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# MARITIME HERITAGE ASSOCIATION JOURNAL




*A 1/100 scale model by Steve Loach of the SS* Xantho *based on interpretive drawings by Ross Shardlow*

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# Reminder

## Don't forget the End-of Year Windup

**10:30am—22 November 2026**
**33 Gosnells Road East, Orange Grove**

**This venue is a workshop, and for safety's sake enclosed footwear is obligatory**

**Please bring a plate of finger food to share**
**A maritime-themed quilt will be raffled**
**Bring unwanted nautical books to sell—proceeds to MHA**

# The Model Citizen

**An occasional column by Steve Loach, on scale modelling and W.A. maritime heritage**

@ **Model of the SS *Xantho*.** Eight years of intermittent effort.

The *SS Xantho* is recognised as Western Australia's first coastal steamer. Originally built in 1846 in Scotland as a paddle steamer, she was used for many years a ferry between Leith and Anstruther and occasionally as an excursion vessel to nearby ports. In 1870 she was reconfigured as a single-screw vessel and fitted with a new engine. Mr Charles Broadhurst, a notable West Australian entrepreneur, purchased her and sailed her to Fremantle via the newly opened Suez Canal. His intention was to secure a government mail contract and operate a tramp-steamer service between various West Australian coastal settlements.

On 15 November 1872, while carrying 83 tonnes of lead ore, the *Xantho* struck a sandbar at the entrance to Port Gregory, approximately 100 km north of Geraldton, and sank. No lives were lost, but Broadhurst's finances were ruined and his reputation severely damaged.

The wreck lay undisturbed until 1983, when members of the W.A. Underwater Archaeology Association and the W.A. Maritime Museum began a thorough, scientific archaeological investigation. This study is now recognised as a landmark in the field of iron ship archaeology. A particular highlight was the recovery and restoration of the ship's Penn and Son steam engine, which is now permanently displayed in the Shipwreck Museum at Fremantle.

My involvement with the *Xantho* began in 2018 when I found Mac McCarthy's book *Xantho and the Broadhursts* in Boffin's bookshop. On a whim, I arranged a meeting with Mac and offered to build a model of the ship. He supported the idea and provided copies of primary references, including the original builder's specifications and registration papers. However, he emphasised that no contemporary images of the vessel exist beyond Indigenous rock art. He also noted that I would need to prepare my own construction drawings; a task for which I was poorly qualified.

During a chance meeting, I discussed this challenge with David Nicholson, who suggested I contact Ross Shardlow. About a month later, I found myself in Ross's library and studio in Albany, enjoying Barbara's cheese scones while discussing the finer points of nineteenth-century steamship architecture.

I left Albany feeling that I at least had a reasonable chance of producing a sensible set of drawings, but I need not have worried. Unbeknown to me, Ross had begun preparing his own plans and, a week or two later, emailed them to me. I immediately decided to use them as the basis for the model. Preparing the plans had been the difficult part. By comparison, building the model was straightforward, although I still made several mistakes that required considerable rework.

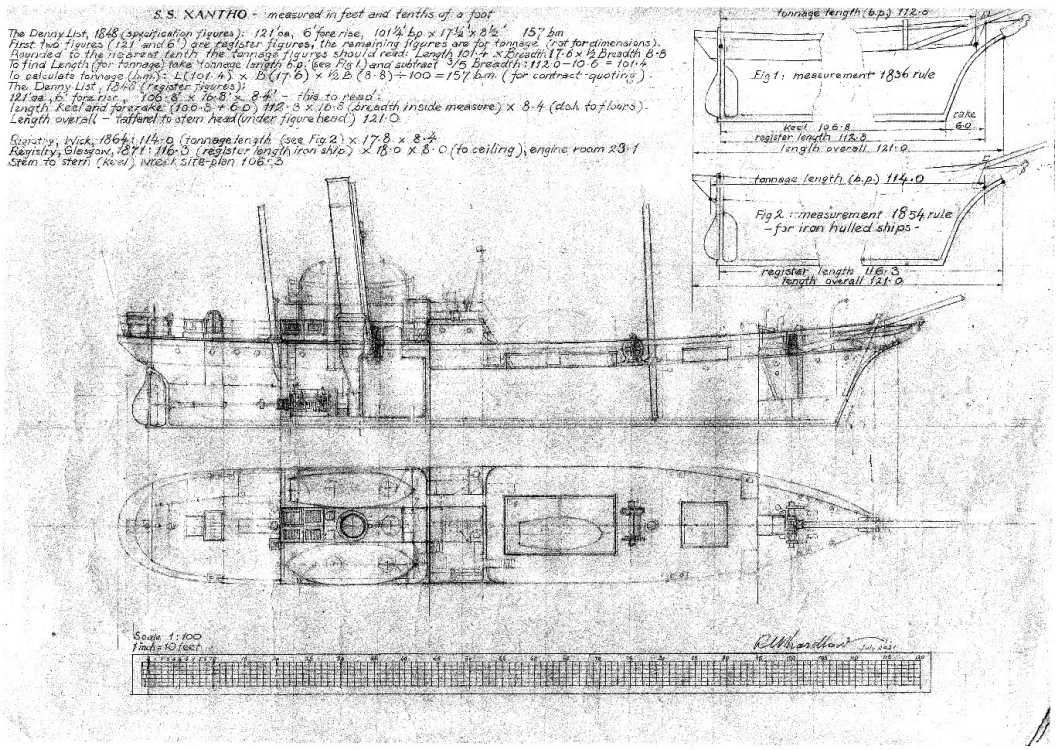
The model is built to a scale of 1:100, is entirely scratch built and contains no 3D printing. The hull was carved from two blocks of liquidamber – a very fine deciduous carving wood - joined along a plywood centreline that now forms the keel. The weather-shelter immediately ahead of the main superstructure and below the bridge is made from a curved sheet of annealed brass, while most of the superstructure consists of MDF or balsa blocks skinned with plastic. The masts and bowsprit are made from fine dowels and the sail from a curved sheet of aluminium lithoplate sandwiched between two sheets of self-adhesive paper. The rigging is loosely based on that of the well-documented topsail schooner *Huia* and is made from a combination of high-strength fishing line and knitting-in elastic.

The colour scheme is partly informed by indigenous rock art, which depicts prominent squares along the hull that I interpreted as false gunports. The artwork also shows strong striping on the funnel.

After eight years of intermittent effort, including research and construction, the model was completed in July 2026. It was finished just in time for the Western Australian Scale Model Exposition, where it won the 2026 "Best Australian Subject" award. Ross and I are now presenting the model to the Fremantle Shipwreck Museum in the hope that it will be accepted for public display within the *Xantho* gallery alongside the ship's restored steam engine.

