self-proclaimed 'early commitment' to obesity allowed it to get out ahead of the issue, suggesting a corporate logic of protecting profits from unhealthy products through blame avoidance or, more positively, moral exemplariness. In the US, fast food and soda were being fingered as important causes of the growing obesity epidemic (Critser, 2003; Schlosser, 2001). By proclaiming its earnest concern about obesity and intent to proactively address it, ILSI would protect its member companies' moral reputation as health promoters, while deflecting attention from their role in creating the new health crisis. In 1999, ILSI-Global placed obesity on its list of core issues that all branches must pursue. Because of the hierarchical structure of ILSI's worldwide organization, ILSI-China had no choice but to comply despite the lack of felt concern about the issue in that country.

### *IOTF: Obesity's global advocate and crisis narrator-in-chief*

According to ILSI-China, however, there was another, more powerful force, a man with a mission who persuaded Chinese public health experts not only of the importance, but also of the urgency of declaring obesity a disease demanding priority on the public health agenda. That was the British obesity specialist and entrepreneur, Philip James. In 1995, he founded the International Obesity Task Force (IOTF), a policy and advocacy think tank that worked closely with WHO 'to alert the world to the growing health threat posed by soaring levels of obesity' (IASO, n.d.). At that time obesity was considered primarily a problem of the industrialized world. To persuade WHO of the need for a more global perspective, the IOTF amassed as much data as possible from the developing world, published in a report that would serve as a working draft for the first WHO expert consultation on obesity, held in 1997 (James, 2008b). With their huge populations, the Asia-Pacific region, and China in particular, took on special importance.

Building on personal ties forged through these and other WHO activities, in early 1999, James visited Chen to convince her and her colleagues that China would soon face a rising tide of obesity that needed to be addressed quickly (James, 2008a; IF3). With his personal encouragement and promises of technical and financial support, James helped place the issue firmly on the agenda of ILSI-China and give it urgency. James was very active in China in those early years, especially between 1999 and 2002, taking an almost hands-on role in the creation of a science of obesity. He attended and probably helped organize the first-ever meeting on obesity in China, held in April 2000, where he gave a speech outlining the global epidemic (ICN, 2000b). He offered technical assistance and funding for the establishment of a working group on obesity a few months later. In late 2006, after the definitions had been set and endorsed by the MOH, he helped organize a major international conference devoted to making healthy weight a priority in work on noncommunicable diseases (NCDs) (ICN, 2006b). Afterwards, he helped his Chinese colleagues translate and publish their papers as a supplementary issue of the IOTF journal *Obesity Reviews* (Chen, 2008; James, 2008a). With a persuasive champion and no competing story in circulation, the IOTF narrative soon became both the dominant and the official narrative about obesity in China. Of course, there were other influences; for example, presentations at the 2000 conference by experts from Australia and Singapore (some closely associated with IOTF) must have made it seem as though there was an

international rush to recognize and deal with this imminent problem. Similarly, the US CDC was just then coming to grips with America's obesity problem (Oliver, 2006). The Chinese may well have felt the need to get on the bandwagon quickly. Adding to his authority, throughout this time, James continued to work closely with the WHO, and in 2000 his report from the 1997 Expert Consultation was published as the groundbreaking document, *Obesity: Preventing and Managing the Global Epidemic* (see James, 2013: 551).

### *Knoll, Roche, and the logic of market expansion*

Some evidence suggests that makers of the world's leading anti-obesity drugs generously supported IOTF (Moynihan, 2006; Saguy, 2013). IOTF's work in Asia clearly was supported by Big Pharma, which sought to present prescription drugs as a major part of the solution to the obesity problem. The German firm Knoll Pharmaceuticals, maker of Sibutramine, funded the preparation of the report that redefined obesity and its treatment in the Asia-Pacific region (WHO/IASO/IOTF, 2000). The Swiss giant Roche Pharmaceuticals was the major sponsor of the scientific work securing obesity's status as a disease in China. Though the details of James's connections to Roche remain vague, the wry comment of one Chinese insider – 'Roche loved Phil James' – is suggestive (IF3). Roche (2000) had successfully launched its anti-obesity drug Xenical in 1999, and on the basis of outstanding first-year sales, had high hopes of steadily developing the global market. In 2000 it gained approval to sell the drug in China (Roche, 2001).

