SAGARDHARA

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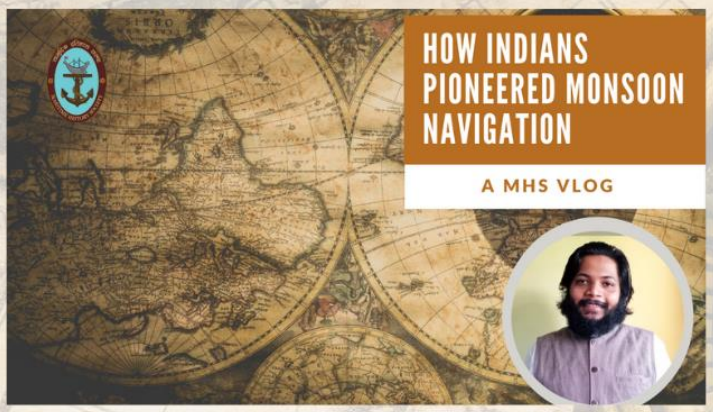
MONSOON MUSINGS 2020

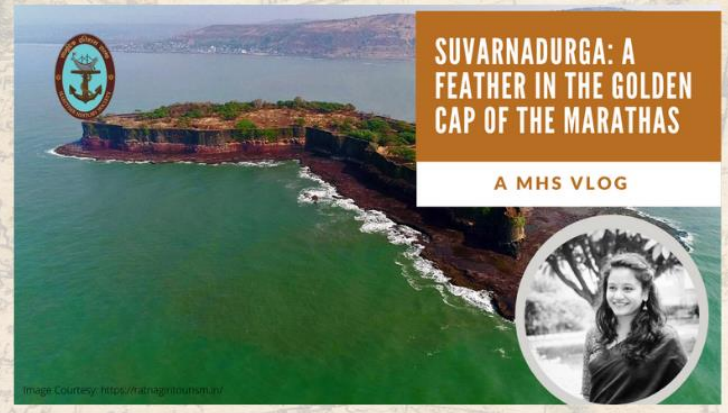
Navigational Methods of Ancient Mariners
Exploring Maritime Medium through Literature
Maritime Dimension through and Post Pandemic
Maritime Legacies : Extraordinary Voyagers

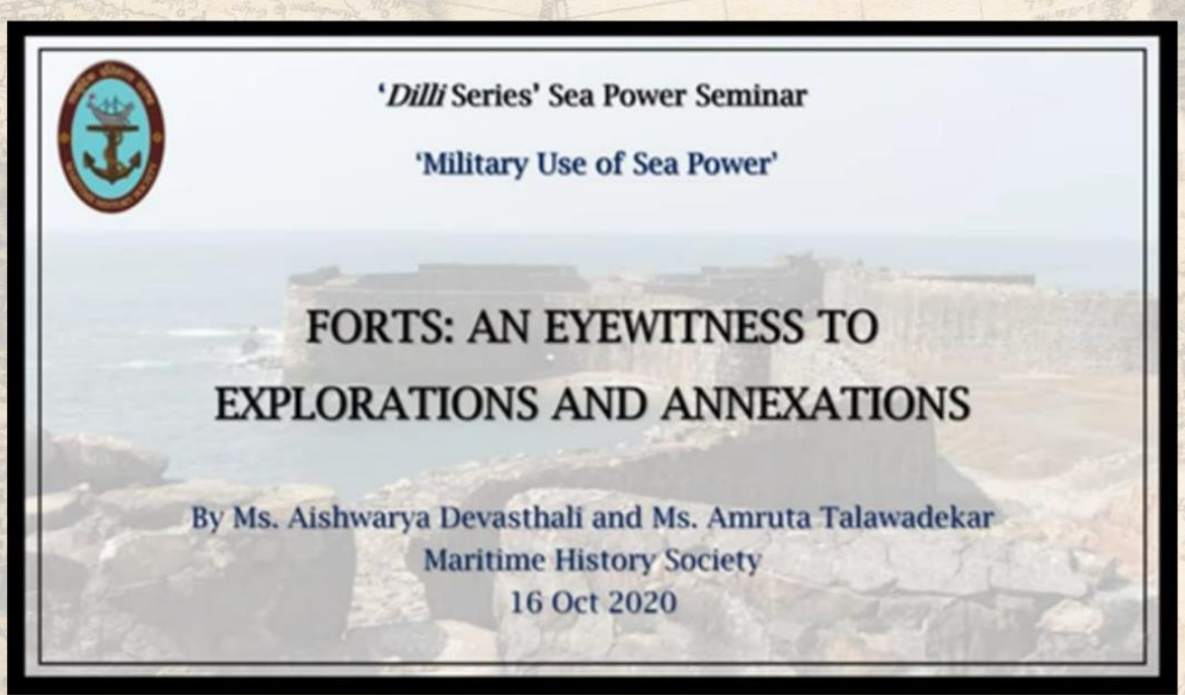
REGULAR FEATURES

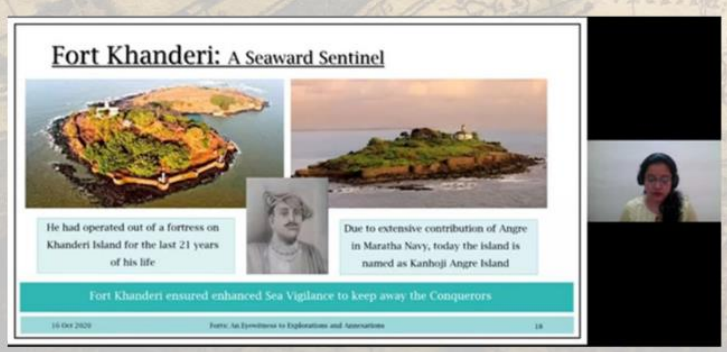
Jewel from the Past
Book Review

Our Triumphant Digital Voyages









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For further information and contribution
please contact:
The Director, Maritime History Society
First Floor, Noorbhoy Building, SBS
Marg, Near RBI, Fort
Mumbai 400001, India
Tel +91 22 22751944
Email: ops@mhsindia.org

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DIRECTOR'S DESK

As the Monsoon's arrive and the waters get choppy, the sailors wrap their sails and get involved in maintenance activities. We at MHS set the monsoon months to promote maritime knowledge by hosting monsoon series lectures, renamed this season to 'Monsoon Musings'. The first musing was on 02 July on Navigation Methods of Ancient Mariners.

Monsoon Musings II was about Exploring Maritime Medium through Literature. Team Manthan collected varied writings and poems that were woven into a vibrant online program held on 23 Jul 2020. It brought alive the diversity of the Maritime Domain. The third Monsoon Musing was a Panel Discussion on the theme 'Maritime Dimension Through and Post Pandemic'. The intention was to invoke an engaging conversation from leaders of diverse maritime sectors like shipping, ports, oceanography, Maritime security, Merchant Navy and Blue Economy with a view to shed light on what is being done and what can be done to improve the situation in the face of this pandemic. The conversation ventured into problems faced by several Maritime sectors and also tapped into their possible solutions.

On the 93rd birth Anniversary of our modern-day maritime hero Late Vice Admiral MP Awati, we at MHS compiled a video as a tribute to few medieval and modern Maritime Heroes of India. That was followed by an engaging conversation with Sir Robin Knox Johnston. It was sharing of memories of Vice Admiral MP Awati from one sea dog to another. Hosting all four Monsoon musings online enabled us to reach a wider audience.

The growing influence of Team MHS led to a collaborative effort with UNESCO and National Maritime Foundation for a maiden webinar on Safeguarding Underwater Cultural Heritage in India. This online workshop hosted on 24 September 2020, World Maritime Day drew in dignitaries and enthusiasts from both India and other countries making it a truly dynamic seminar.

