Xiang Biao, "The Theory of 'Concentrated Mobility' and the 'Gyro-Economy:' Understanding Social Change in China through SARS and the Coronavirus"[1]

Introduction and Translation by David Ownby

https://www.readingthechinadream.com/xiang-biao-concentrated-mobility.html

Introduction

Xiang Biao (or Biao Xiang, b. 1972) is Professor of Social Anthropology at Oxford University's School of Anthropology and Museum Ethnography. Born in Wenzhou and educated at Beijing University before moving to England to do his Ph.D. at Oxford, Xiao, like Xiang Lanxin, is an example of the many Chinese scholars who live and work outside of China and publish largely in English, but who continue to contribute to intellectual life in China through publications and joint research projects there.

Xiang began his scholarly career by studying migrant workers in Beijing, and subsequently broadened his focus to high-tech Indian "migrant labor" in Australia, and then later still to the subject of unskilled labor migration from China to Japan, South Korea and Singapore. Among his many well-regarded publications, *Global 'Body Shopping': An Indian International Labor System in the Information Technology Industry* won the Anthony Leeds Prize in 2008, and "Predatory Princes and Princely Peddlers: The State and International Labor Migration Brokers in China," won the William L. Holland Prize in 2012. Xiang's cv is available here.

In the text translated here, Xiang uses a comparison of the SARS and coronavirus epidemics in China to highlight what he calls the "concentrated mobility" of the Chinese economy and society and the effects of this mobility on the spread and containment of the virus. In comparison with the SARS outbreak in 2003, when migrant workers, as the most conspicuously "mobile" elements of Chinese society at the time, were the focus of government attention, efforts to control the coronavirus targeted the population at large. This is because, Xiang argues, between 2003 and the present, the Chinese economy has made constant and increasing mobility the core of its impressive productivity. Xiang focuses particularly on what we would call the "gig economy," those who deliver food and packages, the Chinese equivalents of Uber and Lyft drivers, as well as others in the service industry (like tourism) who, while not being exactly "gig" workers, have at best an attenuated, informal link to their "employer."

The "concentrated" part of "concentrated mobility" has to do with the fact that this movement tends to occur in increasingly dense concentrations. Xiang notes that this is national policy, and uses the example of Wuhan to illustrate what becoming a "national city center" means: a set of policies, investments, and institutions designed to create dynamic, magnetic urban cores that attract talent, investment, and supply chains and then "radiate development" outward (through "city clusters," among other things).

An economy that functions on the basis of concentrated mobility is already unstable; Xiang calls it a "gyro-economy" which spins like a gyroscope until, for whatever reason, it loses speed (or crashes into something) and teeters to a halt. In the context of the coronavirus, concentrated mobility poses particular challenges. First, mobile workers in the gig economy

are deprived of the "chains of trust" that employers and fellow workers can provide and relate to the world as atomized individuals, largely through smart phones. In times of crisis, the government cannot know what information they will receive, nor how they will react, for example, to calls to reduce mobility to contain the virus, a mobility that is essential to their family's welfare. Xiang suspects that this may in part explain the policy oscillation, in China and elsewhere, between a stance of "things are fine" and one of "oh my God, the sky is falling!" In other words, in the face of concentrated mobility, half-measures are largely impossible.

Xiang does not cast his ideas as the sole explanation for the spread of the coronavirus, or for the measures employed to contain it; I suspect that the South Korean economy displays high degrees of concentrated mobility as well, as does Taiwan's, but in those cases governments and health authorities managed to arrive at the half-measures that eluded China's leaders. In any event, I find Xiang's perspective unique in Chinese discussions of the virus, as well as a subtle call to reflect on the perils of development at all costs.

Translation

The 2019-2020 SARS-Covid 2 pneumonia epidemic (hereafter "coronavirus") will surely be one of the most important public health events in Chinese history. The depth of its impact is not related solely to the character of the virus, but rather to the social reaction the epidemic sparked. Why did we oscillate between the two responses of "everything is normal" and "it's an all-out war?" How did our response measures get so extreme so quickly? Might these measures have long-term consequences?

