

CHINESE DOMINANCE OF TREATY PORT COMMERCE AND ITS IMPLICATIONS, 1860-1875

THOMAS G. RAWSKI

Harvard University

*Introduction**

Roughly one century after the establishment of regular foreign trade at Canton, mounting friction led to the Opium War of 1840-1842, after which the victorious foreigners gained control of several enclaves, or treaty ports, on the China coast. Both in the newly opened treaty ports and in Hong Kong, initial commercial expansion resulted from close cooperation among foreign administrators and traders and a body of Cantonese merchants who moved with the trade, some dealing independently while others worked for foreign merchant houses. By 1860, following eighteen years of adjustment and conflict culminating in the wars of 1856 and 1860, the treaties of Tientsin and Peking and the formation of a foreign-controlled Imperial Maritime Customs Administration, with the attendant regularization of duties, showed that a balance of power and responsibility in treaty port and trade administration had emerged.

This paper seeks to approach an understanding of treaty port commerce by focusing on the role of the native mercantile community and of Chinese commercial institutions in the treaty ports between 1860 and 1875. Our conclusions relating to the status and significance of indigenous mercantile activity, within and outside the treaty ports, contrast sharply with the viewpoints taken in several historical and sociological studies. If confirmed by subsequent investigations, these conclusions necessitate the reexamination of certain aspects of China's economic, political, and even intellectual history; a final sec-

*It gives me great pleasure to express my gratitude to Professor Knight Biggerstaff and to Mrs. Jane Leonard, both of Cornell University, and to my wife Evelyn for their valuable criticism of various drafts of this paper. Much of the research was carried out during the author's tenure as a National Science Foundation Graduate Fellow.

tion appraises, in a very tentative fashion, the research implications of our findings.

Contemporary observers regarded the treaty ports as schools in which Chinese merchants might learn from their foreign counterparts. Modern scholars have often supported this view: Allen and Donnithorne, for example, remark that at Shanghai, the Chinese

had perforce to observe Western methods in commerce and administration at close quarters and some . . . realised that China might advantageously follow foreign example in certain directions.¹

Our present task is to assess the validity of such statements. To what extent did Western commercial patterns, such as the use of contractual rather than personal mercantile relations, prevail in the treaty ports? Did foreign firms operate independently of the Chinese? Or were they closely bound to China's traditional economy, and hence to Chinese, rather than to foreign, commercial patterns?

The Role of the Chinese Merchant Community in Treaty Port Commerce, 1860-1875

Any review of treaty port commercial history must emphasize the limited size, and hence influence, of the foreign business community. The estimates of treaty port population given in Table One show that, in 1870, the foreign population nowhere reached one percent of the local total; furthermore, many foreigners—missionaries, diplomats, and military personnel—were not involved in commerce. It is evident, then, that commercially these were Chinese cities. However disproportionate the economic power of the Western merchants, Chinese numerical preponderance alone ensured the presence of strong indigenous overtones in an economy in which, if nothing else, the vast majority of transactions occurred among the Chinese.

During the years 1860-1875, foreign commercial activity in China clustered around the operations connected with large agency houses, such as the American-owned Russell & Co. and Augustine Heard & Co. and the British concerns of Butterfield & Swire and Jardine, Matheson, enterprises which originally specialized in collecting tea and other export goods and in selling consignments of imports on a commission basis and later expanded into such fields as steam transport along the China coast and on the Yangtze river.

¹George C. Allen and Audrey Donnithorne, *Western Enterprise in Far Eastern Economic Development* (London, 1954), p. 19.

TABLE ONE:
TREATY PORT POPULATION IN 1870

<i>Treaty port</i>	<i>Foreign population</i>	<i>Native population (estimated)</i>
Shanghai	2074	250,000
Canton	181	1,000,000
Swatow	69	45,000
Amoy	115	350,000
Foochow	196	600,000
Takow (Taiwan)	26	220,000
Tamsui (Taiwan)	33	50,000
Ningpo	92	115,000
Hankow	88	600,000
Kiukiang	48	40,000
Chinkiang	37	130,000
Chefoo	165	26,491
Tientsin	104	930,000
Newchwang	65	60,000
Total	3293	4,416,491

Source: Imperial Maritime Customs Administration, *Returns of Trade at the Treaty Ports in China* (Shanghai, 1871), appendix.

In common with virtually all foreign enterprises of this period,² the large agencies operated under what came to be called the comprador system. The comprador, originally a minor figure responsible for provisioning foreign vessels during their stay at Canton in pre-Opium War days, quickly evolved into a key figure in the management of foreign treaty port firms. This one Chinese employee invariably performed functions which had been assigned to several different persons under the old Canton system. He hired and supervised the native staff of the firm for which he worked—branch managers, correspondents, shroffs,³ clerks, servants, coolies and others—

²I have discovered only one report of foreign business operations without compradors: "Business intercourse with the Natives possesses exceptionally great facilities. The exactions complained of in the South are almost unknown. The importance of acquiring a certain knowledge of the colloquial language of the country is fully appreciated. Compradores are either dispensed with or reduced to nonentities." Imperial Maritime Customs Administration, *Reports on the Trade at the Treaty Ports in China* (hence IMC, *Reports*) 1868 (Shanghai, 1869), Newchwang, p. 5.

³The shroff was an expert moneychanger who determined the value of all currency entering his employer's coffers. Most firms would not accept

and assumed responsibility for their behavior. The comprador managed the everyday business of his firm and often acted as its agent in the collection and distribution of goods; he also performed the advertising function of "drumming up" trade for his employer. Jernigan observed of the comprador that

his it was not only to bring buyer and seller together, to settle all disputes, to find necessary funds, to secure his employer against loss . . . but to supply and be responsible for the whole of the business and domestic menage.⁴

A good comprador was a "walking encyclopaedia of industrial, political, commercial and financial information."⁵ Tong King-sing, Jardine's chief Shanghai comprador from 1863 to 1873, advised his employers on the desirability of purchasing certain goods,⁶ and evaluated the risks involved in purchasing native bank orders.⁷ In some firms, the comprador's responsibility extended far beyond this: foreign bank compradores guaranteed the credit of Chinese borrowers.⁸ The comprador's knowledge of local affairs must have been indispensable in China, where, as late as 1909, it was observed that "very few British merchants speak Chinese at all well."⁹

Comprador contacts directed foreign capital into traditional commercial enterprise, both directly and via personal loans to compradores and unattached native merchants. Acting through Tong King-sing, Jardine, Matheson invested in a pawnshop and in a salt-trading venture.¹⁰ The American house of Augustine Heard & Co. also invested in the salt trade and found it to pay "uncommonly well."¹¹ Despite the presence in Shanghai of a presumably foreign-

money unless it had been inspected and chopped (stamped) by their own shroff. The shroff took a commission on all currency which passed through his hands.

