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# Wasting the rural: Meat, manure, and the politics of agro-industrialization in contemporary China

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## ABSTRACT

This paper uses pork as a lens on China's rural transformations. Taking the industrialization of pig farming in the reform era as a trace on broader processes of social and environmental change, it advances three arguments. First, the massive increase in pork production and consumption since 1978 has been propelled by an *industrial meat regime*. A party-state led and agribusiness-operated regime, it articulates modernist notions of meat-as-progress with the relentless drive for capital accumulation. Second, using Marx's concept of metabolic rift, the paper examines how processes of concentration in the industrial meat regime are at the same time processes of separation. This dialectical approach highlights the contradictions inherent in ongoing attempts to disembed capitalist production from biological and social relations. Finally, while official party-state discourse conceptualizes "the rural" as a production base for surplus value, and/or as a site for preserving environmental integrity, the paper's analysis reveals a further unofficial recasting of the rural: in the process of agroindustrialization, the rural is also a *sink* for offloading capitalist crises. Between the rivers of manure that flow from industrial livestock operations and contaminate rural waterways; the loss of soil nutrients and food calories in the inefficient conversion of grains and oilseeds into industrial meat; the erosion of agricultural knowledge and practice that accompanies the dispossession of China's farmers; and the shifting values of pigs, pork, and manure, this is a system that "wastes" the rural in service of capital.

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## 1. Introduction

Rural China and pigs have a long and mutually conditioning history. Starting 6000 to 10,000 years ago, when pigs were domesticated in various parts of China, each place had its own locally adapted pig breed, and most households raised at least one or two pigs each year (Li, 2010; Zheng, 1984). Historically, pigs were more valuable alive than dead. Farmers relied on pigs to convert kitchen scraps and agricultural byproducts into nutrient-rich fertilizer that nourished the production of grain-based diets (Schmalzer, 2002; Wittwer et al., 1987). In the value-unity of pigs and manure, although pigs were a staple of farming systems and households, for most Chinese people, pork was a rare treat. In other words, before the emergence of capitalist agroindustrialization, it was pigs, not pork, that were of the highest value, and manure was an important resource in rural China, rather than a form of 'waste'.

Today, party-state policies together with billions of yuan in public and private investment are transforming pig farming from a household activity into a capital and resource intensive agribusiness sector. Large-scale swine production and contract farming

schemes are displacing small-scale production. At the same time, and within the confines of the *hukou* system (household registration system that separates "rural" and "urban" households), dispossessed peasant farmers are moving to cities for waged employment, or as Jessica Wilczak analyzes in this volume, are moved to new towns as part of managed rural urbanization. These related processes of concentration have radically transformed rural spaces and relations, as well as registers of value and waste: presently, commodity pork is the principal form of value, while manure from industrial livestock operations (pig and chicken) has become the country's largest source of water pollution (China Pollution Source Census, 2010).

Using the industrialization of pig farming as an analytical case, the goal of the paper is to examine the organization (structure and power) and crises (social and ecological) of capitalist pork production in China. It advances three arguments. First, the massive increase in meat production and consumption throughout the reform era has been propelled by a party-state led and agribusiness-operated *industrial meat regime*. Here, productivist and environmental logics converge in projects that spatially concentrate pig and pork production, using the rationale that scaling up and modernizing the livestock sector not only increases output,

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but also facilitates state environmental regulation and discipline. Second, using Marx's concept of metabolic rift, the paper examines how processes of concentration are at the same time processes of separation. This dialectical approach highlights the contradictions inherent in ongoing attempts to disembed capitalist production from biological and social relations (Friedmann, 2000; Polanyi, 1944). Finally, while official party-state discourse conceptualizes "the rural" as a production base for surplus value, and/or as a site for preserving environmental integrity, the paper's analysis of the industrial meat regime reveals a further unofficial recasting of the rural: in the process of agroindustrialization, the rural is also a *sink* for offloading capitalist crises. Between the rivers of manure that flow from industrial livestock operations and contaminate rural waterways; the loss of soil nutrients and food calories in the inefficient conversion of grains and oilseeds into industrial meat; the erosion of agricultural knowledge and practice that accompanies the dispossession of China's farmers; and the shifting values of pigs, pork, and manure, this is a system that "wastes" the rural in service of capital.

The following sections draw on 18 months of fieldwork in northeast, southwest, and coastal China in the period from 2009 to 2012. I interviewed government officials, agribusiness executives, representatives of foreign and domestic industry associations, farmers, and researchers. Ethnographic material is supplemented with secondary data from newspapers, scholarly journals, organizational documents, agribusiness and government websites, and government statistics.

