

THE CHINA CLIPPERS

Commemorating the 150th Anniversary of the Great Tea Race of 1866

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1 INTRODUCTION HURRAH FOR THE AMERICA'S CUP

One day, during the Great Exhibition in London in 1851, an American businessman suggested that an American schooner try its luck with English yachts. The challenge was eagerly accepted, and the result won immortality for the schooner-yacht *America*. Schooners were much admired by merchant shipowners in the United States, as they were in Great Britain, and George Steers was the great schooner-builder on the eastern sea-board. So he was top choice for the job – this time, for a sporting, not a commercial, vessel. The success of the beautiful *America* became a legend, founding the race for a cup which has not lost any of its glamour, or its style, in a hundred and fifty years. The story has passed into legend, that, as the yacht swiftly passed the Royal Yacht, saluting the royal party watching the race, Queen Victoria asked one of her attendants who was in second place.

"Your Majesty, there is no second," came the reply.

That brief conversation has been immortalised in the history of the America's Cup, and sums up the very spirit of this most superlative of races. And nothing has changed about that: on 25 September 2013, The America's Cup official website proudly proclaimed¹:

Oracle Team USA won the 34th America's Cup in a winner-take-all nineteenth race, defeating challenger Emirates Team New Zealand by 44 seconds in today's clincher. Led by 35-year-old skipper Jimmy Spithill, Oracle Team USA won by the score of 9-8.

"It was a fantastic race. We wouldn't have it any other way," said Spithill, the two-time Cup winner. "We came from behind, the guys showed so much heart. On your own you're nothing, but a team like this can make you look great... We were facing the barrel of a gun at 8-1 and the guys didn't even flinch."

Such a sport surely can have no equal on the planet, and the excitement permeates throughout all the people, be they devoted sons of the sea or die-hard land-lubbers; indeed, judging by conversations in every pub and office the morning after the final race of the 2013 America's Cup, it seemed that the entire population of Great Britain had stayed up to cheer Sir Ben Ainslie when he turned defeat into startling success for the United States yacht. In Ainslie's home town of Lymington, in Hampshire, The Ship Inn on the quayside reflected the carnival of celebration; yet, as Arthur H Clark wrote as long ago as 1910²:

...nevertheless, it must be frankly admitted that yacht racing, even across the Atlantic, in comparison with the old clipper ship racing, resembles snipe shooting as compared with hunting big game in the wilds of Africa, while the gold and silver racing cups appear as mere baubles beside the momentous state of commercial supremacy for which the clippers stretched their wings.

For all the cutting-edge technology and the lycra fashions of today's America's Cup, just stand for five minutes at the bend of the narrow street that leads from Greenwich's Docklands station to the *Cutty Sark*, and watch the faces of the tourists as they catch their first sight of the immortal clipper. Then you will understand what Arthur Clark meant.

¹ <http://www.americascup.com/en/news/3/news/18441/final-preview-barker-vs-spithill-for-winner-take-all-race-at-1315>

² Clark, A, 1910, *The Clipper Ship Era*, G E Putnam's Sons, New York

2 THE CHINA CLIPPERS

It is a crucial thread running through history, that the whole essence of British greatness - and hence its overriding concern - was its obsession with maritime adventure. The nineteenth century Polish poet, Adam Mickiewicz, wrote a haunting parable in which the European powers were characterised with all their special mischiefs, and to the King of England he ascribed the mighty idol of *Sea Power and Commerce, which was the same as Mammon....*³

The London Tea Auction was the centre of the commodity market for 300 years. From the very first event in 1679, until the last sale on 29 June 1998, the auction was a regular event that made London the centre of the international tea trade⁴.

The first auctions were held by the Honourable East India Company, which held the monopoly for the import of goods from the Far East until it lost its monopoly of the China tea trade in 1834, opening up the race for the glittering prize of competition to the London traders and, of course, to the shipowners who competed to fix charters that brought the tea home. By the middle of the nineteenth century the commodity rate was negotiated according to the quality of the cargo under the hammer, so that the freshest crop of the season fetched the highest price at auction, and the traders created the incentive to shipowners to provide the fastest vessels – the extreme clippers.

It is, perhaps, surprising that the world's greatest maritime nation produced no outstanding naval architect in the eighteenth century, but the most glittering of all Imperial prizes, the cargoes of the Honourable East India Company, were demanding the quality of excellence in naval architecture for the carriage of goods by sea which reflected the design of the fast, daring frigates of the Royal Navy, the eyes and ears of the Admiralty and defenders of the far-flung merchant routes. As Napoleon commented bitterly, *Wherever you find a fathom of water, there you will find the British*. When you combined the East Indiamen with the frigates, nothing could touch you⁵; and so it was, for a generation. In 1812, still basking in its triumphs over the European fleets, with ships and men that made it England's pride, the Royal Navy went to war in complete confidence of its superiority over the American fleet. And met the Baltimore Clippers.

The nickname 'clipper' had first been applied to fast horses before it became synonymous with the racing merchant ships that had originated in the Upper Chesapeake Bay, not so many years before, boasting the fore-and-aft sails of a schooner, but topsails on the foremast that allowed hard-on-the-wind sailing, while the hull was sharp and streamlined. Handled with all the skill and courage of their experienced skippers, these audacious little ships caught the eye of every man of business in great waters, and in the Baltic evolved the idea further with splendid three-masted topgallant schooners, which could lift cargoes large enough to return big profits to the shareholders – and the clipper ship era was born.

But by the mid-nineteenth century, much bigger American clippers were leaving British competitors, on the trade routes of her own empire, struggling in their wake with out-dated ships. So it was, that, one evening in 1851, two years after the repeal of the highly restrictive Navigation Acts, British

³ Mickiewicz, A, 1866, Books of the Polish Nation and Polish Pilgrimage

⁴ United Kingdom Tea Council. <http://www.tea.co.uk>

⁵ As attested by Fredrick Chapman in his highly successful design of the merchant frigate: see Chapman, F,1768, *Architectura Navalis Mercatoria*

shipbuilder Richard Green of London, famed for the record-breaking Blackwall frigates, threw down the gauntlet to the Americans in thrilling style in an after-dinner speech:

*We have heard a great deal tonight about the dismal prospects of British shipping, and we hear, too, from another quarter, a great deal about the British lion and the American eagle, and the way in which they are going to lie down together. Now I don't know anything about that, but this I do know, that we, the British shipowners, have at last sat down to play a fair and open game with the Americans, and, by Jove, we'll trump them!*⁶

It proved to be a bitter contest between Great Britain and the United States on the high seas of the Orient that gave birth to this new, streamlined ocean greyhound, dubbed with the superlative 'extreme-clipper', and the commercial contest was indelibly marked by the spirit of a sporting rivalry.

The comeback of the British clipper ships, signalled so bravely by Green's speech, fuelled the rivalry, as the New York clipper *Oriental*, built in 1849 for the China run⁷, and her stable-mate *Surprise* of 1850, were outclassed by the *Chrysolite* and the *Stornoway*, both clippers built by the famed Aberdeen yard of Alexander Hall in 1851. The Yankee clipper *Memnon* had sailed in the first clipper race around Cape Horn, but when she was beaten soundly by *Chrysolite* in a thrilling race in the Gaspar Straits, the Americans had to rally a fight-back. As a result, a group of *high-spirited young merchants and shipowners*⁸ in Boston formed the American Navigation Club, which issued the following challenge which they had published in all the main British daily newspapers in September 1852⁹:

The American Navigation Club challenges the ship-builders of Great Britain to a ship-race, with cargo on board, from a port in England to a port in China and back.... These ships to be modelled, commanded, and officered entirely by citizens of the United States and Great Britain respectively... The stakes to be £10,000 a side.

MacGregor¹⁰ identifies the zenith of the Anglo-American rivalry with the 1853 run, when the British clipper *Challenger*, (completed by Richard Green in 1852)¹¹ and her American rival, *Nightingale* (built in Portsmouth, New Hampshire, in 1851)¹² both left Shanghai on 8 August; *Challenger* reached Deal on 26 November, 110 days out, and *Nightingale* two days later. But, to parrot the words of that observer of the America's Cup race: *there is no second*.

Arthur Clark put the clipper well into context when he observed that the demand for tea in the mid-nineteenth century did not create the need for whole fleets of these extreme sailing ships - only twenty-five or thirty of these vessels were built from first to last, and not more than four or five in any one year – but the traders needed fast ones, which had to deliver their cargoes to the tea auctions in London as rapidly as possible after the crops was picked. Speeds of 16 knots were regularly achieved,

⁶ Lubbock, B, 1914, *The China Clippers*, Brown, Son & Ferguson, Glasgow, p77

⁷ .. and the first foreign ship to enter the West India Docks laden with tea after the repeal of the Navigation Acts, which paved the way for the great tea races

⁸ The words of Arthur Clark

⁹ Clark, A, *ibid*, p202

¹⁰ MacGregor, D, 1984, *The Tea Clippers: Their History and Development 1833-1875*, Conway Maritime Press and Lloyd's of London Press, London

¹¹ *Challenger* was sold in 1865 to Killick Martin and Co of London, her new part-owner being James Killick, who had been her Master

¹² named after the singer Jenny Lind, 'the Swedish Nightingale'

and Lyon reported twelve instances of clippers logging 18 knots and over¹³ and, while *Cutty Sark* had a top speed exceeding 17 knots¹⁴ she once achieved an *average* of 15 knots.¹⁵ That being said, it was still an era in which the design of a merchant ship was a study in trial and error, making it necessary to repose all their confidence in the Master's professional skill and judgment in order to avoid disaster. In the words of American Professor John Augustus Shedd:

*A ship in harbor is safe, but that is not what ships are built for*¹⁶.

Given the embryonic level of naval architecture, the very fact of the season's weather on the clippers' voyages east demanded great skill in the design of the new ships, which invariably had to sail home from China while the southwest monsoon was still raging:

*.. they had to be smart in moderate weather going to windward, as well as in getting through the northeast trades in the Atlantic. It was under these conditions that they did their best work. They did not carry as heavy spars nor as much canvas as the American clippers of the same length, and probably could not have done so to advantage, as their breadth was considerably less, and with their easy lines they did not require much canvas to drive them*¹⁷.

Disappointingly for the international sportsman, the American clippers had lost their edge by 1855, when five American ships sailed from Foochow, four making hopelessly long passages averaging 145 ½ days, with only the *Don Quixote* managing a respectable 106 days. Campbell, moreover, asserts that the trademark hard-driving of American clippers had made their upkeep expensive¹⁸, which was an ironic development given their original cost advantage over British clippers, which were noted for their more conservative construction using heavier timber but, as it turned out, this made them more robust than the American ships whose lighter timber succumbed to the pressure of hard running. Further, while the profit motivation was strong on both sides of the Atlantic, the intrinsic nature of the pulse-quickenning clipper ship era which captured the British imagination was not so marked in the States, where shipowners looked for other trades that offered a higher net return.