Miss Aishwarya Devasthali and Miss Amruta Talawadekar, participated in the 'Dilli Series' Sea Power Webinar hosted by Indian Naval Academy on 16 October where they presented a paper on 'Forts an Eyewitness to Explorations and Annexations' which celebrated the built history of few prominent forts along the West Coast of India. As an outreach titled, "Curating Consciousness", Team MHS celebrated International Archaeology Day on 17 October 2020 with an immersive conversation among the Archaeologists, Dr. Andre Baptista, Madhumathy Chandrashekan, Aishwarya Devasthali, and Saba Purkar. It was broadcast live on the MHS YouTube channel.

The strides that MHS has taken in the past few months and all the hard work put in by our young team, these need to be sustained with better resources. Our journey depends on the funds we manage to collect from promotors and partners who strongly believe in the core maritime thread coming alive in India. This month we have launched a sustainability campaign and we need your contribution to keep the research work at MHS strong as we strive to spread into more fields of the Maritime Domain. Raise awareness of the maritime domain and spread the word by reviewing and sharing our online content through our website and social media handles. Please feel free to reach out to MHS for feedback and queries. Stay tuned for updates about the upcoming events and more. We appreciate your support and hope you will continue doing so, while we take maritime awareness to the next level.

Sam No Varunah

Commodore Odakkal Johnson
Director and Head of Research

MONSOON MUSINGS I

NAVIGATION METHODS OF ANCIENT MARINERS

Rear Adm RJ Nadkarni, AVSM, VSM

Text of Paper for Monsoon Musing I on 02 July 2020
First Adm JG Nadkarni Commemorative Lecture

Introduction Today, we know with a good degree of certainty that the Earth is a spherical planet, whose surface is about 71 percent water and of this water, 96.5% is contained in the oceans. Further, the Earth rotates on its axis once in 24 hours, which gives us day and night, and also revolves around the Sun in just over 365 days, which gives us the seasons of the year. The Earth is also the 3rd planet in the solar system and the only inhabitable planet. But thousands of years ago, man thought that the world was flat and if one travelled far enough, ships would fall off the edge and possibly be eaten by huge monsters.

It was the Greek astronomer and mathematician, Eratosthenes, who in around 240 BC, was the first to calculate the circumference of the Earth and that too quite accurately, though there is some controversy about the length of the stadia that he was using for measurement. However, it was only in 1522, after the circumnavigation by the Magellan expedition, that a majority of people came to believe that the Earth was round. Now, of course, astronauts can see it for themselves from space. An even more rigid belief of our ancestors was that the Earth was the Centre of the universe, around which the sun and planets circled, known as the geocentric theory. It was the Polish astronomer, Nicholas Copernicus, who in 1543, first postulated that it was the Sun and not the Earth, which was at the centre of the solar system. Despite this and subsequent proofs by reputed astronomers, notably Galileo and Kepler, the dogmatic Catholic Church refused to believe it, declaring it as heresy. It was only in the 17th Century, when renowned scientists such as Isaac Newton also endorsed the heliocentric theory that it came to be universally accepted.

Our earliest ancestors had very little knowledge about the sea. All they could see was a mass of water which stretched out before them, with no end in sight and no knowledge of what lay on the other side. So why did they still venture forth. Well, one could ascribe it to a number of reasons, the most obvious being gathering food and fishing, trading, discovering new lands, migration and conquest of new territories. But in venturing forth, these intrepid seamen still need to have some way of knowing what is today commonly referred to as 'PCS' or Position Course and Speed. Today we have a number of technological marvels, which enables us in real time to know this PCS as well as

communicate with anyone anywhere in the world. But our ancestors were not so fortunate.

So, what did they have to estimate their PCS, whenever they were at sea? Well, to start with, many things that are available to us even today, that includes celestial bodies – primarily the sun and stars –in the day and night sky for them to see; Familiar objects on the coastline could be used as landmarks. They also understood the concept of prevailing winds. Our forefathers had keenly developed senses, to pick up even small changes in the environment around them. Despite having only rudimentary tools, our ancestors were able to invent remarkable navigation instruments. Some mariners also carried birds with them on long voyages. If the birds, when released, flew around the vessel in circles, it meant that there was no land in sight. However, it they flew off in a certain direction, then it was quite likely that land was in that direction. They had very good powers of observation and recording what they saw in the form of maps, charts, sailing directions and logs. Most importantly, our ancestors showed great application of mind in using the tools available to them in the best possible way. Our ancestors have used the sea for thousands of years. Seafaring communities included ancient civilisations such as the Indus Valley as well as seafaring communities such as the Polynesians, as listed below: -

Phoenicians - around 2000 BCE.

Polynesian Migration - 3000 to 1500 BCE

Harappans (Indus Valley) - 3300 to 1300 BCE

Chinese – From 2000 BCE

Greeks – From 8th Century BCE

Mesopotamians – around 3000 BCE

Sumerians – 4000-3000 BCE

Egyptians – 3000 BCE to 650 CE

Romans – 300 BCE to 1400 CE

Sea Routes Let us see some of these sea routes that ancient mariners followed in the past. In all probability, the earliest seafarers initially stayed close to the coast and it was only after they gained confidence in their seamanship and navigation skills that they dared to venture into the great unknown – the ocean.

While coastal navigation does have obvious advantages, primarily that of greater familiarity with the region the navigator is traversing, and thereby being able to fix his position more accurately, it has its share of challenges too. These are changeable winds, adverse weather more likely to be experienced closed to coast, strong tidal streams and eddies at the mouths of harbours and rivers, currents and drifts of varying direction and character and finally, unknown underwater dangers such as shoals and reefs with risk of foundering, especially during rough weather.

The more remarkable voyages made by ancient mariners are, however, no doubt the oceanic voyages. Amongst the first such intrepid mariners were the Polynesians who are believed to have originated in modern day Taiwan and reached Samoa and Tonga as early

as 1200 BC. From there they fanned out to the Cook Islands as early as 300 AD, eventually heading to the Hawaiian Islands and Tahiti between 400 and 600 AD. Later on, around 1200 AD, the Polynesians again cross the ocean and settled in what is now known as New Zealand.

Sea trade between the people of the Indian subcontinent with their maritime neighbours is believed to have begun in the 3rd millennium BCE. These trade routes became more established with time and connected India with South East Asia, Arabia, and East Africa. Seafarers made extensive use of the monsoon winds for planning voyages, with Westward voyages undertaken during the North East monsoon and Eastward voyages during the South West monsoon wind, which was named Hippalus, supposedly after the Greek navigator who discovered this wind could be used to sail a direct route from the Red Sea to India.

No talk on ancient navigation can be complete without a mention of the Periplus of the Erythraean Sea. This was a Greco-Roman periplus (kind of logbook) written by an unknown author, in the 1st century CE that describes navigation and trading opportunities between Roman Egyptian ports in the Red Sea, and ports in the Indian Ocean. The two most famous ports in India, which are regularly mentioned in the Periplus are *Barygaza* (likely to be modern day Bharuch) and *Muziris* (which was originally believed to be *Kodungallur*, but may actually be *Pattanam*). The port of Muziris was depicted in a map of the road and trade network of the Roman Empire which existed in 400CE.

While the voyages undertaken in the Arabian Sea were almost entirely for trade, the Cholas of South India undertook maritime expeditions to Sri Lanka as well as parts of South East Asia across the Bay of Bengal for military conquest and spreading cultural and religious influence in these lands. Both Rajaraja and Rajendra Chola undertook major expeditionary voyages to Lanka, Kadaram (Malaya), Sri Vijaya in Indonesia and Pegu (Myanmar).

During the 15th century, the Chinese eunuch Admiral Zheng He undertook seven treasure voyages to South East Asia, the Indian subcontinent, Arabia, the Red Sea and parts of East Africa. However, these were not the first Chinese voyages to the Indian Ocean as such. Those had started during the Han dynasty (between 200 BCE to 200 AD).

