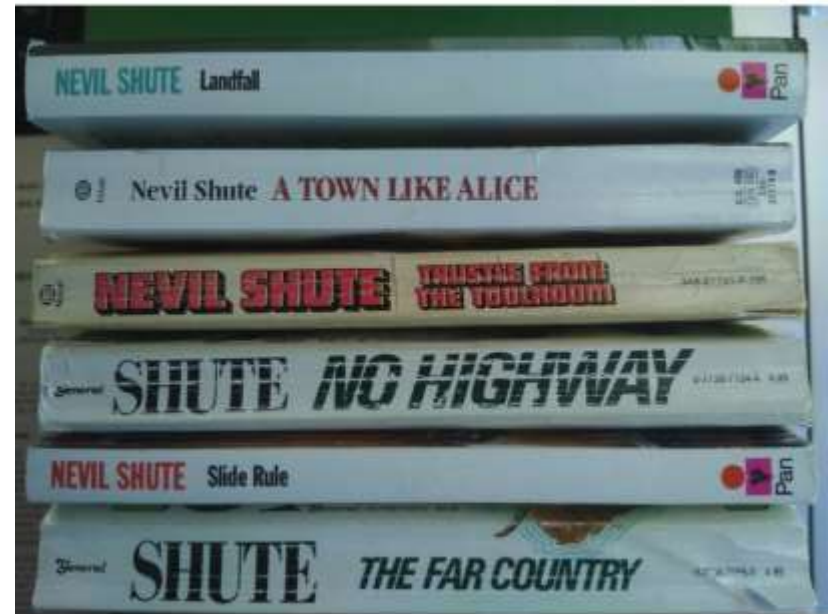


The beginning of the story

- I was originally an aeronautical engineer
- So was Neville Shute
- He was also a part-time author
- His books included – On the Beach – A town like Alice – No Highway etc.
- I have read all of his books but the one I like best is “No Highway” – about an aircraft – more later !
- It had a quote in the front cover – which caught my eye.



The quote

- I always thought the quote was relevant to those of us involved in engineering research
- I used it with my R&D colleagues
- I loved the quote so much that I wanted to find the original poem from which it was taken (by John Masefield)

*. . . Therefore, go forth, companion: when you find
No highway more, no track, all being blind,
The way to go shall glimmer in the mind.*

*Though you have conquered Earth and charted Sea
And planned the courses of all Stars that be,
Adventure on, more wonders are in Thee.*

*Adventure on, for from the littlest clue
Has come whatever worth man ever knew;
The next to lighten all men may be you . . .*

JOHN MASEFIELD

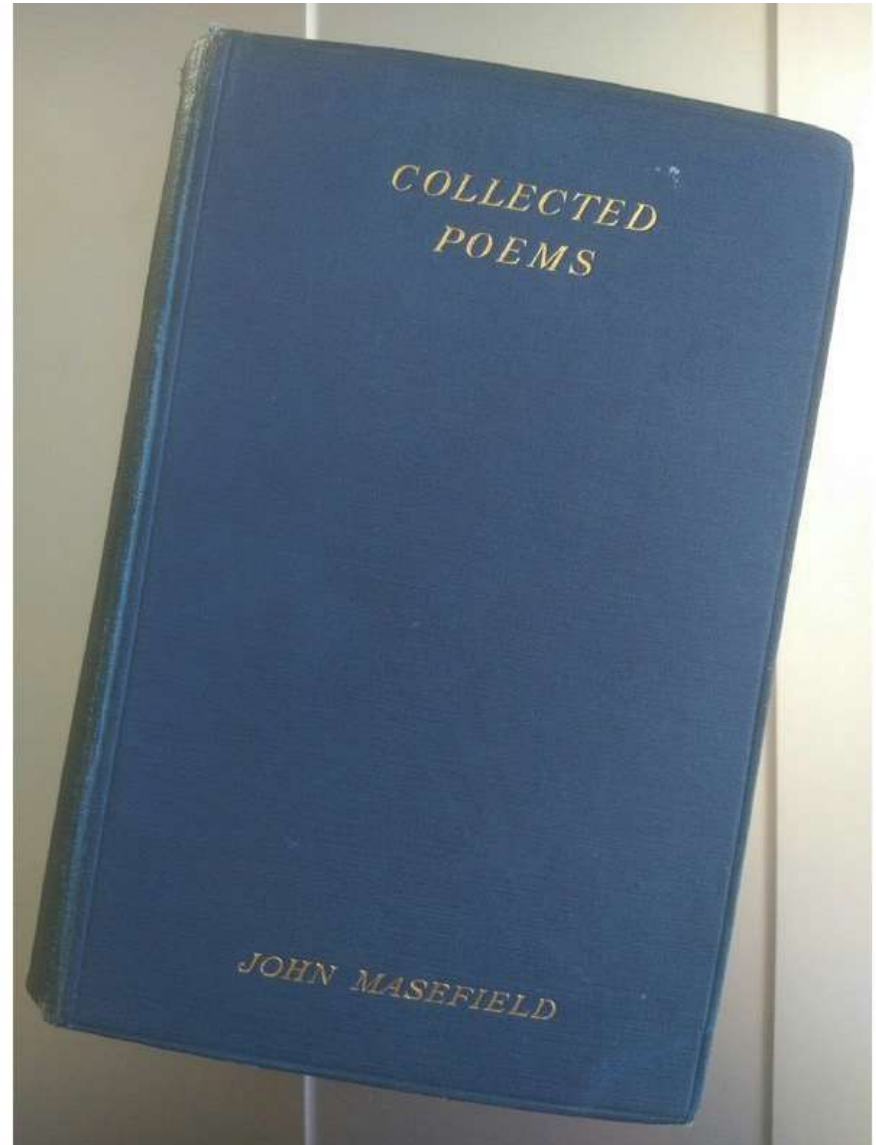
John Masefield – The Poet Laureate of Britain

- I knew of “Sea Fever”
 - An apt poem for sailors – you know it ?