The demise of the American competition really came with the outbreak of the War between the States in 1861, when it was largely British ships and crews who had the confidence of the Lloyd's underwriters to run the gauntlet of the Union Navy, to maintain the vital links with the Confederacy that supplied cotton to the mills of Lancashire. Coming, as they did, at the height of Britain's maritime trading supremacy, such adventures showed the rest of the world the qualities which made the difference between a blockade-runner and a captured blockade-runner. Deception and subterfuge could win escape Scot-free from a critical moment with a Yankee cruiser, although the commanders learned that they could not play the deception more than three times, for the Northern commanders learned quickly. British master mariners made blockade-runners to weep for, to out-wit and out-distance the Union warships, which they knew could exact a heavy penalty if they caught them. Such daring won

¹³ Lyon, J, 1962, *Clipper Ships and Captains*, American Heritage Publishing, New York, p138

¹⁴ <http://www.rmg.co.uk/cuttysark/history-and-collections/explore/facts-and-figures>

¹⁵ By remarkable contrast, the cutting-edge, twenty-first century generation of bulk carriers ordered by the China Navigation Company of the Swire Group are designed for a speed of 14 knots. See <http://www.swire.com/en/our-businesses/marine-services/shipping-lines/swire-bulk>

¹⁶ Quoted by Shapiro, F, 2006, *The Yale Book of Quotations*, Yale University Press, New Haven, p705

¹⁷ Clark, A, *ibid*, p321

¹⁸ Campbell, G, 1974, *China Tea Clippers*, Adlard Coles, London, p14

success, and the rival American clipper fleet never really recovered¹⁹; so they never really cut a dash in the main event which had started in 1856, when the London traders offered a premium of £1 a ton on the freight rate for the first tea ship to arrive in London docks. The annual tea race was born, creating the financial incentive to build the extreme clippers which raced the 100 day run from China to London.

It was the idol of Sea Power and Commerce, so graphically envisioned by Mickiewicz, which drove the shipowners to meet the demands of the traders, and create the profit element which made the whole marine adventure worthwhile for the investors. No better study illustrates this case than that of the Aberdeen Line.

¹⁹ But all was not lost, for a thrilling new era dawned to consume sportsmen in America, with the great steamboat races on the Mississippi, immortalised by Mark Twain in his autobiography 'Life on the Mississippi': *The time made by the Robert E Lee from New Orleans to St Louis in 1870, in her famous race with the Natchez, is the best on record ... Two red-hot steamboats raging along, neck-and-neck, straining every nerve - that is to say, every rivet in the boilers - quaking and shaking and groaning from stem to stern, spouting white steam from the pipes, pouring black smoke from the chimneys, raining down sparks, parting the river into long breaks of hissing foam - this is sport that makes a body's very liver curl with enjoyment. A horse-race is pretty tame and colorless in comparison.*

3 THE OWNERS

The industry and commerce of Aberdeen, like the commerce of every other manufacturing town, depended ultimately upon carriage by sea²⁰. Aberdeen in 1825 was a thriving little seaport, whose citizens, as maritime traders, made the most of the opportunities for business, on a modest scale. In that year, a young man had formed his own business in Aberdeen as part merchant, part shipowner. Mr George Thompson, born on 23 June 1804, was then twenty-one years of age, when he wrote this open letter on 1 November 1825:

I beg leave to acquaint you that I have commenced business as a Commission Agent, Ship and Insurance Broker, and having been bred in the mercantile line with a general acquaintance of people in business, I flatter myself I shall be able to afford satisfaction to those who may employ me.

I respectfully solicit your patronage with the assurance that my utmost endeavours shall always be used to execute what I may be entrusted with to the best advantage.

I am, with respect, Your obedient Servant, GEO. THOMPSON.

The investment risk at the time was much enhanced by recent expansion in manufacturing and associated trade in the region, which had created a demand for the raw commodity of timber – lots of it – and Thompson identified a real opportunity, taking advantage of the endless supplies of timber from Canada, where, by serendipity, endless streams of Scotsmen wanted to settle, thus making profitable voyages each way. With insufficient capital to finance the marine adventures himself, Thompson persuaded a number of people to pool the investment risk and, accordingly, share in the profits. Thompson started with stout little brigs trading to Quebec, taking out emigrants and other passengers, and returning with timber, which he then traded – in fact, it is difficult to say which was the core activity, the trading or the shipping. The crews, never more than 16, were tough, local men who were described by Cope Cornford as:

real seamen, inured to hard fare, wet, cold, want of sleep, incessant toil, imminent danger, and holding a constant loyalty to their employer.

It might, at first glance, appear strange that sailing ships were still dominating the world's trading routes, for the new generation in shipping, the steamship, had already arrived. As early as 1821, William Hall, a shipowner who had vessels trading between London and Hull, and Thomas Brocklebank, a timber merchant trading from Greenwich, who had built his own wooden paddle steamer, the 56 ton *Eagle*, had persuaded a group of investors in London to form a company to develop steam navigation as a commercial enterprise, which was incorporated in 1824 as the General Steam Navigation Company²¹. In essence, the company would operate in precisely the same way as a company does today, issuing shares to people who agree to pay for them as a means of investment; these people would become members of the company, with various rights according to the shares they hold. All that Hall and Brocklebank had to do, was to persuade those investors that the bottom line of the risk was acceptable: that is, that their business would, at the very least, trade - even survive - long enough to pay back its liabilities, that its income stream was secure and that the economy could

²⁰ Cope Cornford, L, 1925, *The Sea Carriers 1825-1925, The Aberdeen Line*, London

²¹ Cope Cornford, L, 1924, *A Century of Sea Trading*, A & C Black Ltd, London

support it as a going concern. Of course, the inducement, on the top line of a higher yield than they would get elsewhere, would be the deciding factor for them.

Yet, it would be another forty-five years before steamship technology really outweighed the cost-benefit advantages of the sailing ship for high-value cargoes. In the middle of the nineteenth century, the most advanced sailing ships in the world, the extreme clippers – those ships immortalised with names such as *Fiery Cross*, *Ariel*, *Thermopylae* and *Cutty Sark* – cost between £12,000 and £15,000 to build, but might bring home a cargo worth almost £3,000 on their first voyage²². The technology in steam propulsion made steamships four times more expensive to build²³, their maintenance and running costs were high and they were hopelessly slower and less reliable in bringing their cargoes to the port of discharge when they said they would – the critical issue for the trader, who needed to sell his wares in order to invest his profit in more trade. Captain Clark wrote²⁴:

When, as not infrequently happened, a packet ship running before a strong westerly gale in mid-ocean overhauled a wallowing side-wheel steamer bound the same way, the joyous shouts and derisive yells of the steerage passengers on board the packet, as she ranged alongside and swept past the 'tea-kettle', were good for the ears of sailormen to hear. In those days no sailors liked steamships, not even those who went to sea in them. If a packet captain sighted a steamer ahead going the same way, he usually steered for her and passed to windward as close as possible, in order that the dramatic effect of the exploit might not be lost upon the passengers of either vessel.

It proved to be the quality of the fast new generation of sailing ships, out-classing the lumbering steamers of the mid nineteenth century that would make the difference now, and the Aberdeen company had decided to focus on spending money on the ship rather than upon insurance premiums – in other words, treat the risk, don't transfer it. The ships were beautifully built, well-found and excellently equipped, while the Masters, skilled and courageous seamen, and shrewd men of affairs, served the line continuously, so that for many years their names recur in command of new vessels. In the words of Cope Cornford, the Aberdeen Line Masters *seldom lost a ship, and the speed of their passages standing high in the annals of the intense rivalry of the time.*

Of course, the whole industry still depended on a level of marine technology that delivered the ships to meet the demand, and there would, inevitably, be ships that simply could not meet the expectations that had been placed on them. John Willis owned an unincorporated business which specialised in fast sailing cargo ships, including tea clippers trading tea from China. In 1869 Willis had commissioned *Cutty Sark*, a composite design specifically designed to compete with the Aberdeen lines' *Thermopylae* and the fastest extreme clippers to secure the huge premiums on the freight rates for the first of the season's tea to reach London. This strong yet flexible design, which still allowed perishable cargoes such as tea to breathe in the humid conditions of tropical seas, combined the strength of iron frames with the advantage that the wooden planking could be coppered to prevent fouling, which was a serious matter in this trade²⁵.

²² Smithsonian Institution. See Smithsonian.com, 15 December 2011

²³ Blue Funnel Line's pioneering steamer *Agamemnon*, which challenged the China clippers at the height of the tea races (see below) cost £52,000

²⁴ Clark, A, *Ibid*, p311

²⁵ Clark, A, *Ibid* p322

Willis now commissioned two further ships, but this time with iron hulls. Amidst the technological stampede of the twenty-first century, it is simple to lose track of the advances made in the industrial revolution, for, although the development of steamship technology proceeded somewhat cautiously because the new vessels were prone to delays - a killer to a competitive business – nevertheless, the steam engine advanced with the iron hull, which was stronger and lighter, less easily damaged and more easily and quickly repaired than wooden ships, and you could put an iron hull under sail just as easily as under steam²⁶. Moreover, by the 1850's, a limit had been reached on the size of wooden ships: any larger and the timber could not tolerate the stress that occurs in an ocean voyage. On the other hand, iron hulls could be built to virtually any size, so that more cargo could be lifted and, by increasing capacity, lower freight could be charged.

As was the case with *Cutty Sark*, the shape of the hull for the ships was based upon another ship belonging to Willis, and Messrs Ritherdon and Thompson, well-experienced marine surveyors and naval architects, were commissioned to prepare drawings for the new ships based upon Willis's prototype, *Tweed*. Maudslay, Sons & Field of Greenwich were contracted to build the new ship, although they were an engineering company relatively inexperienced with whole ship design²⁷. The contract was signed in June 1869 and the ship launched 1 February 1870, to the highest Lloyd's standards and using the best materials. Captain Robinson was given command of the new vessel. Her name was *Blackadder*²⁸.

Time, of course, is money and cargoes had been arranged in advance, which meant that the sailing date had been already set and had to be met, come hell or high water. As a result of slow completion, cargo was already swinging across the ship's rail before installation of the masts had been completed. Masts on such a ship were sectional and were installed in overlapping pieces with stays running up from the deck to fixing points on each section to hold the masts steady. It was noticed that the stays were slack, so they were re-tightened, only for them to be found slack again the following day. On further examination it was discovered that the metal cradles which supported the topmasts had been incorrectly manufactured, and had simply bent out of shape once tension had been applied on the stays. Rather than remove the masts to repair the damage, additional strengthening was added to hold together the cradles and provide new fixing points. However, the bent ironwork could not be repaired with the masts in place, and time had all but run out. The ship sailed for China.

During the voyage east it became clear that repairs had been inadequate. Chains were added to the mainmast to help support its topmast, and it was noticed that rivets holding the collar around the mainmast were becoming loose. The ship's carpenter proposed drilling through the mast and inserting a winch handle to ensure the collar stayed in place, but the Master refused. Only the skysail yards were taken down to reduce loading on the masts.

At about midnight, with the wind slackening and changing direction and approaching the Roaring Forties, the Master decided to trim the ship and ordered a change in helm. Despite care by the helmsman to carry out the turn as slowly as possible so as to minimise the stress on the masts as the

²⁶ For many years ships had both steam and sail.

²⁷ This was not dissimilar to Willis' choice in builders for *Cutty Sark* which was also a new and inexperienced company, which in that instance became bankrupt before *Cutty Sark* was completed.