*Figure 1: Ross Shardlow's interpretive drawings of the SS* Xantho. *These match contemporary descriptions including builder's specifications, registration papers and archaeological remains.*

*The only contemporary illustrations of this vessel are indigenous rock art so these drawings are necessarily speculative.*



# The Ditty Bag

**An occasional collection of nautical trivia to inform, astound, amuse and inspire.**

*(The inspiration could take the form of contributions to this page!)*



The Albany Whaling Company was formed in 1947. The company's first whale chaser was a former target-towing launch which was named *Wadjemup*. Using ex-wartime stores the company built the harpoon gun and mounted it on the bow.

During World War II between early 1942 and the end of the war there were 118 American, 38 British and 11 Dutch submarines based in Fremantle at various times.

The world's first multi-national company was formed by the Dutch in 1602. Called the Vereenigde Oostinsische Compagnie (VOC), by 1669 it employed over 30,000 people and had a private army of 10,000 soldiers. Between 1602 and 1796 the VOC sent almost one million people to be employed in the company's trade in Asia. It paid annual dividends of about 18% for nearly 200 years.

Naval involvement at the Eureka Stockade:

> *I received the Despatch on the morning of the 1st December; at 6 p.m. of that day the remaining companies of the 12th and 40th Regiments, with two field pieces and two howitzers—the latter being manned by the seamen of HMS* Electra *and* Fantome*, under the command of Lieutenants Burnaby and Keene—were on their march to Ballarat, and Major-General Sir Robert Nikle had assumed the command in person; my instructions were repeated to the authorities at Ballarat to act with temper, caution, and judgement, but to enforce the law. I further added my satisfaction at the conduct they had evinced under peculiarly trying circumstances.*
>
> Sir Charles Hotham, Governor of Victoria, 1854

Editor's note: They arrived too late, the insurrection had already been quelled by the time they reached Ballarat.

The USS *Constitution*, launched 1797, is the oldest commissioned war ship in the world that is still afloat. The United States Navy has a special 50,000 acre forest of white oak for the express purpose of repairing this and other old ships.

Hippocrates stated: *Sailing on the sea proves that motion disorders the body.* The word nauseous comes from the Greek *naus* which is related to ships, sailors and sailing.

In Wick, Scotland, during one weekend in 1867 some 3,500 women and girls gutted 50 million herring. At that time up to 1,000 fishing boats were based there.

A gannet diving from 100ft can hit the water at up to 60 mph (100 km/h). To cushion the impact they have a reinforced skull and air sacs in their face and chest which cushion the impact, acting like bubble wrap. They also have nostrils inside their beak instead of externally, thereby preventing water being forced in when hitting the water.

Around 1815 a 100-gun man-of-war carried five boats. The biggest was a 34ft longboat, the smallest an 18ft jolly boat.

**Realgar**: Highly toxic arsenic sulphide used by the Romans as a red pigment to paint their ships.

**Zopissa**: A mixture of pine tar and beeswax used by the Greeks in the 7th century BC and by the Romans in the 1st century BC as a water proof coating for their ships. Pollen trapped in the beeswax indicates how often and where the coatings were applied, enabling archaeologists to track trade routes.

A Viking longship of 60 oars required 600 litres of pine tar to seal the timber.

The first warship (although not the first armed vessel) built in Australia was the 62ft ketch *Spitfire*. Built of blackwood and ironbark in 1855 by John Cuthbert of Sydney for the colony of NSW, she carried one 32pdr gun amidships on a traversing carriage. The first armed vessel was the Tasmanian schooner *Eliza* launched in 1835 as an Examination and Patrol vessel.

# The Violent Cyclone of 1881

**By Ron Forsyth**

The Bureau of Meteorology claims from records kept since 1910 that the coast around Onslow has been impacted by a cyclone about once every two years. Prior to 1910 cyclones were reported in the papers from accounts by sailors and pearlers who survived them.

In early January of 1881 a violent cyclone wreaked havoc when it crossed the coastline near what is now the town of Onslow. Sixteen lives were lost, twelve vessels were wrecked and a large quantity of pearls and shell were lost.

Captain Simpson, on the topsail schooner *Pet* had been lying in the Flying Foam Passage in the Dampier Archipelago. Sailing southward it became apparent that a cyclone had crossed the coast. The papers reported he…

> *... is of opinion that the cyclone created a tidal wave which caused the loss of the vessels. He calculates that the height of the wave must have been quite thirty feet, as it sweep* (sic.) *completely over the Twin Islands, which are quite thirty feet above water. The effects of the hurricane has been that the configuration of the coast line has been considerably altered, tiers of sandhills having been washed away in some places, and inland seas having been formed in others* (*Herald*, 12 Feb 1881).

Further news followed:

> *The effects produced upon the coast are most extraordinary. Sandhills which in some places were fully 100 feet high, have completely disappeared, well known creeks are no longer to be seen, while new ones present themselves to the astonished seamen. But what is more serious is that the shoals and banks have been so shifted about, and their previous positions so altered, as to prove very perplexing to even those seamen who knew the coast the best. The mangroves present a most peculiar appearance having been entirely denuded of their leaves by the violence of the wind* (*Herald,* 19 March 1881).

Although sparsely settled the hinterland also suffered badly:

> *The station of Messrs. Forrest, Burt & Co., which is situated up the Ashburton River about twelve miles from the sea coast, unfortunately lay full it its course. Here the storm raged with unrestrained fury and with most destructive results. The house was completely wrecked, the shearing-shed was demolished, the sheep were carried away before the wind like bits of paper, some being blown over the sand hills for more than two miles, and about a thousand were killed. Everything the wind could take the slightest hold of was swept away, even the rails of the fences were blown clean out from between the posts, and for about thirty miles up the river the track of the storm can be traced by the extraordinary appearance of the trees, some of which have their branches torn off while other are completely stripped of their foliage. When the wind was at its height it raised such a dense volume of sand, that the persons on the station had to take to the water, in which they squatted with a rug over their heads to prevent themselves being suffocated. The full amount of the damage done by the cyclone inland is not yet known, but we have heard that Mr. Cusack has unfortunately lost nearly two thirds of his sheep*. (ibid.)

*Charles Brockman's cutter* Sarah [48.25 x 14.5 x 6.21 feet] *was driven nearly a quarter of a mile in shore by the tidal wave. An extraordinary recovery of the vessel was made.*

*From the Ashburton we hear that the cutter* Sarah *has been safely floated off. It will be remembered that she was driven up far inshore by the late terrible cyclone. It took three months' hard work to get her off, as a canal, 300 yards long, 15 feet wide, and 3 feet 6 inches deep, had to be dug through the clay and stone. Mr. John Brockman reports that he finds that during the cyclone the water rose no less than nineteen feet above the highest springtide marks* (*Herald*, 16 July 1881).

