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Dissertation submitted towards the MA in Maritime History

Title: SAILING THE CHINA SEAS: THE INDO-CHINA STEAM NAVIGATION COMPANY 1881 – c1939.

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I hereby declare that this work has not been previously accepted in substance for any degree and is not being concurrently submitted by another candidate for any degree.

I further declare that this dissertation is being submitted in partial fulfilment of the requirements for the degree of MA in Maritime History and it is the result of my own independent work except where otherwise stated. Other sources are acknowledged by explicit references. A bibliography is appended.

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ABSTRACT.

During the first half of the 20th century there was very limited road and rail infrastructure in China and shipping therefore provided an essential means of carriage of passengers and cargo and communications along the coastlines and on the rivers into the heartland of the country. A study of the Indo-China Steam Navigation Company, this dissertation examines the 'experience' of sailing on China coastal and river ships prior to World War 2. The earlier days of British/China trade in the 19th century are first explored, which led to the establishment of the company. More detailed chapters then follow dealing with the various services it provided in Eastern waters during the Interwar Years and particulars of the ships themselves. The way of life and the duties and the challenges for the officers and crew of these ships are examined, with some career case studies included.

In order to assist in an understanding of the shipping operations during these years, a number of diagrams are attached to the dissertation which show the general arrangement plans of typical ships.

LIST OF CONTENTS.

Abbreviations:

- ICSN. The Indo-China Steam Navigation Company.
- JMCo. Jardine, Matheson and Company.
- Swires. Butterfield and Swires Company.
- CNCo. China Navigation Company.
- BI. British India Steam Navigation Company.
- P & O Peninsula and Oriental Steam Navigation Company.
- RN. Royal Navy.
- WW1 & WW2. World Wars One and Two.
- NMM National Maritime Museum.

1. INTRODUCTION.

The interwar years from 1918 to 1939 of the China Coast trade, which is the main period covered by this dissertation, has generally been regarded as the heyday time of British shipping on the coasts and rivers of China, but prior to this period there was a very long history of Western involvement. Trade with China existed in ancient Roman times mainly by means of the overland caravan routes and later, the Italian City States continued the "silk road" trading during the Middle Ages. This was followed by an opening of shipping trade with China in the sixteenth century which gradually expanded and involved the establishment of European trading houses in China.

This dissertation focuses on the shipping activity of Indo-China Steam Navigation Company (ICSN), a publicly listed company which was managed by the old and enduring British/China trading house of Jardine, Matheson and Company. The two organisations were considered to effectively be one and the same.[1] Both companies were specifically formed for the purpose of conducting trading operations in China. The dissertation does not attempt to analyse the business history but is concerned more with the "experience" of the ship staff who lived and worked in the Far East.

The following chapters describe the routes served by the fleet of ships, which included a longer service from the Far East to Calcutta plus various services along the coastline of China as well as lines far into the interior of the country on the Yangtze River. The different services required different types of vessels and these vessel designs are examined with the help of plan diagrams. An example of two contrasting ship types utilised by ICSN is illustrated in Fig. 01, showing a river and a coastal vessel. Usual features of these Far Eastern trading vessels included awnings for protection from the tropical sun over extensive wooden sheathed decks and long lines of tween deck portholes for carriage of many deck passengers, plus ship-side cargo-doors for the "walking" of cargo on and off the ships by coolie labour.

There were many peculiarities of the manning arrangements and these are described, including the vital function of the large comprador department aboard every ship. An attempt is made to indicate the mode of life of the British ships officers who lived somewhat like... "Lords of the East". Use is made of rare verbatim accounts of experiences during the career of some of these men. The numerous hazards of Far Eastern shipping operations are also explained.

A few primary sources of material have been located, mainly from the following repositories:

[1] R. Blake, *Jardine Matheson, Traders of the Far East,* (London, 1999), p230.

- Archival material held at the Greenwich National Maritime Museum: Caird Library and Woolwich Brass Foundry storage.
- The Jardine, Matheson archives held at Cambridge University Library.
- Records of communications with Government held at the National Archives in Kew.
- Technical shipping periodical series containing articles about new-buildings, held at the British Library.
- Published accounts by individuals of their personal experiences as staff of China Coast companies.
- Sailing Directions for China Sea waters and the Yangtze River held at the Library of the School of African and Asian Studies, London University.
- Shipbuilding company archives held at Glasgow's University collections and Mitchell Library and Newcastle's Tyne and Wear Museum.

Secondary sources include a number of publications and papers holding sections providing detail or insights into China Coast shipping operations with occasional specific mention of Indo-China S. N. Company and these are all listed in the bibliography. There are no books that have been published specifically about the shipping company although one shipping book does contain a chapter with a detailed fleet list and a brief history of ICSN.[2] A number of histories of the parent Jardine, Matheson and Company contain references to the shipping interests.

My interest in the subject matter arose mainly from my own employment with this shipping company during the 1960-70s as deck officer and shipmaster, during which time I often heard about the interwar years of the company operations from the few continuing men of that period. Much of the lifestyle and the attitudes of colonial days persisted long into the second half of the twentieth century, which provided me with extraordinary first-hand experience.

[2] H. Dick and S. Kentwell, *Beancaker to Boxboat, Steamship Companies in Chinese Waters,* (Canberra, 1988).

2. PROLOGUE - THE EARLY CHINA TRADE AND THE FIRST COASTAL STEAMSHIP OPERATIONS.

A pressing European need for spices led in the year 1500 to Portuguese navigators opening a direct sea route to the East around the south of Africa. The Portuguese went on in 1557 to establish a permanent settlement in China at Macao on the coastline near the mouth of the Pearl River. Macao became an important secure base for later Western traders hailing from many other European nations - and for England after a truce and free trade agreement between England and Portugal in 1635.[3]

Some 100 miles up the Pearl River from Macao lay the major southern Chinese city of Canton which was the centre for Chinese trade with South-East Asia. Canton also became the centre for the new sea-trading routes with India and Europe. As this trade expanded, a Chinese Imperial edict was issued in 1757 confining all the foreign trading activity only to Canton so as to restrict the foreign presence and influence from spreading further into China.[4]

The English Honourable East India Company had been formed by Royal charter in 1600 granting monopoly rights to all English trade in the East - India, the East Indies and the China Seas. Similar charters by other European nations were granted to their own companies. The first British East India Company ship to reach China was in 1636 and the first shipment of tea homewards was in 1682. A British East India Company "factory" or trading station was established in Canton in 1715.[5]

The East India Company ships which were built for the trade to China developed into very grand affairs, increasing in size as the demand for tea from China increased, up to 1400 tons burden. They were the finest and largest British merchant ships of the time and because of their design they were often mistaken for Royal Navy 72 gun ships of the Line.[6] A large armoury was necessary for protection of the valuable cargoes - tea, silk and porcelain homewards from China and silver bullion and expensive novelty items outwards from England to pay for the return cargoes. When the trading season was at its height in the second half of each year dozens of the worlds largest and most splendid ships lay at the Canton anchorage and this involved some 3000 crewmen.

The British ships formed the majority of those anchored but other nationalities were French, Dutch, Danish, Austrian, Swedish and American. The anchorage at this time with the great ships and

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[3] J. Sutton, 'Lords of the East: the Ships of the East India Company', R. Harding, A. Jarvis, A. Kennerley (eds.), *British Ships in China Seas: 1700 to the Present Day,* (Liverpool, 2004), p18.

[4] A. Blue, *The China Coast: A Study of British Shipping in Chinese Waters 1842-1914,* (Glasgow, 1982), a Thesis, p. cxiii.

[5] Blue, *The China Coast,* (Thesis), p. lxxix.

[6] J. Sutton, *Lords of the East, The East India Company and its ships (1600-1874),* (London, 1981), p44.

many trading junks and sampans and intense activity must have been a spectacular sight and has been portrayed in some paintings.

At the end of each trading season towards the change of the monsoon, all the ships would have departed and the entire foreign community of the Canton factories would receive official orders to also depart. The migration would be conducted with much fanfare aboard a fleet of comfortable houseboats, together with servants and possessions, for the few days passage through narrow inner waterways of the river estuary to Portuguese Macao which was a pleasant refuge from the confinement of Canton.

The following listing is a summary of the 8 regulations for foreigners at the Canton factories (as condensed from the 'Canton Register' newspaper of 15/7/1831):[7]

- No ships of war to enter the Canton River.
- No arms to be brought into the factories by the Europeans, and traders only allowed in Canton during the trading season between September and March, unaccompanied by wives or children.
- All pilots, boatmen, and agents working for the Europeans to be licensed.
- Not more than a fixed number of servants to be employed by the Europeans.
- Sedan chairs and boating for pleasure forbidden, also excursions into Canton.
- No smuggling and no credit allowed.
- All business to be conducted through the Hong merchants, who will receive all complaints and petitions for the authorities.
- All foreign ships to anchor at Whampoa, twelve miles below the city of Canton, where all loading and discharging must be carried out.

By the year 1800 large quantities of teas were reaching Canton from all over southern China for loading onto the East Indiamen bound for London to satisfy the ever increasing demand. At that time it was from China alone that tea could be obtained. A problem with this trade was that the purchasing of the tea in Canton was causing a heavy drain of silver from England and India, silver being the only currency acceptable in China. The Chinese had little interest in most goods that could be brought from elsewhere, and so... "with painful reluctance silver had to be paid into Chinese exchequers to meet the broadening trade gap".[8]

[7] Blue, *The China Coast,* (Thesis), p. xv.
[8] G. Graham, *The China Station,* (Oxford, 1978), p6.

However one foreign commodity that was of interest to the Chinese merchants was Indian opium which was grown and sold in India by the East India Company. Opium was legally available in Britain at that time and so it was regarded as a completely legitimate trade, but not in China where it was outlawed.[9] In order to protect its monopoly tea trading operations in China from penalisation by the Chinese authorities the carriage of opium on the East India Company ships was prohibited. This gave rise to an expansion of the "country trade" which was the name for private trading operations of ships from India to China where permitted or tolerated by the East India Company. Many of these private traders were ex-East India Company men.

In the year 1802 a young Scotsman named William Jardine joined an East Indiaman bound for Canton as Surgeons Mate. The officers of these ships were entitled to carry private cargo on their own account and he clearly learnt a lot about trading in Eastern waters because after 15 years he left the Company service to go into business for himself. This all led eventually to a partnership with another Scotsman, James Matheson, who had come East to work in his uncles agency firm in Calcutta and then moved on to Canton in search of other opportunities where he obtained a Danish Consulship.[10]

In 1832 the firm Jardine, Matheson and Company (later commonly known as "Jardines") was formed and shipowning operations were quickly entered into in addition to various trading activities. In 1834 the East India Company monopoly of the tea trade was ended and Jardines was the first private firm to send cargoes of tea to Britain (aboard chartered vessels).[11] Other ventures were commenced in insurance and in a very early and unsuccessful steamship operation - the ship was named *Jardine* but was ordered out of China by a Vice-Regal Edict: "the smokeship... should spread its sails and leave".[12]

Like the other traders in the Far East, Jardines participated heavily in the opium trade. Larger organisations were also involved in this such as the British P & O Shipping Line and the French Messageries Imperiales.[13] For Jardines this very profitable aspect of their business meant using agents in Calcutta to purchase opium at the public auctions held by the East India Company, followed by shipment to China aboard their own ships for selling locally.[14]

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[9] R. Hope, *A New History of British Shipping,* (London, 1992), p252.
[10] M. Keswick, *The Thistle and the Jade: a Celebration of 150 years of Jardine, Matheson and Company,* (London, 1982), p 17 & 18.
[11] Keswick, *The Thistle and the Jade,* p136.
[12] A. Reid, 'The Smoke Ship', in *The Mariners Mirror,* (Vol. 72, 1986), p69.
[13] F. Harcourt, *The Flagships of Imperialism,* (Manchester, 2006), p7 & 89.
[14] Keswick, *The Thistle and the Jade,* p59.

The increased volume of this trade meant that the precious silver no longer had to voyage across oceans but instead was utilised in a round-robin. The sale of opium in China allowed silver to be paid into the East India Company treasury in Canton for bills drawn on London or India so as to transfer the proceeds, and this silver in Canton was then used to purchase the tea - "the famous silver mechanism".[15]

The earlier opium ships had been teak India-built trading vessels of varying sizes but all heavily armed for defence against piracy. They carried Indian cotton and general goods for China in addition to the illicit cargo. Jardines introduced more specialized sailing vessels, generally smaller with fine hulls, very fast and able to beat upwind against the monsoon winds thus ensuring a more regular year-round supply of the drug plus an ability to race ahead of competitors to obtain higher prices - they were known as "opium clippers".

