



American Steam Navigation in China 1845-1878

PART II

BY EDWARD KENNETH HAVILAND

IIA. RUSSELL AND CO., CONTINUED

Further information has lately become available concerning the steamers which Russell and Co. were operating between Hong Kong and Shanghai in 1866 and 1867. *Varuna*, according to British consular reports, later held a provisional British registry. Shortly afterward she was sold in Japan to the Prince of Chosiu for \$175,000, being delivered to her new owners in November 1866, as set forth in a paper, 'Merchant Vessels Sold from The Opening of The Three Ports Yokohama, Nagasaki and Hakodadi, 1 July 1859,' prepared by F. A. Groom of Glover and Co., Nagasaki, and read before the North China branch of the Royal Asiatic Society by Dr. Macgowan, Commissioner of the East India Telegraph Co. (*NCH*, 27 April 1867), later referred to as *GL*. In reporting her sale, Russell and Co. asked J. M. Forbes, then in America, to arrange for a replacement, and accordingly *A. J. Ingersoll* was acquired by the same group as had earlier owned *Varuna*, viz., W. H. Forbes, J. M. Forbes and H. S. Russell. A two-thirds contingent interest was offered to P. S. Forbes, subject to its not being taken up by the firm of Russell and Co. Apparently, however, the latter did take up their share and *Ingersoll* later passed to the ownership of the Shanghai S. N. Co., as will be described below.

Contemporary shipping intelligence (in *NCH*) shows the arrival at Shanghai of the American steamer *Lancefield* on 23 March 1865, consigned to Russell and Co. As stated above, she had been sold Japanese, for \$115,000 in September 1862, being delivered to her new owner, the Prince of Chosiu, the following November, and it would appear that Russell and Co. acquired her early in 1865. She spent the rest of 1865 around Shanghai repairing and in a letter dated 19 November 1866 Russell and Co. say, 'Our friends in Hong Kong are fitting up a steamer (formerly the

Lancefield) and when completed she may be placed on the Coast.' By April 1867 she was trading between Hong Kong and Shanghai under the name of *Yung Hai An*. Russell and Co. seem to have owned her up to her sale in the latter part of 1868. The steamer herself does not seem to have been at Hong Kong at the time of the sale, for in a letter written at Hong Kong on 6 January 1869 to T. B. Cunningham, W. H. Foster, Jr., of Russell and Co. says, 'The steamer *Yung Hai An* has doubtless been sold or chartered [as] she would have been here ere this.'

III. THE SHANGHAI STEAM NAVIGATION COMPANY

When the Yangtze was about to be opened to foreign trade, in 1861, Edward Cunningham, who—as mentioned above—was then Russell and Co.'s managing partner in Shanghai, proposed that the firm should extend its activities by engaging directly in the steam navigation business in China, starting with a line of three steamers on the Yangtze to perform a semiweekly service between Shanghai and Hankow.¹²⁷ Owing to the opposition of Warren Delano, Jr., the managing partner of Russell and Co. at Hong Kong, Cunningham on his own initiative in March 1861 induced some 'Chinese friends and constituents' to join him in the purchase of *Surprise*, described below, then available at San Francisco. Influenced, apparently, by this step, Delano reluctantly approved Cunningham's plan for navigation on the Yangtze, on the condition that Russell and Co. itself make no investment in it, and during April and May 1861 a subscription plan of \$320,000 was set up and orders for three new steamers sent to P. S. Forbes in New York.¹²⁸ Cunningham, however, had become convinced that more extensive services were needed and contemplated a fleet of five river and five coastal steamers, together with a system of warehouses, or godowns, at the various ports, a venture for which Russell and Co.'s capital was quite inadequate.¹²⁹ However, he contrived to raise the necessary funds, largely from among the Chinese friends and associates of Russell and Co. and from the smaller British mercantile houses in China.¹³⁰ The result was the formation on 27 March 1862 of the Shanghai Steam Navigation Company with a capital of Tls. 1,000,000, the equivalent of \$1,358,000. The S. S. N. Co., although a joint-stock organization, was unincorporated, the shareholders being individually liable.¹³¹

¹²⁷ K.-C. Liu, loc. cit., I, 158-159.

¹²⁸ Ibid., pp. 161-162.

¹²⁹ Ibid., p. 159.

¹³⁰ Ibid., pp. 168-174. A list of Chinese subscribers is given on p. 169.

¹³¹ R. B. Forbes, *Reminiscences*, Appendix. As a consequence, the steamers of the Shanghai S. N. Co. were registered in the name of the president of the company at the time, a practice to which some shareholders objected.

Russell and Co.'s investment as a firm was quite small, but by virtue of the holdings of some of their partners as individuals and of their Chinese friends, they were able to exercise control. Moreover, under the Constitution and Deed of Settlement of the S. S. N. Co., Russell and Co. acted as permanent agents and treasurers of the company, for which services they received a commission of 5 per cent upon gross receipts.¹³² This was to have been reduced to 3½ per cent beginning in 1864. It turned out, however, that more than half the 5 per cent commission was absorbed by expenses, so that 3½ per cent was inadequate and the higher rate was accordingly made permanent.¹³³

The original river steamer of the Shanghai S. N. Co. was *Surprise*, which—as we have seen—was already being operated by Russell and Co. as its own vessel.¹³⁴ This was a wooden side-wheel steamer of 457 tons built by Lawrence and Foulkes in 1853. In her first enrollment, dated 13 January 1854, her owner is given as William H. Brown. On 17 June 1854, she was registered with Arthur J. Brown and William H. Brown as owners. She was built to compete with the California S. N. Co., but was subsequently purchased by the latter.¹³⁵ Early in 1858, she was the pioneer steamer on the Fraser River and during the gold rush she made a fortune for her owners. However, she drew too much water for really satisfactory service on that route and upon the arrival of more suitable vessels *Surprise* returned to San Francisco.¹³⁶ In 1861, she was purchased by Edward Cunningham under bonds not to run in California waters,¹³⁷ and under Captain Thomas Allen came out from San Francisco via Honolulu and Kanagawa in 36 days, arriving at Shanghai on 19 July 1861.¹³⁸ She was at once placed in the Yangtze River trade, being transferred to the S. S. N. Co. in April 1862,¹³⁹ and continued in this service until she stranded and burned on 4 May 1863,¹⁴⁰ following a collision with the S. S. N. Co.'s *Huquang*, due to a misunderstanding of signals. Captain Osborn of *Surprise*, who was regarded as one of the best officers in the company's service, was knocked overboard by the force of the collision and was not seen again, although he was a strong swimmer. Among the passengers on the wrecked vessel

¹³² K.-C. Liu, loc. cit., I, 176 and 180.

¹³³ Report of S. S. N. Co. meeting, 6 March 1869 (*NCH*, 16 March 1869).

¹³⁴ *OTR*, 11 August 1861.

¹³⁵ *Lewis and Dryden*, op. cit., p. 72.

¹³⁶ K.-C. Liu, op. cit., I, 161, and *OTR*, 11 August 1861.

¹³⁷ *OTR*, 27 July 1861.

¹³⁸ K.-C. Liu, op. cit., II, 160.

¹³⁹ *New York Herald*, 10 July 1863.

was Raphael Pumpelly, the Harvard professor and mineralogist, who risked his life to save his cigars and who has given us an account of the accident.¹⁴⁰

The other original steamer of the S. S. N. Co. was *Pembroke*, also acquired in April 1862, as has already been mentioned in connection with the ventures of R. B. Forbes. She was placed at once in the Yangtze line, but broke her fan on 7 May and was laid up until 4 June. A week later, she broke her shaft and was out of service until 5 July. In the course of the summer it was found that *Pembroke* was less suitable for the business than had been expected, and in October the directors sent her to Nagasaki in the hopes of finding a purchaser there. In this they were unsuccessful and she returned to Shanghai on 14 October and resumed trading on the Yangtze. She was, however, really a seagoing vessel and in the latter part of the year, once other, more suitable, steamers were available for the river line, was placed in service between Shanghai and Foochow. In the first half of 1864, *Pembroke* was transferred to the Shanghai-Nagasaki line on which she operated until the directors finally succeeded in selling her to the Prince of Satsuma on 6 December 1865 for \$25,000 in Japan, where she had been laid up since August.¹⁴¹ She was renamed *Hakodadi Maru*, but a few years later she returned to China and became *Tungting*, as will be described below.

Of the new steamers ordered for the enterprise which developed into the Shanghai S. N. Co., the first to arrive in China was *Kiangse* or *Kiangtsi*, originally to have been called *Khechong*,¹⁴² a wooden side-wheel steamship of seagoing type with a tonnage of 1,086, built by Lawrence and Foulkes at Brooklyn. Her first register, with Paul S. Forbes listed as owner, was issued at New York, 26 February 1862, and she must have left for China immediately afterward, as she arrived at Shanghai from Hong Kong on 4 June and straightway entered the Yangtze service of the S. S. N. Co.¹⁴³ Almost immediately, she broke her cylinder head and was out of commission until 7 July. After this, she kept out of trouble until she fouled *Rajah* on 24 September, from which she did not recover until 12 November.¹⁴⁴ After this her behavior improved and she was considered a very satisfac-

¹⁴⁰ R. Pumpelly, *Across America and Asia*, 3rd ed. (New York, 1870), pp. 215-217.

¹⁴¹ For the history of *Pembroke*, see the reports of the directors of the S. S. N. Co. at the meetings of 10 February 1863, 18 January 1864; for six months ended 30 June 1864, and six months ended 31 December 1865; also contemporary shipping reports and M. Paske-Smith, *op. cit.*, p. 223.

¹⁴² K.-C. Liu, *loc. cit.*, I, 166.

¹⁴³ Under Captain G. G. Berry, *Kiangse* arrived at Singapore 16 May 1862 and left on the 20th for Hong Kong (CRS, Singapore).