Very significant voyage for us to remember is that taken by Vasco da Gama in discovering the sea route from Europe to India in 1498. After reaching the Cape of Good Hope, da Gama sailed further up the coast of East Africa till he reached Malindi (in present day Kenya). There, he met the Omani navigator Ahmad ibn Majid, whom he persuaded to guide the Portuguese ships across the Indian Ocean to Calicut, which he reached on May 17, 1498. The first circumnavigation of the Earth was undertaken by a Spanish expedition organized by the

Portuguese explorer, Ferdinand Magellan. Ironically, Magellan was not supported by his own King Manuel I of Portugal in undertaking the expedition, and it was King Charles I of Spain, who funded the expedition. Unfortunately, Magellan himself could not complete the circumnavigation, as he was killed during a battle with the natives while in the Philippines. At the time, Magellan got no recognition and in fact was reviled by his native Portugal for having sailed under the flag of Spain. But today this first circumnavigation has been called "the greatest sea voyage in the Age of Discovery", and even "the most important maritime voyage ever undertaken".

Lastly, no talk about the great explorers is complete without mentioning the voyages of Captain James Cook, the 18th century explorer, navigator and surveyor whose achievements in mapping the Pacific, New Zealand and Australia over the course of three epic voyages, radically changed western perceptions of world geography. Unfortunately, like Magellan, Cook was killed on the island of Hawaii by local natives on his last voyage. Cook is also remembered for two other feats: firstly, proving the reliability of the marine chronometer and, secondly, for overcoming scurvy by feeding his sailors fresh fruit and vegetables, and lemon juice, whenever he could.

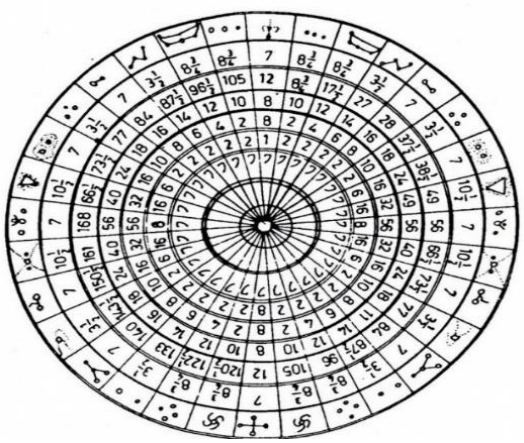
Celestial Navigation Methods While sailing along these oceanic routes, how were these ancient mariners able to solve the PCS question? First and foremost, they made extensive use of celestial bodies – primarily the sun during day and stars at night – for navigation. As is well known now, stars have certain characteristics, as follows:-

a) All stars rise in the East and set in the West in an approximate time span of 12 hours.
b) They have a maximum transit altitude during this time, which depends on observer's latitude and declination of star.
c) Each star is visible in the night sky about 6 months of the year.
d) The azimuth of each star is the same all year round.
e) The most important star for navigation is the Pole Star because its altitude can be directly used to find our latitude.

However, the Pole Star is not always visible or conspicuous. In that case, the transit altitude of other prominent stars in its vicinity e.g. in the Ursa Major constellation can also be used to give approximate latitude, if you know their angular distance from the Pole Star. Just like stars, the Sun also has certain well defined – but different – characteristics. Firstly, its *azimuth* varies according with the time of year and, secondly, the altitude of sun at Merpass can also be used to find latitude.

Ancient mariners used stars close to the horizon to steer a steady course for about 2 hours each during their rise and set. Stars rise and set four minutes earlier each day, so a specific star can be only used for two months in a year – one month during the time or rising and one month during setting.

Consequently, each night, about 5-6 identified horizon stars are necessary for course keeping. As mentioned, earlier, the Pole Star can be used for calculating latitude.



Kutchi Stellar Compass

Polynesian seafarers had made star compasses, using different shapes and sizes of sea shells, to indicate the azimuth of prominent stars that could be used for giving a direction at sea. Indian seafarers too had mapped many of the stars that could be used for navigation, though each community called them by different names. The Kutchi ready reckoner star compass made use of a total of 32 horizon stars that could be used for determining the azimuth, as well as for calculating other information such as the departure when travelling on a rhumb line course.

Similarly, the Lakshadweep islanders also used star compasses and ready reckoners, which we could (a little facetiously) term as a cross between a slide rule and the Nories Table! If the coordinates of the ports of departure and arrival were known, the distance to be covered and course to be steered could be worked out.

Indian and Arab navigators had also measured and recorded the altitude of the Pole Star (known as Kau to seamen of South India and Dhruv to Kutchis) for various locations on the coast as well as the islands. However, for Tamil seamen – primarily the Chola expeditionaries – the Pole Star was either too low in the horizon or too dim to be useful for navigation. In its place, they relied upon a star *Arundhati*, which is in Ursa Major constellation and altitude tables for Arundhati were made out for various locations.

Ancient Indian seafarers measured time in *naligai*, where one *naligai* was approximately 24 min and 60 *naligai* made a mean day. Distance was measured in *yaman* or *zaman* (shortened to *zam*) where one *zam* was the mean distance sailed during a single boat watch of 3 hours or 7.5 *naligai*. One *zaman* corresponded to approx 12 miles in terms of distance and a vessel would have sailed approximately 100 miles in a day of 8 *zamans*. Using this measure of distance, Indian sea farers kept a record of sailing distance, between the islands and the mainland as well as of more distant sea routes to Arabia and Africa.

Navigation Instruments Despite having very rudimentary technology, our ancestors had a good understanding of some of subjects such as mathematics and astronomy. Using this knowledge, along with discoveries in the physical properties of objects such as

magnetism, they had devised some ingenious instruments for navigation.

The magnetic compass is believed to have been invented more than 2000 years ago. The first compasses were made of lodestone, a naturally occurring rock with magnetic properties, in China during the Han dynasty (20 BCE - 20CE). However, these early compasses were used not for navigation, but for divination. It was during the Song Dynasty (960 – 1279 CE) that the use of the compass for navigation was realised. Later compasses were made of iron needles, magnetized by rubbing them with a lodestone.

The magnetic compass first appeared in Europe in the 12th century CE. There were two types: a floating compass for astronomical purposes and a dry compass for navigation. It is not clear whether the Europeans learnt of the compass from the Chinese or discovered it independently. The earliest reference to a compass in the Muslim world occurs in 1232. Late in the 13th century, the use of the compass was described as a "*Qibla* indicator" to find the direction to Mecca. As regard Indian seafarers, a magnetic compass is mentioned in 4th century Tamil nautical books. It consisted of a fish-shaped magnet, floating in a bowl filled with oil. A reference to this is to be found in the *Bombay Gazetteer* Vol XIII Part II Appx A published in 1882. One of the most important requirements of ancient navigators was to measure angular distance – both in the vertical as well as the horizontal plane. The Polynesians were adept at using only their hand to measure angles in the sky. Ancient Indian seafarers also made use of the hand and fist to measure angular distance. The basic used of angular measurement was the finger unit, called the *viral* in the south and the *anguli* in the north and *isba* by Arab seamen. A finger unit is the distance between the two knuckles of the middle finger of an adult and is equivalent to 3/4 of an inch. The angular distance between the end knuckles of the closed fist held horizontally at the distance of a stretched arm is equal to 4 *virals*. Similarly, a closed fist (or palm) held vertically with a 'thumbs up' gives an angular distance of 12 *viral*. In terms of equivalence in angular and linear distance 1 *viral* = 8 *zam* = 1°36' of arc (1 *zam* = 12' or 12 nm).

As regard man made instruments, the cross-staff was one of the earliest which could be used to measure angles. It is likely to have been invented by a French astronomer, Levi ben Gerson. It consisted of a pole or main staff, which was marked with graduations for length. The cross-piece, or transom, slid up and down on the main staff. The transom was adjusted so that the its lower edge was on the horizon and the upper edge in line with the heavenly body. Lakshadweep seafarers used an instrument called the *kau kutty*, which operated on a principle similar to the cross staff. It consisted of a slender, long wooden rod with a handle at one end and sliding wooden rider at the other, which could be moved closer or further away to obtain

the desired angle. The rod was grooved and indicated angular measurement in *virals*.