²⁸ See Bruzelius, L, 2001, *Sailing Ships: Blackadder (1870)*, The Maritime History Virtual Archives, <http://www.bruzelius.info/Nautica/Nautica.html>

pressure from the winds changed, the inevitable rolling of the ship caused the collar to break away, taking the lower rigging with it. The continuing rolling meant the masts leaned one way and then the other, each time becoming looser. The iron mainmast buckled below the level of the deck, tearing the deck as it did, ending up leaning to port at 45 degrees. Shortly the remaining supports gave way and with an extra large roll, the mast tore further through the deck and fell overboard.

Braces to the mizzen mast from the main had been torn away, and it started to rock loose. Despite attempts to get a line on it, while also trying to clear lines still attached to the sinking mainmast, this mast also fell, this time backwards across the stern of the ship, just missing the wheel. Crew worked to get the mizzen free and overboard, as it rolled dangerously about on the deck. The sole remaining mast was now unsupported because its braces from the mainmast had also gone, but in this case the crew managed to get lines tightened to hold it in place. Both fore topsail yards had been snapped as the falling main mast pulled on them, and the other yards were pulled out of place.

The following morning two men went aloft on the still swaying foremast to try to clear the broken rigging and yards. The royal yard came loose and fell, bringing with it part of the fore topgallant mast. Over the next three days the crew managed to salvage enough yards to have three sails on the foremast plus stunsails and set course for Simon's Bay. Another ship, the *St Mungo*, saw the state of *Blackadder* and tried to come to assist, but was unable to catch up. Approaching False Bay where she was going to anchor, the ship fouled a wreck and, before repairs were completed, she collided with two other vessels. Replacement masts and yards were sent out from Britain and the ship eventually proceeded to Shanghai. On the way she collided with a French mail steamer, and after further repairs lost her jib-boom in yet another collision at Penang. She returned to London, arriving on 17 November 1871 without further notable incident. The insurers refused to pay out on claims for the damage, on the grounds the ship had been unseaworthy when she set out, and eighteen months of litigation against the builders ensued. The case finally was resolved by arbitration; naturally the arbitrator's award was private to the parties and so we do not know the outcome.

4 THE PASSAGE-MAKERS

Profit being the whole aim of the business, Thompson and his partners had no choice but to repose their faith in the ship's Master, not just to bring her safely to her port of discharge but also to secure a profitable return voyage; in this case the Master negotiated and bound the company in deals, far removed from the company's own control, buying timber, perhaps furs and wheat, on behalf of Thompson and his partners. It was, of course, the financial risk which was uppermost in their minds, and this relationship had a crucial effect on the development of the law of Agency. When once a ship had sailed, George Thompson and his partners left the entire conduct of the voyage to the Master. Upon his arrival at Quebec, the Master, having disembarked his passengers, proceeded to strike a bargain to buy the homeward cargoes for his owners. And, by happy coincidence, the Highlands and Islands of Scotland bred first-class shipmasters²⁹. Thompson was very well-placed.

Rapid expansion of the business saw trading to the Mediterranean and well beyond - and, by 1840, the Far East. In that year Thompson sent *Anemone* to Melbourne, testing the market as colonisation expanded in Australia, and the timeless law of supply and demand drove the industry to meet the growth phase of the economic cycle with better ships, fetching higher profits. Walter Hood had become the builder of choice for Thompson, building the very successful *Phoenician* in 1847. Two years later Captain Sproat sailed her from London to Sydney, carrying 32 saloon passengers, in 90 days - 29 days faster than the average. In 1852 the *Walter Hood*, commanded again by Sproat, made it in 80 days. It proved to be the quality of the fast new generation of sailing ships, out-classing the lumbering steamers of the mid nineteenth century that would make the difference now³⁰, and the company had decided to focus on spending money on the ship rather than upon insurance premiums - in other words, treat the risk, do not transfer it. And the ships were beautifully built, well-found and excellently equipped. Masters, skilled and courageous seamen, and shrewd men of affairs, served the line continuously, so that for many years their names recur in command of new vessels. They seldom lost a ship, and the speed of their passages attest to their skill and judgment in the intense rivalry of the time.

The Masters were often well-bred and well-educated, but they were also tough and ruthless, with a vested interest in beating their rivals on the run home to London, where the first cargoes fetched the highest prices in the law of supply and demand. Their job had but one objective: to make a fast passage, and the Master had a vested interest in securing a full hold of cargo, for he was able to draw a percentage of the freight that was earned. A successful Master could earn the enormous sum of £5,000 a year³¹, and so he drove his ship to the limits of her endurance, slashing home through the storm-tossed seas of the Atlantic Ocean, every stitch of canvas set and straining with her masts cracking alarmingly and their backstays threatening to break under the enormous stresses wrought upon them by wind and sea.

So he had to have excellence, daring, recklessness - and ruthlessness, not only to drive the ship onwards, but to manage the crew, as well, for, then as now, his overriding duty was to maintain order and discipline, not only as the representative of the Flag State, upholding its laws, but also as the

²⁹ Remarkably, the Masters of all the great clippers, certainly those mentioned in this piece, were all such Scots.

³⁰ Ironically, not a lot has changed: economical steaming in the twenty-first century averages at something like 5 knots slower than the fast paces of the extreme clippers.

³¹ Approximately £445,000 in 2015; by comparison, the Master of a dry bulk carrier in the same trade today would expect to receive a salary between £60,000 and £80,000.

Owner's representative; he, after all, had signed on the crew under the ship's articles, and that was the only instrument which effectively enabled him to maintain order and discipline; well, that and the Master's born leadership³².

Sometimes, Masters with rare acumen would go on to become owners themselves. Alexander Rodger was one; awarded his master's certificate following examination in Glasgow in 1850, his maritime skill became legendary after his ship was all but becalmed and drifting in the Indian Ocean when she struck a sunken reef where, according to the charts, there was clear and open sea. Once clear of the reef it was ascertained that the pumps could keep the ship afloat and, thus satisfied, Captain Rodger lowered a boat and made the most careful soundings and bearings of the reef. On his return home he reported the results to the Admiralty and 'Rodger's Rock' was thereafter recorded on the chart. Only after failing health was he forced to retire from the sea, when he embarked on a new career owning fast clipper ships in the China tea trade, but entrusting them to his own native Highlanders. So it was, that, by 1855, he was part owner of the *Kate Carnie*, the first clipper ship built by Robert Steele, whose name would become synonymous with ships built for the China tea trade. Next came the *Ellen Rodger*, named after his wife, with Captain John Keay of Anstruther as her Master. Then came *Min*, Captain John Smith, also of Anstruther and, in 1863, his most famous clipper, *Taeping*, in whose charge Captain Keay was placed for the great race of 1866³³.

The crews of the tea clippers were prime seamen and entered into the racing with all the zest of thorough sportsmen. In the words of Basil Lubbock, writing in the world's last days of innocence in 1914:

The crews of the tea clippers would make a modern shipmaster's mouth water. Britishers to a man, they were prime seamen and entered into the racing with all the zest of thorough sportsmen. Many are the stories of their keenness on the homeward run.

There has been a good deal said about the double crews of the tea clippers. As a matter of fact, they were by no means overmanned, especially when freights began to fall; and, when one remembers the crews of sixty to eighty men carried by the little 1,000 ton Blackwall frigates, one is almost inclined to think that the tea ships had barely sufficient men. In 1860, when freights were at their height, Lord Macaulay had a crew of 40 all told. Ariel and Sir Lancelot carried captain, two mates, bosun, sailmaker, carpenter, cook, steward, and twenty-four able seamen – a total of thirty-two.

Undoubtedly the crew of a tea clipper had very little rest when racing. This, however, was made up for by the excitement. The tension of the racing was never off, and spread to all hands, who caught the exhilaration of it and became animated with a fine esprit de corps, such as is almost

³² Nothing much had changed by the time that Rear-Admiral Kenelm Creighton observed of merchant ships' Masters in the Second World War: *The masters struck me on first acquaintance as being ordinary, unpretentious people, but I soon found that there was something which set them apart from their contemporaries ashore, a compact self-contained confident and calm simplicity ... They uphold discipline by sheer character and personality - for their powers of punishment under Board of Trade Regulations are almost non-existent.* Incredibly, and to the credit of the British Merchant Navy today, the same applies in the twenty-first century.

³³ Anonymous research published at <http://www.fife.50megs.com/alexander-rodger.htm>

*as dead as the dodo in these modern days of machinery and self-interest, trade unions and ship managers.*³⁴

Many are the stories of their keenness on the homeward run; in the great race of 1866, the crews of *Serica* and *Fiery Cross* bet a month's pay against each other that they would be first home to London. And the Masters? No man had more to do with the reputation of a ship than her captain. In the China trade, daring, enterprise, and endurance defined the character of a successful Master:

*There were many safe, steady goers, but these were not the passage makers. It required dash and steadiness, daring and prudence to make a crack racing skipper, and these are not attributes of character which are often found in conjunction... However there were a few men, who held the necessary qualities of a tea-ship commander, whose endurance equalled their energy, whose daring was tempered by a good judgment, whose business capabilities were on a par with their seamanship, and whose nerves were of cast iron. The clippers, like thoroughbred horses, responded to the master's touch like things of life; Robinson [of the *Sir Lancelot*], for instance, was said to be worth an extra half-knot on any ship.*

*The strain of a three months' race was tremendous. Some captains only went below to change their clothes or take a bath; others used the settee in the chart room or even a deck-chair as a bed. This was the habit of old Captain Robertson of the *Cairngorm*, who during the homeward run never turned in but dozed with one eye open in a deck-chair on the poop.*

*Many a man broke down after a few years of it, but the giants, such as Keay [of *Ariel*] or Robinson, went on and on without a rest, and, still more wonderful, with hardly a serious accident*³⁵.

But such a life would take its toll, as well. Captain Andrew Shewan was Master of the *Norman Court* from her launch until his health broke and he retired in ill-health in 1873, following an extraordinarily difficult passage from China. But he persuaded the Owners to appoint, in his place, his son, also Andrew Shewan, who had previously sailed as Mate³⁶.

Naturally, the Master's skill in navigation was that which drove all else before it – and the passage-makers blessed a fair wind, and Matthew Maury to guide them.

Bizarrely, the name of Matthew Fontaine Maury is hardly known today, yet he was the first oceanographer of modern times, earning the sobriquet 'Pathfinder of the Seas'. Without Maury, the passage-makers would have been hard-pressed to achieve the times home that persuaded the traders to offer premiums on the freight rates – a cargo that is not fresh will not fetch enough at auction to justify the cost. A career officer in the United States Navy, he was said to possess the brain of a scientist, and harnessed his experience to his skill, to tackle his life's theory that there must be specific patterns and movements of wind and water that created 'highways' in the oceans on which ships could travel faster, and in greater safety. His work proved a breakthrough in oceanography and, in an

³⁴ Lubbock, B, *Ibid*, pp109-111

³⁵ Lubbock, B, *Ibid*, p105ff

³⁶ Shewan, A, 1926, *The Great Days Of Sail: Reminiscences of a Tea Clipper Captain*, Cranton Verlag

age when science was something which had hardly touched the maritime world, his work on winds and currents revolutionised navigation³⁷.

It started when Maury broke his leg. While he was convalescing in 1839, Maury published, under a pseudonym, a series of articles criticising the U S Navy's position on various controversial topics. Unfortunately, the articles irritated the Navy's higher ranks and, when his identity was revealed, he was contemptuously shunted off to the Depot of Charts and Instruments, the archive that contained all of the Navy's warship logs and navigational instruments. Paradoxically, this secured his success, for the logs contained daily, and sometimes hourly reports of ships' routes and the oceanography that determined them.