¹⁴⁴ Report of the S. S. N. Co. directors to meeting of 10 February 1863.

tory boat. On 27 June 1864, *Kiangse* was transferred to the short coastwise line between Shanghai and Ningpo,¹⁴⁵ from which she was withdrawn for two months for repairs in the latter part of 1866. The following year she was reboilered and at the same time her shaft was raised, thereby effecting a considerable saving in the consumption of coal.¹⁴⁶ On 28 August 1871, she was in collision with Jardine, Matheson and Co.'s steamer *Kiushiu*. *Kiangse* was judged at fault.¹⁴⁷ For two and a half months in 1874, *Kiangse* traded between Kobe and Yokohama,¹⁴⁸ after which she returned to the Ningpo line, on which she was employed at the time of her sale to the China Merchants S. N. Co., 1 March 1877. Her new owners renamed her *Haesan* and continued her for a time in the same trade.¹⁴⁹ In the ninth annual report of the C. M. S. N. Co.,¹⁵⁰ the directors report that '*Haesan*, *Kiangching* and *Tungting* have been found rather superannuated, and although they might have been utilized a few years longer by dint of repairing, still, in order to keep up the reputation of the Company, they have been turned into hulks or lighters.' Thus the former *Kiangse* was dismantled after an active life of about twenty years.

Following the arrival of *Kiangse*, the Shanghai S. N. Co. were able to announce, in an advertisement dated 10 July 1862, the dispatch of a steamer from Shanghai for river ports every Tuesday and Friday on making of the flood tide, while returning steamers left Hankow Wednesday and Saturday mornings, the service being maintained by the steamers *Kiangse*, Captain Berry; *Pembroke*, Captain Perkins; *Hankow* (chartered), Captain Walcott; *Surprise*, Captain Pendleton; *Contest* (chartered), Captain Draper.¹⁵¹

Hankow, as previously mentioned, was chartered from Russell and Co. *Contest*, owned at this time by Edward Cunningham, was an iron screw steamship of 523 tons, built by Harrison Loring at Boston in 1859. In her first register, dated 11 November 1859, her owner is given as William S. Bullard of Boston. She must have left for China shortly afterward, as she arrived at Hong Kong from Calcutta on 10 June 1860.¹⁵² *Contest* was no

¹⁴⁵ S. S. N. Co. report for six months ending 30 June 1864.

¹⁴⁶ S. S. N. Co. report for 1867.

¹⁴⁷ *NCH*, 4 October 1871 and 1 November 1871.

¹⁴⁸ *NCH*, 5 September 1874. *Kiangse* arrived at Nagasaki from Shanghai on 16 June 1874 (*CRS*, Nagasaki).

¹⁴⁹ Cf., e.g., *NCH*, 22 March 1877.

¹⁵⁰ *NCH*, 18 October 1882. *Haesan* was trading between Shanghai and Foochow as late as April 1882; *Kiangching* between Shanghai and Hankow as late as May 1882; and *Tungting* on the coast at least as late as November 1881.

¹⁵¹ *NCH*, 19 July 1862.

¹⁵² *CM*, 14 June 1860.

longer needed on the Yangtze once the S. S. N. Co.'s new steamers had arrived and was accordingly turned back to her owners, who sold her at Nagasaki on 3 April 1863 to the Prince of Satsuma for \$95,000 cash.¹⁵³

The second of the new steamers for Russell and Co.'s shipping enterprise was *Huquang* or *Ou-Quang*, a wooden side-wheel steamer of sound type. Built by Henry Steers, she was of 1,340 tons and in her first register, dated 22 May 1862, her owners are given as E. J. Hale and J. M. Forbes, of Boston, copartners. *Huquang* left New York under Captain James P. Roberts on 6 May 1862 and arrived at Shanghai on 19 August, being placed immediately on the river line. On 25 September she stranded 25 miles below Hankow in attempting a cutoff in the dusk of the evening.¹⁵⁴ Two steamers were unable to move her and she spent the winter there. Her release, without damage, by high water eight months later did not end her troubles, as on her return down river she collided with her running mate, *Surprise*. In July of 1864 *Huquang* saved the crew of the wrecked *John T. Wright*,¹⁵⁵ but was herself lost about two years later, being burned at Kiukiang, 19 August 1866. The fire was thought to have originated from spontaneous combustion of coal in her forward bunker and spread so rapidly that all efforts to subdue it were unavailing.¹⁵⁶

A similar, although slightly smaller steamer on the S. S. N. Co.'s Yangtze line was *Chekiang* of 1,264 tons, also built by Henry Steers. In her first register, 19 November 1862, her owner is given as John M. Forbes. Following her completion, she served for a time as a transport during the Civil War at \$1,100 per day and while so employed had an exciting adventure when a Confederate schooner tried unsuccessfully to sink her by ramming her. Under Captain Wadsworth, she left New York, 28 March 1863, arriving at Singapore on 11 June and entering the S. S. N. Co.'s service later that month.¹⁵⁷ She was normally operated between Shanghai and Hankow, on the River Line,¹⁵⁸ but did not have a long life. On the night of Sunday, 7 August 1864, *Chekiang* burst into flames as she lay along the wharf at Hankow, supposedly from the overheating of her boilers, and was at once cut adrift. She went ashore twelve miles below Hankow and was completely consumed except for her stern and machinery. No cargo, nor even the private effects of the crew, was saved, but there

¹⁵³ BSL, 4 July 1863. CRS, Nagasaki. GL.

¹⁵⁴ Frazer and Co.'s circular, 6 October 1862 (at Essex Institute).

¹⁵⁵ BSL, 1 October 1864.

¹⁵⁶ S. S. N. Co. report for six months ending 31 December 1866.

¹⁵⁷ BSL, 19 August 1863. K.-C. Liu, loc. cit., II, 160. From CRS, Shanghai, it appears that she arrived there from Hong Kong on 19 August 1863 and left on the 22nd on her first voyage to Hankow.

¹⁵⁸ Cf., e.g., NCH, 16 April 1864 and 30 April 1864.

was no loss of life.¹⁵⁹ Her engine was salvaged and later placed in *Nanking*.

The first coastal steamers ordered for the Shanghai S. N. Co., not counting *Kiangse*, which was designed for either coast or river work, were the sister ships *Shanse* and *Szechuen*, wooden screw steamers of 1,007 tons each, built by Lawrence and Foulkes in 1862. Both were registered on 2 October 1862 with Paul S. Forbes listed as owner. *Shanse* left New York for Shanghai the following day under Captain Carver and arrived at Shanghai on 9 April 1863, after an annoying detention at Singapore, where she had to await docking to effect a minor repair.¹⁶⁰ *Szechuen* under Captain Kennedy followed on 22 October and reached Singapore on 15 April and Shanghai on 25 May 1863.¹⁶¹ Although built for coast service, both steamers traded regularly on the Yangtze for several years, but, as can be imagined, they were not well suited for the river trade and *Szechuen* was transferred to the coast about the end of 1865 and placed in the Shanghai-Tientsin line, via Chefoo, in June 1866,¹⁶² and *Shanse* a year or so later. Both steamers seem to have been costly by virtue of the frequent and extensive repairs they required. *Szechuen* had to be docked for recalking and other repairs immediately upon her arrival in China, and she broke her shaft on 7 January 1866, while on a voyage to Ningpo, and so damaged her engine that she was laid up for repairs for three months. In 1868 she again underwent extensive repairs and she was thoroughly overhauled the following year.¹⁶³ In 1873, the directors instructed the agents to dispose of her and in the S. S. N. Co. report for that year it was stated that negotiations for her sale were then pending. Apparently, these negotiations fell through and her last years were spent as a work boat, since early in 1875 she was reported as arriving at Shanghai from the wreck of *Kiang Loong*.¹⁶⁴ Later that year, *Szechuen* was converted to a hulk. *Shanse* had a longer active life. At the end of August 1867 she was caught in a typhoon and required two months for repairs.¹⁶⁵ She was thoroughly overhauled in 1869 and entirely renovated and reboilered in 1872,¹⁶⁶ and was operating on the Newchwang line at the time of her sale to the China Merchants S. N. Co., 1 March 1877. Her new owners renamed her *Chinsi* and continued

¹⁵⁹ *NCH*, 20 August 1864. *BSL*, 22 October 1864, gives a somewhat different account.

¹⁶⁰ *Shanse* had arrived at Singapore on 19 December 1862 and left on the 24th for Hong Kong, but put back on 2 January 1863. (*CRS*, Singapore.)

¹⁶¹ S. S. N. Co. report for six months ending 30 June 1863; *CRS*, Singapore.

¹⁶² K.-C. Liu, loc. cit., II, 160. S. S. N. Co. reports for six months ended 31 December 1865, 31 December 1866.

¹⁶³ Reports of the S. S. N. Co. annual meetings, *NCH*, 16 March 1869 and 8 March 1870.

¹⁶⁴ *NCH*, 28 January 1875.

¹⁶⁵ Report of the S. S. N. Co. annual meeting, *NCH*, 29 February 1868.

¹⁶⁶ Reports of the S. S. N. Co. meetings, 8 March 1870 and 13 March 1872.

her on the Shanghai-Chefoo-Newchwang route. Her machinery was removed and sold in 1879 and the hull sold in 1880.¹⁶⁷

Among the smaller steamers of the Shanghai S. N. Co. was *Tsatlee* of 80 tons gross, a side-wheel steamer built in 1862 for Edward Cunningham from materials sent out from the United States.¹⁶⁸ She must have been acquired by the S. S. N. Co. soon after her completion. In September 1862 she was advertised to run daily, except Sundays, to and from Woosung every morning. This was the beginning of the Woosung ferry service. In the afternoons, she was open for employment (not towing) and excursions on two days' notice.¹⁶⁹ Apparently, sufficient employment was not forthcoming, for in February of 1863 she was listed as a tug.¹⁷⁰ Later that year she was chartered to the Chinese Imperial Government.¹⁷¹ In the earlier part of 1864, *Tsatlee* was employed in towing and harbor work around Shanghai, being sent to Kiukiang during the low-water season later in the year.¹⁷² On 8 March 1864 she was captured by pirates, but was recaptured a few days later.¹⁷³ In 1865, the S. S. N. Co. laid up *Tsatlee* as unprofitable and appear to have used her as a hulk and for storage,¹⁶² although she does not seem to have been dismantled until about 1872. In 1877, she was sold to the China Merchants S. N. Co., who did not change her name.