These questions are multi-faceted. In this essay I offer a hypothetical explanation from the perspective of population movement, arguing that China has become a hyper-mobile society, a mobility of unprecedented universality and frequency, and which has become the basis for the functioning of the economy and the source of many families' incomes. This hyper-mobility made it difficult for the government to craft local, individualized interventions, which meant in turn that stopping all movement become practically its sole option, which itself had huge social consequences. Of course, a strong response was a conscious government policy, but to understand the policy's formulation, evolution, and impact, we need first to have a firm grasp on the basic trends of social change in China. In this paper I will discuss the two hypothetical concepts of "concentrated mobility 流动性聚集" and the "gyro-economy 陀螺式经济" in the hopes of describing the characteristics of a hyper-mobile economy and beginning to address the questions raised above.

One, A Comparison of SARS and the Coronavirus: From Chain Reaction to Grid Reaction

If we compare the present epidemic with that of SARS (Severe acute respiratory syndrome, also known as infectious atypical pneumonia 非典 when it was first discovered) 17 years ago, we will see how mobility has reorganized our society. Between November of 2002 and July of 2003, SARS spread to 37 countries, resulting in 774 deaths, or which 648 were in China and Hong Kong. In the battle against SARS, migrant workers were the government's key focus. In the two months between April and June, 2003, governments at various levels issued no less than 18 formal documents dealing exclusively with the question of migrant workers; at least eight of these were issued by the central government.

The National Population and Family Planning Commission launched the first nationwide

survey of migrant workers, mobilizing grassroots family planning cadres to conduct surveys in more than 2,700 counties to understand the situation of migrant workers returning to their home villages during the period of the SARS epidemic. The Beijing Municipal Labor and Social Security Bureau required Labor Bureaus at the city, district/county level, and the Social Security Office at the street level to carry out four monitoring activities: first, to investigate industries and companies with large numbers of migrant workers, and report the number and changes of migrant workers employed every week; second, to carry out daily investigations of 30 to 60 enterprises with a high concentration of migrant workers; third, to set up monitoring points at long-distance bus stations and train stations; and fourth, to cooperate with migrant workers to collect information.

The reason that migrant workers became the key focus was first because they were one of the groups with the highest rates of infection. Second, SARS prompted migrant workers to return to their villages. According to statistics from the Ministry of Agriculture, in the single month between April 16 and May 15, 2003, some four million migrant workers left the cities in which they had been working. Such workers became the chief source of infection in the villages. For example, in Hebei Province, by May 9, 2003, a total of 265 confirmed and suspected cases had been reported. Among these, 45 were infected farmers and 42 were migrant workers (including 20 returning migrant workers), accounting for 33%. By May 5, 2003, ten cases were diagnosed in Anhui Province, of which seven cases were migrant workers returning home.

Regarding this situation, Feng Xiaoying 冯晓英, the Deputy Director of the Institute for Urban Issues at the Beijing Municipal Academy of Social Sciences at the time, noted that: "The SARS-driven, nation-wide spread of the epidemic caused by the 'flight' of the floating population from Beijing, and the outbreak in Beijing caused by the 'aggregation' of the floating population here, have for the first time brought to public attention the health status of the floating population."

What ultimately was the relationship between migrant workers and the spread of SARS? Based on research and fieldwork carried out at the time, I discovered that migrant workers' reaction to the epidemic was not as sensitive as we imagined; very few migrant workers left the city because of fear of SARS. Their movement during the epidemic was in fact the result of a "chain reaction." In April of 2003, more than two months after the beginning of the epidemic, the Chinese government suddenly began to emphasize the gravity of the situation, and fighting SARS became the government's priority political mission. Public entertainment venues and construction sites were considered to be high-risk areas, and most were shut down. Public entertainment venues and construction sites were not only the places where most migrant workers were employed, it was also where most of them lived. So once they were shut down, migrant workers lost not only their salary, but their place of abode as well, and had no choice but to return to the village. In May of 2003, for example, roughly 70% of restaurants in Beijing shut down.

The idea of a "chain reaction" suggests the relationship between population movement and virus was not direct, but was instead linked by intermediate variables. The reaction of urban residents and the government to the virus produced a great economic upheaval, which prompted the migrant workers to leave, which in turn spread the virus. Migrant workers were the most harmed in this process, as they were infected by the virus and suffered economic losses.

