



## China's Encounter with Scientific Management in the 1920s-1930s<sup>1</sup>

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Chinese industrialists, industry government officials, and business academics embraced Fredrick W. Taylor's ideas of scientific management (*kexue guanli fa*) for the advancement of China during the 1920s and 1930s. In this paper, I explore the discourse surrounding the introduction of scientific management in China, which occurred on a wider scale than is commonly realized. It was influential in the redesign of personnel systems and work organization in the 1930s. As Taylor sought to break the power of the artisan over the industrial process, Chinese managers strove to break labor contractors. The interest in "new" management extended beyond personnel issues to embrace organizational design, industrial psychology, and the industrial rationalization movement (*chanye helihua*), and it was not the province of industrialist and industry officials alone. Discussion of managerial practices around the world had currency in journals read by educated workers, clerks, and petty intellectuals, as well as the business elite. My paper is an initial exploration of the transfer of management "know-how" or soft technologies to China, how they were received, and how managers adapted new practices given the constraints of the Chinese business environment.

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Economic reforms in China since the 1980s have transformed economy and society, including the management of business. Modern management is a "hot" field for young Chinese, and translated and local titles fill the shelves of bookshops in China. Texts on general management, along with accounting, human resource, strategic and marketing management abound, not to mention dozens of titles on how to make your fortune in

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<sup>1</sup> A Faculty Research Grant from the Faculty of Economics and Commerce, the University of Melbourne partially funded the research for this paper. I thank Ms Bick-har Yeung and the East Asian Collection staff, Baillieu Library, for their efforts to obtain Chinese materials on management and business history, some of which I have used for this paper.

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the stock market and the biographies of rich self-made business people. Ten years ago there were few titles; 20 years ago there were none at all.

Little wonder, then, that most writers on contemporary Chinese management have a kind of historical amnesia. Both western and Chinese authors write as if they were unaware—or at best, forgetful—of the rich experience of earlier management practice.<sup>2</sup> This early experience includes the adaptation of western management in the interwar years before the Sino-Japanese War in a Chinese business environment that was not so dissimilar from that of the present, marked by active markets and vigorous competition among domestic and foreign-controlled firms. The management theory of the day was scientific management, or Taylorism, based on the ideas of the American engineer Fredrick W. Taylor (1856-1915). Chinese industrialists, industry government officials, and business academics embraced the ideas of scientific management (*kexue guanli fa*) for the advancement of China from the late 1920s, most notably in the sphere of personnel management. The early Chinese interpreters and adopters of scientific management were not alone; they were part of an international movement for industrial efficiency that spanned America, Europe, and Japan.<sup>3</sup>

My paper is a modest contribution to an exploration of the transfer of scientific management “know-how” (what we might call soft technologies) to China in the early Twentieth Century. Taylorism had a wider currency in China before 1949 than is commonly recognized.<sup>4</sup> I outline how Taylorism was introduced, received, and adapted by

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<sup>2</sup> The author of a chapter-length review of the history of management theory in a recent Chinese-language study topic of management in China observed: “Chinese enterprises only from the eighties of the Twentieth Century began to study the modern management methods of western enterprises in order to raise the standard of management (*guanli shuiping*) of their enterprise.” See Dai Wenbin, *Guanlixue* [Management Studies], (Shanghai, 2003), 60. Authors of studies published in English similarly ignore earlier encounters. For example, Mike W. Peng, et al., “Treasures in the China House: A Review of Management and Organizational Research on Greater China,” *Journal of Business Research* 52 (May 2001): 95-110; J. T. Li and Tsui Anne S., “A Citation Analysis of Management and Organization Research in the Chinese Context: 1984-99,” *Asia Pacific Journal of Management* 19 (Mar. 2002): 87-107; Anne S. Tsui and Chung-Ming Lau, eds., *The Management of Enterprises in the People's Republic of China* (Boston, 2002); Jie Tang and Anthony Ward, *The Changing Face of Chinese Management* (London, 2003).

<sup>3</sup> Judith Merkle, *Management and Ideology: The Legacy of the International Scientific Management Movement* (Berkeley, 1980).

<sup>4</sup> Taylorism in China is neglected. One of the few studies to mention Taylorism, though its focus is the origin of the *danwei* (work unit) institutions of labor management, is Mark W. Frazier's recently published, *The Making of the Chinese Industrial Workplace: State, Revolution and Labor Management* (Cambridge, U.K., 2002).

managers. Several questions underpin the paper: Where do management ideas come from? How are ideas of management and organization transferred across borders? What is the process of their adaptation to “native” traditions of management organization and practice?

These questions, though focused on China during the interwar years, are relevant to the transfer of contemporary management theory and practice to China. Even the phrase “scientific management” has been invoked as a means to improve the competitiveness of contemporary Chinese enterprises, by no lesser than former President Jiang Zeming, as it was by the western management pioneers of the 1920s and 1930s.<sup>5</sup> “Scientific” both then and now is a term loaded with value and infused with the sense of advanced modernity, juxtaposed with a native “backward tradition” of past practices. For those in the 1920s the specific content of the inherited “tradition” was managerial practices of Chinese-style unlimited partnerships (*hegu*); for the reform period the content is the legacy of the Soviet-planning model.

There is more to a historical study of scientific management in China, though, than an arcane analogy or historical resonance with contemporary enterprise reform. A focus on scientific management lets us escape the 1949-50 divide as representing two quite different narratives of management experience, the earlier period marked by nativist traditions and the later period stamped with Soviet models. The idea that the earlier period was little affected by non-Chinese ideas of management and that China escaped the mania for Taylorism and industrial efficiency that enveloped the world in the 1920s and 1930s is dubious.<sup>6</sup> Many

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<sup>5</sup> Jiang in 2000 was quoted stating: “Scientific management (*kexue guanli*) not only needs to embrace the management of state affairs, the economy, society and culture, but also embrace the management of every branch of industry and government; our inferior level of modernization compared with western countries is not simply an expression of our level of material construction but an expression of our level of management. To strengthen and improve management of society, we must promote an agenda for the formation of all-encompassing scientific management systems and mechanisms.” Xu Kang and Lao Hansheng, *Zhongguo guanli kexuehua de licheng* [The Course of Management Sciences in China], (Changsha, 2001), 3. Jiang’s extension of scientific management’s mandate beyond production to modernization of society at large resonates with Taylor’s view of the wider social meaning of his ideas. Scientific management ideas were articulated at the start of economic reform in the creation of the Chinese Enterprise Management Association: “Modern industry needs scientific management,” its charter proclaimed; Malcolm Warner, “China’s Managerial Training Revolution,” in *Management Reforms in China*, ed. Malcolm Warner (London, 1987), 76.

