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"Whither Chinese Agriculture?": An Introduction

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"中国农业往哪里去？"——导论

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Abstract
This article attempts to provide a broad overview response to the question: Whence and whither Chinese agriculture? The point of departure is a summary and discussion of the ten articles of this symposium, five empirical and theoretical discussions from economic historians, two from scholars doing solid and illuminating research on the "new agriculture," and finally three that explore the issue of what road Chinese agriculture should adopt for the future. The article places the agricultural and rural history of the People's Republic into the broad perspective of changes since the eighteenth century. It distinguishes between cooperativization, collectivization, and the people's communes, and between the open-field "old" grain agriculture and the high-value-added "new agriculture." It examines the differences between the New World's "lots of land and few people" and the East Asian "lots of people and little land" agricultures, and the former's land-and-capital-dual-intensifying and the latter's labor-and-capital-dual-intensifying paths of modern change. From that perspective, it examines the successes and failures of the people's communes vs. cooperativization–collectivization, of dragon-head enterprises vs. small peasants, and of the American specialty co-ops vs. the East Asian integrated co-ops.

Keywords
cooperativization vs. collectivization vs. the people's communes, open-field "old" agriculture vs. high value-added "new agriculture," New World American model vs. the East Asian model of agricultural modernization, land-and-capital-dual intensifying agriculture vs. labor-and-capital-dual-intensifying agriculture, specialty co-ops vs. East Asian integrated co-ops

摘要
本文试图对中国的农业从哪里来、到哪里去的问题做一个总体性的讨论。文章从对本专辑的十篇论文的总结和讨论出发。首先是五篇经验和理论探索的经济史论文，而后是两篇扎实和充满阐释性的关于近三十多年来兴起的"新农业"的研究，最后是三篇关于当前的农业与农村发展道路的探索。文章从18世纪以来的社会经济史视角来检视人民共和国农业发展的历史，区别合作化、集体化、人民公社化，以及"旧"大田（谷物）农业与

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高附加值“新农业”。文章论述地多人少的“新大陆”农业与人多地少的东亚农业，区别前者的土地与资本双密集化和后者的劳动与资本双密集化的不同现代演变道路，据此来检视人民公社vs. 合作化–集体化，“龙头企业”vs.小农经济，以及美国“专业合作社”vs. 东亚综合农协模式的得失。

关键词
合作化vs. 集体化vs.人民公社化、大田旧农业vs. 新高值农业、新大陆美国模式vs. 东亚模式、土地与资本双密集化vs. 劳动与资本双密集化、专业合作社vs. 东亚综合农协

This introduction will attempt to summarize, discuss, and place the articles of our symposium into a larger social-economic history framework, beginning with five articles that look at the history and theory of Chinese agriculture, then two solid and illustrative examples of the “new agriculture” of the past thirty-five years and, finally, three articles that consider the different developmental paths for Chinese agriculture in the future.

Historical Background

It is a distinctive feature of this symposium that we have gathered together some of the best economic historians in our field to bring their perspectives to bear on our question of “Whither Chinese agriculture?”

Xiaolu Wang and Sidong Jiang (2017) lay out, first of all, a broad historical overview of grain production since 1949, mainly in terms of total output by weight of “staple food crops” 粮食, a statistical category that includes grain-substitutes such as beans and potatoes (to be distinguished from just food grains 谷物). Economic historians working on the Ming-Qing and Republican periods generally have to rely on fragmented output data in conjunction with population data and postulates about probable per capita consumption to arrive at gross output figures, which are then put together with the more complete data from the contemporary period (e.g., Perkins, 1969). For the post-1949 period, however, there are fairly systematic data on actual output by weight of food grains and/or staple food crops. Wang and Jiang in their narrative summary consider a broad range of factors, and arrive at conclusions that are generally judicious and to the point, with which most of us would agree.

But on one important point, they show a significant difference from some of our other articles. They spotlight in their narrative and analysis especially the differences and contrasts between collective agriculture and family farming, suggesting (as most mainstream scholars have) that incentives were the crucial problem: inadequate incentives in collective agriculture, but stronger incentives in family farming. According to them, the Reform era has seen great improvements in that regard. This is a question we will return to.

But, they also go on to point out, that path has finite limits. After the initial 1978–1985 period, the effects of the superior incentives (and, we should add, higher purchase prices set by the state) were pretty much exhausted, and thereafter

much came to depend on the relative prices of inputs vs. (state) purchase prices of grain. Where grain prices lagged behind input prices, production suffered. With appropriate adjustments, production advanced again. However, in recent years, the finite limits of grain output growth are evident, with rapidly diminishing returns to additional inputs, and future developments will need to look to higher-value products and new institutional forms.

The path of big American-style capitalist farms (including family enterprises), on the order of thousands of mu or more, favored under current policies, they suggest, might not be the correct way. China, even if its urbanization rate were to increase from the present 56 percent to 78 percent, would still have a farming population of 160 million, with an average of just 12 mu of farmland per person, or 7 acres or so per household. The East Asian experience, especially the community-based integrated co-ops of Japan-Korea-Taiwan, on the scale of just dozens of mu per farm as in China, is the more suitable approach than the American or European models. We will return to some of these views on co-ops later in the last part of this introduction.

Yuan Gao's article (2017) argues for a significant modification of Wang–Jiang's analysis on the relative merits of individualized vs. cooperative vs. collective farming. Gao's article points first to a major distinction between the 1950s period and the 1963–1978 period in the role played by the state, most especially with regard to the relationship between industry and agriculture. The former period was characterized mainly by state extractions from agriculture for industrial development, with very little contribution from industry to agriculture; in the latter period, however, industry made significant contributions to agriculture. The difference was a great increase in state investments in industries that supported agriculture—from a measly 2.9 percent of total industrial investment in the period 1953–1957 to 9 percent by 1963–1965 and after, a change reflected most especially in the increasing supply of chemical fertilizers in the years after 1962, something also supported by Wang and Jiang's narrative and data.

Further, from the point of view of institutions, Gao differentiates between co-ops (including mutual aid) and relatively small- and medium-sized co-ops/collectives (1955–1957), and both of those from the extremes of the Great Leap Forward (1958–1961), showing that under the co-ops and smaller-medium sized collectives of the former period, down through 1957, agricultural production continued to advance, despite the lack of state investments and inputs from industry. Sharp declines were mainly in the Great Leap Forward years of 1958/59–1961. The post Great Leap 1962–1978 period, by contrast, saw a relatively stable institutional arrangement under the "three levels of ownership system" (production team, brigade, and commune), based on small production teams averaging about thirty households each. Those teams were linked closely to direct peasant interests both in production and in distribution and, augmented with increased chemical fertilizer, led to a fairly impressive record of advances, not to be dismissed along with the Great Leap Forward simply as unproductive collectives lacking in incentives.