In 1862-1863, Henry Steers built for Russell and Co. the seagoing wooden side-wheel steamer *Fohkien* of 1,947 tons. In her first register, dated 26 February 1863, John M. Forbes is given as owner. Under Captain W. C. Johnson, she left New York, 28 February 1863 and arrived at Hong Kong on 26 May.¹⁷⁴ Thereupon *Fohkien* was placed in service between Hong Kong and Shanghai¹⁷⁵ until January 1864, when the S. S. N. Co., being short of capital, sent her to Japan in an unsuccessful attempt to sell her there. In course of the trip, she encountered a violent storm off the Japanese coast and was so damaged that she had to go to Whampoa for docking and repairs. *Fohkien* resumed running between Shanghai and Hong Kong in April, but after seven weeks, in which time the vessel made three and a half round trips, a flaw was discovered in the port main shaft and the shaft was condemned, the steamer being laid up at Woosung. It

¹⁶⁷ *Imperial Maritime Customs. Trade Reports*, 1877, 1880. C. M. report, NCH, 3 October 1879.

¹⁶⁸ *HMD* 31, II, 427, where her name is given incorrectly as *Tealtee*.

¹⁶⁹ *NCH*, 27 September 1862.

¹⁷⁰ *F. of C.* 18 February 1863.

¹⁷¹ Report of S. S. N. Co. directors to general meeting, 18 January 1864.

¹⁷² S. S. N. Co. reports for six months ended 30 June 1864 and 31 December 1864.

¹⁷³ *NCH*, 19 March 1864.

¹⁷⁴ *BSL*, 5 August 1863.

¹⁷⁵ Cf., e.g., A. Heard and Co.'s circular, 20 July 1863.

was intended to send the new shaft from Marseilles by Messageries Impariales steamer, but it was found that there were no facilities for transporting so heavy a piece of machinery across the Isthmus of Suez, and the shaft had to be sent out from Scotland in a sailing vessel, with the result that *Fohkien* did not return to service until the late spring of 1865.¹⁷⁶

On her regular run, *Fohkien* left Shanghai, bound for Hong Kong, at 2 P.M. on 13 July 1865 and about 11 P.M. the same day, the night being misty and thick, ran ashore on one of the Tripods, in the Fishermen's Group, about sixty miles from Chinhae. The steamer was making approximately 14 knots at the time she struck. Although she had more than 150 people on board, all hands were safely landed in twenty minutes from the time of striking. Five minutes later the vessel was completely out of sight.¹⁷⁷ Captain Johnson attributed the wreck to an unusual set of the current.¹⁷⁸ The investigating board criticized him, but he was defended by the S. S. N. Co. directors.¹⁷⁹ The steamer was insured for £33,000, about two-thirds of her cost.

Pembroke was by now trading to Japan, so that following the loss of *Fohkien* the Shanghai S. N. Co. had no steamer of their own on the Shanghai-Hong Kong line. Early in 1867 the company agreed not to operate on that route for a period of ten years, although it appears that Russell and Co., their agents, had a service between Hong Kong and Shanghai at least as late as the fall of 1867. To strengthen their Yangtsze service, the Shanghai S. N. Co. acquired in 1865 the wooden side-wheel steamer *Moyune*, 1,224 tons, of sound type, built by John Englis and Son and launched on 24 October 1863. In her first register, dated 7 January 1864, George Briggs, who had previously taken *Poyang* out to China (see below), is given as owner and master. Under him, she left New York for Shanghai, 26 March 1864 and arrived at Hong Kong on 28 June.¹⁸⁰ Thereafter, *Moyune* was owned and operated on the Yangtsze by Fletcher and Co., a British firm, who soon decided to withdraw from the field and offer the steamer for sale at auction. In the meantime, she was operating on the Yangtsze consigned to Reid and Co.,¹⁸¹ although apparently not owned by them. The S. S. N. Co. directors decided to bid for her and acquired her about July 1865 for Tls.

¹⁷⁶ S. S. N. Co. reports for six months ended 30 June 1864 and 31 December 1864.

¹⁷⁷ *NCH*, 22 July 1865.

¹⁷⁸ *Ibid.*, 29 July 1865.

¹⁷⁹ *Ibid.*, 5 August 1865.

¹⁸⁰ *BSL*, 31 August 1864.

¹⁸¹ *NCH*, 9 July 1864, 29 July 1865. She was consigned to Russell and Co. as of 3 August 1865. *NCH*, 5 August 1865.

74,500.¹⁸² *Moyune* was employed largely, if not entirely, on the Yangtze and burned at Shanghai on the afternoon of 17 December 1873. The steamer was lying up at the time, with only a skeleton crew, and the fire was said to have originated in the lamp room. She burned to the water's edge and sank about 10:45 P.M. in shallow water.¹⁸³ No blame was attached to the company's employees. The hull was eventually gotten ashore and the more important parts of the machinery salvaged.

In the latter part of 1865, the Shanghai S. N. Co. acquired *Fire Queen* of 3,801 tons gross, a wooden side-wheel steamer of sound type. She was the largest and last of such steamers specifically built in America for service in China and sent out under their own power. Under Captain Henry W. Johnson, she left New York for Shanghai on 9 July 1864 under the American flag and proceeded to St. John, New Brunswick, where on 3 August she received a British registry.¹⁸⁴ Thereupon *Fire Queen* proceeded to China, arriving at Hong Kong on 15 October,¹⁸⁵ and entered the Yangtze service of the British firm of Lindsay and Co.¹⁸⁶ She operated later consigned to Smith, Kennedy and Co., another British firm,¹⁸⁷ and subsequently for a short time to Augustine Heard and Co.,¹⁸⁸ but was apparently never owned by either of the latter. In December 1865 she was purchased from her British owners by the Shanghai S. N. Co. for Tls. 140,000,¹⁸⁹ being transferred on the 27th, whereupon she was furnished by the United States consul general at Shanghai with sailing papers and reverted to the American flag.¹⁸⁴ Her new owners continued her on the Yangtze until she was sold, 1 March 1877, to the China Merchants S. N. Co., who renamed her *Kiangwae* and dismantled her the following year.¹⁹⁰ In the spring of 1866 she was laid up for three months with a broken shaft—otherwise she seems to have been quite fortunate.

Three large steamers were purchased by the S. S. N. Co. in 1866. First was *Plymouth Rock*, a wooden side-wheeler of sound type with a gross tonnage of 3,017 built in 1863 by Westervelt and Son for J. M. Forbes and P. S. Forbes, who apparently were planning to sell her to Russell and Co. Under Captain Williams she left New York on 9 July 1864,¹⁹¹ and pro-

¹⁸² BSL, 7 October 1865. K.-C. Liu, loc. cit., II, 171-172.

¹⁸³ NCH, 18 December 1873.

¹⁸⁴ HMD 31, II, 230.

¹⁸⁵ BSL, 20 July 1864 and 21 December 1864.

¹⁸⁶ NCH, 8 April 1865.

¹⁸⁷ NCH, 7 October 1865 and 21 October 1865.

¹⁸⁸ NCH, 18 November 1865. Cf. also K.-C. Liu, loc. cit., II, 173.

¹⁸⁹ NCH, 23 December 1865.

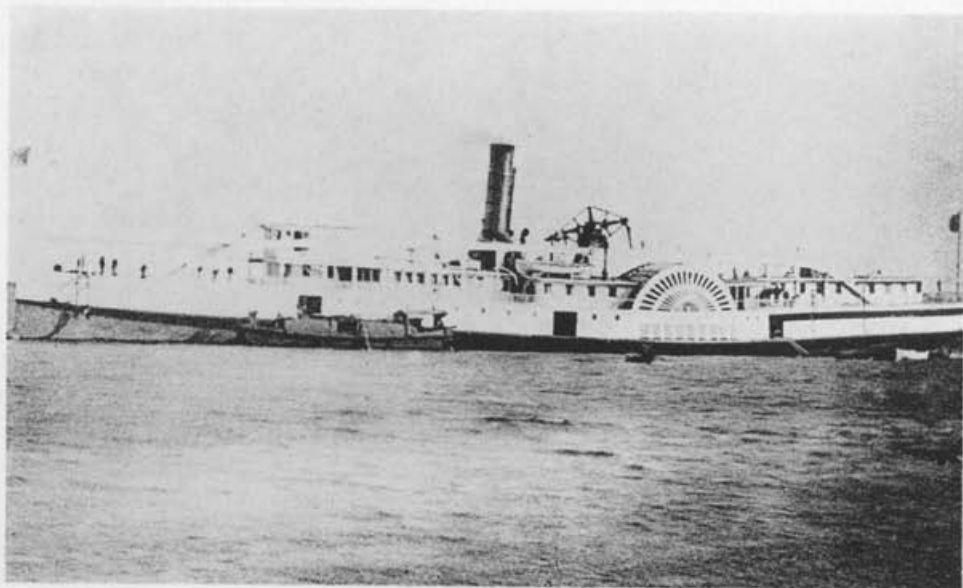
¹⁹⁰ NCH, 17 October 1878.

¹⁹¹ BSL, 20 July 1864.



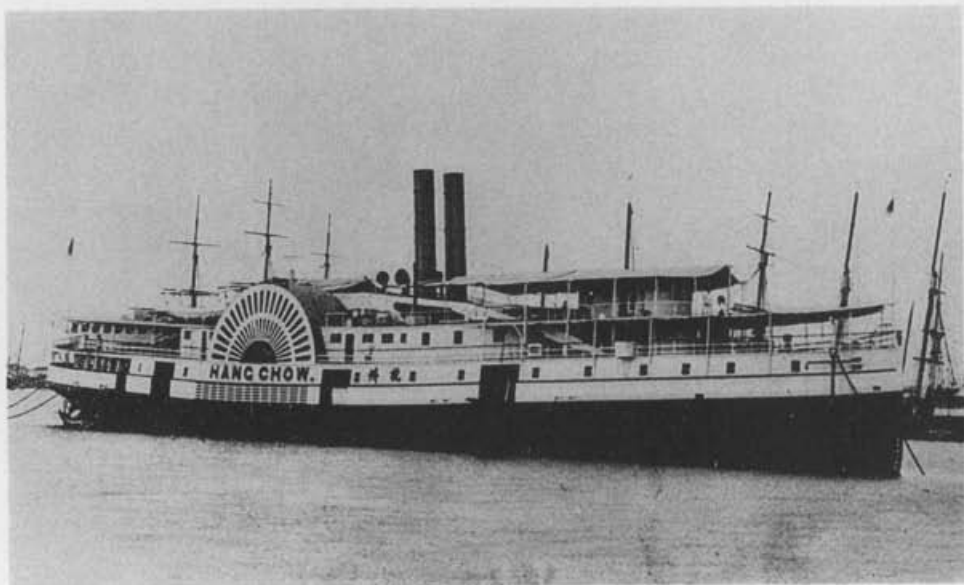
Russell & Co. steamer *Hankow* (1860)