<sup>6</sup> Sherman Cochran, in his impressive recent study of six firms in China does not discuss the intellectual influences on Chinese management practices. In his discussion of manager training and control of workers at the Rong family enterprises, for example, he emphasized an “educational philanthropy typical of

multinational enterprises entered China, bringing their managerial practices with them, not least the Americans.<sup>7</sup> Similarly, the idea that 1949-50 represented a fundamental break in management needs reassessment. The translation of Soviet management ideas was undoubtedly important in shaping industrial organization in the early years of the People's Republic of China.<sup>8</sup> Although a new industrial system and set of authority relations were created in the 1950s, Andrew Walder exaggerates the rupture between present and past of the change wrought by the new regime.<sup>9</sup> The memory and learned experiences of past management practices were unlikely to have disappeared over night.<sup>10</sup> After all, even Lenin was a fan of Taylor; the framework of Taylorism lies not far beneath the details of Soviet planning methods.<sup>11</sup>

From this perspective, it is possible to consider the writing of a genealogy of Chinese management, enabling us to map the diversity and complexity of China's encounter with western management thought and practice over the past century, and how the experience of the adaptation of western management was shaped by both nativist practices and imported managerial ideologies. After discussing the introduction of scientific management to China, focused on key promoters, organizations, and publications, I consider the theoretical issues of mapping the cross-border transfer of management ideas.

### Introduction of Taylorism to China

Scientific management was more than simply a cult of efficiency, though Taylorism is commonly associated with time and motion studies, incentive

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preindustrial China," mentioning only in passing that the instructors had been trained in Japan and Europe. Sherman Cochran, *Encountering Chinese Networks: Western, Japanese, and Chinese Corporations in China, 1880-1937* (Boston, 2000), 128-31.

<sup>7</sup> Mira Wilkins, *The Emergence of Multinational Enterprise: American Business Abroad from the Colonial Era to 1914* (Cambridge, Mass., 1970); Mira Wilkins, *The Maturing of Multinational Enterprise: American Business Abroad from 1914 to 1970* (Cambridge, Mass., 1974).

<sup>8</sup> Deborah A. Kaple, *Dream of a Red Factory: The Legacy of High Stalinism in China* (New York, 1994)

<sup>9</sup> Andrew G. Walder, *Communist Neo-Traditionalism: Work and Authority in Chinese Industry* (Berkeley, Calif., 1986), 30-35.

<sup>10</sup> China scholars are increasingly exploring the continuities across the 1949 divide. See the essays in first part of Danwei: *The Changing Chinese Workplace in Historical and Comparative Perspective*, ed. Xiaobo Lü and Elizabeth Perry (Armonk, N.Y., 1997), and Frazier, *The Making of the Chinese Industrial Workplace*.

<sup>11</sup> Merkle, *Management and Ideology*, 103-35 passim; James G. Scoville, "The Taylorization of Vladimir Ilich Lenin," *Industrial Relations* 40 (Oct. 2001): 620-26. Kaple, *Dream of a Red Factory*, does not discuss the role of Taylorism in shaping Soviet managerialist ideologies and practices.

wage systems, and an emphasis on efficiency at the expense of the humanity of the worker. However, Taylorism was much more. It was a complex set of ideas and values, that intertwined a focus on labor efficiency, product quality, technical training and education, and cooperative harmony between labor and capital, which was as applicable to society and government as to industry and business.<sup>12</sup> Taylor saw his ideas as nothing less than “a complete mental revolution” in work and social relations.<sup>13</sup> For Chinese managers during the interwar years scientific management was not simply another western intellectual import, it represented the most advanced development in management philosophy and practice.<sup>14</sup> Mu Xiangyu (1876-1943; also known as Mu Ouchu or H. Y. Mo) is credited with the introduction of scientific management to China. Already established in business at age 33, in 1909 Mu went to the United States to study, obtaining a B.S. in agriculture from the University of Illinois (1913) and a M.S. in Agriculture at Texas Agricultural and Mechanical College (1914).<sup>15</sup> During his studies, he learned about scientific management. In April 1914, Mu wrote to Taylor to ask permission to translate into Chinese *The Principles of Scientific Management*, published in 1911. Taylor responded enthusiastically:

Answering your letter of April 23<sup>rd</sup>, it will give me the very greatest pleasure to have you translate my book – *The Principles of Scientific Management* – into Chinese.

I am sending you, under separate cover a copy of each of my books and also a copy of the translation of *The Principles of Scientific Management* into Japanese, which may interest you.

Will be very greatly interested to hear of the success of your translation into Chinese.

If you happen to be near Philadelphia it will give me great Pleasure to see you at my house and also to show you the application of *The Principles of Scientific Management* in some of the shops in Philadelphia.

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<sup>12</sup> Among many studies, see Mauro F. Guillen, *Models of Management: Work, Authority, and Organization in Comparative Perspective* (Chicago, 1994); Merkle, *Management and Ideology*; Daniel Nelson, *Fredrick W. Taylor and the Rise of Scientific Management* (Madison, Wisc., 1980); Daniel Nelson, ed., *A Mental Revolution: Scientific Management Since Taylor* (Columbus, Ohio, 1992); Daniel Wren, *The Evolution of Management Thought*, 3<sup>d</sup> ed. (New York, 1987).

<sup>13</sup> “Taylor’s Testimony before the Special House Committee,” in Fredrick W. Taylor, *Scientific Management Comprising Shop Management, The Principles of Scientific Management [and] Testimony before the Special House Committee* (1947; Westport, Conn., 1972), 27

<sup>14</sup> I am indebted to the recent work of several Chinese scholars: Liu Wenbin, Xu Kang, and Lao Hansheng, whose studies I cite.

<sup>15</sup> “Mu Hsiang-yueh [Mu Xiangyue],” *Biographical Dictionary of Republican China*, ed. Howard L. Boorman, 5 vols. (New York, 1970), 3: 38-40.

I might add that this book has been translated into other languages: Italian, French, German, Russian, Lettish, Dutch, Spanish and Japanese.