In the 2020 coronavirus epidemic, however, aside from mentions of migrant workers in documents concerning the return to work after the end of the epidemic, virtually all measures were aimed at all normal urban residents. The outbreak of the coronavirus was not a chain reaction, but rather a "grid reaction 网格式反应." Communities 社区, neighborhoods 街道, urban areas 城区, cities, and even entire provinces organized themselves into grids, testing everyone as if they had rolled them up into a carpet or pulled them in with a net, and then imposing different degrees of isolation. This grid response was extremely transferable. Once the central government made it clear that the epidemic had to be contained, the grid was implemented everywhere. Certain peripheral areas or rural villages with no cases of infection implemented measures even stricter than those imposed in the hot zones. Hence, the grid response was also a "tectonic plate response 板块式反应:" a battle-style response 战役性反应 that covered everything, in a unified way, with no room for nuance.

One background reason for the change from chain reaction to grid-tectonic plate reaction was the meaning of population movement has changed. Movement is no longer a special feature of migrant workers, but instead a universal part of organized social life. What makes our economy function is not only the production lines of individual enterprises, but also any number of national and global routes; not only the huge machines in the workshop, but the delivery motorcycles shuttling back and forth; not only the huge flow of population from the cities to the villages once a year for the Spring Festival, but vast numbers of multi-directional trips occurring all year long.

At a meeting on February 21, 2020, the Politburo of the CPC Central Committee pointed out that: "Our current urgent task is to guarantee the flow of transport and the smooth functioning of the highway network." To return to work and return to production, transportation is the "vanguard," and we must open the "main arteries" and unblock the "lesser veins." This meeting was also when we saw the first mention of the idea of "maintaining the stability of global supply chains." On March 4, 2020, at a meeting of the Standing Committee of the Politburo, they once again emphasized that the stability of global supply chains had to be maintained. This tells us something about the importance of mobility.

Two, Hyper-Mobility

The universality of mobility first took shape in the huge increase if what we have traditionally called the "floating population," defined as people who have lived more than six months in a place in which they are not registered. There were some 121,000,000 such migrant workers in 2000, and some 236,000,000 in 2019, which means the numbers almost doubled. At the same time, the mobility of the rest of the population also increased to an unprecedented degree. In 2019, Chinese trains welcomed 36,000,000 passengers, and Chinese airplanes 6,600,000, vastly surpassing the 9,500,000 and 870,000 in 2003. Ownership of private cars increased from 13,000,000 in 2003 to 206,000,000 in 2019. In the social credit system (with extremely Chinese characteristics), the most effective punishment for those with low credit scores it to limit purchases of tickets for high-speed trains, ordinary trains, and airplanes. There are particularly effective because mobility has become a necessary commodity in the life of the people.

The emergence of China's hyper-mobile economy is of course directly related to the change in China's economic structure. The biggest change in China's economy in the past twenty years is that the tertiary sector (the service sector) has become the engine of the

economy. The tertiary sector is a highly mobile industry. According to a survey by the National Population and Family Planning Commission, roughly two-thirds of the migrant workers who returned to their villages in late April and early May 2003 because of SARS worked in the service industry. In the 17 years since SARS, the service industry has not only continued its frenzied growth, but has also become more mobile. In 2003, the contribution of the service sector to the growth of GDP was less than 40%; by 2019 it had reached almost 60%. Data from the Fourth National Economic Census indicate that at the end of 2018, the contribution rate of the service industry to job creation was as high as 110.3% (it exceeded 100% because manufacturing employment was declining).

Taking the tourism industry as an example, from 2000 to 2019, the number of jobs increased by 18 times, and domestic tourists increased from less than 1 billion in 2000 to 6 billion in 2019. The logistics industry is a mobile industry that only officially appeared after 2003, being included in the national five-year plan as an industry for the first time in 2006. In 2013, at the same time that China became the world's number-one country in terms of trade, the size of China's logistics market also surpassed that of the United States, also becoming first in the world. In 2018, the total amount of social logistics in the country came to 283.1 trillion yuan, compared with only 4.5 trillion yuan in 2007.