Maury realised the value of these resources and consolidated all the data into easily-readable charts, with an explanation and analysis, that would come to be famous as the Sailing Directions. At first Sailing Directions were only offered to U S Navy ships, but a few commercial Masters began to request copies - one being Captain Jackson, of the *W H D C Wright*, who used Sailing Directions for a trip from Baltimore to Rio de Janeiro in 1848, the year after first publication. Jackson returned more than a month ahead of schedule. By 1855, Maury's charts were in general use; and no more rapidly seized upon than by the Masters of the China tea clippers, for whom the element of speed was critical, and now the passage-makers were to make it home to London in a hundred days.

Maury was praised by every seafaring nation on the globe. He had become the Pathfinder upon whom the Passage-makers would depend, in the tea races.

But the clipper Master had to possess something more than excellence in navigation. Unless the voyage is a commercial success, the investment risk will fail and the shareholders will take their financial backing elsewhere – it is the same today as it was 150 years ago. The Master has a special contractual relationship with the Owner at Common Law, arising out of their common interest in the profitability of the voyage, which could be relied upon to maintain the bond between them. It was the traders who commanded the real profit, of course, so when the market rates softened, the freight rates suffered. For example, in 1865 the *Omar Pasha* loaded 3,550 bales of wool for London; but the next year saw a drought, followed by poor organisation in bringing the wool to the dockside, which meant that the *Queen of Nations* loaded just 484 bales³⁸. When the vessel was alongside in a distant port, hopelessly out of contact with the owners, it was the Master's judgment that the vessel had waited long enough when other cargoes were offering elsewhere for her profitable employment, or if she would have to sail in time to meet the tea or wool sales in London – too late would mean warehousing costs and loss of profit on the cargo that would be held against the Master in future. No body would employ a Master who might cause them to suffer a loss.

So the Master had to be a businessman as much as a passage-maker, for to have any value to his employer, he had to make them a profit, which defined the lynch-pin of his rôle, as the Owner's agent. Captain Robert Thomson commanded the tea clipper *Scawfell*, a strongly-built full-rigged with teak

³⁷ A committed Southerner, within days of Virginia's secession from the Union, Maury resigned his commission in the United States Navy, and accepted the rank of Commander in the Navy of the Confederacy. Maury's reputation as Pathfinder of the Seas went before him and, as a compelling advocate of the South and its commercial emancipation, he was sent to England, where he was already much respected, and no one was surprised that he made a great success of his mission.

³⁸ Lubbock, B, 1921, the Colonial Clippers, Brown, Son & Ferguson, Glasgow

beams and oak planking, with a deadweight tonnage of some 500 tonnes that meant that she could carry a cargo of just over 1 million pounds of tea. Robert Thomson achieved one of the fastest ever voyages from China to England, leaving the Canton River on the 14 January 1861 and arriving off Point Lynas, bound for Liverpool, on the 11 April - 85 days pilot to pilot. He wrote to his wife from the *Scawfell* while docked at Shanghai in June 1863:

We have been getting on very slow with the loading, the price of tea being so high that the merchants cannot buy it; the Whinfell had to be sent to Foo-Chow [sic] eight days ago, they being unable to load us both here, there are none of the ships here getting away so early as expected and in consequence of there being so many ships here and the teas so high in price the freights have come down, we are now loading at £5 10/- instead of £6 10/- expected when I came here besides being longer in getting away we are more likely to make a long passage down the China Sea, so that you need not expect me so soon as last year.

The Chauzee sails today he is not quite full but he will not wait any longer he is in such a hurry to get first home, the Crulnakyle Capt Morrison sailed yesterday, the Gunnivere and Glen-Aros will be next and probably after that your humble servant....

It is very apparent from this that the Master's rôle as agent in the financial success of the venture weighed very heavily on Captain Thomson's attention – and his anxiety to clear for passage home is reflected in the relief so graphically conveyed in his next letter home, ten days later:

The last of our cargo is now alongside and we sail about 11 o'clock. I am not sure of getting clear of the river today as the winds are right ahead outside, the South West Monsoon today blowing strong. Now I must say goodbye until you hear from me again from the Downs which I hope will not be more than four months³⁹.

So how will we compare this with the function of Captain Thomson's successors, 150 years later? The Master today is expected to be a business manager, something which they had not envisaged in the heady days of their youth as they embarked on their maritime career in the era which intervened between the clipper ships and their modern counterparts. Professor Gold touches upon this in his paper⁴⁰ in terms of the management of the ship's business today; but this does an injustice to the Victorian Master who had to do much the same thing. It is just that, in the intervening period, global communications and shifts in the pattern of asset investment had fostered a closer, parental relationship between the Master and the Owner. By contrast, Gold illustrates the contemporary situation by articulating many of the complaints of today's Master, with fatigue high on the list, having to navigate through heavy traffic, sometimes in bad weather, having to make judgments on the safety of the ship in balance with the commercial demands of the shareholders. The consequence of the Master's failure under such conditions could even lead to the death of a seafarer and a charge of criminal negligence. How the Master defends such a charge may well depend on just what decisions the Master made as a result of balancing legal duties against commercial demands.

³⁹ Private collection of Captain Ian Thomson.

⁴⁰ Gold, Professor E, The Protection of Masters and Seafarers from Criminalization: Emerging Problems for the Shipping Industry, Centre for Maritime Law, University of Queensland, Brisbane Prepared for the 31st Annual Conference 'Navigating the Sea of Change' The Maritime Law Association of Australia and New Zealand Adelaide, South Australia 29 September – 1 October 2004

Captain Thomson demonstrated the practical effect of the legal relationship between the Master and the Owners, which illustrates extremely well the principles which define the modern law of Agency. This issue of the battle in the modern maritime world between legal duty and commercial pressure is not an emerging problem; at the very most, it is a re-emerging problem, for the changes in ship management have forced the Master back to the position in which they found themselves in the environment of maritime commerce which characterised the Victorian era. Writing of that period, and the extreme clippers of the China tea trade, Basil Lubbock revealed the evidence underpinning the Master's rôle in the business of shipping, with personal knowledge of his witnesses, conveying a graphic picture of the Master, who must be responsible for the ship's business, and who tends to carry out that business in good faith. He observed that there were very few successful Masters in the trade, most being either too cautious or too reckless; it was just a few Masters...

*whose endurance equalled their energy, whose daring was tempered by good judgment, whose business capabilities were on a par with their seamanship, and whose nerves were of cast iron*⁴¹.

Such qualities would be highly regarded by Owners today, provided that the Owners would not face criminal accountability if those qualities led to a catastrophe for which the Master was held to blame in some Port State jurisdiction. After all, you can insure against the risk of compensation in a civil claim, but not against the risk of criminal punishment.

That being said, the élite sailing ship Masters of the day understood the value of their services to the Owners. Often well-bred and well-educated, they were in a position to negotiate contract terms which brought them remarkable rewards for a fast passage and made the risk management function profitable for both parties. A Master had a vested interest in securing a full hold of cargo and a healthy passenger manifest, for he was able to draw a percentage of the cargo and passenger receipts that were founded on his reputation, as well as losing his reputation on a slow passage which lost the race for the return trip. Accordingly, the successful Master was the one who conducted a risk-benefit analysis designed to maximise the commercial return, and mitigate the dangers if possible, and whose decision to carry on led to a profitable conclusion of the marine adventure. Naturally, far away at sea, or in some distant port without instant communication, the Owners had no influence over the decisions that had to be made and, so, they had to repose in the Master their trust in him to make those decisions which, for the benefit of the marine adventure, resulted in some alteration in their relationship with a third party without any personal act or even knowledge of the facts on their part. It was of no consequence that the parties did not define this arrangement as an agency in express terms – and it still is not⁴².

It is apparent, therefore, that the evolution of maritime commerce was marked by the need for investors to repose their confidence in the Master, as a very sensible solution to the problem of an absence of communication and, therefore, management control over the entire voyage, once the vessel had sailed over the horizon. There is not a great deal of evidence about what the Master thought about this – save for the evidence of Captain Hilary Marquand (1825-1872), whose opinions,

⁴¹ Lubbock, B, 1914, *The China Clippers*, Brown, Son & Ferguson Ltd, Glasgow, p106

⁴² *Garnac Grain Co. Inc. v HMF Faure & Fairclough Ltd* [1976] 2 All ER 353: an Agency will follow if the parties *have agreed to what amounts in law to such a relationship, even if they do not recognise it themselves and even if they have professed to disclaim it*

as revealed in his edited memoirs, were unrestrained – presumably thanks to the fact that they were not published for a century after his death. Writing of his appointment as Master, he glowed:

... let me appear to the world as really was a truly happy being at having attained to the summit of my ambition at so early an hour of my life. Proud of the preference shown to me over the many eager aspirants which were about. Proud with the feeling of competency, which until then I had thought buried in the recess of my own knowledge, but which was now publicly declared to the world by other tongues than mine, and stood as a halo of sunshine around me... It is no small charge, that of master of a ship trading round the world, with 'carte blanche' to act for the promotion of the owner's interest.⁴³

Captain Marquand, however, held very firm views indeed about the commercial risks inherent in his appointment:

That man must be able to combine at once the essential qualities of merchant, and broker, to that of ship master, and I feel no reluctance to add that no man in whatever situation he may be, is surrounded with a greater set of disguised enemies in the mercantile world...⁴⁴

The cause of such bitter commentary can be found, not in his memoirs but in the case of *Marquand v Banner*⁴⁵. Captain Marquand had been Master of the sailing ship *Secret*, for which a voyage charter had been fixed in 1854 to Buenos Aires. The vessel was loaded with general cargo, for which the Master duly signed bills of lading. Then on 23 January 1855 the charterers suspended payment and on 19 February executed a general assignment of their property for the benefit of their creditors – in other words, they were bankrupt, and they knew it. Anxious to ensure that the freight payable by the consignees did not end up in the wrong hands, the Owners (via their agents) gave notice to the various shippers that the freight should not be paid to the charterers but to them. The charterers' trustees gave the Owners notice that they wanted the freights paid to them, though. When the ship arrived in Buenos Aires on 13 March, Captain Marquand managed to collect a modest amount of the freight due, but the Owners were still badly at a loss for the charterers' default under the charterparty. The Owners were duly sued for the recovery of the freight which Captain Marquand had collected as their agent but he had seen his duty to act as agent for his employer, not the charterer. After all, he signed the bills of lading as the Owner's agent, averring that the cargo had been received in apparent good order and condition when it had crossed the ship's rail into their care, and he could hardly be agent for two different parties who might have very conflicting interests⁴⁶. Indeed, this was – and remains today – good law, well-articulated in the 1866 case of *Sandeman v Scurr*⁴⁷ in which Cockburn, CJ, held:

So long as the relation of owner and master continues, the latter, as regards parties who ship goods in ignorance of any arrangement whereby the authority ordinarily incidental to that relation is affected, must be taken to have authority to bind the owner by giving bills of lading.