The fundamental issue, in other words, is not simply a question of collective vs. individualized farming, but rather of industry-agriculture relations as well as whether genuine peasant interests were served by the different institutional forms. Small-scale mutual aid, co-ops, or collectives that helped peasants who suffered from inadequate factors of production (whether land or labor, farm implements, or farm animals) helped advance production significantly, as they did down to 1957 and then again from 1962 to 1978. (That was also the true legacy of co-ops in the revolutionary base areas. Of course, as Gao points out, that was also true of the Land Reform of 1949–1952.) In economics jargon, it was about overcoming "distortions of inputs allocation" or "input mismatch"—a way to improve farming under involuted, preindustrial conditions (Gao, 2017). They need to be distinguished from over-sized communes imposed from above and detached from peasant interests, such as those under the Great Leap Forward.

Gang Lin's article (2017) provides important earlier historical background for Gao's emphasis on industry-agriculture relations. Lin shows convincingly that the coming of machine-spun yarn in the early twentieth century, which came to replace traditional handspun yarn to a great extent, was not just, as is commonly argued, simply a disruption and destruction of that old rural handicraft industry, but rather also a powerful stimulus for the development of new forms of rural production, most especially the production of native cloth. That development was accompanied by the invention and spread of the new iron-wheeled looms that came to dominate native cloth production in major centers like Baodi and Gaoyang in Hebei and Weixian in Shandong. Machine-spun yarn provided the impetus also for related industrial development, of new yarn spinning factories (e.g., Dasheng Yarn Factory 大生纱厂, the earliest and most successful Chinese yarn factory) throughout the Yangzi Delta area, which in turn brought developments of new ginning and spinning machinery, new knitting machines (for producing towels and socks), and also a range of modern farming and processing machinery. Those new yarn factories became the largest and most important part of China's modern textile industry, indeed of all modern Chinese industries. They were also major users of electrical power and iron and steel, which helped to stimulate development in those sectors as well.

From the above empirical basis, Lin emphasizes the critical importance of a mutually stimulative relationship between industry and agriculture, each promoting development in the other, to be distinguished from isolated changes in just one or another (e.g., machine-polished wheat flour, mainly for urban consumption, or machine weaving of cloth, also largely limited to urban consumption). Due to the central importance of the small peasant economy to all of Chinese history, indeed Chinese civilization itself, and due to the fact that China historically had to be largely self-sufficient (largely land-bound, without the kinds of access to international trade comparable to, say, the Mediterranean countries), rural-urban relations were central to the entire issue of Chinese development: there can be no developed China without a developed Chinese countryside, as Lin argues passionately and convincingly.

We might note, in addition, that premodern Chinese rural-urban trade was mainly unidirectional, with the countryside supplying the cities with grain and other agricultural products, plus luxury items (like fine yarn and cloth, and silk), with very little flow of goods in the reverse direction, this to be distinguished from what Adam Smith observed in the way of spiraling two-way rural-urban trade in eighteenth-century England. Urban-rural relations were more extractive than mutually stimulative, the neoliberal abstraction of a universally applicable model of the purely competitive and integrated market notwithstanding. (For a more detailed discussion, see Huang, 2016a: esp. 134–47.) Agricultural development, in other words, is no mere matter of just free markets cum private property rights driving the optimal allocation of resources, the theoretical premise of so much of modern Western economic theory.

Lin's work helps to reinforce Gao's emphasis on rural-urban economic relations. Just as machine-spun yarn was an impetus for rural production in the first half of the twentieth century, the provision of chemical fertilizer in the 1960s and 1970s and beyond is a good illustration of the critical importance of mutually stimulative industry-agriculture relations for the development of agriculture and industry (especially the petroleum industry and other related sectors). From the 1990s on, we might add, the big change to come has been in farm machinery (also labor-saving chemicals like weed killers) (see Huang and Gao, 2013; cf. the data in Wang and Jiang, 2017), and also in industrial processing of agricultural products, similarly mutually promoting of development in both agriculture and industry.

The biggest example of such mutually stimulative development, perhaps, has been the general rise in incomes in China over the last three decades as a result of rapid economic development, which has altered Chinese food consumption patterns from the old 8:1:1 ratio of food-grains: vegetables: meats, toward a 4:3:3 pattern, typical of the developed East Asian economies (Japan, Korea, Taiwan), and of the Chinese urban middle classes (and increasingly also of other urban groups and of the rural people) today. That, in turn, has profoundly restructured Chinese agriculture, from predominantly grain to more and more higher-value products of (higher-end) vegetables-fruits and meat-poultry-fish, what I have termed the "new agriculture" (Huang Zongzhi and Peng, 2007; see also Huang Zongzhi, 2010, 2014a: 3; Huang, 2016c).

Aimin Guo's article (2017) adds the perspective, as well as the method and data, focused on labor productivity in agriculture. Rising labor productivity, after all, is the final determinant of the income level and standard of living of people, the truly crucial meaning of "modernization." Guo employs the method of measuring the number of nonagricultural people an agricultural labor unit supports as the key indicator of labor productivity. He does so, first, by converting the output of different kinds of staple food crops to a single measure of caloric equivalents. He also separates out rural population figures from agricultural labor units and then, for the later period (as more and more rural people came to be employed in occupations other than farming), nonagricultural pursuits from agricultural employment.

Further, he takes into account changing consumption patterns in the countryside, including increases at first in the per capita consumption of staple food crops as production went up, and then, later, declining consumption per capita of such crops as consumption of meats (fish and poultry), vegetables and fruits, and milk and eggs went up. All these data are handled with care and rigor. Finally, with the above figures, he is able to provide convincing quantitative evidence (as well as recent qualitative evidence from field research in Hebei, Shandong, and Tianjin—where, for example, corn has come to be used almost entirely as animal feed, no longer consumed by humans) to contrast the earlier and later periods in terms of advancing productivity per agricultural labor unit, of how many people each agricultural labor unit is able to support, in grain. That forms the core of his understanding of agricultural modernization.

Guo's figures demonstrate convincingly that the major advances have come in this regard in China from the 1990s on. That finding, we might note, is of course consistent with the increased use of labor-saving mechanical power, especially in grain production. By contrast, the advances in the earlier period, relying mainly on chemical fertilizers, improved land productivity more than labor productivity.

As might be expected, such figures demonstrate striking contrasts between New World farming characterized by "lots of land and few people" in terms of resource endowment, and hence reliance mainly on machinery to save labor in its agricultural modernization, and China's of "lots of people and little land" resource endowment, with much more reliance on land-productivity-enhancing chemical fertilizers than on labor-productivity-enhancing mechanical power, a contrast that persists even today (Huang, 2014: esp. 191–97). According to Guo's figures, in 2010, for example, each farm person in the U.S. supported no fewer than 873 people in grain, compared to just 10 in China (Guo, 2017: tables 6 and 12).