## 2. China's industrial meat regime

Since 1980, annual per capita meat consumption has quadrupled in China, to the extent that in 2010, the average person ate 61 kg (128 pounds) of meat (FAOSTAT). While average annual consumption in places like the United States (120 kg) and Australia (118 kg) dwarfs China's figure, it nonetheless represents a radical transformation in a country where less than four decades ago, and for millennia before that, the vast majority of the population ate meat only once or twice a year. Today, China's meat consumption is well above the world average of 42 kg of meat, per person, per year, and is expected to continue to grow (Weis, 2013b).

As elsewhere, while meat consumption has increased across the population in China, it is uneven. According to the official reports, urban households bought an average of 36 kg of meat (pork, beef, mutton, and chicken) in 2012, while rural households consumed 29 kg of fresh and processed meats on average (National Bureau of Statistics, 2013). Unofficially, the difference is much greater. Because National Bureau of Statistics figures do not include meals eaten away from home, middle and upper class urbanites who have disposable income to spend at an array of restaurants and urban eateries are buying (and consuming) as much as three times more meat than rural residents (Bai et al., 2013). Variation within rural and urban spaces, coupled with the 200–300 million people who constitute China's 'floating population' of migrant workers living adrift between village and city, complicate clear quantification of differences in meat consumption. Still, aggregate data provide a sense of meat's distribution in China.

Pork is at the heart of China's industrialization drive, reconfiguring both domestic and global agricultural markets and production bases. Starting in 1979, one year after the inauguration of Reform and Opening, pork became the most produced and consumed meat in the world. It surpassed beef as the global leader, and later almost doubled it. Today half of the world's pigs, half of the world's pork production, and half of the world's pork consumption is in China. In 2014, farmers and companies in China produced 56.5 million metric tons of pork from a domestic swineherd of 770 million

head: this was twice the amount of pork produced in all 27 European Union countries combined, and five times the amount in the United States (United States Department of Agriculture (USDA), 2014). Industrializing the pork sector is premised on massive soybean imports from the United States and South America, with China currently importing 66% of the global soya trade (USDA, 2015).

The enormous growth in pork production and consumption is conditioned by what I refer to as China's *industrial meat regime*. By this, I mean a strategically managed set of policies, discourses, relations, and resources enacted with the goal of increasing commodity meat production, "modern" forms of meat consumption, and agribusiness profits. The industrial meat regime articulates modernist notions of meat-as-progress with the relentless drive for capital accumulation. As a general concept, it can be used to specify and analyze capitalist industrial livestock production wherever it touches down; in this particular case, I use it to frame the logics and relations of China's reform era meat boom.

### 2.1. Value and power in the industrial meat regime

As "an apparatus interested in sustaining accumulation and in maintaining domination by cultivating legitimacy and control" (Chen et al., submitted for publication), the party-state has a keen interest in driving the industrial meat regime. On one hand, pig farming in the reform era has gone from a small-scale household activity to a multi-billion yuan industry, touted as more profitable than even the real estate sector (Hu, 2010). State-supported and invested agribusiness firms called dragon head enterprises manage much of the growth in pigs and pork. These commercial firms, also called "lead enterprises," serve a dual role: the party-state supports them with subsidies, tax exemptions, and loans (Zhang et al., 2005; Zhang and Donaldson, 2008) in order to develop a robust and globally competitive domestic agribusiness sector, and also to lead rural development projects by "Constructing the industrial chain from field to dining table,"<sup>1</sup> integrating farmers along the way. This is a form of World Bank-style "value chain integration" (McMichael, 2009), with farmers at one end of the chain producing primary products (like pigs), and dragon head enterprises at the other end processing and selling value-added commodities on local, national, and increasingly international markets (like sausages and hams). Dragon heads may be private, state-owned, or some combination of the two.

As a result of concentrated party-state support and industry cooperation, dragon heads have expanded in agrifood ownership and control. According to official figures for 2011,<sup>2</sup> China had more than 280,000 enterprises engaged in agricultural industrialization, including 110,000 officially designated national-level dragon heads (Hui, 2012). On paper, these firms were working with 110 million rural households, following the model of "radiation driven" (*fushe daidong*) farming, in which technology, information, and market opportunities radiate to farmers through their relationships with dragon heads. In 2011 this model was operating on 60% of the country's crop production area, and covered 70% of livestock (pigs and poultry) and 80% of aquaculture production. Combined sales revenue of dragon heads in 2011 was 5.7 trillion RMB (US\$917 billion), and their products accounted for one-third of the country's supply of farm produce and processed foods, and two-thirds of the average food basket in major cities.

<sup>1</sup> This slogan is from the website of Sinograin, the China Grain Reserves Corporation ([http://en.sinograin.com.cn/eng/index\\_Eng.jsp](http://en.sinograin.com.cn/eng/index_Eng.jsp)).

<sup>2</sup> From the inaugural speech given by Hui Liangyu, Deputy Prime Minister of the State Council, at the launch of the *China Association of Leading Enterprises for Agricultural Industrialization* in 2012. Full text of the speech available at <http://baike.baidu.com/view/9676144.htm> (in Chinese).

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