The movement of things cannot be separated from the movement of people. At the end of 2016, the number of employees in logistics positions in China was 50.12 million, becoming one of the fastest growing industries, accounting for 6.5% of the national employment. These people rely on mobility to eat: their own mobility is a tool of production, and other people's mobility is the foundation on which their employment exists. More than 5 million people in food delivery 外卖小哥, 3 million in courier delivery 快递配送人员, 20 million ride-hailing drivers 网约车司机, and 1.4 million taxi drivers 巡游出租车 are all like this. The rapid increase in the number of private vehicles has meant not only an increase in people's mobility, but also the emergence of new livelihoods.

Mobility is not simply a spacial phenomenon, but is also closely linked to institutional arrangements, especially the system of labor relations. People not only move from one place to another, but also jump from one job to another. The trend of "job hopping 短工化" among young migrant workers has already attracted widespread attention, but flexible work arrangements remain have expanded beyond the world of migrant workers. In the service industry, wholesale and retail, hotels and restaurants, are still the main channels for employment, and in these two sectors, 70.8% of employees work in small or micro-enterprises with less than 100 employees, many of whom are not in stable relationships with their employer. In the logistics industry, individual workers and merchants account for nearly 56% of all employees.

Flexible employment has been further institutionalized through practices of labor-dispatching 劳务派遣. The Labor Contract Law of 2008 formally permitted labor-dispatching, and such workers accounted for 13.1% of the total employment in the country by 2011. In the express delivery industry, 80% of the employees work through labor-dispatching (2018), and have no legal relationship with the companies whose products they deliver.

Mobile employment has allowed many workers to become hidden workers. This means that there is not only a problem of hidden unemployment, but also one of hidden employment, by which I mean informal work. Taking the tourism industry as an example, employment increased by 18 times, as mentioned above, but the number of formal employees decreased

from 6.5 million before SARS in 2003 to 2.5 million in 2004. After a slight recovery, the number fell again to 2.1 million in 2011, perhaps due to the international financial crisis, and climbed back to 2.7 million only in 2017, which is only 40% of where it stood in 2003. Some of this may be explained by statistical irregularities, but it may also be because of the SARS crisis, stable labor relations were replaced by flexible employment methods that wound up hiding work.

Mobile employment also means that the government cannot establish an effective relationship with workers through the workplace, and cannot establish an effective "chain of trust." The idea of a "chain of trust" is part of a recent WHO campaign against "infodemics." The idea of "infodemics" refers to excessive information, which spreads extremely fast, the authenticity of which cannot be evaluated, leaving people at a loss. The chain of trust refers to communication channels formed by people inscribed in long-term and repeated social interactions. A chain of trust will be responsible to its audience, gain the trust of its audience, and deliver reliable and targeted information. Strengthening trust chains could be an important way to fight infodemics. Because adults spend one third of their time at work, the WHO argues that the work relationship is an important trust chain. Employers, those responsible for employee welfare, and trade unions should be effective and reliable information intermediaries.

The work relationship does indeed provide a basic chain of trust in modern society, but what ordinary worker in China today is going discuss with his employer how he and his family should respond to the epidemic? Many temporary workers and those employed through labor-dispatching may not even know whom their employers are. The lack of trust chains to a certain extent may explain why the problem of infodemics seems so serious in China today. For the government, the fact that employers cannot be effective management intermediaries means that the tectonic response to the overall population seems to have become the only option. For the people, the lack of concrete trust ties means that they too respond as a whole, which is tectonic and highly contagious. The mutually reinforcing tectonic reactions and infodemics have created a huge psychological upheaval in society.

Three, Concentrated Mobility

The universalization of population movement does not mean the randomization of movement. From the perspective of controlling the epidemic, movement is not the problem, the problem is the concentration of the movement. The process increasing mobility in Chinese society over the past twenty years has also been the process of increasing concentration. Hence, by "concentrated mobility" I mean, first, that population and resources move toward the center; second, that the center becomes a point coordinating the flow of multiple directions and categories (personnel, materials, finished and semi-finished products, information and services); and third, that all sorts of movement inside the center continue to intensify. In sum, movement does not encourage dispersal, but strengthens centralization.