⁴Thomas R. Jernigan, *China's Business Methods and Policy* (Shanghai, 1904), p. 386.

⁵Thomas R. Jernigan, *China in Law and Commerce* (New York, 1905), p. 268.

⁶Liu Kwang-ching, "T'ang T'ing-shu chih mai-pan shih-tai" ("Tong King-sing: His Compradore Years" hence TKS), *Tsing Hua Journal of Chinese Studies* n.s. II, 2 (June, 1961), p. 154.

⁷*Ibid.*

⁸Allen and Donnithorne, *Western Enterprise*, p. 116.

⁹James B. Eames, *The English in China* (London, 1909), p. 575.

¹⁰TKS, pp. 156-158, 159-161.

¹¹Quoted in Stephen C. Lockwood, "Augustine Heard & Co.: American Merchants in China on the Eve of the Opening of the Yangtze, 1858-1862" (unpublished honors essay deposited at Harvard University, Widener Library, 1963), p. 113.

controlled "Oriental Bank," Jardine's in 1865 took a one-third interest in a native bank, which subsequently collapsed upon the bankruptcy of Ekee, the merchant who had provided the remainder of the capital.¹²

Treaty port literature abounds with statements depicting the comprador as all-powerful within the firm of which he was nominally but an employee. Eames, for example, reports that "British merchants . . . are absolutely at the mercy of the compradore, when they seek for information as to the manner in which their business has been conducted."¹³ On the other hand, research based on the Jardine, Matheson archives shows conclusively that a large firm engaged in a variety of enterprises and run by experienced, hard-working foreigners (who apparently were not competent in Chinese) could at once fully utilize their comprador's talents and lean less heavily on his expertise than could a smaller or less tightly-run firm.¹⁴ Between 1863 and 1873, Jardine's managers used their chief Shanghai comprador, Tong King-sing, as a source of capital for several ventures¹⁵ including rice trading, steamship transportation, and insurance companies. Tong solicited subscriptions from among his native associates and invested his own funds in these enterprises. As noted above, Tong provided his employers with traditional investment opportunities. Throughout this ten-year period, Jardine's managers sought to avoid excessive reliance on Tong,¹⁶ partly by dealing directly with independent Shanghai merchants, some of them former compradors.

The case of Jardine, Matheson cannot, however, be taken as typical. The treaty port operations of other large agency houses were far more dependent on the abilities of Chinese employees. During the 1870s, the ineptness of Russell and Co.'s comprador staff—burdened with incompetent relatives of their ex-comprador Koofunsing and of Choping, their antiquated senior comprador¹⁷—crippled the sub-

¹²TKS, p. 146.

¹³Eames, *The English in China* p. 575. See also Blackburn, England Chamber of Commerce, *Report of the Mission to China of the Blackburn Chamber of Commerce, 1896-7* (Blackburn, 1898), pp. 323-330.

¹⁴TKS.

¹⁵TKS, pp. 154-155, 167 and 155-156 respectively.

¹⁶TKS, p. 145: "I shall come to the conclusion to trust Chinese as little as possible. I have therefore opened a current act [account] with the Oriental Bank and already placed a lac [100,000] of taels in their hands. They will receive all Freights, Insurance Premiums, &c, & with the compradore I will have merely a small balance for mere trivial expenses and receipts." (Edward Whitall to J. Whitall, 24 November 1866).

subsidiary Shanghai Steam Navigation Company (SSN Co.), which quickly declined from its once commanding position on the Yangtze route and eventually sold its fleet to the China Merchants' Steam Navigation Company (CMSN Co.)¹⁸

Foreigners whose commercial activities extended beyond treaty port boundaries relied heavily upon native mercantile groups. Compradors and unattached Chinese merchants, acting as temporary agents of foreign concerns or as independent traders, transported large quantities of trade staples to and from the treaty ports, buying and selling from foreign firms. In order to fulfill these functions, compradors and merchants maintained inland connections which enabled them to deal freely outside the treaty ports. In areas outside the jurisdiction of the foreign consuls, such mercantile activities clearly required the cooperation of Chinese officials. In Foochow,

as regards Tea, although Foreigners advance largely to their compradores for its purchase, it is not regarded as Foreign property until delivered in Foochow, and the Chinese purchasers have therefore to defray all inland taxes and the expenses of the hong in the tea districts. . . . the Tea-men find that to use Transit Passes for Tea would bring them into disfavor with the local authorities and these documents are therefore never applied for.¹⁹

This explains why comprador-merchants such as Tong King-sing, Hsü Jen, and Cheng Kuan-ying all held purchased imperial degrees:²⁰ in transacting the inland affairs of their employers, and possibly in the treaty ports as well,²¹ they faced the very conditions which made

¹⁷The following were written by F. B. Forbes of Russell & Co. between 1872 and 1874: "Where to look for new men I don't know, for in some way or other, the Chopings and the Koofunsings have drawn a cordon around us"; "You know what poor creatures young Koofunsings are"; "We could hardly be worse off than we are with Choping's people. He has not a single man of ability among his family, or dependents. Of course the trouble is to make any change . . . even if we could affront our old friend by replacing him!" All quoted in Kwang-ching Liu, *Anglo-American Steamship Rivalry in China, 1862-1874* (Cambridge, 1962), pp. 146-147.

¹⁸John K. Fairbank et al, *East Asia: The Modern Transformation* (Boston, 1965), p. 355.

¹⁹IMC Reports. 1865, Foochow, p. 61.

²⁰Albert Feuerwerker, *China's Early Industrialization* (Cambridge, 1958), p. 52.