Yours sincerely,  
Fred W. Taylor<sup>16</sup>

On his return to China, Mu threw himself into setting up the Deda Cotton Mill in Shanghai and translating Taylor's book, in collaboration with Dong Dongsu.<sup>17</sup> The China Book Company published the translation in 1916. As with western economic and technical concepts, the earlier Japanese translation provided a guide to smooth adaptation into Chinese. Access to the Japanese version by Hoshino Yukinori, which appeared in 1912 under the title (in Chinese Pinyin transliteration) *Xueli de shiye guanli fa* [Scientific industry management methods], explains peculiarities in the choice of words in many texts on scientific management published during the 1920-30s. The Japanese used "*xueli de*" (Japanese: *gakuriteki*), which conveyed the sense of 'theoretical principles', at the time to represent scientific (Chinese: *kexue de*; Japanese: *kagakuteki*) and the Chinese continued to use this term, including Mu's translation: "*Gongchang shiyong*" *xueli de shiye guanli fa* ["Applied factory" scientific industry management methods]. Mu added "Applied factory" in front of the title borrowed from Japanese to indicate its practical scope.<sup>18</sup>

Although Mu is credited with the first full-length translation of a Taylor work, he was not necessarily the first to have had contact with Taylorism. There is some suggestion that Mu's mentor, Zhang Jian (1853-1926), one of China's pioneer industrialists who established the Dasheng Textile Group in Nantong, may have become acquainted with Taylor's ideas, but how is unclear.<sup>19</sup> Many other Chinese who had studied abroad were important in the dissemination of Taylorist ideas and methods, taking positions in universities, business, and government.<sup>20</sup> Perhaps the

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<sup>16</sup> From the preface to the 1916 translation, Daiierluo [Taylor], '*Gongchang shiyong*' *xueli de shiye guanli fa* ['Applied factory' scientific industry management methods], trans. Mu Xiangyue (Shanghai, 1916), cited in Xu and Lao, *Zhongguo guanli*, 94-95.

<sup>17</sup> Mu Xiangyue, "Ouchu de wushi zizhuan" in *Ouchu de wushi zizhuan* [Mu Ouchu's autobiography at 50], ed. Zhang Yufa (Chang Yu-fa) and Zhang Ruide (Chang Jui-te) (1926; Taipei, 1989), 1: 51.

<sup>18</sup> Xu and Lao, *Zhongguo guanli*, 95. Also note that the *shi* in *shiye* is different: the Japanese used the Chinese character meaning "thing" or "affairs" but also "business," while the Chinese used the character with the then meaning of "wealth," "property," "commodities" and "implements," though in current use the sense is again different.

<sup>19</sup> Xu and Lao, *Zhongguo guanli*, 83.

<sup>20</sup> These include Cao Yunxiang (1913 Harvard MBA), Xu Peihuang (1914 MIT M. Eng), Zhang Yanjin (1914 Harvard M. Electro-Mechanical Eng), Yu Yisheng (1917

earliest published promoter of scientific management was Yang Quan (better known as Yang Xingfo), who studied in the United States 1912-18, taking classes on scientific management under D. S. Kimball at Cornell University before obtaining a Masters of Business Administration from Harvard. In 1915, in the journal *Kexue* [Science], he published the article "Renshi zhi xiaolu" (personnel efficiency), reputedly the earliest article on scientific management in Chinese.<sup>21</sup>

Mu Xiangyue was not content only to translate Taylor, but also introduced new management concepts to his businesses, focused mostly on personnel. Three problems particularly concerned him: the lack of technical competency among general managers; the wasteful use of labor resources; and the brutal treatment of ordinary workers.<sup>22</sup> Most of these problems stem from the indirect management of the labor process via intermediaries, notably the use of the contract labor system. An enterprise usually directly recruited only managerial and senior technical staff, and subcontracted to labor contractors the hiring of workers along with their payment, training, management, and housing. The indirect management of labor reflected the imperfections of the labor market at the time for the recruitment and control of mostly unskilled workers of rural origin.<sup>23</sup> With the higher capital intensity of new enterprises and an increased focus on efficiency rather than cheap brawn, the contract system became an impediment to efforts to improve technical efficiency, product quality, and worker morale. Mu moved first to require his managers to have technical training, even an engineering qualification. He next required the contractors to possess a minimum technical competency, to recruit workers that met his criteria, and to make daily production reports to him. Coupled with detailed operating and disciplinary rules for all employees, Mu reduced the power of contractors over production and improved productivity and quality.<sup>24</sup>

Neither Mu's management initiatives nor his translation of Taylor found much interest from other industrialists at the time.<sup>25</sup> China was

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Kansus M. Eng, 1919 CalTech Phd) and Yang Quan (1918 Harvard MBA). See Xu and Lao, *Zhongguo guanli*, pp. 95-96.

<sup>21</sup> Xu and Lao, *Zhongguo guanli*, 96.

<sup>22</sup> Liu Wenbin, *Jindai Zhongguo qiye guanli sixiang yu zhidu de yanbian* (1860-1949) [The Thought and Institutional Transformation of Management in Modern China, 1860-1949], (Xindian, 2001), 86-87.

<sup>23</sup> Timothy Wright, "A Method of Evading Management—Contract Labor in Chinese Coal Mines before 1937," *Comparative Studies in Society and History* 23 (Oct. 1981): 656-78; Emily Honig, "The Contract Labor System and Women Workers: Pre-Liberation Cotton Mills of Shanghai," *Modern China* 9 (Oct. 1983): 421-54.

<sup>24</sup> Liu, *Jindai Zhongguo qiye*, 87-88.