Guo's article attempts also to take into account distortions of his measurements as a result of massive importations of grain in the cases of Japan and Korea. We should point out here that import dependence for grain is often misunderstood as problems or mistakes, seen through the lens of China's own long-standing concern for "grain security," traceable to repeated subsistence crises since the eighteenth century from population pressures as well as a modern revolutionary history of encirclement and blockades by the enemy 围剿. We need to see that Japan's and Korea's high dependence on imported grain during the course of their agricultural modernization actually tells more about a deliberate strategy of trade-offs between more domestic production of higher-value agricultural products, of labor-and-capital-dual-intensifying production of fruits and (higher-end) vegetables and meats and fish, in exchange for imports of lower-value and land-intensive grain from abroad. That is a course that China has also embarked upon more and more in recent years, most especially in soybeans (now 80 percent imported), by imports from land-abundant countries like the United States, Brazil, and Argentina. Were China to produce all of its own needs for soybeans today (especially important for animal feed), it would have to place another fifth of its total cultivated

land under lower-value soybeans, something simply unthinkable. China does better by using that land for the production of higher-value new agriculture goods for export instead (Huang Zongzhi, 2014c).

A good measure of such differences and their implications is agricultural labor productivity measured in terms of output value, rather than output by weight or calories. Nevertheless, Guo's article seems to me a worthy and convincing effort to tell about the core differences between Chinese agriculture and West European and American agriculture. It is most useful for understanding the differences in their preindustrial agricultural economies and their different transitions to a modern agriculture, less so for understanding high-income industrial economies, and still less for what might be termed postindustrial agriculture. For the latter two, "productivity" needs to be measured more in terms of the quality (taste, relative scarcity, health benefits, and so on) of the calories consumed, better measured by output value than merely numbers of calories.

Xiaolin Pei's article (2017) both augments and extends Guo's line of analysis. What is lacking in many studies of agriculture, Pei points out, is a recognition of the very great differences between agriculture and industry, between production that confronts a finite natural limit (both in terms of land productivity and in terms of human and human cum animal energy) as opposed to the much greater inflatability of industrial production based on inorganic sources of energy ("mineral-based energy"—especially coal, as per E. Anthony Wrigley, 1988). The failure to grasp that difference leads to multiple misapplications of concepts and theories appropriate only for industrial economy to agricultural economy. Especially important is the failure to appreciate the crucial distinction in resource endowment between China's "lots of people and little land" and (the New World's) "lots of land and few people." Given what Pei emphasizes as the law of the "absolute limits of land productivity," which imposes finite natural limits on land productivity under each different kind of technology, forcing diminishing returns to increased labor input (borrowing a table from the work of Richard T. Ely, erstwhile president of the American Economic Association to illustrate the concept). In China, land productivity had long since been pushed close to its finite limit (with diminishing productivity past a certain point); in the New World countries, the situation was quite the opposite (see also Huang, 2014).

In particular, Pei challenges the Douglass North (and Ronald Coase) theory that elevates secure private property rights above all other factors as the absolute key—incentive mechanism and ultimate motive force—to all economic development. Such a view, Pei argues, ignores differences between different types and stages of economic history, most especially between preindustrial and industrial development, and land-scarce and land-abundant agriculture. It ignores the sharp differences between agricultural economies that operate with relatively low land productivity, as opposed to those that have pushed land productivity very close to its finite limits. Calling again on Richard T. Ely, Pei argues that in a land-abundant economy, private property rights might arguably enhance the general welfare of

society; but in a land-scarce economy, different institutional arrangements are needed. Indeed, the general welfare of society might well depend critically upon limitations of private property rights.

To illustrate further the differences between the two types of agricultural economies, Pei takes English agricultural history as an example. On the basis of the latest and best data on English agricultural history (from Alexander Apostolides et al.), Pei shows how the Black Death (1348–1349) reduced the English population by almost half (46.5 percent), such that population did not recover to the 1300 level until after 1600. That watershed reversed the trend in England before the Black Death toward greater and greater labor intensification in the direction of Chinese agriculture, turning England into a relatively much more land-abundant (relative to population) agricultural economy which, in turn, set the background for the eighteenth-century agricultural revolution to come. In that revolution, intensification of labor input relative to land was augmented and altered by much greater use of animal power (as a result of "enclosures" that made erstwhile common land available for private use, for alternating the growing of animal-feed crops and food grains for human consumption, such as in the Norfolk system), setting the stage for greatly enhanced labor productivity. In Aimin Guo's terms, one agricultural labor household came to be able to support not just its own household but also two non-farm households. Put another away, as E. Anthony Wrigley did, the change was from the agricultural population occupying roughly 70 percent of the total population down to just 36.25 percent (Wrigley, 1985). No such advance was possible in eighteenth-century Chinese agriculture, which had advanced much closer to the finite limits of preindustrial land productivity.

The main lesson of the above articles, perhaps, is that we must not make the mistake of placing too much emphasis on just the organizational, or institutional, dimension of agriculture, to the neglect of fundamental economic conditions, such as land endowment relative to population, relations between industry and agriculture, and the state of technology. Nor make the mistake of dismissing all pre-Reform era advances as misguided mistakes, to the neglect of how group incentives can also operate effectively when they are truly tied to peasant interests. As Yuan Gao's article points out, the Mao era overemphasis on the organization of production (production relations), to the neglect of population and technology (productive forces), bears certain similarities to the contemporary neoliberal economics belief in the primacy of individualized, private property incentives. The two opposite exaggerations, we might say, had driven one another during the Cold War to ever more ideologized extremes.

We would do well to "historicize" our understanding of agriculture. We might, first of all, think of agricultural development in three different stages: preindustrial agriculture, agriculture using industrial inputs (chemical fertilizers, scientific seed selection, and machinery), and postindustrial agriculture (e.g., organic agriculture). Within those stages, we might further distinguish between land-abundant agriculture and land-scarce agriculture. The former, in the preindustrial era, was

characterized by more land use (relative to labor) and generally also more animal power use. The latter, by contrast, used relatively more labor (relative to land). It could reach the point, as in China's case, of sufficient population-to-land pressure to rule out animal husbandry (because it takes six to seven times more land to support a person on meat, milk, and cheese than it does on grain), to become a "crops-only" type of agriculture, as opposed to a mixed animal husbandry and crops agriculture, as in England (Huang, 2002: esp. 502–8).

Each of the two types, in turn, undergoes "modernization" with the coming of industrial inputs very differently. In the former (e.g., New World land-abundant countries and, to a lesser extent, also England and West European countries), the dominant pattern of development was land and capital dual intensifying, relying above all on mechanical power (tractors), revealingly measured in terms of horsepower, to expand the scale of farming and raise dramatically labor productivity (as opposed to land productivity), especially in (big open-field) grain farming. China's pattern, by contrast, has been mainly labor and capital dual intensifying, relying more on chemical fertilizers (raising land productivity more than labor productivity) than mechanical power, exemplified mainly by the growing of high-value vegetables and fruits, and meat-poultry-fish on relatively small farms. That was the pattern in Japan and Korea, and now, also China (and India) (Huang, 2014: esp. 191–99; Huang 2016c; cf. Huang Zongzhi, 2010).

We would do well to keep these different patterns in mind when thinking about the future path of development of Chinese agriculture. Given the resource endowments and historical pattern of Chinese agricultural development, it is simply foolhardy to imagine that China could follow the path of development of American agriculture. Such a policy violates the realities of agricultural history in China, violates the genuinely pertinent history of agricultural development in East Asia's Japan-Korea-Taiwan, where the engine of development was labor-and-capital-dual-intensifying small-scale agriculture, and not land-and-capital-dual-intensifying large-scale agriculture. China, and East Asia in general, simply do not have the land resource endowment of New World countries. Moreover, if we were to look farther into the future, the postindustrial organic agriculture of the present and future will also be mainly labor-and-capital-dual-intensifying small-scale agriculture.

