4 Media and the environment in treaty-port China

The "Woosung Bar" controversy in the 1870s

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Introduction

For forty years, beginning in the 1870s, the newspapers of Shanghai had reported on the silt deposits in the Huangpu River (黃浦江) near Wusong (吳淞, Woosung, as spelled in contemporary English sources) and the trouble it caused for access for steam shipping. The delays caused by the periodic buildup of silt became one of the most vexing problems for the Shanghai mercantile community, diplomats, and administrative authorities, both Western and Chinese. Earlier studies have missed the important role that English-language newspapers in Shanghai, mainly the *North China Herald* (hereafter *NCH*), played as one of the main public advocates encouraging dredging of these silt deposits on behalf of the merchant community. The newspapers highlighted the "Woosung Bar" question, making it a lasting public focus. Public opinion, enhanced by the press, tried to mobilize both consular officials and the Chinese Imperial Maritime Customs in hopes of maintaining Shanghai's leading status as the largest emporium in the China trade. This chapter explores how the "Woosung Bar" crisis was perceived, prioritized, and remedied in order to reveal the agency of the commercial press, which represented the cultural politics of the "shipping-insurance hegemony" in nineteenth-century coastal China.

The role of the media in representing environmental issues has never been more evident than in the climate change debates of recent years. A systematic study by Maxwell T. Boykoff analyzed how the media filtered the voices of people raising awareness on the issue of climate change. He argued that the media served "a vital role in communication process between science, policy and the public" and that "[the media] has stitched together climate science, governance and daily life."[1] Boykoff examined various forms of media, including newspapers, books, television, film, radio, and the Internet, in his study. This chapter takes a similar approach by considering a hydrographical issue facing the mercantile community in nineteenth-century China—the silt buildup in the Huangpu River and the occasional blockage of the only shipping channel to Shanghai—through the framing of the issue in Shanghai's English-language newspapers. In the process, the media in nineteenth-century China created a discursive space between the often antagonistic mercantile and bureaucratic agencies.

Scholars have recently become interested in the role of media in modern China. They discovered an important role for media since newspapers began in China in the nineteenth century. In the 1830s, the earliest English-language newspapers, established in Canton, were responsible for fermenting bellicose sentiment among foreign (mainly English) traders, advocating a war against the Chinese government and contributing to the outbreak of the Opium War (1839–1842).[2] Nonetheless, most studies on media in modern China put their emphasis on the burgeoning Chinese-language newspapers published since the 1870s. Major arguments focus on the media's role in cultivating a Chinese "public sphere" and its significance to Chinese nationalism or a culture of mass consumption.[3] Almost none of those studies—including those produced in China—deal with the media's coverage of the environment.[4] In the 1870s, the newspapers' persistent coverage of the "Woosung Bar" silt deposits kept an environmental issue alive as one of the important concerns within the mercantile community, which principally relied on the shipping channel. The discursive process surrounding the "Woosung Bar" issue—as well as the economic, political, and social context of treaty-port China—suggests an important relationship between the media and the environment.

A "heavenly sent barrier": the origins of a propaganda campaign

The "Woosung Bar" was one of the most important hydrological issues in the history of Shanghai.[5] The underwater sand bar greatly threatened the status of the city as the central entrepôt of the East Asian maritime economy. Since opening to foreign trade in 1843, Shanghai soon grew to be the largest among the treaty ports. Geographical setting helps account for the rise of Shanghai in the age of steam ships. Shanghai was situated in the crossroad of China's coast line and the steam-navigable Yangtze River. However, Shanghai does not lie exactly in the estuary of the Yangtze. The Huangpu River connects the Yangtze with Shanghai.

Like every river in the world, not every part of the Huangpu was safe for steam vessels. One of the major silting sites in Huangpu was located near Woosung, a town at Huangpu's estuary. In the nineteenth century, Gough Island (高橋沙, see Figure 4.1) near Woosung had divided the Huangpu River into two channels. The wider channel on the left bank, the "Junk Channel," was so shallow that only Chinese junks could navigate it. The right bank channel was called the "Ship Channel." Although narrower than the Junk Channel, the Ship Channel was deeper and foreign vessels with a greater draft could pass. Despite Gough Island dividing the river, the Huangpu had other sand buildup problems; the most agitating to the shipping community was the Woosung bar, which appeared at the entrance of the Ship Channel. Its proximity to Woosung gave the silt sediment its name, "The Woosung (Inner) Bar."

The changing nature of the bar might be the reason for the prolonged four-decade controversy, which lasted from the 1870s until 1910. In a sailing guide

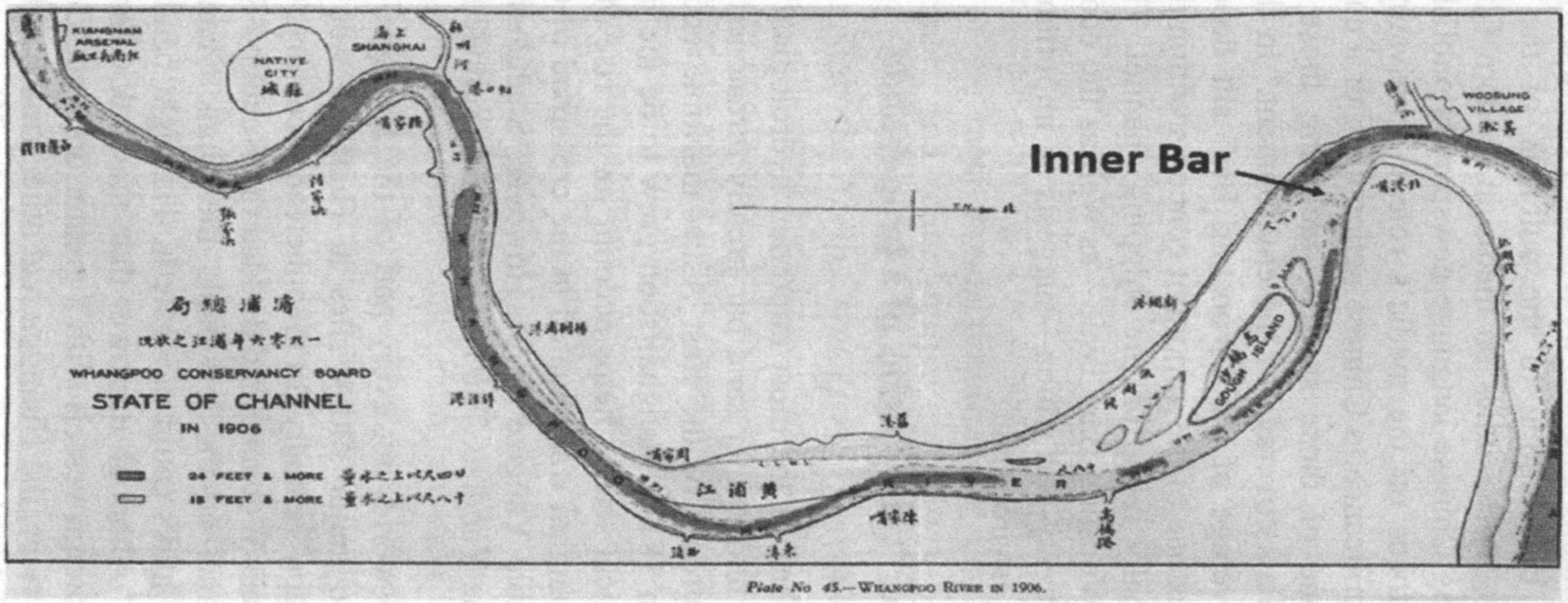

Figure 4.1 The channel of the Huangpu River in 1906 and the bar (source: Whangpoo Conservancy Board, *The Port of Shanghai. General Series. Report No. 8.* Shanghai: Whangpoo Conservancy Board, 1929).

Note
North is at the right. The darker area denotes where the river depth was over twenty-four feet.

published by the British Admiralty in 1863, ship captains and commanders were warned that "it would be imprudent for a stranger to enter the Wusong [Woosung] river without a pilot, who is always in attendance at the entrance, for banks within are constantly undergoing changes from the alluvial deposits."[6] The constant shifting of silt deposits was not visible from the banks but took place unseen under the water. In the last decades of the century, people finally discovered the cause for the formation and seasonal changes in the Woosung Bar. They found that it was caused by a great quantity of silt being brought in by flood tides from the Yangtze during the spring and summer months (May to September), but was reduced at other times of the year with considerable regularity.[7]

The existence of the Woosung Bar was noticed by one of the earliest foreign visitors. Under the order to conduct a coastal survey assigned by the British East India Company, H. H. Lindsay (1801–1881) and Karl Gützlaff (1803–1851) observed in June 1832 that they were confident that their ship, the *Lord Amherst*, could safely pass the bar, which "presents no dangers whatever, as will be apparent from Captain Rees's chart, and the guides for entering are extremely simple." They also recorded that at its lowest point water was always found to be four fathoms (24 feet) over the bar, concluding that the Woosung [Huangpu] River was "in every respect one of the finest and most navigable in China."[8]

These earlier foreign passengers' hydrographical intelligence of the bar was accurate for the time. In the 1830s, the bar's seasonal shifting depth seemed never to threaten vessels of any size. This continued to the case over the following two decades (1840s and 1850s), while the average tonnage of vessels frequenting Shanghai was 1,000 tons with an average draft of 12–13 feet, far from the bottom of 24 feet. In later years, the bar gradually became a foreseeable problem as the size and complement of ships continued to increase in the 1860s, when the average ship size grew to 2,300 tons with the average draft 16–17 feet.[9]

During the 1860s, when the bar was not troublesome to vessels, foreign shipping firms had already expressed their concerns to the Chinese government of the need for a dredging. The *NCH* reported in 1901 that that the foreign mercantile marine started petitioning Robert Hart (1835–1911) about the dredging as early as 1863. Hart was then at Shanghai and had just been promoted to be Inspector-General (that was, the head) of the Chinese Imperial Maritime Customs. In response, one of Hart's subordinates, the Harbor Master of Shanghai (J. M. Hockly) recommended that the merchants should raise the necessary funds to deepen and conserve the channel.[10] Meanwhile, the Customs continued to take some measures, short of dredging, to facilitate navigation over the bar. For instance, beacons and buoys were established under the auspice of the Harbor Master to mark the exact position of the bar. Moreover, a tide pole and signals hoisted on a flagstaff were established to indicate the timely depth of the water on the bar.[11]