²¹The extent to which foreign administrators actually ruled the economic life of the foreign concessions is unclear. Frank H. H. King, for example, demonstrates that "treaty-port monetary policy was the consequence of agreement between official and consul, Chinese merchant and

gentry status essential to the operation of large-scale traditional commerce in nineteenth-century China. In the Foochow situation, foreign connections, far from throwing an umbrella of extraterritorial protection over comprador-merchants, were an incubus to be publicly denied. Here, the need to deal with Chinese officials rendered nugatory the transit pass provision of the 1858 treaty, which allowed foreign-owned goods to pass free of inland taxes upon payment of a 2½ percent ad valorem levy.²² Another provision of the 1858 treaty, this one allowing foreign commercial travel in the interior, seems also to have been ignored in this period. Although well aware that they paid extravagantly²³ under a system which threw "all the advantages of trade into the hands of the Chinese,"²⁴ foreigners consistently chose to entrust their affairs to compradors and other Chinese merchants, thus avoiding the risks of conducting business with strangers and insulating their firms from the delay and obstruction which often attended foreigners' attempts to travel or trade outside the treaty ports.

It thus appears that for foreigners, successful commercial operations required the services of capable Chinese merchants; these services were customarily obtained through the comprador system. A good comprador was certainly a major factor in the success of any foreign enterprise in China. Within the firm, the comprador's importance arose from several sources: he held the loyalty of the native staff—often his relatives or neighbors—whom he selected on the basis of mutual trust; within the Chinese business community, the comprador established on behalf of his employer a network of personal connections which another man who took his place would be unable to maintain. The extreme dependence upon compradors emphasized by treaty port literature and illustrated by the experience of Russell & Co. probably typifies the situation of most foreign com-

foreign merchant." *Money and Monetary Policy in China, 1845-1895* (Cambridge, 1965), p. 166.

²²Hosea B. Morse, *The International Relations of the Chinese Empire* (London, 1910-1918), 1:569.

²³"As the Tea season approaches, the [foreign] Merchant, who is ignorant of the language, is obliged to have recourse to Native agents, to get teas sent down from the interior; he is consequently . . . at the mercy of these brokers, who come to a perfect understanding together in order that the price may not be any lower than that of the preceding season." *IMC Reports* 1865, Shanghai, p. 129.

²⁴*IMC Reports* 1866, Shanghai, p. 8.

mercial establishments in China between 1860 and 1875.²⁵ Indeed, the exceptional ability of Jardine's managers to limit the influence of their comprador stemmed largely from their reliance on other native contacts, "a body of Chinese merchants, many of whom had . . . served the firm as compradores, but were now merchants in their own right, operating large native firms, dealing in silk, tea, or import goods."²⁶

Chinese participation in foreign enterprise was not limited to the provision of services as employees or as independent agents. Nominally foreign concerns absorbed large amounts of Chinese capital during the 1860s and 1870s. An extreme case is that of Russell & Co.: just prior to 1860,

the total partnership capital of the firm was only \$500,000 (U.S.) although the firm's assets at this time also included credits totaling \$500,000—of which at least \$300,000 was a long-term loan from the merchant family of Houqua.²⁷

In 1862 Choping and Koofunsing together had nearly Tls. 300,000 in Russell & Co.'s steam ventures.²⁸

Chinese investors exhibited immediate interest in steam transport; Heard's *Fire Dart*, the first commercial steamer to navigate the Yangtze, was in part Chinese-owned.²⁹ In fact, the unwillingness of European and American investors unconnected with the China trade to purchase shares in treaty port commercial enterprises made native capital essential to the formation of steamship companies during the bulk of our period. In the early 1860s, several attempts³⁰ to organize such enterprises failed to obtain the necessary funds and were consequently abandoned. The head of Augustine Heard & Co., whose efforts in this direction had proved abortive, commented that "our plan for a Company has always been to get Chinese interested, and this we tried to do, but could not to any considerable extent."³¹

²⁵The Tientsin trade report of 1866 commented wryly that "a merchant knowing Chinese who should suddenly try to do without his comprador, might find himself as badly off as a candidate for parliament who should try to do without his election agents." *IMC Report 1866*, p. 98.

²⁶TKS, p. 181.

²⁷Liu, *Steamship Rivalry*, p. 12. Houqua is the ex-hong merchant Wu Ch'ung-yüeh.

²⁸Lockwood, "Augustine Heard," note 184 to p. 118. Lockwood gives US \$1.35 as the average value of the Shanghai tael around 1860.

²⁹Lockwood, "Augustine Heard," p. 111.

³⁰Liu, *Steamship Rivalry*, p. 25.

³¹*Ibid.*

Of the prominent steamship companies active in China's home trade before 1875, only one, the China Navigation Co. founded in 1873 by Butterfield & Swire, was entirely foreign-owned.³² When Russell & Co. organized the SSN Co., Chinese shareholders apparently provided over one-third of the initial subscription of Tls. 1,000,000.³³ Chinese held a comparable interest in the North China Steamer Co. organized by the German firm of Trautmann & Co.³⁴ and a twenty percent interest in Jardine's China Coast Steam Navigation Co.³⁵ Other steamship enterprises with native shareholders included the Union Steam Navigation Co.³⁶ and the China-Sea, Saigon and Straits Steamship Co.³⁷ There were several instances of Chinese participation in the direction of such firms: Tong King-sing sat on the board of three steamship companies during the 1860s.³⁸

The high correlation between the commercial success of foreign-administered enterprise and assiduous cultivation of native customers provides further evidence of an intimate connection between foreign treaty port commerce and the indigenous economy. Again, steam transport provides a conspicuous example:

The Home or Coasting Trade of China, as carried on in Foreign keels, forms a very important feature of the commerce of this empire, and gives employment to more than three times the tonnage engaged in the direct carrying trade between China and Foreign countries.³⁹

The profitability of the foreign steamship enterprises rested upon their ability to obtain the custom of the Chinese merchants who dominated the home trade. During the 1860s, the SSN Co. led the field in this respect. At Shanghai, its docks were located near the Chinese city. When new treaty arrangements opened the Yangtze to

³²Liu, *Steamship Rivalry*, chap. 4.

³³Liu, *Steamship Rivalry*, p. 29.

³⁴In 1868. Liu, *Steamship Rivalry*, p. 78.

³⁵In 1872. Liu, *Steamship Rivalry*, p. 171.

³⁶For reports of Union Steam Navigation Co. shareholders' meetings attended by Chinese, see the *North China Herald and Supreme Court and Consular Gazette* (Shanghai, weekly)—hence NCH—8 February 1871 (p. 88), 4 August 1871 (p. 586), 22 November 1871 (p. 900), and 26 December 1872 (p. 551).

³⁷NCH 22 February 1872 (p. 140).