The New Agriculture

Most of the studies discussed above have not given much attention to the role played by what I have termed the "new agriculture." Labor-and-capital-dual-intensifying production of higher-value agricultural products like high-end vegetables, fruits, meat-poultry-fish, has expanded geometrically in China in the last thirty-five plus years. Output value of the new agriculture (in constant prices) expanded about 600 percent between 1980 and 2010 (Huang and Gao, 2013: 57–58, tables 9, 10). Sown acreage under vegetables and fruits expanded between 1990 and 2010 from 7

percent to 19 percent of total sown acreage, to account for 27 percent of total output value. Animal products, driven by a 560 percent increase by weight in meat (pork, beef, mutton-lamb) production between 1990 and 2010, have gone from merely 16 percent of total output value in 1990 to 30 percent in 2010. Food-grains 谷物 production (not counting grain substitutes like beans and potatoes, as does the broader Chinese term staple food crops 粮食), by contrast, while still occupying 56 percent of total sown acreage, has declined in its share of total output value down to just 16 percent (Huang, 2016c: see esp. 346, table 4).

The labor-and-capital-dual-intensifying new agriculture, most of it by relatively small farms of just one to five mu (e.g., tented vegetables, fruit orchards) up to 10 to 30 mu (e.g., crops cum animal husbandry farms), is now really *the* key aspect of change and development in Chinese agriculture in the past thirty-five plus years in terms of its total output value. But it has been largely ignored until very recent years, because of the habit of mind of many policy makers and scholars, who continue to equate Chinese agriculture with mainly grain production, as I analyze in detail in my article for this symposium (Huang, 2017).

The symposium contains two solidly researched and highly convincing and illustrative examples of the new agriculture. Chang Liu, Shiqing Bao, and Danqing Pei study Xixia 西峡 county (in Henan province) in depth, today the national center for shiitake (in Japanese; xianggu in Chinese) mushroom production in China (Liu, Bao, and Pei, 2017). Here scientific technology and industrial products have helped agriculture in almost surprising ways: xianggu mushroom growing used to require considerable use of lumber, imposing heavy pressures on forest resources, but Xixia, led by the local government, has developed the method of raising the mushrooms in elongated tube-like plastic bags in which "waste materials" like sawdust, stalks, and wheat and rice bran are used to grow the mushrooms. Then came a further technological advance: instead of having to use labor to tear those plastic bags, a method was developed whereby a thinner plastic was used for the inner bag, which is pierced by the sprouting mushrooms, thereby greatly saving labor. Before that, a couple could only raise about 3,000–4,000 bags on one mu of land; now a couple can raise 10,000 bags or more, earning a net income of about 2 yuan per bag (depending on market conditions), or about 20,000 yuan per mu per year. These mushrooms, of course, are exemplary of the new agriculture in terms of its high-intensity use of labor as well as capital, and also its low requirements for land.

These technological advances and usage of industrial products have powered a stunning development of xianggu mushroom production. In 1985, China as a whole produced a mere 5,000 tons a year, out of a total world production of 40,000 tons. Today, China alone produces no less than 7.35 million tons of these mushrooms (2014 figure) per year! We have all felt the impact of this mushroom boom directly in the food we consume.

The output value of the mushrooms is high, of course, about twenty times that of grain per mu of land. It is truly illustrative of what is special about the new agriculture: small-scale production using little land (which may also be conceptualized

as highly intensive use of the land, with far greater labor and capital input per mu than for grain), producing a high-value product that is not understandable simply by weight or caloric content, but can only be grasped in terms of output value. It is, of course, very highly market-oriented production.

That brings into focus the central problem confronted by the growers. As production and supply expand past a certain point, prices decline. The growers are faced with sometimes violent price swings, often placing them completely at the mercy of big merchants who are able to dominate processing and marketing. It creates the situation of "the vegetable growers lose money, but the buyers pay a high price" 种菜赔，买菜贵, common to almost all of the new agriculture. This kind of situation almost cries out for co-ops, for the small producers to join together and organize their own processing and marketing, so as to better cope with the big merchants and the big market, and retain more of the profits for themselves (Huang Zongzhi, 2012a). But, for now, the government is intent on "industry-ization" 产业化, developing large-scale enterprises for production and processing and marketing, rather than co-ops, in part because of the entire ideology of the presumed superior dynamism of large capitalist enterprises. By contrast, peasant co-ops are given much less support, with only modest government subsidies, and remain critically constrained by their inability to obtain credit from the nation's financial institutions (more below). Also, the very conception of the state's policy on co-ops has been misguided, focusing on imitating American-style specialty co-ops based mainly on enterprises, not on small peasant producers and their communities, as I point out at some length in my article for this symposium (Huang, 2017; see also Huang Zongzhi, 2015). Here in Xixia, peasant co-ops, except for some fake ones posing as co-ops to obtain government subsidies, figure very little if at all in terms of helping the great majority of the peasant growers.

Like Chang Liu et al.'s article, Changquan Jiao and Yingjiao Chen's study (2017) of tobacco production in his hometown (Enshi city 恩施市 in Hubei) is similarly solid and illuminating. First, it shows the great importance of industrial input, in this case, especially machinery like the "rotary tiller-ridgers" which greatly save labor for soil preparation, something that used to require one full day's work by several strong men for each mu. Now the machine can prepare, plow, and ridge a large space in a relatively short time, and cheaply. Then there are also the leaf-cutting machines, the power sprayers, and others, which also greatly facilitate production. Even so, tobacco cultivation still requires intense labor input (about 25 gong [i.e., a standard workday] per mu). It too is labor-and-capital-dual intensive production.

A second important requirement for tobacco growing is the flue-curing barns 烤房 that are crucial for processing. One curing barn is needed for every 6 to 8 mu of tobacco, requiring several rounds of 6 days each, for a total of 6–8 weeks of curing. For each small grower to build and operate itself such a facility, and obtain a steady power supply to maintain constant temperatures, would under present conditions be impractical and inefficient. Here the government has quite naturally played a crucial role, in setting up flue-curing plants 烤厂, which rent the curing

barns to peasants for a fee (about 100 yuan per use)—far less expensive for the individual tobacco peasants.

In addition to the two key areas of support just noted, government agencies have also helped to organize the development of tobacco land, see to the construction of irrigation infrastructure and roads, as well as provide centralized growing of seedlings for the growers, and so on.

With that kind of infrastructural and processing support, the main tobacco growing today is done by small (middle peasant) tobacco farms averaging about 20 mu (90 percent of all tobacco farms in Enshi are under 30 mu in scale), another good example of the new agriculture. In addition to their own responsibility land, such growers might also have access to land at relatively low rents from kin and neighbors or friends (cultivated area per labor unit in China today averages about 10 mu). Under those terms, each mu of tobacco grown can yield a net income of about 2,000 yuan (double that for a grain peasant), making for a modestly handsome annual income of about 40,000 yuan for the middle-peasant tobacco farmer. By contrast, Jiao explains, large-scale tobacco farms have to pay higher rents and hire wage-workers (and their supervisors), which severely reduce their net incomes per mu. Under the present conditions of production and the institutional environment, the smaller family farms clearly enjoy a definite advantage over larger farms. Those same middle peasant tobacco growers, moreover, are also the people who are the most concerned with community affairs, the stalwarts of their communities.