With great expectations for the market potential of its drug, the Shanghai-based Roche (China) Pharmaceutical Co. funded much of the early research on obesity in China. Roche was a regular member of ILSI-China's supporting-company team during 1999–2003, but the published acknowledgments of support indicate that the key donations were special contributions, which, the evidence suggests, were mostly arranged by James. The company funded the foundational workshop on obesity (April 2000), seeded the Research Fund of the new Working Group on Obesity (created in July 2000), and supported the meta-analysis that defined the BMI (body mass index) cutoffs for obesity and overweight (2000–2001). Roche (in 2003) also supported the drafting and publication of the guidelines for managing obesity (IF3). In the early years, drug company support, evidently arranged through IOTF, was critically important to the development of the science of obesity and the transformation of obesity into a disease entity in China.

### *Chinese logics: National narratives of social and scientific backwardness*

IOTF found a receptive audience for its message in China. Indeed, James' agenda dovetailed uncannily well with deeply entrenched narratives about China's 'backward' place in the global order of things, which was said to underlie all the nation's problems. By following the path of the global leaders and working hard to be seen as a responsible member of the global community of nations, the narrative held, China would achieve its rightful place near the apex of the world order (cf. Chan, 2011). My scientist-informants told the story of obesity through two larger narratives of nation. In their socioeconomic

narrative, China remained backward but was on the path to US-style modernization. Public health specialists, some of whom had visited (or even trained in) the West and followed the international literature in their fields, knew that obesity was a growing problem in the US and other Western countries; since China was following in the developmental footsteps of the US, the thinking was, it was inevitable that as China became more prosperous, it would become fatter, too (IF3, IF5, IF16). 'Obesity is coming to China', they asserted, and 'China definitely will follow the US on this' (IF3, IF16).

Not only did many of my informants repeat this story, they did so with a touch of pride, tinged with a shudder, for rising obesity was a sign of the modern, a sign that China was joining the group of advanced nations. Moreover, there was visible evidence of the problem, at least in the big cities, where most of the researchers lived. In the early 1990s, the appearance of fat youngsters on the streets of Beijing and other big cities, a product of the pampering of single children and growing prosperity, created a media sensation as people were 'amazed' to learn that Chinese people, too, could get fat (IF4). IOTF's story of imminent crisis provided an emotionally gripping way to make sense of these observations and to grasp what had to be done to avert an American-style epidemic of extreme fatness: take preventive actions now. Perhaps because this global narrative was already endorsed by the WHO (whose documents, we have seen, James himself had helped to craft), there was no consideration of other possible developmental pathways, of the possibility that cultural differences (in food preferences, for example, or attitudes toward heavy bodies) might set China out on a different trajectory or portend a slower rise.

A second narrative traced China's scientific backwardness and its expectation of becoming a future global knowledge power (cf. Sleeboom-Faulkner, 2008, 2010, 2013). In the obesity field, the feelings that China's health science remained woefully lacking, and that Westerners had more advanced knowledge that Chinese needed to acquire, were reflected in the palpable gratitude China's public health specialists felt toward Philip James for coming to China in 2000 and informing them about important health trends in the wider world, to say nothing about future trends within China. In the obesity issue, though, the Chinese research community also saw an opportunity to change perceptions. In our discussions, Chen stressed her ambition – so far, frustrated – to put Chinese public health research on the world scientific map. To that end, at every stage of the scientific process, ILSI-China made great effort to ensure that its work was of the highest caliber and was fully WHO-compliant, taking the work of that UN agency as the gold standard of good obesity science. This narrative about Chinese science helps us understand how the obesity story laid out by James, despite its partiality, was so powerfully seductive. With no alternative to consider and no way to independently verify it, the Chinese scientists saw the IOTF story as the global truth.

## **Defining overweight and obesity: Translating the crisis into science**

With that first meeting, the IOTF narrative about an impending crisis became the guiding narrative about obesity in China. Responding to the felt need for quick action,

ILSI-China drew on its abundant personal ties to the scientific community to recruit existing expertise and data sets to the cause. A few months later, in July 2000, it organized a Working Group on Obesity in China (WGOC), inviting leading specialists in epidemiology, cardiology, endocrinology, nutrition, sports medicine, and public health to participate (ICN, 2000a). Its first major task was to create BMI cutoff points for overweight and obesity in the country, a process that would define these conditions as diseases for China, enable study of their prevalence, trends, and public health significance, and provide the scientific basis for developing guidelines for obesity prevention and control (Chen, 2008). As the first-ever effort to establish commonly accepted standards for weight-based disease in China, this was critically important work. The crisis narrative would drive the definition of the new disease, muffling other views about its trajectory and producing a science that was consequential in unremarked ways.