SEA-FEVER

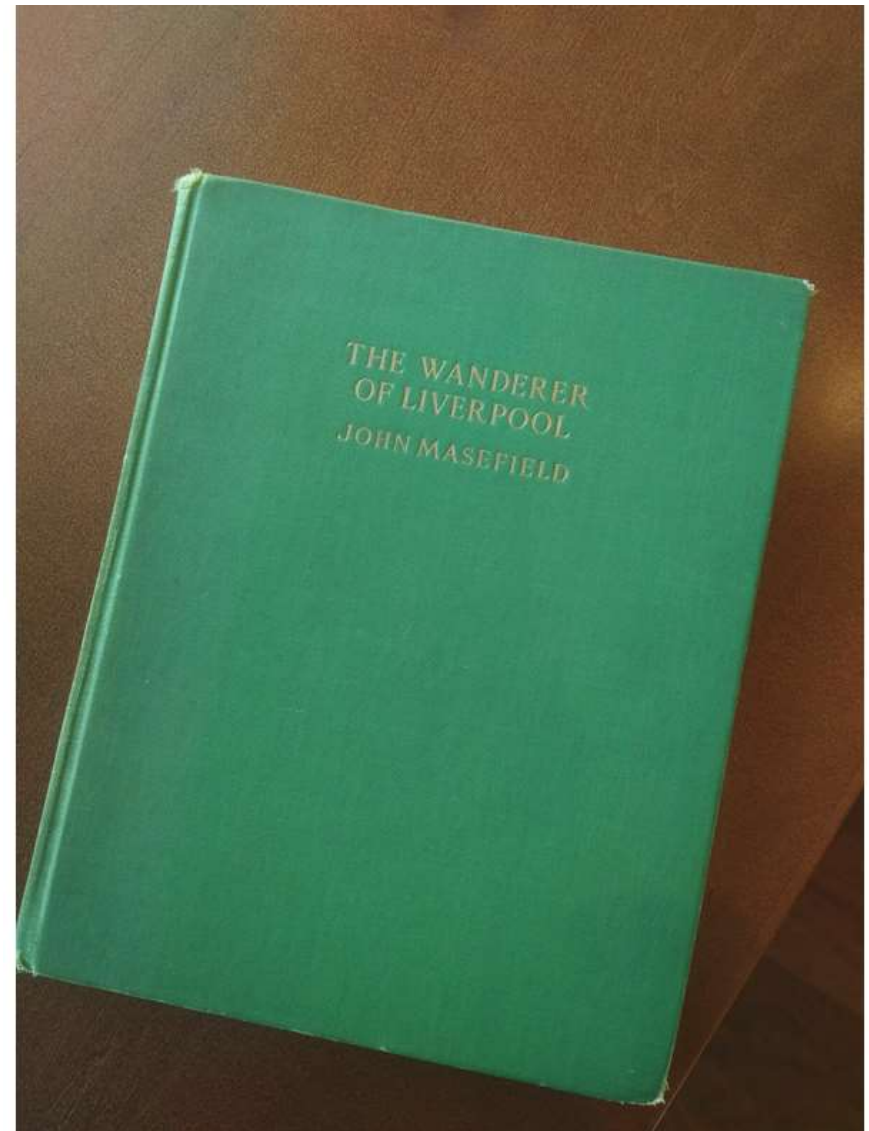
I must go down to the seas again, to the lonely sea
and the sky,
And all I ask is a tall ship and a star to steer her by,
And the wheel's kick and the wind's song,
and the white sail's shaking,
And a grey mist on the sea's face and a grey dawn
breaking.

- But the quote was not from there.
- I bought Masefield's collected works – all 778 pages
 - not there !