These ships were kept in very smart condition by large crews of up to 80 men for defence and sail-handling. Spare masts and gear were carried for replacements due to frequent hard-driving both with and against the monsoons to achieve speedy passages of not much more than one month each way, allowing increased numbers of annual voyages and for escape from heavily manned piratical craft which infested Far Eastern waters.[16] The captains and officers were often ex-Naval or East India Company men, or... "the younger sons of good families at Home". These ships officers lived well due to the lucrative nature of the trade, with opportunities for personal trading to enable an early return Home and an accompanying fortune.[17] The officers were paid at double the rate of those of other merchant navy ships.[18]

Attempts were made by the southern Chinese authorities to stop these operations in response to regular Imperial orders from Peking, but these policing activities were usually only a sham designed to satisfy the Emperor whilst not interfering with the inflow of bribes which ensured a 'blind-eye'. The drug was expensive and could only be afforded by the likes of administrators and businessmen and its proliferating use began to interfere with the efficient functioning of the Chinese Empire. Eventually a new Emperor in Peking appointed a reliable official to deal with the problem.[19]

Commissioner Lin arrived in Canton and proceeded to rigorously impose stronger restrictions on the Western traders and the infliction of severe punishment on Chinese participation in the trade. Also, Lin demanded the surrender of all opium. Because of the lack of military or naval forces for

[15] Keswick, *The Thistle and the Jade,* p59-61.
[16] Keswick, *The Thistle and the Jade,* p132.
[17] B. Lubbock, *The Opium Clippers,* (Glasgow, 1933), p24-29.
[18] Blake, *Jardine Matheson,* p121.

protection, these requirements had to be met by the Westerners and a very considerable fortune of opium was delivered up and burnt.

The leading British representative in Canton reported to London that... "all sense of security has been broken in pieces" and could only be restored by a permanent British base in China. Also that... "the Chinese had acted in ignorance of the power of Her Majesties' Government to resent them". These recommendations and their call to arms were answered after the usual long delays involved for the exchanges of information and the collection of suitable forces. In due course a naval squadron was despatched and the 'long and desultory' first opium war ensued 1839-42. During the war Jardine ships assisted with support and supply in the naval operations on the coast of China.[20]

This war resulted in a 1842 treaty which opened up 5 trading ports along the coast of China - Canton, Amoy, Foochow, Ningpo, and Shanghai. The treaty also required payment of compensation for the burnt opium and most significantly, for the cession "in perpetuity" of the island of HongKong. China was thus opened to further foreign trade and with Britain placed in the forefront due to its new permanent base.

The new opportunities now offered were quickly taken up by the British and other foreign traders. Jardines were among the first purchasers of land in HongKong. Shanghai was considered to be an especially important focus because of its location at the mouth of the mighty Yangtze River which was the major trading route into the heartland of China (the Capital of Peking was relatively isolated in the north of the country). Jardines also purchased prime land in Shanghai.[21]

The opium trade continued apace along with the tea trade but now many other trading activities were opening up in China. This facilitated the early establishment of steamship operations in the Far East to provide more efficient movements of people and cargo and communications. The first such steamships were paddle-wheelers brought out from Britain under sail with the paddles stowed below. Many of these prototypes were owned by Jardines and operated on the coast and on the run to Calcutta. These paddle-ships were referred to by the Chinese as "outside-walkee".[22]

Intransigence by the Chinese authorities in the application of the treaty provisions combined with incidents related to the Taiping rebellion and lack of repression of serious piracy affecting trade, led to calls by the traders a further enforcing of the treaty. A subsequent second opium war in 1858

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[19] C. Criswell, *The Taipans, HongKongs' Merchant Princes,* (Oxford, 1991), p48/49.
[20] A. Blue, 'The Iron-headed Old Rat', *The Nautical Magazine,* (Glasgow, 1980s), R21, p93.
[21] Keswick, *The Thistle and the Jade,* p257-8.
[22] Keswick, *The Thistle and the Jade,* p136 & 138.

involved a combined British and French occupation of Canton and then a later advance of this force in the north from the port of Tientsin on Peking itself.[23]

The objective of bending the Chinese Government to the will of the European powers was achieved and a treaty of 1860 provided for the opening of more ports and of the Yangtze River to foreign trading. This treaty also established the rankling concept of extraterritoriality for foreign residents whereby they were subject to the laws of their own Home country as applied by Consuls and not to the laws of China.

The opening of Japan to foreign trading provided another regional opportunity and Jardines were soon there. The early foreign settlement at Yokohama developed rapidly but there were recurring concerns about a Japanese attack on the township and so Royal Navy gunboats were stationed in the harbour. As an indication of life in the new Far Eastern treaty ports the following anecdote is worth retelling - "If a signal rocket was fired the RN gunboats were to embark the civilians. Suddenly one night rockets soared into the sky over Yokohama. Immediate pandemonium broke out... drumrolls, pipes and bugle calls. The flagship signalled... 'from what quarter were the rockets sent up'. It turned out to be a Jardines steamer giving a farewell party for a VIP on board, but the Admiral was not amused. The whole party, by now full of alcoholic goodwill, was summarily arrested and kept under guard on the quarter-deck of HMS *Euryalus,* while the Admiral vented his wrath on them before letting them go."[24]

Ever increasing business opportunities encouraged Jardines to provide further shipping operations. Steamship lines were established along the coast of China and on the Yangtze River in addition to a now regular monthly service from HongKong to Calcutta later extending north to Shanghai and Japan. This service was designed to deliver all-important and valuable business news ahead of the mainline P & O service.[25] Around this time of 1872, Jardines withdrew from the opium trade after the rival Sassoon and Company had gained control of the main sources of opium in India and as China grown opium increased.[26]

The early steamships were built on the Clyde and were a mixture of sizes and types: paddle or screw, iron or wooden, all with square sails. Young marine engineers who came out with the ships

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[23] G. Graham, *The China Station,* (Oxford, 1978), p280.
[24] A. Preston & J. Major, *Send a Gunboat!* (London, 1967). P67.
[25] Blake, *Jardine Matheson,* p162-3; also - http://en.wikipedia.org/wiki/Jardine_Matheson, (16/10/2005).
[26] A. Blue, 'A Scottish China House', in *The Nautical Magazine,* (Glasgow, 1980s), R20, p424.

remained in China to eventually staff new dockyards in HongKong and Shanghai. "The Chinese crews in many a ships engine room spoke English with a strong Clydeside accent".[27]

To facilitate the operation of these diverse services, the China Coast Steam Navigation Company was formed in 1873 with original capital of £108,000 being 64% Jardines plus outside shareholders which included some Chinese money arranged through the parents company's influential No.1 Comprador Tong King-Sing. Jardines were appointed as General Managers. The shipping company's main operations were in north China, from Shanghai to Chefoo and Tientsin which was the port for Peking. There was a secondary service from Shanghai southwards to Foochow, Swatow and Amoy. Some five ships were utilised.[28]

Separately and in response to moves into north China shipping services by a rival British shipping concern (Swires' China Navigation Company), Jardines formed the Yangtze Steam Navigation Company in 1879 so as to encroach onto that rivals services on the River. This company was formed in association with a Shanghai shipbuilding company and with an original capital of £50,000. Three ships were run on the Lower River trade from Shanghai up to Hankow via Nanking and other ports. These operations required initial outlays for berthing facilities at the river ports - hulks (old moored ships for accommodation, offices and warehousing space), landing stages and ferryboats.[29]

By reason of their early start Jardines shipping interests played an ongoing major role on the China Coast. Besides smaller operators, there were three other major shipping companies during these times - the American owned Russell and Company; the Chinese owned China Merchants S.N. Company; and the shipping arm of the British John Swires Company (China Navigation Company). At one time there was an intense personal and social as well as business rivalry between the Taipans (company chiefs) of Jardines and Swires.[30]

This early period of steamship operations in China saw Jardines using 11 ships on 3 main services: a Calcutta – Straits Settlements – China – Japan Line using mostly chartered-in ships, plus two subsidiary shipping company operations, one for the China coastal services and one for Yangtze River services. There was also a cargo service from north to south China carrying beancakes (a soya residue product).

A profile diagram is shown in Fig. 02 (upper) and is an example of the early steamships operated by Jardines. The 1250 ton iron paddle steamer *Rona* was fully rigged with square sails and built by

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[27] Keswick, *The Thistle and the Jade,* p141.
[28] Dick & Kentwell, *Beancaker to Boxboat, Steamship Companies in Chinese Waters,* (Canberra, 1988), p5.
[29] Blue, *The China Coast,* (Thesis), p. xxxii.
[30] Blue, 'A Scottish China House', in *The Nautical Magazine,* (Glasgow, 1980s), R20, p423.

Denny of Dumbarton on the Clyde in 1862. The registered owner was one Robert Jardine, a descendant of the founder of the company. She was placed on the coastal HongKong to Shanghai run and sometimes on the Yangtze River up to Hankow.

The deck plans are too cumbersome to attach here but the layout shows an upper open spar-deck clear of deck-housings except by way of the paddle-boxes where ships officers cabins and a wheelhouse are located together with separate galleys for Europeans and Chinese. On the fully covered main deck below there are cabins aft for 30 European passengers either side of central saloon tables with sweeping sofas around stern windows. In the bow are crew berths and dormitory three-tier bunks for second class Chinese. The long amidships space between the bow and stern accommodation has engineer cabins near the large engine uptakes and some cabins for first class Chinese and petty officers on the sides. The remaining spaces here were used for carriage of unberthed tween deck passengers and cargo loaded through side doors. General cargo holds are within the hull although the engine, boiler and coal bunker spaces take much of the below deck space.[31]

[31] Ship plan collection of National Maritime Museum, (Denny List). Held at Brass Foundry, Woolwich.

4. THE INTER-WAR YEARS: SHIPS AND ROUTES.

The interwar period of 1918-41 is generally regarded as the heyday period of British China Coast shipping operations because the ships and routes had settled into established patterns and the fleets had increased to their greatest extent. The expatriate ship's officer staff lived at a very high standard in a secure career environment. It was a time of solid British power projection in the East. It was also the calm before the storm. The fleet list in Fig. 02 (lower) is from a 1936 brochure about passenger and freight services of ICSN and illustrates the size of the operations. [32]

The ocean, coasting and river fleets of ICSN were divided into different lines, each of which will be considered separately in this chapter. Examples of the vessels utilised on these lines are also examined, all of which were specifically designed to carry mixed cargoes together with passengers in cabins and unberthed in tween deck spaces.

An important source of revenue on all the lines was the carriage of deck passengers. Chinese emigration had a long history and there were flourishing Chinese communities in Southeast Asian ports when the Europeans first arrived. Subsequent economic developments in this region increased the demand for Chinese labour - for rubber and tea plantations, tin mines, and rice mills. The carriage of indentured labour from both India and China became a significant profitable operation. Similarly, the lack of roadways and limited rail lines in China required shipping to provide an indispensable role in passenger transport.[33]

All the ships were equipped to carry several hundred deck passengers in their tween decks but without beds, bunks or any furnishings. Each passenger supplied bedding in the form of mats and was allotted several square feet of deck space. Families constructed partitions using their own baggage and much time was spent on the open decks under canvas awnings. Two simple meals a day were provided. Washing and sanitary facilities were basic and partly removable but usually better than those in native villages. Crew members joined into business opportunities by running food and liquor stalls or opium dens and gambling schools. Some rented out crew bunks. The decks

[32] Indo-China S.N.Co; Handbook of General Information, 1936, Caird Library archive collection (347.792, B8068), National Maritime Museum, Greenwich.

of a China coaster regularly took on the appearance of a busy Chinese market town. The people traffic was both ways even on the longer hauls to the Straits Settlements due to returning contract labour.[34]

The cargoes carried on these general cargo ships were principally foodstuffs and clothing plus manufactured goods on-carried from Europe. All goods were broken down into sacks and parcels of a size suitable for manhandling. A China coast shipmaster described the working of cargo as follows - "the Comprador's tally clerks keep a check on general cargo which poured on board like rush-hour passengers into London Bridge Station, and which was dropped off at way-ports in the same off-and-away manner... containerisation is probably only now catching up with the speed of loading general cargo at the French Bund at Shanghai, carried aboard directly from the street, not from pre-storage in godowns (warehouses)... all cargo was simply walked on board, or ashore, through large cargo-doors".[35]

CALCUTTA – STRAITS – CHINA – JAPAN LINE:

This line developed from the earliest of Jardines shipping operations, having been run by the 'opium clippers' from early in the 19th century. It continued with steamships and much later motorships until the 1970s when national fleets, combined with trading preferences, finally drove Jardines ships off this run after some 150 years.[36]

The terminal port of Calcutta was one of the greatest cities of the British Empire. The city lies some 85 miles up the Hooghly River which is part of the vast estuary system of the Ganges and Brahmaputra Rivers. Extensive docks were constructed early in the 20th century close south of the city similar to those off the Thames River. Ships were locked into the Kiddapore and King George V docks. Buoy moorings were also provided in the River where lightering was often complicated by violent tidal bores.