### *Rationalizing China-specific standards*

The international standards adopted by the WHO in 1998 set a BMI of 25 as the cutoff for overweight and of 30 for obesity. In the mid to late 1990s, there was vigorous debate at IOTF and WHO about the suitability of the international cutoffs for Asian populations (James, 2008b; WHO/IASO/IOTF, 2000). Evidence suggested that Chinese and other Asian bodies differed from 'standard' (that is, Western) bodies in their lower average BMIs and in their tendency to develop abdominal (or central) obesity, in which fat accumulates around the internal organs, posing more serious disease risks. In such bodies, chronic diseases associated with obesity develop at lower BMI levels, necessitating lower cutoffs. With guaranteed funding from Roche, the technical support of IOTF, and a time-critical new task, the working group completed the work on the adult cutoffs in a mere nine months. The meta-analysis was done carefully and vetted at every stage by leading experts in different fields. Using thirteen large-scale data sets from the most recent ten years (on cardiovascular disease, hypertension, and diabetes, covering 240,000 people), as well as four prospective studies (showing mortality and covering 60,000 adults), the meta-analysis sought to determine the optimal cutoff points by displaying morbidity (and to some extent mortality) rates by BMI number and conducting sensitivity and specificity analysis to confirm the results (Zhou, 2002a, 2002b). At a July 2001 conference, the group presented its results and proposed cutoffs (ICN, 2001a, 2001b).

The expert committee proposed China-specific cutoffs of 24 and 28 for overweight and obesity, respectively. It also recommended supplementary cutoffs for waist circumference to assess central obesity. According to those present, there were 'different opinions' (code for much controversy) within the working group, with some contending that China should follow WHO standards (IF2). In the end the committee decided to use the lower cutoffs. Several considerations lay behind this decision, all but one reflecting the interests of IOTF and Roche. One was the biological rationale (which deserves closer scrutiny than I can give it here). Another was the desire, fostered in part by the IOTF narrative, to nudge individuals to take preventive action by 'warning' them of the dangers ahead through early diagnosis (IF1, IF2, IF6). A third, mentioned by one informant, was a desire to convince the government of the importance of the obesity problem (IF5).



Though no one articulated this logic, lower cutoffs would expand the size of the market for anti-obesity drugs and other products by increasing the size of the population with weight-related diseases. Perhaps that enlarged market is what Roche had in mind when it funded the Chinese research. It is certainly striking that Roche is listed as the only funder of the cutoffs research. When asked about the possibility of Roche influencing the cutoffs to its advantage, ILSI-China's leaders were adamant that there is never any connection between a company's commercial interests and ILSI research: 'This is in the ILSI bylaws'. But Roche's support of the BMI studies came in the form of special contributions. 'That was an exceptional case', one informant explained, one that, he implied, the bylaws did not cover. Once again, interpretive flexibility did its work.

After completing the adult cutoffs, ILSI-China began working on cutoffs for children and adolescents (ICN, 2003b; Ji, 2005). From late 2004, ILSI-China sponsored a series of workshops and roundtable meetings to align China's approach with WHO's new Global Strategy on Diet, Physical Activity, and Health (ICN, 2006a, 2006b; WHO, 2004). In November 2006 it hosted an international conference that produced the idea of addressing obesity through a nationwide 'healthy lifestyle' campaign (ICN, 2006b); I say more about that below.

### *Not bad science but consequential science*

Corporate funding notwithstanding, there is no evidence that the science that produced the cutoff points was 'bad science'. Quite the contrary. It was serviceable science, done by some of China's top health researchers, who used the best data available and conducted their analyses carefully and systematically.

Yet the IOTF narrative of impending crisis drove the science, with effects that need noting. For one, in the rush to pathologize *heavy* weights, findings of elevated mortality among those at the *underweight* end of the spectrum (the malnourished and those with eating disorders) were neglected, set aside as 'needing further analysis' (ICN, 2001a; Zhou, 2002a). (This is true of virtually all obesity research.) The process also entangled the researchers in some logical quandaries. As is well known, the BMI is a poor measure of fatness and disease risk, in part because it varies with a great many factors (Nishida, 2004; Ross, 2005). The Chinese rejected the international standard of the WHO, adopting China-specific cutoffs on the grounds of biological difference in patterns of fat deposition. While that exception made sense, the scientists had few logical grounds on which to justify taking account of one exception but not others. Again, the Chinese were not the only ones facing this problem.