³⁸Tong was a director of the Union Steam Navigation Co, the North China Steamer Co., and the China Coast Steam Navigation Co.: see TKS, pp. 143–144. In 1870, the Union Steam Navigation Co. had two Chinese directors, Hip-mow-king and Amook, who were re-elected to the board: NCH 30 June 1870.

³⁹IMC Reports 1875, p. 42.

foreign vessels in 1861, Hope, the British admiral, excluded American merchants from his initial upriver voyage, giving his countrymen a clear advantage in selecting wharfage sites at the newly-opened river ports. But the Americans, instead of locating near the foreign settlements, again "purchased frontage near the Chinese business center,"⁴⁰ and offered low rates and various fringe benefits designed to attract Chinese accounts. In the resulting competition, notwithstanding the favoritism of the British admiral, the advantage clearly lay with Russell & Co., whose Chinese constituency proved so lucrative that it became unnecessary for them to solicit foreign accounts.⁴¹

Similar considerations enabled British enterprises to eclipse the SSN Co. during the 1870s. The American firm's compradors—inept relatives of Choping and Koofunsing and the unreliable Sunkee—were no match for such men as Jardine's astute Tong King-sing; low rates and energetic advertising⁴² allowed the British to cut deeply into Russell & Co.'s business and in 1877, as noted above, the SSN Co. sold its fleet.

Steam was not the only innovation which foreigners pressed upon the quick-learning Chinese merchants. When the Hong Kong-Shanghai telegraph opened in 1871, its agents

invited certain wealthy Chinese, and began telegraphing for their edification. They were greatly interested, but very sceptical, till one more venturesome than the rest undertook to telegraph to a correspondent in Hong Kong for a consignment of goods by the next steamer.⁴³

In 1872, the *North China Herald* reported that "Native merchants correspond extensively by telegraph between Hong Kong and Shanghai."⁴⁴

⁴⁰Liu, *Steamship Rivalry*, p. 36.

⁴¹Liu, *Steamship Rivalry*, p. 48.

⁴²Forbes of Russell & Co. wrote that "Butterfields have given a big chin-chin dinner to all the freight brokers, at which the foreign clerks assisted. Respectable Chinese laugh, as they ought to do, at this. It is an undignified style of action." And again, "I found the Swire lot [again referring to Butterfield & Swire] blustering away among the Chinamen, giving dinners to all the freight brokers large and insignificant (at which the foreign clerks hobnobbed with every unwashed devil in the place) and announcing that their steamers were to go full at any price &c, &c." Quoted in Liu, *Steamship Rivalry*, pp. 122-123. While the "respectable Chinese" laughed, Swire ruined Russell's steamship subsidiary by luring away its native customers.

⁴³Richard S. Gundry, *China, Present and Past* (London, 1895), p. 97.

⁴⁴*A Retrospect of Political and Commercial Affairs in China and Japan during the five years 1868 to 1872* (Shanghai, 1873), p. 89.

Ironically, competition among the shipping subsidiaries of foreign agency houses was largely responsible for the stagnation of the outport distribution business of the same firms. The 1866 customs report at Tientsin noted that the steamship proprietors

have made the transport of goods such an easy operation to Chinese merchants, that the latter have naturally undertaken the work of supplying themselves from Shanghai, instead of receiving their goods in a more expensive way through the Agency of Foreign firms located here.⁴⁵

Between 1865 and 1870, although the foreigners "possessed the inestimable advantage . . . of being able to send their goods inland at a fixed rate of transit dues, whilst the Native dealer . . . was subjected to a much higher and varying rate of taxation,"⁴⁶ observers at nearly every port⁴⁷ noted that the availability of convenient steam transport, low overhead expenses,⁴⁸ superior knowledge of local market

⁴⁵IMC Reports 1866, Tientsin, p. 85. The Amoy report of 1865 noted that the Chinese "appreciate more and more the advantage of employing Foreign to Native craft, and they learn at the same time to dispense with foreign assistance." IMC Reports 1865, Amoy, p. 65.

⁴⁶IMC Reports 1871-2, Kiukiang, p. 60. Chinese often avoided the inland taxes by transporting their goods under the aegis of foreign firms. The burden of the inland taxes may be seen from the following Kiukiang data: before 1872, the prohibition against securing transit passes for native-owned goods was rigidly enforced; in 1872, natives were allowed to purchase transit passes. The following statistics refer to goods sent inland from Kiukiang:

	1871	1872
Cotton goods (pieces)	12,926	108,818
Woolens (pieces)	650	11,265
Sugar (peculs)	80	26,271
Tin (peculs)	57	3,627
Lead (peculs)	10,677	15,737

Source: IMC Reports 1871-2, Kiukiang, p. 67.

⁴⁷See the following references in IMC Reports: Newchwang, 1865, p. 14; Ningpo, 1867, p. 41; Hankow, 1865, p. 41; Kiukiang, 1865, p. 44; Tientsin, 1865, p. 135; Amoy, 1865, p. 65; for Canton, see Ernest J. Eitel, *Europe in China* (Hong Kong, 1895), pp. 459-460; for Swatow and Chinkiang, see William F. Mayers, et al, *The Treaty Ports of China and Japan* (London, 1867), pp. 237, 424-425.

⁴⁸"I found that a rice merchant, with whom I had formerly done much joint account business, had chartered several ships to load rice in Saigon. . . . He said he had sent . . . a nephew of his, to Saigon to buy the rice. He paid him only \$8.00 a month . . . and. . . . no commission. . . . Upon arrival, he

conditions, access to native bank credit,⁴⁹ and clever commercial tactics⁵⁰ enabled Chinese merchants—local, Cantonese and returnees from Southeast Asia⁵¹—to dispense with foreign middlemen and displace foreign merchants in the import-distribution trade of the outlying treaty ports. At Newchwang, for example, it was reported that

the best way of showing how entirely the business of the port is engrossed by the Native Traders, will be to state that of the Tls. 167,000 received in [customs] revenue during 1865, only Tls. 10,000 were paid by Foreigners.⁵²

In the collection of exports, similar conditions prevailed. In 1867, for example, nearly 90 percent of the tea collected at Kiukiang was shipped to Shanghai by Chinese merchants. According to the customs report of that year,

this fact is explained by the great facilities afforded [the Chinese] by the Agents of the Steamers . . . in the shape of advances, intervention in the payment of Duties at the Customs, warehouse room for goods at Shanghai, &c., &c.⁵³

During the years 1860–1875, purely Chinese enterprise—drawing at times on foreign expertise—entered several new fields. Chinese ownership of steamers was no rarity: Kwok A Cheung, a Hong Kong merchant, amassed a personal fleet of over a dozen vessels

sold the rice himself, without the intervention of any broker, whereas a foreigner would be compelled to employ one; and yet, with all this, he figured up his profits at only two per cent. What foreigner could compete with this?" Augustine Heard Jr., "Old China and New," (Harvard University Baker Library, Heard Collection GQ-2, dated February, 1894), p. 40.