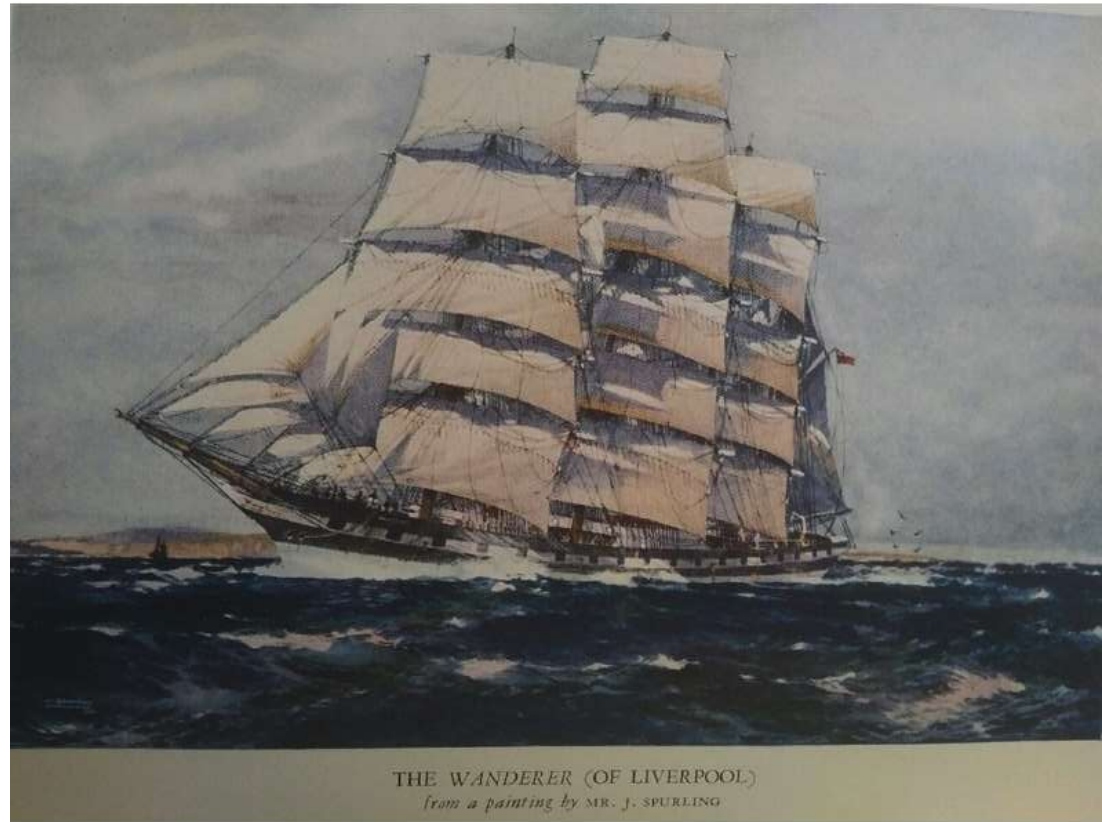
The search continued

- In the cover of Shutes book it is acknowledged that the stanzas were from “The Wanderer” by John Masefield
- But this poem was not in his collected works – I was at a dead end.
- One Christmas – my wife gave me a present.
- She had searched on Amazon – and found it !



The Wanderer of Liverpool

- John Masefield published this as a separate book in 1930.
- Why ?
- Well its about a tall ship and he was a lover of tall ships.
- The book is factual but it also contains narrative verse – quite an innovation in itself



And all I ask is a tall ship and a star to steer her by

The Wanderer of Liverpool – its builder

Mr and
Mrs Potter

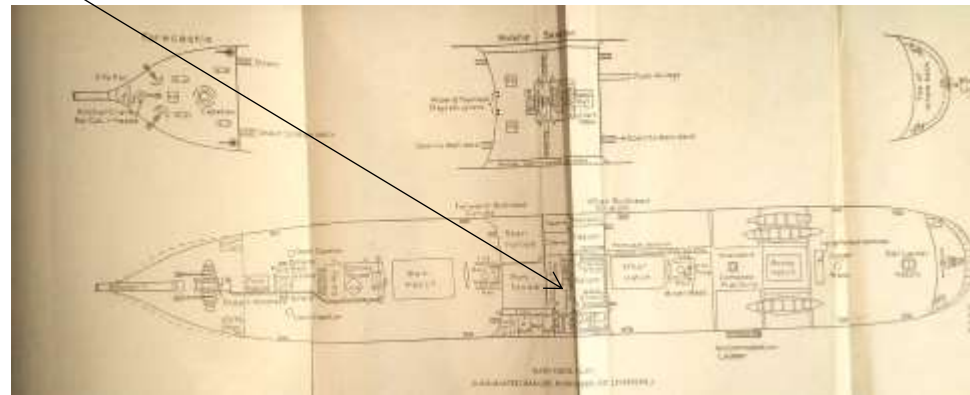
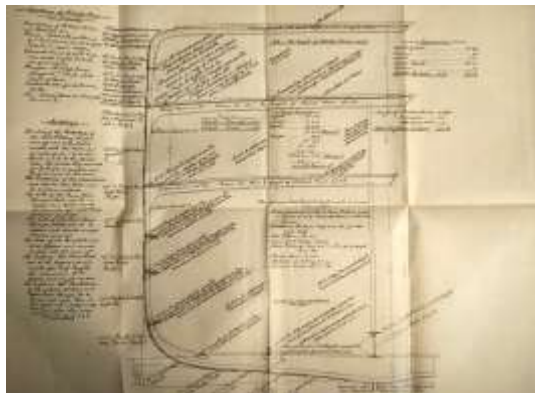
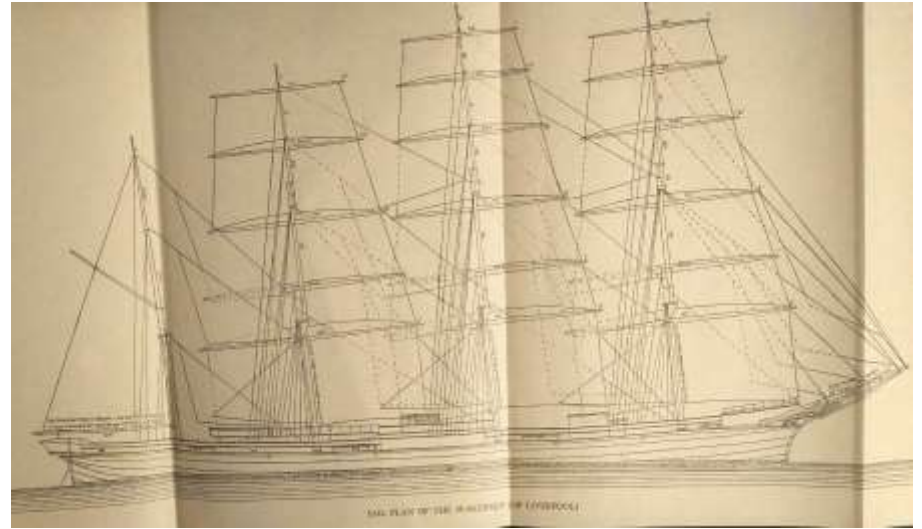
- The shipbuilding firm of Messrs W.H. Potter & Co. was established by Mr Potter in 1860 on the island of Queen's Dock Liverpool.
- The firm usually found work for 450 – 500 workers.
- When orders were few, Mr Potter would lay down one or more ships to provide employment for the workers.
- If they usually sold before completion.
- But if no reasonable offers were received he would operate the ships – under the Potter house Flag.
- The Wanderer was one of these – built in good faith
- The Wanderer was the largest and most innovative.