<sup>25</sup> Mu was an extraordinary activist in his business and public activities. Besides the Deda Cotton Mill, he also set up the Housheng Cotton Mill (1916) and the Zhengzhou Yufeng Cotton Mill (1919), organized the China Cotton Improvement

then in the midst of the World War One boom when foreign competition for Chinese firms was much reduced. Profits were high; efficiency was not a priority: in the 1920s that changed. The economy slumped and an increasingly militant working class voiced demands for higher wages and better conditions, which with the return of foreign firms and their products increased market competitive pressure. Scientific management offered a means to raise competitiveness by increasing productivity, to improve labor-capital relations, and to motivate and incentivize workers.<sup>26</sup>

Several enterprises began experiments with Taylorist-inspired methods during the 1920s. These include the Rong family Shenxin No. 3 Mill 1924, Xiang Kangyuan at the Kangyuan Can Factory 1927, Xue Shouwan at the Yongtai Silk Filature circa 1928, Zhai Kehong at the Shanghai Huasheng Electrical Company circa 1928, and Wang Yunwu at Commercial Press 1930.<sup>27</sup> Commercial Press and the Kangyuan factory were held up as models for implementation of scientific management.<sup>28</sup> At Commercial Press, with nearly 5000 staff, productivity (*chan neng*) rose 2.5 fold, wages rose 20-30 percent, and employee discipline improved after implementation.<sup>29</sup>

Despite these early initiatives, the experiments with scientific management and other management practices were probably modest until the Nanjing Decade (1928-37), though on-going research may prove this otherwise. The 1920s saw many publications on new trends in politics, economics, and other social science disciplines, including those related to management. The widely read journal *Dongfang zazhi* (Eastern Miscellany) followed closely the political, social, and intellectual currents

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Society and published a pamphlet on cotton growing (1916), chaired the committee on cotton growing of the Federation of Chinese Cotton Mill (1919), set up the Chinese Merchant Yarn and Cloth Exchange in Shanghai (1920) that became the central commodity exchange for cotton, set up a bank to assist students to study (Zhonghua Qingong Yinhang), and served on government committees associated with ministries headed by Kong Xiangxi (H. H. Kung). "Mu Xiangyue," *Minguo renwu dazidian* [Biographical dictionary of Republic China], ed. Xu Yuchun (Shijiazhuang, 1991), 1521-22; "Mu Hsiang-yueh," *Biographical Dictionary of Republican China*, ed. Howard L Boorman, 5 vols. (New York, 1970), 3: 38-40.

<sup>26</sup> Liu, *Jindai Zhongguo qiye*, 88-89.

<sup>27</sup> Liu Wenbin, "Zhongguo gongshang guanli xiehui yu Zhongguo de kexue guanli yundong" [The Chinese Industry and Commerce Management Association and the Chinese Scientific Management Movement], *Symposium on China's Economy between the Wars, 1918-1937*, Institute of Modern History, Academia Sinica, Taipei, 23 Nov. 2001, 10; Liu, *Jindai Zhongguo qiye*, 89-90.

<sup>28</sup> See "Diaocha [Investigations]" column, "Shishi gongchang kexue guanli—diaocha [Implementation of scientific management in factories—Investigation]," *Gongshang ban yuekan*, "Kexue guanli zhuan hao" (Special issue on Scientific Management) 3 (15 July 1931): 169-90.

<sup>29</sup> *Ibid.* 169-79.

from America, Europe, and Japan, and their impact on China. Over the decade to 1930 articles on management-related topics, to cite but a handful, included a review of scientific management, an essay on industrial psychology, a discussion of Henry Ford's personnel management, and a survey of the industrial rationalization movement in America, Germany, and Japan.<sup>30</sup>

The worldwide interest in managerial innovation and technical efficiency spawned many organizations for the promotion of scientific management, such as the Taylor Society in the United States and Ueno Yochi's Industrial Efficiency Institute (*Sangyo noritsu kenkyuju*) in Japan.<sup>31</sup> In Geneva an International Management Association was established in 1927, apparently much along the lines of the International Labor Organization. Following a letter from the Geneva body to the Nanjing Government, the Minister for Industry and Commerce Kong Xiangxi (1881-1967; H. H. Kung) in May 1930 convened a meeting of Shanghai industrialists, who agreed to become co-sponsors of a Chinese Industry and Commerce Management Association (*Zhongguo gongshang guanli xiehui*, hereafter abbreviated CICMA). Kong's speech at the meeting, reported in the ministry's bi-monthly journal, called for the promotion of scientific management to cultivate more skilled personnel who could overcome the problems of China's young and backward industry and its inadequacies in management, technical skill, and organization. A week or so later the meeting of the preparatory committee

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<sup>30</sup> You Xiong (psued.), "Tailou de kexue de gongchang jingying fa [Taylor's scientific workplace management methods], *Dongfang zazhi* [Eastern Miscellany], 19 (10 Mar 1922): 35-47; Sangdaike (American author), "Laodong xinli [Labor psychology]," Huang Shi trans., *Dongfang zazhi* [Eastern Miscellany] 21(25 Oct 1924): 52-61, originally published in *Harper's Magazine*, May 1922; Zhi Sheng (psued.), "Fute qiche dawang guanxia de gongren [Workers under the management of car king Ford]," *Dongfang zazhi* [Eastern Miscellany], 25(25 Sep 1928): 97-100; Yang Chunfang, "Chanye helihua yundong [Industrial rationalization movement]," *Dongfang zazhi* [Eastern Miscellany] 27 (10 Dec 1930): 11-26; Huang Zonghai, "Chanye helihua yu zibenzhuyi dang qian de ge zhong wenti [Industrial rationalization and the problems of capitalism], *Dongfang zazhi* [Eastern Miscellany] 27 (10 Dec 1930): 27-38; Li Zongwen, "Deguo zhi chanye helihua yundong [The German industrial rationalization movement], *Dongfang zazhi* [Eastern Miscellany], 27 (10 Dec 1930): 39-47; Liu Xieao, "Meiguo zhi chanye helihua yundong [The American industrial rationalization movement], *Dongfang zazhi* [Eastern Miscellany], 27 (10 Dec 1930): 49-64; Li Jun, "Ribei zhi chanye helihua yundong [The Japanese industrial rationalization movement], *Dongfang zazhi* [Eastern Miscellany], 27 (10 Dec 1930): 65-73.