"Concentrated mobility" is inseparable from China's model of urbanization. The idea from the early reform and opening period that we should "work hard to develop the small cities, and rigorously contain the big cities" was replaced after 2000 with the idea that developing the big cities is better. In 2002, Hubei province put forth the plan to develop the "Wuhan Circle of Cities 武汉城市圈," integrating the development of Wuhan with that of seven surrounding cities. In 2005, the Ministry of Housing and Urban-Rural Development first proposed the idea of building "national central cities 国家中心城市," and in 2006 proposed

the concept of city clusters 城市带 and city circles 城市圈. After 2013, these ideas gradually turned into policies. In 2016, after much work over the years by the province and the city, Wuhan was recognized by the State Council as a "national central city," without a doubt becoming one of the most important turning points in the history of Wuhan's development.

What should a national central city do? Summarizing the description in official documents, a national central city has three basic functions: to concentrate, to drive forward, and to embed. In other words, to concentrate high-quality resources (including human capital), to drive forward the development of the urban region, and to imbed itself in international supply chains. The position of a central city is sustained by it reliance on movement. In the absence of mobility, there is no concentration, no radial movement toward the periphery, and no way to become a key link in international supply chains.

"Concentrated mobility" first makes itself felt in the distribution of the population. Between 2003 and 2018, the resident population of Wuhan increased from 8.5 million to 11 million, its proportion of the total provincial population growing from 15% in 2003 to 18.1% in 2015 and 18.7% in 2018. According to statistics from the Sixth National Census, between 2000 and 2010, the floating population in Wuhan increased from 2.3 million to 3.8 million; increasing from 38.5% to 41.5% in terms of the total floating population in Hubei province. Since 2017, Wuhan has also been in the vanguard in the national "urban war to attract talent 抢人大战." A few years ago, this would have been unthinkable, and again reflects the strengthening of the trend of "concentrated mobility."

"Concentrated mobility" also affects the distribution of resources, including medical resources directly implicated in the epidemic. In 2018, Wuhan had 5.51 tertiary hospitals[2] per million people, of which three are rated as "top 甲" hospitals, meaning 2.44 per million people, while the national average is 1.83 and 1.03, respectively. In the same year, the number of practicing (assistant) physicians per 1,000 population in Wuhan was 3.57, significantly higher than in Hubei Province (2.57) and in the country at large (2.59). The number of hospital beds per 1,000 population in Wuhan is 7.38, which is much higher than in Hubei Province (6.65) and in the country as a whole (6.03). Wuhan of course receives a large number of patients from surrounding areas and farther away every day, especially patients with diseases that are difficult to treat.

From this perspective, the fact that the epidemic outburst occurred in Wuhan is not entirely accidental. Even if there were early traces of the virus in Huanggang 黄冈, Zhangjiajie 张家界, and even in Henan and Jiangxi, chances remain strong that it started in Wuhan. This is because patients who could not be treated elsewhere were extremely like to go to Wuhan for treatment, and once in Wuhan, they would go to the big hospitals. As scholars and policy wonks have repeatedly pointed out, the distribution of medical resources in China is heavily weighted toward the cities. Even if there is general awareness of this problem, the proportion of outpatient services provided by community medical clinics across the country still dropped from 61% in 2010 to 54% in 2017, meaning that large hospitals do a booming business, with patients from all over crowded together. Community outpatient clinics can be strapped for cash, meaning that medical resources in many neighborhoods are quite limited. In the end, the places and institutions with the most concentrated medical resources have also become the places with the most concentrated viruses, prone to explosive cross infection.

Four, The "Gyro-Economy"

Hyper-mobile societies are full of energy, but are also fragile. Any weakness in a key link can cause chaos in the entire system. Using Mark Elvin's theory of the "high-level equilibrium trap" [from his *The Pattern of the Chinese Past*], I will attempt to develop the theory of a "high-speed rotating platform 高速度旋转平台," or perhaps, a theory of the "gyro-economy 陀螺式经济."

The theory of the high-level equilibrium trap sought to explain why China's agriculture developed to a relatively high level at an early point, yet never generated the surplus necessary to propel the development of industry. Elvin argued that continuing population growth in China led China's traditional economy to fall into the trap of "high agricultural production, high demographic growth, low capital accumulation, low industrial level."