Obviously, it was not easy to look directly at the sun using the cross staff and, hence, the back staff was invented. Users kept the Sun at their back and observed the shadow cast by the upper vane on a horizon vane. The *kol palagai* was the ancient Indian equivalent of the back staff used by Lakshadweep seafarers. It had three fixed positions: *Kau kutty* – star side, *Neer kutty* – water side and *Nizhal kutty* – shadow side. The observer looked through a slit in the *kau kutty* to get the shadow of sun through *nizhal kutty*, as projected in *neer kutty*. The *neer kutty* also helped to keep the instrument aligned with the horizon.

The seagoing astrolabe was a simple circular brass disc with a degree scale, a ring from which to suspend it freely and a rotatable *alidade* carried sighting pinnules. The user sights the star through the pinnules and reads the star's altitude from the scale. For a sun sight, the *alidade* is adjusted so that a ray of sunlight passing through a hole in the upper vane falls precisely on the hole in the lower vane.

The mariner's quadrant - a quarter of a circle made of wood or brass - came into widespread use for navigation around 1450. But it had two major limitations: firstly, it was hard to keep it exactly vertical in the plane of a heavenly body on a rolling and pitching ship. And it was even more difficult to keep the wind from blowing the plumb bob off line. The Arab seafarers developed a more advanced version of the quadrant, called the *Rub'ul Mujayyab*, which not only measured altitude, but also could be used to find the time of day, give the direction to Mecca and daily time of prayer. It was similar in shape to the European quadrant and also had a plumb bob. The two holes on the upper side could be used to sight the star. In case of the sun, the two holes had to be aligned in such a way so that a dot was produced on the observer's finger. Once the holes were aligned, the observer held the plumb bob firmly against the quadrant and read off the altitude on the circular scale. Lakshadweep seafarers used a quadrant known as *Vattappalagai*, probably derived from the *Rub'ul Mujayyab*, which could perform similar functions.

Toward the late 1600's and early 1700's, the more inventive instrument makers shifted to optical systems based on mirrors and prisms that could be used to observe celestial bodies. The first octant was independently and almost simultaneously made by John Hadley in England and by Thomas Godfrey, a Philadelphia glazier, around 1731, which used the principle of two mirrors to make a doubly reflecting instrument. An octant, however, could measure angles only up to 90 degrees, whereas for lunar distance observations greater angular measurement was required. It was a simple matter to enlarge the octant, an eighth of a circle, to the sextant, a sixth of a circle, that could measure up to

120 degrees. From then till now, while the basic design and principle has remained virtually the same, sextants have become lighter with the use of composite materials and with a higher degree of accuracy.

The Arabs used an instrument known as a *kamal* to measure angular distance, which is likely to have been invented in the late 9th century. Ahmad ibn Majid, the Omani navigator, who guided Vasco da Gama from the East coast of Africa to Calicut used the kamal extensively. Indian seafarers of South India and the Lakshadweep used an instrument similar to the Arab *kamal* called the *ra-p-palagai*. However, instead of one, it had two rectangular boards, one small and one big, at each end of a long string that was knotted at specific distances. The string was held between the teeth at the appropriate knot position and the board extended at arm's length. The boards also had graduations on the side to measure fractional values. With the rope held between the teeth at the appropriate knot, the board was kept at arm's length, so that the lower rim met the horizon and the upper edge aligned with a star. Using this, the seaman could find out if he was North, South or on the correct latitude of a particular port.

Measurement of time is one of the most important requirements of a mariner at sea; in terms of both the time of the day as well as time span of events, such as for knowing the duration of a watch, or for estimation of speed. For the latter requirement, one of the most common instruments used by the earliest mariners was the hourglass, which could use either sand or water. However, the ability to know the time of day accurately – to within a few seconds – proved to be the biggest challenge faced by seafarers and was crucially important to obtain the position.

While the principle for estimation or calculation of latitude was known to both astronomers as well as mariners for centuries, the same could not be said of longitude till the 18th Century. It was known that finding longitude was based on knowing the local time of an astronomical event (normally the time the Sun crossed the Observer's Meridian or Merpass) at the observer's location very precisely and comparing this with the time the same event would take place at a standard location, such as Greenwich. However, the clocks of that era were very inaccurate and unable to withstand the hard and punishing environment that existed on board ships at sea. Ships were forced to depend on dead reckoning for days on end, which led to a number of ships running aground and foundering, leading to loss of life. Consequently, the British Parliament passed the Longitude Act on 8 July 1714 and formed a Board of Longitude, offering a reward to anyone who could determine time the most accurately.

One of the methods proposed was by the English astronomer Rev Dr Nevil Maskelyne, that is of using lunar distances. In this method, the angular distance between the Moon and

another celestial body was measured and this distance used in conjunction with a nautical almanac could give the Greenwich time. The local time could then be calculated by solving a spherical triangle. The method though feasible and even used by seafarers till the early 19th century, was extremely cumbersome and time consuming. However, an interesting spin off of this is the fact that while the method itself did not survive; it gave rise to the publication of the first Nautical Almanac in 1767.

To get the time of day though, it was John Harrison, who came up with a much more practical and accurate solution. Harrison, a self-educated English carpenter and clockmaker, is today acknowledged as the inventor of the marine chronometer, after devoting almost his entire life to this pursuit. Harrison designed four clocks, named as H-1 to H-4. The first three were large clocks, probably the most accurate clocks in the world at the time, but which could not withstand the extreme environment encountered at sea, particularly due to the motion of the ship. However, it was H-4, designed in the shape of a watch and which made use of a balance wheel, rather a pendulum, which proved to be the game changer.

H-4 was embarked on HMS Deptford, which sailed to Barbados, reaching some 81 days later, where it was found to have lost a net time of just 5 seconds! The reliability and accuracy of the chronometer made by Harrison was indisputably proven, when a copy of H-4 called K-1 which was made by Larcum Kendall, was used by Captain James Cook during his second and third voyages in the Pacific on HMS Resolution. Cook's log is full of praise for the watch and the charts of the South Pacific he made were remarkably accurate.

Traditional Indian navigation methods could not directly find longitude, as like the rest of the civilized world, no method of accurate timekeeping had been discovered. However, the phenomenon of convergence of meridians towards the poles was known. Indian navigators were thus able to estimate departure (distance covered in an E-W direction) while sailing rhumb line courses and use this to obtain an accurate dead reckoning position. To do this, they used a measure known as ***tirfa*** which was the distance sailed by a vessel on a fixed bearing, northward, to raise its latitude - or stellar altitude - by 1 'finger'). The course was expressed in terms of *nakhat* and the length of the route in terms of *zams*. The more a vessel diverged from the North or South direction, the more it had to cover in terms of *tirfa*. The corresponding increase in stellar altitude was measured in *virals.* Using this knowledge, navigators such as the Kutchis created ready reckoners in the form of stellar azimuth circles to estimate distances which they would need to cover on courses other than North or South. For example, the navigator would have to cover a *tirfa* of 11 *zams* while using *Sattarsi* as the azimuth star. Indian and Arab

navigators, independently of each other, had also compiled departure tables, which are close to each other up to 6 points, as well as to the actual value. After this, there is some variance, with the Chola values being closest to actual.

Sailors of South India used an *adi kanakku* or foot measure, to estimate time of the day based on the length of a shadow. Time was measured in *naligai*. The shadow cast by the mast post, stem post or even a person or pole erected on deck was measured and compared to the object length to estimate time elapsed since sunrise or to lapse till sunset. During night, the time of rising or setting of the moon in relation to the tithi i.e. the day reckoned with reference to the last full / new moon day and the elevation of the moon served as useful indicators of time.

Measurement of speed during the days of sail was done using a chip log. It was replaced only last century by modern logs such as the pitometer, Chernikeeff (or impeller) and EM log. A sailor drops the log over the ship's stern, where it acts as a drogue while the vessel moves away. The sailor lets the log-line run out for a fixed time while counting the knots that passed through his hands, which correspond to the speed. The word knot derives from this method. Indian seafarers used an instrument similar to the chip log known as *Tappu palagai* (or *kayiru*), where the knotted line was paid out for a time duration of 15 or 30 second measured by a sand glass. A calculation table known as *tappu kanakku* to work out the speed based on the time taken and knots paid out.