## Sailing into a Cyclone
## Capt. Abbott's Account of the Cyclone.

*We left Fremantle* [schooner Annie Beaton, 85 tons 78 x 20.4 x 9 feet] *writes Capt. Abbott, on the 30th of December 1880, at three o'clock in the afternoon, bound for Cossack on the Nor' West Coast, with a full cargo, and taking the*

following *passengers: Mrs. Magher and family (6); Mr. and Mrs. Stone; and Messrs. R. Palmer; and C. Williams. We enjoyed a fine passage, and everything went well until we arrived within a few miles of the Nor' West Coast.*

*On January 6th, 1881, at noon the Cape bore N.N.E., being about fourteen miles distant. The wind was moderate all day from the N.E., but the sky was overcast and had a dirty unsettled sort of a look that made me feel anxious, the more so as the barometer was falling rather too fast to be pleasant. At sunset things did not look any better, and there was a sort of a wild fiery glow about it that did not look at all reassuring. The wind still continued light, but we now experienced a very heavy swell, which came rolling up from the Eastward, and I then remarked to the mate that there must have been a very heavy blow to the Eastward, or else that there was one coming up behind that swell. At 8 p.m. the barometer was still steadily falling, then marking 29.40. I then took in the light sales, the gaff, top sail, staysail, and flying jib, and told the men to make them well fast and snug as we might soon expect to have some wind. By this time I knew that we were going to have something pretty 'hot,' but was in hopes that it might hold off till daylight. For knowing Exmouth Gulf so well, and being aware that there were two good harbours there, I could then have so placed the vessel that she would have been comparatively safe from any storm that might arise. But I soon found that my hopes were not to be realised for the wind now commenced to freshen back to the Eastward, and the barometer still continued to fall fast. There was no chance of making any mistake about it now, and I knew that we were in for a regular cyclone. By this time we had taken in the topgallant sail, the middle staysail, and the upper staysail, and reefed the mainsail.*

*The wind too increased so fast that it was now blowing quite a gale, the barometer still falling, marking now 29.25. At midnight I took in the foresail and jib, and close reefed the mainsail. The sea was now very heavy, and the vessel was rolling and pitching very much and making so much water that I had now to keep the pumps going continually. Just about this time I had a look below, and the scene I then witnessed I shall not easily forget. There was poor Mrs. Magher, with her six children around her, all drenched to the skin, and young Mrs. Stone washed clean out of her berth. The skylight cabin windows, and companion, were all like small waterfalls, and everything was washing about the cabin floor as the vessel rolled in the sea, yet the poor things were bearing up bravely, and seemed to be quite resigned to whatever fate might be awaiting them. Meanwhile the barometer was still falling, and stood now at 29.20. I went on deck again, and things there looked much worse than they had done before. The main staysail came down, and it was made fast. At 4 a.m. the fore topmast staysail was blown clean out of the bolt ropes, and the mainsail was blown clean away. The vessel was now falling off into the trough of the sea, so I took in the lower topsail, and got some cart covers up the main rigging which ultimately brought the vessel's head to sea again, heavy seas breaking on board all the while, and tons of water constantly washing over the decks fore and aft.*

*At 7 a.m. on Friday morning, the gale had increased to a hurricane, the force of the wind being now simply fearful, the jibs were blown clean out of the gaskets and split to ribbons in a few seconds. The boat in the davits on the weather side was blown in board on the deck and stove in, the davits, bulwarks, and stanchions all coming down with the boat at one crash. The vessel was now making a great deal of water, and as the pumps had to be kept constantly at work I was compelled to call upon my passengers, asking them to assist at the pumps, and I am proud to say that at the first word they willingly came up at once and worked away like men. It was a sight indeed not to be soon forgotten (considering that they were landsmen) to see them holding on to the ropes being sometimes quite up to their necks in water, and yet sticking to their work at the pumps in spite of everything.*

*At 8 a.m. the bowsprit broke close off at the knightheads, taking the jibboom and all the gear with it. The vessel was now off in the trough of the sea and lying nearly on her beam ends, labouring fearfully all the while. The foremast was swaying about and the sails blowing out of the gaskets, so seeing that it was quite impossible to secure the mast to prevent further damage and to save the vessel I*

*cut away the weather rigging, and the mast then went by the board taking with it the main topmast. After much risk and difficulty we succeeded in cutting away the wreck and securing the mainmast. All the time the seas were breaking on board fore and aft, and they swept away part of the lee bulwarks, killing all our efforts the vessel continued to make more water, and the crew and passengers, though constantly at the pumps, could not succeed in keeping the vessel free, so that at last I was compelled to throw some of the cargo overboard as a last means to try and save the vessel. The barometer was now vacillating, and we now felt the full force of the hurricane, but having done all that was possible, we could only trust to the infinite mercy of God to bring us safely through. At noon the hurricane moderated, the barometer being steady at 28.72. At 2 p.m. the wind veered round to the Southward, and the vessel was riding more easily and making much less water. At four o'clock in the afternoon the barometer was rising, marking 28.80. At 8 p.m. the sea was very heavy, and the vessel was rolling terribly, so I had one of the cart covers set on the main gaff, but it was at once blown away leaving me nothing to set, by doing which I had hoped to steady the vessel a bit. At midnight the weather was more moderate, the vessel drifting E. N. E. about three miles an hour, the pumps being kept still steadily at work.*

*At daybreak on Saturday, the 8th January, I got the gaff topsail set as a middle stay sail to steady the vessel, all hands being employed in clearing away the wreck about the decks, and in rigging a jury foremast, the weather being fine, the barometer reading being 29.40. On Sunday I got the main boom up as a jury foremast, and shaped a course for Cossack, having all possible sail set, viz., an old mainsail as lug, a gaff topsail as middle staysail, and a fore staysail on the jury foremast, the vessel going through the water about two knots an hour. We had moderate winds and fine weather until we arrived at Cossack on Thursday, the 14th of January* (*Herald*, 19 March 1881).

Editor's note:
The schooner *Pet* (90 tons, 85.6 x 19.5 x 8.5 feet) was subsequently lost on 1 March 1882 during a voyage from Bunbury to South Australia. When about 50 miles south-west of Cape Leeuwin the vessel was attacked by a large sperm whale. It charged the schooner and smashed a hole in the starboard bow. The *Pet* sank within minutes drowning Captain Littlejohn. The six other crew escaped safely.