Port stays were long with full discharge and reloading. Sometimes an ICSN shipmaster would leave the ship in the charge of the chief officer whilst he took the train north to the resort town of Darjeeling high in the Himalayan mountains. There he could enjoy cosy evenings by a roaring log fire in the Planters Club while his ships' company sweltered in the oppressive heat of Calcutta.[37]

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[33] A. Blue, *Chinese Emigration and the Deck Passenger Trade,* (a paper): www.sunzi1.lib.hku.hk/hkjo/view/44/4401335.pdf (a HongKong University Library website).
[34] Blue, *Chinese Emigration and the Deck Passenger Trade.*
[35] G. Torrible, *Yangtze Reminiscences,* (HongKong, 1975), p15/16.
[36] Dick, 'The Competitive Advantage of British Shipping', *British Ships in China Seas,* p51.
[37] Interview with Captain Parrish, Melbourne 1990s, retired ICSN shipmaster and marine superintendent.

South of the Bay of Bengal at the junction of the Indian Ocean and the China Seas, the Straits Settlement ports consisted of Penang and Singapore, both always a focus for shipping where the sea-lanes narrowed considerably. Penang was considered to be one of the most beautiful and healthiest locations in the East.[38] Singapore lay very close to the equator and was of commercial and military importance. The population of both towns was very mixed, being mainly a combination of ruling and business British colonial class together with emigrant Chinese and Indian indentured labour or small businessmen plus the local Malay people.

In the China Seas these Calcutta line ships called at HongKong and Shanghai, described earlier, and this line was supervised from the HongKong office. Calls were also made at Amoy when southbound, this being an important centre for emigrants to the Straits ports.[39]

The northern terminal ports were Kobe and Yokohama in Japan, where Jardines had been active since the first days of the opening up of Japan to foreign trade. The firm had been involved in the sale of the first steamships to Japanese owners and in the arrangements for the first young Japanese noblemen to travel and be educated in Britain.[40] In 1923 Yokohama was struck by a particularly destructive earthquake and recovery took many years.

For the Calcutta line in the 1930s, the ICSN advertised a sailing every 10 days on the round voyage which was of some 2 months duration. Five ships operated the line, only one of which was purpose built for the run. Two were originally built for a HongKong to Manila line which was discontinued (*Yuensang & Suisang)*, whilst another two ships were purchased on the building stocks from other owners and then considerably modified to suit the trade (*Hosang & Kumsang)*.[41]

Kutsang, 5869 gross tons and 12 knots, the largest of the ICSN vessels, was specifically built for the run by Swan Hunters in Newcastle in 1922. The general arrangement plans in Fig. 03 show a typical layout for a Far Eastern trading vessel, the most characteristic feature being tween decks lined with portholes and cargo-doors, and the provision for all open deck spaces to be covered by canvas awnings. Amidships there was light and airy accommodation for officers and 24 foreign passengers who would be mainly administrators and businessmen travellers and their families. There was a lounge with grand staircase, a smoking room with bar and a dining saloon all of which were elaborately wood panelled with leather furnishings. Cabins for 30 Chinese passengers in 2nd class cabins were fitted in the poop structure with dining saloon and smoking room. Crew bunk spaces

[38] ICSN Handbook of General Information, 1936, Caird Library, NMM.
[39] ICSN Handbook of General Information, 1936, Caird Library, NMM.
[40] Keswick, *The Thistle and the Jade,* p160 & 165.
[41] Dick & Kentwell, *Beancaker to Boxboat,* p36 & 38.

were in the bow and petty officer and comprador staff had cabins on the sides of the upper tween deck, along with sanitary arrangements for the tween deck passengers.[42]

Varying figures are given for the number of deck passengers carried and these are always difficult to determine because of alterations over the ships life. One record gives 2116 unberthed passengers capacity for *Kutsang* in her extensive two tween deck spaces and another gives a figure of 1300, whilst the lifeboats (when double banked in davits) could accommodate some 750 total complement which would allow for 550 non-cabin passengers.[43]

The "Simla Rules" were a Far Eastern variant on the Western Safety at Sea Rules. These rules allowed for carriage of deck passengers without lifeboat capacity when on short-hauls in protected waters and this would apply to the Singapore – Penang runs and many China coast runs and probably for longer legs during months outside the periods of strong monsoonal weather or typhoon season. The complicated Simla Rules refer to... "short international voyages (where the track is..) not more than 200 miles from a port or place where passengers and crew could be placed in safety". This could be interpreted to apply to most areas of Far Eastern trading.[44] In any case the comprador would have honoured the rules more in the breach than otherwise.

The routes followed between the ports were adapted to suit the seasons, particularly during the strong winds of the winter northeast monsoon. The run north from Singapore to HongKong would then divert, even for well-powered vessels, over to coast close to Borneo and the Philippines before running with the monsoon on the beam across to HongKong. Similarly from HongKong north to Shanghai an "inside" route was followed up the coast so as to shelter within inner channels protected by islands and under the lee of headlands. Due to poor navigational marking lights this could involve anchoring overnight rather than hauling out to gain little ground against the weather.

Competition on the Calcutta – Japan line was provided by the British-India Shipping Company which utilised large three-funnel (one dummy) ships so as to impress the deck passenger market (similar to the north- Atlantic liners with more funnels than were necessary). These B.I. ships had very extensive deck passenger capacity of over 3000.[45] On the Singapore – Penang leg the Straits Steamers Company ran their smart flagship *Kedah* with particularly comfortable first class

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[42] *Shipbuilding and Shipping Record*, (periodical), March 9, 1922, p301-310.

[43] R. Jordan, *The Worlds Merchant Fleets 1939,* (Hereford, 1999), p152; Also - B. Leek, 'These Splendid Ships', in *Sea Breezes,* Vol. 71, No. 622, October 1997.

[44] C. Cook, *The Lion and the Dragon,* (London, 1985), p82.

[45] Duncan Haws, *Merchant Fleets, British India Steam Navigation Company,* (East Sussex, 1987), p144 also - *Shipbuilding and Shipping Record,* (periodical, 1923).

accommodation plus many tween deck passengers.[46] The Swires' China Navigation Company ran many vessels from China to the Straits, Bangkok and Cochin-China, all carrying numerous deck passengers.[47] All Far Eastern trading ships of any nationality normally had provision for optional carriage of large numbers of tween deck passengers.

BORNEO LINE:

The Borneo Line ran fortnightly from HongKong to Sandakan using two old second-hand cargo vessels suitable for carriage of heavy timber and log cargoes from Borneo, which were the mainstay of this service. *Mausang* and *Hinsang* were modified for carriage of some deck passengers and they also carried general cargoes outwards from HongKong with through bills of lading for outports in Borneo. Straits Steamship Company ran small cargo/passengers liners from Singapore all along the Borneo coastline of Sarawak and British North Borneo connecting with the ICSN ships in Sandakan.

Hinsang was built for other owners in 1905 for cargo tramping trades and purchased for and modified by ICSN in 1913. *Mausang* was built in 1921 as one of many standard war-loss replacement "C" class cargo vessels of 5000 deadweight tons named *War Tiara;* and purchased by ICSN soon after. These ships were of simple design with two hatches forward and two aft opening into spacious holds without tween decks. There was only minimum basic accommodation provided. Modifications for China Sea operations included a few cabins amongst the officers cabins for first class passengers and some poop accommodation for Chinese cabin passengers. The long amidships bridge structure can be seen in profile drawings and this space provided the equivalent of covered tween deck space for some 350 deck passengers, there being a regular coming and going of Chinese indentured labour and small businessmen.[48]

The design features of a "C" class standard ship identical to *Mausang* are shown in Fig. 04[49] and the alterations for ICSN service, in addition to the above-mentioned, would have included extra lifeboats and the provision of portholes in the hull by way of the bridge structure, plus spars for spreading awnings over the open decks.

SHANGHAI TO TIENTSIN LINE:

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[46] *Shipbuilding and Shipping Record,* October 27, 1927, p464/5.
[47] Cook, *The Lion and the Dragon,* p81.
[48] Jordan, *The Worlds Merchant Fleets 1939,* p152
[49] W. Miller & L. Sawyer, *British Stanfard Ships of World War 1,* (London, 1968).

The line running from Shanghai to the large treaty port of Tientsin, which was the port for the capital city of Peking, was the prestige service of ICSN. A railway was constructed early in the 20th century from Shanghai to Peking with a ferry crossing of the Yangtze River at Nanking, but the shipping line remained busy. All through the year business and diplomatic travellers used the ships and during the summer months the route was popular for Shanghai residents taking excursions to the beach resort locations at Chefoo and Weihaiwei. Weihaiwei was also an important Royal Navy base which provided a northern watch station for the RN China Sea fleet. Shanghai in summer was unpleasantly hot and humid and the northern resort towns provided a welcome relief for families.[50]

However the north China winters could be bitterly cold, with strong monsoon winds blowing directly from the frozen wastes of Siberia. The seas in the vicinity of Tientsin then regularly froze over, necessitating the use of icebreakers which could be hired to clear a passage to and from the Hai Ho River for Tientsin. The Hai Ho River led from an entrance on the shore of the Yellow Sea at the Taku bar and wound for some 40 miles up to the city. If the river level was low as it could be in a dry period, then the passengers and part cargoes would be transferred to lighters while at anchorage off Taku bar.[51] The rail journey on to Peking was of a few hours duration.

The ships employed on this service were not large, only of some 2000 gross tons, but passenger accommodation and service standards were especially high so as to maintain a good reputation in the important centres of Shanghai and Peking. Sailings were maintained by *Fausang, Tingsang* and the WW1 reparation vessel *Leesang* which replaced *Lienshing* after the flagship of the line was wrecked. A ship departed Shanghai every few days for the round voyage and Swires' CNCo and the China Merchants Company ran similarly frequent services.

The plans of *Lienshing* are attached (Fig. 05[52]) and show a very smart and neatly arranged vessel. 24 foreign first class passengers enjoyed a spacious smoking room with bar on the boat deck, a lounge on the promenade deck and a large dining saloon on the main deck. All the cabins had doors opening onto an internal corridor and also onto the outside deck. 50 second class Chinese cabins were placed amidships and aft while third class were accommodated in the tween decks with covered and open deck spaces and unusually, a number of individual cabins provided. There were only two cargo holds and so the cargo carrying capacity was not large, passengers clearly being the priority.

[50] ICSN Handbook of General Information, 1936, Caird Library, NMM.
[51] G. Grundy, *The China Coaster, Tide Book and Nautical Pocket Manual,* (Shanghai, 1920), p200.
[52] *Shipbuilding and Shipping Record,* May 7, 1925, p567.

Lienshing sank after grounding, with 40 lives lost, on 12th December, 1926, after only a few years service as a prestige purpose-built vessel and this must have been a hard blow for the company. Details of the court of enquiry into this casualty are included later. The ship was not replaced by a new-building which suggests that the company may have been carrying the insurance.[53]

CANTON TO TIENTSIN LINE:

This service was based in HongKong and was provided by older vessels of the ICSN fleet - *Fooshing, Yatshing, Hopsang* and *Hangsang* all of some 2000 gross tons and built 1900-05. The ships sailed at one week intervals from Canton along the full length of the China coast but not calling at Shanghai. Northbound the calls were at Canton, HongKong, Swatow, Foochow, Tsingtao, Weihaiwei and Chefoo to Tientsin. Only 'limited' saloon accommodation was provided which meant just a few cabins for foreign passengers, but fares were quoted for Chinese servants which suggests that HongKong residents travelled north direct to the mentioned resort town ports during the summer.[54] Like all China coaster vessels there were long rows of portholes in the tween decks due to provision for carriage of many unberthed deck passengers. The vessels had substantial cargo carrying spaces with two holds forward and two aft. Frequent port calls would have made for a hard working operation, which would have tested the operational systems and limited facilities of the aged ships.

Late in the 1930s after the beginning of an unofficial war between China and Japan starting in Manchuria and Peking and spreading south, the China Merchants Shipping Company could not continue to run four new-built steamers due to the war-risk involved.[55] The ships had been built by Swan Hunter in Newcastle and were to a high standard. ICSN took the fortuitous opportunity to purchase these ships causing a flurry of urgent communications between Jardines head office, the Office of the HongKong Governor, the London Foreign Office, the Board of Trade and the British Embassy in Tokyo, all of which were designed to gain assurances that the vessels would be accepted for HongKong registry and would not be regarded by potentially hostile Japanese forces as disguised Chinese vessels.[56] This four-ship acquisition allowed ICSN to supplement and upgrade their coastal shipping services.

The layout plans of one of these ships warrant close inspection and are shown in Fig. 06.[57] Clearly the ships were indeed smart vessels. 12 foreign passengers were accommodated and 52 Chinese second class, all to a high standard, plus 28 dormitory berthed third class with some 900 unberthed

[53] Dick & Kentwell, *Beancaker to Boxboat,* p38-40.
[54] ICSN Handbook of General Information, 1936, Caird Library, NMM.
[55] Dick & Kentwell, *Beancaker to Boxboat,* p188.
[56] National Archives, Kew, CO 129 565/1.

capacity in the tween decks. An innovation shown was the provision of cargo sliding runway boards leading from the shipside cargo-doors across the tween decks to hatchways into the lower holds where the usual collapsible stages assisted the lowering of goods into the holds. There was a substantial 3200 deadweight tons cargo capacity. These four acquisitions were given familiar ICSN names - *Yusang, Esang, Wosang, Mingsang*.