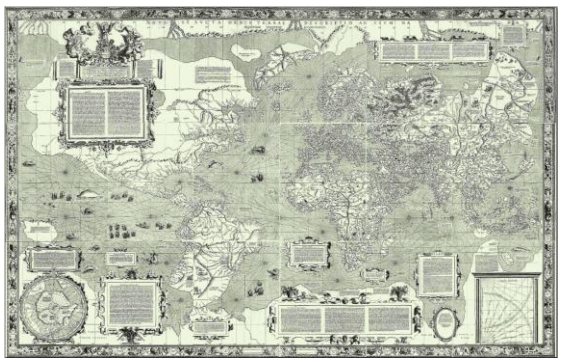
Early estimation of depth was based on discoloration of the sea, as well as the sounds of the waves breaking on the coast or on a shallow reef. But the most common method of measuring depth in the age of sail was using a hand lead and line, a practice which is followed even today in certain circumstances. Indian mariners used two instruments for measuring depth – the first being a sounding pole, used in shallower water and the second a hand lead and line – called by various names - for use in deep water.

Once out at sea, seafarers had to deal with the vagaries of wind, weather and current, just as they do today, but in their case, they were much more exposed to the elements and less sure about what to expect. Seasonal winds were also used as a fairly reliable direction indicator. Seamen recognized that winds blow steadily over months from a fairly constant direction and that sailing during a particular season would give them the best winds to take them to their destination quickly and safely. Ancient Indian seafarers such as the Lakshadweep Islanders had prepared seasonal wind roses for various coastal regions. Similarly, Kutchi and Tamil seafarers had also made wind compasses, with the names of winds corresponding to those expected in different seasons. Seafarers were also aware of ocean currents.

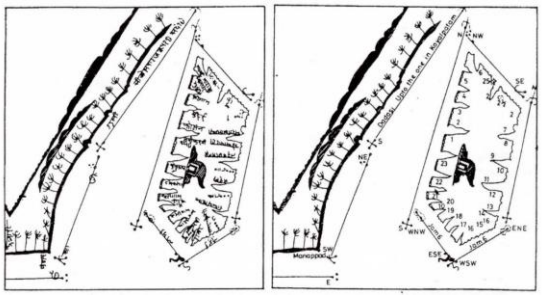
For estimating the current, they used a moist ball of grey wood ash thrown into sea from *amaram* (stern) and observed as it slowly diffused and

formed a linear flow pattern. *Neermayam* indicated a chaotic wide dispersal.

Maps and Charts Let us now see how the world was mapped and charted by ancient astronomers, explorers and geographers. Nautical charts and written descriptions of sea and coastal areas, now known as sailing directions, have been in use in one form or another since the sixth century BCE.

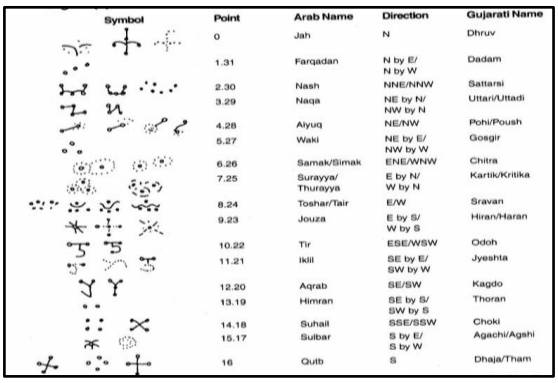


Mercator's 1569 World Map



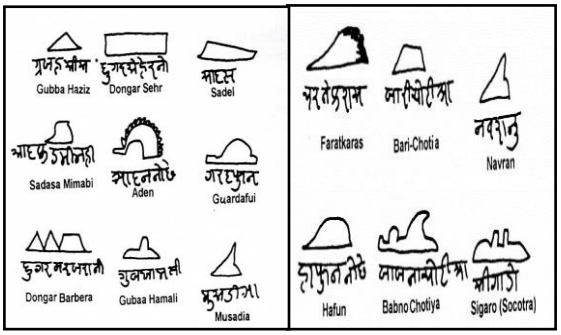
Kutchi Chart of Kanyakumari and Srilanka

The Polynesians created so called "stick charts" consisting of thin strips of coconut frond bound together in straight or curved lines using coconut fibre to create a frame like structure. At various places in the frame, small sea shells were tied together by creating junctions, using two or more sticks. The curved sticks show where swells are deflected by an island. The short, straight strips



Symbol	Point	Arab Name	Direction	Gujarati Name
	0	Jah	N	Dhruv
	1.31	Farqadan	N by E/ N by W	Dadam
	2.30	Nash	NNE/NNW	Sattarsi
	3.29	Naqa	NE by N/ NW by N	Uttari/Uttadi
	4.28	Alyuq	NE/NW	Pohi/Poush
	5.27	Waki	NE by E/ NW by W	Gosgir
	6.26	Samak/Simak	ENE/WNW	Chitra
	7.25	Surayya/ Thurayya	E by N/ W by N	Kartik/Kritika
	8.24	Toshar/Tair	E/W	Sravan
	9.23	Jouza	E by S/ W by S	Hiran/Haran
	10.22	Tir	ESE/WSW	Odoh
	11.21	Iklil	SE by E/ SW by W	Jyeshta
	12.20	Aqrab	SE/SW	Kagdo
	13.19	Himran	SE by S/ SW by S	Thoran
	14.18	Suhail	SSE/SSW	Choki
	15.17	Sulbar	S by E/ S by W	Agachi/Agshi
	16	Qutb	S	Dhaja/Tham

Kutchi chart depicting use of various star symbols



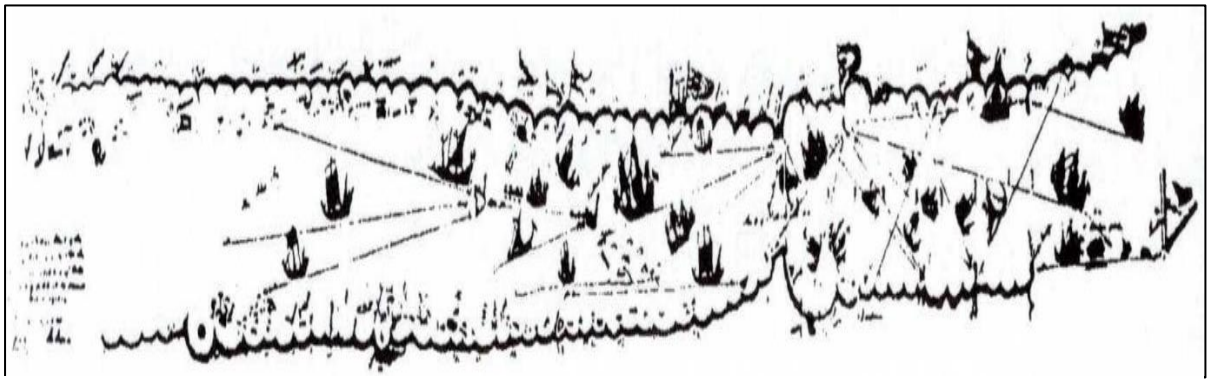
Depiction of Landmarks on the coast of the Gulf of Aden and Red Sea

indicate currents near islands. The longer strips may indicate the direction in which certain islands are to be found, and the small cowry shells represent the islands themselves. Unlike other maps and charts, stick charts are not a literal representation of the ocean area, but more an abstract illustration of the ways that ocean swells interact with land. Indeed, individual charts varied so much in form and interpretation often a stick chart could only be read by the person who made it. The charts were also not used for navigation as we use maps or charts today. Seldom did sailors carry the charts with them when they made their journeys. Instead, navigators memorized the chart prior to the journey and then used their senses and memory to guide them.