*The* Pet *was a topsail schooner probably similar to that pictured here*

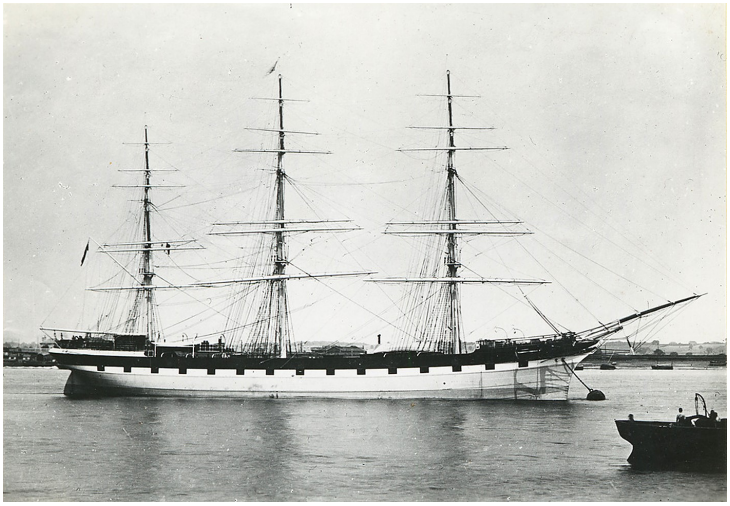
Photo: Imperial War Museum

# Single and Double Topgallant Sails
## on British-built Ships, 1866 to circa 1896

**By Nick Burningham**

Looking at photographs of sailing ships posted to the Facebook Group *Southern Tall Ships* I was impressed by how many ships, including four-masters, were rigged with skysails in the 1870s and 80s; and even in the 1890s. I was also surprised to see that many large ships were rigged with single topgallants. Several ships carried skysails over single topgallants (and royals of course) so the total number of yards crossing a mast was the same as for ships with double topgallants and nothing above the royals.

Underhill (*Masting and Rigging…*) says that the choice of double topgallants was not always a matter of size – that above a certain size, topgallants were split into double topgallants to make them more easily handled, as was the case with topsails, but that was not the only consideration. With topsails it was partly fashion. Many relatively small topsail schooners carried double topsails, presumably so as to look up-to-date. With double topgallants it was also partly fashion, but operating in the other direction – some very large ships carried single topgallants. There was quite a fashion for four-mast barques to carry royals and skysails over single topgallants. The American *Roanoke* at 3147 GRT must have been the largest ship so rigged, *Wanderer* at 2903 GRT was another large example. They were built in 1892 and 1891.



Torridon

*Single t'gallants and skysails*

Was the choice of single or double topgallants largely a matter of taste or personal preference, even fashion? It was certainly the case that double topgallants were very unlikely on ships of less than about 1000 tons GRT. Unlike double topsails, they were not adopted on small ships.

Topgallants were not fitted with reef bands. Topgallants were either set or furled, and as rigs became less tapered – topgallant yards became closer in length to the course yards below them – furling a topgallant was an increasingly significant reduction in sail area. A ship with double topgallants might, in certain circumstances, storm along with a main lower topgallant set to significant advantage. The disadvantages of double topgallants were greater weight aloft, and the greater cost of the associated gear.

The first ships fitted with double topgallants were *Antiope* and her sister ship *Marpesia*, built in 1866. They were of 1443 GRT, so they were large ships when they were launched. Double topsails had only recently been widely adopted on large ships in the mid-1860s.

By the early 1870s double topgallants were certainly the fashion for large iron-hulled ships, although often with a single topgallant on the mizzen. All Aberdeen White Star Line ships from *Miltiades* (1871) onwards were rigged with double topgallants on the fore and main, and possibly *Patriarch* (1869) was rigged with double topgallants on her maiden voyage. Photographs show that most of the White Star Line's ships that had originally carried single topgallants (and in some cases single topsails) were re-rigged with double topgallants, including the tea clipper *Thermopylae*. In terms of tonnage she was one of the smallest ships to carry double topgallants, but she had a tea clipper's enormous sail plan.

The so-called 'Loch Line' (Aitken & Lilburn, later Aitken & Macfarlane, whose ships were

all named after lochs) were less keen on double topgallants. Probably none of their thirteen ships built to be about 1200 GRT carried double topgallants, although some of their larger ships did. When they took up the new fashion for four-masted barques, with their celebrated sisters *Loch Moidart* and *Loch Torridon* in 1881, those lofty ships of 2081 GRT were given single topgallants, as were many four-mast barques and ships.

Some ships originally rigged with double topgallants, including *Marpesia* and *Antiope*, were re-rigged with single topgallants. In some cases this was done when the sail area was reduced for reasons of economy. In the case of *Benmore* this was done by removing the lower yards and replacing them with the lower topsail yards, the upper topsail yards became lower topsail yards and the lower topgallant yards became upper topsail yards. *Loch Vennachar* was given double topgallants, fidded royal masts and skysails. It is said that the weight aloft was excessive so she lost the skysails and was given standard pole topgallant masts. Then, later in her career, she was changed to single topgallants. She was no longer large enough to warrant double topgallants it would seem.

I devised a graph with years from 1866 to 1898 as the horizontal axis, and tonnage starting at 1000 tons as the vertical axis. Using evidence from photographs, registered tonnage, and dates of construction, I plotted ships and barques with single topgallants, four-masters with single topgallants, ships and barques with double topgallants, and four masters with double topgallants.




Some trends were evident. While ships of between 1400 and 1600 tons of the early 1870s were often given double topgallants, by 1880 ships in that size-range were unlikely to be given double topgallants, but they were no longer considered large ships. In the 1880s ships below about 2000 tons were likely to have single topgallants. Deep sea going ships of under 1500 were still being built. Milne's 'Inver-line' had several 1400 tonners built in the 1890s which were all given single topgallants.




Primrose Hill

*Double t'gallants and skysails*

In my sample the smallest ship designed with double topgallants is *Collingwood*, 1034GRT and built in 1872. *Salamis* built in 1875 was only slightly larger.

My sample of 135 ships isn't large enough to be confident about the proportion of ships with single or double topsails, but rather to my surprise, through the 1880s and into the 1890s the share



Lynton

*Single t'gallants and skysails*

appears to be approximately 50-50 with somewhat more single than double. Even among the largest four-masters, single topgallants were as likely as doubles! One of the four-masters with single topgallants survived to take part in the last grain race in 1939 – *Abraham Rydberg*, launched as *Hawaiian Isles* in 1892.

I haven't analysed this statistically, but I feel that Glasgow and Liverpool were less keen on double topgallants than Aberdeen was. Double topgallants were not as common as I'd thought they had been, perhaps because I was familiar with photographs of the celebrated wool clippers nearly all of which carried double topgallants, even little *Collingwood* and *Cimba*.

**Selection of examples and possible skewing of data**

All the examples used in this research are vessels of which photographs are available giving relevant evidence of the rig. Vessels named in the text, such as *Antiope*, are included in the graph, with the exception of *Thermopylae* which was below the threshold registered tonnage of 1000 tons, and *Loch Vennachar* which started with double topgallants but carried single topgallants for many years.

The primary source of photographs was photographs posted to the Southern Tall Ships group on Facebook. Mainly photographs posted by Alan Franklin, and Dennis Allen, who provide tonnage and year of building, but some photographs posted by others were used, in which case tonnage and date of build data were sought elsewhere. The A. E. Edwards collection, available online from the State Library of South Australia, was another source of photographs – tonnage and date of build are generally, but not always, provided. The photographic archive of Dundee city was accessed to provide examples of ships which were not regularly trading to Australia.