CANTON TO SHANGHAI AND TSINGTAO LINE:

This coastal service was based in Shanghai and the ships sailed from there every Wednesday and Saturday both northwards and southwards and this would also have been a very busy operation dashing in and out of ports almost daily with fast turnarounds.[58] The navigation between the ports would have involved intricate "rock-hopping", especially in the northeast monsoon when all the ships followed the "inside route" when northbound. Old China hands always spoke of the interesting navigation which kept them alert on watch and of the continuous need for avoidance of areas of fishing-trap stakes and large fleets of fishing junks.[59] Because of the frequent inshore passages, extra vigilance was also required against piracy and the ships all carried anti-piracy guards and had protective features inbuilt into their design.

The northern terminal at Tsingtao was only 36 hours steaming from Shanghai and had been a German possession up until WW1 after which it became an open treaty port. In the south the run between Canton and HongKong was a brief overnight passage under pilotage with intricate navigation required throughout for the Pearl River estuary.

The fleet used for this line included three chartered-in vessels owned by the long-established Norwegian trading house in China - Wallem and Company. *Norviken, Daviken* and *Sandviken* were built in Scotland in 1925-6 of 3500 deadweight and with a HongKong license for 21 cabin and 1100 deck passengers. With Norwegian officers and Chinese crews they remained under long-term charter to ICSN and became virtual integral units of the fleet.[60]

The ICSN ships on this line were *Chaksang, Kwaisang* and later the new *Taksang* of 1935 built in HongKong for the run and with 3000 deadweight capacity. Plans of the layout of *Taksang* in Fig. 07[61] show details of the vessel which was regarded as a most "up-to-date" China coaster. There was comfortable accommodation for 20 first class foreign passengers but with lounge and dining

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[57] *Shipbuilding and Shipping Record,* November 8, 1934, p504-6.
[58] ICSN Handbook of General Information, 1936, Caird Library, NMM.
[59] From conversations with Captain L. Cox in the 1960s, retired and now deceased ICSN shipmaster and others.
[60] H. Dick and S. Kentwell, *Sold East,* (Melbourne, 1991), p73.
[61] National Maritime Museum ship plan collection held at the Brass Foundry, Woolwich.

saloon combined in the one large room. The ships officer cabins were nearby. On the boat deck the captain had a spacious suite of rooms while the usual location of a smoking room aft on this deck was occupied by anti-piracy guards' cabins - armed "White Russian" personnel from Shanghai. Cabins for 50 Chinese second class to a high standard were provided amidships beneath all these spaces while third class were restricted only to the after decks. Dormitory bunks berthed 50 while some 350 were carried unberthed in the aft tween decks. Comprador staff and tally clerk spaces were extensive and included side deckhouses for cooking and sanitary facilities for the deck passengers. A poop deckhouse provided refrigerated cargo space while elaborate structural detail and steel grills with gates separated the aft spaces from the amidships accommodations for protection against onboard piracy. A photograph of the ship shows the after decks as a crowded hive of activity. In 1938 improved sisterships were built as running companions - *Wingsang* and *Taisang.*

LOWER YANGTZE RIVER LINE:

The sources of the Yangtze River lie high on the Tibetan Plateau on the northern side of the Himalayan Mountains some 3500 miles from the sea. The river gains strength from the vast Sichuan Province basin in western China before running through wild gorges out to the immense flat plains of eastern China. Here numerous lakes and tributary rivers drain into the Yangtze before it enters the China Sea.

The extensive ICSN shipping services on the river were supervised from Shanghai head office and these services were divided into three sections, each of which required a specific design of vessel to suit the different nature of the river:[62]

- The Lower River line from Shanghai to Hankow, 600 miles.
- The Middle River from Hankow to Ichang, 350 miles; together with a side Hunan line through the Tungting Lakes to Changsha and Chengte.
- The Upper River from Ichang to Chungking, 380 miles through gorges and rapids.

The Lower River service despatched a vessel from Shanghai many days of the week as did competing companies. The run was a very busy one and the ships were large, up to 4600 gross tons, the depth of the channels allowing this. ICSN ran 6 ships on this 10 day round voyage and the line would

[62] ICSN Handbook of General Information, 1936, Caird Library, NMM.

have been very popular for ships staff who were resident in Shanghai due to the frequent four day port stays there. Ports of call on the river were:[63]

- Chinkiang at the crossing of the Grand Canal from Peking and Tientsin to the city of Hangchow to the south of Shanghai.
- Nanking, an important city with a ferry crossing for the Shanghai to Peking railway.
- Wuhu, a regional treaty port.
- Kuikiang at the opening of the Poyang Lake system and the port for the "Shanghailanders" (as they called themselves) to access the Swiss style mountain resort of Lushan.
- Hankow, the major central city with satellite cities of Wuchang and Hanyang.

At these river ports the vessels usually either anchored off or went alongside "hulks" moored to the riverbanks. The hulks were old ships in good repair which were converted to provide offices and residence for the agent and staff plus godown storage for cargo. Wide gangways led across mudbanks to the shore.[64] Access and leases to waterfrontage were much sought after by the various shipping companies with contending nationalities in non-concession locations sometimes resorting to diplomatic and even gunboat assistance. The ships also slowed at "boat stations" between the treaty ports where ferryboats and lighters brought out cargo and passengers from provincial non-concession towns to lay alongside the ships in the stream for transfers. In addition, fleets of tugs, lighters and junks flying the Jardines and other flags serviced the myriad side waterways, canals, lakes and tributary rivers running into the Yangtze.[65]

The ships themselves were of a complicated design which had developed from the Mississippi style river steamers used by the American firm Russell and Company when they first introduced regular shipping services on the river in the 19th century. All of the ICSN river ship names ended in "wo" meaning "harmony" while most of the seagoing ship names ended in "sang" meaning "alive" or a reference to growth and "life-energy".[66]

Kungwo was the flagship of the river fleet, built 1923 in HongKong and of 4600 gross tons, a large ship for the times by any standard. The deck plans in Fig. 08[67] show stem to stern deck layers for different classes of passengers. The 22 foreign passengers had cabins and saloons which were luxurious and comparable to those of great ocean liners, splendidly fitted out with mahogany

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[63] A. Blue, *The China Coasters,* (a paper), p84: www.Sunzi1.lib.hku/hkjo/view/44/4401104.pdf (A HongKong University Library website).
[64] Cook, *The Lion and the Dragon,* p64-5.
[65] Alan Reid, 'A Yangtze Diversion – 1937' in *The Mariners Mirror,* Vol. 75, 1989, p82.
[66] Keswick, *The Thistle and the Jade,* p142; also - B. Leek, 'These Splendid Ships', in *Sea Breezes,* V71, #622, Oct. 1997; also *The Marine Engineer,* (periodical), 1895, re – *Kutwo.*

panelling, leather upholstery and brass bedsteads.[68] Officers were accommodated under the navigation bridge in equally spacious and comfortable cabins. On the next deck 100 Chinese cabin passengers were divided into first and second classes depending on the numbers berthed in each cabin - 2 or 4 berths with provision for more on benches. 400 third class were berthed in long rows of three-tiered bunks in a large dormitory space while an indeterminate number of deck passengers would spread mats in any location clear of the cabin passenger decks and of cargo. The cargo was "walked" by coolies from overside through large side doors into tween decks and manhandled down staging into lower holds. The provision of only one hatchway with derricks was for occasional heavy lifts.[69] Together with the Chinese crew and large comprador staff plus numerous hangers-on (who latched onto Chinese passengers as "tea-boys"), then as can be imagined, the ships would be a continuous hive of intense activity.[70] The other ships on this line were *Loongwo, Tuckwo, Pingwo, Suiwo* and *Kutwo.*

MIDDLE YANGTZE RIVER LINE:

This section of the river covers the winding, shoal and changing reaches of the river between Hankow and Ichang. The direct distance between these two cities is half that on the river but there were no roads. The river's navigable channels here shift and required frequent remarking but groundings were not unusual although not damaging because of the silt nature of the bottom.[71]

The city of Hankow was an important centre laid out in typical treaty port style but was one of the largest and consisting of a row of foreign concession districts along the riverfront. During the summer high river level season many ocean-going ships navigated upriver to Hankow. Each concession and the shipping companies of that nationality had its own berthing facilities, provided by extensive pontoons which floated higher or lower according to the great seasonal changes in the water level, all connected to the shore by long gangway bridges.[72] The Bund roadway was a busy thoroughfare which was further congested by streams of coolies "walking" cargo packs to and fro between the ships and the godowns across the roadway.[73] Severe flooding in 1931 put the city under many feet of water with great loss of life in the surrounding countryside. An astonishing photograph on the web shows the large aircraft-carrier *HMS Hermes* at Hankow at that time.[74]

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[67] *Shipbuilding and Shipping Record,* March 8, 1923, p300A.
[68] Keswick, *The Thistle and the Jade,* p143.
[69] From the ship plans attached, Fig. 8.
[70] Torrible, *Yangtze Reminiscences,* p14-15.
[71] Torrible, *Yangtze Reminiscences,* p5-6.
[72] Jardine, Matheson and Company archives, L7/1/5 – L7/4, held at Cambridge University Library.
[73] Cook, *The Lion and the Dragon,* p107.
[74] www.sunzi1.lib.hku.hk/hkjo/view/44/4400891.pdf (a HongKong University Library website).

The Middle River services were essentially a connecting operation between the Lower River line to Hankow and the Upper River line from Ichang onwards to Chungking. The ICSN *Siangwo,* built in HongKong in 1926, was the newest on this line (Fig. 09[75]). The design priority was for shallow draft of 9.5 feet but she was of a good size, nearly 300 feet in length with 1300 deadweight capacity, achieved by means of a wide beam of 46 feet. Another design feature was the provision of extra anchors and wires to deal with temporary strandings in the ever-changing channels. The superstructures gave her a similar appearance to the Lower River ships with long wide shaded promenades on the sides having cabin doors opening directly to these decks. There were the usual very comfortable cabins and saloons for 12 foreign first class together with officers cabins plus a large structure of cabins and saloons placed aft for 50 Chinese second class. The one tween deck was lined with portholes and cargo-doors and although no bunk-berths or numbers are indicated, some hundreds of deck passengers would have been carried whenever required. The lower cargo holds were not deep due to the draft restriction.[76] Other ships on the line were *Paowo, Kiangwo* and *Tungwo.*

The Middle River also serviced a side route on Tungting Lakes - the Hunan line. A competing shipping company serviced this route with a very shallow draft ship but ICSN utilised tugs and lighters which could carry cabin and deck passengers as well as cargo. From Hankow this service ran up the Middle River and then branched off halfway before Ichang so as to enter the vast shallow Tungting Lake system which was fed by tributary rivers leading to the provincial cities of Changsha and Chengte, both being treaty ports with foreign business districts.[77]

UPPER YANGTZE RIVER LINE:

The Upper River section of the Yangtze River runs from Ichang through the treacherous and rock-strewn gorges and rapids to the treaty port of Chungking which served as the port for the major provincial capital city of Chengdu; this inland region being the relatively wealthy and populous Sichuan Province. The steaming distance from Ichang to Chungking was 380 miles over which the river bed falls about 400 feet or one foot per mile. However the fall of the water was complicated by greatly exaggerated falls in constricted gorges where rapids were formed resulting in vicious sluices. This was all further complicated by the thaw in the Himalayas and the amount of rainfall in Sichuan

[75] *The Shipbuilder,* (periodical), September, 1926, p420-1.
[76] *The Shipbuilder,* September 1926, (a periodical), p418-422.
[77] ICSN Handbook of General Information, 1936, Caird Library, NMM.

Province resulting in very large seasonal differences in water levels, up to 50 feet at Ichang and 100 feet at Chungking and as much as 200 feet in the gorges due to banking up.[78]

Water-level marks in feet were painted on the banks at various significant locations to indicate the height of the water over dangerous sections and these marks also gave an indication of the current flow strength to be expected and the fall on the rapids - and therefore of the ease or difficulty of navigation on the Upper River reaches.[79] The steamships provided the main method of communications and supply of goods and transit of people in this region because the junk traffic had become substantially reduced by the introduction of shipping services after WW1.[80] An upriver junk voyage carrying a usual 100 tons of cargo could take one to two months depending on the state of the river and downriver only one week while the steamship upriver took only 3 to 4 days with the round voyage being only 10 days.[81]

In 1920, "Sichuan euphoria" due to the prospect of very high freight rates, had struck the business community in Shanghai with the result that after it had been shown to be feasible by pioneering steamship ventures, suddenly all the shipping firms constructed ships for the Upper River service. Experience showed that the different seasonal water levels required a larger summer vessel able to provide increased power for the fast flowing turbulent waters and a smaller winter vessel able to negotiate the tight turns of more restricted and shallower channels. The subsequent shipping services were:[82]

- French, one summer and one winter.
- Italian, one summer and one winter.
- British, ICSN one summer and one winter plus Swires two summer and three small winter plus two Shell tankers.
- American, some small vessels plus two Standard Oil tankers.
- Japanese, one summer and one winter.
- China Merchants Company, one summer and one winter.
- The Chinese Ming Company with an increasing number of summer and winter ships.