Since tobacco is a state monopoly, the state has overseen marketing as well, not just the processing of the product. The entire production-processing-marketing system is actually paradigmatic, something of a model of the symbiotic triangular relationship between the state, the peasant, and the market. In many ways, what the state has done in tobacco is exemplary, in no small measure because in tobacco it shares very much a common interest with peasants: efficient production and motivated growers help the state's monopoly, and the state, as the owner-operator of the tobacco monopoly, is also strongly motivated out of its own self-interest to help the peasants, rather than to impose grandiose designs on them from one ideology or another. The mistake of state policies in other sectors of the agricultural economy today is an overemphasis on the development of large-scale capitalist farms ("dragon-head enterprises"), predicated on (misapprehended) neoliberal ideology, almost as mistaken as its earlier Great Leap Forward emphasis on large communes, similarly predicated on (misapprehended) Marxist ideology, to the complete neglect of the wishes and interests of small producers. The tobacco industry, as a state monopoly, ironically shows that because of shared interests between state and peasant, there could be a good symbiotic relationship between the two. From its example, one can actually imagine what a state-led but peasant-directed co-op might look like.

We might stop here to consider briefly the difference between the kind of co-ops needed today for vertical integration—industrialized processing and

marketing—with the 1950s co-ops discussed and analyzed in Yuan Gao's article. In the 1950s, the purpose of the co-ops was mainly, as Yuan Gao makes clear, to overcome inadequate possession of necessary inputs by many peasants, from either insufficient land and overabundance of labor, or insufficient labor due to the necessity of (poor peasants) hiring out in the busy season rather than attending to their own small farms, or insufficient farm animals and implements among the poorer households, and so on. Those problems could be overcome to a considerable extent by cooperation among kin, neighbors, and fellow villagers. That was the basis of mutual aid teams and co-ops. It was also the emphasis of co-ops in the liberated areas during the wars of resistance and revolution.

Today, however, after three decades of de-involution (from off-farm employment, decline in birth rates, and the rise of the labor-and-capital-dual intensifying new agriculture—which actually absorbs more labor per unit land), the key purpose of co-ops is not about optimizing the use of traditional, preindustrial inputs, but rather about optimizing coordination for small peasants for industrial (and highly marketized) agriculture, including, most especially, the tasks of industrial processing and modern marketing (vertical integration) that are the most difficult for small peasants to handle, and also the bulk purchasing (at discounts) of needed inputs, provisions of loans, and so on. It is mainly in processing and marketing, rather than production itself (horizontal integration into large-scale farms), in which scale economies have become truly crucial.

To be sure, for individual farms, mechanized plowing (especially for grain farming, and also for tobacco farming as we have just seen), sharing of big tractors among multiple peasants, the village, or even several villages can be much more efficient. But those tasks, it has been demonstrated by recent experience, can be met efficiently in other ways without the need to rely on large capitalist enterprises or large collectives. Throughout China, local, relatively small, commercial and/or community service entities have arisen to fill the need, with peasants paying for plowing-planting-harvesting services by the mu. Tractor use has at least doubled in the period 1996 to 2006, and may have risen as much as 400–500 percent down to 2010 (the lower figure is according to the nationwide surveys of Chinese agriculture in 1996 and 2006; the higher figure is according to the sampling of 60,000 agricultural households by the State Statistical Bureau, a sampling that might favor more advanced farms—see Huang and Gao, 2013: 39–46; cf. Huang, 2017: 492).

Moreover, despite persistent government efforts to favor large-scale enterprises, small-scale peasant overseeing of other parts of farming—watering, weeding, insecticide application, timely and good care of the plants, and so on—continues to show the benefits of small-scale, self-motivated farming over hired workers. That is why over and over again we see even large capitalist agricultural companies subcontracting the production process out to small farmers, rather than attempting to organize wage-labor based production. This has been true not just in mushroom and tobacco farming, but in virtually all varieties of the high-value new agriculture.

Even in the old agriculture of open-field grain farming, we need to acknowledge, the mainstay of development has not been the dragon-head enterprises so much as the middle peasant farms of a scale of 20–50 mu, as our earlier symposium on the subject demonstrated (Huang Zongzhi, 2012b: esp. the articles on the old agriculture by Lin Huihuang and Yang Hua; see also Zhang, Cao and Yang, 2016; Zhang, 2016; Huang, 2017). The logic is much the same: smaller farms cultivating their own responsibility land, plus some land rented cheaply from kin and neighbors and friends who have left the village for urban employment, have in fact proven to be able to operate more economically than large farms, which must pay higher rents, plus wages and the supervision of workers. The smaller middle peasant farms have not been handicapped by fragmentation of parcels, but have rather made effective use of the multitudes of commercial and semi-commercial entities that have sprung up to fill the need for providing plowing-planting-harvesting services for peasants, who have opted to take on higher-paying off-farm employment, in effect paying for mechanization by their off-farm earnings. They, especially the leave the land but not the village peasant-workers, have in fact been the true driving force behind the modernization of the old agriculture of grain production, much more than the state (Huang and Gao, 2013). But policy makers, as well as analysts, have been slow to see and accept this, bent as they are upon the ideology of scale economies and capitalist production (Huang, 2017).

Whither Chinese Agriculture?

The big and final question for us is: Whither Chinese agriculture? Given its past and recent histories, what can we conclude about the most suitable path for China to follow in its agricultural modernization and development? What are the positive examples of past policies, and the negative ones?

We have discussed above the doctrinaire neoliberal and Marxist views, and also in passing the East Asian integrated co-ops model. Haijuan Wang and Xuefeng He's article (Wang and He, 2017) has developed a different view calling for a "socialist small peasant economy" to be distinguished from a "capitalist small peasant economy," both of which they differentiate from "socialist big (collective) farming" and "capitalist big (enterprise) farming." They thus see "socialist small farming" as a "fourth model/way." Co-ops, they argue, are not a viable option, because voluntary membership and withdrawal will undermine the collective.

Even as they call for "small farming," however, they are clearly also insistent on what they call scale economies, by which they mean above all American-style big machinery usage. For them, the East Asian experience (Japan, Korea, and Taiwan) is fraught with failures and bottlenecks, above all in the inability to attain truly "efficient" scale economies, which in their understanding is and should be the final destination of agricultural modernization.

The key factor they single out is landownership, whether it is "collective"/"socialist" or private/capitalist. For them, the biggest problem with Chinese

agriculture is the ever greater fragmentation and parcellization of Chinese farms. According to them, collective ownership of land is necessary to attain economies of scale, most especially in the use of big tractors. Their view may be seen as one kind of understanding of the recent Chinese Communist Party Central's "Opinions on Steadily Pushing Forward Reform of the Collective Property Rights System," issued on December 26, 2016, which has led many to focus in on the subject (Zhonggong zhongyang Guowuyuan, 2016).