There are many ships, both new and old, in sea- girt Ithaca, I'll choose you out the best

The Wanderer – The Ship

- Yard no. 150; 2,903 tons gross; 2800 net; finished weight 1780 tons carrying about 4,500 tons.
- Laid down August 1890 – official dimensions – length 309 ft; Beam 46ft; depth 25.8ft.
- Sailing vessels of over 2,500tons were still rare in 1890.
- They were experimental vessels – this one experimented with a central bridge/living amidships stretching right across the main deck.
- Mr Potter was an innovator !



Commissioning & first voyage (attempted)



- Launched in August 1891 – named the Wanderer by Mrs Potter
- Moved to the Queen's half tide dock to be rigged
- 12th September 1891 she was moved to Birkenhead to take on a cargo of coal for San Francisco
- Her Captain- George Currie of Nova Scotia – aged 52 – known as “genial Captain Currie”
- A bad storm was forecast, the owner preferred to wait, but Currie insisted they sail because he said the 17th October was his lucky day.
- A bad decision

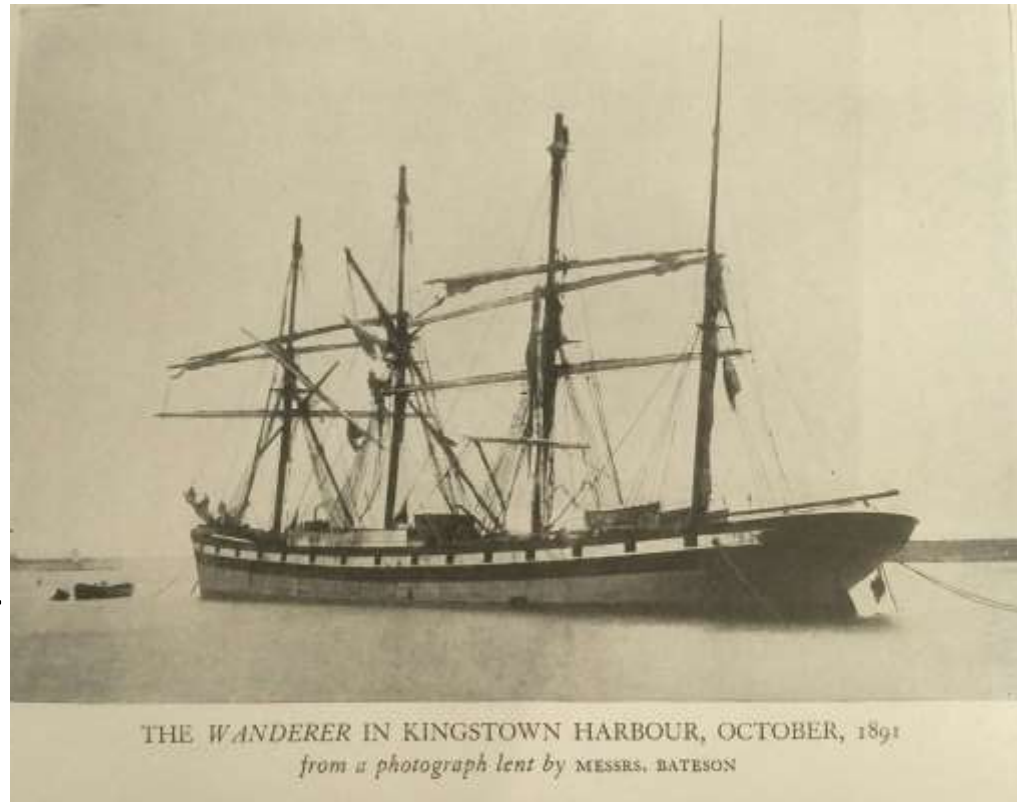
In Liverpool, the sight of a new ship setting forth on her first voyage, was one often seen.