[78] S. Plant, *Handbook for the Guidance of Shipmasters on the Ichang – Chungking Section of the Yangtze River,* (Shanghai, 1932), p5.
[79] Admiralty – *Ch'ang Chiang Pilot, (Yangtze River Pilot),* (London, 1954 & earlier editions), p 186..
[80] Plant, *Handbook for the Guidance of Shipmasters,* p5.
[81] F. Stuart, 'British Ships and Mariners on the Upper Yangtze', in Hardy, Jarvis & Kennerley (eds.), *British Ships in China seas,* (Liverpool, 2004), p60.
[82] Torrible, *Yangtze Reminiscences,* p12.

Late in the 1930s a hybrid type of vessel for both summer and winter service was developed after the reduction of navigation dangers by dynamiting together with improved channel markers.[83] However by this time the political situation in China and the spread of increasing violence because of an unofficial war with Japan was restricting the ability to provide shipping services on the length of the Yangtze River.

The port of Ichang was composed of the usual small concession districts and the most important buildings were godowns for transhipment cargoes bound up and down the river. The town was also a significant missionary centre with extensive staging facilities for Sichuan Province activity and their base hospital. Chungking was different, with the foreign district located on a series of scattered hills across the river from the city which was considered to be the dirtiest in China.[84]

The first ICSN ship for Upper Yangtze service was *Fuhwo* of 953 gross tons, built in pieces by Yarrows on the Clyde in 1922 and then shipped out to Shanghai for assembly by the Kiangnan Dockyard. This system was a normal construction process for Yarrows, however all further ICSN river vessels were constructed either in HongKong or Shanghai, obviously using *Fuhwo* as a model. High power and good manoeuvring ability were essential for these vessels and special warping arrangements were fitted for mechanical hauling through the worst rapids when necessary. Long and heavy athwartships spars were carried to allow for holding the ship off sheer rock cliffs when anchoring overnight - night navigation was not attempted on the Upper River. Casualties were a regular occurrence and a French publication has some spectacular old photographs with an indication that 8 per year were normal but most of these would have been salvaged and returned to service. ICSN had its fair share of strandings including one which left *Kaiwo* sitting 100 feet above the fallen river level for a whole season. One vessel *Kingwo* experienced a series of incidents and in order to satisfy crew superstitious concerns the ships name had to be changed to *Hsin Changwo.*[85]

It has not been possible to locate arrangement plans of any ICSN Upper River ships but those of a competing company vessel are available and one is shown in Fig. 10, of Swire's *Wanliu* built as *Loong Mow,* and this vessel was very similar in appearance to *Fuhwo.* The plans show basically the same arrangement of passenger and cargo spaces as those on the Lower and Middle River all in a more compact design to fit into a smaller vessel of only some 200 feet length. Propellers were fitted into hull tunnels to reduce draft and for protection against groundings and three rudders were fitted for improved manoeuvring. Foreign passengers enjoyed the full length of the uppermost superstructure deck with a saloon opening onto a pleasant shaded stern deck area while different

[83] Torrible, *Yangtze Reminiscences,* p30.
[84] Cook, *The Lion and the Dragon,* p110-112.

classes of Chinese cabin passengers were accommodated on the main deck. Third class and deck passengers shared space with cargoes in the tween deck where most of the cargo was carried because of restricted space in the shallow hull.[86] Ships of the Upper River line were *Fuhwo* and *Kiawo,* supplemented by *Kingwo (Hsin Changwo)* and with *Liwo* added in 1938. During the high water season, occasional trips were made by the smaller steamers further upriver from Chungking for 130 miles to the town of Suifu.[87]

5. THE INTERWAR YEARS: OFFICERS AND CREWS.

Many of the traditions of the lordly East Indiamen and the 'country ships' were inherited by the China Coasters and the interwar ships were probably the smartest ships in Britain's Merchant Navy with their bright paintwork, gleaming brasswork and colourfully uniformed quartermasters. The British expatriate ship's officers considered themselves to be a breed apart, distinct from the rest of the Merchant Navy. The 'opium clipper' style of more liberal manning, of better pay, food and conditions in general was continued.[88]

For a first tour of duty of three years duration the initial employment as a junior ship's officer was offered to qualified applicants after an interview at the company's office in London. On arrival at HongKong the officer would report to the company marine superintendent for appointment to one of the ships. In both HongKong and Shanghai there were two superintendents, deck and engine, who were responsible for staffing the ships and all technical and maintenance matters for the ships under their control for the various lines headquartered at these ports.[89] When jobs at sea were hard to find in the interwar years there were many applicants. This may also have reflected the efforts of ICSN to attract recruits through good conditions and the prospect of swift promotion.[90] Subsequent tours of duty if continuing with the company, were for five years and involved promotion to senior rank with the right to marry and establish a home which was provided by the company in the form of a flat or a villa in HongKong or Shanghai. Passage to the East for a new

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[85] Torrible, *Yangtze Reminiscences,* p38.
[86] *Shipbuilding and Shipping record,* February 16, 1922, p201-2.
[87] A. Williamson, *Eastern Traders, Some Ships and men of Jardine, Matheson & Co.,* (HongKong, 1975), p208.
[88] Blue, *China Coasters,* (a Paper), p80 & 85.
[89] Torrible, *Yangtze Reminiscences,* p76.
[90] Cook, *The Lion and the Dragon,* p69.

junior officer was by P & O steamer in second class cabins of 2 or 4 berths and with £10 spending money provided for the voyage. After promotion the voyages for long leave were by first class for officer and family.[91]

Criteria for recruitment included heightened navigational and seamanship skills gained from previous experience as a serving officer rather than men newly qualified. The requirements of China coast ship operations required a greater degree of such skills than on other trades. A need for personal courage and an ability to cope with adverse or dangerous situations was also necessary due to frequent political instability in the trading areas and the ever-present prospect of piracy.

A very important requirement of officers was the need for familiarity with the Admiralty Sailing Directions information about the nature of the severe storms known as typhoons and their possible tracks and the rules for avoiding them. In the days before accurate weather forecasting and good radio communications there were some time-worn methods of predicting the approach of a typhoon according to barometric pressure, wind strength and direction combined with underlying swell direction and cloud formations. There was a vital need to take early avoidance action by altering course or speed or seeking shelter.[92] Chinese crew members also knew the warning signs, their knowledge being gained from a different source - that of age-old generations of experience - and sometimes a ship's bosun could send word of a looming typhoon to the bridge before the officers had detected the signs. Delays caused by typhoon avoidance were never queried by company management.[93]

The ships generally called at their home port once or twice a month, allowing frequent contact with head office and a somewhat regular home life for married officers. European homes in HongKong and Shanghai were run very efficiently by a cook and a house boy with the addition of a baby amah and gardener if required. Local leave was granted to officers at intervals during the five year tours usually between appointments to different ships, but this involved being off-pay and loss of seniority for the duration.[94]

The long leaves were not always popular due to the prospect of exchanging a smoothly run family home in the East for uncertain temporary accommodation in Britain.[95] However those officers who were not restricted by family commitments could use their long leave to undertake a 'grand tour' of

[91] Williamson, *Eastern Traders,* p206.
[92] Admiralty Sailing Directions volumes, the China Sea Pilot, (London, 1920-30s editions), introductory chapter (Meteorology).
[93] Drawn from the experience and knowledge of the China Seas of the dissertation writer, P. Ballantyne.
[94] Torrible, *Yangtze Reminiscences,* p17.
[95] Blue, *China Coasters,* (a paper), p83.

Europe or to live in a high-style in Britain. Having then 'blown' all their money they would return 'broke' to the East to be fully kept by the company for a further 5 years.

The accumulation of some private income by senior officers in addition to the company pay was tolerated and was a continuation of the old customs. The carriage of inconspicuous quantities of private cargo in unused space was acceptable and the practise of "cumshaw" (kickbacks) was normal. "Cumshaw" was available mainly in exchange for turning a blind-eye to various sideline activities of the ship comprador, crew, port suppliers and stevedores. The trick was to know how to keep a reasonable balance between the company's interest and those other interests and provided the latter was not excessive then all was well. Some of the reluctance to proceed on long leave was due to the possibility of losing an appointment on a lucrative ship for a lesser one on return.[96]

There was a company retirement scheme but... "many a snug villa on the south coast of England and the Clyde coast of Scotland owe their origin to legitimate 'squeeze'".[97] Retirement from expatriate service in the East was fixed at the relatively young age of 55 years and sometimes these men then took further seagoing work in short-sea traders in Britain but this would have involved a considerable difference in the standards to which they had become accustomed.[98]

Life for the officers aboard ship was very comfortable. Chinese stewards were plentiful. The chief steward was responsible for all the hotel services for the officers and first class passengers. A team of white-robed 'boys' cleaned cabins and clothes, served drinks and at table - one 'boy' for each senior officer and shared 'boy' for the junior officers who all lived like gentlemen. The European galley had its own cooks who made fresh purchases of provisions at ports of call thus providing a good and varied standard of food.[99]

The captain would only socialize with the chief engineer and the European passengers in order to maintain a distance from the other officers, but he generally had regular social as well as working contacts in each port - agents, port officials, pilots and local business people. With frequent calls at familiar ports and the carriage of European passengers the captain and officers could enjoy a more social existence than that of British based cargo vessels. Alcohol was inexpensive in the East and for all ships officers it was usually a couple of gins before lunch and again before dinner with

[96] Blue, *China Coasters,* (a paper), p83.
[97] Blue, *China Coasters,* (a paper), p82.
[98] Torrible, *Yangtze Reminiscences,* p77.
[99] Stuart, 'British Ships and Mariners on the Upper Yangtze', *British Ships in China Seas,* p66.

the occasional bender on a run ashore, but the signed chits for bar-bills were not permitted to become excessive.[100]

Swatow was one of a string of ports along the coastline served by the ships which sailed between the ports mostly by night to work parcels of cargo at anchorage in the port roads by day. There would be a certain amount of last minute rush to get away with the captains clearing the ship themselves at the customs house and then doing their own pilotage.[101] Ashore there was a club with a bar, a billiard table, a piano and a verandah. When in a group, elaborate dicing games were played for drinks and a gimlet was the one of choice.[102] Calls by British, American and French naval vessels were always a highlight of treaty port life with entertainments and sporting events arranged and merchant ships officers participating. As in all treaty ports there was only a small foreign community of various nationalities who lived separately from the Chinese city. Although the ships officers were operating in a very exotic environment, almost everywhere there was a European presence and an expatriate community into which these officers fitted.

Shanghai as a major world metropolis was a very different scenario, having a reputation for excessive fortune-hunting, lawlessness and decadence, amidst a background of great poverty and exploitation. [103] Expatriate foreigners lived very well whilst being fully kept by their employers, but other Europeans such as the 'White Russians' had to resort to running restaurants and working in night-clubs in order to survive. The many visiting warships and merchant ships kept the city's entertainment district very busy and the resident Europeans were not adverse to frequenting the fantastic nightlife to the full.

On the ships the carriage of Chinese passengers and some of the cargo was sub-contracted to the ship compradors (a Portuguese word). The parent company had its own leading comprador together with a large staff and this function originated from the method of conducting Western business in Canton during the early days when all trade was dealt with through the Chinese agents (co-hong). Successful company compradors became wealthy and powerful men, much involved in the modernisation of China.[104] There was not a problem with these compradors undertaking their own business ventures parallel to their business role with a Western company, quite unlike business attitudes in Britain. The resulting ever-spreading business contacts were useful to all concerned. A

[100] Cook, *The Lion and the Dragon,* p84.
[101] Cook, *The Lion and the Dragon,* p120-1.
[102] Cook, *The Lion and the Dragon,* p123.
[103] Letherbridge (Intro.), *All About Shanghai, A Standard Guidebook,* (Shanghai, 1934-5; and reprinted HongKong, 1986), p73-77.
[104] Yen-P'ing Hao, *The Comprador in 19th Century China: Bridge Between East & West,* (Massachusetts, 1970), p vii.

19th century Jardines comprador, Tong King-sing, went on to be a major capital and operational figure in the establishment of the first large Chinese shipping line which continues to function today.[105] Branch offices in treaty ports each also had a comprador with connections to local Chinese merchant guilds and businesses.