Despite these navigational aids provided by the Customs, the Woosung Bar remained fuel for tensions between the Shanghai mercantile community and Hart, after he moved the Inspector-General's office from Shanghai to Beijing in

1865.[12] The constant bar-monitoring and other efforts by the Customs were far from satisfying to the merchants whose steamers frequented Shanghai. After the Taiping Rebellion (1850–1864), tonnage dues collected by the Customs became an imminent issue discussed in the local newspapers. The mercantile community reiterated their demand to dredge the Huangpu River, using the funds from the tonnage duties, which were formerly appropriated by the Chinese government to fund the war effort against the Taipings.[13] In 1868, responding to such remonstrations, Hart established a Marine Department within the Customs. The new department was to facilitate coasting and inner-river navigation in China using funds from tonnage duties. However, to the disappointment of the Shanghai mercantile community, the demand to dredge the Woosung Bar seemed to be edged out by the Department's ongoing wider scheme for establishing lighthouses and lightships along the China coast.[14]

When commenting on Hart and the Marine Department's ambitious lighthouse project, the mercantile community in Shanghai continued to express, through the press, the necessity of dredging. Their demand repeatedly occupied the columns of the local newspapers for decades (see Figure 4.2). The Shanghai merchants believed that dredging the bar was a legitimate use of tonnage dues. They also argued that Article 32 of the Treaty of Tientsin (1858), which was signed by the Chinese government and several Western powers, stated that "the Consuls and Superintendents of Customs shall consult together regarding the erection of beacons of lighthouses and the distribution of buoys and lightships,

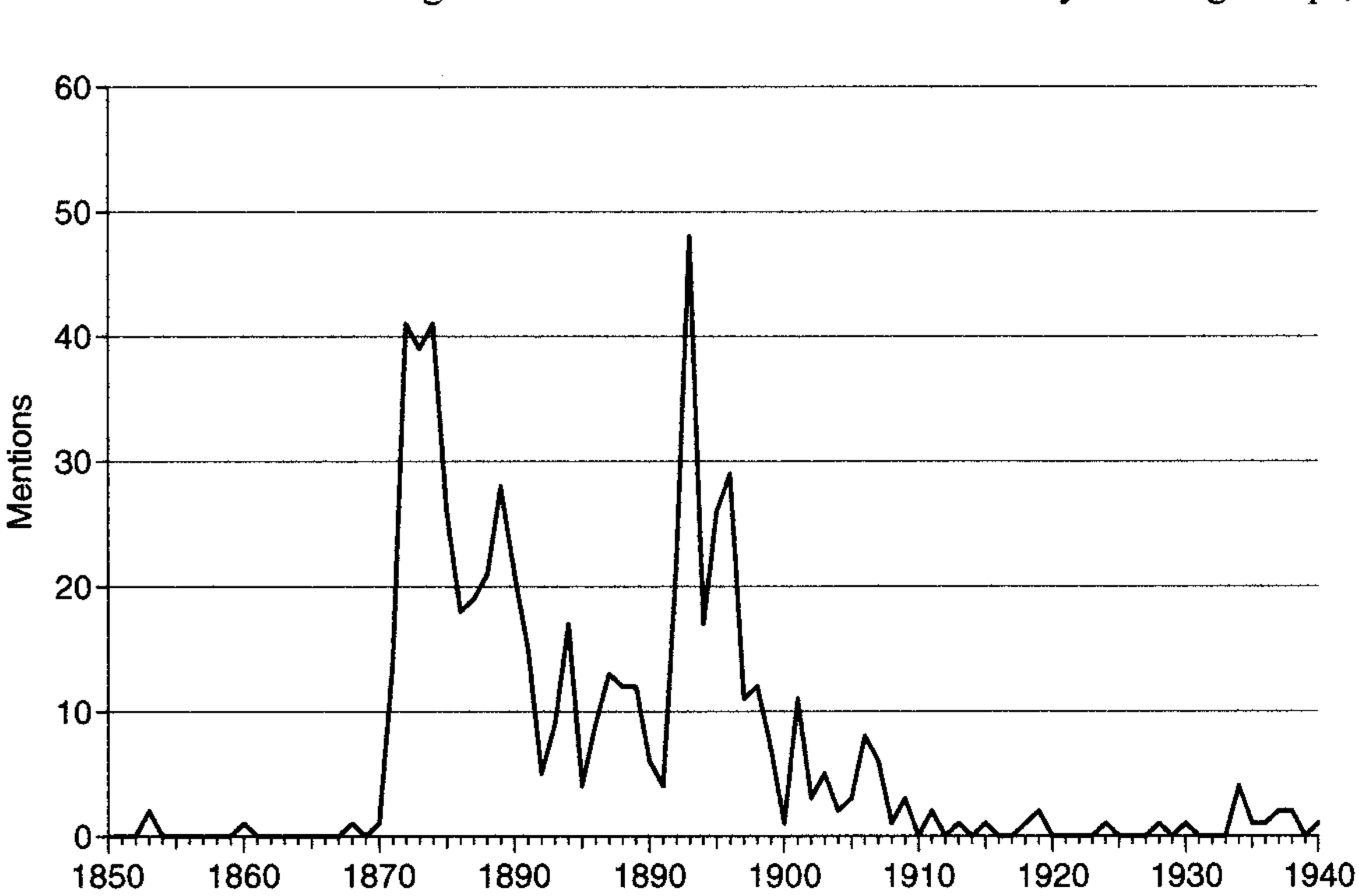

Figure 4.2 Mentions of "Woosung Bar" in the *North China Herald*, 1850–1940.

Note
From the *North China Herald* database made by Brill & Co., which lacks specific years (1857–1859, 1866, 1867, and 1925). The number of original mentions of "Woosung Bar" is 625. This figure only counts 612, which excludes references to the bar in the *Herald's* yearly indices.

as occasion may demand."[15] The dredging, the Shanghai press and merchants opined, fell under this article of the treaty as work for assisting navigation. This legal reasoning underpinned many of the petitions sent to Chinese and foreign authorities.

In addition to offering a broader interpretation of the treaty, the Shanghai press had also launched a propaganda campaign which attached the need of dredging to then prevailing discourse of progress. When there was no official response to the mercantile community's demand for dredging, the press started to stigmatize the Chinese authorities as standing still at a critical historical moment. Newspapers implied that since the Woosung Bar did not interfere with the navigation of Chinese junks, the Chinese government had no difficulty seeing it as none of their business. According to the Shanghai press, the Chinese authorities in Beijing considered the bar to be a "heavenly sent barrier," a natural gift to be kept rather than removed. It could prevent foreign ironclads or any other large men-of-war from entering Shanghai, an important security concern of the Chinese that prevented any official moves in support of dredging. To respond to these concerns, the Shanghai merchants announced that the dredging was a criterion for China to be entered onto the lists of "civilized countries." Dredging the Woosung Bar was "internationally" important both because of China's treaty obligations and as a responsibility of a civilized country. The mercantile remonstrations had even reached their home governments in Europe and the United States. In 1874, Hart opined that the situation had become even worse. While the Chinese government had been having difficulties with Japan over Formosa, the Woosung Bar question had nearly become another *casus belli* against China by other foreign powers.[16]

Initiatives of the "shipping-insurance hegemony" and the press

The Shanghai newspapers reported meticulously on this enduring forty-year agitation between the merchants and the authorities. This long spotlight had reflected the mercantile politics in the treaty-port Shanghai. The term "Woosung Bar" appeared a total of 612 times in the *NCH* between 1870 and 1910 (see Figure 4.2). Within this period there were two peaks of interest in the Woosung Bar, the 1870s and the 1890s. This chapter will focus on the 1870s, for it not only represented the origin of the Woosung Bar controversies, but also demonstrates the press's initiative in establishing the discourse over the bar.

The first explosion in interest in Shanghai newspapers over the Woosung Bar appeared between 1872 and 1874 (see Figure 4.2) and was dotted by detailed reports of mercantile initiative and early insistence on the necessity of dredging. Earlier efforts to encourage dredging in the 1860s do not appear in the newspapers, suggesting that the bar was not causing too many troubles for merchants. All the controversies over the bar commenced in 1870. The single appearance of the "Woosung Bar" in the newspapers in 1870 was an editorial in the *NCH.* While commenting on the lighthouse works done by the Customs' Marine

Department, the editorial suggested that further actions on the bar should be taken by the local mercantile community. It advocated that the Shanghai General Chamber of Commerce should extend their previous efforts upon the bar, since "much local good may be accomplished by local pressure." According to the *NCH*, at least three sections of the community would benefit from removing the bar. The most obvious beneficiary would be the steam shipping companies. Second, the marine insurance offices, which took risk on the cargoes and were chiefly owned by Shanghai shareholders, would see a reduction in their liability if the Huangpu could be navigated more safely. Third, the general Shanghai commercial firms would benefit because a considerable portion of their cargo crossed over the bar.[17]

The Shanghai press's coverage on the Woosung Bar had revealed the dominance on cultural representation of this combined interest of shipping, insurance, and general commercial firms. Analyzing the language used by the newspapers to describe the Woosung Bar controversy is to examine a series of common actions by the dominant merchants in treaty port China. I call this group, as well as the activities they engaged in, the "shipping-insurance hegemony."[18] These merchants had been the major readers and supporters of the commercial press through purchasing advertisements and subscriptions. The allegiance between merchants and media began from the first day of the English-language newspapers in China. James Matheson (1796–1878), one of the co-founders of the renowned Jardine, Matheson & Co., published the *Canton Register* in Canton from 1827. Prices of then illegally imported opium were bulletined publicly in the papers. In the case of the Woosung, the *NCH* continued to serve commercial and navigational interests by manufacturing the image of impending peril, and crying out for the necessity of official operations, including dredging.