But even in Liverpool a sailing ship of nearly 3,000tons Setting two skysails, of a great sheer, and of a noble Beauty, was a rare sight. She was the last achievement In sailing ship building and rigging: nothing finer had been done, or ever was done.



The storm damage

- The storm was the worst since the great storm of 1863
- The Wanderer lost much of her rigging.
- Captain Currie was killed by falling rigging
- She was towed into Kingstown Ireland
- Eventually back to Liverpool for repair



First Real Voyage

- Mr Potter was determined and the ship was re-rigged
- He was inclined to think it had been over-masted
- He is said to have shortened the main mast by 8ft
- Most sailors who knew the Wanderer felt she was strong enough to carry more sail.
- In fact no further damage to her rigging was sustained during her sailing life
- She sailed again from Liverpool 21st November, 1891 for San Francisco
- Her new Captain was John Brander – who first went to sea in 1861





CAPTAIN BRANDER AND SOME OF HIS CREW, SAN FRANCISCO, 1891-2
from a photograph lent by CAPTAIN BRANDER

Subsequent voyages – note durations of 12 to 34 months

Voyage	Captain	From	To	Returned	Cargo	Date left	Date returned
First	Brander	Liverpool	San Francisco	Liverpool	Coal out wheat back	21 Nov 1891	28 Jan 1893
Second	Brander	Liverpool	Philadelphia & Calcutta	Dundee	General out, oil, jute back	10 May 1893	8 th June 1894
Third	Brander	Dundee/ Barrow	Calcutta	Dundee/ Liverpool	Steel Rails Jute	7 th July 1894	16 th July 1895
Fourth Part 1	Brander	Liverpool	Calcutta	Philadelph ia	Salt out Jute back	26 Aug 1895	22 Sept 1896
Fourth Part2	Tupman	Philadelph ia	Tacoma	Liverpool (via Dunkirk)	Oil Wheat	18 th Nov 1896	19 th May 1898
Fifth	Tupman	Liverpool	Philadelphia; Bombay; Dunkirk; New York;Tacoma	Bristol	Chalk; oil; linseed; wheat	18 th June 1898	18 th March 1901
Sixth	Bailey	Bristol	New York; Shanghai; Tacoma	Cardiff	Oil;	13 th April 1901	17 th July 1902
Seventh	Dunning	Cardiff	Philadelphia; Kobe; Tacoma	Cardiff	Oil; wheat	25 th Aug 1902	3 Nov 1903
Eighth	Dunning	Cardiff	San Francisco; Seattle	Liverpool	General cargo;timber	12 th Dec 1903	14 th July 1905
Ninth	Dunning	Cardiff	San Francisco	Liverpool	General cargo: grain; tinned fruits	24 th Sep 1905	1 st March 1907
Last	Dunning	Liverpool	Hamburg	Sank	Slag ballast	7 th April 1907	Sunk 14 th April 1907

Her Last Voyage

- Arrived at mouth of Elbe and anchored to wait for a dock to load cargo.
- In the night The Gertrud Woermann leaving Hamburg collided with the Wanderer at anchor
- All hands escaped in lifeboats
- The ship rolled on her side and sank
- The court found the Command of the Gertrud completely responsible
- They were ordered to pay freight earnings of 18 thousand pounds plus 976 pounds to the crew.

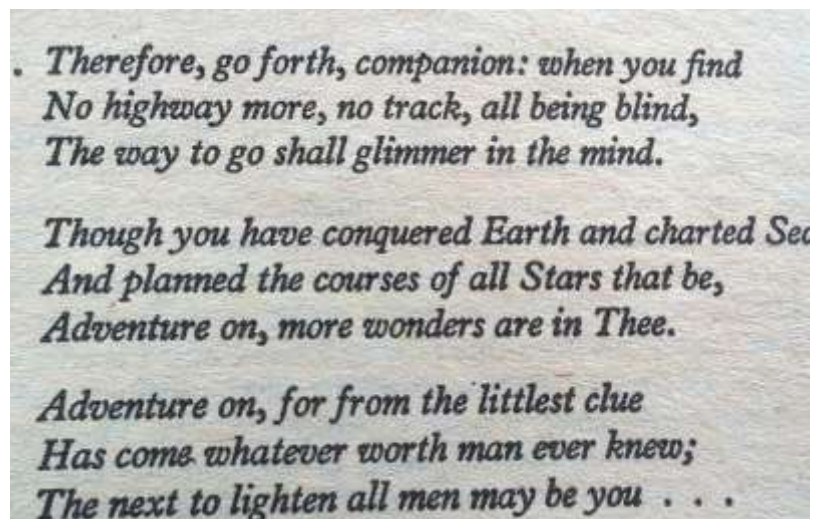


Reflection – quotes from the book

“So after sailing many thousands of miles on voyages that spanned the world and carrying many thousands of tons; and moving in the working lives of some thousands of men; after reaching speeds of 16 knots and 326 nautical miles in a day. After glory and disaster and beauty that cannot be forgotten, she passed into the list of total losses”.