A few examples were drawn from *Merchant Sailing Ships 1850–1875* (MacGregor, D., 1988 reprint) to provide examples from the beginning of the period in which double topgallants were used.

For some years, such as 1870 and 1880, there are few examples. My graph plotting the number of examples for each year reflects the known slumps in sailing ship building. The first was caused by the opening of the Suez Canal in 1869. Sailing ship investment recovered through the mid-1870s (while steamship building declined) until another slump at the end of the decade and into the early 1880s. In the first half of 1885 the tonnage of sailing ships built exceeded that of steamships, though only briefly and slightly. It was the last time that happened. There was another slump around 1887, at which time the building of steamships spiked.

**Date of Launch**

And the final slump, from which sailing ship construction never recovered, was in the mid-1890s. One of Queen Victoria's jubilees fell on the year 1887, a year when sailing ship invest-



Pommern

*Jubilee rig*

ment slumped, and it is said to be the year that the stump topgallant rig, or 'jubilee rig', was invented – the rig with double topgallants and no royals. In some cases their upper topgallants were sails of considerable hoist or depth.

The graph of tonnage and topgallants clearly shows the increase in average and maximum tonnage for deep-sea going sailing ships, with 1400 tons being a large ship in 1866, and a relatively small ocean-going ship less than two decades later.



Carradale

*Single t'gallants and royals*

The graph also appears to reflect the development of photography. Relatively few photographs are available for the beginning of the period under consideration. Photographs of ships built in the late-1860s and early-70s tend to be photographs showing those ships later in their histories, sometime cut down to barque rig. It is possible that some had been changed from double to single topgallants

I was keen to include a significant number of four-masters in the sample. It is possible that the number of four-mast barques with skysails in my sample is greater than it should be because those handsome and spectacular vessels were likely to be photographed and the surviving photographs more likely to be posted to *Southern Tall Ships*. Whatever the case, it does seem that the story of sailing ship design, in the last third of the 19th century, adapting to increasingly prosaic roles and decreasing crew size relative to tonnage is an over-simplification. As late as the 1890s hard-headed shipping owners were choosing to order three-skysail yarders, while others were pessimistically ordering stump topgallant rig.

# *Kilmeny*'s Fremantle Connection

**By Ron Forsyth**

By the 1920's there were only about thirty windjammers left plying the trade routes of the world. The advancement of steam left these aristocrats of the sea carrying low value cargo such as coal, nitrate, guano, sulphur, timber, salt and grain. The First World War had thinned their ranks having proven easy prey to German U-boats. So, when in 1920 the last commercial barques *Magdalene Vinnen* and *Priwall* were launched they were well on their way to extinction.

Named after an ancient parish on the island of Islay in the Inner Hebrides, the barque *Kilmeny* was built in Glasgow in 1894 by Ailsa Shipbuilding Co. She was the second Glaswegian barque to sail under that name. A three-masted steel barque, her dimensions were 265 x 38.2 x 21.4ft, 1,469 net tons register.

Australian maritime artist and author Robert Carter (OAM) remarked on her atypical rig.

> *She was rigged without royal sails and as such was described as being 'bald-headed'. The absence of royals may have offended the eyes of seamen but her second mate* [Eben Anderson] *claimed her as his favourite ship. To compensate for the lack of royals, the upper and lower topgallant sails were wider and deeper.*

Whereas the clippers of old prioritized speed, their successors, windjammers, were designed for cargo capacity and ease of handling as crew wages rose. They could hold their own on the long voyages from Europe to Australia. Not requiring bunkerage for coal or freshwater for steam and with their large cargo space they were still able to compete with steam ships.

Twenty-eight-gun ports painted along her hull as a would-be deterrent to pirates were by the twentieth century merely decorative.



On 30 Oct 1920 *Kilmeny* sailed from Liverpool for Sabine, Texas to load sulphur for Melbourne. She left for Melbourne on 18 Dec 1920.

A young fifteen and half year-old George Harland from Edinburgh had signed on as an apprentice. This was to be just his second trip to sea. "For the privilege of serving a four-year apprenticeship," he recalled, "the premium was £40 for full board and lodging plus the princely sum of £2 the first year, £3 the second, £8 the third and £12 the fourth, a total of £24 in all." At just 5ft 3'' tall he still had some growing to do.

He had previously signed on as a fourteen-year-old on his grandfather's ship *Livingstonia* as an Ordinary Seaman to see if he was made of the right stuff. He had spent seven days in ballast being tossed about like a cork and seasick on their way to Philadelphia. This hadn't deterred the plucky youth, but the forthcoming voyage would test the mettle of the most seasoned of sailors.

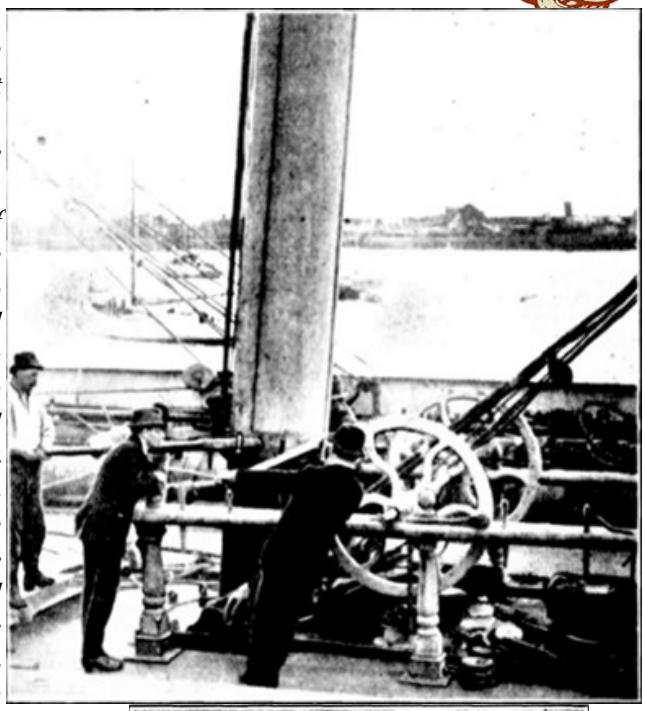
George recalled from his past this account of the passage:

> *We sailed from Birkenhead in ballast on 16th October 1920 bound for Sabine Pass, Port Arthur, Texas and I was sick for the first two days but I was allowed to remain in my bunk. It took 48 days to get there and we docked on 3rd December 1920 to load a cargo of sulphur. It was a very heavy cargo and did not reach the 'tween decks when we were down to the plimsoll line.*
>
> *We sailed from Sabine Pass on 18th December and soon discovered how badly the cargo had been stowed for the ship was rolling heavily even with the wind on the beam ... it was like a pendulum. So much so that the backstays began snapping like string and when we came to the roaring forties we ran out of hawsers to the mainmast which was wobbling so much that all sail had to be taken off it. This was on 15th April 1921. A few days before that we were shorter on rations and on the 18th we were out of flour ... hard biscuits thereafter, and so the course was altered and we headed for Fremantle.*
>
> *The roaring forties which we were in was one long continuous gale and the decks were under water most of the time and very slippery with the accumulation of algae which we seldom had a chance to scrub off. There were times our quarters under the poop suffered with a wave at the wrong time and my sea chest kept under my bunk was almost floating. Also my feet had spread due to working aloft in bare feet in tropical weather, and, of course they were still growing. The result was that I could only get my sea boots on in bare feet and ramming hard to do so.*
>
> *Even with the life lines along the deck to hold on to there were times when the midday meal from the galley which was amidships was hazardous and many times the meal went overboard, it was either that or me, so the other two apprentices in my watch and myself went hungry.*

Rottnest Island was a most welcome sight at 5:30 pm on 24 April after 128 days at sea without touching a port and they limped into Fremantle. Windjammers were already becoming a rarity at that port and the papers noted: *The arrival of the barque* Kilmeny *marks the first appearance of a three-masted barque in port for about 18 months* (*West Australian*, 26 April 1921).

Sadly, the fully-rigged ship *Kirkcudbrightshire* that followed her to Fremantle that year was dismasted and converted to coal hulk to later be scuttled off Rottnest.

A Melbourne paper gave a closer look at her nightmare off Cape Town, the 'Cape of Storms.'





*With the wind blowing in hurricane, the seas mountains high, and her top-gallant mainmast broken, the three-masted barque* Kilmeny*... narrowly escaped disaster while on a voyage from Sabine (United States) to Melbourne. The vessel, which came by way of the Cape of Good Hope, ran into a severe storm off Cape Agulhas, and it was only by good seamanship that she was saved. The vessel was loaded with sulphur, which is regarded by mariners as a dangerous cargo in a storm, as it lies 'dead' in the ship's hold, and when the vessel takes a lurch to the side the cargo has a tendency to keep the ship in that position and prevent her from regaining her stability. This happened to the* Kilmeny*. For three days the storm beat the ship mercilessly, and she rolled so considerably in the heavy seas that on six occasions the deck was almost completely under water. The cook was only able to leave his galley by wading through several feet of water which surged around the galley door, and he did so at great peril, as huge waves frequently broke over the ship's side, sweeping overboard anything not made secure. The forecastle of the ship was practically flooded, and water made its way into the cabins, sleep being impossible. After the storm had been raging two days the ship took a tremendous lurch, the masts almost touching the water. The strain was so severe that the steel top-gallant mast broke, but, luckily, did not fall to the deck. Had it done so it would probably have brought the mainmast with it, weighing about 13 tons, and would have smashed the ship's deck to pieces. Several of the ship's sailors promptly volunteered to climb the broken mast, which was now at a dangerous angle, and, while tied to the mast, lashed the broken part with steel cable wire. While doing this waves frequently washed over them and made their work a perilous undertaking. Shortly after the work was completed a huge sea was shipped, and the waves broke down the door of the carpenter's shop, situated on deck. The captain decided to put the ship in short canvas and make for Fremantle, a distance of 1,000 miles* (*Argus,* 12 July 1921).

The young apprentice George Harland found the local people to be very friendly and hospitable. He gratefully accepted the extended hospitality of Bertha Willis for the remainder of the almost nine weeks they were delayed in the port. A memorable sixteenth birthday was celebrated on the far side of the world. Such was the friendship developed that he even attended her wedding. After weeks at the mercy of the roaring forties George found his time ashore in Fremantle blissful. Bertha was the daughter of a retired sailor, George Willis from Liverpool, who ran a successful business in the High Street making canvas products, and sails for the Broome pearling fleet. He was a long-term resident of the port, having arrived on the *Planet* in 1874.

In contrast to the *Kilmeny* there were berthed in the busy port at that time:

*... the* Katoomba*, a nine thousand ton interstater, red funnelled, triple screwed, her deck structure painted white, discharging cargo from one hold and taking goods on at another. There was the* Marina*, from Italy, taking water to last her across the Bight. There were the* Kyoto Maru *loading sandalwood, the cattle boat* Moira*, the barque* Kilmeny*, and the barquentine* Rachael Cohen*. And most interesting of all there was the mail steamer* Malwa*, her magnificent length and stately decks occupying the mooring space opposite C shed*. (*Geraldton Express,* 10 June 1921)



Mail steamer *Malwa*, Wikimedia Commons. 5904 nett tonnage.




*Rachel Cohen* 150 tons fitted with auxiliary engine.

Finally on 24 June 1921 they left Fremantle. The ship's buoyancy hadn't improved and there was an anxious sail to Melbourne – 'a few more backstays snapped but the mast held.' At last relieved of her by now hated cargo of sulphur *Kilmeny* was loaded with a cargo of wheat, wool and rabbit skins. The papers thought it … *reminiscent of years gone by when all our wool was sent to England, by the proud old clippers* (*Daily Commercial News and Shipping List*, 20 July 1921).

The worst was now over and George wrote:

*... we left Melbourne on 18th August and the ship behaved perfectly, heeling over to the wind with none of the rolling we had experienced. When the weather was suitable the hatches were lifted to ventilate the hold and we were able to broach the cargo and steal rabbit skins to line strips of canvas for an additional blanket.*

The westerly gales now sped them across the Pacific without shipping many seas. Diego Ramires or Cape Horn was sighted on 18th September, and the trade winds sped them home. The rounding of the Horn drew no comment after the carnage off the Cape of Storms, and London was reached on 23 November.

George Harland stepped ashore just eleven months older, no longer the boy that had left Liverpool.

Tied up in the Surrey Commercial Dock, *Kilmeny* lay just astern of the *Cutty Sark*. This was famous company, but she never went to sea again ending her life at the shipbreakers.

The dreams of youth often go astray and George's plans for a career at sea were precluded by colour blindness. There was no official test for colour blindness then so perhaps Captain Fullilove played his own colour perception test when he requested George to retrieve some red wool. Returning with green wool his advancement in the navy was over. All was not lost, however, as his instruction in celestial navigation led him to a successful career ashore as a mining surveyor. His adventurous spirit undaunted he worked in Nigeria, Sierra Leone and New Guinea.

There was a delightful footnote to the story. On one of his visits to Fremantle in 1990 to see his growing family there, his daughter-in-law, Moyna Harland, arranged for George to meet the

daughters of the now deceased Bertha Willis, his erstwhile hostess from seven decades earlier. It was an emotional occasion, recalling memories from callow youth, thousands of miles from home. George celebrated his eighty fifth birthday in Fremantle. Moyna, an accomplished genealogist, had also obtained a crew list from the 1920's voyage bringing recollections of old ship mates.