To bring their obviously somewhat contradictory emphases on small farming and on collective ownership together, they propose what they call a "unified and yet separate, dual level management" 统分结合，双层经营 system, using a term that has seen frequent use in official documents. Collective ownership would be the "unified" or socialist side, the responsibility land system of small farming the "separate" side. That, according to them, is the unique invention of China, representing the fourth way.

We should note here, first of all, that Wang–He are really thinking only or mainly about open-field grain farming, for which scale economies using big machinery are indeed important, but that they ignore what we have called the "new agriculture" typified by small-scale, both labor-and capital-intensifying agriculture, like the 1, 3, or 5 mu tented vegetable farming, or the fruit orchards or fish ponds of just a few mu, and the relatively small- and medium-scale crops-cum-animal-husbandry farming, or high-value commercial crops farming, of just 10 to 20 mu, including the tobacco farms discussed above. Those, we have seen, account for about four times as much output value as grains today. The failure to appreciate the new agriculture and China's "hidden agricultural revolution" causes them to overlook the vital differences between labor-and-capital-dual-intensifying agricultural modernization as opposed to land-and-capital-dual intensifying agricultural modernization. It is the former that demands above all vertical integration of processing and marketing, which they do not consider at all. Instead, their perspective is based entirely on the "horizontal integration" of the latter (grain farming), and particularly big farms using big machinery.

The scale economies of which Wang and He speak have in fact become an issue only with the coming of large-scale tractor plowing-planting-harvesting in open-field grain growing, not in the small-scale new agriculture. But in China's recent experience in the mechanization of grain farming, collective landownership has actually played only a minor role. As we have seen above, given peasant wishes to save time for off-farm employment by hiring machine plowing-planting-harvesting, commercial and community service entities, bearing no relationship to collective landownership, have arisen to meet the need. The state's administrative interventions have also been a major factor. Together, peasant demand and state organization have powered at least a doubling of tractor use between 1996 and 2006, possibly more, as we have seen. The truly crucial factor seems to me to be rather that, once the opportunity costs of farming rose above incomes from farming, peasants acted by self-interest to hire in plowing-planting-harvesting

services in order to free up time to take on higher-paying off-farm employment, thereby in effect paying for such capitalization by their off-farm wages (Huang and Gao, 2013).

Even though Wang and He are calling for "small farming socialism," they take for granted that only scale economies can power the true modernization of agriculture. This is the main fault they find with Japanese agriculture which, according to them, has simply been unable to attain scale economies and thus operates at very low levels of efficiency. But we must ask: if the Japanese and Korean (and Taiwan) economies as a whole have been able to reach the income levels of developed economies by the 1970s and 1980s while China remains still quite far from that level, and if their income distributions are among the more equal of developed countries (with Japan ranking number 65 of 141 nations, Taiwan number 47, and Korea an even better number 29), without masses of rural poor, in contrast to China's ranking of number 114 (or twenty-seventh from the bottom) (Huang Zongzhi, 2015: 27), just in what sense are their economies and agricultures failures? And in what sense is China's "socialist small peasant economy" the best "fourth road"?

We have also seen above how the East Asian model of agriculture, given its "lots of people and little land" resource endowment, engages in higher-value labor-and-capital-dual-intensifying agriculture in preference to lower-value land-and capital-intensive grain farming in New World countries like the United States, Brazil, and Argentina. China too has embarked on the same road, especially with respect to importing soybeans, because it makes good economic sense for land-scarce but labor-abundant countries. It is tantamount to paying for low-value imports with high-value exports. What's more, it is in fact simply out of the question for land-scarce agricultural economies to imitate land-abundant New World countries. Are the East Asian economies to give up their higher-value, labor-and-capital-dual-intensifying farming for lower-value, land-and capital-intensive grain farming, just for the sake of attaining the "scale economies" of which Wang and He speak? Where would the land come from?

We must note finally the very different dimensions of Japanese and Chinese agriculture. Today, Japanese agriculture engages just 2.5 percent of its population, totaling merely 2.5 million people, while China's total farming population is still about 200 million, eighty times that of Japan. China is decades and decades away from anything approximating Japan's degree of urbanization, as Xiaolu Wang and Sidong Jiang have pointed out clearly and graphically in their article (Wang and Jiang, 2017). Small farming will persist well into the future in China. New World–style scale economies are simply impractical for China, and Japan and Korea and Taiwan as well.

Nevertheless, Wang and He's singling out of collective landownership does open up an interesting avenue of thought. Up to now, individual peasants' and peasant co-operatives' ability to obtain credit has been seriously hampered by their lack of readily marketable real property that banks are willing to accept as security for loans (Huang, 2017). Peasants' use rights and peasants' homes are simply not

sufficiently marketable (readily convertible into cash) to meet the requirements of the banks' demand for security for loans. But if village communities should come to serve as the main organizational frame for co-ops, it could open up the possibility for village co-ops to overcome the problem of inability to obtain credit. Despite the Party Central's repeated declarations of intent in the last thirteen "Number One Documents" from 2004 to 2016 to overcome the problem, they have all been to no avail, as I show in my article for this symposium. Community-owned land could offer the potential for villagers to use small portions of their collectively owned land as collateral for credit to finance development, if the members of the community agree to taking on such a risk for the possibility of capital accumulation for development, and if the state were to allow such a step.

Under the present institutional framework, of course, villages do not have the actual power to sell land that they own in theory, certainly not without the permission of the government. But that nominal ownership could, with state support, become an avenue to facilitate the raising of community capital for development purposes. The more so if the lending institutions were to be based themselves on peasant co-ops, as they are in Japan. It would make for an institutional arrangement that might be termed "cooperative small farming," rather than Wang and He's "socialist small farming."

Given the realities of land-scarce agricultural economies, the term "socialism" used by Wang and He with respect to Chinese agriculture is actually rather too grandiose, calling to mind our past mistakes of equating farming with industry, small-scale production with large-scale, and of forcibly changing co-ops into communes. Let us instead call upon the practical legacies of the revolutionary base areas, the early and mid-1950s, and the 1962 to 1978 period, not the grandiose visions of the Great Leap Forward. And let us turn to the Japan-Korea integrated co-ops model that has proven its success, not the grandiose models drawn from New World agriculture. Let us, moreover, keep our focus not just on grain farming, but what is now really much more important: the new agriculture that has driven the agricultural revolution of the last thirty-five plus years. Looking farther into the future, we might also see that postindustrial organic agriculture will likely also share with it the characteristic of being labor-and-capital-dual-intensifying, relatively small-scale agriculture.