“She was a ship of her time, with a crew of one per 100 tons. She was a mass of metal of more than two thousand tons, carrying more than four thousand tons across all the oceans of the world by means of the winds and the stars.”

“She inspired John Masefield to write the quoted verses about her which are part of the book and which I already quoted.”



*Therefore, go forth, companion: when you find
No highway more, no track, all being blind,
The way to go shall glimmer in the mind.*

*Though you have conquered Earth and charted Seas
And planned the courses of all Stars that be,
Adventure on, more wonders are in Thee.*

*Adventure on, for from the littlest clue
Has come whatever worth man ever knew;
The next to lighten all men may be you . . .*

And these words
Inspired Neville Shute

So back to Neville Shute

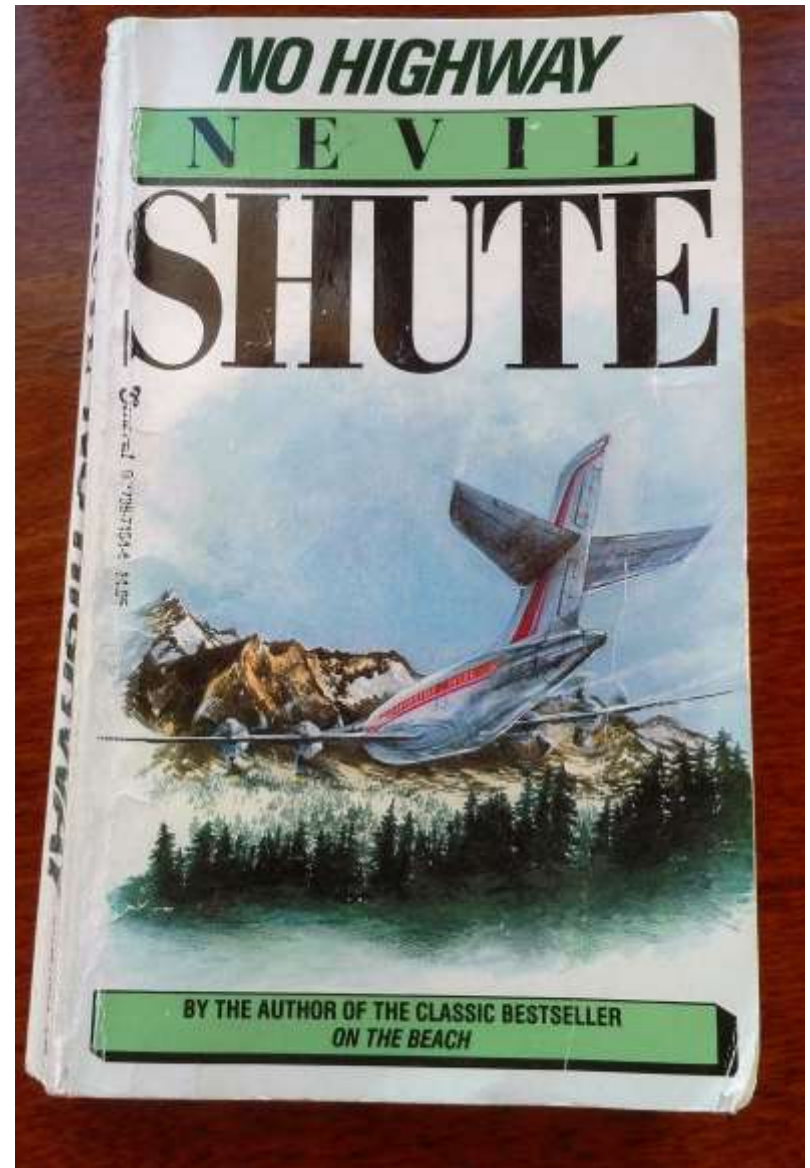
- Shute was born in 1899
- He served at the end of the first war – but didn't see action
- He went to Oxford and got his engineering degree
- He went to work for De Havilland and spent time working on the R100 airship – visited Toronto Aug 1930
- He founded his own Aircraft Company in 1931 (Airspeed) – but he left before it was sold to De Havillands
- He served in the Navy in the 1938 – 45 war
- He started writing novels in his spare time in 1923.
- He emigrated to Australia in 1950 and wrote books with an Australian theme – A town like Alice – (Alice Springs) – On the Beach



No Highway

- He wrote “No Highway” in 1948.
- I would like to read excerpts from Page 1 - -

- One of these experts in the story is Mr Honey – conducting research into the fatigue of light alloy structures
- He had a test rig subjecting the tailplanes of the Rutland Reindeer to load cycles.
- The Rutland Reindeer was the current British Transatlantic airliner
- By theory he predicted fatigue cracking would occur after 1440 hrs
- But the test had only been run for about 400 hrs.
- The aircraft was of course in service but apparently only logged about 300 hours – or so they thought.
- A Reindeer had crashed flying over Labrador but it was considered pilot error.
- You get the picture !!!!