Aboard each China Coast ship the No.1 comprador occupied a vital position, sometimes said to be more important than the captain. This could certainly be correct from the business perspective. Basically the company hired out spaces aboard the ship to the comprador at a negotiated rate according to route experience, for the carriage of cargo and Chinese passengers. The company dealt with the carriage of European passengers and with consignments of cargo not arranged by the comprador - mostly that of other Western firms or Home line transhipments. The comprador employed his own assistants and a large team of tallymen to keep track of the cargo and passengers pouring on and off the ship. He also employed stevedore foremen to supervise the shore coolies and cooks to feed the Chinese cabin and deck passengers. Whilst protecting the company interests under ever-watchful eyes, the ships comprador was also able to do well for himself through further complicated systems of subcontracting and commissions. He served as intermediary between the shipowners and shore businesses and a prerequisite was the need for extensive business contacts in all the ports of call.[106] For the Chinese emigrant trade this could include a financial interest in brokers and boarding houses at the collection and shipment ports of Swatow and Amoy.[107]

The ongoing tradition from the 'opium clippers' of immaculate and well-run vessels was accomplished mainly by the efficiency of the Chinese crews who numbered up to 70-80 men for a China Coaster. Each of the four crew departments aboard ship - deck, engine, catering and comprador, was very much a family and clan affair. Each department members were either related or from connections in the same locality home base, whilst the departments themselves came from different parts of China. Sailors and firemen usually came from the north, mostly Tientsin; the catering stewards and cooks came from the south; while the compradors and tallymen were from Canton or Shanghai depending on the line.[108] Each of these parts of China had a different language and there were many provincial rivalries which assisted with a mild form of 'divide and rule' for the officers. The department leaders - the bosun, No.1 fireman, chief steward, and No.1 comprador each catered separately for their own men using a cook and messboy each.[109] The lowliest crew

[105] Keswick, *The Thistle and the Jade,* p86.
[106] Blue, *China Coasters,* (a paper), p82-3.
[107] Blue, 'Chinese Emigration and the Deck Passenger Trade', (a Paper), p89: www.Sunzi1.lib.hku/hkjo/view/44/4401184 and - Cook, *The Lion and the Dragon,* p81.
[108] Blue, *China Coasters,* (a paper), p86.
[109] Stuart, 'British Ships and Mariners on the Upper Yangtze', *British Ships in China Seas,* p66.

member was the firemen's cook's boy, to whom was attributed any untoward incident, such as dirty footmarks on the captain's deck.[110]

The crew jobs were much sought after although pay was low and the work hard. A prized source of regular income was only part of the attraction because each position included the prospect of participating in numerous sideline businesses which were available on every ship on every run. On a lucrative run a leading hand could 'sell' a subordinate position, the money being not only to the profit of the leading hand but also to fund the purchasing of goods at one port for sale at another; in other words an entitlement to a share of the business available. In this environment it was also common for the leading hands to purchase from their own pockets the running stores of the ship such as paint and cleaning materials in order to keep the ship in top condition and thus ensure the security of their own situation while relieving the company of that expense. A ships' chief officer rarely had to concern himself with the ship's running maintenance.[111]

Many crew members would spend much of their working life on the one run resulting in unusually efficient operation of the vessels. Crew members could develop a strong sense of loyalty to the vessel sometimes putting the European officers to shame in this respect.[112] The very frequent port calls were normally arranged for arrival at dawn and departure at dusk, just the one day busily working cargo - tarpaulins, hatches, and over-deck awnings off and on, cargo-working, mooring and unmooring, and then onwards to the next port.[113]

Superstition often comes to the fore in seafaring life and never more so than with Chinese crews. An always important part of the officers attitude was a need for respect for the superstitious beliefs of the Chinese people and in particular the ship's crew. On the top of the forward-most part of the ship (the truck of the jack-staff on the forecastle), an expensive Buddha statue would sit watching out over the sea ahead with food offerings and garlands placed nearby. When passing another company ship long strings of firecrackers would be exploded to wish good luck to the other. A death, accident or change of master all required the presence of chanting priests, beating of gongs and a feast. It was important that a ship should be freed from bad luck and this could even involve a need to change the ships name or the painting of watchful eyes on the bow.[114]

"At times of great stress there might be a need to make a gesture to placate a troublesome diety and the well known Upper River dragon that lies sleeping on the river bed, if disturbed can be a

[110] Blue, *The China Coast,* (Thesis), p343.
[111] Blue, *China Coasters,* (a paper), p86.
[112] Blue, *China Coasters,* (a paper), p86.
[113] Cook, *The Lion and the Dragon,* p70-73.

force to be reckoned with". One ship became caught in a sudden build up of silt on the river and lay athwart the stream and began heeling over. Deck passengers and weights were hurriedly moved around the ship to alter the trim and kedge anchors were prepared with the whole ships company working at fever pitch. Suddenly everyone stood still - the sailors' cook had appeared with a basin full of rice which he methodically sprinkled into the water around the bow. The ship gave a shudder and righted and came free. Clearly the river dragon had to release the ship from its jaws in order to eat the rice.[115]

6. THE HAZARDS OF CHINESE WATERS.

The list of types of incidents that could befall a China Coast ship was longer than for any other part of the world:

- Natural hazards of topography, particularly on the Yangtze River gorges and rapids.
- Weather during strong monsoons and frequent typhoons.
- Grounding due to few and poorly maintained or stolen navigation marks.
- Collision in unusually crowded waterways.
- Piracy.
- Political situations giving rise to violence and acts of war.
- Anti-foreign boycotts.
- These were all combined with the more usual problems for shipping caused by poor weather or poor seamanship.

The topographical hazards were most marked on the Upper Yangtze River where the very complicated navigational requirements for negotiating the river from Ichang to Chungking are detailed in a handbook (1926) by Captain Plant who was regarded as the greatest expert on the Upper River from the steamship perspective. The old Admiralty Sailing Directions utilise much of this material copied verbatim. Each gorge and rapid is described at length and advice is given for how best to transit the difficult reaches at different states of the water level. Diagrams show the layout of the dangers at each rapid and arrows indicate the current flows and routes used by steamships and by junks. Copies of two of these rapid diagrams are shown in Fig. 11.

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[114] Torrible, *Yangtze Reminiscences,* p39-40.
[115] Torrible, *Yangtze Reminiscences,* p39-40.

- Kungling Rapid: "It presents during the lowest water season the principal obstacle to navigation and the most fruitful source of disaster to shipping on the Upper Yangtze. During past years many serious accidents, including four total losses, have occurred at this place. Both up and down bound, smart and careful handling of the helm is required and close attention to the engine telegraph".
- Hsintan Rapid: "A barrier of rocks span the river, damming it up several feet. Gap-ways between these rocks form sluices, the largest some 70 yards in width and a perfect mill-race during the lowest level. The rapid can be of 150 feet in length and has an incline of six feet. Below a certain level all vessels are compelled to resort to heaving".[116]

Captain Torrible describes this Hsintan Rapid as a low level rapid about 40 miles above Ichang consisting of 3 rapids in an 'S' shape, the whole rapid being caused by a huge rock-fall several hundred years ago, hence the name 'New Rapid'. Ichang residents used to take a day excursion to watch ships 'shooting' this rapid, a spectacular sight, of which there are a number of photographs. Captain Torrible goes on to describe the onboard experience of crossing a rapid:[117]

There is a sort of disciplined tension when approaching a rapid, which from its watermark, is known to be a difficult one. A mile below the rapid the steam gauge begins to rise and the noise of the rapid will be heard above the increasing throbbing of the engines. In a moment of high drama with the smooth tongue of the rapid ahead, the pilot gives a stern glance at the helmsman and the master telegraphs for absolute full speed. The bow touches the tongue and there is a confused rush of water as the forecastle disappears under a mass of foam. The ship quickly surfaces and is almost at a standstill but moves ahead slowly as the steam safety valves are lifted. The pilots job is now to get her over the hump of the sometimes six feet fall of water in the length of the ship and he uses the helm to ease the ship from one side to the other of the rapid head until she is over, although she may hang on the top for half an hour. The tension relaxes and the trackers on the bank, hopeful that the ship will not make it and will have to pass a wire ashore and heave the last few yards, take their loss in good part, but expressed with rabelaisan humour to the embarrassment of some passengers.

A major danger for China Sea shipping is typhoons (Chinese for 'big wind') and the technical meteorological name is 'tropical revolving storm'. These storms are of exactly the same nature as hurricanes in the Atlantic and cyclones in the Indian Oceans, but are more frequent. Typhoons originate in the tropical regions near the equator of the eastern Pacific Ocean and then intensify as they follow a path towards the China sea where they can act unpredictably by sweeping straight on

[116] C. Plant, *Handbook for the Guidance of Shipmasters on the Ichang – Chungking Section of the Yangtze River,* (Shanghai, 1932), p38-40.

into China or by curving away to the northeast towards Japan. The summer southwest monsoon months of July, August and September are the most frequent times, known as the typhoon season.

"It was the typhoon season that provided the most serious threat to plain sailing on the China Coast". The French Jesuit fathers had a meteorological station near Shanghai with reporting stations along the coast which provided information by signal stations as did the HongKong meteorological base. Later the American Air Force in the Philippines would relay early warning data. There were recognised typhoon anchorages along the coast - protected bays where there was good holding ground for the anchors but these locations could become overcrowded on the approach of a typhoon forcing later arrivals to have to seek less satisfactory shelter.[118] If the ship was in harbour on the approach of a typhoon a shipmaster always had a difficult decision to make as to whether to attempt to ride out the storm in the relative shelter of the harbour or whether to proceed to sea to seek sea-room to run.

If caught in a typhoon, there were a set of Admiralty recommended rules for the action to take according to the sector of a typhoon in which the ship was located, which required the ship to either heave-to with minimum engine speed heading into the wind and try to make the best of a bad situation or to steer particular courses relative to the wind direction away from the storm centre. Heavy weather damage to the ship and cargo could result from such proximity to the storm, if not worse. The storms centre or 'eye' was to be avoided at all cost in open waters because here the conditions would be most tumultuous.[119]

A report indicates that ICSN *Kwongsang* departed Shanghai on 8th August, 1931, for Swatow with 7 British officers and 44 crew. On the 9th she encountered a typhoon and was driven ashore on a coastal island north of Foochow. All but 3 of the crew perished, the survivors falling into the hands of pirates but a search by four steamships found nothing. Finally, the RN destroyer *Sepoy* and a Chinese gunboat searched known pirate lairs and landed a force which compelled the pirates to give up the three men and also to return a quantity of the ships gear.[120]

The usual method of investigating accidents to British ships that never return to Britain, was by means of a Naval Court of Enquiry called together by a British Consul and formed of naval officers

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[117] Torrible, *Yangtze Reminiscences,* p69-70.
[118] Cook, *The Lion and the Dragon,* p78-9.
[119] All drawn from the experience of knowledge of the China Seas of the dissertation writer, P. Ballantyne.
[120] *Kwongsang,* on a website list of wrecked ships: www.wreck.fr/dictionaire/403.pdf

assisted by merchant navy shipmasters. This was the case for an ICSN ship, in Shanghai in 1926, and details follow as an example of the not infrequent proceedings for China Sea waters.[121]

Lienshing was purpose-built in 1924 for the ICSN prestige line from Shanghai to Tientsin and was a particularly smartly designed vessel which did not have a very long service life. On her regular service she sailed from Tientsin on 10/12/1926 bound for Shanghai with a cargo of general merchandise and a crew of 114 hands as well as 157 passengers. A few days later when approaching the entrance to the Yangtze River in the early hours of the morning the Master came to the bridge and the subsequent Naval Court in Shanghai found that the following sequence of events had occurred:

The master was concerned about a position by cross bearings of navigation lights that the second mate had placed on the chart which was not compatible with a previous fix and showing the ship to be heading for Amherst Rocks. The master went to take bearings himself and while thus engaged the second mate reported rocks on the bow. The master ordered the helm hard-a-port and the ship struck almost immediately. Adequate steps and precautions were taken by the master, officers and crew to save life but 12 crew and 24 Chinese passengers lost their lives owing to the fouling of lifeboat falls causing a boat to swamp and owing to the failure of the Chinese passengers to obey the orders of the master to abandon ship. The Court recorded its sympathy with the relatives of the deceased. Every assistance was rendered by two other steamers and the pilot boat.

The Court found that Amherst Rocks were a serious danger to mariners and that improved lighting should be established in the Yangtze approaches; also that the second mate was to blame because his fixes plotted on the chart were consistently in error, leading the master to a false sense of security which directly caused the stranding of the ship. The second mates qualification was suspended for 12 months (however this officer was now branded for life and was probably unable to find further employment at sea). No blame was attached to the master by the Court but the company would have had a very different view and if not dismissed then he would have been found an unimportant godown or stores job. Attempts were made by the marine superintendent at Shanghai to salvage whatever could be removed with the help of a Lloyd's surveyor, dockyard people and divers but the ship was a total loss.[122]

A similar Naval Court was held in Shanghai into a collision on 11 January 1926, in the Shanghai port Whangpu River, between the mainline Canadian-Pacific Company's three-funnelled passenger

[121] Findings and Orders of a Naval Court, N. 7843, issued by the Board of Trade, London, 24/3/1927. www.plimsoll.org/images/144011_tcm4-55701.pdf
[122] Williamson, *Eastern Traders,* p210.

steamer *Empress of Asia* outbound for Vancouver and the ICSN *Tungshing* inbound from Hongkong. The large passenger steamer did not steer well in shallow water and she struck *Tungshing* amidships in the narrow port channel with the result that *Tungshing* sank in two minutes in 30 feet of water. The passenger ship lowered her lifeboats to save life and native craft assisted but there were 10 Chinese passengers not accounted for, however no bodies were found and some of them may have been rescued and then made off. The Court found that *Empress of Asia* was sluggish in answering her helm and that her master should have stopped or reduced speed and that some blame attaches to him. However the Court found that the greater degree of responsibility for the collision attached to *Tungshing* for not having got further over to the side of the river on the approach of the other larger vessel.[123] *Tungshing* was not able to be salvaged.