Other than the Polynesians, the earliest known world maps date back to antiquity, the oldest examples being from the 6th century BCE. World maps assuming a spherical Earth first appear in the Hellenistic period I.e. between the 4th and 1st centuries BCE. The developments of Greek geography by astronomers such as Eratosthenes and Posidonius culminated in Ptolemy's World Map first published in the 2nd century CE, which would remain the most authoritative throughout the Middle Ages. Various versions of Ptolemy's world map continued to remain in vogue, till as late as the 15th century, by cartographers such as Nicholaus Germanus and Johannes Schnitzer. In 1154, a Moroccan geographer, Muhammad al-Idrisi, incorporated the knowledge of Africa, the Indian Ocean and the Far East gathered by Arab merchants and explorers with the information inherited from classical geographers to create the most accurate map of the world at the time known as Tabula Rogeriana. Maps were also used by the Chinese Admiral Zheng He during his treasure voyages to the Indian Ocean.

But undoubtedly, the most important figure in the history of cartography is Gerardus Mercator. He is most renowned for creating the 1569 world map based on a new projection which bears his name and represented courses of constant bearing (rhumb lines) as straight lines – a technique that is still employed in nautical charts. Mercator also produced over 100 new regional maps in a smaller format with which he planned to publish his Atlas. Unfortunately, he died before he could finish his task, which was completed by his son in 1595. The Atlas contains about 120 pages of maps and illustrated title pages. Notably, both the 1569 map and the 1595 Atlas include North and South America. However, Australia was still unknown till 1606 when it was discovered by European explorers.

The man responsible for surveying Australia, New Zealand and a large part of the Pacific, with remarkable navigational accuracy for his time, was Captain James Cook, whose three voyages over the course of 12 years (1768-1779) contributed much to Europeans' knowledge of the area. However, Cook was helped by a Tahitian navigator, Tupaia, who he took along with him during his first voyage and prepared a map depicting the locations of the Pacific islands, which could then be surveyed by Cook. Consequent to the discovery of the sea route from Europe to India by Vasco da



Kutchi Chart of Arabian Coast & Red Sea

Gama in 1498, the Portuguese charted much of the Indian Ocean. With the advent of other European colonial powers, more detailed charts of the coastline, harbours, ports as well as islands off the coast of India were published.

What about our indigenous seafarers? Till recently, there was little evidence that they relied on nautical charts as did the Europeans, Chinese and Arabs. However, some charts used by Kutchi navigators have now come to light. These are not geographically accurate and appear to be in the form of line drawings of coastal features, panorama sketches of limited voyages off the coast, as observed from sea. This chart depicts a part of the southern coast of modern-day Karnataka, with stellar bearings taken from an offshore island. The Pole Star altitude of one place on the coast is shown. There are a number of features shown, including the skyline profile of a hill ridge, small islands offshore, palm trees, shallow waters and presence of underwater reefs, shoals and banks.

Then we have a Kutchi chart of Kanyakumari, which shows Srilanka as an inset. Two places can be made out: Kayankulam on the left edge of the page and Kollam. The coast is shown curving, with 4 stellar bearings to show coast alignment in different sections. The whole shore is palm fringed and there is also a skyline profile running along the coastline. The inset map of Srilanka is a pentagon with two long sides north to south. Numerous inlets on its sides are clearly seen. The chart gives the names of a number of ports along the coast of Sri Lanka except the North coast.

Lastly, we have a Kutchi sea chart of the Arabian coast and the Red Sea. The chart is not geographically accurate, being in a linear format, showing port and island locations on either side, together with their Pole Star latitudes and stellar azimuths. It also identifies some places by name. At one end is Socotra and at the other, Jeddah.

Some Maratha maps of coastal areas have also been found, such as of the South Konkan coast, Malvan Taluka and Vijaydurg Taluka. However, these have limited navigational value and are meant primarily for demarcating land areas for the revenue administration.

Navigational Records Several ancient navigators compiled some very useful and detailed records that could be used by mariners of the day as well as future generations. Besides the legendary anonymous author of the Periplus of the Erythraean Sea, several Arab and European navigators complied detailed logs and navigational treatises based on the voyages undertaken by them, such as the *Kitab-al Fawa'id* by ibn Majid and this Captain's Log of the HMS Endeavour by Capt James Cook.

Unfortunately, unlike European and Arab seafarers, there is a smaller body of recorded knowledge amongst ancient Indians. This is probably because of the lack of interaction between the ruling upper castes and the lower caste seamen and the desire of the latter to keep their sea wisdom and knowledge of skills to themselves. This wisdom was considered cherished knowledge that had to be safeguarded against spread among potential rivals. Much of the sea wisdom is, therefore, knowledge inherited from previous

generations and passed to the next generation through time. Also, whatever knowledge has been put down in writing is in local coastal dialects, more phonetic, rather than literary. Some indigenous manuals that do exist were used by the Lakshadweep and Kutchi seafarers, which are known as '*rahmanis*' and '*pothis*' respectively. While they have not been very well written, probably because the authors were illiterate, they do have considerable amount of valuable navigational and empirical data. For example, this chart depicting use of various star symbols to guide seafarers in the *pothi* and this *pothi* containing illustrations of landmarks to identify various locations on the coast of the Gulf of Aden and Red Sea.

Conclusion Ancient mariners, even without all the modern technology and range of navigation aids that we possess today, were able to sail the world's oceans safely and accurately. True, they faced many more dangers, such as unknown shoals and reefs, raging storms and a fear of the unknown. But over the course of centuries, they were able to build up a vast body of knowledge about celestial bodies, characteristics of the coastline of places and ports of interest, routes to be followed, environmental conditions – especially wind conditions – and from this knowledge and their own powers of invention create some truly remarkable navigational instruments to aid them on their passage. Today, we live in a world where we are very much dependent on technology. As naval officers, we must be aware that we cannot take this technology for granted and that in the event of a war, satellites may be destroyed, radio links disrupted and cyber-attacks launched to target our computer networks. To still be able to navigate safely under these conditions, we must therefore continue to remain indate and practice our skills at basics, particularly visual and celestial navigation. While I am not advocating the use of homing birds or the *ra-p-palagai*, certainly we need to practice such skills as taking sights and visual fixes regularly, else we may be found wanting when the situation requires us to display these skills.

References

[1] Ward H. Goodenough. *Prehistoric Settlement of the Pacific*, American Philosophical Society 1996

[2] B *Arunachalam*, *Heritage of Indian Sea Navigation,* p 1, Maritime History Society 2002

[3] *The Periplus of the Erythraean Sea* (Translated from the Greek by Wilfred H Schoff), Longman, Greens and Co, 1912

[4] Raoul McLaughlin, *Rome and the Distant East: Trade Routes to the Ancient Lands of Arabia, India and China*, pp 48-50, Continuum 2010

[5] Hermann Kulke et al, *Nagapattinam to Suvarnadwipa: Reflections on the Chola Naval Expeditions to Southeast Asia*, Institute of Southeast Asian Studies 2009

[6] Edward L Dreyer, *Zheng He: China and the Oceans in the Early Ming*, Pearson Longman 2007

[7] "Ahmad Ibn Majid : the Master Mariner of The Indian Ocean", https://www.lemauricien.com/le-mauricien/ahmad-ibn-majid-master-mariner-ther-indian-ocean/175368/

[8] Laurence Bergreen, *Over the Edge of the World: Magellan's Terrifying Circumnavigation of the Globe*, William Morrow and Co 2003

[9] Richard Alexander Hough, *Captain James Cook: A Biography*, W W Norton & Co 1995

[10] "On Wayfinding : Polynesian Voyaging Society", http://archive.hokulea.com/ike/hookele/on_wayfinding.html

[11] Ronald T Merrill & MW McElhinny, *The Earth's Magnetic Field : its History, Origin, and Planetary Perspective*, Academic Press London 1983

[18] Barbara M Kreutz, "Mediterranean Contributions to the Medieval Mariner's Compass," *Technology and Culture Vol. 14, No. 3*, pp. 367–383, Johns Hopkins University Press 1973

[19] Petra G Schmidl, "Two Early Arabic Sources On The Magnetic Compass," *Journal of Arabic and Islamic Studies*, http://www.uib.no/jais/v001ht/01-081-132schmidl1.htm#_ftn4

[21] Gazetteer of The Bombay Presidency Vol XII, Part II, Thana 1882, https://archive.org/details/in.ernet.dli.2015.35216

[22] The Journal of the Polynesian Society, Volume 95 1986 > Volume 95, No. 1, http://www.jps.auckland.ac.nz/document/Volume_95_1986/Volume_95%2C_No._1/Re-learning_a_vanishing_art%2C_by_B._R._Finney_et_al.%2C_p_41-90/p1

[23] Bernard R. Goldstein, "Levi ben Gerson and the Cross Staff Revisited", http://www.pitt.edu/~brg/pdfs/brg_v_5.pdf

[25] William Edward May, *A History of Marine Navigation*, GT Foulis & Co. Ltd, 1973

[27] R.T. Gunther, "Severus Sebokht, Description of the Astrolabe" pp.82-103 in *Astrolabes of the World*, Oxford 1932.