Courtesy of the Essex Institute

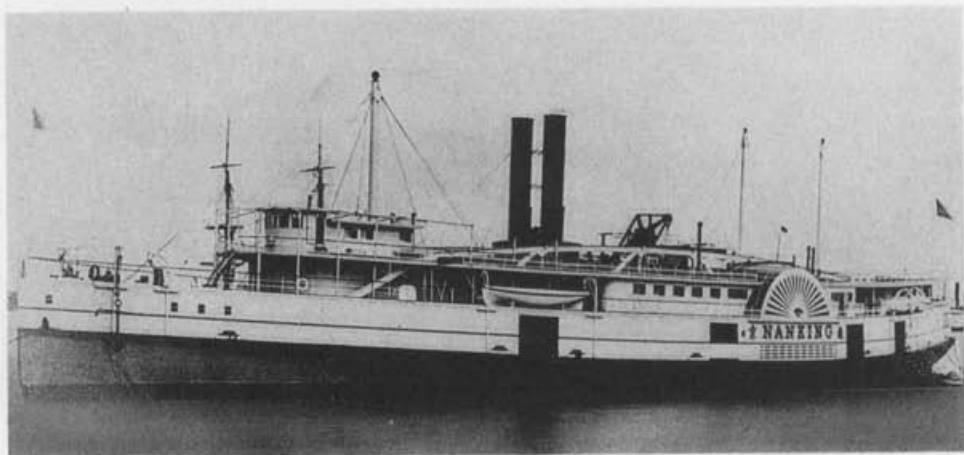


Shanghai Steam Navigation Co. steamer *Huquang* (1862)

Courtesy of the Peabody Museum of Salem



Hangchow (1863), ex-*Warrior*; Shanghai Steam Navigation Co.
Courtesy of the Peabody Museum of Salem



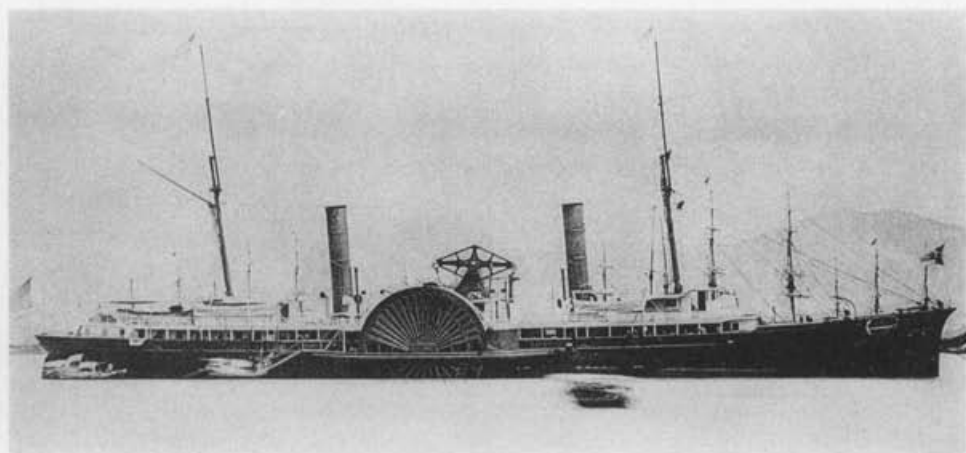
Shanghai Steam Navigation Co. steamer *Nanking*

5



A. Heard & Co. steamer *Kinshan* (1863)

Courtesy of the Peabody Museum of Salem



A. Heard & Co. steamer *Suwonada* (1864)

Courtesy of the Peabody Museum of Salem

SHANGHAI STEAM NAVIGATION CO.

CERTIFICATE OF SERVICE.

This is to Certify that

Captain G. W. Andrews

entered the employ of the Shanghai Steam Navigation Co. in February 1867, ¹⁸⁷⁷

and that he has since then served as Captain of the following

Steamers owned by the Company —
"Tahwal" "Kiangloong" "Kangchow"
"Kiangsi" "Chusan" "Feri Queen"
"Kauking".

His engagement with us ceases to-day in consequence of the sale of the Company's Steamers and property to the China Merchants Steam Navigation Company.

Captain Andrews has faithfully served the Company for ten years as commander of steamers on the Ningpo and Fuzhou river lines. He has proved himself an able and zealous officer, and well worthy of the confidence which we have constantly placed in him.

Russell
Agents.

Shanghai, March 1st, 1877.

WELLS & WELLS, PRINTERS AND ENGRAVERS, 708 NASSAU ST., N.Y.

Certificate given Captain George Andrews by the Shanghai Steam Navigation Co.

From the original in the Peabody Museum of Salem

ceeded to St. John, New Brunswick, where on 13 July she received a British register under the name of *Foong Shuey*. She then returned to New York, whence she left under Captain Horatio N. Gray on 8 August for China,¹⁹² reaching Singapore in 51 days. On her arrival at Hong Kong, the United States consul there (or in Canton) granted her sailing papers under the name of *Plymouth Rock*, and thereafter she carried the American flag in Chinese waters.¹⁹⁴ She was apparently intended for eventual service on the Yangtze River, but it is clear that the financial resources of the Shanghai S. N. Co. did not permit of her acquisition then, and, besides, *White Cloud* and *Hankow* needed to be withdrawn for repairs,¹⁹³ so *Plymouth Rock* entered the Hong Kong-Canton service of Russell and Co.¹⁹⁴ The Shanghai S. N. Co. purchased her from Russell and Co. for Tls. 155,000 in June 1866,¹⁹⁵ whereupon she was transferred to the Shanghai-Hankow line. In 1867, her shaft was raised to secure greater economy of fuel, and in 1872 she was entirely renovated and reboilered.¹⁹⁶ It was probably at the latter time that a third, thinner, funnel was placed between her original two. She continued on the river line until sold to China Merchants S. N. Co. on 1 March 1877. Her new owners renamed her *Kiangyuen*, but dismantled her the following year.

The other acquisitions of the Shanghai S. N. Co. during 1866 were the composite paddle steamers *Fusiyama* and *Hirado*, purchased near the end of the year from the British house of Dent and Co. They were of Hudson River type, with boilers on their guards, and were set up by Charles S. Collyer and A. G. Lambert at Yan Kin, four miles down the river from Shanghai,¹⁹⁷ and plied between Shanghai and Hankow throughout their careers. Both were built for Dent and Co. and originally traded under British sailing letters issued by the British legation at Peking. They were transferred at the United States consulate general at Shanghai on 7 October 1868 and thereafter operated under American consular sailing letters until sold to the Chinese in 1877.¹⁹⁸ *Fusiyama* was of about 1,200 tons and was set up in 1863 under the supervision of Captain Thomas W. Dear-

¹⁹² Captain Gray continued in the employ of Russell and Co. and the Shanghai S. N. Co. for about seven years. He later commanded sailing vessels and died of typhoid fever at Baltimore, 29 January 1882, aged about 52. At the time of his death he was a marine inspector at Baltimore. (*NCH*, 12 April 1882.)

¹⁹³ Geo. Tyson to P. S. Forbes, 7 Nov. 1864. Forbes Collection, Baker Library, Folder 19.

¹⁹⁴ *Marine Engineering*, September 1899, p. 110.

¹⁹⁵ K.-C. Liu, loc. cit., I, 178-179, and loc. cit., II, 181.

¹⁹⁶ S. S. N. Co. annual reports, *NCH*, 29 February 1868 and 13 March 1873.

¹⁹⁷ F. E. Dayton, op. cit., p. 395.

¹⁹⁸ *HMD* 31, II, 231.

born.¹⁹⁹ The S. S. N. Co. sold her, 1 March 1877, to the C. M. S. N. Co., who razed her that year. Though reported renamed *Hwaiyuen*, she does not appear to have been rebuilt.²⁰⁰ *Hirado* was of 1,294 tons and built in 1865. She ran her trials in December of that year and was placed on the line to Hankow a week later.²⁰¹ She was purchased from the S. S. N. Co. on 1 March 1877 by the C. M. S. N. Co., who renamed her *Kiangching* and continued her in operation on the river. She was dismantled in 1882.²⁰² The two steamers together were valued in the S. S. N. Co. report of 31 December 1866 at Tls. 350,000.²⁰³

In January 1867 an agreement was made by the Shanghai S. N. Co. with Jardine, Matheson and Co. and Dent and Co. whereby the two latter companies undertook not to be interested either as agents or as owners for a period of ten years in any steamers on the Yangtze other than those of the S. S. N. Co., while on the other hand the S. S. N. Co. agreed for a like period of ten years not to run steamers to any ports on the coast of China south of Shanghai, Ningpo excepted.²⁰⁴ A similar agreement was made with A. Heard and Co. and the Hong Kong, Canton and Macao Steamboat Co. on 14 May 1867.²⁰⁵

Consequent upon these agreements, the Shanghai S. N. Co. acquired from A. Heard and Co. the wooden side-wheel steamer *Kiang Loong*, 945 tons, which was then engaged in Heard's Yangtze service. Her hull was constructed by John Englis and Son and it and her engines sent out to China in pieces and re-erected by Thos. Hunt & Co. at Whampoa.²⁰⁶ In spite of this (which is confirmed by American Lloyd's), she received an American document at New York, 7 October 1862, in which her home port is given as Boston. Augustine Heard is listed as her owner. *Kiang Loong* is valued at Tls. 155,000 (her purchase price), in the S. S. N. Co. profit and loss account, 31 December 1868. She had been repaired in that year and underwent extensive repairs in 1872.²⁰⁷ She was on the Yangtze line of the company until she struck an unknown rock about a mile below Hen Point, near Nganking, while bound from Shanghai to Hankow, at

¹⁹⁹ *Scientific American*, 16 May 1863.

²⁰⁰ *NCH*, 17 October 1878. *Hwaiyuen* lost near Ningpo in 1883 was ex-*Calabar*.

²⁰¹ *NCH*, 16 December 1865.

²⁰² See footnote 150 and accompanying text.

²⁰³ *NCH*, 4 January 1872.

²⁰⁴ K.-C. Liu, loc. cit., II, 183.

²⁰⁵ *Ibid.*, p. 184. Cf. also the Heard Collection (referred to as *HC*) at Baker Library, Harvard University. An informal agreement seems to have been reached in February.