The 1860s was the watershed for this specific capitalist enterprise for it witnessed the booming of China trade and the mushrooming of foreign steam navigation and marine insurance companies in China. Existing studies of nineteenth-century commercial history of China have focused mainly on the business of steam shipping. Few, however, touched on their usually intimate relationship with the business of marine insurance. Instead of manufacturing or other business such as mining and railroad building, steam shipping constituted the key sector in China's "mercantile capitalism" in the nineteenth century.[19] Several factors explain the new opportunity and situation. International treaties signed after the Second Opium War (1856–1860) had opened more ports along the Yangtze and the northern ports of China (such as Tianjin) for foreign merchants. The London *Times* reported in 1864 that the import trade of Shanghai had increased nearly twofold in just the three years between 1860 and 1863.[20] Days later, the same London newspaper commented that "the present El Dorado of commercial men seems to be China."[21] The "China rush" in the 1860s was reaffirmed by a British Consul in Shanghai, who reported in 1867 that the number of foreign firms in the city increased threefold in the previous few years.[22] At the end of the 1860s, the growing trade was also enhanced by the improvement of communication such as the submarine telegraph around 1870 and the opening of

the Suez Canal in 1869. No wonder scholars had claimed that in 1860s there was a commercial revolution in China.[23] Meanwhile, the 1860s rush had increased the importance of Shanghai as the greatest emporium in the China trade. In a long-term perspective, Hosea Ballou Morse observed that in 1874, 60 percent of the China trade flowed through Shanghai. This amount only fell to 55 percent by 1902.[24]

The booming China trade in the 1860s explained the timing of agitation of the shipping-insurance hegemony over the bar in the early 1870s. In November 1870, the Shanghai General Chamber of Commerce sent, through Foreign Consuls in Shanghai, a memorial to the Chinese magistrate of Shanghai (Shanghai Daotai 道台) on the condition of the bar. They suggested the Chinese should begin an ordinary dredging in order to make the bar navigable to vessels with a draft of twenty-four feet and thus to prevent the almost daily occurrence of costly delays and accidents.[25] In February 1871, the Harbor Master of Shanghai and the Division Inspector of the Customs, S. A. Viguier, surveyed the bar in response to these demands. He found a new channel, 500 feet wide, cutting through the Woosung Bar, which may have been caused by the narrowing of the Ship Channel. Its depth was no less than fifteen feet during the lowest tides of the year. Adding that the rise and fall of the tide was never less than six feet, Viguier concluded that vessels drawing under twenty feet would always be able to navigate the bar. Since the mean rise of the tide was ten feet, it would only be under exceptional circumstances that vessels drawing 20–23 feet would be prevented access by the bar. The foreign consuls in Shanghai invited Danish, British, French, and U.S. commanders of vessels-of-war to verify Viguier's survey, concluding that this new channel would apparently obviate the necessity of dredging.[26]

Unfortunately, due to the shifting nature of the bar, Viguier's happy finding did not close the controversy between the mercantile community and the Customs' hydrographical officers in Shanghai. In addition, at the end of 1869 more large vessels frequented Shanghai due to the opening of the Suez Canal. The canal had caused the diminishing of the transshipments that formerly took place, and allowed larger vessels to sail to the Far East directly. This may explain the timing of two further, nearly identical, petitions regarding the bar originating from the shipping-insurance hegemony.

These two petitions came from the two largest mail-steamer companies in Shanghai, the British Peninsular & Oriental Steam Navigation Company (P & O) and the French Compagnie des Services Messageries Maritime.[27] In September 1871, S. J. G. Jellicoe, a P & O agent in Shanghai, wrote a letter to the Shanghai General Chamber of Commerce. He asked the Chamber to pay attention to "anomalies" in the Woosung Bar, which had recently detained a P & O steamer (the *Emeu*) at Woosung, causing a twelve-hour delay. The Chamber then forwarded the letter to the Consular Body of treaty powers in Shanghai.

Jellicoe accused Viguier's survey, although internationally confirmed, of being rife with falsehoods. The P & O's own survey revealed that the depth of the water on the Bar rarely exceeded 17–21 feet, lower than Viguier's estimates

of 22–28 feet. The previous May, Jellicoe wrote Viguier requesting data on water depths. Viguier held that the depth of the water had not changed since his February survey. He added that in May

> the New Channel over the Woosung Bar is 14 feet 6 inches, at dead low water spring tides. The rise and fall (influenced by the wind) is from 12 to 14 feet in springs and from 8 to 10 during neap tide, therefore the depth of water on the Bar ranged from 22 feet to 28 feet.[28]

Receiving the confirmation from the Harbor Master, Jellicoe accordingly informed the P & O Directors that the Company's larger mail-steamers could then run direct to Shanghai, since the Woosung Bar, as a contingent risk before, had been removed by nature itself. However, the P & O Steamer *Emeu*, which Jellicoe claimed was drafting only eighteen feet at that time, was still detained by the bar on September 9.

For shipping companies, even a temporary detention of large vessels meant huge costs even if there was no accident or physical damage. In addition to valuable cargo being delayed, the vessels themselves had heavy daily operating expenses. Take the *Emeu* for instance, this home-going ocean steamer then carried not only "homeward" mail, but a large and valuable cargo, worth around 1,600,000 taels. In the month following the *Emeu* case, there were two incidents of P & O steamers being stopped by the Woosung Bar (Table 4.1).[29]

It seemed justifiable for Jellicoe to petition the Chamber of Commerce, urging them to take steps to improve navigation over the bar, either by dredging or other means. He continued to warn that

> as it is manifest that if this apathy on the part of the Chinese authorities [the Harbor master and the Customs implied] is allowed to continued, it will soon be found to have a serious effect on the shipping and trade of this Port.[30]

Ch. De Crety, the agent of another state-chartered mail-steamer company, the French Messageries Maritimes, saw the situation a bit differently from his P & O colleague. However, the French agent furnished a recent survey made by a French captain (Captain Varagot of the Messageries' mail-steamer *Phase*), in which the accuracy of the Customs' signal of the depth was greatly challenged.[31]

The two steam-shipping giants' accusations soon got a reply from both the foreign and Chinese authorities. The Chamber of Commerce forwarded Jellicoe's petition to the Consular Body of foreign powers in Shanghai. The Chamber asked the consuls to once again apply to the Chinese authorities, for it might result in the removal of "this source of anxiety [the Bar]."[32] In a meeting of treaty consuls of Shanghai held on October 16, 1871, George F. Seward, the Senior Consul of the Consular Body and the U.S. Consul General in Shanghai, presented the petitions from the P & O and the Messageries Maritimes. Seward mentioned that he had discussed the issue with the Customs Commissioner of

Table 4.1 P & O steamers detained by the Woosung Inner Bar, September 1871 to January 1872

Year	*Month*	*Date*	*Steamer*	*Description*
1871	September	9	*Emeu*	With outward mails, detained 12 hours; draft 19 feet
	September	11	*Behar*	With inward mails, detained 20 hours; draft 18 ft. 8 in.; depth of water signaled on Bar 18 ft. 6 in., but found only 17 ft. 9 in. in mid-channel.
	September	23	*Behar*	With outward mails, detained 12 hours, and damaged her rudder from scraping over the Bar, and had to dock in Hongkong in consequence; draft 18 ft. 3 in.; 17 ft. signaled.
	October	26	*Australia*	Lost a freight of Taels 8,000 to Taels 10,000 for Rice to Whampoo [Huangpu] in consequence of not being able to cross the bar, drawing 22 ft. 6 in.
	November	7	*Sunda*	With inward mails, detained 12 hours, and had to be lightened at Woosung; draft 18 ft. 6 in.
1872	January	5	*Mirzapore*	Lost local freight of about Tls. 3,000 (her draft would be about 20 ft.) and had to leave the anchorage on the afternoon of the 4th in order to cross the Bar, which entailed the hiring of a Tug to take the mails &c. to Woosung, and other expenses.
	January	22	*Sunda*	With a full cargo, and drawing 19 ft. 6 in., was detained in port from 22 to 24 January
	January	22	*Peking*	Drawing 18 ft. 9 in., with inward mails, was delayed 24 hours.
	January	25	*Malacca*	Drawing 21 ft. 4 in., lost two days, and was obliged to return to Shanghai to discharge part of her cargo.
Several other petty cases of delay and inconvenience have arisen, and have resulted in loss to the Company.				

Source: Dispatch of Seward (U.S. Consul General in Shanghai) to the U.S. (Acting) Secretary of State, No. 521, February 21, 1872, Enclosure No. 7, reported by the P & O.

Shanghai, Thomas Dick, and Viguier, the Harbor Master. They replied to the mail-shipping companies' petitions and stated the facts of the case to the U.S. Consul. The two Customs officers held that it appeared that the water on the bar was then the same as that shown by the Admiralty Charts from the 1862 survey (eleven and twelve feet at low water spring tides), but unfortunately, the greater depth (fourteen feet six inches) reported in February 1871 no longer existed.

The seasonal nature of the Woosung Bar's silting was acknowledged by the Customs officers. "[T]he shoaling commenced probably in June, and has progressed until the present moment [October]. Viguier added that, the silt may cut away, after

the season of high water in the Yangtze has passed." And Viguier was confident that his February survey was correct at that time, since a naval committee appointed by the Consuls had verified his survey then. In reply to the challenge of the accuracy of the Customs' signal of the Bar, Viguier stated that great care had been taken to make the signals at the Woosung Station correspond to the actual depth of water, as established by sounding day to day. Moreover, Seward added that he had spoken about the bar to Robert Hart, the Inspector-General of the Customs. Seward was then informed by Hart that "a dredging machine would be sent for."[33]

The official replies from both the treaty consuls and the Customs officers did not satisfy the Shanghai mercantile community. No substantial steps were taken to remedy the anxiety while more cases of detained ships occurred during the winter of 1871–1872 (see Table 4.1). A second remonstration came the same winter from seventy-seven commercial firms in Shanghai. This petition was initiated by Herbert S. Morris, the Secretary of the North-China Insurance Company.[34] This petition was a reflection of the shipping-insurance hegemony, co-signed by other major insurance offices, shipping companies, banks, and commercial firms of Shanghai. Although the full list of signatories was not carried in the press, it was provided in a dispatch of the U.S. Consul in Shanghai to Washington, D.C. (Table 4.2). In the petition, the mercantile community complained that there were no practical results since they first brought the subject before the treaty consuls and the Shanghai General Chamber of Commerce. They urged the Customs Commissioner of Shanghai, Thomas Dick, of "the importance and necessity for immediate steps being taken to remedy the insufficient water on the Bar at certain seasons."[35]

The media enhanced local pressures, pushing them far beyond Shanghai. Almost at the same time the merchants' petitions went to Beijing and London. In February 1872, the Shanghai merchants' petition was sent to the Chinese government and Foreign Ministers in Beijing, acknowledging the urgency of the obstruction caused by the bar. The message arrived at Beijing by two channels. Herbert S. Morris asked Thomas Dick, the Customs Commissioner of Shanghai, to forward the letter to his supervisor in the Customs, Inspector-General Robert Hart. Meanwhile, the Shanghai Chamber of Commerce addressed their version, which enclosed Morris' January petition, via the U.S. Consul General in Shanghai, to the Foreign Ministers in Beijing. In these remonstrations to Beijing, the Shanghai merchants complained that earlier petitions to the Chinese authorities (respectively in the autumn of 1870 and February 1871) had proved to have been in vain. The overlooked Shanghai merchants warned that if the apathy of the Chinese government continued, it would lead to "serious permanent injury of the port as the central entrepôt for the Northern Provinces of China." And since "the cost of maintaining an efficient channel by means of dredging would be so small, as compared with the amount of dues collected from shipping," it was reasonable for tonnage dues to be devoted to the maintenance and improvement of navigation.[36]

The press played a role here by exaggerating the seriousness of the situation at the Woosung Bar. The same petition from the Shanghai Chamber to Beijing, which was not carried publicly in the *NCH*, admitted that the mail steamers of

the Messageries Maritimes had not been prevented from passing the bar, as their departure schedule had been arranged at periods of highest tides. In addition, it seemed that the water level above the bar was not deteriorating. At the very least it was not worsening so quickly to become an immediate danger to navigation in the 1870s, as argued by agents of P & O, the Secretary of the North-China Insurance Company, and the Shanghai press.