[30] "Rub'ul Mujayyab", http://cosmolabe.tripod.com/id1.html

[31] Octant : History of Science Museum, https://www.hsm.ox.ac.uk/octant

[33] Gerald Turner, *Nineteenth Century Scientific Instruments*, p 26, Sotheby Publications 1983.

[34] Sean McGrail, *Boats of the World: From the Stone Age to Medieval Times*, p 85, Oxford University Press 2002

[37] RT Balmer, "The Operation of Sand Clocks and Their Medieval Development," *Technology and Culture, Vol 19, No 4*, pp. 615-632, The Johns Hopkins University Press

[38] Rupert T. Gould, "The History of the Chronometer", *The Geographical Journal, Vol. 57, No. 4*, pp. 253-268, Royal Geographical Society 1921

[39] Norie, J. W, "To Find the Longitude by Lunar Observations", *New and Complete Epitome of Practical Navigation*, p 225, William Heather 1828

[40] "The History of HM Nautical Almanac Office", https://web.archive.org/web/20070630074456/http://www.nao.rl.ac.uk/nao/history/

[50] Ben Finney, "Nautical Cartography and Traditional Navigation in Oceania," *The History of Cartography Book 3 Ch 13*, pp 443-444, Woodward et al (eds), University of Chicago Press 1998

[51] Catherine Delano Smith, "Babylonian Map of the World", *Imago Mundi Vol. 48*, pp. 209-211, Imago Mundi Ltd 1996

[52] Edward Bunbury, *A History of Ancient Geography among the Greeks and Romans from the Earliest Ages till the Fall of the Roman Empire*, p 667, John Murray 1883.

[53] World map according to ideas by Posidonius drawn by Petrus Bertius & Melchior, Tavernier 1628

[54] Ptolemy, *World Map*, https://ideas.time.com/2013/11/21/a-history-of-the-world-in-twelve-maps/

[55] The World in 1467: Maps of Nicolaus Germanus, https://www.medievalists.net/2014/07/world-1467/

[56] Antique Map Categories, https://www.raremaps.com/gallery/detail/14277/untitled-map-of-the-world-1482-ulm-ptolemy-world-map-ptolemy-holle

[57] Brady Hibbs, *The Book of Roger*, https://pdfs.semanticscholar.org/bfef

/dac6378e14f1b6394911dfe9999374f621cc.pdf

[59] Nicholas Crane, *Mercator: The Man Who Mapped the Planet*, Weidenfeld & Nicolson, 2010

[60] Andrew Kippis, *The Life and Voyages of Captain James Cook*, C. Scribner & Sons 1904

[64] "Ibn Majid", *Medieval Science, Technology, and Medicine: An Encyclopedia*, Routledge. 2005

[65] "Captain Cook's Journal. First Voyage," http://gutenberg.net.au/ebooks/e00043.html

MONSOON MUSINGS II

EXPLORING MARITIME MEDIUM THROUGH LITERATURE

By MHS Research Team and Ms Anjali Purohit

Dr Soni Wadhwa, Joint Director MHS: Hello and welcome to Maritime History Society's celebration of the monsoon through these second monsoon musings. We take this opportunity to explore the maritime medium through literature. Why literature? Because it does something special to our understanding of how the sea was perceived historically. In the historical memory we have of India's and world's modern past, we see the oceanic voyages as narratives of conquests, as means to create empires.

And as all that is mesmerizing about the maritime medium, we found that the literary expressions of engaging with the sea mean personal journeys as well. In many ways, it is ironic: what normally is associated with conquests becomes a medium of the conquest of fear. The literature we've compiled is about these different kinds of conquests, conquests of self, conquests of fear, and a source of joy and freedom.

Dennard D'Souza: Let's begin with a text from Ancient India. This is the *Suparaka Jataka*, one of the Jatakas thought to have been written between 300 BC to 400 AD. I'll not be reading the whole Jataka but an excerpt that describes a strange voyage on the ocean. They sailed in their ship upon the high seas. For seven days the ship sailed without mishap: then an unseasonable wind arose. Four months the vessel tost about on a primeval ocean, until she arrived at what is called the *Khuramāla* Sea. Here fish with bodies like men, and sharp razor-like snouts, dive in and out of the water. The merchants observing these asked the Great Being what that sea was named, repeating the first stanza: "Men with razor-pointed noses rising up and diving down! Speak, *Suppāraka*, and tell us by what name this sea is known?"

The Great Being, at this question, conning over in mind his mariner's lore, answered by repeating the second stanza:"Merchants come from Bharukaccha, seeking riches to purvey, This is Khuramāli ocean where your ship has gone astray."

Now it happens that in this ocean diamonds are to be found. The Great Being reflected, that if he told them this was a diamond sea, they would sink the ship in their greed by collecting the diamonds. So, he told them nothing; but having brought the ship to, he got a rope, and lowered a net as if to catch fish. With this he brought in a haul of diamonds, and stored them in the ship; then he caused the wares of little value to be cast overboard.

The ship past over this sea, and came to another called *Aggimāla*. This sea sent forth a radiance like a blazing bonfire, like the sun at midday. The

merchants questioned him in this stanza: "Lo! an ocean like a bonfire blazing, like the sun, we see! Speak, *Suppāraka*, and tell us what the name of this may be?"

The Great Being replied to them in the stanza next following: "Merchants come from *Bharukaccha*, seeking riches to purvey, this is *Aggimāli* ocean where your ship has gone astray."

Now in this sea was abundance of gold. In the same manner as before, he got a haul of gold from it, and laid it aboard. Passing over this sea, the ship next came to an ocean called *Dadhimāli*, gleaming like milk or curds. The merchants enquired the same in a stanza: "Lo! an ocean white and milky, white as curds we seem to see! Speak, *Suppāraka*, and tell us what the name of this may be?"

The Great Being answered them by the stanza next following: "Merchants come from *Bharukaccha*, seeking riches to purvey, This is *Dadhimāli* ocean where your ship has gone astray." In this sea there was abundance of silver. He procured it in the same way as before, and laid it aboard. Over this sea the ship sailed, and came to an ocean called *Nīlavaṇṇakusa-māla*, which had the appearance of a stretch of dark kusa-grass or a field of corn. The merchants enquired its name in a stanza:"Lo! an ocean green and grassy, like young corn we seem to see! Speak, *Suppāraka*, and tell us what the name of this may be?"He replied in the words of the stanza next following: "Merchants come from *Bharukaccha*, seeking riches to purvey, This is *Kusamāli* ocean where your ship has gone astray."

Now in this ocean was a great quantity of precious emeralds. As before, he made a haul of them, and stored them on board. Passing over this sea, the ship came to a sea called *Nalamāla*, which had the aspect of an expanse of reeds or a grove of bamboos. The merchants asked its name in a stanza: "Lo! an ocean like a reed-bed, like a bamboo-grove we see! Speak, *Suppāraka*, and tell us what the name of this may be?"The Great Being replied by the following stanza: "Merchants come from *Bharukaccha*, seeking riches to purvey, this is *Nalamāli* ocean where your ship has gone astray." Now this ocean was full of coral of the colour of bamboos. He made a haul of this also and got it aboard. What the above stanzas tell us is that the oceans of the world contain a lot of treasure. That’s not just the lore of the pirate stories we’ve heard from the West. It was also what merchants in ancient India lived by in the good old day.