⁴⁹IMC Reports 1865, Newchwang, pp. 14, 17.

⁵⁰"Chinese holders pursued their usual tactics, and being in the large majority were, of course, successful. Whenever the market price showed a fair profit, and the foreign merchant attempted to dispose of his goods, the Chinese dealer immediately lowered the market by selling off a small portion of his stock at an unprofitable rate, and, at the same time, bought in a larger quantity at the lower rate which he himself had succeeded in establishing." IMC Reports 1874, Tientsin, pp. 15–16. This made sense in a context in which foreigners were continually trying to "work off" imported goods for which demand was far from brisk.

⁵¹William Mayers, for instance, in a discussion of Swatow, mentions that "the merchant-princes of former days are being superceded by astute and cheaply-living Cantonese or Singapore Chinese." *The Treaty Ports of China and Japan*, p. 237.

⁵²IMC Reports 1865, Newchwang, p. 14.

⁵³IMC Reports 1867, Kiukiang, p. 8 (appendix).

during the 1870s.⁵⁴ Interest in native insurance companies was noted in Hong Kong⁵⁵ and even in distant Szechuan.⁵⁶

The best-known Chinese commercial venture of this period, however, is the China Merchants' Steam Navigation Co., owned and managed by Chinese merchants, supervised by native officials, enjoying the patronage of Li Hung-chang and, more concretely, subsidized in the form of lucrative government contracts for the transport of tribute rice to Tientsin. Without examining its history in detail,⁵⁷ we should note that foreigners regarded the China Merchants' undertaking with mixed emotions: although pleased by the willingness of the Chinese government to sponsor a "modern" enterprise, they feared that the new company would drive foreign shipping from China's river and coasting trade and might enter international competition. In its initial years, the CMSN Co.'s vigorously expansionist policy confirmed these fears:⁵⁸ under the bold direction of the ex-comprador Tong King-sing, the Chinese company quickly achieved a 10 percent share of steamship traffic on existing routes,⁵⁹ initiated service to foreign ports⁶⁰ and sought access to Chinese ports closed to foreign-registered vessels.⁶¹

The Institutional Setting of Treaty Port Commerce

The above description has shown that, in addition to engrossing commerce in the outports and supporting such path-breaking ventures as the CMSN Co., Chinese merchants—as compradors,

⁵⁴George B. Endacott, *A History of Hong Kong* (London, 1958), p. 195.

⁵⁵Eitel, *Europe in China*, p. 456.

⁵⁶Thomas T. Cooper, *Travels of a Pioneer of Commerce* (London, 1871), p. 128.

⁵⁷This history is surveyed in Feuerwerker, *China's Early Industrialization*.

⁵⁸IMC Reports 1875, p. 11 noted that the China Merchants' "have monopolized a large share in the coasting trade, and there can be little doubt that in the course of a few years the Chinese flag is destined to share a good portion of the carrying trade between China and the Foreign countries where Chinese colonists reside in any number."

⁵⁹The rapid initial growth of the China Merchants' Steam Navigation Company is indicated by the rise in its share of the total annual steamer tonnage entered and cleared at the treaty ports from 2.60% in 1873 to 5.50% and 9.69% for 1874 and 1875 respectively. Percentages calculated from data in *ibid*.

⁶⁰Prior to 1875, the China Merchants' Steam Navigation Co. had sent its ships to Japan, Hong Kong and Singapore. *Ibid*.

⁶¹Eitel, *Europe in China*, p. 505.

shareholders, business associates and customers—occupied a pivotal position in the affairs of even the largest foreign enterprises. It is therefore not surprising to discover, in contrast to the statement of Allen and Donnithorne quoted above (see page 45), that “modern” Western business methods were not a feature of treaty port commercial life between 1860 and 1875. Even the payments of foreign firms to the foreign-controlled Imperial Maritime Customs Administration were “traditional transactions involving bargaining among Chinese.”⁶² Ubiquitous particularism and the currency system provide clear-cut examples of the institutional framework of treaty port commerce.

Nepotism, freely defined to include favoritism based on regional loyalties as well as blood ties, pervaded all treaty port enterprise, foreign and Chinese alike. We have already noted the fate of the SSN Co., whose rapid decline was due to the inability of Russell & Co. to dismiss the incompetent relatives of Choping and Koofunsing; this indicates an absence of impersonal, efficiency-oriented employment criteria which was not restricted to Russell & Co. In 1860, A. F. Heard wrote that “it will be hard to disturb the hierarchy of compradores save by bringing in members of the same clan.”⁶³ At that time, Heard’s comprador staff consisted exclusively of the sons and cousins of their original comprador.⁶⁴ Heard’s pessimism and the helplessness of Russell & Co. reflected the extreme riskiness of altering one’s native staff: engaging a new comprador meant “making an entirely new start, handicapped by the vengeful animosity of the old comprador’s friends and business associates”⁶⁵—one’s own best customers!

The well-known career of Tong King-sing⁶⁶ provides a revealing instance of the prevalence of nepotism in both native and foreign-operated treaty port enterprise. Tong was first introduced to Jardine, Matheson in 1861 by Acum, then their chief Shanghai comprador and a native of Tong’s home district; at this juncture, Tong’s brother,

⁶²King, *Money and Monetary Policy*, p. 201.

⁶³Albert Farley Heard, Shanghai to John Heard III, Hong Kong, 23 March 1860. Harvard University Baker Library, Heard Collection HL-15. Quoted in Lockwood, “Augustine Heard,” note 118 to p. 45.

⁶⁴Lockwood, “Augustine Heard,” p. 44.

⁶⁵Carl Crow, *Foreign Devils in the Flowery Kingdom* (New York, c. 1940), p. 39.

⁶⁶This biographical material is taken from TKS, from Liu, *Steamship Rivalry*, and from Feuerwerker, *China’s Early Industrialization*.