²⁰⁶ Dayton, op. cit., p. 395, gives Westervelt as her builder, but her document says Englis, as does American Lloyd's.

²⁰⁷ S. S. N. Co. reports, *NCH*, 16 March 1869 and 13 March 1873.

7:30 A.M., 9 March 1873, and became a total wreck.²⁰⁸ Her machinery, however, was salvaged and later installed in *Szechuen* of 1875. A couple of years after her stranding, the wreck of *Kiang Loong* was reported entirely under water.²⁰⁹

Another addition to the S. S. N. Co. fleet in 1867 was *Tah Wah*, a wooden paddle steamer of 590 tons, built by Sneden and Lawrence and re-erected in China by C. S. Collyer and A. G. Lambert, probably in 1862.²¹⁰ She was on the fleet of General F. T. Ward, being owned jointly by General Ward and Yang Taikee.²¹¹ Subsequently she was operated by A. T. Freeman and Co.,²¹² being sold in 1865 for Tls. 25,000,²¹³ presumably to H. Fogg and Co., from whom the S. S. N. Co. purchased her in February 1867 for Tls. 40,000.²¹⁴ On 24 November 1868, *Tah Wah* bilged while going alongside Dent's wharf at Shanghai, started her stern post, and filled and sank at her berth.²¹⁵ As she was too small for the Yangtze trade and had never been a strong or desirable vessel, the directors of the S. S. N. Co. decided to break her up rather than raise her, and this was done at a nominal loss to the company of Tls. 13,000.²¹⁶ As, however, she had been purchased primarily to get rid of her competition, the actual loss was doubtless less.

The year 1867 is furthermore notable in the history of the Shanghai S. N. Co. in that it was the year in which the company acquired their first British-built iron steamer. They had had iron steamers before, notably *Contest* (chartered) and *Pembroke*, but these steamers had apparently not been well suited for the trade and were soon disposed of. Now, however, they acquired a ship which was specially designed for coastwise service in China. In connection with the agreement of 1867 previously mentioned, the S. S. N. Co. acquired for Tls. 156,125.79 the new iron screw steamer *Lamont*, built by Robert Napier and Sons for Jardine, Matheson and Co.²¹⁷ She arrived at Shanghai in August 1867 and was operated as a spare boat on the Tientsin and river lines.²¹⁸ On 13 June 1868, she sank

²⁰⁸ *NCH*, 13 March 1873 and S. S. N. Co. report, *NCH*, 19 March 1874.

²⁰⁹ *NCH*, 5 June 1875.

²¹⁰ Dayton, op. cit., p. 395.

²¹¹ Mixed Court. C. E. Hill vs. Estate of Yang Taikee, *NCH*, 21 January 1875 and 28 January 1875.

²¹² *F. of C.*, 18 February 1863. *CRS*, Shanghai.

²¹³ *BSL*, 11 March 1865.

²¹⁴ K.-C. Liu, loc. cit., II, 184.

²¹⁵ *Log Shanghai Pilot Service* (Shanghai, 1932), p. 58.

²¹⁶ *NCH*, 16 March 1869.

²¹⁷ K.-C. Liu, loc. cit., II, 183. *Illustrated London News*, 11 May 1867.

²¹⁸ S. S. N. Co. report for 1867, 29 February 1868.

the lorch *Ching-huen-huen* off Woosung with the loss of several lives.²¹⁹ Later she was renamed *Chihli* and employed regularly on the Tientsin line, which the S. S. N. Co. was then developing, and to Japan until sold Japanese in 1871. The sale was evidently considered advantageous to the S. S. N. Co., although it resulted in a nominal loss of Tls. 22,699.07, and the money received was applied to the purchase of a new iron gulf steamer, also called *Chihli*.²²⁰ The old *Chihli* became *Chiri Maru* of the Yubin Kwaisha, who used her in the Japanese coastwise trade. Upon the collapse of that company in 1875, the Japanese Post Bureau handed *Chiri Maru* over to the Mitsubishi Mail S.S. Co., who were operating her between Yokohama, Hiogo and Kobe at least as late as June 1876.²²¹ But the Yubin Co. had notoriously neglected the upkeep of its vessels and the Mitsubishi Co. was not much better, and in December 1876 *Chiri Maru* was reported laid up.²²² On 11 June 1877 she was damaged in collision with H.M.S. *Audacious* in a gale. At that time her boilers were worthless and would not hold water, so that her engines had been disconnected and she was used as a hulk, being towed from place to place.²²³ As a hulk, she was still on the Mitsubishi fleet in 1882.²²⁴

While the Shanghai S. N. Co.'s experience with *Chihli* seems to have been quite satisfactory and no further wooden steamers were built for them, the directors continued to acquire second-hand wooden tonnage as favorable opportunities arose. For instance, in 1868 they added *Manchu*, a wooden screw steamer of 804 tons, built as *A. J. Ingersoll* by Charles Mallory at Mystic, Connecticut, in 1866. Charles H. Mallory operated her from 20 March 1866 until she was sold to J. M. Forbes and Co., 14 December 1866.²²⁵ The new owners engaged Captain Arthur Hamilton Clark to take *Ingersoll* to China and under him she left New York for Hong Kong on 31 December 1866. She arrived at Pernambuco, 23 January 1867, and sailed on the thirtieth. By 20 February she was off the Cape of Good Hope and she made Anjer on 30 March, out of coal. She was towed from Anjer to Batavia, reaching the latter port on 31 March. On 4 April she sailed from Batavia and arrived at Singapore on the seventh. She cleared for Hong Kong on 18 April and arrived there on the twenty-

²¹⁹ *NCH*, 19 June 1868. The following month she became *Chihli* under the American flag.

²²⁰ S. S. N. Co. reports for 1870 and 1871, *NCH*, 8 March 1871 and 22 February 1872, respectively.

²²¹ *JWM*, 3 June 1876.

²²² *JWM*, 16 December 1876 and 30 December 1876.

²²³ Iwasaki Yataro vs. Capt. H. P. Colomb, RN, *JWM*, 30 June 1877.

²²⁴ *JWM*, 2 December 1882.

²²⁵ *C. H. Mallory's Diary*, at Marine Historical Society, Mystic.

seventh, 87 steaming days from New York.²²⁶ At Hong Kong, her name was changed to *Manchu* and she engaged in the coastwise trade for Russell and Co. for about a year, a procedure which led a shareholder of the S. S. N. Co. at the annual meeting in 1868 to inquire if the company was in competition with its own agents.²²⁷ To this, Edward Cunningham replied, that *Manchu* had been gotten out to keep up the Tientsin line and that it had always been the intention of Russell and Co. to offer her to the Shanghai S. N. Co. whenever the latter could afford to buy her, a time which had then come. The stockholders voted to accept her on her return from her then voyage for Tls. 90,000 cash and accordingly on 31 March 1868 *Manchu* was transferred to the S. S. N. Co. and plied regularly between Shanghai and Tientsin. Captain Clark remained with her until 25 May 1869, at which time he resigned and entered the employment of Augustine Heard and Co. The same year, *Manchu* was thoroughly overhauled,²²⁸ but in August 1873 the directors deemed it prudent to accept an offer of Tls. 45,000 for her (although it resulted in a loss of Tls. 40,061.81) and to replace her by purchasing the iron screw steamer *Paouting*, then building on the Clyde.²²⁹ In March 1874, *Manchu* and her nominal owner, D. R. Spedding, were lost at sea, but fortunately for the S. S. N. Co., the mortgage of Tls. 30,000 which they held on the steamer was secured by an insurance policy taken out by the purchasers through Gibb, Livingston and Co.²³⁰

The other addition to the S. S. N. Co. fleet in 1868 was *Warrior*, 2,024 tons, a large wooden side-wheel steamer of sound type, built by J. B. and J. D. van Deusen in 1863. In her first enrollment, dated 9 March 1864, she is listed as owned by William P. Williams and others. He chartered her to the U. S. A. Q. M. C. from 8 March 1864 to 1 April 1864 at \$800.00 per day and again from 22 September 1864 to 28 July 1865 at 45 cents per ton per day, her tonnage then being 1,507. Later *Warrior* was on the fleet of the Merchants Steam Ship Co. of Rhode Island. When this enterprise collapsed, she was for sale very cheap and purchased by J. M. Forbes and associates, being registered at New York, 10 September 1867, with the following owners: William H. Forbes, one fourth; John M. Forbes, one half; Henry J. Russell, one fourth. Her new owners sent her at once to China. Under Captain Patterson, she left New York for Hong Kong, 20 Septem-

²²⁶ Robert J. Clark, *Arthur Hamilton Clark*, photostat of typescript, at Mariners' Museum. Original at Peabody Museum, Salem.

²²⁷ *NCH*, 29 February 1868.

²²⁸ S. S. N. Co. annual report for 1869, *NCH*, 15 February 1870.

²²⁹ S. S. N. Co. annual report for 1873, *NCH*, 19 March 1874. *Manchu* was sold in July.

²³⁰ Report of S. S. N. Co. meeting, *NCH*, 18 March 1874.

ber 1867.²³¹ In the meantime, at the annual meeting of the Shanghai S. N. Co., 21 February 1868, the shareholders voted to accept *Warrior* on her arrival from New York at Tls. 65,000, ready for sea at New York; insurance on the voyage and expenses out to be born by the S. S. N. Co.²³²

Warrior arrived at Singapore on 18 March 1868 and left on the 28th, arriving at Shanghai from Hong Kong, 23 April 1868²³³ and was subsequently renamed *Hangchow* and placed on the company's Yangtze line. She was not a particularly lucky ship. On 12 October 1868 she stranded on the north bank, near Woosung, on which occasion several lives were lost from the Shanghai harbor master's boat, which was drawn under the paddles when the steamer started her engines without warning.²³⁴ On 12 August 1869, she collided with the lorch *King Dong Chang*, ten lives being lost from the latter vessel. The lorch's owners sued the S. S. N. Co., but lost their case. Opinions were divided as to whether or not *Hangchow* was to blame, but the report that she did not stop to render assistance appears to be without foundation.²³⁵ Under Captain Lloyd, she went ashore on Jocelyn Island, 21 February 1873, but was refloated after 24 hours. In the S. S. N. Co. report for 1873 it was stated that the directors had instructed the agents to dispose of *Hangchow* and that negotiations for her sale were then pending.²³⁶ These negotiations were, however, evidently not successful, as she was condemned and in 1875 converted into a pontoon.²³⁷

The last of the American-built wooden side-wheel steamers to come out to the Far East were *Walrus* and *Nautilus*, each of 1,634 tons, built in 1864 by Jeremiah Simonson at New York. Together with *Manatus*, later *Narragansett*, and *Grampus*, later *Stonington*, they were contracted for by Captain William P. Williams in the interest of the New York and Philadelphia S. B. Co. They never served on that route, being laid up at Brooklyn for several months before their joiner work was completed.²³⁸ *Grampus* and *Manatus* were sold to the Stonington S.S. Co. in August 1867. As for *Nautilus* and *Walrus*, they were originally owned by the New York and

²³¹ BSL, 25 December 1867.