Third, low cutoff points, rationalized in part by the belief that a crisis of obesity had to be averted by warning large numbers of people of impending health problems, boosted the size of the 'diseased' population, and this worked in circular fashion to confirm the truth of the crisis narrative. In other words, the narrative produced the data that reaffirmed the narrative. Finally, the data were made to tell the story of a crisis that – because China is *not* the US – might never have materialized or been as serious as the narrative implied. In my interviews, a number of expert-informants outside the immediate ILSI process expressed the view that, because of differences in biology and in the culture of food and fatness, obesity in China would rise more slowly and never approach US levels



(IF7, IF10, IF12, IF13). In ILSI-China's rush to adopt the 'international science of obesity', however, these alternative views were silenced and only one story, that of looming crisis, gained scientific representation.

## **Making obesity official: Neoliberal policymaking and the contributions of Big Food/Big Soda**

ILSI-China delivered on its political promise to its supporting companies, facilitating the speedy transformation of these cutoffs into the official standards and guidelines on obesity management. In authoritarian China, this step was decisive, for China's government is the final truth-teller; whatever debates may have preceded it, the issuance of an official document settles a matter once and for all, silencing public debate (IF3, IF12). But in contrast to the strongly directive role that China's government has played in steering policy in advanced fields of biomedical innovation (Chen, 2011; Salter, 2011), it left policymaking in the humble field of public health to experts outside the MOH. The result, a form of hybrid or even neoliberal policymaking quietly directed by ILSI-China, was facilitated by two features of its organization, its close ties to the ministry and its interpretively flexible code of ethics. Corporate influence did not stop there. Once official policy was in place, foreign companies took on increasingly visible roles in anti-obesity interventions. Far from opposing their influence, China's state encouraged it with a market-friendly approach to health practice. Once again, the local context – in this case, a political culture favorable to large Western firms – encouraged the extension of corporate influence.

### *ILSI's scientific policy endorsed by the Ministry of Health*

ILSI-China's tight personal links to the health ministry, forged over years of working together, enabled a remarkable process of neoliberal policymaking in which ILSI took the lead, drafting the guidelines, revising them several times, and presenting its recommendations to the government for review. After a few back and forths, they were accepted with few, if any, questions asked, and published as a standard MOH document, with all traces of ILSI's involvement removed (IF3, IF12). Through this process, corporate fingerprints were deftly hidden from sight.

In an era in which 'scientific governance' (*kexue zhizheng*) was a binding political norm, it is not surprising that the MOH accepted ILSI-China's recommendations with virtually no questions asked. On top of its close relations to the ministry, ILSI had superlative scientific credentials and, as far as ministry staff knew, access to the latest global knowledge on public health. For their part, ILSI actors were able to exploit their ambiguous position as part of, yet not part of, the government, 'flexibly interpreting' the boundaries between the organizations. When it came to policymaking, the 'part of' identity was emphasized. As one insider explained, '[t]he government wants policy based on science. If you have the evidence, the government will make the policy' (IF3), implying that the MOH essentially outsourced obesity policymaking to ILSI. Stressing that the proposed disease definitions and treatment guidelines were not 'policy' (since ILSI-Global 'does not make policy recommendations'), but were instead 'tools' allowed ILSI-China's

leaders to create official policy while stating they were not. Through the silent operation of these two mechanisms (personal ties and a pliable code of ethics) the corporate and other influences that had been built into framing the obesity issue found their way into the official guidelines on its definition and control.