<sup>31</sup> Malcolm Warner, "Japanese Culture, Western Management: Taylorism and Human Resources in Japan," *Organization Studies* 15 (Winter 1994): 509-533; William M. Tsutsui, "The Way of efficiency: Ueno Yoichi and Scientific Management in Twentieth-century Japan," *Modern Asian Studies* 35 (May 2001): 441-467.

decided to change their name to the Chinese Scientific Management Association (*Zhongguo kexue guanli xiehui*) to reflect the society's emphasis on promoting scientific management. However, the founding conference of the new body in late June agreed to retain the original name, CICMA.<sup>32</sup>

The CICMA founding conference elected a 15-member board of directors, headed by the minister Kong Xiangxi, which included Mu Xiangyue and two of the most powerful businesspersons of inter-war China: Liu Hongsheng and Rong Zongjing. The aims of the association were to collect research materials on scientific management and the problems of industrial rationalization, and to discuss, publish, and put into practice methods to improve business management in China. Kong told the CICMA conference their mission was three-fold: to improve personnel administration, emphasizing a "service morality" (*fuwu daode*) and spirit of cooperation among "managers and the managed"; to improve production skills and reduce waste; and to foster the growth of national industry for "the benefit of the masses."<sup>33</sup>

The association embarked on an elaborate program of research and activism that included eight research committees: administration, personnel, finance, general affairs, factory operations, technology, and legal systems. Typical of such programs during the Nanjing Decade, there were never sufficient funds or official support to deliver the results envisaged. Nevertheless, Kong was an enthusiastic promoter of the National Government's corporatist mission to bind the industrial-business classes to the State's development goals. From late 1930 through early 1931, Kong oversaw several initiatives to extend the reach of the CICMA. In November 1930, the government convened a National Business Congress (*Quanguo gongshang huiyi*).<sup>34</sup> CICMA members who attended the congress were successful in carrying a resolution for the promotion of scientific management and industrial rationalization.

The corporatist credentials of the resolution were well evident. It called on the Nanjing Government to direct all provincial and municipal government agencies responsible for supervision of industry and commerce to organize branches of the CICMA and study the means for implementing scientific management methods within their jurisdictions. The resolution required the ministry to direct all businesses to set work performance standards and to reward workers who exceeded the benchmarks, and that the concluding manifesto of the congress agree to support research into, and implementation of, scientific management in China. In January 1931, the Ministry of Industry (*Shiyebu*, successor to the Ministry of Industry and Commerce, still headed by Kong) invited

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<sup>32</sup> I draw my discussion of the founding largely from Liu, "Zhongguo gongshang guanli," 2-4, and Liu, *Jindai Zhongguo qiye*, 90-92.

<sup>33</sup> Liu, "Zhongguo gongshang guanli," 3.

<sup>34</sup> Liu, *Jindai Zhongguo qiye*, 91-92.

provincial and municipal administrations to implement the resolution.<sup>35</sup> While the response of lower level government authorities is unclear, the period from 1930 to the eve of the Sino-Japanese War in 1937 saw widespread dissemination of scientific management and other advanced management ideas, and adoption in varying degrees of new management methods among the larger enterprises.

The CICMA used the Ministry of Industry's semi-monthly journal *Gongshang ban yuekan* [Semi-Monthly Economics Journal] as its publishing vehicle for the promotion of scientific management between 1930 and 1934.<sup>36</sup> Nearly every issue of the journal during the period had news about or an article on scientific management. From May 1934 to late 1936, the association published the monthly journal *Gongshang guanli yuekan* [Industry and Commerce Management Monthly].

The notable early publishing efforts of the association were a special issue of the ministry's journal in July 1931 and three volumes of an Anthology of Chinese Business Management (*Zhongguo gongshang guanli congkan*).<sup>37</sup> The special issue comprised five articles in the main section, summarized in Table 1. Under the Investigation Column, a regular feature of the journal, was a report on the implementation of scientific management at Commercial Press and the Kangyuan Can Factory, which had become exemplars for the scientific management movement in China. Wang Yunwu, general manager of Commercial Press, wrote the first article on personnel management, and Zhao Xiyu based discussion of the investigation of employees for recruitment and remuneration purposes on the system at Commercial Press.

Personnel matters were a major focus of the CICMA in general, directed towards improving the quality of managerial staff and technical efficiency of the workforce. Articles on personnel management (*renshi guanli*) accounted for 39 percent of articles in the CICMA's monthly journal, *Gongshang guanli yuekan*, 1934-36. This focus reflected the interest of many of the promoters of scientific management (in particular, members of the CICMA editorial board), as well as being a major practical problem directly addressed by scientific management.

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<sup>35</sup> Liu, *Jindai Zhongguo qiye*, 92.

<sup>36</sup> The English-language title is from the journal's earlier Chinese name *Jingji ban yuekan*, 1927-28, which was retained despite the new Chinese name from January 1929 to June 1936, published by the Ministry of Industry and Commerce (*Gongshangbu*), which was renamed Ministry of Industry (*Shiyebu*) in 1931.

<sup>37</sup> Liu, "Zhongguo gongshang guanli," 6. The three volumes were Cao Yunxiang, translator, *Kexue guanli zhi shishi* (The Implementation of Scientific Management); the original author was probably Taylor); Wang Yunru, *Kexue guanlifa de yuanzi* (Principles of Scientific Management); Liu Hongsheng, *Gongshang wenti zhi yanjiu* (Studies of Problems in Industry and Commerce).

TABLE 1  
Analysis of the Special Issue on Scientific Management

Author	Article title	Content summary
Wang Yunwu	Personnel management (pp. 1-18)	Discussed the impact of personnel systems on the economics and administration of factories; the psychology of workers; setting work standards (benchmarks); employee training, health and insurance, and welfare (pensions, etc); labor-capital relations; and employee motivation.
Kong Shi'e	Scientific management and small-scale enterprises (pp. 19-30)	An overview of industrialism, management innovation and Taylor's ideas; stressed that scientific management was more than time and motion studies, work standards and cost accounting for improved efficiency—it was “a fundamental revolution in the psychology of labor and capital for cooperative production”; discussed international management trends; scientific management was not just for large firms—business groups and governments can make it accessible to small firms.
Zhao Xiyu	The aims and methods for employee investigation (pp.31-56)	Based on Zhao's experience of conducting an investigation of the employees at Commercial Press. The aim of worker investigations was to obtain information about the attitudes, experience, and skills of workers to enhance recruitment and remuneration decision making; discussed the design, administration and analysis of the survey instrument.
Zhou Zian	Cost accounting under scientific management (pp. 57-70)	Introduced ideas of F. W. Taylor, H. L. Gantt, H. Emerson and G. C. Harrison on accounting controls to manage better materials and raise efficiency of operations, including statistical reporting procedures.
Yin Minglu	Motion studies and time measurements (pp. 71-91)	Introduced F. B. and L. M. Gilbreth adaptations of Taylor's work-studies; practical methods for the conduct of time and motion studies; why time and motion studies are necessary; and examples of time and motion studies.
Anonymous (Investigation column)	Implementation of scientific management in factories—Investigation. (pp. 169-90)  (1) Commercial Press  (2) Kangyuan Can Factory	Details of the scientific management systems at Commercial Press in Shanghai, introduced by the general manager, Wang Yunwu, and at the Kangyuan Can Factory, introduced by owner, Xiang Kangyuan.