"Apologists for the Chinese stagnation" in Beijing

With such uncertainty about the changing depth of the water around the Woosung Bar, it was not surprising that the official reply from Beijing continued to frustrate the Shanghai mercantile community. Fredrick F. Low, the U.S. Minister in Beijing, told the Shanghai merchant community that Robert Hart "appears to be doing all he can, with the means at his command, to meet the wishes of the mercantile community at Shanghai concerning the Woosung Bar. A dredging machine has been ordered in England for that work." In addition, the U.S. Minister regretted that

> a scientific and thorough examination, by person thoroughly competent for such work, had not made of the Bar in question before proceeding to expend the funds which the maritime interest can ill afford to see spent upon works of doubtful utility.

In contrast to Shanghai's lack of "scientific" information regarding the bar, the U.S. Minister informed Shanghai that Hart had submitted to him the reports of the examinations Hart had ordered, as well as the plans and estimates for the removal of the bar. Even though, the U.S. Minister still doubted Hart's scheme due to a lack of sufficient data required to undertake such a project. Based on the Minister's personal experience on similar cases in the United States, Low held that it would be very difficult, or rather impractical, to permanently deepen the channels of such rivers simply through dredging.[37]

Frederick Low was as well informed on hydrological questions as he was on the source and composition of the voices lobbying Hart. They had demonstrated the influence of the shipping-insurance hegemony exerted from Shanghai. The Minister noted:

> Were I permitted to make a suggestion in regard to this subject, I should say those most largely interested in commercial pursuits, in conjunction with the owners and agents of the various transportation lines which centre at Shanghai should, in their own interest, and also in the public interest, cause to be made such an examination such as I have suggested. If the work is impracticable, the cost of experiments will be saved, and ship-owners and ship-builders will know the actual facts; if practicable, then there would be some *reliable data* on which to base representations which may be necessary to make to the Government in Peking [Beijing].

Table 4.2 Signatories of the petition of January 11, 1872

Company or individual	*Agent or secretary for*
I Marine Insurance Offices and Shipping Companies	
1 Herbert S. Morris	North-China Insurance Co.
2 Jardine, Matheson & Co.	Canton and other Insurance Offices
3 Gibb, Livingston & Co.	Lloyds
4 Augustine, Heard & Co.	China Traders and other Marine Insurance Co.'s
5 Siemssen & Co.	Œsterling Sea and Fire Insurance Co. and Samarang do.
6 F. D. Barnes	The P. & O. Steam Navigation Co.
7 A. Hennequin (Acting Agent)	Messageries Maritimes Co.
8 Geo. F. Bowman	Pacific Mail Steam Shipping Co.
9 Butterfield & Swire	British and Foreign Marine Insurance Co. and The Ocean S. S. Co.
10 Samuel Brown	Union Insurance Society of Canton
11 Olyphant & Co.	China Insurance Co. Merchants' Mutual Marine Insurance Co. of San Francisco Board of Underwriters Union Steam Navigation Co. and Comagnie Russe de Nav. & c.
12 Russell & Co.	Yangtsze Insurance Association
13 Gilman & Co.	Various London Marine Insurance Companies
14 W. S. Schmïdt	China and Japan Marine Insurance Co.
15 Chapman, King & Co.	Hongkong Insurance Co.
16 Textor & Co.	Home Colonial Marine Insurance Co.
17 Smith Archer & Co.	The Borneo Co.
18 Holliday, Wise & Co.	London Assurance Corporation
19 Frazar & Co.	New York and Boston Underwriters American Shipmaster's Association National Marine Insurance Co. Australia Java Sea and Fire Insurance of Batavia
20 Wm. Pustau & Co.	Hamburg and Bremen Underwriters
21 Shaw Brothers & Co.	Union Marine Insurance Co. of Liverpool and London
22 Scheibler & Matthaei & Co.	Swiss Lloyds

Individual	*Agent or manager for bank*
II Banks	
1 Robert Fergusson	Chartered Mercantile Bank of India, London and China
2 D. MacLean	Hongkong & Shanghai Banking Corporation
3 A. Paterson	Oriental Bank Corporation
4 A. Kauffmann	Competoir d'Escomte de Paris
5 L. W. Mullins	Agra Bank, Limited
6 J. G. Marshall	Chartered Bank of India, Australia & China
III Other Commercial Firms	
1 Turner & Co.	
2 Alfred Dent & Co.	
3. Brand Brothers & Co.	
4 Thorne Brothers & Co.	
5 Little & Co.	
6 Bower, Hanbury & Co.	
7 Westall, Brand & Co.	
8 Blain & Co.	
9 Tate & Hawes	
10 Dent & Co.	
11 Reid & Co.	
12 A. Provand & Co.	
13 Lindsay & Head	
14 Weston & Co.	
15 Birley, Worthington & Co.	
16 Coutts & Co.	
17 David Sasson, Sons, & Co.	
18 p.p. F.R. Gamwell, H. R. Hearn	
19 Carter & Co.	
20 Rothwell, Love & Co.	
21 MacLean, Wallace & Co.	
22 F. W. Muller & Co.	
23 Overbeck & Co.	
24 Bourjau, Hubener & Co.	
25 Rodewald, Schonfeld & Co.	
26 Milson & Tod	
27 Bull, Purdon & Co.	
28 Wright, Burkill & Co.	
29 Adamson, Bell & Co.	
30 E. Schellhass & Co.	
31 Telge, Nolting & Co.	
32 Morris, Lewiss & Co.	
33 G. A. Monro & Co.	
34 Geo. Barnett & Co.	
35 W. Reme & Co.	
36 J. Brdadhusrst Tootal	
37 Findlay, Wade & Co.	
38 Hogg Bros.	
39 Reiss & Co.	
40 Bovet Bros. & Co.	
41 C. J. Skeggs &Co.	
42 Dickinson & Co.	
43 J. Jarvie & Co.	
44 J. C. Helbling & Co.	
45 Framjee Hormusjee & Co.	
46 M. D. Ghandy & Co.	
47 Primrose & Co.	
48 p.p. Cawasjee Pallanjee & Co., J. Rustomjee	
49 A. Droege & Co.	

Source: Seward (U.S. Consul General in Shanghai) to the U.S. (Acting) Secretary of State, No. 521, February 21, 1872.

The absent of "actual fact" and "reliable data" implied that the narrative of deterioration of the Shanghai press was questioned by the authorities in Beijing and became their official excuse for not dredging. Nonetheless, the local press criticized the U.S. Minister's suggestion that the Shanghai merchants fund their own survey. The *NCH* accused Low of taking up a position of an "apologist for Mr. Hart." "Foreign merchants do not hold the Inspector-General of Customs responsible, but the Government." Newspapers were particularly opposed to Low's suggestion that the survey come at their own expense, since they already paid the tonnage due which was more than enough to fund the study.[38]

The British Minister in Beijing, in the eye of the press, seemed to hold the same "apologist" position as his U.S. counterpart. Thomas France Wade wrote a letter to the Shanghai merchants about the bar, acknowledging that a proposal to provide the proper machinery required had been for some time before the Zongli Yamen (總理衙門, Chinese Foreign Office) and that Hart had been instructed to give early attention to the matter. This, however, was not news to the Shanghai merchants, who had known of these developments five months earlier.[39] Moreover, according to the newspapers, Wade seemed to be a spokesperson for Customs, merely repeating that the tonnage dues had already been spent to facilitate navigation through the project to illuminate and buoy the coast of China.[40]

Both the U.S. and British Ministers' replies were heavily criticized by the Shanghai press as being parrots for Robert Hart. Continuing to insist on the immediate necessity of dredging, the *NCH* criticized those diplomats in Beijing as shifting from being "advocates of progress" to apologists for "Chinese stagnation." "There must surely be something in the atmosphere of Peking, which at times makes Foreign Ministers appear to act as drags on the progressive tendencies of their nationals."[41] One of the factors that contributed to such a retrograde atmosphere, the *NCH* continued, was Hart and his foreign Customs, pointing out that the Customs had become a buffer between the Chinese government and Shanghai merchants. "If the Chinese Government elect to work through their [the Customs'] agency, well and good; but if it fail to act at all, it is not the Customs but the Chinese Government we blame." The press then defended their position, arguing that the situation in Woosung was becoming a greater daily nuisance due to the increasing number of steam vessels frequenting Shanghai.

In the same issue responding to Beijing, the newspapers confessed that the bar itself was not deteriorating, but merely subject to the normal seasonal changes. To the claims that the dredging was not practical, the newspapers argued that it was a "common sense conclusion" that the capability of a dredger to move silt compared to the rate of accumulation on the bar was "an equation capable of solution, so equally can the horse-power required to remove it be calculated." This opened up a new series of representations of the "Woosung Bar" in the press. At the heart of this was a necessarily careful calculation, which demanded a further survey. I will call it a game on the hydrographic facts, which further exemplified the role of the press as a merchant propaganda machine in defining an environmental "crisis."

Mediating a game of hydrographical matter of facts

The suggestion made by the Foreign Ministers in Beijing had embarked another wave of media politics on the Woosung Bar. The hydrographic facts about the bar took center stage as different parties defended their positions. The discussion of the growth of traffic through Shanghai and the increasing size of the ships seemed to be obviated by the newspaper, while they shifted to discussing the "deteriorating" situation at Woosung. Their claims were in turn challenged by the Marine Department of Hart's Customs. The Marine Department served as the official hydrographical authority, collecting and maintaining data regarding the depth of the water on the bar since its establishment in 1868.[42] Adding to the existing tension between Hart and the Shanghai mercantile community caused by other issues, the representation in the press of the hydrographical matters of fact became critical.