In early 2003, the MOH officially promulgated the *Guidelines for Prevention and Control of Overweight and Obesity in Chinese Adults* on a trial basis (Ministry of Health (MOH), 2003; also ICN, 2003a). In 2011, ILSI-China was entrusted to develop diagnostic criteria, based on the *Guidelines*, and in 2013 the criteria were promulgated for nationwide application by the renamed National Health and Family Planning Commission (ILSI-C, 2013). Those guidelines would have a long life, being essentially set in political stone. What then did they say? The 2003 *Guidelines* tell the now-familiar story of a global crisis coming soon to China:

An escalating obesity epidemic is spreading all over the world. ... Although the prevalence of obesity is much lower in China than in the West, it is rising at a faster rate, putting China at great danger of rising incidence. ... Therefore, the prevention and control of overweight and obesity have become [an] urgent task. (MOH, 2003)

Following the WHO Global Strategy, the *Guidelines* call for education and lifestyle changes, with drug therapy as an adjuvant method for high-risk individuals. Information on the two drugs available in China – Orlistat and Sibutramine – is provided in a table (MOH, 2003: 25), giving Roche what seems like a remarkable bang for its buck.

ILSI's strained distinctions aside, the guidelines amounted to a virtual obesity policy, for they established a new set of norms by which the public should abide, and laid out the methods by which the population should be normalized. From there it was a small step to putting the rules into action and then incorporating normalizing targets into nationwide plans such as the 2012-2015 Plan for NCD Prevention and Treatment (Chinese Center for Disease Control and Prevention, 2012), a national policy by any definition. Though these phases of obesity's governmentalization are beyond the scope of this article, ILSI-China would play a role in them as well.

### ***Intervention: Big Food steps up, with government encouragement***

In 2007, the MOH launched the 'Healthy Lifestyles for All Action', promoting dietary change and increased physical activity (ICN, 2007a). Once again, ILSI-China was the key actor. Soon after the idea emerged from its 2006 conference, ILSI recommended it to the MOH and the plan was quickly endorsed. Again, the ILSI name disappeared from sight. In 2012, the initiative was scaled up into a national campaign and included concrete goals for obesity reduction. Since then, the anti-obesity effort has been increasingly integrated into the larger campaign for NCD prevention (Chinese Center for Disease Control and Prevention, 2012).

'Healthy lifestyles' is a broad category, so which healthy lifestyles would be promoted? In a context in which the government was showing little active interest in the issue, it seems that any entity that offered creative ideas and funding for them would find a welcome reception. Thus it was that large Western corporations became involved in

China's official anti-obesity campaign. But which corporations? By the time the healthy lifestyle action was launched, the promise of big profits from anti-obesity drugs had faded. From 2002, worldwide sales of Xenical dropped. Sales in China peaked in 2002 before falling. By 2005, Roche's annual reports suggest, the company's interest had moved on to other things. After serving as a supporting company for ILSI-China for many years, in 2004 Roche's name disappeared from the list, suggesting an industry perception that ILSI affiliation should bring material gain.

Roche seems to have miscalculated on China. The clinical nutritionists I met confided that Chinese people see heaviness not as a disease to be treated with drugs, but as an appearance problem best addressed through diet, exercise, or, better yet, taking the myriad nutritional supplements (*baojian shipin*, which translates as health foods) on the market (IF1, IF11). A Chinese market for anti-obesity drugs would have to be created. Yet obesity presented opportunities to another class of corporations – Big Food – and it stepped in, not only offering 'fat-free', 'lite', and other supposedly obesity-fighting products for sale in stores and restaurants but also contributing to the government's campaign.

It was not just market logics that encouraged food and beverage corporations to contribute to the campaign; governmental mobilization and political calculation played roles too. A nationwide survey in 2002 had shown that the Chinese diet had become 'unreasonable and unhealthy' and that the prevalence of NCDs, including obesity, had risen rapidly (ICN, 2004). In a series of roundtable meetings in 2005 involving the MOH, WHO, ILSI, and food company representatives, the Ministry of Health insisted that the food industry had a responsibility to support NCD prevention and control (ICN, 2005a, 2005b, 2005c). An MOH official announced that the ministry would take a 'market orientation' and cooperate with industry on projects that were not for profit (ICN, 2005b). Company representatives responded enthusiastically. The government's welcoming attitude offered a new logic to rationalize corporate involvement in anti-obesity work. In addition to demonstrating 'corporate social responsibility' for contributing to the public's health (and avoiding blame for the obesity epidemic), here was an opportunity for companies to present themselves as corporate good citizens, actively supporting the Chinese government by answering its call to contribute to this important public health project. In a risky environment in which Western companies could become targets in anti-corruption campaigns, staying in the good graces of the state made good corporate sense. The neoliberal state's market-friendly approach to health policy would be a vital factor in the companies' ability to shape official policy and practice.