Source: *Gongshang ban yuekan*, “Kexue guanli zhuan hao” (Special issue on Scientific Management), 3 (15 July 1931).

The board included He Qingru, who ran a related journal, *Renshi guanli yuekan* [Personnel Management Monthly], the voice of the Chinese Personnel Management Association (*Zhongguo renshi guanli xuehui*).<sup>38</sup> General essays on management and production management accounted for 24 articles each in the CICMA's monthly journal from 1934 to 1936; 18 articles concerned financial management; and accounting management was the topic of only one article. Discussed in the personnel articles were recruitment, education and training, the advantages and disadvantages of various wage systems, employee discipline systems, employee welfare, and insurance schemes. Articles on production management included topics on reduction of raw material waste, improving factory plant and technology, and the application of time and motion studies to raise efficiency. Financial management topics discussed were capital raising and utilization, cost accounting, budgeting, and the application of statistical methods for cost control.<sup>39</sup>

TABLE 2  
Content Analysis of the Business Management Monthly

General essays	24	Organization	2
Personnel management	61	Accounting	1
Production management	24	Factory survey techniques	7
Financial management	18	Others	14
Marketing management	8	Total essays	158

Source: Liu, "Zhongguo gongshang guanli", 6.

Scientific management's focus on personnel management, along with industrial psychology and the behaviorist approach to control, began to appeal to Chinese managers in the 1920-30s. Wang Yunwu wrote, "personnel affairs is obviously a very important problem for business."

Is a factory that only possesses good organization, good machine plant, and good engineers sufficiently complete to operate successfully? I do not think it so simple. Organizations need to deploy people, machines need people [to operate them], and engineers need people to follow their instructions; if you do not have quality staff and workers, what factory would be able to operate successfully? If you want to obtain quality employees, and

<sup>38</sup> Liu, "Zhongguo gongshang guanli," 6, note 16. I have been unsuccessful in locating an extant copy of the personnel management journal in China or elsewhere.

<sup>39</sup> Ibid, 6-7.

ensure employee quality, you cannot but rely on a quality personnel management system.<sup>40</sup>

Many large private and state-run enterprises established personnel departments (*renshibu*) during the interwar years. These departments conducted most of the activities typical of modern personnel systems, handling recruitment, dismissal, and work assignment; administration of leave entitlements, appraisal procedures, and the discipline system; and running employee welfare, health, and insurance, and pension schemes. Especially well-developed were the personnel management systems on the Chinese National Railways. The railways by the 1930s had elaborate recruitment procedures that included health examinations, detailed discipline systems, and generous welfare and pension schemes.<sup>41</sup> Private firms also introduced elaborate personnel supervision and reporting systems, such as Lu Zuofu's Minsheng Company, the largest privately-owned transport company before the Sino-Japanese War, which reportedly had twenty-seven kinds of standardized work appraisal and reporting forms.<sup>42</sup>

Despite the attention to impersonal bureaucratic management systems, the particularism of Chinese managerial practices persisted in a complex and ambiguous coexistence. This is well-illustrated by the practices in the Rong family enterprises, such as the Shenxin Cotton Mills, which employed more than 30,000 workers. Rong Zongjing preferred to recruit senior staff based on native-place or family affiliation while striving to reduce or eliminate contractor control over workers so he could better introduce modern training and labor management on the shop floor.<sup>43</sup> His first attempt in 1924-25 to break the power of contractors and foremen was unsuccessful, but he succeeded in the early 1930s. Direct managerial

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<sup>40</sup> Wang Yunwu, "Renshi guanli (personnel management)," cited in Liu, *Jindai Zhongguo qiye*, 155.

<sup>41</sup> Stephen L. Morgan, "Personnel Discipline and Industrial Relations on the Railways of Republican China," *Australian Journal of Politics and History* 47 (2001): 24-38; Stephen L. Morgan, "Biography and the Modernising Chinese State: Dossiers, Discipline and Documentation of Personnel," *Biography and Autobiography—A Conference on Reading and Society in the Chinese-speaking World*, Australian National University, 5-6 October 2002.

<sup>42</sup> Liu, *Jindai Zhongguo qiye*, 162-63.

<sup>43</sup> Liu, *Jindai Zhongguo qiye*, 157; Cochran, *Encountering Chinese Networks*, 127-34 *passim*. Although Rong became a pioneer of industrial education and advanced personnel management, he shied from new organizational forms, such as the limited liability company, unlike some Shanghai-based contemporaries, such as Liu Hongsheng and the Guo (Kwok) brothers, who established the Wing On Department Stores, which still operate in Hong Kong.

control over the shopfloor allowed Rong during 1933-34 to almost halve the number of operatives without reducing productive capacity.<sup>44</sup>

### Cross-border Transfer of Management Ideas

Historians have paid scant attention to Chinese management ideas and organizational practice, despite a growing body of histories of business enterprises in China.<sup>45</sup> Even less attention has been paid to the theory of the firm in Chinese business history. Most business histories are narrative-style case studies, uninformed by theory.<sup>46</sup> The historiography of Chinese business shows a “poor understanding and use” of the theory that has informed so much of the writing of the history of western business.<sup>47</sup> A lack of theory partly explains the paucity of systematic studies of past Chinese management strategies and practices, which Zelin considers a “critical” gap in our knowledge, the remedy for which is to focus on the microeconomic or firm-level experience.<sup>48</sup> If we are to go beyond a simple narrative of the introduction of scientific management in China to understand more fully the transfer and adaptation of a management technology such as Taylorism, we need a theoretical framework for the transmission of organizational and managerial expertise in a historical-situated business environment. Our framework should draw on the insights of contemporary theories of the firm:

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<sup>44</sup> Cochran, *Encountering Chinese Networks*, 133. Cochran does not mention any influence of scientific management on Rong's program for greater control over workers and raising productivity, yet Rong served on the CICMA executive.