No Highway in the Sky – the picture

- 1951 - Jimmy Stewart and Marlene Dietrich
- Stewart played Mr Honey
- He was sent to investigate the crash in Labrador – maybe the tailplane showed signs of fatigue ?
- He boarded a plane to Montreal via Gander
- On the plane talking to the pilot he discovers this plane has had more hours than the head office paperwork showed its very close to the 1400hrs.
- The plane lands at Gander. Mr Honey tries to persuade the Airline not to go on.
- Head office – tells them to go to Montreal.
- Mr Honey sneaks on board and raises the undercarriage !
- He is reprimanded until they find the tailplane of the crashed Reindeer and find metal fatigue !
- Mr Honey is recognized as an innovator in structural analysis
- Shute the author – also an engineer – had produced a novel (leading to a film) with serious technical undertones of a topic still to be fully understood (metal fatigue)
- An uncanny prediction



The De Havilland Comet

- De Havilland at the end of the war was producing the DH Vampire – one of the world's first jet fighter - it was very successful – adopted by many air forces.
- After hostilities ceased DH developed the Comet the first jet airliner
- The prototype flew for the first time on 27th July 1949 and it was apparent that it would set new standards for both flight performance and passenger comfort.
- In 1949 most airlines were flying – piston engine planes



DH Comet – its success

- The Comet entered service with BOAC (British Overseas Airlines) in 1952.
- The aircraft was an instant hit with the passengers including Queen Elizabeth, the Queen Mother and Princess Margaret who were VIP's on a special flight in June 1953.
- Around 50% faster than equivalent piston engine aircraft, scheduled flights from London to Tokyo on Comet took just 36 hours compared to the 86½ hours recorded by aircraft such as the BOAC Argonauts who had previously dominated the route.
- In its first year, Comets carried over 30,000 passengers and at least 8 Comet flights departed London each week, destined for Johannesburg, Tokyo, Singapore and Colombo.



The End of the DH Comet 1 – birth of Comet 2,3, 4

- Sadly the history of the Comet 1 is dominated by the two devastating accidents in 1954
- An extensive investigation identified that despite extensive testing in the design stage, the cyclical pressurisation of the fuselage had accelerated the stress levels around the main passenger windows, causing disastrous fractures in the structure and almost instant failure of the airframe.
- With the identification of the structural problem inherent in the earlier series, all Comet 1's were withdrawn from service and the production line at Hatfield was halted.
- Comet 2 was developed with oval rather than square windows
- Comet 4 was launched in 1958 and was used for the first Trans Atlantic jet service.
- But by this time the Boeing 707 had gone into service - it could carry more passengers and had a greater range than the Comet.
- With the influence of the US airlines supporting US jets, the Comet could not compete as a commercial airliner.
- It continued to play a military transport and aerial reconnaissance role

10th Jan 1954: Comet jet crashes with 35 on board
Thirty-five people are missing, feared dead, after a Comet jet airliner crashed into the Mediterranean. The plane - a British Overseas Airways Corporation jet - was on its way from Singapore to London. It came down in the sea about 20 minutes after taking off from Rome



Lessons from our journey in this talk

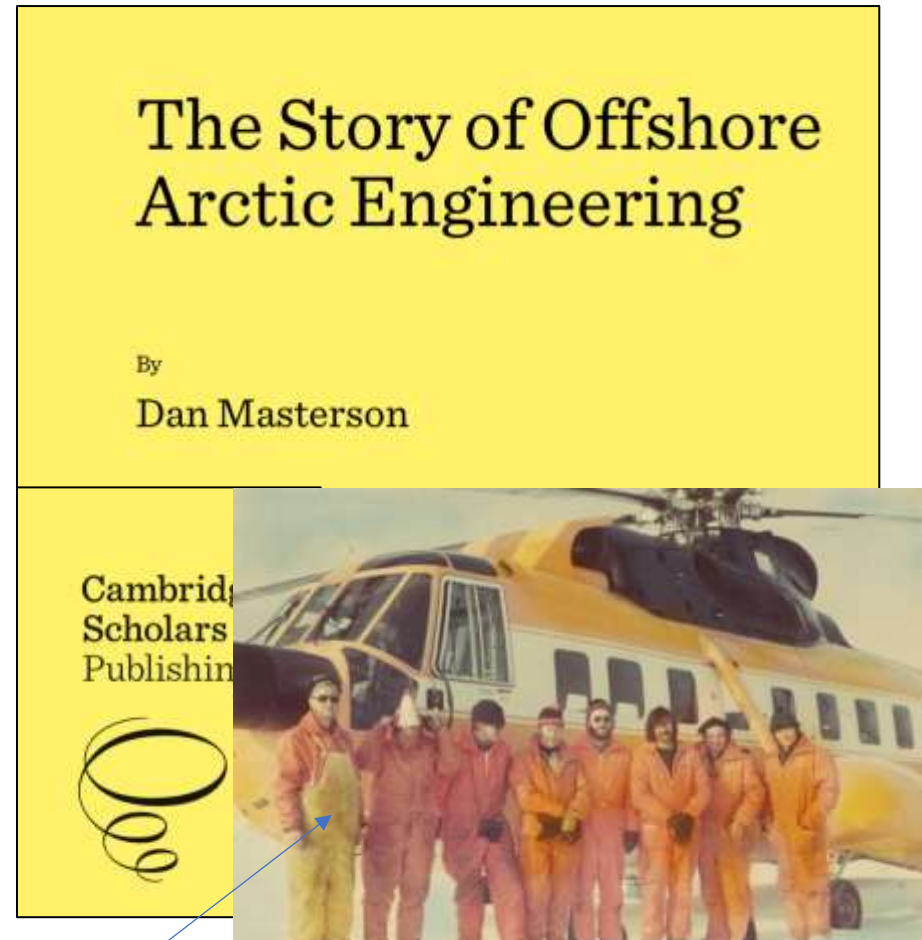
- Vision – Mr Potter building the Wanderer
- Tenacity – refitting the Wanderer after was de-masted
- Inspiration – John Masefield's tale – inspires Neville Shute to write his novels
- Dedication to a skill – Mr Honey researching metal fatigue
- Innovation – The Wanderer - DH Comet – first jet
airliner
- Prediction – Shute writing about metal fatigue (which
downed the Comet)
- Any similar tales relating to the Arctic ?