In the report of the February 1872 survey, Viguier had defended the validity of the Custom's Department data by nuancing the way from which the sounding was made:

> In order to make the survey with greatest accuracy I had boats anchored in different parts of the river, and the lines of soundings run from one boat to another, and from the boats to stations on shore, the exact position of the boats and stations being determined by triangulation, and having erected a special tide-pole, close to the Harbour Master's Station, at Woosung, the register of the tides was kept with great care.

This detailed description was published in the *NCH*, forwarded by Seward (the U.S. Consul General in Shanghai). However, the result of this careful survey was still challenged by subsequent petitions. In the newspapers, the official data on the depth of water above the bar were represented as "erroneous" and blamed for ship detentions in the winter of 1871–1872.

The Marine Department of the Customs had kept a full series of data of river depth since its establishment. Prior to the establishment of the department in 1868, there seemed no systematic surveys of the bar. Yet, sporadic data were collected by British naval officers. Woosung River was surveyed by the British naval officers Commander John Ward in 1858 and Master E. Wilds in 1862. The result was the "Chart of Woosung River" published by the British Admiralty (Admiralty Chart, No. 1601).[43] The Chart was popular among ship masters and almost every future directory of navigation referred to it. The chart gave the depth of the water on the bar around 1860, recording a minimum depth of twelve feet during the spring tides. This was about what the data collected in the 1870s discovered, again suggesting that the newspaper's claims of a deterioration of the bar were false.

Even though frustrated by the diplomats in Beijing, the mercantile community of Shanghai turned abroad to voice their opinion on dredging. In 1872, two waves of energetic remonstrance of the Shanghai merchants had reached London. With the long-distance operations reaching "home," the shipping-insurance

hegemony in treaty-port China demonstrated a great lobbying capacity. In April 1872, the British Foreign Office in London received a letter from J. A. Harper, the secretary of the Royal Exchange in London's Association for the Protection of Commercial Interest. In this letter, the communications regarding the bar between Morris, the Shanghai Chamber, and the Customs were presented before the British Foreign Office. The letter requested the "assistance of Her Majesty's Government, with a view to moving the authorities in Peking" to give their attention to the removal of a danger in the navigation of the port, which had then became the center of commerce in China.[44] A second London-bound petition was made by the P & O in September 1872, through the British General Post Office, asking that the "influence of Her Majesty's Government may be used to secure the attention of the Chinese Government to this important matter," since during the last few years the depth of water on this bar "has very much decreased."[45]

Receiving the first petition forwarded from London, Thomas Wade, the British ministerial "apologists in Peking," replied to his London superior, again explaining the Chinese official response. Robert Hart had been authorized by the Zongli Yamen to expend a considerable sum purchasing a dredging apparatus to be used at Woosung.[46] After the second petition, Wade and the British officers in the Foreign Office tried to obtain additional information regarding the situation at the bar. A new wave of circulation of hydrographical facts about the bar commenced. This time the discussion was out of the control of the Shanghai merchants and press. Wade had resorted to the British naval hydrographical authority in September 1872. The minister asked Admiral Charles F. A. Shadwell's help to have the question looked into by officers competent to report on it.[47] Shadwell was then commander in chief of the British Navy in the China Station. A report was accordingly made by Captain W. Arthur and Navigating Lieutenant Tracey of H.M.S. *Iron Duke*. Their report further undermined the narrative of deterioration. The report stated that "the Woosung Bar has not altered permanently in depth for many years."[48] The Shadwell concluded that the difficulty of navigation was "entirely owing to the increased size of the vessels at present employed in the trade to China."[49]

In addition to the statement of the British naval hydrographical authority, Hart's Customs also defended the position that the bar was basically unchanging. In February 1873, a table showing the daily depth of water on the Woosung Bar was unprecedentedly furnished to the *NCH* and occupied a whole page in an issue of the local paper (Table 4.3). The published table contained a series of records of daily high-water depth in the second half of 1872 and the average depth of each month during the same period. This table had very likely been furnished by customs officers, for numbers in it were the same as those in the meteorological tables carried regularly in the *NCH* and furnished by the customs station at Woosung. The table demonstrated again that there was almost no change in depth over the Bar compared to previous years. The seasonal variation of the bar was summarized at the bottom of the table.

To counter the Navy's testimony and the Customs' new evidence, the Shanghai press began to argue for the conservation of the Huangpu River, embracing a

wider perspective. Although the U.S. and British ministers in Beijing argued that a thorough survey of the bar was necessary, the Shanghai press exonerated the merchants of such work. Instead, the *NCH* suggested that the Chinese government should take responsibility for the study, including not only the Woosong Bar but the nearby Yangtze River as well. A reliable survey, the newspapers pretentiously opined, could thus render "intelligent" operations that might prevent permanent injury. The would-be operations should obey the knowledge not only of "the general law of hydrostatics," but the particularities of the Yangtze.[50] The press then admitted that they had no necessary information on the situation and rate of silting on the bar, which was key to their argument in favor of dredging.[51]

Compared to the Customs' perennial tabulations on the bar, the information-deficient mercantile community continued their complaints about ship delays and detentions. The February 6, 1873 issue of the *NCH* had significantly exemplified the press as a field for the battle in this asymmetrical hydrographic battle. A letter to the editor in the issue by a reader "Truth," commented on the previously published table (Table 4.3), calling it misleading to anyone who had not "a practical knowledge" of the subject. The reasoning of "Truth" was that the tables were based on both the day and the night tides. But it was well known that the night tides, as a rule, are much higher than the day tides. Moreover, "Truth" argued, the high night tides were irrelevant for deep draft shipping, for they "were seldom able to get through the junks at Woosung during the night and never able to cross the Bar and come up the river at night without great risk." After his re-calculation taking only the daytime tides, the monthly average depth of the bar (Table 4.4) was much shallower. "Truth" concluded: "This fact speaks for itself, and shews [*sic*] that on the average of those 4 months there was not water of a vessel of 20 feet to cross the Bar."[52]

The facts of "Truth" were soon challenged by "Owl," who wrote another response the same week. "Owl" began: "as each tide is given … there is not much fear of the average depths misleading anyone." He suggested that "Truth" intentionally omitted the numbers for July and September, when the average a.m. high tides were more than twenty feet. "Owl" then accused "Truth" of being muddled about the a.m. and p.m. tides. "Truth" did not understand the real meaning of "day" and "night" in respect to tide data. "Owl" reminded readers that "a.m." referred to the period from midnight to noon and "p.m." from noon to midnight. After pointing more of "Truth"'s errors "Owl" concluded that he learned from one or two of the oldest pilots that they believed there was as much water on the bar now as there had been over ten years ago. Mocking the Shanghai merchants' lack of necessary information and defending the hydrographical authority of the customs' office, "Owl" continued: "a careful recording of the actual depth of water over a series of years is the only way to arrive at a proper understanding of this Bar, and such is now evidently being done by the Customs authorities."[53]

The appearance of an official summarize of water depths around Woosung Bar and the subsequent debate between "Truth" and "Owl" scarcely proved the press's neutrality in the debate. Customs was rarely in the favor of the local press. Most of the time, the voice of the commercial party was more prominent

Table 4.3 Depth of water on the Woosung Bar

Table shewing the depth of water on the Woosung Bar at each high water from July 1 to December 31, 1872

Day of the month	*July*				*August*				*September*				*October*				*November*				*December*			
	a.m.		*p.m.*		*a.m.*		*p.m.*		*a.m.*		*p.m.*		*a.m.*		*p.m.*		*a.m.*		*p.m.*		*a.m.*		*p.m.*	
	feet	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*	*feet*	*inches*
1	19	4	20	5	19	1	22	2	–	–	18	9	21	2	19	10	20	7	21	3	20	3	21	9
2	19	2	21	1	19	10	22	4	21	1	19	3	21	5	20	4	20	9	21	10	20	6	22	3
3	19	2	21	7	20	5	–	–	21	5	19	10	21	6	20	10	20	7	22	0	20	4	21	1
4	19	6	–	–	22	8	20	6	21	5	20	2	21	5	21	3	10	5	21	9	19	8	21	5
5	22	0	19	8	22	8	20	5	21	4	20	2	21	0	21	3	10	10	21	1	19	2	20	7
6	22	3	19	9	22	6	20	10	21	2	20	5	20	9	22	3	18	7	20	10	18	7	21	2
7	22	9	20	0	22	10	21	5	21	4	20	8	21	2	21	1	18	0	19	10	18	4	19	9
8	22	11	20	1	22	10	20	1	20	3	20	2	19	7	20	9	16	9	18	10	17	2	19	0
9	–	–	20	7	21	3	19	8	19	9	21	9	18	9	20	2	16	5	21	4	18	8	19	0
10	23	2	20	1	21	2	20	1	20	4	10	11	17	7	20	2	19	6	19	2	17	5	18	2
11	21	9	19	8	20	3	19	8	17	10	18	11	15	9	18	9	17	4	18	6	19	10	20	8
12	21	3	19	3	19	3	19	0	17	6	19	3	16	7	19	10	19	10	20	2	19	2	18	1
13	20	7	19	3	18	2	18	9	17	5	20	7	18	2	20	6	19	7	19	6	20	11	21	2
14	19	11	19	3	16	9	18	7	18	4	21	6	19	3	21	2	–	–	20	8	–	–	22	1
15	19	4	19	10	17	3	19	5	19	4	22	2	20	2	–	–	20	4	21	9	19	6	21	2
16	18	9	19	11	17	8	20	7	–	–	20	5	21	4	20	10	21	2	21	9	18	8	19	10
17	17	9	20	4	19	0	21	10	22	10	21	3	21	6	21	9	21	5	21	7	18	5	21	5
18	18	5	22	4	–	–	19	10	23	0	21	7	21	4	22	4	20	4	21	2	19	3	20	2
19	20	8	22	8	23	2	20	6	22	11	22	0	21	9	21	10	18	9	21	2	17	11	20	8
20	–	–	19	11	22	9	21	0	22	4	22	2	21	6	21	9	18	7	20	8	18	7	20	2
21	23	4	20	9	22	7	21	1	21	8	21	11	20	10	21	2	18	2	20	4	17	7	19	5
22	23	7	21	2	22	7	21	2	20	9	21	5	19	3	20	3	17	7	20	0	17	5	19	1