Mao-chih, replaced him as interpreter at the Shanghai customs house. In 1863, again at the suggestion of Acum, Tong became Jardine's chief Shanghai comprador. Tong Mao-chih followed his brother into the British firm and eventually took over the Shanghai comprador post when King-sing resigned to assume the directorship of the CMSN Co. As general manager of the steamship line, Tong King-sing was assisted by the ex-compradors Hsü Jen and Cheng Kuan-ying and by his brother T'ing-keng—all natives of Tong's home district of Hsiangshan, Kwangtung.

This widespread nepotism was not without reason, for the absence of contract law, even in the treaty ports,⁶⁷ left mutual good faith as the principal factor guaranteeing the fulfillment of business obligations. Dishonesty was not uncommon: compradors, for example, frequently misappropriated funds from their employers' coffers—Jardine's managers once discovered that Tong King-sing had "borrowed" nearly Tls. 100,000.⁶⁸ Foreigners also committed various malpractices: J. A. Man, a British employee of the customs service, scathingly denounced the "deterioration in the quality of English Piece Goods" and the Lancashire textile manufacturers who exported "adulterated short-packed rubbish," quoting an American newspaper report describing British cloth samples of which "33⅓ per cent of the weight washes out in the first washing."⁶⁹ Such conditions ensured the continuation, in the treaty ports, of time-honored institutions of personalist commerce, and magnified the importance of the comprador, whose fundamental role during this period was to reduce business intercourse between foreigners and Chinese to a

⁶⁷That the extent to which foreign treaty port businessmen subscribed to contract law is open to question is shown by the so-called "Lismore case," argued before H. B. M. Supreme Court in early 1871. In this case, the defense counsel, representing Jardine, Matheson & Co., argued that the tenets of English contract law should not apply in China (for the transcript of his remarks, see NCH 15 February 1871, pp. 107–111). Although Jardine's lost the Lismore case, the defense arguments, which represent the stand of a prominent Shanghai-based firm in a matter whose importance is attested by the extensive news and editorial coverage given it in the *North China Herald*, indicate the sort of thinking which existed in Shanghai's foreign business community in the early 1870s.

⁶⁸TKS, pp. 149–151. Tong himself was the victim of an unfulfilled contract and lost Tls. 9,000, as did his friend Acum (TKS, p. 164). The Hankow customs report of 1865 noted that "compradors, were found to have been speculating, to a ruinous extent, chiefly with their employers' capital." *IMC Reports*, 1865, Hankow, p. 41.

⁶⁹*IMC Reports* 1875, Newchwang, p. 62.

series of personal transactions terminating in the treaty port offices and godowns of foreign merchant houses.

The indigenous currency system was another commercial institution to which foreign business found itself obliged to adjust. The foreign-administered Imperial Maritime Customs assessed duties in terms of the Haikuan tael, an accounting unit embodied in no actual coin. The failure of foreign efforts to standardize the value of the Haikuan tael was marked by the ratification of the following treaty provision:

English Consuls will arrange with the Superintendent of Customs at each port, what coins may be taken in payment and what percentage may be necessary to make them equal to standard of pure silver.⁷⁰

Under such conditions, the need to verify the purity of each piece of currency whenever it changed hands preserved the function of the native shroff, who alone possessed the expertise needed for conducting large cash transactions.

Lack of control over the currency system considerably damaged foreign mercantile interests. At several of the outports, payments were made not in cash, which commanded a premium of up to 5 percent, but in "market money"—native bank orders which passed at par value only in the purchase of commodities. This created difficulties for the

Foreign Merchant, selling on commission a consignment of Piece Goods, with instructions to remit the proceeds in sycee. He cannot, in order to cover the loss of the premium paid for the sycee, demand a higher price for his goods than a Native house would sell for. He must therefore either incur the loss of the premium, or become a forced dealer in produce for export.⁷¹

A more serious occurrence was the sycee shortage at Shanghai in November 1871, which apparently arose from the removal from circulation of T1s. 3,000,000 for deposit with the Yangchow salt gabelle administrators. As the *North China Herald* observed, the foreign community was "the victim of a money panic, not brought about by our own acts, but by an unexpected and foolish proceeding on the part of the Chinese government."⁷² The foreigners were not

⁷⁰King, *Money and Monetary Policy*, p. 196.

⁷¹IMC *Reports* 1871–2, Newchwang, p. 5. See also IMC *Reports* 1874, Hankow, p. 35. Sycee refers to a special type of silver ingot or "shoe" which was used as currency.

⁷²NCH 15 November 1871 (p. 875).

only the victims of a panic caused by official Chinese action; they also were unable to relieve the tight currency situation:

Neither gold, coined silver or banknotes have had any effect whatever in reducing the pressure. The currency of China has come down to the one article of sycee, and notwithstanding the presence of a sufficient amount of bullion in the port to reinstate the equilibrium, the possession of it has rather increased than diminished the demand.⁷³

Instead of raising the price of sycee in terms of other currencies, the influx of bullion merely added to the number of persons seeking to purchase sycee, an article which was simply not available. The *North China Herald* concluded that trade would probably stagnate until the following spring.

Foreigners were thus unable to control the Shanghai money market. At times, they were also happy to tolerate the "irrational" Chinese system. Referring to the preference of Chinese shroffs for certain coins, based on criteria other than intrinsic worth,⁷⁴ the *North China Herald* complained that although

it might be anticipated that foreign bankers would more readily see the disadvantages of the system, and its evil effects on trade, yet foreign bankers seem to acquiesce silently in the arrangements of their shroffs and compradores.⁷⁵

The editorial concluded that bankers had "not yet advanced their influence sufficiently far" to rectify "the vagaries of the native dollar dealers," but went on to suggest that, despite the "evil effects on trade," the foreign bankers' desire for speculative profits affected their willingness to reform the existing system.⁷⁶

The *North China Herald* of 8 March 1871 discussed the "loose way of doing business, too common, we are sorry to say, in China, under which neither party takes the trouble to ascertain what are their natural rights and liberties."⁷⁷ This summarizes what we have attempted to show—that "modern" commercial intercourse, in which

⁷³NCH 22 November 1871 (p. 895).

⁷⁴See NCH 13 July 1872 (pp. 28–29) for letters complaining of the differential value attached to Mexican dollars, which apparently arose because the Chinese could easily recognize certain markings on those coins.

⁷⁵NCH 13 July 1872 (p. 24).