<sup>45</sup> See Rajeswary A. Brown, ed., *Chinese Business Enterprise: Critical Perspectives in Business and Management*, 4 vols. (London, 1996); Robert Gardella, Jane K. Leonard, and Andrea McElderry, eds., *Chinese Business History: Interpretive Trends and Priorities for the Future* (Armonk, N.Y., 1998), originally a special issue of *Chinese Studies in History* 31 (Spring-Summer 1998).

<sup>46</sup> Sherman Cochran's *Encountering Chinese Networks*, a richly textured history of six major enterprises in China, for example, does not engage contemporary theory, despite his aim to explore the interaction between corporate hierarchies and social networks. The narrative is a wonderful empirical addition to our understanding of Chinese business. Nevertheless, at many points in the text the insights of agency, transaction cost, and resource-capability views of the firm would have enriched his story about the choices and motivations of managers. We could have learned a lot more about the problems of managing enterprises in China before 1937, in my view, had a more sophisticated theoretical framework informed the study.

<sup>47</sup> Rajeswary A. Brown, “Introduction: Uses and Abuses of Chinese Business History and Methodology,” in *Chinese Business Enterprise: Critical Perspectives in Business and Management*, ed. Rajeswary A. Brown, 4 vols. (London, 1996), 1-14.

<sup>48</sup> Madeleine Zelin, “Critique of Scholarship on Chinese Business History in the People's Republic of China and Taiwan,” in *Chinese Business History*, ed. Robert Gardella, Jane K. Leonard, and Andrea McElderry (Armonk, N.Y., 1998) 97, 100-101.

transaction costs and agency, and the resource-based, network-based, and the information or knowledge views of the firm. The questions we need to address are: Where do management ideas come from? How are ideas about management and organization transferred across borders? What process adapts them to “native” traditions of management organization and practice?

Organizational forms and management ideas are soft technology, a set of tacit knowledge dependent on learned experience, rather than a body of codified or written knowledge. As with all technologies, the transfer of ideas and practices about management between firms and across borders is difficult. The cross-border transfers of managerial technologies involve complex interactions between firms as hierarchies, the organization of markets, and the commercial and social networks that underpin the practice of business and commercial exchange among Chinese.

Chinese firms exist for much the same reason as firms everywhere. The Coase-Williamson view of firms is that they arise as a response to the cost of transacting in the market or via intermediate contracts.<sup>49</sup> Firms are an authority structure designed to overcome market imperfections that increase transaction costs.<sup>50</sup> When the cost of buying an input or service (transacting in the market) is greater than the cost of coordinating (bureaucratically organizing within the firm), the firm will internalize that activity to reduce the cost of the transaction. Firms may also be viewed as a bundle of resources, which are scarce, unique, and inimitable, and the possession and use of which distinguishes the competitive strength of one firm from another.<sup>51</sup> While the resource-based view of the firms adds a sense of dynamics to the otherwise static distinction of the hierarchy-market dichotomy, neither takes sufficient account of the historically situated agency of managers or the unique institutional environment. Transaction costs are not fixed, nor is the deployment of resources self-evident: both reflect market organization and the structure of firms, and

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<sup>49</sup> Ronald H. Coase, “The Nature of the Firm,” *Economica* 4 (Nov. 1937): 386-405; Oliver E. Williamson, *Markets and Hierarchies: Analysis and Anti-Trust Implications* (New York, 1975); Oliver E. Williamson, *The Economic Institutions of Capitalism: Firms, Markets and Relational Contracting* (New York, 1985).

<sup>50</sup> Both markets and hierarchies incur transaction costs. The ultimate reason for the existence of transaction friction (costs) is information and trust, usually the insufficiency or lack of one or both. These costs include information about a ‘product’ in the market (the price and quality), information about the quality and performance of agents and employees (monitoring) and information to run the business (coordination). See Mark Casson, *The Economics of Business Culture: Game Theory, Transaction Costs, and Economic Performance* (New York, 1991); Mark Casson, *Information and Organization: A New Perspective on the Firm* (New York, 1997).

<sup>51</sup> Margaret A. Peteraff, “The Cornerstone of Competitive Advantages: a Resource-based View,” *Strategic Management Journal* 14 (Mar. 1993): 179-91.

the social organization of production relationships within and outside the firm—activities shaped by owners and managers and the workforce that they employ.

Chinese firms historically have been part of networks based on dialect and native-place affiliation. These networks make the boundaries between firms malleable, and modify the access to and sharing of resources. Networks are “club-like institutions” that reduce uncertainty and lower transaction costs in a hostile environment, especially where the State is unable or unwilling to protect property rights.<sup>52</sup> They rest on a web of social relationships that transcend the transaction-cost economic “nexus of contracts” to configure a “nexus of treaties,” an alliance that is imbued and underpinned by inter-personal and intra-cultural dynamics.<sup>53</sup> Networks are dynamic, often in a state of flux, forming and reforming frequently in ways that are contrary to the concept of the firm as a “nexus of contracts.” Governance in this type of network-conditioned environment—the basis of sanction and cohesion within the network—is extra-economic or trans-economic, rooted in the social relationships that forms both part of business and community life. Managers are exposed to new ideas and challenges from within the network: their institutional “embeddedness.”<sup>54</sup> Their choices, though, about how they appropriate new managerial ideas in practice may be constrained by an ascribed morality of what might be acceptable action within the network that might be contrary to contractual economic efficiency.

Ideas about management and organization constitute a particular type of knowledge, even an ideology of business practice. Managers act on received knowledge; their actions produce new knowledge about how to act in the future. Knowledge is a resource-capability of the firm, a tacit and learned technology.<sup>55</sup> It is institutionally structured, an understanding of abstract and practical information that is constituted and mediated by the business environment. Managers do not manage in a vacuum, but make their decisions in a historically specific institutional and cultural context. This context is constituted endogenously, in the sense of pre-

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<sup>52</sup> Avner Greif, “Reputation and Coalitions in Medieval Trade: Evidence on the Maghribi Traders,” *The Journal of Economic History* 49 (Dec. 1989): 857-82; Janet T. Landa, “A Theory of the Ethnically Homogenous Middleman Group: An Institutional Alternative to Contract Law” in *Trust, Ethnicity and Identity: Beyond the New Institutional Economics of Ethnic Trading Networks, Contract Law and Gift-Exchange*, (Ann Arbor, Mich., 1994), 101-114.