As things are, so-called collective ownership of land is really something of an oxymoron that does not come with the power to buy and sell. Neoliberal opinion, therefore, has persistently called for complete privatization, while Marxists do not quite know what purpose collective landownership can serve other than to prevent concentration of land into the hands of a few, once China completely embraced the "responsibility land" system. In actuality, so-called collective landownership has served mainly as a justification for the state's power to use land as it sees fit for urban development (albeit with some measure of compensation for peasants). Indeed, centralized control over land and finance has long been a mainstay of the concentration of power under the party-state organization, something

that is very much in need of reform today to generate more development initiatives from below. One positive step, as we have seen, might be to allow village co-ops to use a small portion of the village's land as security for bank loans for the purpose of development. In short, to my reading, Wang–He's argument opens up the interesting question of how collective landownership might be turned into a useful institutional resource 制度性资源 for aiding the development of state-led, peasant-based co-ops.

The difference between Wang and He and me and others, perhaps, is not nearly as great as it might seem. We are all agreed that small farming is the key and the main institutional form needed, at least for the present, even though Wang and He speak repeatedly at the same time of some supposedly predetermined destination of all "modern" agriculture enjoying scale economies using big machinery. We are also agreed that complete privatization and free buying and selling of land is not the answer, for it would lead to greater concentration of land in the hands of a few. As for co-ops vs. collective ownership, all of us share the view that peasants need to organize and work together, even though I and others are speaking of a much broader scope including all the facets summarized above, not a mere matter of the form of nominal landownership. But all of us are agreed that collective landownership can be perhaps a useful institutional resource for serving a larger vision of rural organization and development. And, despite Wang and He's emphasis in this article on the present nominal collective ownership as somehow socialism, and despite their neglect of the village community in their article, we know also that Wang and He too are deeply concerned with the maintenance, restoration, and reinvigoration of village communities, as their many other writings have shown.

Tuan Yang's article (2017) traces systematically the roots of the late 2016 central document on collective ownership, especially its calls for "unified yet separate, dual levels of management" 统分结合，双层经营. That stratagem was expressed clearly in the five successive "Number One Documents" about agriculture between 1982 and 1986, and further in 1987. "Separate" of course refers to the household responsibility system. As for "unified," it referred, in the words of the Party Central, "to co-operative township and village organizations" "built around the collective ownership of land." They are "different from specialty co-ops, are communitarian and integrated entities." Their basic function and purpose is to provide services for peasants that "they are not able to provide for or do well for themselves." Later, however, the township people's government and the "two village committees" (party branch committees and villagers' self-governance committees) administrative system that were established were in fact predicated on the separation of the administrative and the economic 政经（社）分开, with little or nothing to do with economic functions. As for the township and village enterprises, they were in the beginning indeed closely tied to the village communities and collectivities, but those underwent "systemic reform" at the end of the twentieth century, becoming almost completely privatized. Then, when

agricultural taxes and fees were abolished (by 2005), village administrations were further hollowed out, leaving them in the resource-less bind that they are in today. In the process, the "unified" side of the "unified and yet separate" structure disintegrated into a hollow shell. Then came the specialty co-ops, which were conceived to be entirely separate from village communities, which brought into being mainly hollow and/or fake structures rather than genuine co-ops. Given such realities, a policy of "unified and yet separate" because of collective ownership can only be mired in self-contradictions and at odds with existing realities.

Tuan Yang spotlights especially the so-called "co-operative stock holding collective system" 股份合作集体制. Large people's communes and dragon-head enterprises are easy to distinguish from genuine collectives. But co-operative stock holding collectives, mentioned by the Party Central in December 2016 in the same breath as "unified yet separate, dual level management" and "collective property rights," can cause much confusion. The shareholding system, she makes clear, is mainly driven by expectations of appreciating values of (requisitioned for urban development) land of "villages inside the cities" and suburban villages in the most highly developed and urbanized areas. The original intent was, to be sure, in part to protect villagers' interests against corrupt cadres and officials. But it is predicated entirely on individualized interests for gain, having little to do with the original vision of the Party Central for community-based service entities to exist alongside small household responsibility farming. The real driving force behind the Party Central's new calls for "reform" of the collective property rights system is the hopes of the local governments of China's most advanced areas to promote further circulation and concentration of land rights, to turn villages into corporations and peasants into their stock-holding employees—an entirely different vision from what the Party Central had originally intended. For that reason, Tuan Yang titles her piece "This Kind of Collective Is Not That Kind of Collective" and pleads for building instead community-based, service-oriented co-ops.

The above, of course, involves only peasants "fortunate" enough to have their land requisitioned for urban development use, mainly peasants of suburban villages 城郊村 and "inside the city" villages 城中村, especially in the most developed areas, and has little to do with the majority of peasants nationwide. We need to consider in addition the Central's new policy to "separate out" 分置 responsibility land rights 承包权 from managerial/use rights 经营权. Its rhetoric notwithstanding, the intention is clearly to promote greater circulation of land and to attract more outside capital to the countryside. The prospect for appreciation in the value of such land is of course much less than for urban development land, but its principle is still the same. The firm establishment 确权 of managerial rights is intended to protect the rights and profits of those investing capital in the management of the land, hence also the "administrative achievements" 政绩 of the local officials who draw in such capital. It is in fact but another step in the misguided pursuit of economies of scale and the capitalist development model for the countryside.

By contrast, Tuan Yang (2017) and Wang and Jiang (2017) and I are agreed that the past rural development experience of Japan-Korea-Taiwan, especially from the 1960s to the 1980s, is the most relevant and instructive example for China's present-day agricultural, as well as general rural, development. Those co-ops had been the consequence of an unusual historical coincidence: the combining of a late nineteenth and early twentieth century Japanese tradition of top-down agricultural administration, with democratization under the American Occupation, coincidentally led by a group of officials who identified closely with President Roosevelt's New Deal policies. They carried out a land reform that put an end to landlordism and created a rural society of small owner-cultivators, and they implemented administrative reforms that turned over many of the state's aid-agriculture resources to community-based and peasant-controlled integrated co-ops (for detailed discussion and documentation, see Huang Zongzhi, 2015).

Unlike the American-model specialty co-ops, predicated on agricultural enterprises that group together for marketing and distribute earnings/profits according to either the amount of capital contributed or the amount of sales revenue generated, the East Asian co-ops were predicated on village community cooperation among small peasant owner-cultivators. Unlike the Great Leap Forward's oversized communes imposed from above, the East Asian co-ops emphasized voluntary not forced participation; instead of imposing membership by dictates from above, the East Asian co-ops attracted members by placing much of the state's aid-agriculture resources at the disposal of the co-ops, to the extent that almost all peasants joined voluntarily—overcoming thereby Wang and He's theoretical argument of obstacles to community action posed by nonparticipation. Unlike American co-ops comprising enterprises, the East Asian co-ops were made up of small producers, but reached gigantic dimensions by building upward from there along the nation's administrative hierarchy, to include not just inputs acquisitions but also processing and marketing of goods, as well as provisions of financial services (credit societies and banking services), ultimately to include a national brand name (Nōkyō 农协), a gigantic globalized national bank (Nōrinchūkin 农林中金), and even a powerful national political lobby on behalf of peasant-farmers (Huang Zongzhi, 2015; Huang, 2017).