In the past few years, Big Food – including Big Soda – has become an important 'partner' in the public health fight against obesity. Most visible, in the view of my expert-informants, is the Coca-Cola Company, a regular member of ILSI-China's supporting-company team (IF1, IF4, IF5). Coca-Cola's approach in China, as elsewhere, has been to emphasize that food and beverages are not the problem, but that lack of exercise is – a claim that few obesity specialists accept (IF1; on the strategy, see Nestle, 2015). Since 2006, the company has funded the Happy 10! Project promoting 10-minute exercise breaks in the school day, which later became part of the Healthy Lifestyles Campaign (IF5). From 2011 to 2013 it funded a training fellowship for two Chinese scholars to

study public health in the US; one was earmarked for study of sports or physical fitness. Other companies, of course, have also supported the campaign. The French food retailer Carrefour was a central player in the Beijing and multi-city Nutrition Weeks in 2006 and 2007 (ICN, 2006a, 2007b). Yum! (owner of KFC and Pizza Hut) and Nestle have contributed too, presenting themselves as sources of healthy eating options and purveyors of important nutrition information. While conveying positive images of the firms, at the same time such messages deflect attention away from the unhealthy (and obesity-inducing) foods the companies sell, effectively protecting their core products, and their corporate reputations, from blame for contributing to the obesity problem.

### *An enthusiasm for foreign firms and a ringing endorsement by the scientists*

In recent decades, large foreign firms have been enthusiastically received by the Chinese people, their brands often outselling local ones by wide margins. In a cultural climate dominated from top to bottom by money worship – virtually the only religion since Deng Xiaoping declared that ‘to get rich is glorious’ – and a conviction that Western firms’ more advanced knowledge and products contained the secrets to getting rich, prominent multinationals have been seen as mostly positive forces in China’s development.

These pro-Western-business attitudes spilled over into the scientific community. Many of my informants talked about Coca-Cola’s work on obesity in tones of admiration and even gratitude. One member of the healthy lifestyle organizing committee emphasized Coca-Cola’s clever ideas and catchy slogans. She was impressed that the company donated money to social welfare causes and that those gifts were mandated by Coca-Cola Global (IF7). Large Western corporations appeared not only as sources of badly needed financing, technology, and knowhow but also a much-appreciated ability to get things done. The contrast was with the Chinese government, which was seen as too often corrupt, untrustworthy, and inept. People had faith in the quality of large foreign firms’ health products because their design is ‘based on scientific evidence’ and, moreover, ‘the companies provide us with experience and knowledge’ (IF10). One informant who had worked closely with multinationals for years said he had developed an implicit trust in them to follow the rules and do the right thing (IF12). Overall the firms were welcome partners in China’s public health field (IF11).

Expecting to find some wariness about the unfettered participation of foreign firms in China’s official public health affairs, I kept pursuing the matter in my conversations, trying to discover some hidden pocket of the field with critical perspectives. To a one, however, my informants pushed back, informing me firmly and pointedly that this was just business as usual in public health, not just in China but at the WHO and in the US. Although the ‘everyone’s doing it’ response allowed them to avoid ethical self-reflection, they did have a point. In the end, I uncovered no concern about the subtle ways in which corporate funding might have biased the science or practice of obesity work. Two informants, perhaps recalling the recent scandal in which GlaxoSmithKline was charged with bribing Chinese officials to adopt its products, allowed that corporations could sometimes be ‘enemies’. No one, however, was concerned with corporate influence

on medical knowledge itself. And so, supported by a pro-Western-business culture, the pattern of tri-partite cooperation on obesity, already firmly entrenched in the phases of disease definition and guideline creation, continued into the intervention stage, unquestioned by anyone.

## **Why it matters: China and the case for a global STS of neoliberal science**

This excavation of Chinese science and policy has shown that large Western firms and their agents were central actors and major forces at every stage in the creation, definition, and governmental management of obesity as a Chinese disease. In this story, obesity emerges as part of the larger historical process in which, since the middle of the 20th century, chronic diseases have been simultaneously born as markets and medical conditions, with big companies taking the lead. From Big Pharma to Big Food and Big Soda, transnational companies have been profiting from the ‘epidemic of Chinese obesity’, while doing little, if anything, to effectively treat or prevent it.