But in his Judgment, Wightman, J, disagreed in this instance, not because the Master-Owner relationship was not an agency issue but because the wording of the charterparty made the charterers

43 Marquand, E (ed), 1996, *Memoirs of a Victorian Master Mariner*, Merton Priory Press, Cardiff, p230

44 Ibid p231

45 *Marquand v Banner* (1856) QB The Jurist Aug 2 1856 708

46 The law remains the same today

47 *Sandeman v. Scurr* (1866) LR 2QB 86

the parties who were entitled to the freight. Much to his disgust, Captain Marquand had therefore misguidedly believed himself acting as agent to his employer, when he tried to mitigate the financial loss caused by ruthless, very likely dishonest, charterers, only to have to deliver to them in the end, what money he could recover. Given this, though, the close commercial association between the Master and the Owner is clear and obvious.

As Lubbock noted, it was a case of survival of the fittest, which extended well beyond the Master's rôle as agent to his overriding duty to maintain order and discipline. In December 1877, the year in which *Cutty Sark* lifted her last cargo of China tea, she departed London bound for Sydney and then sailed on to Shanghai, where she arrived in April 1878. But her Master, Captain Tiptaft, could not consign a tea cargo – the steamers had taken all the trade. Unable to find a tea cargo, Captain Tiptaft died at Shanghai in October 1878. His Chief Mate, James Wallace, was promoted to take command of the ship and, with tea no longer available, he had to fix contracts to carry whatever general cargo he could lay his hands on. In 1880, the Chief Mate, Sidney Smith, who was alleged to have been a brutal bully and generally disliked by the crew, killed (with considerable provocation) a seaman by the name of John Francis. Smith was confined to his quarters until they arrived at Anjer where he would be handed into the custody of the British authorities but, once alongside, Captain Wallace allegedly contrived his escape. The crew were infuriated that the man who, in their eyes, was a murderer and tormentor, had been allowed to escape justice, refused to accept orders to work the ship, leaving just six apprentices and four tradesmen to man her. On 5 September the ship was becalmed in the Java Sea for three days. With the guilt of perverting the course of justice, and the oppression of being becalmed in the steaming heat, and the awful realisation that his career was over as a Master, Captain Wallace elected for trial at a higher court, so to speak and jumped overboard. Although a rescue attempt was mounted, the only sign of Wallace was the number of sharks swimming furiously about⁴⁸.

The saga of *Cutty Sark's* unhappiness was not over, however. On arrival at Anjer, The Owners transferred William Bruce from the *Hallowe'en* to command *Cutty Sark*. According to the research of the National Maritime Museum at Greenwich and recorded in their archives, Bruce was an incompetent, drunken master who conspired with the Chief Mate to dismiss the expensive Australians among the crew who earned higher wages but then misappropriated the undrawn money for themselves. He also failed to procure enough provisions for the remaining crew, leaving them half starved. But one wonders why he thought he could get away with it because, on arrival at New York in April 1882, the crew complained as was their right under the Merchant Shipping Act and an inquiry was held, when the misconduct of the Master and Chief Mate was revealed and they were dismissed. As a result, Captain Moore and his Chief Mate were transferred from the *Blackadder* to *Cutty Sark*.⁴⁹

In this way, the full picture of the ship's company in the clipper ship era is coming into perspective. Before the advent of the industrial age, when it was almost understood that a ship's crew would come on board all hopelessly drunk, and would have to be kicked and drenched with cold water before they would stir themselves to work the vessel out of port, whole days would pass before anything like discipline could be established by the Master. The financial risk in clipper operations demanded more skill and commitment in the job and, once they had signed Articles and the voyage was under way, the maintenance of order and discipline was essential if the premium on the freight rate was to be

⁴⁸ From the archives of the National Maritime Museum. See www.rmg.co.uk/

⁴⁹ By stark contrast to her recent history, she then embarked upon the most successful period of her commercial career.

won. And there was only one person who had the absolute discretion under the law which enabled him to maintain order and discipline as he saw fit for the safe navigation of the vessel: the Master. That discretion was acknowledged by the Owners when they appointed him, for he had the authority as their representative to discipline, and dismiss, seamen who were in breach of the crew agreement. And so the law evolved to define the relationship between the Master and the Owner on three levels: he was, of course, their employee, he was their agent and he was their representative. The Owners reposed their faith in the Master as much as the Flag State did who gave him his certificate of competency – and clothed him with Absolute Discretion to follow his professional judgment. It worked so well, that international law upholds the same principle today:

The owner, the charterer, the company operating the ship.... or any other person shall not prevent or restrict the master of the ship from taking or executing any decision which, in the master's professional judgement, is necessary for safety of life at sea and protection of the marine environment⁵⁰.

This is mirrored in the ISM Code 2014⁵¹ which obliges the Company under Paragraph 5.1 to define and document the Master's responsibility in the exercise of his professional judgment but 5.2 equally obliges the Company to ensure that the Master's authority is emphasized and, so, a great deal of reliance is placed upon the Master's discretion. This applies to the maintenance of order and discipline as an element of shipboard management which is as crucial to the safety of the vessel as anything else; and when the financial risk increases, so the Master must ensure that the management function rises to meet that risk, essentially by addressing the standard of duty in fulfilling contractual obligations, whether that contract be between the seafarer and the Owner, or the Master and the Owner. The development of the emergent steamship technology illustrates the point: the increasing shareholding value and equivalent investment risk on the decision-makers, demanded a new type of crewman with which the Master could discharge his obligations: now the seafarer had to be sober and efficient when he came on board, able to perform the much higher standards of work required in a steamship. For officers, examinations became much more demanding, because the larger ships brought greater responsibilities and technical knowledge, just as they also meant better conditions. The profession of seafarer had come of age and it is axiomatic that the demands cut both ways, so that the 'new' seafarer must be clothed with rights, including fair treatment, which meet the level of their obligations. The revolutionary but highly expensive leap by businesspeople into steamship technology had the (possibly unexpected) effect of changing forever the life of the seaman, for the standard of duty now demanded of seafarers, as a result of the increased risk by the investors, had made ancient history of the recent past. With such demands upon the seafarer's employment, it is unsurprising that the provision for a written crew agreement, evidencing the detail of rights and obligations, required by the Merchant Shipping Act 1835 was strongly reinforced by the 1854 Act, and consolidated in the 1894 Act; and so well was it drafted, that it can be well-identified in the current legislation, under section 25 Merchant Shipping Act 1995, which remains on the Statute Books although the Maritime Labour Convention has superseded it with the Seafarer's Employment Agreement for deep sea voyages. The Master, therefore, is expected to carry out his shipboard

50 International Convention for the Safety of Life at Sea (SOLAS), 1974 (as amended), Chapter V Reg 34-1

51 International Management Code for the Safe Operation of Ships and for Pollution Prevention 2014

management function in the maintenance of order and discipline with the discretion allowed – demanded – but he is not expected to be a lawyer; in order to assist him, he has the guidance of the Merchant Navy Code of Conduct⁵². In making his decision, he is accountable only to the English law of contract; the company cannot tell him what to do. But there is some scope for the company to avoid legal repercussions, in that it, and not the Master, will decide the seaman’s fate under their permanent contract, so that any claim for unfair dismissal will not follow directly as a result of the decision of the Master⁵³.

⁵² Revised in August 2013 and, therefore, entirely consistent with the UK’s Flag state obligations under the Maritime Labour Convention.

⁵³ §199(1) Employment Rights Act 1996 states that Sections 1 to 7, Part II and sections 86 to 91 do not apply to a person employed as a seaman in a ship registered in the United Kingdom under a crew agreement the provisions and form of which are of a kind approved by the Secretary of State.

5 THE GREAT RACE OF 1866

Basil Lubbock always said that no race ever sailed created as much excitement as the great tea race of 1866⁵⁴. Certainly the rivalry in the China tea races and in the America's Cup had fuelled a flame which always burned in British breasts, combining those two consuming passions, sport and maritime adventure; and, in fairness, when there was a challenger it was always the Americans⁵⁵. From the traders in the City of London to the locals in the humblest village inn, bets were placed and arguments raged over the favoured contenders, at a time when polite Victorian society, so hypocritically shocked by the uncontrolled evils of gambling, was trying to stamp its influence on morals of the common Fellows who cut the Hay⁵⁶. But nowhere was the pride and the passion greater than in the Scottish Isles, for Captain Keay of the *Ariel* came from Anstruther and he signed on Anster men in her crew agreement, while *Taeping* was owned by Captain Rodger of Cellardyke and her crew included Dykers.

For the owners, the agents and the traders in the shipping industry, the rivalry was reaching fever-pitch and they were wagering huge sums. Lubbock recalled the rivalry among the Masters themselves:

... it had come to be almost a form of etiquette on the China Coast for a captain to back his own ship. I shall not forget the scorn in the voice of one of these old tea clipper captains, when, in describing a race to me, he remarked that he could not get his opponent to wager even the customary beaver hat. One other captain I know of who steadily refused to bet and that was the famous Anthony Enright, when in command of Chrysolite. He refused from religious scruples.

There is some issue over just what the best freight rate for the first season's tea in 1866. Lubbock states that it had reached £7 a ton⁵⁷ but does not state the source of his evidence. MacGregor puts it lower, but his evidence is irrefutable (see below). Whatever the rate, it was undoubtedly high and, by May, the contenders lay at the Pagoda Anchorage at Foochow, awaiting the sampans to bring the cargos down river for loading. Amongst these were the immortals: the *Ariel*, *Fiery Cross*, *Serica*, *Taeping*, *Falcon*, *Flying Spur*, *Black Prince*, *Chinaman*, *Ada*, *Coulnakyle*, and *Taitsing*, Findlay's new crack, whose chances, Lubbock observed, were fancied by many a shrewd judge.

Like virtually all the great clipper Masters, Captain John Keay was a Scot, as shrewd in business as in navigation. In May 1866 he had arrived in China with his new clipper ship *Ariel*:

A perfect beauty, to every nautical man who saw her; in symmetrical grace and proportion of hull, spars, sails, rigging and finish she satisfied the eye and put all in love with her without exception. Very light airs gave her headway, and I could trust her like a thing alive in all evolutions⁵⁸.

Ariel could bend on more than 26,000 square feet of canvas, and could reach speeds of 16 knots. In fact, this was a strong average for clipper ships, and by no means a record itself for extreme clippers, but humiliatingly faster than contemporary steamers.

⁵⁴ Lubbock, B, Ibid

⁵⁵ Perhaps most hotly encountered in running the Yankee blockades to reach Confederate ports in the War between the States, 1861-1865, when even the yacht *America* was pressed into service for the Union Navy.

⁵⁶ To borrow a reference to a Chinese proverb from George Ewart Evans.

⁵⁷ Lubbock, B, Ibid, p155

⁵⁸ Lubbock, B, Ibid

Her Owners were Shaw, Lowther and Maxton, of whom little is known today but it appears that Phillips, Shaw and Lowther, an unincorporated firm of insurance brokers in London, found that there was profit in shipping operations, which would become their core activity and, after a partnership change and a new name of Shaw, Lowther and Maxton in 1865, they would own the *Ariel*, *Titania* and *Falcon*, all built by Robert Steele and Company of Greenock. For them, the China tea trade was clearly a risk worth taking.