The ICSN fleet list shown in an appendix to this dissertation indicates an ongoing series of casualties and the fleet lists for other China Coast shipping companies of the period show a similar frequency of mishaps. Jardines was involved in many forms of insurance in China and it is not known whether they carried ICSN ship insurance, although this was usually the case for freight insurance in a complicated arrangement of shared responsibility with compradors.[124]

Another very common hazard of the China Coast trade was piracy which continued through all the years up to the communist revolution in 1949 when there was an abrupt cessation. A pertinent comment about piracy during the early days of Western trade in China notes that it was sometimes difficult to distinguish between the activities of the pirates and the legitimate traders. Piracy could occur anywhere but was concentrated in the south near HongKong where known pirate bases existed 65 miles along the coastline in Bias Bay. There were 51 cases of piracy of steamships on the China Coast between the two World wars, many involving British ships and 20 British merchant navy officers were killed.[125]

Anti-piracy forces were headquartered at HongKong but even there a launch was pirated in the harbour in 1927 while transferring gold bars. Swire's CNCo fleet of ships was the largest on the China Coast and suffered frequent acts of piracy. This was not the case for ICSN during the interwar years with only a few serious piracies occurring. The reason for the disparity would have taxed the minds of all other shipping companies.

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[123] Finding and Orders of a Naval Court, No. 7833, issued by the Board of Trade, London, 27/04/1926. www.plimsoll.org/images/14001_tcm4-55691.pdf

[124] Torrible, *Yangtze Reminiscences,* p16; also - A. Blue, *China Coasters,* (a paper), p82.

[125] A. Blue, *Piracy on the China Coast,* (a paper), p68 & 79: www.sunzi1,lib,hku.hk/hkjo/view/44/4401076.pdf (A HongKong University Library website).

The pirate strategy was for some two dozen men to travel as deck passengers with concealed arms in sacks of produce and at a convenient time, perhaps at meal times when officers were congregated in the saloon, storm the bridge and take hostages. The ship would be taken to the vicinity of a nearby base where they would make off ashore in waiting junks with money and valuables and perhaps some wealthy Chinese passengers for ransom. If everything went smoothly no lives would be lost but the pirates were ruthless in the case of a hitch and the ship's Chinese crew offered little resistance due to this fact.[126]

Anti-piracy armed guards were carried aboard the ships and these had been from the military and then police forces in HongKong but because of the cost, this burden was transferred to the shipowners who employed armed White-Russian sergeants from Shanghai sometimes assisted by fearsome Sikh militiamen. The working part of the ship was in a block amidships and another important measure was the isolation of this centre of the ship - bridge, engineroom, and saloon accommodation - from the rest of the ship by steel grills with spikes and with access by constantly guarded steel doors. Ships officers carried arms in their cabins.[127]

An ICSN piracy occurred aboard *Hopsang* on passage from HongKong to Swatow in March 1927 and after the usual ransacking and removal of valuables into pirate junks, the ship was released quickly. Authorities decided on a prompt reprisal raid and the HongKong Rear Admiral reported to the C-in-C: 'At the request of H.E. The Governor of HongKong the punitive measures planned against the pirate villages of Bias Bay were put into effect'. The warships *Frobisher, Delhi, Marazion* together with the aircraft carrier *Hermes* steamed into Bias bay at 0200 hours lowering anchors silently and landing forces which proceeded to demolish the villages, junks and other craft. The forces were re-embarked by 1015 hours and aircraft were used only for spotting. No casualties were incurred on either side but the raid did little to curb the activities of the pirate gang. This was followed by another similar piracy aboard ICSN *Yatshing* and an identical Royal Navy punitive raid in August 1927.[128] The fact that these very strong reactions occurred in response to the two ICSN piracies and not to so many others is perhaps an indication of the influence of Jardines in HongKong at that time.

An unusual and prolonged piracy episode for a British China coaster occurred in 1933 on the Swires *Nanchang* in northern China when ex-soldiers of a Manchurian warlord took four ships officers off the ship and held them for over 5 months. A political motive was attributed to the piracy, it being seen as an attempt to draw world attention to the Japanese action of setting up a puppet-state of

[126] Blue, *Piracy on the China Coast,* p78-9.
[127] Cook, *The Lion and the Dragon,* p85-6.
[128] J. Parkinson, 'Some early Activities of British Aircraft Carriers in China Seas', Harding, Jarvis, Kennerley (eds.), *British Ships in China Seas,* p204-5 & 207-8.

Manchukuo. After tortuous negotiations and payment of a ransom the men were released in a poor condition but otherwise unharmed.[129]

The more common man-made disturbances of China caused by bandits, warlords, rebellions, boycotts and strikes were all overtaken in the later 1930s by the widening Japanese influence which began in the north in Manchuria and spread south. Japanese forces invaded far-northern China and much British business was driven out of the region. In 1937, a relatively minor incident near Peking gave Japan an excuse to launch a major unofficial war in an attempt to consolidate Japanese power in the region. China responded with a nationwide boycott against all Japanese activity and ensuing violence caused Japan to evacuate its nationals from the Yangtze River area. After subsequent Japanese territorial gains their forces set out to facilitate a return to the Yangtze and this soon interfered with ICSN shipping operations on the river.[130]

Chinese forces laid a boom of sunken ships across the river above Shanghai and this halted all Lower River shipping for a long period. This was followed by the Japanese attack on Nanking. The large ICSN steamer *Tuckwo* berthed some 40 miles upstream of Nanking at Wuhu fell victim to this action and was bombed and completely destroyed. The *Suiwo* while evacuating personnel came under shell fire. Britain being a neutral in these disputes made formal diplomatic complaints and the different Japanese military forces operating in the area blamed each other for mistakes.[131]

With the retreat of the Nationalist Chinese Government to Chungking leaving the results of a parched-earth policy in their wake and with the approach of the Japanese forces creating worse devastation, many of the river town-people either fled to the countryside or followed upriver to Hankow. Then as war came closer many reached Ichang in an endeavour to get to Chungking. Ichang as the 'end of the line' became a scene of great chaos as masses of people surged onto the Upper River steamers. Conditions on the Upper River became indescribable, ships ran non-stop and overloaded and the safety requirements of the watermarks were ignored. One of the shipmasters suffered a nervous breakdown and others had endless stress and sleepless nights.[132]

Two of the ICSN ships were laying alongside each other at the Ichang refuelling berth when the port came under aerial attack. A single plane dropped an incendiary bomb on these ships and they burned fiercely and were gutted. That was the end of ICSN Upper River operations.[133]

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[129] Cook, *The Lion and the Dragon,* p89-90.
[130] Stuart, 'British Ships and Mariners on the Upper Yangtze', *British Ships in China Seas,* p69.
[131] Torrible, *Yangtze Reminiscences,* p48-54.
[132] Torrible, *Yangtze Reminiscences,* p58-9.
[133] Stuart, 'British Ships and Mariners on the Upper Yangtze', Harding, *British Ships in China Seas,* p69.

At one stage in order to circumvent the turmoil downriver, cargo went from Ichang into the Tungting Lakes on the Middle River and then via Changsha and multi-various inland waterways to eventually emerge on the Canton River far to the south.[134] Subsequent developments at Chungking included the use of a Kunming road to connect to Cochin-China and later 'over the hump' to Burma.

An example of the use of Royal navy assistance for trading operations rather than for protection is given in the following relatively minor but not unusual episode - in the 1930s the ICSN *Fausang* was loading a cargo of sugar at Swatow. Half the cargo was stowed aboard when another gang of coolies boarded and started fighting with the gang loading the sugar and drove them off the ship. They then began throwing the sacks of sugar over the side and loading bananas from another godown. The ships' officers and comprador tried to stop all this but the situation became too threatening. A nearby RN destroyer was signalled and an armed boarding party came across and cleared all the coolies off the ship. It turned out that a showdown was in progress between two rival waterfront firms. *Fausang* got to load her cargo of sugar.[135]

[134] Torrible, *Yangtze Reminiscences,* p73.

7. SERVING AS AN ICSN OFFICER - SOME CASE STUDIES.

Captain Williamson joined ICSN as a junior officer with a master's certificate in 1920 and soon found himself as second mate on the Lower Yangtze River ships although he was hoping for a deep-sea ship. When steamships began running on the Upper River and ICSN was building a first specialized vessel for this service he expressed interest and was seconded to one of the Chinese owned steamships already operating on the Upper River so as to learn the complicated operational conditions. This was one of many examples of co-operation between competing shipping companies on this section of the river. Appointment as first mate of the new ICSN vessel never materialised because the man selected to be master of the ship left to join the Shanghai pilot service. Williamson was given the command instead, due to his newly gained experience of the exacting requirements for navigating through the gorges and rapids of this very dangerous section of the river. Despite various mishaps he soon gained a reputation for finding means to surmount all the many technical and operational problems thrown in his way.[136]

An example of the co-operation necessary on the Upper River occurred when a competing CNCo ship was seized by a self-styled General of a bandit army at the treaty port of Wanhsien. The ICSN ship *Kaiwo* was requisitioned by the Royal Navy with Williamson continuing aboard as 'sailing master' under a RN Commander together with two pom-pom guns and a naval manning. *Kaiwo* proceeded to Wahnsien accompanied by two gun-boats and after a hard fought battle regained possession of the seized British ship with some loss of life. Williamson was awarded the O.B.E.[137]

Williamson considered his time on the Upper Yangtze to be the most rewarding of his career... "It was my life and I loved every minute of it. I was an Upper River master, which was recognised as a very difficult and sometimes hazardous occupation. And it is a source of great pride to me that my

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[135] M. Brice, *The Royal Navy and the Sino-Japanese Incident 1937-41,* (London, 1973), p50.
[136] Williamson, *Eastern Traders,* p206-7.

name in Chinese was 'Wei Ling Soong' (Williamson) and that I was known as 'Wei Chuan Ju'. 'Chuan' is the ship and 'Ju' is the overlord and that is the Chinese word for a captain of a ship".[138]

After many other experiences including assisting with an attempted salvage of a wrecked ICSN ship at the entrance of the Yangtze River he went on to be promoted to company marine superintendent in Shanghai for 9 years and then when due long leave the Sino-Japanese war of 1937 intervened followed by the European War and then the Pacific War. He found himself appointed to the withdrawn wartime ICSN office in Bombay. Towards the end of the war he was tasked with the supervision of two new-buildings in Britain for the Ministry of War Transport, these ships being designed with a view to their becoming a part of the ICSN replacement fleet after the end of the war. Retirement followed after delivery of these ships as *Taksang* and *Loksang* in 1947 and he went on to live to 104 years of age.[139]

Another ICSN officer who was promoted to senior positions in the company's management was Captain Lawson. He gained command of an Upper River steamer in the 1930s. One of the many hazards of the Upper Yangtze was a summer 'freshet' caused by an abrupt Tibetan thaw or heavy rainstorm in part of the drainage area which would raise the river level radically and turn the flow in the gorges into a swollen, swirling torrent until the increased volume of water had passed out into the Eastern plains. Giant whirlpools could also occur at such times. During a 'freshet' navigation was suspended but ships could be caught unexpectedly as happened to Captain Lawson in 1936 when his vessel was driven aground in the gorges while the river was at its highest level. As the river fell the vessel was left perched partly in mid-air on a rock ledge for many months.[140]

Those intervening months involved a great deal of extraordinary effort including the enlistment of teams of local villagers to carry in logs and to construct a timber ramp from the ships' stern down to the water; the fending-off of bandits intent on pillaging the cargo and anything of value; the repair and patching-up of damage to the hull; and the shifting of cargo to the stern and placement of balancing weights. Other passing company steamers would have delivered supplies as well as cash to pay for labour and for bribes to keep local authorities at bay. With another rise in the river level the vessel was eased down the ramp and back into the water. A photograph of the suspended ship shows the bow hanging-out over a precipice and a temporary village built adjacent to the scene.[141]

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[137] Stuart, 'British Ships and Mariners of the Upper Yangtze, *British Ships in China Seas,* p68.
[138] C. Allen, *Tales from the China Seas,* (London, 1983), p201.
[139] Williamson, *Eastern Traders,* p211.
[140] Keswick, *The Thistle and the Jade,* p144; also the ICSN fleet newsletter *Ewo Log,* (1970s).
[141] Keswick, *The Thistle and the Jade,* p144.

This salvage operation secured Lawson's standing in the company and post-war he was to become marine superintendent and then in the 1950s he became shipping manager of the company during a period of major change to the trading routes and the fleet as a result of the political situation in China.