²³² NCH, 29 February 1868. On the profit and loss account of the S. S. N. Co. as of 31 December 1868, *Manchu* and *Hangchow* were together valued at Tls. 183,626.88.

²³³ A. Heard and Co.'s circular, 2 July 1868. CRS, Singapore.

²³⁴ Log *Shanghai Pilot Service*, p. 58.

²³⁵ Ibid., p. 62. NCH, 26 August 1869 and 2 September 1869.

²³⁶ NCH, 19 March 1874.

²³⁷ S. S. N. Co. report for 1875, NCH, 16 March 1876.

²³⁸ J. H. Morrison, op. cit., p. 508. According to CRS, Singapore, *Walrus* arrived from Mauritius on 7 June and *Nautilus* the following day. Both left on the 14th for Shanghai via Hong Kong. The latter arrived at Nagasaki from Hong Kong on 31 July 1869. (CRS, Nagasaki.)

Philadelphia S. B. Co., both being first enrolled on 8 September 1866. The former was re-enrolled on 1 June 1867 in the name of Franklin Wight, New York, and the latter on 25 July 1868 in the name of the New York Guarantee and Indemnity Co. Both were acquired by J. M. Forbes and Co. in 1868 and registered in the name of John M. Forbes on 11 September 1868, being sent out to the Far East in the latter part of that year.²³³

Nautilus, which was sent to Japan in 1869 under the American flag, was transferred to the British flag and sold that year by Alt and Co. at Hiogo to the Prince of Tosa for \$200,000 and did not enter China service until later,²³⁹ as will be described below. *Walrus* was acquired by the Shanghai S. N. Co. for their Ningpo route in May 1869 and renamed *Chusan*,²⁴⁰ but her career was short. According to Morrison (who confuses *Nautilus* with *Walrus*) her timbers were weakened by rot. In any case, the directors of the S. S. N. Co. in their report for 1873²⁴¹ state that 'the hull of the *Chusan* having lately proved to be in such a condition as to require a very heavy outlay for repairs, it was decided to cut her down to a pontoon.' Her engine was sent to Scotland to be used in the new iron steamer *Chusan* and was lost with the latter vessel.

In 1869, the S. S. N. Co. had built for them *Millet*, 181 tons net, at a cost of Tls. 36,247.54.²⁴⁰ She was constructed in Scotland and set up in China, being transferred to the United States flag on completion. She is described as a steam lighter, but must have been fairly seaworthy, as the *North China Herald* for 1 March 1877 states that '*Millet*, the first steamer [of the season] for the North, left on Monday.' Moreover, she must have had some passenger accommodation, as in 1875 the Austrian minister arrived at Newchwang on *Millet* and returned to Chefoo on her.²⁴² She was sold to the China Merchants S. N. Co. and renamed *Meli* (or *Meili* or *Mee-lee*), being transferred to the Chinese flag on 21 February 1877. In 1882, *Meli* was rebuilt and placed on the Cochin China line, but was wrecked the following year.²⁴³

About 1869, the directors of the Shanghai S. N. Co. determined to have their new steamers built of iron and as this could be done more cheaply in Britain, the orders were placed there. The first vessel acquired under this policy was the iron side-wheel steamer *Moning*, 2,012 tons gross, built by A. and J. Inglis of Glasgow in 1869 at a cost of Tls. 163,706.65.²⁴⁴ She had

²³⁹ *HMD* 31, II, 234. *Commercial Reports from Her Majesty's Consuls in Japan.*

²⁴⁰ Report of S. S. N. Co. for 1869, *NCH*, 8 March 1870.

²⁴¹ *NCH*, 19 March 1874.

²⁴² *JWM*, 2 October 1875. Quoted from *Celestial Empire.*

²⁴³ Ninth and tenth annual reports of the China Merchants S. N. Co.

²⁴⁴ Per S. S. N. Co. Insurance and Depreciation Fund, report for 1870, *NCH*, 8 March 1871.

a dead-weight tonnage of 2,200 on a draft of 12 feet. As a new ship, she arrived at Shanghai under the British flag on 9 June 1870,²⁴⁵ being transferred to the American flag on 21 June and renamed *Hupeh*.²⁴⁶ *Hupeh* was normally employed on the Yangtze line of the S. S. N. Co. On 15 August 1874, she stranded, but was refloated six hours later without damage. In 1876, she ran down and sank the pilot schooner *New York*, the latter being judged at fault for not keeping a proper lookout.²⁴⁷ On 1 March 1877, *Hupeh* was sold to the China Merchants S. N. Co., who renamed her *Kiangteen* and re-engined her in 1890. In 1938, she was transferred to W. Hunt and Co., at which time she was reported seized by the Japanese authorities—perhaps the last survivor of all the steamers mentioned in the present paper.

For the coastwise trade of the S. S. N. Co., A. and J. Inglis built in 1869 the iron screw steamer *Shantung* of 1,330 tons gross with a dead-weight tonnage of 1,000 on a draft of somewhat over 12 feet. She was referred to at the company's meeting in 1870 as valued jointly with *Hupeh* at Tls. 299,000.²⁴⁸ *Shantung* arrived at Shanghai on 19 March 1870, having made the passage from Glasgow via Suez in 58 days,²⁴⁹ and on the 23rd of that month was transferred from the English to the American flag, her American sailing letter being issued by the consulate general at Shanghai.²⁴⁶ She was intended for and usually served on the line to Tientsin, but contemporary shipping reports show that she also plied on the Yangtze. The S. S. N. Co. sold her on 1 March 1877 to the China Merchants S. N. Co., who renamed her *Chinting*. For a short time about 1895, she reverted to the name *Shantung*, but was soon renamed *Chinting* again. In October 1896 she was converted to a lighter.²⁵⁰

In 1871 the Shanghai S. N. Co. built for themselves at Shanghai²⁵¹ the iron paddle steamer *Honan* of 566 tons gross, with an engine that appears to have come from *Tah Wah*. *Honan* was launched on 1 December 1871, and her original sailing letter was issued by the U. S. consulate general at Shanghai on 16 April 1872.²⁴⁶ She was intended for service on the Yangtze and began work that month, her shallow draft making her very useful during low water on the river.²⁵² When the S. S. N. Co. sold their fleet to

²⁴⁵ *NCH*, 9 June 1870.

²⁴⁶ *HMD* 31, II, 231.

²⁴⁷ *Log Shanghai Pilot Service*, p. 88.

²⁴⁸ *NCH*, 4 January 1872.

²⁴⁹ *NCH*, 22 March 1870.

²⁵⁰ *Lloyd's Register of Shipping*, 1896-1897 (posted).

²⁵¹ According to *Lloyd's Register of Shipping*. It is probable that she was set up at Hongkew by Collyer and Lambert in conjunction with the S. S. N. Co.'s marine superintendent.

²⁵² S. S. N. Co. report. *NCH*, 13 March 1873.

the C. M. S. N. Co. on 1 March 1877, *Honan* was retained as part of the security for the unpaid balance on the purchase price, but early in 1878 she was transferred to her new owners, who renamed her *Kiangtung*. While still owned by the China Merchants S. N. Co., she burned on 30 April 1922, nine miles from Wuchang, while on a voyage from Shasi to Hankow.

The last wooden steamer acquired by the Shanghai S. N. Co. was *Nautilus*, mentioned above, which was purchased from the Japanese at Hiogo in April 1872 for \$85,000 and renamed *Fychow*, receiving American consular sailing papers at that time. On the company's books her cost was carried at Tls. 66,788.50.²⁵² The S. S. N. Co. fitted her for either the Yangtze River or the Ningpo routes, but she seems to have served primarily on the former. She was sold, 1 March 1877, to the China Merchants S. N. Co., who rebuilt her at an expense greater than her value,²⁵³ and renamed her *Kiangpiau* (*Kiangpiao*). She was on their fleet in 1889 and sold in 1890,²⁵⁴ and is in the name of Shun Chang in Lloyd's, 1891-1892 through 1893-1894, marked 'Broken up' in the latter year.

To replace *Chihli* (*ex-Lamont*) sold to the Japanese in 1871, the directors of the S. S. N. Co. ordered from A. and J. Inglis a seagoing iron screw steamer designed for the Yangtze and Gulf of Pechili trade, also called *Chihli*. A ship of 1,145 tons gross, she arrived at Shanghai from Glasgow on 22 May 1872 and was transferred from the British to the American flag and received consular sailing letters on the 27th,²⁵⁵ whereupon she was placed on the Gulf Line.²⁵⁶ *Chihli* was sold, 1 March 1877, to the China Merchants S. N. Co., who renamed her successively *Haeshin*, *Fuyi*, and *Haeshin*, and owned her until she was wrecked on 15 June 1904.²⁵⁶

In 1872, the S. S. N. Co. acquired the steam launch *Hyson* of 30 tons at a cost of Tls. 8,148.26.²⁵² This vessel is not to be confused with the small steamer of the same name owned by Russell and Co. some years before.

Kiangse of 1862 having proved a useful vessel, the directors of the Shanghai S. N. Co. decided to order a similar vessel of iron, which should be well adapted for both the Northern and the Ningpo lines. This was the seagoing side-wheel steamer *Shinking* of 1,249 tons gross, built by A. and J. Inglis in 1873. She arrived at Shanghai from England on 30 September 1873 and was transferred to the American flag on 15 October and dispatched at once for Tientsin.²⁵⁷ On 1 March 1877, she was sold

²⁵³ *NCH*, 17 October 1878.

²⁵⁴ Seventeenth annual report of the China Merchants S. N. Co., *NCH*, 24 April 1891.

²⁵⁵ *HMD* 31, II, 230.