The stakes involved in the corporate invention of disease, high enough in the US, may be higher still in authoritarian political systems, especially when, as in China’s regime of state neoliberalism, the state itself is allied with global capital. In highlighting the pervasive influence of industry in the making of this new disease, I am not implying that obesity should not be considered a disease. (There are good grounds for deeming it a disease and good grounds for denying it that status.) It could be argued that ILSI-China and its network of scientists were dedicated and patriotic health heroes who, through strategic exploitation of global corporate resources, were able to overcome a neoliberal state’s inertia on public health and accomplish critically important public health work that brought China into line with ‘best thinking’ globally. That, quietly told, is ILSI-China’s story about itself, and it contains a large measure of truth. My argument, rather, is that the ways market forces shaped how obesity was formed and managed have consequences that have not been recognized – for people’s health, their security, and the balance of political power in this rising superpower.

One consequence, noted by others, is a bias in public health knowledge and practice in favor of diseases in which corporations find biovalue (Dumit, 2012; also Hackett, 2014). Because no entity is interested in supporting work on conditions that may cause great human suffering yet are unprofitable, there may be many such conditions now afflicting the Chinese population that have gone unnamed and unattended to. In today’s free-market health knowledge system, we simply cannot know which conditions are being bypassed. That is unsettling.

Another is a shift in the balance of power among state, corporations and formally non-governmental scientific institutions in the governance of health in the People’s Republic. In the making of obesity as a disease, foreign corporations were clearly the dominant forces. As in the US in the earlier post-war era, in China it appears that, through the operation of ILSI and IOTF, the interests of corporations and public health specialists came to be closely aligned (Greene, 2007: 3). We have long known that commercial forces dominate the delivery of healthcare in China, but this inquiry suggests that their power extends deeper, into the scientific heart of health.

As my informants constantly reminded me, this corporation-dominated structure is just business as usual in public health – in the US and around the world. Indeed, but China is different in a critically important way. In the US, a free-wheeling democracy has encouraged the emergence of watchdog organizations that serve as witnesses and often protest when corporate greed threatens human health. In China, there seems to be no one protecting the public's health from corporate overreach or excessive greed. China's small number of health NGOs are preoccupied with matters more immediately urgent than chronic diseases, including the human fallout from decades of wrenching socioeconomic change and environmental degradation (Huang, 2013: 110). There is no free, socially responsible media to expose safety and other problems. NGO and press freedom have come under even greater threat in the Xi Jinping era (2013-present). For China's public health scientists, corporate resources are what enable them to remain productive and to contribute to the nation's many health problems; without those resources, little could be done. In classic neoliberal fashion, China's state seems to be abandoning health to the market, rationalizing that industry must be part of the solution. Far from being on the lookout for undue corporate influence, both state and scientists seem to view foreign corporations as vital assets and essential partners in the work of public health. On top of this, the key role of ILSI in transmitting corporate influence is constantly being invisibilized through boundary-drawing practices (separating science from industry) that serve instead to perforate that boundary, and through the erasure of the ILSI name from its most important products, from the official diagnostic criteria to state policy to public health interventions. In a context where they mostly enjoy widespread admiration and gratitude, foreign firms can wield inordinate amounts of indirect, subtle, and deliberately hidden influence, influence that, without in-depth STS sleuthwork of the sort reported here, would simply never come to light.

What can STS take away from this close study of public health science- and policy-making in China? Let me highlight two larger implications. One concerns the origins of the 'global epidemic of obesity'. Though I have told the story of obesity's making in only one country, because the organizations transmitting corporate influence operated in many countries, and because the processes uncovered were global in scope, the China case provides a window onto other parts of the world, suggesting how a particular scientific story about obesity (as an 'epidemic') and a particular set of political strategies to address it might well have been transmitted to many countries around the world. The corporate-led invention of the 'obesity epidemic' may be a worldwide reality.

For STS, one of the most important take-home points is the need to frame our studies of neoliberal or commercialized science and policy more globally. Not only are the corporate dynamics that shape local science- and policy-making based on global calculations and strategies and not only do the hybrid organizations that quietly spread corporate influence operate around the world. In addition, in a story I could only hint at here, the WHO, with its decades-old promotion of public-private partnerships in global health, has played a critical role in fostering and legitimating neoliberal science and policy dynamics (Lee, 2009). Whether the focus is one country or the world as a whole, a more global framework is needed to capture the workings of neoliberal science and policy in the 21st century.

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