Yes ! – the Story by Dan Masterson in his recent book

An excellent example of

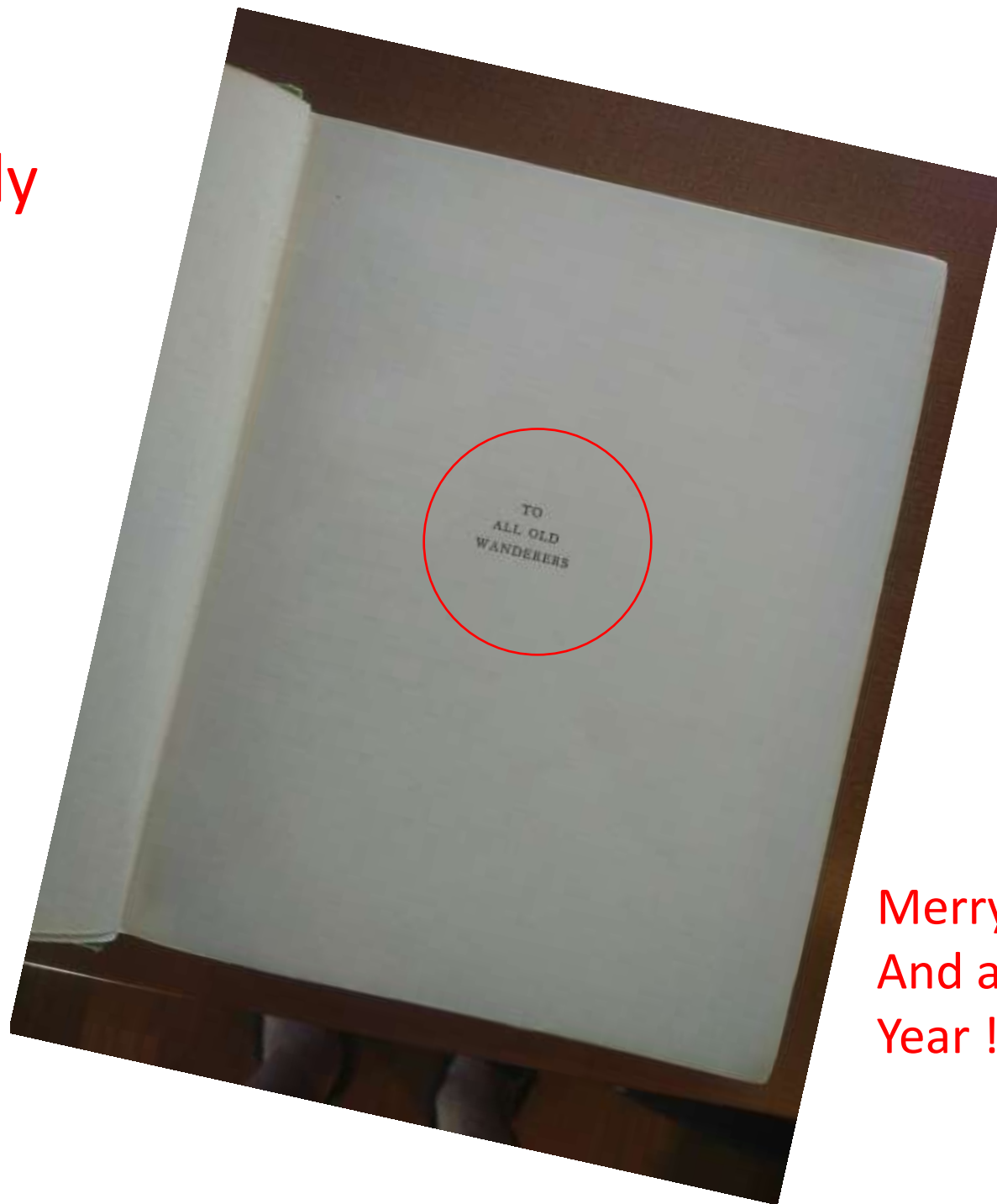
“The way to go shall glimmer in the mind”

- First offshore drilling using floating ice platforms
- Laying pipelines from the ice
- The Borehole jack
- Iceberg indentation tests
- Improved ice road methods
- Spray ice drilling platforms (etc)



The dedication of a man to his skill - indeed

Finally



Merry Christmas
And a Happy New
Year !