⁷⁶Sacrificing trade volume to gain short-term speculative profits is a cardinal principle of the "traditional" economics of which Europeans were so scornful. Here we find evidence of the Sinification of Western businessmen!

⁷⁷NCH 18 March 1871 (p. 153).

transactions occur within the context of a well-known, fixed, and universally applicable set of economic institutions which enable any two persons to deal freely with one another, did not appear in China's thriving treaty ports between 1860 and 1875. The multifaceted dependence of foreign business upon the Chinese, the particularism which dominated relations among all treaty port groups, and the survival of such traditional features as the indigenous currency system all indicate that, during the years 1860-1875 at least, the treaty system, far from creating a new type of commerce within foreign-ruled enclaves bordering a tradition-bound economy, proved unable to "change the facts of business life in China."⁷⁸

Conclusion

Our review of the years 1860-1875 has revealed a period of commercial expansion characterized by vigorous entrepreneurship and by close cooperation among foreign and Chinese merchant groups. Treaty port commerce in mid-nineteenth-century China was not conducted along "modern" lines. There was no sharp distinction between the treaty ports and the hinterland in which business practices remained largely unaffected by Western influence. Although treaty port commerce depended upon foreign capital and, as the nineteenth century progressed, increasingly on transportation and communication systems imported from the West, the evidence thus far accumulated suggests that the personalist framework within which treaty port economic activity took place represented a greater modification of customary business practices on the part of foreigners than was made by Chinese treaty port merchants. The dependence of foreign enterprise upon native compradors, trading partners, capital suppliers and customers, all of whom maintained close ties to an economy whose commercial institutions of personal mercantile relations, money, and law showed little change during the first three decades of the treaty system, underscores the inaccuracy of concluding that

the Westerners . . . provided as their contribution to the modern Chinese economy, technical knowledge, capital and a legal and political framework for business dealings, while the Chinese for their part supplied labour, a subordinate commercial organization and natural resources.⁷⁹

⁷⁸King, *Money and Monetary Policy*, p. 202.

⁷⁹Allen and Donnithorne, *Western Enterprise*, p. 249.

Despite the effects of such innovations as steam transportation, telegraphic communication, and the much advertised introduction of Western law and public administration, the commercial development of the treaty ports between 1860 and 1875 is illustrative not of the superiority of Western, as opposed to Chinese commercial institutions, but rather of the capacity of a Chinese business community, operating in a Chinese fashion, to prosper and expand.

Implications of Our Findings: Speculation on Opposition to Modernization in Nineteenth-Century China

Harold E. Gorst, writing in 1899, observed that Chinese officials preferred to let the country's resources lie idle rather than risk further foreign encroachment, and added that "native merchants would, if left to themselves, probably behave differently."⁸⁰ Until recently, scholars have believed that such cleavage between officials and merchants was characteristic, not only of the late nineteenth century, but of the entire Ch'ing period. Mary Wright, for example, asserts that

the literati had always regarded as parasites all those, except of course themselves, who did not produce food directly; and fearing the development of a rich rival class, they had consistently and effectively fought against all development of commerce and industry.⁸¹

Fresh research, however, has provided evidence of widespread degree-holding within merchant circles, of extensive commercial participation by officials and their immediate families, and of the considerable role occupied by economic experts in bureaucratic policy-making. Although a detailed examination of this literature⁸²

⁸⁰Harold E. Gorst, *China* (London, 1899), p. 258.

⁸¹Mary C. Wright, *The Last Stand of Chinese Conservatism* (Stanford, 1957), p. 149. For similar views emphasizing the extent of cleavage between merchant and official groups in Ch'ing China, see Marion J. Levy Jr. in *The Rise of the Modern Chinese Business Class* (New York, 1949), p. 5, and Etienne Balazs, *Chinese Civilization and Bureaucracy* (New Haven, 1964), p. 41.

⁸²The major contributions are Chung-li Chang, *The Income of the Chinese Gentry* (Seattle, 1962) and Ping-ti Ho, *The Ladder of Success in Imperial China* (New York, 1962). Chang's study provides voluminous evidence of gentry domination of large-scale trade and commerce in nineteenth-century China and of official participation in mercantile activity. Ho's monograph demonstrates the relative absence of legal, institutional and ideological barriers to commerce throughout the Ming-Ching period. Ho's work also shows the prevalence of intra-family division of function,

lies beyond the scope of the present paper, it does not seem premature to conclude that late Ch'ing commercial policy, administered as it was by officials conversant with local conditions and, because of their own commercial connections, at least somewhat inclined to uphold mercantile interests, bore little resemblance to the stern policy dictated by Confucian orthodoxy.

This new view, together with our conclusion that the establishment of the Sino-foreign treaty system occasioned a remarkable burst of commercial entrepreneurship within the Chinese mercantile community, suggests the following question: why, in light of the merchant-official cooperation apparently characteristic of nineteenth-century China, did the spurt of Chinese entrepreneurial activity—concurrent with, but in many respects independent of, foreign investment—which during the years 1860–1875 realized a rapid expansion of commerce and even witnessed the birth of modern Chinese industry in the treaty ports, fail to ignite an era of economic dynamism in China? What forces restrained the expansion of trade and the spread of new methods of transport, communication, and production in nineteenth-century China?

Various scholars have sought to answer this question by pointing to the prevalence of such phenomena as nepotism, corruption, and absence of universalistic commercial institutions as sources of economic stagnation.⁸³ We have found, however, that all of these were

in which the commercial activity of one branch supported scholarly preparation by other family members, who devoted full time to the pursuit of academic success and official appointment. Such a division of labor within the family of K'ang Yu-wei, the famous reformist scholar, is described in Richard C. Howard's, "K'ang Yu-wei (1858–1927), His Intellectual Background and Early Thought," in Arthur F. Wright and Denis Twitchett eds., *Confucian Personalities* (Stanford, 1962). On economic experts within the bureaucracy, see T'ung-tsu Ch'ü, *Local Government in China under the Ch'ing* (Cambridge, 1962), Chap. 6 and Conclusion—especially the section entitled "The Need for Administrative Experts," pp. 93–96; also King, *Money and Monetary Policy*, p. 156 and Chang, *Income*, p. 80.