23	23	11	21	3	22	2	20	10	19	6	20	10	18	1	19	3	19	3	10	3	17	4	19	0
24	23	7	21	2	21	8	20	10	18	4	19	10	16	5	18	10	16	0	19	3	17	4	18	4
25	23	2	20	8	20	3	20	3	17	5	18	10	15	8	17	8	16	10	17	11	17	11	18	1
26	21	9	19	8	18	7	19	2	15	8	18	2	15	5	18	2	17	5	19	1	19	3	18	2
27	20	3	19	7	16	8	18	5	15	10	18	9	16	8	18	8	19	5	19	4	19	4	18	6
28	19	3	19	5	15	11	18	3	17	1	19	7	18	1	19	6	19	4	10	3	10	11	10	1
29	18	4	19	2	16	1	19	1	18	9	20	7	19	10	20	10	20	2	–	–	–	–	22	5
30	17	8	19	3	16	10	19	6	19	4	–	–	20	0	20	7	20	3	20	11	19	10	21	4
31	17	8	21	3	17	7	19	11	–	–	–	–	–	–	20	5	–	–	–	–	18	10	22	10
Average depth of tide each month	*20 feet 6 inches*				*20 feet 1 inch*				*20 feet 1 inch*				*19 feet 0 inches*				*19 feet 7 inches*				*19 feet 6 inches*	

Number of tides of certain depths in each month

Month	*Tides from 15' to 15'6"*	*Tides from 15'6" to 16'*	*Tides from 16' to 16'6"*	*Tides from 16'6" to 17'*	*Tides from 17' to 17'6"*	*Tides from 17' 6" to 18'*	*Tides from 18' to 18'6"*	*Tides from 18'6" to 19'*	*Tides from 19' to 19'6"*	*Tides from 19'6" to 20'*	*Tides from 20' to 20'6"*	*Tides from 20'6" to 21'*	*Tides from 21' to 21'6"*	*Tides from 21'6" to 22'*	*Tides from 22' to 22'6"*	*Tides from 22'6" to 23'*	*Tides from 23' to 23'6"*	*Tides from 23'6" to 24'*
July	–	–	–	–	–	3	2	1	11	11	6	4	6	3	3	3	4	3
August	–	1	1	3	1	2	3	3	7	6	7	6	6	2	3	8	1	–
September	–	2	–	–	3	2	3	5	4	6	7	5	8	5	4	2	1	–
October	1	2	1	2	–	2	4	4	3	5	7	8	12	7	2	–	–	–
November	–	–	2	2	2	2	2	5	9	6	8	7	7	5	1	–	–	–
December	–	–	–	–	5	3	7	6	11	7	4	5`	7	1	3	1	–	–
Totals	1	5	4	7	11	14	21	24	45	41	39	35	46	23	16	14	6	3

Source: *NCH*, February 6, 1873.

Table 4.4 Monthly average a.m. high tides of the bar calculated in a letter to the editor of the *NCH*

a.m. high water	*Feet and inches*	*a.m. high water*	*Feet and inches*
September	19 ft. 9 in.	November	18 ft. 9 in.
October	19 ft. 4 in.	December	18 ft. 10 in.

than that of the officials. From 1870 onward, cases of further detentions carried in the press had been typically titled "Woosung Bar, Again!"[54] Moreover, while the hydrographical matter of facts battle was taking place, on February 6, 1873, the same issue of the *NCH* carried more pages of another petition by mercantile interest to Beijing with full reprint of associated correspondence. In January, F. B. Johnson (Chairman of the Shanghai Chamber, partner in Jardine, Matheson & Co., and the Consul for Denmark sitting in the consular meetings of treaty powers in Shanghai) wrote to Wade, informing the British Minister in Beijing of the existence of the second petition to London. Johnson doubted if Hart had taken any of the actions he had promised, such as ordering a dredging machine in England. Johnson also asked what the Chinese government would do about the matter. He believed that the Chinese should grant the Shanghai mercantile community additional power to raise the funds themselves, "by means of special taxes to be levied upon native and foreign shipping resorting to the Port, and upon landed and house property within its limit."[55] The press accused that the delay (or more apparently non-action) on the dredging, had been more than official negligence. It was "a disgrace of the [Chinese] Government."[56]

Hart and his Customs, the constant registers of the bar and the "buffer" between the mercantile community and the Chinese government, had their own view. They were advisers rather than employees of the Chinese government and contributed to the policy of delay. The lack of sufficient information was their shared official excuse they sent Shanghai. In most occasions, Hart replied to the Shanghai merchants that he had no funds at his disposal for the dredging. Most of the tonnage dues were spent in lighting and buoying. The buffer seemed working for a delay when Hart promised that he would "urge the matter on the Chinese Government," only if he had necessary information. Hart's memorandum published in the *NCH*, further documented this position. In 1867, Hart wrote to the U.S. Minister in Beijing, informing that before any attempt be made with the bar

> a competent engineer will be brought from Holland, and on his opinion will depend the measures to be proposed … in the absence of the opinion of a man at once scientific and practical, who has made such works his study, my advice to the Chinese is to do nothing rather than to bury sycee in the mud.[57]

This echoed the same "lack-of-necessary-information" message sent to Shanghai by the British and U.S. ministers in 1872. To act upon the official inert reply, a survey was made by the Shanghai mercantile community themselves.

Mobilizing alternative hydrographic experts in Shanghai

In the winter of 1873, the mercantile community launched another petition with a new survey made in the summer, along with a cost estimate of dredging and compared to the costs incurred by delays caused by the Woosung Bar for different shipping companies. The survey was a collective response to the "suggestions" from Beijing. It aimed to demonstrate the feasibility of dredging and its manageable cost. F. B. Johnson, the Chairman of the Chamber of Commerce, employed the help of an American merchant, Charles E. Hill to survey the bar. Hill engaged Edward Hjousbery, a pilot in Shanghai, as superintendent of the survey. Johnson and Hill also asked the help of the Commander of the U.S. Naval Force on the Asiatic Station (Rear Admiral Thornton S. Jenkins), by resorting to the U.S. Consul General in Shanghai (Seward). With the order from the Admiral, the survey was made with the assistance of several U.S. naval officers (of the U.S.S. *Iroquois*). Hjousbery hereafter made a chart and gave a detailed report of how the survey was conducted, which was published in the *NCH*.[58] A dredging engineer named G. D. Hamill also sketched a scheme of dredging, and made the estimates of the number of cubic feet of mud that had to be removed in the work.[59]

The following meetings of the Shanghai Chamber and the Foreign Consuls discussed the new American survey. F. D. Barnes, the Agent of the P & O in Shanghai and latterly the Managing Director of the shipping giant's headquarters in London, presented on both occasions. The minutes of the chamber meeting were published in great detail by the *NCH*. Barnes collected various opinions from more than thirty pilots and captains. In Barnes' representation, almost all those local hydrographical experts had concurred in stating that the river was in general shoaling and narrowing. The bar had shoaled two feet during the previous eighteen months since 1872, when Hart was in Shanghai in person and promised action. Even worse, it seemed the water above the bar was two feet more shallow.[60] Recent detention cases owing to the bar occurred to P & O during the last two years were listed and laid before the meeting of consuls, in which the direct and indirect loss amounted to 22,000 taels since September 1871. Other major shipping companies also reported their losses. For instance, William Lang, of Messrs. Butterfield & Swire Company, testified that the Company lost 17,100 taels since January 1871. A. Hennequin added that in a single year the Messageries Maritimes suffered a loss of 33,400 taels due to the bar.[61]

Meanwhile, the Shanghai press had revised their rhetoric on the deterioration at the bar, but did so with a wider scope. They started to advocate a "Board of Conservation" to deal with not only the bar, but more comprehensively, other nuisance of the river, mainly wrecked ships and shoaling at other sites in the Huangpu. In October 1873, an editorial of the *NCH* admitted that

> it was a moot point whether or not the bar was really silting up, it might have been urged that the increased size of the steamers frequenting Shanghai was, at bottom, the origin of the complaints which have been urged of late years.

The same editorial argued: "facts are too strong to admit of this rejoinder, and for better or worse Shanghai must make up its mind to look upon silting of the Woosung Bar as a matter of fact."[62] The newspaper continued to point out that the bar was then not only detaining large ocean-going mail steamers, but also the smaller Yangtze navigating boats. The experience of the Shanghai Steam Navigation Company suggested that the situation was in "fact" worsening.

> It is only within the last year, we believe, that any of their boats have had occasion to lie at Woosung waiting for water to cross. Within the last two months, it has become necessary to arrange their time that they shall not arrive at Woosung at low water.

In short, the Bar was, the newspaper held, becoming more and more troublesome, and only did the local community perceive of it as "peculiarly a local matter.... No one knows where the shoe pinches so well as the sufferers—the Shanghai shipping interest."[63]

The 1873 local survey and the further revised complaints of the bar seemed unable to alter the minds of officials in Beijing. Another memorandum by Hart in the spring of 1874, in contrast to his earlier memo in 1867, was quite offensive to the Shanghai mercantile community. This confidential but latterly published document demonstrated the up-to-date hydrographical knowledge obtained by Hart and his Customs staff. In which the bar was considered as a part of the whole inter-related depositing phenomenon at the mouth of the Yangtze, which was not feasible to be solved by mere dredging. In the 1874 memorandum, Hart indicated that the agitation and repeated remonstrations from Shanghai were in fact a factor of commercial competition. He said:

> The trade consequent on opening the Yangtze River has so far been diverted into a false channel by the vested rights or money spent in Shanghai. This agency is in turn counteracted by the opening of the Suez Canal, through which steamers have begun to pass, making London and Hankow their termini. The tendency of the S. S. N. Company's steamers' operation is to bring teas to Shanghai; the competition of Holt's line [of the Butterflied & Swire] does not altogether oppose this tendency; but Holt's line, a combination of river and sea-going steamers, is being followed by other lines, and this competition will tend to foreign trade more and more to the steamers which do not call at Shanghai. Even the P & O preference for Shanghai will have to move on, and keeper competition will weaken the influence of Shanghai's priority and vested rights. Add to all, the competition coming from the Chinese side, which, in ten or twenty years' time, will have swept the foreign flag from the coasting trade of China, and displayed the Chinese colors in the London and Liverpool docks. The highway of trade for Central and Northern China will be the Yangtze. Teas will be shipped at Hankow and Kiukiang, and Shanghai silks and Ningpo teas at Chinkiang. They will be the return cargoes of the steamers which carry what China may continue

to demand from Europe. In 20 years' time Chinkiang will have taken the place of Shanghai as a semi-terminus and trans-shipment port, but its foreign community will naturally be a smaller one, [political] possibilities aside. Thus looked at, as it affects and is affected by natural and artificial agencies now at work at the mouth of the Yangtze, the question of the Woosung Bar is seen to mean that dredging there may possibly be nothing more than a means of making the last days of Shanghai a little more comfortable than they would otherwise be; it will not prolong or avert the commercial death of the place, but it will make a show of vitality during its declining years more possible.[64]

This memorandum explained the official position on the Woosung Bar which denied any substantial steps as demanded by the Shanghai merchants. However, it was apparent that in the spring of 1874 Hart had overlooked the determination of the Shanghai mercantile community to protect their local interests.