²⁵⁶ *Lloyd's Register Wreck Returns* (later denoted LRWR), 2nd quarter, 1904.

²⁵⁷ S. S. N. Co. report for 1873 in *NCH*, 19 March 1874; *HMD* 31, II, 231; also *NCH*, 4 October 1873 and 25 April 1874.

to the China Merchants S. N. Co., who renamed her *Haeen*. She was later *Kungyi* and still later reverted to the name *Haeen*, being in the meantime lengthened and converted to screw, and remaining in the China Merchants fleet until 1938, at which time she was reported sunk by the Chinese authorities.

To replace *Manchu*, as mentioned earlier, the S. S. N. Co. purchased a steamer then building on the Clyde at her contract price of £29,500.²⁵⁸ This was *Paouting*, a seagoing iron and steel screw steamer of 1,513 tons gross, built at Govan by J. Elder and Co. in 1873. She reached Shanghai on 23 April 1874 and was transferred to the American flag on 11 May and placed on the line to Tientsin.²⁵⁷ On 1 March 1877, she was sold to the China Merchants S. N. Co., who renamed her successively *Haeting*, *Liting*, *Haeting*, *Paouting* and again *Haeting*, and on whose fleet she remained until converted to a hulk about 1908.²⁵⁹

The last of the American-built steamers of the S. S. N. Co. was *Nanking*, a composite side-wheel steamer of 2,330 tons gross with iron frames fabricated by T. F. Rowland's Continental Iron Works, Greenpoint, and sent out to China in the ship *Cashmere*,²⁶⁰ being put together in the company's yard at Hongkew by A. G. Lambert and Miers Coryell, the marine superintendent of the Shanghai S. N. Co. The launching took place at 1 P.M., 26 February 1873, the christening being performed by Miss Isabella Forbes, daughter of F. B. Forbes, then president of the company.²⁶¹ *Nanking* was fitted with the engines of *Chekiang*,²⁶² extensively rebuilt, and, having received consular sailing letters on 14 October 1873, entered the S. S. N. Co.'s Yangtze River service that same month. Her cost was high, Tls. 220,000, but with her high speed and large capacity she proved a very satisfactory vessel and was regularly employed in the river trade.²⁶³ On 1 March 1877 the operation of *Nanking* was transferred to the China Merchants S. N. Co., but the S. S. N. Co. retained title to the ship as partial security for payments and ownership was not transferred until January 1878.²⁶³ The C. M. S. N. Co. renamed her *Kiangfoo* and she remained in their service until broken up in 1925.

The engine of the dismantled *Chusan* (ex-*Walrus*) was sent to Scotland in 1873 to be fitted in a new *Chusan*, an iron side-wheel steamer of 1,381 tons gross, built for the Shanghai S. N. Co. by J. Elder and Co. at Govan

²⁵⁸ S. S. N. Co. report for 1873.

²⁵⁹ *Lloyd's Register*, 1908-1909 (posted).

²⁶⁰ *Nautical Gazette*, 30 December 1871.

²⁶¹ *NCH*, 27 February 1873.

²⁶² *Ibid.* In *Nautical Gazette* for 15 July 1871, it is stated that *Nanking* was to receive the engine of *Fohkien*. Possibly parts of both engines were used.

²⁶³ *NCH*, XX (1878), 54.

and launched 17 September 1874. The new ship was intended for river service and had a special corrugated bottom designed to permit light draft. Under Captain G. C. Johnson, *Chusan* satisfactorily passed her trial trip at Wemyss Bay and left for Waterford, Ireland, on her way to China, 10 October 1874, the intention being to complete her joiner work and fit out her passenger accommodations upon her arrival. She carried a cargo of about 1,000 tons of coal and a crew of 46, viz., the captain, first and second officers, four engineers, three stewards, a purser, sixteen firemen and a pilot, besides lascars and Negroes. The passengers were a Captain King, who was going out to China on service, Mrs. Johnson, the captain's wife, her son, aged four and one half, and her sister, Helen Elliott.

Chusan sustained some damage in crossing St. George's Channel and at Waterford the surveyors condemned her as unseaworthy and unfit to proceed, so that Captain Johnson decided to return to the Clyde for repairs and refitting. When the steamer left Waterford early on the morning of 20 October, the weather was moderately fine and the wind NW. Her progress up the Channel was very favorable until she was off the Maidens, off the northeast Irish coast, when the wind swung to fresh SW, accompanied by rain. As she passed the Ailsa Craig, the wind swung to the north and about 3 A.M. on the 21st it became strong NW. Due to her great breadth of beam and large freeboard, the steamer steered badly and it was found impossible to make the mouth of the Clyde. As they came in sight of the blazing furnaces of the ironworks at Kilwinning and Ardeer, the pilot and those on board were able to form an idea of their position and determined to run for Ardrossan Harbor, the lights of which were plainly visible.

This proved an ill-advised move, although it was possibly the only thing that could have been done under the circumstances. Just off Ardrossan Harbor is the Horse Isle; some hundreds of yards northwest of the pier and nearer in shore lies the Crinan Rock, about 400 yards from the pier and visible at low ebb tides. Access to the harbor is especially difficult when the wind is northwest, as it was that night. Those on shore supposed her to be the steamer from Belfast and, realizing her danger, Mr. Steele, the harbor master, and others stood on the pier with heaving lines to throw the ship when she came within reach.

Chusan cleared the Horse Isle safely, though it is probable that in the darkness the pilot never noticed it. She ran well up the leeward entrance into the harbor, until the Crinan Rock lay on her starboard beam; but was then caught by the swing of the tide or by a sudden squall, and although the engines were backed immediately, she still luffed up to the windward and struck hard just aft of the forward stokehold on the Crinan

Rock, which was several feet under water, as it was within an hour of the high tide. As the steamer struck, she carried away the beacon (there was no light on the rock) and immediately afterward a heavy sea lifted *Chusan* up and when she came down she broke in two at the fore compartment, precisely where a defect had been found on the passage to Waterford. The forward part drifted straight into the harbor. When it was within a few yards of the sides of the vessels lying at their berths, three Negroes tried to get ashore, but one was drowned. The harbor steam tug proceeded to the aft part of the vessel, which remained above water for 20 or 30 minutes after striking, and took off nine persons by throwing them lines. Captain Ballantyne, the master of the tug, called to those on deck to get onto the bridge, but some did not do so. Had they done so, all would, he thought, probably have been saved.

In the meantime, after some delay, owing to the absence of the commander and several men, the lifeboat was manned and made a gallant attempt to reach the wreck, but was beaten back by the storm. Thereupon the tug came to its assistance and took it out, when it rescued six persons. Several of the crew tried to swim ashore, but most of these were lost.

The white persons saved were John Murdoch, first mate; William Gardiner and William Ortwin, first and second engineers; William Wrench and George Marr, third and fourth engineers; Edwin Humphreys, purser; Mrs. Johnson, her sister, and child; Moir, the pilot; and Captain King. Captain Johnson was drowned, also William Miller, the second mate, the former giving his life to save his wife and child when all three could not be pulled on board the tug at once, and the latter having been washed overboard, together with two of the crew, while they were at the wheel before *Chusan* struck.²⁶⁴

The first reports of the wreck reaching China were to the effect that *Chusan* had been lost with all on board,²⁶⁵ but, fortunately, this was not true. The report of the S. S. N. Co. for the following year states that Captain Johnson and eight of the crew were lost, but this probably refers only to the white members of the crew. R. B. Forbes in his *Notes on Wrecks and Rescues* puts the loss of life as 17 and this is confirmed by the final account in the *North China Herald*. The loss of life would almost certainly have been less had the rocket apparatus been ready and had there not been a delay in launching the lifeboat. Moreover, *Chusan*, being constructed for river service, ought not to have been sent to sea at all at that stormy time of

²⁶⁴ The foregoing account is taken from *Great Shipwrecks—A Record of Perils and Disasters at Sea, 1544 to 1877* (T. Nelson and Sons, London, n.d.). See also *NCH*, 17 December 1874.

²⁶⁵ *Hong Kong Times Mail Supplement*, 12 November 1874.

year. But this disaster occasioned the greatest loss of life to passengers or crew in the history of the S. S. N. Co., a tribute to the able management of a fleet operating on a coast which has seen many shipwrecks, often accompanied by great loss of life.

The Ardrossan Harbour Board claimed damages for the removal of the wreck, and the satisfaction of these claims, together with the accompanying legal expenses, cost the S. S. N. Co. Tls. 44,643.55. The hull and the new work were covered by insurance, but not the engines, which had come from the old *Chusan* and were valued at Tls. 30,000.

Chusan (II) was replaced by a similar vessel, the iron (or steel) side-wheel steamer *Szechuen*. Due probably to their unfortunate experience with the former ship, the Shanghai S. N. Co. had *Szechuen*, which had been fabricated by J. Elder and Co., sent out from Glasgow in sections on the steamer *Rajanattianuhar*, which arrived at Shanghai in June 1875.²⁶⁶ *Szechuen* was erected by the S. S. N. Co. at Hongkew, but the work was not started until August and she was not launched until 30 November, when she took to the water at 2:30 P.M., without ceremonies, under the supervision of Messrs. Lambert and Coryell. The launch was pronounced very successful, but her later career could be taken to suggest that the omission of ceremonies was a mistake. To secure maximum strength together with shallow draft, the hull was corrugated on Hirsch's patent principle, similar to that of *Paouting*. The engine was that from *Kiang Loong*, rebuilt with a larger cylinder. *Szechuen's* tonnage, builders' measurement, was 3,856, which made her one of the largest steamers on the Yangtze at that time.²⁶⁷ When completed, she flew the American flag under consular sailing letters issued in August 1876. *Szechuen* was the last addition to the fleet of the Shanghai S. N. Co., making only a few trips for them before being transferred to the China Merchants S. N. Co. on 1 March 1877. Renamed *Kiangchang*, she had only a brief life under her new owners, being wrecked, 4 February 1878, due to errors of judgment on the part of the pilot, by striking on Hen and Chickens Rocks, off Porpoise Bluff, Yangtze River.²⁶⁸

Having thus concluded a survey of the fleet of the Shanghai Steam Navigation Company, we turn to a brief consideration of the affairs of the company itself. As we have seen, it was established on 27 March 1862 as an unincorporated joint-stock organization with a capital of Tls. 1,000,000 in shares of Tls. 1,000 each. For the first three years of its existence, loss-

²⁶⁶ NCH, 5 June 1875.