The theory of the gyro-economy is precisely the opposite. The gyro-economy is driven by the market, and pursues surplus accumulation and rapid development to the highest possible degree, but its structure is imbalanced. Specific examples of this imbalance include the concentration of resources in space, the difference in employment patterns between industries, the tendency toward overproduction , the low-level of security for ordinary workers, and high fixed-asset investment, etc. It requires a rapid flow of resources to maintain its balance, just like a gyroscope, which is only stable when rotating at a high speed, and falls to one side once the movement slows. The features of a gyro-economy include high-speed mobility, high-speed accumulation, low levels of security, and imbalance. This may to a certain extent explain why local officials in the early period of the epidemic clung to the attitude of "everything is normal:" because the government was worried that the slightest breeze might tip the gyroscope over, causing a chain reaction.

In a gyro-economy, workers who rely on mobility are especially vulnerable. In addition to the fact that they rely on physical mobility to work, there are also two other reasons. First, mobile labor looks to be very flexible, but it also can be very rigid. The rigidity comes from its strong time sensitivity. As Marx pointed out in his analysis of the transportation industry, the value production and value realization of the service industry occur at the same time. If a mobile employment opportunity is lost at a certain time, it is gone forever, like time itself. Adjustments in time can be made for material production by amending the contract, or adding extra shifts to make up for the earlier losses, but the service industry is time-bound, and once time has passed compensation is difficult. A ride-hailing driver lives on his daily income, and if there is no business for a month, this may have a lasting impact on his family.

In addition, the vulnerability of mobile workers also comes from the fact that mobility is not only their employment method, but also their preferred method of dealing with uncertainty. Mobile workers are of course no strangers to instability. Whether it is a question of ups and downs in the economy or changes in policy on migrant workers, they have never known stability. To get past a particular difficulty, they rely precisely on mobility: if things are bad in the east they go to the west; if nothing works here they go there. In 2003 when migrant workers left the cities for the villages in response to SARS, in fact they were using mobility to deal with uncertainty.

Leaving the cities for the villages during an epidemic was not only a logical choice for the individual, it might well also have helped to resolve the epidemic. International research to date on N1H1, Zika and the Ebola virus illustrates that relying on mobility controls to reduce the level of contagion produces limited results, and can even result in unwanted secondary

effects. For example, mathematicians and medical scientists at Brown University and Arizona State University constructed a mathematical model based on data from the Ebola virus epidemic, and concluded that if the flow were blocked between high-risk areas and low-risk areas, it would reduce the speed of virus transmission and the risk of infection in low-risk areas, but would increase the total number of infections. This is because restricting mobility would strain medical resources in high-risk areas, and restricting concentrated infection in one place is easier to manage, while not restricting mobility has the opposite effect. The WHO has repeatedly expressed its opposition to restrictions on international mobility. As for migrant workers in 2003, workers' on-site dormitories were model high-risk areas, and while returning to the villages did indeed spread the virus, it avoided concentrated outbreaks of infection. In other words, the chain effect unexpectedly increased mobility, and using local resources to deal with dispersed problems perhaps diluted the epidemic on the national scale. In sum, the impact on migrant workers of losing mobility is extremely great.

Finally, the challenge of a gyro-economy is that short-term achievements realized through a "total lockdown" will have to face the test of sustainability. Will they still work once the gyro-economy hums back to life? An "all-out war" is a war without retreat. You either win or you lose, and you cannot squander the results of victory because such a loss is politically unacceptable.

Social science researchers in China and throughout the world are now facing a set of similar questions: in the fight against the virus, how should we control mobility and to what extent? A more important question is, how do we find a balance between high speed and resilience, how do we build concrete trust chains and safety nets? In any event, we need to solve the dilemma between high-speed function on the one and total collapse on the other, when the machine loses its balance, and learn to live and work in harmony in a "relatively normal" way with "continuous and effective movement."

Notes

[1] 项飙,"流动性聚集"和"陀螺式经济"假说：通过"非典"和新冠肺炎疫情看中国社会的变化, originally published in 开放时代 2020.3, and online on May 21, 2020 here: https://mp.weixin.qq.com/s/9wFcC_Onexu-aZ7R1oiqBw.

[2] Translator's note: Tertiary hospitals 三级医院 are China's best medical institutions, defined as comprehensive or general hospitals at the city, provincial or national level, with a bed capacity greater than 500. They are responsible for providing specialized health services, and serve as medical hubs.