Of course, the Owners had invested in such ships to make a profit, and Keay's business acumen had secured the 1866 season's first cargo of tea to come to market at the port of Foochow: 1,230,900 pounds of the finest leaves available, fixed at a freight rate of £5 a ton, according to MacGregor, who quotes the Bill of Lading with an endorsement of:

10 shillings per ton extra if first sailing vessel in dock with new teas from Foochow.

By Monday afternoon on 28 May, the last of the cargo had been loaded, and *Ariel* was ready to sail. At 5 pm she unmoored and, with the tug-boat *Island Queen* alongside, dropped well below the shipping and anchored for the night. The next ship to cast off was the *Fiery Cross*, twelve hours later, followed by the *Taeping* and *Serica*, which finished loading and got away together; then came *Taitsing*, a day behind. But the Gods were having a good laugh at the expense of the contenders, when the *Island Queen* so poorly handled in the fast-flowing waters of the Min River that *Ariel* was compelled to let go her anchor in a hurry in order to prevent a disaster. Then Captain Keay had to watch helplessly as *Fiery Cross* overtook them with a good tug ahead, her crew giving three mocking cheers as she passed; to add insult to injury, *Taeping* and *Serica* were able to pass ahead while *Ariel* was stuck awaiting a boat to take off her pilot.

At last, at 11.10 am on 30 May, after a catalogue of set-backs, Captain Keay filled his mainyard and stood away south by southeast by east for Turnabout Island; Lubbock noted that there was a moderate northeast wind for the start, as:

*All three ships set main skysails and fore topmast and lower stunsails. It was as level a start as could be wished for three favourites.*⁵⁹

Gradually *Ariel* closed the distance on *Taeping* and *Serica* ahead, while the tough and aggressive passage-maker Captain Robinson led the way to Anjer with *Fiery Cross*, using every ounce of his skill and knowledge – and sheer nerve – to take advantage of the land and sea breezes that kept him ahead apace of his rivals. Never for a moment did the caprices of the weather let up, so the Masters rarely left their poop-decks for more than a few minutes at a time until Anjer was passed. In fact, most Masters rarely left their poop-decks for the whole race home. Robinson famously used to doze in a deck-chair, keeping one eye open on sails and helm the whole time.

But *Ariel* and *Taeping* were closing on her. On 3 June, *Ariel* passed the Paracels just hours behind *Fiery Cross*; *Taeping* passed later in the day, while *Serica* had dropped back and was about a day behind. So it was that, racing fast and furious, they passed Anjer still in this order, with *Taitsing* following closely. The best was yet to come, as Lubbock stated:

⁵⁹ Lubbock, B, *Ibid*, p145

*It was between Anjer and Mauritius, under the influence of the steady south-east trade wind of the Indian Ocean, that the racing tea ships were accustomed to make their best times. It was on this stretch that every kind of flying kite was set and hung on to until the very last moment.*⁶⁰

Now was not the time to favour a faint heart, so if the sails were carried away, new rigs had to replace them in a hurry, as Keay reported in *Ariel's* official log on 26 June:

*Carpenter making stunsail yards, having carried away two topmast, one royal and one topgallant stunsail yard.*⁶¹

Robinson took *Fiery Cross* close to the South African coast to make the most of the Agulhas current, actually sighted the Cape, but *Ariel* and *Taeping* steered a more southerly course, where they might find more favourable winds – and as luck would have it, they found them, closing the gap on Captain Robinson.

It was while they rounded the Cape that they thrillingly joined the route of the crack mail steamers on the race track from Cape Town to Southampton, when, on 15 July, *Ariel overhauled the Donald Currie flyer, Tantallon Castle, with the greatest of ease*⁶².

From the Cape, *Fiery Cross* and *Ariel*, steering the same course, had light winds, whilst Captain MacKinnon on *Taeping*, some 300 miles nearer the African Coast, had better luck and took the lead; but all three crossed the equator on the same day, when the race became closed than ever.

On 9 August, the *Taeping* and *Fiery Cross* exchanged signals, the *Ariel* being then just a day behind them and further to the westward. But during the next few days the latter again resumed the lead:

*Taeping and Fiery Cross, with light and variable winds, remained in company till 17th August.... Here bad luck fell to the share of Fiery Cross, for whilst she lay in a dead calm she had the mortification of seeing Taeping pick up a fresh breeze, which carried the latter out of sight in four or five hours, the Fiery Cross remaining becalmed and not making a knot an hour for 24 hours... Serica had run up to Taeping and Fiery Cross, whilst Taitsing had also shortened her distance from the leaders by a couple of days.*⁶³

As the ships neared the Western Isles, the gap closed ever further, for now the ships could scent the final run of the chase and, on 29 August, *Ariel* led *Fiery Cross*, *Taeping* and *Serica* past Flores within twenty-four hours – while Lubbock noted that the most remarkable incident in this stretch was *the wonderful sailing of Taitsing, which had made up three days on the leading ship.*⁶⁴

*At 1.30 am on the 5th September, Ariel sighted the Bishop Light, and, with all possible sail set, tore along for the mouth of the Channel. At daybreak a vessel was seen on her starboard quarter carrying a press of sail.*⁶⁵

⁶⁰ Lubbock, B, *ibid*, p147

⁶¹ Quoted in Lubbock, B, *ibid*, p147

⁶² The words of Basil Lubbock, p148. *Tantallon Castle* was the flagship of the Castle Mail Steamship Company, and holder of the Calcutta record. The clippers did not go to Calcutta.

⁶³ Lubbock, B, *ibid*, p149

⁶⁴ Lubbock, B, *ibid*, p150

⁶⁵ Lubbock, B, *ibid*, p150

Captain Keay later wrote in a letter to Lubbock:

*Instinct told me that it was the Taeping.*⁶⁶

All day the two ships surged up Channel together, maintaining a steady 14 knots with stunsails and all flying kites set, the wind being strong from west-southwest. Throughout the whole of this final leg, *Ariel* was only able to gain a tiny lead over *Taeping*. Then, at 3 am on 6 September:

*when nearing Dungeness, Ariel began to reduce sail, send up rockets and burn blue lights. At 4 am, when abreast of the light and 11 miles off, she hove to, still signalling with flares and rockets for a pilot.*⁶⁷

The normally staid national newspaper 'Daily Telegraph' brushed off its veneer of pomp and circumstance when it reported that the leaders...

*... leaving China at the same time, sailed almost neck-and-neck the whole way, and finally arrived in the London docks within two minutes of each other. A struggle more closely contested or more marvellous in some of its aspects has probably never before been witnessed. The Taeping, which won, arrived on the Lizard at literally the same hour as the Ariel, her nearest rival, and then dashed up the Channel, the two ships abreast of each other. During the entire day they gallantly ran side by side, carried on by a strong westerly wind, every stitch of canvas set, and the sea sweeping their decks as they careered before the gale*⁶⁸.

But the race was by no means over. At 5 am Captain MacKinnon had brought *Taeping* close astern of *Ariel* and also signalling, but as she showed no signs of heaving to, Captain Keay began to fear that she meant to run ahead of him; he therefore bore up athwart her hawse, determined at all costs to prevent MacKinnon pipping him to the post. Lubbock continued:

*At 5.30 am the pilot cutters were seen coming out of the Roads and Captain Keay at once kept way and laid Ariel in between Taeping and the cutters. At 5.55 am the pilot stepped aboard the Ariel and saluted Captain Keay as the first ship of the season from China.*⁶⁹

But still the race was not over.

Half an hour later, both ships stood away for the South Foreland with their pilots aboard. As they reached Deal, tugs were waiting for them; but they would have to steam out to their tows from astern and, as *Taeping* was thus the nearest of the two, the best tug reached her first, and her towline was accepted; disastrously, *Ariel* had to accept second-best, a poor one waiting in the Downs. *Taeping* thus reached Gravesend Anchorage 55 minutes ahead of *Ariel*; but Captain Keay avoided anchoring by taking another tug alongside. As soon as there was enough water both vessels proceeded.

At 9 pm, *Ariel* arrived at the East India Dock, while *Taeping*, having further to go, did not reach her dock for another hour but, incredibly, with a shallower draught she was able to pass through the lock and thus moored twenty minutes before *Ariel*.

⁶⁶ Lubbock, B, Ibid, p150

⁶⁷ Lubbock, B, Ibid, p150

⁶⁸ Daily Telegraph 12 September 1866, The Great Tea Race of 1866

⁶⁹ Lubbock, B, Ibid, p151

Captain Keay wrote in his personal journal⁷⁰:

When the ships were telegraphed through the Downs, the owners and agents of both met and discussed the position and prospects as to who should dock first, the risk of losing the extra 10s. per ton if both should dock at the same time, or if a dispute should arise as to which was entitled to the extra freight — also that one might outwit the other by going into the Victoria Dock. It was arranged, after much going and coming, that each ship should make for her respective dock and let the one which had the advantage of a few minutes claim, while the other would avoid all pretence to claiming lest the tea merchants should have power to maintain that there was no first ship as both claimed the prize — this the merchants were quite prepared to do especially as the teas were selling at a great loss.

And so the bargain was honoured: *Taeping* received the premium of 10 shillings per ton, which she divided with *Ariel*, and Captain MacKinnon divided the £100 prize money with Captain Keay.

Perhaps, like the America's Cup, in this way there was no second-place. But who remembers the others? History has branded them as also-rans, yet Captain Innes was bringing *Serica* alongside in the West India Dock even as the first samples were coming off *Ariel* and *Taeping*, while *Fiery Cross* was twenty-four hours behind, having had to anchor in the Downs in the teeth of a gale.

As the Smithsonian has so pithily put it:

The Tea Race of 1866 caused an enormous stir in the sporting and nautical circles of Britain. Ariel and Taeping had left Foochow together and arrived home on the other side of the globe still together, Ariel's winning time being seven thousandths of one per cent faster than her rival's. The Tea Race was never so close again in its 30-year history⁷¹.

So what of the victor ludorum? *Ariel* was a thing of unrivalled beauty, with the finest lines of her day; but the features which won the appreciation of Captain Keay, would prove, also, to be her undoing. So keen was her design astern, that she risked disaster from a following sea, which might poop her and then she would be overwhelmed.

On 31 January 1872, she sailed from London for Sydney; but she failed to arrive, and was feared lost with all hands. In the following August, the remains of a teak-built ship's life-boat carrying a brass fitting with the gothic-script letter 'A' were found on King Island in Bass Strait. With no known survivor, only these remains could be identified with the features of the *Ariel*, and it was assumed that she was probably pooped when a following sea swept away her helmsman so that the ship naturally turned her broadside to the next wave, which would have sent her to the bottom without giving a chance for the crew to abandon ship.

⁷⁰ Quoted by Lubbock, B, *ibid*, p152; now in the archives of the National Maritime Museum, Greenwich.

⁷¹ Smithsonian Institution. See Smithsonian.com, 15 December 2011

6 FINALE OF THE CHINA CLIPPERS

According to Captain Clark⁷², the London firm of Jardine, Matheson & Co were the owners of what was reputed to be the first clipper ship built in Great Britain, the *Stornoway*, built by Alexander Hall of Aberdeen in 1860 specifically to compete for the China tea trade. She was commanded by Captain Richard Robinson, when, on her maiden voyage, she arrived in Hong Kong in 102 days, and made it back from Hong Kong to London in 103 days. At the time these were the fastest passages that had been made by a British vessel.