Sources:
Trove newspapers
Notes by GR Harland
Windjammers, The Final Story, Robert Carter.

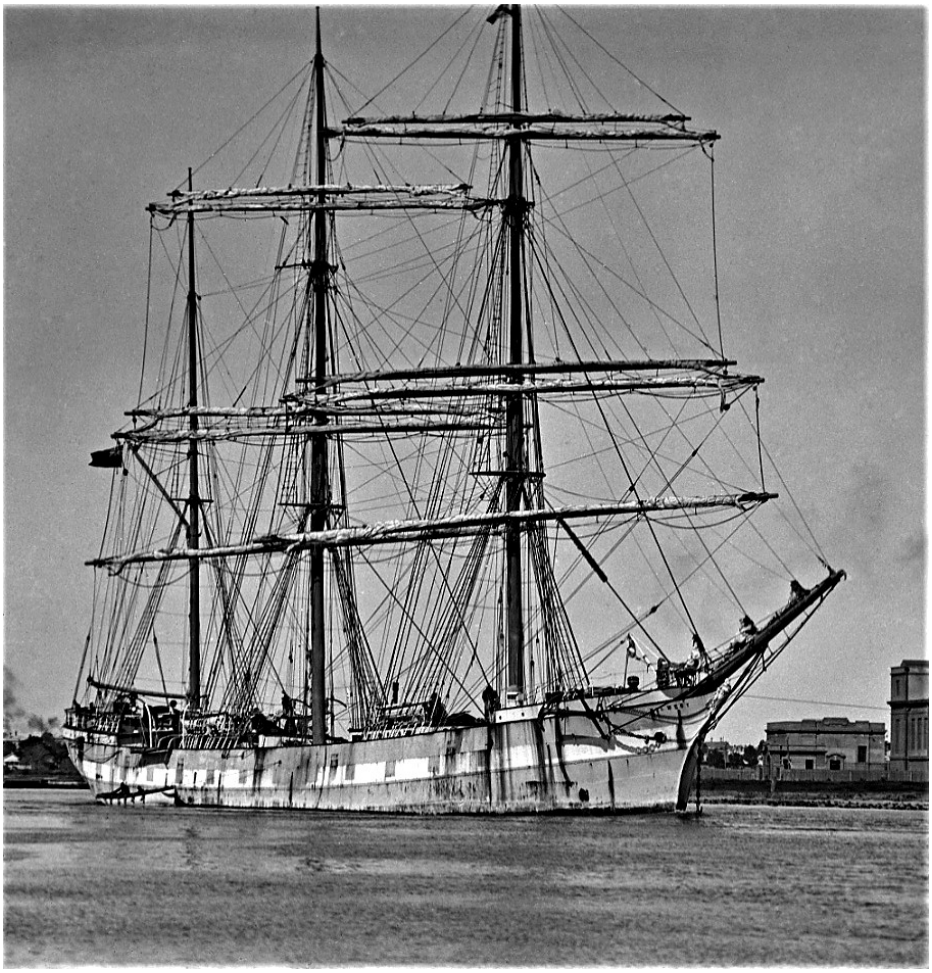


Fremantle resident Roger Harland, whose father sailed on *Kilmeny*.



George Harland's Assoc. of International Cape Horners, St Malo tie.

Kilmeny



# Digital Creator Brings Captain John Godfrey to Life

## 150th Anniversary Commemoration of the S.S. *Georgette* Disaster

**By Marcia Van Zeller**

John Bowskill, a photographer who lives near Margaret River, is so fascinated with the story of the S.S. *Georgette* (a coastal steamer which sank off Redgate Beach on 1 December 1876) that he has commemorated the event with a photographic and digital exhibition.




*John Bowskill*

Over the two-week Margaret River Region Open Studios event held in September the exhibition attracted over 500 visitors.

By converting his home into a two-level exhibition, John showcased his breathtaking coastal landscapes and underwater photographs, including images of the Georgette's wreck.

The exhibition show-stopper was a real-time interactive digital human inspired by Captain John Godfrey, the master mariner at the helm when the ship went down in Calgardup Bay on the first of December 1876.

"He is a character in a computer game rather than simply an AI character,' said John. "He's a highly realistic 3D MetaHuman, created in a 3D creation tool called Unreal Engine, with his appearance, movements, mannerisms and voice derived from a real local actor.

'The AI component is essentially the character's conversational brain, allowing visitors to speak naturally with him and ask questions about his life, his ship and the circumstances of the wreck.'

John contacted me several months ago to tell me he had read my PhD thesis about the *Georgette* (Curtin University, 2015). He had completed extensive research of his own and subsequently drew some additional material from my findings, further populating the Godfrey character's 'brain' with information from archival records.

In fact, as part of his field research, John has recently travelled to Dumbarton, Scotland, birthplace of his father and also birthplace of the *Georgette.* (She was built there in 1873 by McKellar, McMillan & Co.)



*Captain Godfrey, MetaHuman*

With 2026 marking the 150th anniversary of the sinking of the *Georgette*, this maritime disaster – one of some 34 ships to go down between Capes Naturaliste and Leeuwin – is again in the public eye. I was delighted to give a talk in John's studio at the Open Studios event and we had the opportunity to co-present at the TotallyLit Fremantle festival in October.

It is understood that the City of Busselton will be presenting an exhibition to mark the *Georgette*'s 150th anniversary in January 2027.

More information about John's photographic and digital work can be found at his website: https://exhibition.margies.app/

# QUIZ

**Answers to September**

1. A voyage is a round trip, there and back. A passage is a one way trip.
2. D'Urville's ship was named *Astrolabe*.
3. Heirisson Island was named after the Frenchman Francois-Antoine Boniface Heirisson. He was a midshipman on Nicolas Baudin's exploration voyage, and the islands (originally there were six small islands) were named in June 1801.

**Quiz**

1. One of the lighthouses in Western Australia is on Eclipse Island. Where is Eclipse Island?
2. What is a whipstaff?
3. In 1900 there were five sailing ships wrecked in Hamelin Bay, Western Australia. Can you name any of them?

# Telephotus

Has anyone heard of this signalling device which Julie Taylor discovered while searching Trove? Are there any illustrations?

A short article appeared in *The Daily News* on 11 September 1893 describing an invention called the 'Telephotus'. The device was intended to be a means of communication between vessels at sea and lighthouses and lightships, and for general use in the United States Signal Services.

The telephotus consisted of 106 incandescent lamps, which were activated by a keyboard similar to a typewriter. A code based on Morse Code was used. Experiments proved a range of 15 miles.