²⁶⁷ NCH, 2 December 1875.

²⁶⁸ NCH, 14 February 1878.

es and accidents were the rule, collisions, wrecks and fires being reported one after another, until the shares were reported to have been depressed below Tls. 400, and as late as 1866 they were quoted at only Tls. 600. However, a moderate immunity from misfortune during 1866 and the scheme for monopolizing the traffic of the Yangtze disclosed at the annual meeting in February 1867 raised them at once to nearly par. This monopoly was effected that same month and the following month 250 new shares of stock were issued, partly as payment to the partners of Dent and Co. for their Yangtze steamers.²⁶⁹ In 1867, profits exceeded Tls. 800,000 and the company was able to pay off its indebtedness and to declare a stock dividend of Tls. 50 per share. At the same time, the stock was split, 10 for 1, giving a capital of Tls. 1,875,000 in 18,750 shares. This led to a wider distribution of the stock and an active market for it developed on the local exchange. Continued prosperity enabled the S. S. N. Co. to initiate a 12 per cent cash dividend for the year 1868 and, partly as a result of pressure from some of the shareholders, a 20 per cent scrip dividend was issued in 1871 and converted into fully paid shares the following year, giving a total (and final) capitalization of Tls. 2,250,000. The stock rose to a price of 192.

These were the halcyon days of the Shanghai S. N. Co., but the seeds of less prosperous years were already being sown. In the first place, the complete monopoly of the Yangtze lasted less than a year, being broken by the formation about July 1867 of the Union S. N. Co., a British enterprise organized under the auspices of Glover, Dow and Co.²⁷⁰ It was not, however, a very formidable competitor, having at the start but two steamers. As of January 1868, the Shanghai S. N. Co. had ships leaving each end of the line, i.e., Shanghai and Hankow, three times a week, and the Union S. N. Co. once.²⁷¹ Moreover, the two companies soon developed an amicable working agreement.²⁷² The relative weakness of the Union S. N. Co. proved in the end a disadvantage to the S. S. N. Co. Glover, Dow and Co. got into financial difficulties and withdrew as agents of the Union S. N. Co. in 1870, being succeeded by the American house of Olyphant and Co. (as will be described later), although the shipping enterprise remained essentially British in character.²⁷³ In 1872, the directors of the Union S. N. Co. decided to abandon their river service and turn to the Shanghai-Can-

²⁶⁹ *NCH*, 29 March 1877. K.-C. Liu, loc. cit., I, 179.

²⁷⁰ K.-C. Liu, loc. cit., II, 184, footnote 74. The firm was Glover & Co. at this time.

²⁷¹ British consular report from Kiukiang dated 13 January 1868.

²⁷² *NCH*, 29 March 1877.

²⁷³ *NCH*, 29 March 1871.

ton trade and accordingly sold their steamers *Glengyle* and *Tunsin*,²⁷⁴ the purchasers being John Swire and Sons, Ltd. of London. This latter enterprise, which dated from 1812, had been heavily interested in the importation of cotton, but as this trade had fallen off after the American Civil War, they turned their attention to the Far East, opening their first branch in China at Shanghai on 1 January 1867 under the name of Butterfield and Swire. In 1872 they organized the China Navigation Co., Ltd.,²⁷⁵ which acquired the steamers of the Union S. N. Co., as previously mentioned.

The new company had strong financial resources and in addition enjoyed the backing and the technical assistance of Alfred Holt and Co. of Liverpool, the managers of the well-known Blue Funnel Line, and they engaged in active competition with the S. S. N. Co. A year or so of this evidently proved unsatisfactory to both opponents and in 1873 the competition on the Yangtze was terminated by a friendly agreement.²⁷⁶ In March 1874 the Shanghai S. N. Co. and the China Nav. Co. entered into a further agreement, so that, as the directors of the former stated in their report for 1874,²⁷⁷ 'The companies work in harmony with only such degree of friendly rivalry as secures to the public the most efficient service and to the Companies the most careful economy.' The arrangement was so satisfactory that it was continued for the remainder of the S. S. N. Co.'s existence. Nevertheless, the competitive position of the Shanghai S. N. Co. was gradually weakened by the splendid steamers the China Navigation Co. was bringing out, some of them among the largest yet operated on the river.²⁷⁸ Furthermore, a Chinese enterprise, the China Merchants S. N. Co., was organized in 1872 with the support of government officials and under the management of former compradores.²⁷⁹ From a small beginning with two steamers their fleet had by the end of 1876 increased to 17 steamers and provided serious competition, both on the Yangtze and on the coast. Under these circumstances, the directors of the Shanghai S. N. Co. decided in February 1877 to accept the offer of the China Merchants S. N. Co. to purchase the entire fleet and properties of the S. S. N.

²⁷⁴ Union S. N. Co. report. *NCH*, 3 April 1873.

²⁷⁵ The Taikoo Dockyard and Engineering Co. of Hong Kong, Ltd., *Fifty Years of Shipbuilding and Repairing in the Far East* (Hong Kong, 1954), p. 7.

²⁷⁶ S. S. N. Co. report. *NCH*, 19 March 1874.

²⁷⁷ *NCH*, 18 March 1875.

²⁷⁸ The new steamers built for the Yangtze trade of the China Nav. Co. at this time were: *Ichang* (1873), 1,782 g.t.; *Shanghai* (1873), 3,088 g.t.; *Pekin* (1873), 3,076 g.t.; and *Hankow* (1874), 3,073 g.t.

²⁷⁹ K.-C. Liu, 'The Creation of the China Merchants Steam Navigation Company, 1872-1874,' of which Mr. Liu has kindly loaned me a copy of the manuscript prior to its publication.

Co. for Tls. 2,000,000 and on 1 March 1877, these were turned over to the C. M. S. N. Co. and the great days of American steam shipping in China came to an end.²⁸⁰

The S. S. N. Co., after an unfavorable start, proved eventually to be a very prosperous enterprise, its earnings and dividends being as follows:

NET PROFITS FROM STEAMERS AND GODOWNS

(Before deductions for depreciation and insurance reserve.)²⁸¹

For	8 months ending			Tls.
		31 December	1862	33,107.67
"	6 "	30 June	1863	23,209.85
"	6 "	31 December	1863	63,980.24
"	12 "	31 December	1864	113,642.95
"	" "	31 December	1865	134,845.20
"	" "	31 December	1866	224,600.78
"	" "	31 December	1867	805,952.08
"	" "	31 December	1868	751,776.69
"	" "	31 December	1869	492,155.89
"	" "	31 December	1870	709,512.53
"	" "	31 December	1871	1,114,777.30
"	" "	31 December	1872	652,147.58
"	" "	31 December	1873	238,604.56
"	" "	31 December	1874	215,696.17
"	" "	31 December	1875	211,208.08
"	" "	31 December	1876	208,816.77

DIVIDENDS DECLARED AND PAID

Initial	(Feb. 1867)		cash	on capital of	Tls.
		8%	cash	on capital of	1,250,000
	1868	50%	stock	" " "	"
	1868	12%	cash	" " "	1,875,000
	1869	12%	"	" " "	"
	1870	12%	"	" " "	"
	1871	20%	scrip	" " "	"
		12%	cash	" " "	"
	1872	12%	"	" " "	2,250,000
	1873	12%	"	" " "	"
	1874	7%	"	" " "	"
	1875	7%	"	" " "	"
	1876	7%	"	" " "	"

The following table gives some indication of the size and growth of the Company's operations, the information being as of 31 December.

²⁸⁰ For the agreement of sale, see Appendix I.

²⁸¹ The figures in these tables are taken from the annual reports of the S. S. N. Co. For those through 1866 I am indebted to Mr. K.-C. Liu for the loan of photostatic copies. The remainder are from the *North China Herald*.

AMERICAN STEAM NAVIGATION IN CHINA 269

Year	No. Ships in Fleet	Book Value of Fleet	Total Assets
		Tls. —	Tls. —
1862	5	—	—
1863	8	741,637.50	1,137,687.92
1864	7	616,637.50	1,042,255.15
1865	7	642,400.87	1,012,532.34
1866	9	1,015,235.80	1,277,828.73
1867	12	1,323,748.84	1,961,762.98
1868	13	1,424,000.00	2,149,440.45
1869	15	1,304,000.00	2,139,893.93
1870	17	1,449,000.00	2,382,227.72
1871	16	1,349,000.00	3,029,767.41
1872	18	1,546,788.50	3,323,901.23
	Strs. building	255,318.77	
1873	16	1,569,000.00	3,030,830.82
	Strs. building	78,666.67	
1874	17	1,300,000.00	2,900,803.63
1875	16	1,237,500.00	2,863,011.06
	Strs. building	207,994.08	
1876	16	1,488,419.87	2,865,902.35

When the Shanghai S. N. Co. was liquidated following the sale of its ships and properties to the China Merchants S. N. Co., there was realized a sum of over Tls. 2,650,000.²⁸² Russell and Co. received a commission of 3½ per cent as liquidators.

A most interesting and detailed account of the formation and operation of the S. S. N. Co. as a business enterprise is to be found in the two articles by K.-C. Liu in the *Business History Review*, 'Financing a Steam-Navigation Company in China, 1861-62' (XXVIII [1954], 154-181) and 'Administering a Steam-Navigation Company in China, 1862-67' (XXIX [1955], 157-188) to which reference has frequently been made above. R. B. Forbes regarded the company as a most successful speculation.²⁸³ While the enterprise had become more international in character as the years went by, it was always thought of as American and Westerners in China were sorry to see it go.²⁸⁴

The Marine Superintendent of the Shanghai S. N. Co. was by agreement guaranteed similar employment with the China Merchants S. N. Co. (See Appendix I.) The S. S. N. Co. officers received certificates of recommendation. That of Captain George Andrews is reproduced in Plate 20.

²⁸² K.-C. Liu, loc. cit., I, 179.

²⁸³ R. B. Forbes, *Reminiscences*, p. 367.

²⁸⁴ *NCH*, 18 January 1877 and 1 February 1877. The later histories of the steamers of the S. S. N. Co. sold to the China Merchants S. N. Co. have been verified from *Chiao-t'ung Shih: Hang-cheng pien* [History of Communication: Shipping, Nanking, 1931], which Dr. K.-C. Liu has kindly translated for me.

To be continued