<sup>53</sup> Masahiko Aoki and Oliver E. Williamson, eds., *The Firm as a Nexus of Treaties* (London, 1991).

<sup>54</sup> Mark Granovetter, “Economic Action and Social Structure: The Problem of Embeddedness,” *American Journal of Sociology* 91 (Nov. 1985): 481-510.

<sup>55</sup> Bruce Kogut and Udo Zander, “Knowledge of the Firm, Combinative Capabilities and Replication of Technology,” *Organization Science* 3 (Aug. 1992): 383-97; Jay B. Barney, “Firm Resources and Sustained Competitive Advantage,” *Journal of Management* 17 (May 1991): 99-120.

existing nativist ideas and practices, such as the Chinese partnership form of firm organization and the reliance on particularistic relations to recruit employees. The context is also modified through exogenous influences, the transfer from outside the nativist tradition of new ideas and new practices, such as the learning conveyed through translations, or as observed practices that arise from competition with other firms, foreign or domestic, that have adopted “foreign” practices.

I have outlined a theoretical framework that positions the management decisions of entrepreneurs and managers as shaped by the context of the competing influences of hierarchies, markets, and networks. How does this help us answer questions about the origin and transfer of managerial knowledge? According to Alvarez, there are two aspects to the emergence of managerial strategies and organizational forms: firstly, the process by which management knowledge is generated and diffused, and secondly, how organizations use and develop various kinds of knowledge.<sup>56</sup> Management activity, like the firms itself, is “embedded in historically shaped institutional and conceptual frameworks” which circumscribe the formation and transfer of management strategies and organizational forms.<sup>57</sup> Some ideas or practices are more readily accepted than others. Managers rely on a wide a variety of sources of knowledge about management and the world at large to create action and change – including formal education, popular media, business associations and the practice of their competitors. Managerial “knowledge and action, theory and practice, follow one another in a cycle of contemplation and application.”<sup>58</sup> Managers, therefore, manage through the iterative confluence of received ideas and practical experience. In China before 1949, knowledge of new management may have come from formal training, such as at business schools, and many overseas-trained Chinese were early promoters of scientific management. More important, though, management knowledge was diffused through individuals working for foreign-run firms, business associations, direct observation of competitors, intra-network information flows, recruitment of foreign and later Chinese specialists, and a range of practitioner and popular publications. Returnees from abroad, such as the entrepreneurs who set up the Sincere and Wing On groups, also brought new ideas that were diffused through the copying of others.

As we have stressed, management knowledge is largely tacit, a soft technology, bundled in people and organizational systems. It is not readily transferred across firms even within a single country, let alone from a

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<sup>56</sup> José L. Alvarez, ed., *The Diffusion and Consumption of Business Knowledge* (London, 1998).

<sup>57</sup> Haldor Byrkjeflot, “Management as a System of Knowledge and Authority,” in *The Diffusion and Consumption*, ed. Alvarez, 58-80.

<sup>58</sup> Nitin Nohria and Robert G. Eccles, “Where does Management Knowledge come from?” in *The Diffusion and Consumption*, ed. Alvarez, 278-304.

developed economy such as the United States, the source of much management knowledge, to a developing economy such as China, albeit a complex and highly commercial economy. China's institutional-cultural context (specifically the organization of firms, markets, and networks as well as the role of the State) modified how ideas about managerial and organizational forms were received from abroad and their adaptation to local businesses. Some entrepreneur-managers such as Liu Hongsheng embraced new organizational and accounting systems, while retaining seemingly outmoded indirect management of labor; others such as Rong Zongjing developed innovative personnel initiatives, while retaining patriarchal control and the unlimited partnership structure.<sup>59</sup> We can only understand the choices they made, and the seemingly confusion of past and present in their management strategies, through a careful and theoretically-informed "reading" of the rhetoric of management ideas and practices as recounted in managers' own words (reported statements and correspondence) or their organizational "records" (such as factory rules and business procedures).

## Conclusion

Why management? Why scientific management? Why China? I began with the observation that economic reform and the resurgence of the Chinese economy since the 1980s have seen wide-ranging institutional change, not least of which are the changes in the management of Chinese enterprises. These are challenging times for managers of state enterprises, and for the new breed of managers that run the many thousands of hybrid and private firms that now abound. With China's entry to the World Trade Organization in late 2001, the challenges have become even more acute – past restrictions on foreign competition in many sectors are being wound back, and the forecast growth of the Chinese economy will focus the strategies of Chinese and foreign managers alike.<sup>60</sup> Yet, how Chinese management has changed these past two decades, and the values and practices of managers remain relatively neglected in the research literature.<sup>61</sup> A recurring theme in the Chinese language literature is the need for a new scientific management that can guide the modernization of industry and society, to build a new and strong China. Similar ideas were a recurring theme in the discourse of entrepreneur-managers in the early twentieth century. The growth of China and its global implications are proximate reasons for an investigation into the antecedents of management thought and practice, but a historical inquiry is justified for the light shed on the transfer of "know-how" to a non-western economy during an earlier phase of the internationalization of industrial capitalism.

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<sup>59</sup> See Cochran, *Encountering Chinese Networks*, chapters 6 and 7.

<sup>60</sup> OECD, *China in the World Economy: The Domestic Policy Challenges* (Paris, 2002).

<sup>61</sup> A welcome addition is Tang and Ward, *The Changing Face*.

The interwar reception of management ideas in China and their adaptation among Chinese firms is an important story in its own right, of the impact of globalization on nations and national business environments that remains a topic of our contemporary global economy.

Scientific management came into China in the 1920s, and influenced the practice of management and the organization of firms. How extensive that influence was is a moot question. Perhaps it was fleeting, snuffed out by exigencies of war and revolution, and the establishment after 1949 of a new political regime that drew on Soviet rather than Western models for industrial development. My view is that this was unlikely. Ideas and practices are modified, adapted, and transformed; their legacy is never entirely vanquished. This conclusion suggests a research agenda. We first need to study the transmission of management ideas in the translations and writings of managers and others, a history of publishing on management, and a content analysis of what was considered worthy of publishing: an intellectual history of management in China. Second, we need a set of firm-specific studies that focus on not only the ideas or the words of managers, or the rise and fall of a firm as a case study, but on how managers organized their business and their response to management challenges. These two aspects, married in a synthesis, provide the basis for a genealogy of the emergence of modern management in China during the past century.