Prior to Hart's second memorandum, the Shanghai merchants resumed petition with even greater efforts. In January 1874, a P & O petition again reached London. The collective survey of the bar in the winter of 1873 became additional evidence used to mobilize support in the home government. They had cried to the British government that "the state of the river is very much worse than it was some years since, and that, even within the last few months, it has deteriorated very considerably."[65] Though this seemingly urgent situation was discredited by the later paragraph of the same letter: "It is true that the [P & O] Company's homeward mail-steamers have not lately suffered any considerable detention; but this is due to the fact that their dates of departure have happened to fall on the spring tides." Again, this homeward petition was laid before the British Parliament in 1874. Previous correspondences between Shanghai, Beijing, and London regarding the bar between 1872 and 1874, were reprinted in a pamphlet for circulation among Parliament members.[66] The Shanghai press praised Robert Reid, an old China hand, for coming forward on behalf of the Shanghai merchants by sending question to Parliament. The Shanghai paper concluded: "it shows that [the British] Government is alive to the fact that there is a place called Shanghai, and is not altogether deaf to its requirements."[67]

The British Minister in Beijing had to be reluctant and accordingly forwarded the return petition from London to the Chinese government. Pressure came not only from the British Parliament. The Shanghai newspapers also noted that they were glad to hear from Beijing that the French Minister received from his government instructions identical to Wade's. Wade replied to London that "the matter has been pressed upon the Chinese Government for the last two years.... Since 13th of February, besides verbal communications, I have written three despatches to the Prince [Prince Kung 恭親王, the head of the Zongli Yamen]."[68] After receiving further official denials from the Chinese government, tensions soared. In the spring of 1874, the Chinese government was dealing with an international crisis, due to Japanese invasions of aboriginal villages in southern Taiwan. The "heavenly sent barrier" became a reality in the bellicose

atmosphere when Prince Kung again denied any support for a dredging due to their urgent need to defend Woosung and protect the Huangpu River. Although the "local pressure" from Shanghai had been already sounding monotonously in the ear of the Beijing authorities, the Shanghai newspapers remained energetic and argued against Prince Kung's reply.[69] Hart summarized the situation in a telegraph dispatched to London. He wrote: "The Chinese refusal to allow the Woosung Bar to be dredged may become almost a *casus belli.*"[70]

Conclusion: media, commercial interests, and an environmental "crisis"

The commercial press in nineteenth-century Shanghai visualized a controversy on shipping access. The need for dredging the Woosung Bar had been raised, but the facts surrounding the issue were manipulated. Since 1870, the press had reported on most of the mercantile community's views and activities surrounding the bar, including the official responses of both foreign and Chinese authorities. The commercial papers highlighted the need for dredging as port traffic increased. Numerous petitions from the Shanghai General Chamber of Commerce and major shipping and insurance companies, were reported on and even enhanced by the newspapers. Through this the newspapers exerted "local pressure" upon the local Chinese magistrates, the Customs staff in Shanghai, and more distant authorities both in Beijing and "at Home." Newspapers also published various documents and correspondence, including the minutes of meetings of the Chamber of Commerce, the foreign consular meetings in Shanghai, correspondence between the Chamber and local magistrate, or between other officials and diplomats both in China and in London. These documents were both reprinted and discussed in the pages of the *NCH*. This profiling and documentation had enhanced the "public sphere" among the mercantile community and facilitated further collective actions, such as their autonomous survey in 1874. The press served as the merchants' propaganda machine and was far from a neutral party in the public discourse. The case of Woosung Bar had demonstrated the practice of this new and powerful "public" opinion in treaty-port China. Furthermore, it had greatly enhanced the commercial initiatives with their joint lobbying capacity. While the hydrographical facts in support of the merchants' dredging campaign were dubious, the manipulation was facilitated by the newspapers.

It is significant to our refreshed curiosity on the role of the media in the modern capitalist world. Environmental crises, such as extreme weather, are affecting people in everyday life, and have been reported enthusiastically in the news media. The image of these new crises might not be "false," as was the manufactured crisis of the Woosung Bar in 1870s Shanghai. But some lessons might be herewith undermined. The Shanghai press had never been a neutral forum for opinions of different sides in the controversy. The press's representation of the hydrographical data suggests a willingness to manipulate information delivered to the public. In contrast to the media-enhanced discourse of the bar's

deterioration and persistent propaganda and public pressure, Robert Hart's and the Customs' collection of knowledge on the bar through surveys, such as the one done by the British Admiralty under the request of Thomas Wade, were virtually ignored by the newspapers. In contrast, the pro-merchant argument that conditions at the bar were worsening rapidly and the shouting of the large shipping companies prevailed in shaping public opinion in Shanghai.

Notes

1 Maxwell T. Boykoff, *Who Speaks for the Climate? Making Sense of Media Reporting on Climate Change* (Cambridge: Cambridge University Press, 2011), pp. 28–29.

2 Wu Yi-Xiong 吳義雄, "The Formation of a General Sentiment among Westerners in China for Waging War against China before the Opium War," *Journal of Modern History* [近代史研究] 2 (2009): 23–43.

3 Christopher A. Reed, *Gutenberg in Shanghai: Chinese Print Capitalism, 1876–1937* (Vancouver: University of British Columbia Press, 2004); Barbara Mittler, *A Newspaper for China?: Power, Identity, and Change in Shanghai's News Media, 1872–1912* (Cambridge, MA: Harvard University Asia Center, 2004); Rudolf G. Wagner, ed., *Joining the Global Public: Word, Image, and City in Early Chinese Newspapers, 1870–1910* (Albany, N.Y.: State University of New York Press, 2007); Tsai Weipin 蔡維屏, *Reading Shenbao: Nationalism, Consumerism and Individuality in China, 1919–37* (New York: Palgrave Macmillan, 2010); Yong Z. Volz and Chin-chuan Lee, "Semi-colonialism and Journalistic Sphere of Influence," *Journalism Studies* 12:5 (2011): 559–574; for a most recent account, see Rudolf G. Wagner, "Don't Mind the Gap: The Foreign Press in Late-Qing and Republican China," *China Heritage Quarterly*, 2012, available at: http://chinaheritagenewsletter.anu.edu.au/features.php?searchterm=030_wagner.inc&issue=030, accessed on January 17, 2015.

4 An exception, though not focusing on the role of the press, might be the pioneering study by Chang Ning 張寧, "Cultural Conflicts in the British Community in China: Shanghai 'Sportsmen' vs. the 'Bird Slaughters,' 1890–1920 (在華英人間的文化衝突：上海 '運動家' 對抗 '鳥類屠害者', 1890–1920)," *Bulletin of the Institute of Modern History, Academia Sinica* [中央研究院近代史研究所集刊] 34 (2000): 89–144.

5 A recent example, see Niv Horesh, "Location Is (Not) Everything: Re-assessing Shanghai's Rise, 1840s–1860s," *Provincial China* 1.2 (2009): 61–75; for a classical account see H. B. Morse, *The International Relations of the Chinese Empire* (London: Longmans, Green & Co., 1910–1918), Vol. 2, pp. 275–276; Vol. 3, pp. 380–386.

6 John W. King, *The China Pilot*, 3rd ed. (London: Printed for the Hydrographic Office, Admiralty, 1861), p. 198.

7 Imperial Maritime Customs, *Woosung Inner Bar* (Shanghai: Kelly & Walsh, 1894), 6; Note on a map of "Wusung River or Huang Pu," made by A. M. Bisbee, assisted by R. Braun, 1887, in Imperial Maritime Customs, *Woosung Inner Bar*, 8a. Regarding the study of tides and its significance in the history of science, see Michael S. Reidy, *Tides of History: Ocean Science and Her Majesty's Navy* (Chicago: The University of Chicago Press, 2008).

8 Lindsay and Gützlaff, *Report of Proceedings on a Voyage to the Northern Ports of China in the Ship Lord Amherst* (London: B. Fellowes, Ludgate Street, 1833), pp. 169–170.

9 *History of Shanghai Harbor* [上海港史話], (Shanghai: Shanghai renmin chubanshe, 1979), p. 110.

10 *History of Shanghai Harbor*, pp. 111–112; "The Huangpu Conservancy Scheme," *NCH*, July 31, 1901; Francis Lister Hawks Pott, *A Short History of Shanghai* (Shanghai: Kelly & Walsh, 1928), pp. 100–101.