William Jardine and James Matheson formed their partnership in 1832, trading commodities in Canton for the London market. Following the East India Company's loss of its monopoly on trade with China, Jardine Matheson sent the first private shipments of tea to England in 1834. In 1836 the firm promoted the founding of Hong Kong and the first plots of land were purchased by the business in 1841 at East Point for £565. Hong Kong was officially declared a colony two years later under the Treaty of Nanking, which had been signed in the previous year⁷³ and the firm transferred its main office from Macao to the new colony in 1844.

In 1835 the firm had commissioned construction of the first merchant steamer in China, the *Jardine*. She was a small vessel designed to carry passengers and mail between Lintin Island, Macau, and Whampoa Dock. However, the Chinese, draconian in their application of the rules relating to foreign vessels, were unhappy about a *fire-ship* steaming up the Canton River⁷⁴. The acting Governor-General of Kwangtung issued an edict warning that she would be fired on if she attempted the trip. On the *Jardine's* first trial run from Lintin Island the forts on both sides of the Bogue opened fire and she was forced to turn back. The Chinese authorities issued a further warning insisting that the ship leave China. It was not an easy start to the steamship run to China, but it was, of course, inevitable that the cost-benefits of steamships would ultimately dominate the Far East trade.

In many ways, the remarkable thing is how the clipper ships emerging in the later years of the era got on to the companies' balance sheets at all, because ships are not short-term investments, and the advantages of sail had been seriously eclipsed by progress in steamship technology which offered cargo traders faster passages, lifting a larger deadweight tonnage of cargoes in iron and steel hulls that reduced the freight cost per ton-mile. Their Achilles' heel was an economic weakness that would dog the steamship operators of the mid-nineteenth century, because a steamer had to carry her own bunkers and, so, the longer the voyage, the more coal was necessary, naturally using up space that otherwise could have been used for cargo, and a Far East voyage would therefore make a steamship operation unprofitable. Once the steamship had to call at a bunkering port *en route*, the time advantage would therefore be won back by the fast sailing ship – and the only steamship massive enough to carry her own bunkers for the Australian run – Brunel's mighty *Great Eastern* – proved an economic nightmare for her owners.

As a result, the maritime world keenly awaited the opening of the Suez Canal in 1869, which they knew would shorten global voyages with huge consequential savings; yet the clipper owners must surely

72 Clark, A, 1910, *ibid*

73 <http://www.jardines.com/the-group/history>

74 Perhaps more accurately described as a dragon boat? The humour lies in the Hong Kong Dragon Boat Festival - the Tueng Ng Festival – which is one of the most popular of all the festivals celebrated in the territory today – see <http://www.dragonboat.org.hk/?lang=en>

have considered this as they watched the Suez Canal being built? On 22 August 1868, the *Aberdeen Herald* reported:

There was launched, on Wednesday, from the shipbuilding-yard of Messrs Walter Hood & Co a composite ship of 1300 tons, owned by Messrs George Thompson & Co.... christened The Thermopylae by Mrs Hardy Robinson of Denmore, has been throughout constructed after the most approved principles, built of the most durable materials, and classed in the highest range of character at Lloyds. She is intended for the London and China trade.

The *Aberdeen Journal* later reported her maiden voyage:

Thermopylae, Kemball, arrived Melbourne 9th January from London 61 days. Sailed thence 22nd, arrived Newcastle NSW, 30th January.

In fact a rival was already being planned to beat the *Thermopylae*. In the words of the National Maritime Museum:

On the afternoon of Monday 22 November 1869, a beautiful little clipper ship of 963 tons gross was launched at Dumbarton on the River Leven. On that day, she was given a name that was to become renowned throughout the seafaring world.

Cutty Sark was built for John 'Jock' Willis, a seasoned sailing ship master who had taken over his father's firm of ship owners in the port of London. Here he became better known as 'White Hat Willis' because he always wore a white top hat. His ambition was for Cutty Sark to be the fastest ship in the annual race to bring home the first of the new season's tea from China⁷⁵.

Cutty Sark made eight voyages in the tea trade but never matched the times of the earlier clippers, her best being in 1871 when she sailed from Shanghai to the North Foreland in 107 days. Only once did she race home in company with *Thermopylae*:

After arriving at Shanghai in late May 1872, she met Thermopylae when loading her tea cargo. With both sailing from Woosung on 17 June 1872, the two ships closely matched each other through the China Sea and into the Indian Ocean. By 7 August, and with a good tail wind, Cutty Sark found herself a good 400 miles ahead of Thermopylae. On 15 August, disaster struck when Cutty Sark's rudder gave way. After reconstructing the rudder twice in heavy seas, the ship arrived back at London on 19 October, around 7 days after her rival. The courage and determination of Captain Moodie and his crew won Cutty Sark great credit, but Moodie retired from his command of the ship due to stress. The ship was never to get this close to winning the tea race again.⁷⁶

The Suez Canal was opened in 1869, the year of the *Cutty Sark's* launch. Its advantages today are as valid as they were then, and cannot be described better than in a passage from the modern Canal Authority's website:

⁷⁵ Royal Museums Greenwich. <http://www.rmg.co.uk/>

⁷⁶ Royal Museums Greenwich Ibid

The geographical position of the Suez Canal makes it the shortest route between East and West as compared with the Cape of Good Hope. The Canal route achieves saving in distance between the ports north and south of the Canal, the matter that is translated into other saving in time, fuel consumption and ship operating costs⁷⁷

The clipper ship era only spanned some twenty years, but proved to be the most thrilling in maritime history, as the names of *Ariel*, *Taeping*, *Thermopylae* and *Cutty Sark* captured the imagination of the world. The *Thermopylae*, launched in August 1868, famously had an encounter with a screw-driven Royal Navy warship, HMS *Charybdis*, as the two ships passed Port Phillip Heads, and recalled by Lubbock:

Both vessels crowded sail on the same course, but as soon as Thermopylae had her canvas set she began to draw rapidly away from the warship, in spite of all the latter's efforts to stay with her. At last, when the Thermopylae had conclusively proved her superiority, the captain of HMS Charybdis could not restrain his admiration, and hoisted the following signal in the Mercantile Code as he rapidly dropped astern: 'Good bye. You are too much for us. You are the finest model of a ship I ever saw. It does my heart good to look at you'.⁷⁸

Her great rival, the *Cutty Sark* had her moments too. In 1889, she was involved in a famous incident with P & O's crack, two-year old, state-of-the-art steamship *Britannia* when, on the night of 25 July, *Britannia*, doing between 14.5 and 16 knots, was overhauled by *Cutty Sark* doing a good 17 knots. Robert Olivey, Second Officer on *Britannia*, watched the lights of the sailing ship overhauling his vessel with amazement and called Captain Hector. In fact they did not appreciate that it was *Cutty Sark*, and *Britannia's* log read with great amazement, *Sailing ship overhauled and passed us!*⁷⁹

Captain Thomson had made a strong reputation for himself in the *Scawfell*. A Liverpool man, he won fame in April 1861, when the *Liverpool Chronicle* reported on Friday, 12 April 1861:

RAPID PASSAGE FROM CHINA TO LIVERPOOL - The ship Scawfell, Captain Thomson, of this port, arrived on Thursday morning from Whampoa, China, with a cargo of tea and silk, after a capital passage, having left her anchorage at Whampoa, on the 13th, discharged her pilot on the 14th and arrived at Liverpool yesterday, making the passage from port to port in 88 days - one of the fastest recorded.⁸⁰

Captain Thomson left the *Scawfell* in 1871, to take command of the Blue Funnel Line steamship *Agamemnon*, the ship that had foretold the demise of the China tea clipper when, in 1869, she loaded 2,516,000lbs of tea at Hankow, more than twice the cargo lifted by *Ariel* in the 1866 tea race, indeed, the largest quantity ever to cross a ship's rail and which attracted a record freight income of £28,087 – and by steaming through the newly-opened Suez Canal she set standards of deadweight tonnage and delivery with which the clippers could not compete. Campbell asserts that the *Agamemnon* made

⁷⁷ <http://www.suezcanal.gov.eg/>

⁷⁸ Lubbock, B, *Ibid*, p179

⁷⁹ The event was recorded in the Official Log Book, a document required to be kept by UK statute law (and still required under the Merchant Shipping (Official Log Books) Regulations 1981) and now deposited with the National Archives. See <http://www.nationalarchives.gov.uk>

⁸⁰ http://mightyseas.perso.sfr.fr/marhist/workington_harrington/scawfell.htm

her first homeward run in London in 28 days and, in the same year, two sister vessels, *Ajax* and *Achilles*, were both inaugurated on the run⁸¹.

With the steamship's voyage time expedited through the Suez Canal, an effective response strategy could not be found to carry on in the high-value cargo trades for which the clipper ships had been built, as freight rates gradually fell after 1865, while port dues and towage charges increased, giving the advantage to the greater deadweight capacity of steamships, and accelerating the clipper's demise even faster.⁸²

In terms of the management of maritime business, the clipper ship era had reached the Decline phase, hardly pausing to enjoy the economic sunshine of maturity and the end of the life-cycle was in sight, with profit levels falling and pressures of competition from steamships preventing any resurgence in the maturity stage; most serious of all for the prospects of investment growth in sailing fleets, the Limited Liability Act 1855 enabled investors to limit their liability in the event of the company's insolvency to the amount of the share value which they had purchased, so they could comfortably take a larger investment risk, knowing that their personal assets would be protected⁸³.

In 1881 *Thermopylae* made her last voyage from China⁸⁴. Prophetically, in the same year the company launched their first steam ship, the *Aberdeen*, the first ocean-going steamship to be fitted with triple expansion engines, following the evolution of the modern steamer with steel instead of iron hulls, and later, even, by quadruple expansion engines. The Aberdeen Line evolved with it and the extreme clippers rapidly became redundant. Having struggled to justify her place in the company's balance sheet, *Thermopylae* was finally sold in 1890 for £5,000 to a trading company in British Columbia, before she was sold on, to Portuguese owners; *Cutty Sark* followed the same fate shortly after when she was sold to a Portuguese firm for £2,100 after her last voyage home from Brisbane in 1895.

In 1905, ten years after the Aberdeen Line lost its leader and founder with the death of George Thompson, the need for bigger ships than the line could afford became very apparent. In this year George Thompson & Co was incorporated into a public company attracting investors from the public market but management would be controlled by the mighty transatlantic carrier, Oceanic Steam Navigation Company - better known as the White Star Line – who also held shares in Shaw, Savill & Albion, which gave White Star a trading footprint running to Australia and New Zealand⁸⁵. In this way, the old business was carried forward into the modern age of investment risk, with the assets owned by shareholders who could trade their shares on the open market, and whose decisions could be made according to all the correct information⁸⁶.

In 1907, *Thermopylae's* trading life was over; but for this legendary lady of the seas, there was to be no humiliating end in a breaker's yard. It was decided that she should be given a true funeral in the

⁸¹ Campbell, G, 1974, *China Tea Clippers*, Adlard Coles, London, p15

⁸² MacGregor, D, *Ibid*, ch1

⁸³ Mayson, S, et al, 2005, *Mayson, French & Ryan on Company Law*, Oxford University Press, Oxford

⁸⁴ Haws, D, 1989, *The Aberdeen and Aberdeen and Commonwealth Lines of George Thompson*, Starling Press, Risca.

