BOOK REVIEW

Blockchain Chicken Farm

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Wang, Xiaowei (2020), *Blockchain Chicken Farm: And Other Stories of Tech in China's Countryside,* FSG Originals x Logic, Kindle.

Blockchain Chicken Farm is written as a real-life story of the diffusion of high technologies in the Chinese countryside. While China is one of the fastest-growing countries in the world with its growth increasingly fuelled by technological innovation, most of the benefits of this high growth have remained in urban centres. This has led to a divergence in the distribution of income between urban and rural areas. Young people in the rural areas are left in the lurch, without having any meaningful access to the modern conveniences like ownership of cars and white goods or homeownership itself, leading to an explosive situation where they can potentially be a threat to political stability in the country. Chinese policymakers are sensitive to this phenomenon of lopsided growth and therefore, to reverse this trend, have taken recourse to diffusing technological innovations rapidly to rural areas. In order to defuse the situation and the growing disenchantment of farmers, the Chinese state, like many other governments across the emerging economies, are under the strong belief that technology will solve all other economic and social problems. This is the thesis that Xiaowei Wang is attempting to convey through an extremely readable narrative style.

Wang's *raison d'être* for the book is their earnest desire to challenge what they call "metronormativity," defined in this book as

> the normative, standard idea that somehow rural culture and rural people are backward, conservative, and intolerant, and that the only way to live with freedom is to leave the countryside for highly connected urban oases. (53)

Metronormativity, according to Wang, adds fuel to the belief that various kinds of technology and the World Wide Web, along with media literacy, will somehow

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"save" or "educate" rural people, either by allowing them to experience the broader world through offering new livelihoods or by reducing misinformation. Through narratives, Wang seeks to dispel this notion, which has been accentuated by globalisation. Two other ideas that they seek to challenge are the unquestioned trust that most people have in the role of technology and the scale of economic activity required to reap tangible benefits. I believe that, through their case studies, they achieve these objectives admirably. What is remarkable about their narrative style is that it is very readable, and is shorn of technical jargon and data visualisation.

The book should be seen in the context of a major shift in the emphasis on scientific research in the country. When China moved to a system of market socialism, the emphasis was on scientific research and the application of modern technology to rural areas. This represented a major paradigm shift in which, according to the author, farmers were no longer in equal partnership with scientific professionals. Instead, they became marginalised in the modern agricultural innovation systems. Agricultural scientists and researchers are at the top, agricultural extension agents in the middle, and farmers at the bottom. But soon, with the technology frontier moving to one enabled by information technology (IT), agricultural scientists and extension agents are being sidelined while IT professionals sit in gleaming skyscrapers in metro cities. The growth in urban incomes drove newer and larger demand for agricultural produce from the rural areas.

Blockchain technology comes up for much discussion and analysis in the book. It is increasingly a point of reference in all kinds of discussions and is universally thought of as a panacea that enables trustworthy and secure digital transactions. In the chicken farm story, it works something like this:

> each chicken wears an ankle bracelet that is physically tamper-proof, which tracks characteristics such as several steps taken and the location of the chicken. A chicken Fitbit of sorts. The front plate of the ankle bracelet has a QR code on it. Customers can scan the QR code before preparing the chicken. Scanning this code leads them to a page with details about the chicken's life, including its weight, the number of steps it took, and its photograph. (619)

To all those fastidious, urban Chinese consumers who have been troubled by a series of scandals in the country involving the hygiene of food sold in Chinese supermarkets, this may sound like a solution. A 2011 survey in China reported that food safety was of most concern to Chinese people, overtaking other issues such as public security and traffic safety. Of the 174 food safety incidents reported in 2012 in China, most were caused by toxic animals or plants, followed by pathogenic microorganisms and chemical contamination. Technologies such as blockchain are useful not only because they deal effectively with food safety issues but also because they connect the food-producing farming sector to urban consumers. Consumers can eat dinners of pork and chicken with their minds at peace; at the same time, the farmer in the dusty village secures steady orders and an assured market for her

produce. On paper, this all sounds good. But, as Wang demonstrates, this does not happen in such a neat way. Instead of taking the reader through an academic excursion in number crunching and ponderous footnotes, Wang's story is funny and sometimes touching. While they are careful to not treat technology as manna from God to the rural populace, they also do not romanticise rural folks as being the repository of all wisdom. They succeed in taking a middle ground.

The cast of this novel-like book include Sun Wei, a 25-year-old billionaire with a high school degree, who has built a career by establishing an aerial reconnaissance firm; Jiang, a farmer; and tech giants like Alibaba, Taobao, and Tencent.

Among them, the story of farmer Jiang's adoption of blockchain technology and how it has changed his life and business is both fascinating and revealing. Although he has sold more free-range chickens because they are blockchain ones, the adoption of this technology has significantly increased his overheads. In the end, he makes a gross sale price of RMB 100 (about Rs 1125 at current rates of exchange) on each chicken. Furthermore, the orders for the chickens are not regular – on one day, he may receive a sizeable order from an online supermarket and, on another, no such orders. So, it is unclear whether he is better off for having adopted the new technology. Blockchain, for instance, does not make transactions more democratic. In replacing bureaucrats with technical persons, it transfers hegemonic positions from one type of agent to another – the asymmetry in power relations remain.

The book is not only about chickens. The pork story goes something like this: One fine evening, Mr Ding Lei, founder of NetEase, the world's largest internet gaming company, is eating hotpot with friends and begins to worry that the blood tofu he is eating is fake.[1] At this moment, Lei's business plans turn from gaming to pig farming.

Eleven years ago, NetEase's agricultural division Weiyang set up a high-tech pig farm in Lushan in Zhejiang province. On this farm, pigs live an optimised life, undergoing high levels of exercise and consuming a proper swill mix. They are even made to listen to a soothing soundtrack that de-stresses them before they are slaughtered. According to Wang, this soothing music is beneficial to consumers because stress before slaughter can alter a pig's metabolism, increasing cortisol and resulting in what is known in the industry as "DFD" (dark, firm, dry) meat. However, while the industrial farming of animals like pigs can turn farming into an information business, it can also increase the probability of zoonotic diseases as pathogens transfer from animals to humans.

Another story is of a shoemaker in Dinglou, a village where Taobao operates. Taobao is the business-to-consumer online platform of Alibaba. The shoemaker must take advertisements through live streams, constantly reduce his price (which he does by reducing quality), and keep the proceeds from sales in an escrow account

[1] Blood tofu is a traditional hotpot ingredient made of coagulated pigs' blood.

maintained by Alipay so that returns are easy for Taobao. In the end, it is not at all clear whether this technology has made the shoemaker better off. The government, however, thinks it has and, therefore, is diffusing internet connectivity in rural areas at a feverish pitch.

Wang's stories encourage us to think about whether technologies such as artificial intelligence and blockchain are the means to bridge the rural–urban divide. Upon reading the nine chapters constituting the book, two conclusions stand out. First, despite the success in transferring complex technologies to rural areas, the improvement in the living and working conditions of the poor in rural China is not commensurate with the improvements in living standards in urban China. Secondly, technology alone does not solve the problems of poverty and misery in rural areas; institutional changes are also required.

Despite its non-use of quantitative data and methods of analysis, *Blockchain Chicken Farm* succeeds in conveying a nuanced understanding of the role of new and emerging technologies in the Chinese countryside. I commend the book to the reader.