Alan Reid joined Jardines as a mercantile assistant in Shanghai during the interwar years and in the immediate postwar period he became shipping manager of ICSN and then later a director of the London branch of the parent firm. In retirement he wrote an account of his experiences in 1937 at the time of the Sino-Japanese unofficial war when Japan had to evacuate their civilians and shipping from the Yangtze region. A Japanese naval force was deployed in the Yangtze approaches and the Chinese therefore constructed a boom of sunken junks and ships across the river between Shanghai and Nanking blocking all the Lower River services and with many British trading ships and warships caught above the boom.[142]

Alan Reid was sent by side-canals upriver to Chinkiang above the boom to organise transhipment services for ICSN in order to keep the flow of cargo to and from Western and Central China moving to some extent. He states that before the boom Swires and Jardines had a ship leaving practically every day for the Lower, Middle and Upper River ports and the same number of arrivals with cargo for local consumption and for transhipment to coastal and ocean going ships - "it was a complex and fascinating business". There was a vast network of canals and waterways that run through densely populated areas on both sides of the Yangtze River in this region always busy with cargo junks and tugs towing long strings of barges. His efforts were reported as successful in the *North China Daily News*... "Recently a shipment of no less than 60 large junks, all bearing the Jardine flag, passed through the city - local cargo, cabbages, chickens, ducks, pigs and produce for Shanghai".

However the war reached Reid in Chinkiang and an air-raid dropped bombs in the congested junk anchorage causing many casualties amongst the boat people. The Japanese forced the boom across the river and a flotilla of Japanese destroyers passed on their way to join an horrific battle at Nanking. It was arranged that the British cruiser *Capetown,* previously acting as guardship upstream and escaping through the broached boom would slow to collect Reid and he joined many British women and children in the warship's wardroom who were evacuating from Nanking and Hankow.[143]

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[142] M. Brice, *The Royal Navy and the Sino-Japanese Incident, 1937-41,* (London, 1973), p47 & 63-5.
[143] A. Reid, 'A Yangtze Diversion – 1937', in *The Mariner's Mirror,* (Vol. 75, 1989), p91-3

Captain Torrible was a shipmaster with the competing British CNCo and many of his experiences paralleled those of officers of ICSN. His privately published book recounts interesting experiences of the interwar period with many mentions of ICSN ships. Torrible describes Taffy Hughes of ICSN as a veteran of the Upper River who had two claims to fame - he was rightly considered to be the most cantankerous master on the China coast and he was the only European to have taken a steamer from Ichang to Chunking without a pilot on board.

In the early thirties there was a pilots strike on the Upper River and the ships were canvassed to find someone willing to break the strike and Taffy Hughes took the risk. One other master offered to do so provided his ship was loaded with empty 40 gallon drums. There had always been discussion on the ability of a foreigner to pilot a ship on the Upper River in place of the Chinese pilots, ex-junk men, who had been born to generations of knowledge... "of the infinite vagaries of a stretch of river which, in every few feet of its huge rise and fall, is a different river". Taffy Hughes played it safely but proved that it could be done and on reaching Chunking, there were pilots waiting on the pontoon to join *Kaiwo.* The strike was over.[144]

[144] Torrible, *Yangtze Reminiscences,* p77.

8. EPILOGUE - THE ICSN AFTER WAR AND REVOLUTION.

The Second World War caused great changes to British interests East of Suez, not least to British shipping in China Seas. ICSN suffered considerable losses of both personnel and ships. In addition to this a change of British Government policy towards Nationalist China resulted in a revision in 1943 of the old 'unequal treaties', which had the effect of introducing cabotage for shipping in Chinese waters and therefore shutting ICSN out of its 'bread and butter' coastal and river services after the war. This was a very profound change for the company.

ICSN began the war with some 37 ships, a substantial fleet, and during the course of the war 24 of these vessels were lost. By 1945 there were 13 ships remaining, all of which would have been in poor condition. Some of these ships were reaching the end of their operational lives, others were coasters unsuitable for re-routing in the changed conditions after the war or were unusable river ships that were sold to Chinese operators. However, the relinquishing of the rights of British ships to operate between coastal ports and on the rivers of China relieved the company of the requirement for a major rebuilding program in order to re-open these lines.

HongKong and Shanghai continued to function as international cities and ports and the new treaty arrangements did not exclude shipping operations between these two ports and with any foreign port and this allowed the pre-war ocean lines to be resumed. By the end of 1947 only 5 of the pre-war ships remained together with two newbuildings plus some 7 vessels gained by reparations and wartime ship disposal schemes.[145]

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[145] Dick and Kentwell, *Beancaker to Boxboat,* p11.

The foreign and Chinese business community in Shanghai expected that the later 1949 communist revolution in China would bring some upheavals but that things would soon settle down to normal trading again as had happened with past changes of Government. They were wrong. An eventual complete cessation of private business operations in China brought about the relocation of the Jardines Shanghai office to HongKong, with all ICSN functions being headquartered there.[146]

The company's major postwar diversification was into the Australian – Far East trade, first in association with others, and later with a fleet of large new and second-hand ships all given a new nomenclature with the names starting with 'Eastern' - as with *Eastern Queen.* The pattern of trading settled into the operation of these newer largest ships on the Australian route and secondary ships on the Calcutta to Japan line with a varying number of ex-wartime heavy-lift ships carrying logs from Borneo to HongKong. Different charters for other trades were occasionally taken up as opportunities were presented.

The sudden introduction of containerised cargo and Ro-Ro operations in the Australian – Far East trade in the early 1970s, caused another major shake-up of ICSN services resulting finally in diversifications into worldwide bulk trading often in joint-ventures with other HongKong Chinese shipping companies and into the provision of manning and ship management services for other owners.

Various shipping activities continued successfully for many years up until a slump in the shipping market in the mid-1980s. In the absence of any prospect of an upturn and pressed by other parent company business concerns, the company eventually decided to cut losses and the then 20 owned and part-owned ships were all sold off quickly. The company escaped relatively lightly from a severe downturn situation which claimed some of their joint-venture partners and many other shipping companies.

An ICSN ship management operation continued in HongKong although shipowning was no longer a part of this and shipping agency by the parent company also continued.

[146] Blake, *Jardine Matheson,* p249.

9. CONCLUSION.

This dissertation is principally concerned less with the financial aspects of ICSN and more with the nature of the operations and the complicated and novel detail of the specialized ships and the mode of life of the participants. The overriding revelation gained is of the energy and initiative applied by the participants to keep the very complicated operations functioning regardless of the obstacles continually thrown in the path. These obstacles were of a nature involving topographical, climate and political situations of a kind not applying elsewhere in the world.

The early China trade of the 19th century revolved around tea and opium with many different participating nationalities and companies. Profits provided funds to subsequently expand into all kinds of businesses throughout China.

ICSN before WW1 became a very complex operation of substantial size and was a familiar provider of essential services to the region. The inter-war period saw ICSN settle into established operational patterns using a fleet of ships suited to 'East of Suez' trading, all purpose-built or suitably modified for the various ocean, coastal and river lines. The duties of the ship's officers and crew were demanding and required special character traits and expertise but the compensations were many and the officers lived at a standard much above other Merchant Navy men. The hazards of China coastal waters required particular vigilance although the Royal Navy were always at hand to provide assistance if required. A number of case studies of the careers of some officers provide rare first-hand accounts of shipping experiences of the times.

The attached diagrams of ship plans are not usually utilised in shipping histories and they provide especially illuminating insights into the living and working arrangements aboard the ships.

Extensive research has uncovered many other relevant diagrams and photographs but these are not included due to space limitations.

After the wars and revolutions of the mid-century had closed off the company's main operating area to all foreign business, other service routes were promptly found. From the nature of the intensely busy foreign shipping activity described in this dissertation, one wonders whether, if China had not become closed to the West and the foreign businesses had been allowed to continue, the modernisation of China might have occurred much earlier than it did.

APPENDIX 1. FLEET LIST OF SHIPS IN SERVICE DURING INTERWAR YEARS. (Including those built earlier and continuing in service during this period).

WINGSANG built Aberdeen 1883. Sold 1924.

YUENSANG built Aberdeen 1889. Sold 1923.

ESANG built Galsgow 1891. Sold 1925.

WOSANG built Glasgow 1891. Sold 1925.

LOKSANG built Glasgow 1891. Sold 1925.

TAKSANG built Glasgow 1892. Sold 1925.

KINGSING built Aberdeen 1895. Sold 1926.

KUTWO built Glasgow 1895. War loss 1941.

CHANGWO built Shanghai 1896. Scrapped 1931.

CHUNSANG built Middlesbrough 1896. Sold 1925.

SUIWO built Glasgow 1896. War loss 1942.

LOONGSANG built Hartlepool 1898. Wrecked 1923.

KUMSANG built Middlesbrough 1899. Scrapped 1923.

LAISANG built Glasgow 1901. Scrapped 1928.

KIANGWO built Shanghai 1901. War loss 1941.

HANGSANG built Glasgow 1901. Sold 1939.

HOPSANG built Glasgow 1901. Wrecked 1937.

CHOYSANG built Newcastle 1902. Wrecked 1922.

KWONGSANG built Newcastle 1902. Wrecked 1931.

NAMSANG built Glasgow 1902. Scrapped 1931.

FOOSHING built Newcastle 1903. Sold 1946.

TUNGSHING built Newcastle 1903. Sunk 1926.

WAISHING built Newcastle 1903. Sold 1931.

TUCKWO built Glasgow 1904. Bombed 1937.

YATSHING built Newcastle 1904. War loss 1945.

CHEONGSHING built Newcastle 1905. Scrapped 1932.

CHIPSHING built Aberdeen 1905. Scrapped 1935.

FOOKSANG built Newcastle 1905. Sold 1929.

KOONSHING built Aberdeen 1905. Wrecked 1922.

LOONGWO built HongKong 1906. War loss 1941.

LUENHO built Dunkirk, bought ICSN 1911. Sold 1934.

HINSANG built Hartlepool 1905, bought ICSN 1913. Scrapped 1939.

TUNGWO built Shanghai 1914. War loss 1941.

YUSANG built Sunderland 1912, bought ICSN 1914. Scrapped 1935.

CHAKSANG built HongKong 1917. War loss 1942.

KWAISANG built HongKong 1917. Sold in 1947.

LEESANG built Lubeck 1907 for Norddeutscher Lloyd. Bought for ICSN in 1921. Sold in 1945.

MINGSANG same as above. Sold 1930.

MAUSANG built Shanghai 1921. Sold in 1950.

KUNGWO built HongKong 1921. War loss 1942.

FAUSANG built Glasgow 1921. War loss 1941.

TINGSANG built Glasgow, 1922. Sold 1947.

FUHWO built Galsgow, shipped and assembled Shanghai. War loss 1942.

HOSANG built Londonderry, purchased on stocks for ICSN. War loss 1944.

KUTSANG built Newcastle 1922. Sold 1951.

PINGWO built Shanghai 1922. Sold 1947.

KINGWO built Shanghai 1923. Renamed *HSING CHANGWO* 1933. War loss 1939.

SUISANG built HongKong 1923. Burnt 1942.

YUENSANG built HongKong 1923. Sold 1946.

KUMSANG built Sunderland 1924 for others, bought ICSN later in 1924 and modified. War loss 1942.

LIENSHING built HongKong 1924. Wrecked 1926.

KIAWO built Shanghai 1925. Sold 1947.

SIANGWO built 1926. War loss 1942.

PAOWO built Shanghai 1930. Sold 1946.

TAKSANG built HongKong 1935. War loss 1942.

LIWO built HongKong 1938. War loss 1942.

TAISANG built HongKong 1938. War loss 1942.

WINGSANG built HongKong 1938. Sold 1957.

ESANG built Glasgow as *HAIHENG* 1934, bought ICSN 1938. Sold 1955.

MINGSANG built Glasgow as *HAILI* 1934, bought ICSN 1938. War loss 1945.

WOSANG built Glasgow as *HAICHENG* 1934, bought ICSN 1938. Sold 1956.

YUSANG built Glasgow as *HAIYUEN* 1934, bought ICSN 1938. War loss 1942.

HINSANG built HongKong 1941. War loss 1945.

Those vessels with unusually long service lives had operated always on the Yangtze River and thus always in fresh water without the same corrosion risks of seagoing vessels.

APPENDIX 2. LIST OF DIAGRAMS.

- Fig. 01 *Kungwo & Tingsang,* contrasting ship types.
- Fig. 02 Plans of *Kowshing.*
- Fig. 03 Profile of *Rona* (Upper) and Fleet List of 1936 (Lower).
- Fig. 04 Plans of *Kutsang.*
- Fig. 05 Profiles of *Mausang.*
- Fig. 06 Plans of *Lienshing.*
- Fig. 07 Plans of *Yusang.*
- Fig. 08 Plans of *Taksang.*
- Fig. 09 Plans of *Kungwo.*
- Fig. 10 Plans of *Siangwo.*
- Fig. 11 Plans of *Loongmow.*
- Fig. 12 Chart of Rapids.

TOTAL WORDS 23280 minus refs etc 2755 gives 20248.

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