The next apparent mention in the Australian press came ten years later. A Queensland paper described the 'new apparatus for signalling at sea, which is at present attracting much attention in naval and maritime circles'. The article claimed it had been 'largely adopted in the United States navy'. The telephotus seems to have undergone further development. It was still operated by a keyboard. The lighting apparatus now consisted of four double lanterns, the top half of which each contained three white lamps and 'powerful magnifying lenses'. The bottom half of each lantern was red and contained four lamps, presumably also magnified. When a key was depressed, a combination of the four red and four white lanterns was lit to spell out the message in the code.

Julie Taylor

# A Crazy Idea at Fremantle

The bar at the mouth of the Swan River was a problem from the time of the first European explorers. Several attempts were made over 60 years, before, in 1893, a proposal was put forward to remove the limestone bar by tunnelling under the river bed. When the overhead rock was thin enough the men carrying out the work would be evacuated and the overhead rock roof collapsed using explosives.

The advantage was said to be that 50–100 men could work three shifts per 24 hours using picks, shovels and small carts as their work would not be interrupted by tidal or wave conditions outside. They would need to be paid 10 shillings ($1.00 in present day money) per day to undertake this dangerous work.

The planners did not seem to believe that water would be able to seep through the permeable limestone or that there could be any unplanned collapse of the roof while the work was being carried out. Fortunately the idea did not proceed!

The bar was finally removed a few years later using underwater explosives in a plan designed by C.Y. O'Connor.

Jill Worsley

# The Butterfly Effect

**Article and photographs by David Nicolson**

There is a phenomenon called the 'Butterfly Effect'. What it proposes is that a seemingly inconsequential act can lead to significant effects down the track. I believe I was the subject of this effect which started because of a chance encounter with Gerry Westenberg at the Fremantle Maritime Museum in 2018. Gerry is the volunteer model maker in residence at the museum and spends one day a week building models and showing the public how it is done. As a keen photographer, I was visiting the museum to see a display of press photographs which was close to where Gerry was working. I am a collector of model ships so was interested to talk to Gerry about his method of construction. During the conversation I asked him if anyone was photographing his ships. (I had previously photographed and published a book of models made by the late Brian Lemon.) Gerry said that he might be interested in recording his work and so I left him with my phone number with little hope that anything would come of this meeting.

A week later Gerry called me and indicated that he would be pleased to have me photograph his models. There are two things which surprise you about his models: first the incredible detail of the work, and second, the enormous number that he has built. There must have been at least 80 finished ships to be photographed and another 20 in various stages of construction. I set up a temporary studio with light boxes etc and systematically shot all the models. Each image was then etched on to a white background using Adobe Photoshop. I must admit the finished images looked pretty good, and Gerry was very pleased with the result.

I put it to Gerry that with all these models, why not ask the museum if he could put on a display. He already had a couple of his models in the gallery displaying naval ships, but this was only a small fraction of his total collection. To our surprise and delight, the museum management agreed to have a display of the models over a long weekend in June 2019. The location for the exhibition was a room in the Shipwreck Museum. It turned out to be perfect. The sand-stone walls and excellent lighting gave a great feel to the area. The exhibition exceeded everyone's expectations with over 800 people passing through the display in four days. To complement the event, we published a book with all the ships and chapters on how Gerry went about his craft. From my perspective, I was please to get an article in the 2019 May edition of the UK *Model Boats* magazine where I was able to show off my pictures of Gerry's creations.



*Gerry working at the Fremantle Maritime Museum in his capacity as the 'volunteer model maker in residence'*

The Museum, having recognised the interest the general public had in Gerry's models, commenced planning on another display of a much longer duration. The second was opened in 2021 by the Hon. Kim Beazley AO. This had more models and was open for three months. Nearly 100 models were on display. It should be noted that was probably the largest display of ships in one place by a single constructor ever in Australia! A second book was also printed featuring only ships from the Royal Australian Navy.

As further proof of how one thing leads to another, as a result of Gerry's successful exhibition, he was approached by the TV channel, Disney + to build models for their upcoming show, *Shipwreck Hunters*. This required the building of such diverse models as the *Koombana,* and the aircraft destroyed in the WW2 raid on Broome.



*Gerry's Third exhibition held in 2023 with Gerry on the left, The Hon. Paul Paplia, His Excellency Kim Beazley, AO, and Dr Mike McCarthy.*

A third exhibition was opened by the Hon. Paul Papalia, CSC, in 2023. This time 120 models were on display, and it was estimated that at least 16,000 people attended over the three-month duration. A third book was also published with photos of the ships Gerry had completed in the intervening period. I was able to take advantage of the updated photos to get another article printed in *Model Boats*, the front cover of which featured his magnificent model of HMS *Hood*.

While Gerry and I were in discussion over the upcoming third exhibition, I casually asked what the chances were of have an exhibition of my photos taken around the Victoria quay area. I was totally surprised when I was told that such an exhibition was possible through their 'public involvement program'! It was decided that I could display 50 photographs on a reserved section on the mezzanine floor. I was delighted. So, on the 2nd of February 2022 I had my first ever public exhibition of my photography. The only problem was that it was in the middle of the Covid restrictions, but even so, the museum and I were happy with the number of people who saw it. It was very exciting!

Through my connections with the Australian Army Museum of WA, I introduced Gerry to the curatorial team with the idea of having a display of Gerry's models alongside relevant military actions of WW1, WW2 and the Vietnam War. This concept was taken up enthusiastically resulting in a unique joining of the Australian Army and the Royal Australian Navy.

Following consultation with the museum, it was decided that a fourth exhibition would open in February 2026 and run for four months. This was going to be bigger and better than ever with 171 models on display utilising purpose-built display stands to accommodate the increase in ship numbers. The museum's curatorial department pro-




*The entrance display to David Nicolson's photographic exhibition, 2026.*

duced information panels, QR codes for each of the ships, an audio-visual presentation and large original photographs of the ships on display. The end result could only be described as 'spectacular'. The exhibition was opened by the CEO of the West Australian Museum, Alex Coles, OBE, FRSA and was met with universal acclaim. Included in the collection were the 16 models made for the two Disney + TV documentaries, *Shipwreck Hunters*.

To keep up with Gerry's prodigious output, a fourth book was printed in time for the event. This included a further 54 ships including the ill-fated *R101* airship.



*The diorama of Fremantle harbour as seen in 1942 which was acquired by the Maritime museum.*

With all this going on I took the opportunity to ask if the museum would be prepared to give me a second exhibition showing my collection of ship photographs from around the world. This was agreed to and my display of 50 photographs went on display on the 9th of May 2026 and was scheduled to run for three months.

This completes the story so far. From a casual conversation in 2018, five exhibitions, four books, two TV involvements, two international magazine articles and two photographic exhibitions have resulted. I think the 'Butterfly Effect' has been well and truly proven.



Australia *Gerry's model of the WW1 battle cruiser HMAS* Australia

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