⁸³Marion J. Levy Jr. has emphasized the Confucian family system and the particularistic relationships which it fostered, as well as the anti-commercial bias of the bureaucracy as barriers to economic change in China. See, for instance, his contribution to *The Rise of the Modern Chinese Business Class* and his essay "Some Social Obstacles to 'Capital Formation' in 'Underdeveloped Areas,'" in National Bureau of Economic Research, *Capital Formation and Economic Growth* (Princeton, 1955). In the concluding chapter of *China's Early Industrialization*, Feuerwerker cites the lack of official encouragement and the prevalence of nepotism as

regular features of treaty port economic life; vigorous expansion of treaty port commerce occurred within a framework of personalist business practices which exhibited little if any difference from the traditional pattern of trade and commerce in China. These conclusions force us to reject such analyses, which also err in identifying, as crucial obstacles to development, factors which actually coexisted with industrialization in Europe.

Historians have paid little attention to the opposition to innovation and reform in nineteenth-century China and have focused their studies on such "liberals" as Lin Tse-hsü, Li Hung-chang, Sheng Hsüan-huai, and Chang Chien. Opposition to change is generally represented as stemming from Confucian conservatism, as when the high official Wo-jen memorialized against Western learning, arguing that

if we seek trifling arts and regard barbarians as teachers . . . all that can be accomplished is the training of mathematicians. From ancient down to modern times, your slave has never heard of anyone who could use mathematics to raise the nation from a state of decline or strengthen it in time of weakness.⁸⁴

and concluded that the empire's weakness demanded resolute cultivation of traditional virtues. Such conservatism also manifested itself in foot-dragging on the part of lower-echelon officials charged with implementing reforms and, more crudely, in gentry-inspired acts of violence against foreign residents and property and such foreign-style objects as railroads and telegraph lines.

A cursory examination of available materials, however, suggests that opposition to the spread of foreign mechanical innovations during the late nineteenth century arose from very different motives. A railroad-building proposal made by the reformist official Liu Ming-ch'uan, for example, "was not put into effect owing to the opposition of other officials, especially Liu Hsi-Hung."⁸⁵ This Liu, one of China's first diplomatic representatives in Europe,⁸⁶ presented twenty-five arguments against the proposal of Liu Ming-ch'uan, all

typical of the institutional hindrances to economic change. He cites similar factors as reasons for the non-development of capitalism in Ming-Ching China (*Ladder of Success*, p. 161).

⁸⁴Ssu-yü Teng and John K. Fairbank, *China's Response to the West: A Documentary Survey 1839-1923* (Cambridge, 1961), p. 76.

⁸⁵Arthur W. Hummel ed., *Eminent Chinese of the Ch'ing Period (1644-1912)* (Washington, 1943-1944), p. 527.

⁸⁶Hummel, *Eminent Chinese*, p. 438.

of which were based on non-ideological political and economic considerations, save for the alleged propensity of railroads to "disturb the gods and spirits and hence invite droughts, and floods."⁸⁷

When in 1875 the requirements of the Foochow arsenal led the imperial government to install European coal mining machinery at Tamsui, Taiwan, the local intendant issued a proclamation⁸⁸ clearly designed to anticipate and forestall local opposition. Although the Tamsui gentry, finding that mining offended the local spirits, had previously sought to curb the production of coal,⁸⁹ the proclamation made no reference to geomancy: its concessions and reassurances were directed exclusively at mercantile groups.

The final sentences of the Tamsui proclamation illustrate the type of difficulty which the authorities feared: "Let none cast about and entertain suspicions respecting the matters now made public."⁹⁰ That just such a procedure was commonly employed by native economic interests confronted with competition from new mechanical devices may be seen from the following:

An enterprising British merchant is now attempting to establish a Steam Manufactory for Pulse Cake. . . . it is not improbable, that the fact of the Pulse Cake being made by steam, *combined with the adverse rumors which the Native traders are certain to disseminate*, may excite, in the consuming districts of Fokien and Kwangtung, prejudices that it will be difficult to vanquish.⁹¹

These few examples suffice to show the need for systematic examination of resistance to modernization in nineteenth-century China. Future students must differentiate between various types of innovation—educational, political, economic, and so on—and should seek to penetrate beyond such vague abstractions as "the government," "Confucianism," "the literati," and "the conservatives" to identify the effective opponents and their actual motives.

During 1860–1875, we have seen that treaty port commerce was in many ways an extension of China's traditional economy. In fact,

⁸⁷The memorial is summarized in Chi-ming Hou, *Foreign Investment and Economic Development in China, 1840–1937* (Cambridge, 1965), pp. 242–243.

⁸⁸The proclamation is translated in *IMC Reports* 1875, Tamsui, pp. 210–211. The chief concession was that "the local imposts on coal, which have hitherto existed are remitted in toto."

⁸⁹*IMC Reports* 1871–2, Tamsui, pp. 162–163.

⁹⁰See 88. above.

⁹¹*IMC Reports* 1866, Newchwang, p. 107. Italics added.

there was a minimum of direct competition between the two. Steamships first appeared on the Yangtze when the T'ai'ing rebellion had closed the river to junk traffic;⁹² they were first used in the coasting trade during a period of disruption following a change in the course of the Yellow River and the subsequent closing of the Grand Canal.⁹³ The disruptive effect of foreign expansion in Shanghai, an unimportant city prior to 1840, was minimized by the migration of native merchants from Canton, the pre-1840 center of China's foreign trade. In the outports, we have seen how trade was rapidly engrossed by the natives.

This brief review, combined with evidence of merchant-gentry intimacy and of native domination of treaty port commerce, suggests the hypothesis that within limits, commercial expansion and the adoption of Western-style innovations found enthusiastic support among Chinese merchants and aroused relatively little official resistance. Further study may discover that it was only when the new commerce collided with entrenched economic interests that a determined opposition arose, and that this opposition to economic change was led, not by purblind conservatives, but by men well aware of the utility of modern devices, by merchants, gentry, and officials whose close cooperation enabled them to maintain the supremacy of a traditional commerce in which they held a common stake.

This, or a similar analysis emphasizing the extensive local ties which now seem characteristic of nineteenth-century relations between the gentry class and traditional commerce, is required to explain such developments as the inability of Li Hung-chang, supported by nationalistic considerations and facing a situation in which officials and merchants alike recognized the advantages of steam, to open non-treaty ports to vessels of the China Merchants' Steam Navigation Company.

⁹²Lockwood, "Augustine Heard," p. 112.

⁹³Wright, *Last Stand of Chinese Conservatism*, p. 175.