11 Imperial Maritime Customs, *Notice to Mariners, 1862–82* (Shanghai: Statistical Department of the Inspector General, 1883), Notices No. 1 (July 7, 1862) to No. 7 (February 23, 1863); Notice No. 5 (February 2, 1863) was a detailed "Directions for crossing the Inner Bar at Woosung" by the Harbor Master of Shanghai (Hockly).
12 Next to "Passengers" in the shipping news column of the *NCH*, June 24, 1865. Hart departed to Beijing through Tientsin by the steamer *Ying-tze-fei*.
13 For an example of this common suggestion, see "The Marine Department," *NCH*, December 13, 1870.
14 The establishment of the Marine Department in the Customs in 1868 was detailed by Chen Shi-qi 陳詩啟, "The Establishment of the Marine Department of the Customs and its Work in Modern China (中國近代海關海務部門的設立和海務工作的設施)," *Modern Chinese History Studies* [近代史研究] 6 (1986): 94–112.
15 "Editorial Selections: The River," *NCH*, October 25, 1871. For the full text of the treaty, see William Frederick Mayers, *Treaties between the Empire of China and Foreign Powers: Together with Regulations for the Conduct of Foreign Trade, Conventions, Agreements, Regulations, etc.* 4th ed. (Shanghai: North-China Herald Office, 1902), p. 16.
16 Robert Hart to James Duncan Campbell, May 16, 1874 in Xiafei Chen and Rongfang Han, (eds.), *Archives of China's Imperial Maritime Customs: Confidential Correspondence Between Robert Hart and James Duncan Campbell, 1874–1907* (Beijing: Foreign Language Press, 1990), Vol. 1, pp. 18–19.
17 "The Marine Department," *NCH*, December 13, 1870.
18 The "shipping-insurance hegemony" also exerted their great influence on the incipient public weather service in Shanghai and Hong Kong. See Marlon Zhu, "Typhoons, Meteorological Intelligence and the Inter-Port Mercantile Community in Nineteenth-century China," (Ph.D. diss., State University of New York, Binghamton, 2012).
19 For the discussion of the steam shipping industry, see Kwang-Ching Liu, *Anglo-American Steamship Rivalry in China, 1862–1874* (Cambridge, MA: Harvard University Press, 1962); Anne Reinhardt, "Navigating Imperialism in China: Steamship, Semicolony, and Nation, 1860–1937," (Ph.D. diss., Princeton University, 2002).
20 "Trade with China," *Times* (London), September 7, 1864; despatch, Sir Frederick Bruce (British Minister in China in Beijing) to British Foreign Office, June 7, 1864.
21 *Times* (London), September 12, 1864; partially reprinted in "China According to the *Times*," *NCH*, November 26, 1864.
22 British Consular Report, 1867, Shanghai, 117–118.
23 Yen-ping Hao, *The Commercial Revolution in Nineteenth-Century China: The Rise of Sino-Western Capitalism* (Berkeley: University of California Press, 1986); Nie Baozhang 聶寶璋, "The Expansion of the Foreign Firms in China in the 1860s (19世紀60年代外國在華洋行勢力的擴張)," *Selected Works of the Scholars in the Chinese Academy of Social Sciences: Volume of Nie Baozhang* (Beijing: Zhonghguo shehui kexue chubanshe, 2002), pp. 43–78, originally published in *Historical Research* [歷史研究] 6 (1984).
24 Morse, *The International Relations of the Chinese Empire*, Vol. 2, p. 275.
25 "The Chamber of Commerce," *NCH*, November 22, 1870; *NCH*, March 1, 1871. Regarding the intermediate role of Taotai between foreigners and Chinese higher authorities, see Yuan-sheng Liang, *The Shanghai Taotai: Linkage Man in a Changing Society, 1843–90* (Honolulu: University of Hawaii Press, 1990).
26 *NCH*, March 1, 1871; published correspondence, Viguier to Thomas Dick (Commissioner of Customs in Shanghai), February 11, 1871, *NCH*, March 8, 1871. This letter was transmitted to the *NCH* by George F. Seward, Senior Consul of the Consul Body and U.S. Consul General in Shanghai. Those international naval officers who verified Viguier's survey were H. Koch (First Lieutenant, Denmark), D. G. Davidson (Commander, Britain), Vincent (Lieutenant, France), and E. P. McCrea (Commander, U.S.).

27 For an introduction of P & O, see Freda Harcourt, *Flagship of Imperialism: The P. & O. Company and the Politics of Empire from Its Origins to 1867* (Manchester: Manchester University Press, 2006).
28 Published correspondence, S. A. Viguier to Jellicoe, May 6, 1871, *NCH*, October 18, 1871.
29 *NCH*, October 11, 1871.
30 Published correspondence, Jellicoe to the Shanghai Chamber of Commerce, September 11, 1871, *NCH*, October 18, 1871.
31 Published correspondence Varagot to Ch. De Crety, September 12, 1871, *NCH*, October 18, 1871. The survey was made on September 11, 1871.
32 Published correspondence, Water Pearson (Secretary of the Chamber) to G. F. Seward (Senior Consul of the Consular Body and the U.S. Consul General in Shanghai), *NCH*, October 18, 1871.
33 "Meeting of the Treaty Consuls," *NCH*, October 18, 1871.
34 Morris held this post since no later than 1868 and retired from the post on December 31, 1896. See *NCH*, April 23, 1897. He was once "District Grand Treasurer" of the Freemasonry in Shanghai in 1881–1882. See Robert S. Ivy, *The History of Freemasonry in Shanghai and North China* (Tientsin: The North China Printing and Publishing Company, 1913), 36.
35 Published correspondence, Herbert S. Morris and seventy-six other firms and insurance companies to Dick, 11 January, 1872, *NCH*, February 1, 1872; this letter is also in the report of Seward to the U.S. Secretary of State, No. 521, February 21, 1872, which document contains the full list of the co-signers. On page 88 of the issue of the *NCH*, the number of signers was counted as seventy-nine.
36 Robert I. Fearon (Vice-Chairman of the Shanghai Chamber of Commerce) to the Ministers of Treaty Powers in Beijing, February 16, 1872, in Seward (U.S. Consul General in Shanghai) to the U.S. (Acting) Secretary of State, United States National Archives, Washington, D.C., "MS Despatches from the U.S. Consuls in Shanghai, China, 1847–1906," Vol. 16, No. 521, February 21, 1872.
37 Published correspondence, Low to Seward, February 21, 1872, *NCH*, March 21, 1872.
38 *NCH*, March 21, 1872.
39 A complaint of the delay, see the "What People are Saying," *NCH*, March 7, 1872.
40 Published correspondence, Wade to Robert I. Fearon (Vice-Chairman of the Shanghai Chamber of Commerce), March 26, 1872, *NCH*, April 11, 1872.
41 "The Woosung Bar," *NCH*, March 28, 1872. For a similar criticism both on the Chinese government and the Foreign Ministers in Beijing, see "What People are Saying," *NCH*, May 25, 1872, which reads "Chinese obstructiveness [*sic*], backed by Ministerial obtuseness, is too much for anybody."
42 At the beginning of the establishment of the Department, the Shanghai press had correctly considered it as "a large Hydrographic Department" to be organized by the Customs, see *NCH*, October 27, 1868.
43 Imperial Maritime Customs, *Woosung Inner Bar* (Shanghai: Kelly & Walsh, 1894), p. 2.
44 J. A. W. Harper (Secretary of the Association) to E. Hammond (British Foreign Office), April 18, 1872 in *Correspondence Respecting the State of the Woosung Bar, near Shanghae, Presented to both Houses of Parliament by Command of Her Majesty, 1874* (London: Harrison and Sons, 1874), No. 1.
45 A. M. Bethune (Secretary of the P & O in London) to F. Mill (Secretary to the British Postmaster-General), September 14, 1872, in *Correspondence*, No. 4.
46 Wade to Earl Granville (British Secretary for Foreign Affair), July 22, 1872, in *Correspondence*, No. 7.
47 Wade to Earl Granville, December 5, 1872, in *Correspondence*, No. 12.
48 Report by Captain Arthur, December 1, 1872, in *Correspondence*, Enclosure 2 of the letter No. 12.

49 Shadwell to Mr. Wade, January 14, 1873, in *Correspondence*, Enclosure 1 of the letter No. 14.
50 "Changes in the Yangtze," *NCH*, February 6, 1873.
51 "The Woosung Bar," *NCH*, February 6, 1873.
52 "Truth," letter to the editor, *NCH*, February 6, 1873.
53 "Owl," letter to the editor, *NCH*, February 6, 1873.
54 For instances, see *NCH*, January 4, 1872 and *NCH*, February 1, 1872.
55 Published correspondence, Johnson to Wade, January 20, 1873, *NCH*, February 6, 1873. Pott, *A Short History of Shanghai*, p. 101, had wrongly dated Johnson's petition in 1864. The suggestion of the additional tax was declined by Wade.
56 "Changes in the Yangtze," *NCH*, February 6, 1873.
57 Hart's memorandum (January 31, 1867) enclosed in a letter from Anson Burlingame (U.S. Minister in Beijing) to Seward (U.S. Consul General in Shanghai), March 29, 1867, *NCH*, June 5, 1875.
58 Published correspondence, Hjousbery to Hill, November 14, 1873, *NCH*, November 27, 1873. The Chamber paid for expense of the survey with $376.82.
59 Seward to the U.S. (Assistant) Secretary of State, United States National Archives, Washington, D.C. "MS Despatches from the U.S. Consuls in Shanghai, China, 1847–1906," Vol. 16, No. 677, December 11, 1873, Documents laid before the Body of Foreign Consuls at Shanghai in relation to the Harbor of Shanghai, the Woosung Bar, and the Whangpoo River.
60 *NCH*, November 27, 1873; *NCH* December 4, 1873; *NCH* March 18, 1880.
61 *NCH*, November 27, 1873; the detailed calculation of the former two companies, see Seward to the U.S. (Assistant) Secretary of State, United States National Archives, Washington, D.C. "MS Despatches from the U.S. Consuls in Shanghai, China, 1847–1906," Vol. 16, No. 677, December 11, 1873, pp. 8–9.
62 "The Woosung Bar," *NCH*, October 9, 1873.
63 "The Woosung Bar," *NCH*, October 9, 1873.
64 "Hart's Memorandum (March 5, 1874)," *NCH*, April 24, 1875. Part of these paragraphs were also cited by Pott, *A Short History of Shanghai.*, pp. 101–102; and Rhoads Murphey, *Shanghai: Key to Modern China* (Cambridge, MA: Harvard University Press, 1953), pp. 75–76.
65 R. M. Bethune (Secretary of the P & O, London) to John Tilley (of General Post Office, London), January 20, 1874, *Correspondence Respecting the State of the Woosung Bar, near Shanghae, Presented to both Houses of Parliament by Command of Her Majesty, 1874* (London: Harrison and Sons, 1874), Enclosure in No. 17.
66 *Correspondence Respecting the State of the Woosung Bar*. This pamphlet was also reprinted by the *NCH* of July 4, 1874.
67 *NCH*, May 2, 1874.
68 Wade to the Earl of Derby (telegraph), April 3, 1874, *Correspondence Respecting the State of the Woosung Bar*, No. 20.
69 Both Prince Kung's reply and the following comment of the Press, see *NCH*, June 27, 1874.
70 Hart to Campbell (telegram), May 16, 1874, Xiafei Chen and Rongfang Han eds., *Archives of China's Imperial Maritime Customs: Confidential Correspondence Between Robert Hart and James Duncan Campbell, 1874–1907* (Beijing: Foreign Language Press, 1990), Vol. 1, pp. 18–19.

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