Tuan Yang et al. and I are also agreed that the successful building of co-ops requires the participation, indeed the leadership, of the state. Under the present Chinese institutional environment, the lack of active state support is tantamount to active state discrimination. By comparison with the state's aggressive support for large capitalist enterprises (dragon-head enterprises), the co-ops receive but insignificant support, often misdirected to capitalist enterprises posing as co-ops. We must not be misled by the past mistake of excessive state intervention into an overreaction toward its opposite, to insist on no state participation at all in co-ops, as some in the co-op movement in China have. That conviction may in fact be part of the reasoning behind the present insistence of the Co-op law (implemented 2007) on American-style specialty co-ops that are strictly private entities. Those,

despite occasional official touting, have been largely failures (Huang Zongzhi, 2015: esp. 27–32; cf. Yang, 2017; Wang and Jiang, 2017; and Huang, 2017).

In calling for the East Asian type of community co-ops, Tuan Yang (as well as Xiaolu Wang and Sidong Jiang) and I are also agreed that communitarianized self-interest is far superior to the simply individualized self-interest that at present is sweeping the Chinese countryside (indeed all of Chinese society). Purely self-seeking, capitalist behavior can of course help generate the kind of development that is measured merely in terms of GDP, but it leads easily, especially in relatively resource-scarce China, to a dog-eat-dog morality destructive of centuries-old social bonds and village communities. The process has already advanced quite far, and needs urgently to be reversed.

Chinese village communities have been privileged for centuries with a sense of distinctive and shared identity, complete with community fictive kinship and its accompanying social fabric and moral values, and a well-developed system of community mediation of disputes and conflicts (Huang Zongzhi, 2014b: chap. 2). Those have been the core elements of the villages, indeed historically the core of Chinese society and civilization as a whole, as Gang Lin's article argues so strongly. In the United States, by contrast, there has not been anything comparable (if only because of the much larger distances between farms, which simply rule out the kind of tight-knit social relations of Chinese villages). Church-based parish communities have never reached the extent of development of tight-knit bonds comparable to Chinese (or Japanese and Korean) villages.

Much of this symposium has emphasized the fundamental differences between China and, most especially, the currently vogue American model. The absence in America of a tradition of village communities is in fact a major reason why mediation, even after half a century of development of ADR (alternative dispute resolution), still resolves only perhaps two percent of all legal disputes brought to court, as opposed to 34 percent in China. In the United States, there is little or no Chinese-style societal mediation to speak of, while community mediation still resolves 52 percent of Chinese pre-litigation disputes (Huang, 2016b: 242–45, esp. table 1; 250–56). That is what makes for a fundamental difference between the American and the Chinese (as well as Japanese and Korean) justice systems. Co-ops for processing and marketing, and inputs purchasing and credit and so on, can and should draw on those traditional institutional resources, and of course also government support. The fake co-ops that have emerged have been the consequence of the state's misguided policy to imitate American enterprises-based specialty co-ops.

Tuan Yang, as a policy analyst as well as scholar, has explored the question of the most appropriate nomenclature and institutional form for such substantive co-ops in the present Chinese institutional environment. In part in response to the top-level call in March 2015 for reforming the old "supply and marketing co-ops" 供销合作社—entities that have become purely state organs that are of little significance to peasants and villages, even though they still control substantial

resources and personnel—she has advanced the idea of developing legal entities 法人 that are midway between public and private, that would be able to draw on both public and private resources, that serve both public and private functions, but are distinct from simply state organs or public institutions. She calls them "public social organizations" 公法社团. That may be an administrative approach that could unlock the potential of these so-called supply and marketing cooperatives. It could conceivably serve as a legal and administrative rubric of the kinds of integrated East Asian co-ops we are talking about. The recent test-point experiment in Hebei's Neiqiu county's Jindian township 河北内丘县金店镇, building a "new peasants' co-op" 新农协 on the basis of the old "Supply and Marketing 'Co-op'" 供销‘合作’社, shows promise in possibly becoming a viable new model for co-ops (Yang, 2017; see also Yang, 2013).

Finally, my own article for this symposium (Huang, 2017) attempts to sort out China's successful experiences from failures, categorized under three different models that have been employed in recent years. First, an administrative model that has been used most especially in grain farming, with the state maintaining large grain storage facilities (modern facilities enough for a sixth of total output in a year) to stabilize grain prices, providing a price floor (at which the state will purchase grain), establishing by administrative measures concentrated grain-growing areas, plus processing and marketing services for small peasants, as well as a range of state subsidies for grain farming. (Since 2005, the state has also abolished fees and taxes for agriculture.) Under that administrative model, the state has successfully made grain farming a sustainable activity for small and medium-sized peasants, yielding a net return per mu of about 1,000 yuan, not nearly as high as in the new agriculture, but high enough to be sustainable with a variety of state subsidies and supports. Except for occasional overly commandist tendencies (especially in aggressively pushing for a three crops a year regime of early rice, late rice, and winter wheat), this administrative model has worked fairly well for grain farming.

The second model has been the laissez faire model of the new agriculture. Here the state has relied almost exclusively on market incentives to power development, providing technical assistance and also crude marketing structures for transactions, thereby assisting in the dynamic development noted above. However, violent market fluctuations in prices, and inability to obtain inexpensive processing and marketing assistance, have been major problems for the peasants. At present, the state does little or nothing to help in these regards, leaving things to layer upon layer of merchants big and small, who cut severely into the earnings of small peasants, resulting in the current "[vegetable] growers lose money, but buyers pay high prices" situation. The problems cry out for co-op services to help support and protect peasant interests, with the leadership and support that the state should provide.

Finally, the third model has been the misguided attempt to build purely self-generated, voluntary, American-style specialty co-ops, prompted only by legislation

and by offering (modest when compared to those for dragon-head enterprises) state subsidies. Those efforts, official rhetoric notwithstanding, have been largely failures, with large numbers and proportions of co-ops being hollow entities and/or capitalist entities pretending to be co-ops in order to obtain state subsidies and exemptions. The genuine co-ops that have emerged are almost all small-scale ones, due to the constraints of limited financing and limited state leadership and support discussed above. We would do much better to draw on the still existing institutional resources of village communities, and turn over much of the existing resources in the state's aid-agriculture entities (of agricultural extension, of supply and marketing "co-ops," and such) to the co-ops, as had happened in Japan-Korea-Taiwan. Those co-ops, state-led but peasant-based and peasant-directed, enjoyed the support of almost all peasants, and form the core of that model.

The key point here is to dispense with once and for all ideological constructions that are either irrelevant to or run counter to Chinese realities, whether the erstwhile oversized and excessively controlling communes of the Great Leap Forward, or the present-day dragon-head enterprises using hired labor, or the so-called co-operative shareholding collectives, including the specialty co-ops. What is needed instead is to acknowledge the great contributions already made by China's peasants in powering the labor-and-capital-dual-intensifying new agriculture of small farms, and in powering the mechanization of open-field old agriculture (grain farming) through their off-farm wages. It is time to trust more in the peasants who have driven not only the agricultural revolution of recent decades, but also supplied the key human resources for China's rapid urban and industrial development. When it comes to co-oops, let us also not make again the past mistakes of either too much control or too little support. Let us look to a symbiotic relationship between the state and the peasants, and industry and agriculture, one that truly serves peasant interests, as shown in the most successful experiences of the past.

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