⁸⁵ Haws, D, *Ibid*

⁸⁶ In theory; the Aberdeen Line became one of those companies held within the grasp of Lord Kylsant, who controlled about 140 companies, owning probably in excess of £60 million. But when his Royal Mail Group crashed, it became apparent that what was stated in the investors' prospectus had to be dishonestly misleading, and Lord Kylsant went to prison for the dishonesty practised on the shareholders. Whatever the merits of the prosecution and conviction under Section 84 Larceny Act 1861, it is undeniable that he had broken the Golden Rule of normative ethics: we should do to others what we would want others to do to us. See: *R v Kylsant (Lord)* [1932] 1KB 442

finest traditions of the lore of the sea and, duly, she was sunk off the Tagus, by gunfire and torpedoes of the Portuguese Navy. And there she lay, lost and forgotten, until 2002, when a maritime archaeology project set off to locate whatever remained of the wreck. In the words of Promare:

After only a brief survey at sea a large shipwreck was detected using a side-scan sonar. Archaeologists from CNANS have subsequently verified this sonar target as the Thermopylae, after a diving visit to the site⁸⁷.

As steamships moved further into the wool trade in the 1890s, *Cutty Sark* began to make less money for her owner. When the ship returned to the UK from Brisbane in 1895, *Cutty Sark* was sold to a Portuguese firm, J Ferreira & Co, for £2,100 and left British ownership. After being sold to the Ferreira company, she was renamed *Ferreira* but, in 1923, her old name and nationality were restored, and *Cutty Sark* returned to the British flag⁸⁸.

Cutty Sark today enjoys pride of place in Britain's national maritime collection at Greenwich, whose authorities point out with pride that she has lasted four and a half times longer than expected:

Her 143-year history has been one of continual repairs, refits and maintenance and yet she still retains around 90% of the hull fabric that served her during her sea-going career⁸⁹.

⁸⁷ <http://www.promare.org/project-archives/portugal/thermopylae>

⁸⁸ She remains on the UK Register of Ships, under the provisions of the Merchant Shipping Act 1995, official number 63557

⁸⁹ <http://www.rmg.co.uk/about/press/cutty-sark-press-pack/cutty-sark-conservation>

7 THE PHENOMENON REBORN

As Sir Ben Ainslie crossed the finishing line in the final of the 2013 America's Cup, marine engine builder Rolls Royce was engrossed in a venture to develop a twenty-first century clipper ship, in order to persuade a new age of maritime investors to take a leap into the subjective world of risk and reward which balances the profitability of merchant ship design in the ever-growing world of environmental regulation⁹⁰. The core and nerve-centre of this world, is the International Maritime Organisation ('IMO'), whose minimum standards must be met by the ships of all the world's Flag States.

The IMO is the United Nations agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships and, hence, the organ which is driven by the normative ethics of twenty-first century society, which is becoming so risk-averse to environmental damage of any sort. The IMO manages three of the four fundamental maritime conventions in the world, and the convention with which we are concerned in this context is the International Convention for the Prevention of Pollution from Ships, whose Annex VI, first adopted in 1997, limits the main air pollutants contained in ships' exhaust emissions; the Marine Environment Protection Committee has subsequently been extremely busy with the task of forever tightening the limits on such emissions, to stimulate constant innovation and technical development of all the components influencing the environmental friendliness of a ship⁹¹.

The B9 ship project, in which Rolls Royce is a partner, owes its rationale to the inevitable demand upon shipowners to operate within the IMO's regulations and, with such an impetus, it joins a feverish race in merchant ship design that somehow goes back to the future. The result is an ultra-modern dry cargo vessel's hull, with a remarkable sail-plan of square sails on three masts that undeniably resembles the sail plan of the clipper ships, brought into the twenty-first century by technology that dispenses with rigging and all the associated crewing costs and health and safety risks, with operating systems managed directly from the bridge⁹²; but, somewhat mirroring the era of the early steamships, augmented by marine engines – in this case, fuelled by environmentally sensitive biomethane gas instead of the traditional heavy fuels that still evoke in the mind of green activists Masefield's *Dirty British coaster with a salt-cake smoke stack*⁹³. Initial analysis following towing tank tests suggest an estimated fuel consumption for the wind-assisted vessel of 46 per cent to 55 per cent less than an equivalent conventional ship on the same route.

All of which is reminiscent of the 2013 America's Cup, for the yacht design relied heavily on the 135-foot tall main sail, made from a lightweight carbon-fibre frame, covered with plastic 'sail-cloth'. Now re-branded as a 'wing', this sail design was a key feature in sustaining speeds of 40 knots throughout the final race.

New technology is already travelling from the racing field to merchant ship design, with a mushrooming of innovative projects in the emerging technology marketplace; but will it be sail, or

⁹⁰ Bloomberg Businessweek: <http://www.businessweek.com/articles/2013-07-18/clipper-ships-return-green-vessels-for-shipping-are-in-the-works>

⁹¹ IMO: <http://www.imo.org/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Technical-and-Operational-Measures.aspx>

⁹² <http://www.b9energy.com/B9Shipping/Technologies/SquareSail/tabid/5075/language/en-US/Default.aspx>

⁹³ John Masefield's *Cargoes*

alternative fuels? Just as the clipper owners had to consider the cost-benefit of innovation, so, too, must the investors in today's shipping be persuaded to part with their money for tomorrow; and, maybe, the new technologies are not quite as cost-efficient now as they might be if one invested their money a few years down the line – just like the early steamship investors. So perhaps not much changes; in September 2013, the much-respected industry periodical *The Motorship* observed:

With so many projects on the drawing board or under development it is small wonder that ship owners are reluctant to take the plunge on wind propulsion... But there are plenty of challengers out there waiting 'in the wings' with alternative systems.⁹⁴

Just as the tea clippers could recover their construction costs from their tea cargo profits in five years, so, it is estimated that Rolls Royce's ship design will pay off the investment costs within five years of what the project team claim to be a trading life of thirty years: 1 ½ times that currently of a new dry bulk carrier. The trouble is, that the new project had to attract investment of \$22 million within two years, or the cost of research and development could not be justified to the investors who must take the risk. Nothing changes very much.

At first sight, it appears ironic that the cutting-edge maritime technology of the twenty-first century should draw upon the experience of a generation that vanished from the seas nearly 150 years ago. And yet, the professional skill and judgment of the seafarer, ultimately, has hardly changed when it comes to facing the challenge of the sea. For all of today's imperatives of port state traffic management, the demands of environmental protection and the priorities of maritime commerce, the principal convention for the safety of life at sea upholds the Master's absolute discretion as strongly as ever, with no *ifs* and no *buts*, as we have discovered, and it is worth repeating:

The owner, the charterer, the company operating the ship.... or any other person shall not prevent or restrict the master of the ship from taking or executing any decision which, in the master's professional judgement, is necessary for safety of life at sea and protection of the marine environment⁹⁵.

It is thus upon the Master's shoulders that the success of the marine adventure depends; no amount of technology or legal precedent has changed that since the tea clippers raced home in 1866. They are as accountable for their actions as they ever were, but they are still Master Under God, and so they will answer for themselves not by technological wizardry but by how they meet the profession of the sea. Captain Arthur Raymer, one of the founding fathers of London's Honourable Company of Master Mariners and a founding member of the Southampton Master Mariners' Club, understood the one, unchanging feature which remains the foundation of seafaring:

The acid test of the sea lies in a man's work. If he has stamina and courage; and in the case of the more responsible positions, training and intelligence, then he will overcome the age-old perils of the sea and flourish. If he lacks these qualities, neither pride nor privilege will avail him. Sailors are generally simple folk. Clean winds, salt spray and their life in close contact with

⁹⁴ Pipe, D, *The Motorship*, 29 September 2013. See <http://www.motorship.com>

⁹⁵ International Convention for the Safety of Life at Sea (SOLAS), 1974 (as amended), Chapter V Reg 34-1

the elemental forces of nature leave little room for artifice. The age old perils still persist – they seem to be nullified by radio, navigational aids, international organisations and every kind of mechanical ingenuity. They have certainly transformed much of the sea life but if vigilance and care are relaxed, if the man-made scientific aids fail, the old sea demons of storm, rock, shoal, ice and fire wait to pounce. The loss of many well found ships gives the lie to the theory that science has taken danger out of the modern sailor’s life⁹⁶.

⁹⁶ From unpublished papers in the author’s collection generously donated by Captain Raymer’s late daughter

BIBLIOGRAPHY

Library Sources

- Campbell, G, 1974, China Tea Clippers, Adlard Coles Ltd, London
- Chapman, F, 1768, Architectura Navalis Mercatoria
- Clark, A, 1910, The Clipper Ship Era, G E Putnam's Sons, New York
- Cope Cornford, L, 1924, A Century of Sea Trading, A & C Black Ltd, London
- Cope Cornford, L, 1925, The Sea Carriers 1825-1925, The Aberdeen Line, London
- Haws, D, 1989, The Aberdeen and Aberdeen and Commonwealth Lines of George Thompson, Starling Press, Risca
- Jefferson, S, 2014, Clipper Ships and the Golden Age of Sail, Bloomsbury, London
- Lubbock, B, 1914, The China Clippers, Brown, Son & Ferguson, Glasgow
- Lyon, J, 1962, Clipper Ships and Captains, American Heritage Publishing, New York
- Kentley, E, 2014, Cutty Sark the last of the tea clippers, Conway Publishing, London
- MacGregor, D, 1984, The Tea Clippers: Their History and Development 1833-1875, Conway Maritime Press and Lloyd's of London Press, London
- Mayson, S, et al, 2005, Mayson, French & Ryan on Company Law, Oxford University Press, Oxford
- Mickiewicz, A, 1866, Books of the Polish Nation and Polish Pilgrimage
- Shewan, A, 1926, The Great Days Of Sail: Reminiscences of a Tea Clipper Captain, Cranton Verlag
- Twain, M, (Samuel Clemens), 1883, Life on the Mississippi
- Miscellaneous collection of papers on the Confederate States Navy (relevant to Matthew Fontaine Maury) at the Museum of the Confederacy, Richmond, Va

On-Line Sources

- America's Cup. <http://www.americascup.com>
- Bloomberg Businessweek. <http://www.businessweek.com/articles/2013-07-18/clipper-ships-return-green-vessels-for-shipping-are-in-the-works>
- Bruzelius, L, 2001, Sailing Ships: Blackadder (1870), The Maritime History Virtual Archives: <http://www.bruzelius.info/Nautica/Nautica.html>
- China Navigation Company of the Swire group. <http://www.swire.com/en/our-businesses/marine-services/shipping-lines/swire-bulk>
- Jardine, Matheson & Co. <http://www.jardines.com/the-group/history>
- Chronicle (Liverpool). http://mightyseas.perso.sfr.fr/marhist/workington_harrington/scawfell.htm
- Pipe, D, writing in The Motorship, 29 September 2013. <http://www.motorship.com>
- Promare. <http://www.promare.org/project-archives/portugal/thermopylae>
- Rodger. <http://www.fife.50megs.com/alexander-rodger.htm>
- Royal Museums Greenwich. <http://www.rmg.co.uk>
- Smithsonian Institution. <http://www.Smithsonian.com>
- Suez Canal Authority <http://www.suezcanal.gov.eg>
- United Kingdom Tea Council. <http://www.tea.co.uk>