In this Jataka story one finds mention of different oceans and seas as full of diamonds, gold, silver, emeralds, and coral which is in a way a prelude to the puranic narrative of the *samudra manthan*, where precious goods emanate from the bowels of the ocean.

Supparaka is the *Bodhisattva* recalling one of his past lives. And he’s found a parable in the sea, that’s not just about stories of exotica but is a vehicle to convey the virtues of restraint and self-contentment. Another thing one needs to notice is the names of the oceans mentioned in this parable. One can’t help but wonder where is the act of naming coming

from? Because all these names have parallels in relatable substance on land, which are peculiar in their composition and physiology. The *Suparakka jataka* conveys many things to many people. To a historian it is a repository of information on the cultural landscape of the time. To the spiritually inclined it is a lesson to show restraint and contentment.But our main take away from the *Suparaka Jataka* is that the ocean being a fantastical medium that it is. It is symbolic of "the free and the unhindered" and yet it is the teacher of restraint and no transgression.

Ashiwni Nawathe: I 'm going to recite a poem by Rabindranath Tagore titled "On the seashore". This beautiful poem that children playing on the limitless seashore is the "60"th poem in the English translation of Tagore's *Gitanjli* published in the year 1912. The poem explores the nonchalant and blissfully ignorant ways of the children in facing the perils of the potentially dangerous sea or life itself as opposed to those of adults. On the seashore by Rabindranath Tagore

"On the seashore of endless worlds children meet.

The infinite sky is motionless overhead and the restless water is boisterous.

On the seashore of endless worlds, the children meet with shouts and dances.

They build their houses with sand, and they play with empty shells.

With withered leaves they weave their boats and smilingly float them on the vast deep.

Children have their play on the seashore of worlds.

They know not how to swim, they know not how to cast nets.

Pearl-fishers dive for pearls, merchants sail in their ships,

while children gather pebbles and scatter them again.

They seek not for hidden treasures, they know not how to cast nets.

The sea surges up with laughter, and pale gleams the smile of the sea-beach.

Death-dealing waves sing meaningless ballads to the children,

even like a mother while rocking her baby's cradle.

The sea plays with children, and pale gleams the smile of the sea-beach.

On the seashore of endless worlds children meet.

Tempest roams in the pathless sky, ships are wrecked in the trackless water,

death is abroad and children play.

On the seashore of endless worlds is the great meeting of children

On the seashore of endless worlds is the great meeting of children"

The poem is a beautiful specimen of the contrast between the sea and the seashore, the sea as it is perceived by the non-sailors, non-mariners is a source of trepidation. But look at the children. They are not sailors and mariners, at least not yet. How are they untouched by the fear? The sea, in fact, is a mother to them. Its waves surge in laughter. The seashore and sea are empathetic towards the children, watching them play joyously. The sea plays with them.

In a way, the poem is about the way of life on the coasts all over the world. All those who live near the coasts are

the children of the sea. The sea looks after them all. As a sea poem, it talks about the relationship between sea and life as expressed through play. We may have the best of the tools to navigate both the sea and life. But the right way to engage with it is the act of playing. Tagore creates a beautiful setting that of the seashore. Why are the children of the world not meeting in the caves of the world? Or on the terraces of the skyscrapers of the world? Why does Tagore not visualize them on the open meadows? Why the seashore?

The sea must be life itself. The sea must be the space for life. The sea must be a way of looking at life. Here are death-dealing waves but they are singing ballads to the children. The children are untouched by the tempests and wrecks.

Do we, the non-mariner adults, approach the sea without bothering about death, tempests and wrecks? Do we approach the sea with an openness that comes even to the sailors with great difficulty? The poem says that there's a lot more to what comes across as dangerous. The seashore will help you see the play and the music. Thank you.

Saba Purkar: The poem I'm going to recite today is Ars Pasifika. A poem by Craig Santos Perez who is a poet from the Pacific islands.

"when the tide
of silence
rises
say "ocean"
then with the paddle
of your tongue
rearrange
the letters to form
"Canoe"

This is a poem by a contemporary poet published barely two months back on a leading poetry website. One can't help but admire the economy of words in the poem. One can't help but notice how the ocean becomes the perfect metaphor for attitude towards things that can be overwhelming.

It's an ocean. So what? Turn it into a canoe! Not just the same letters form the words. But in terms of our perspective to the surroundings. Of turning crisis into opportunity, as the cliché goes these days.

Like Tagore's poem we heard earlier, this one too talks about the sea as a metaphor of how the same thing can mean two extreme things, as does life in general. Tongue is compared with the paddle.

Paddling makes all the difference in a voyage just as the words we utter make or break the situation. It's also pushing for a change in attitude of the person looking at the ocean. Should we be scared of it? Should we plunge into its depths? Sailing and drowning are matters of perspective. Surviving and dying are matters of agency and action. The poem also conveys the metaphor of solution hidden in the problem itself and depicts the turnings of tides in our lives, just as the ocean. That's the art of the sea. See it differently. Say it differently.

Janhavi Lokegaonkar: Wow! We've just heard some brilliant perspectives on the sea from the point of view of river, from the point of view of children, and even the sea as a metaphor. And what I am going to read now is an excerpt from a recently published short story called 'Pursuit as

Happiness' by Ernst Hemingway. It's a view of the sea from a boat, a fishing boat at that.

"In the morning, when the first daylight from across the bay woke me, I got up and started to write a short story that I hoped Mr. Josie would like. It had the Anita in it and the waterfront and the things we knew that had happened and I tried to get into it the feeling of the sea and the things we saw and smelled and heard and felt each day. I worked on the story every morning and we fished each day and caught good fish. I trained hard and found all the fish while standing, instead of sitting in a chair. And still the big fish had not come.

One day we saw one towing a commercial fisherman's dinghy, with the dinghy down by the bows and the marlin making splashes as a speedboat would each time he jumped. That one broke off. Another day, in a rain squall, we saw four men trying to hoist one, wide and deep and dark purple, into a skiff. That marlin dressed out five hundred pounds and I saw the huge steaks cut from him on the marble slab in the old market.

Then, on a sunny day, with a heavy dark stream, the water so clear and in so close that you could see the shoals in the mouth of the harbour ten fathoms deep, we hit our first big fish just outside the Morro. In those days there were no outriggers and no rod holders and I was just letting out a light rig, hoping to pick up a kingfish in the channel, when this fish hit. He came out in a surge and his bill looked like a sawed-off billiard cue. Behind it his head showed huge and he looked as wide as a dinghy. Then he passed us in a rush, with the line cutting parallel to the boat and the reel emptying so fast that it was hot to the touch. There were four hundred yards of fifteen-thread line on the reel and half of it was gone by the time I got into the bow of the Anita.

I got there by holding on to handholds we had built into the top of the house. We had practiced this run and the scramble over the forward deck to where you could brace against the stem of the boat with your feet. But we had never practiced it with a fish that passed you like a subway express when you are at a local station, and with one arm holding the rod, which was bucking and digging into the butt rest, and the other hand and both bare feet braking on the deck as the fish hauled you forward.

"Hook her up, Josie!" I yelled. "He's taking all of it." "She's hooked up, Cap. There he goes."

By now I had one foot braced against the stem of the Anita and the other leg against the starboard anchor. Carlos was holding me around the waist and ahead of us the fish was jumping. He looked as big around as a wine barrel when he jumped. He was silver in the bright sun and I could see the broad purple stripes down his sides. Each time he jumped he made a splash like a horse falling off a cliff and he jumped and jumped and jumped. The reel was too hot to hold and the core of line on it was getting thinner and thinner in

spite of the Anita going full speed after the fish.

“Can you get any more out of her?” I called to Mr Josie. “Not in this world,” he said. “What you got left?” “Damn little.” “He’s big,” Carlos said. “He’s the biggest marlin I’ve ever seen. If he’ll only stop. If he’ll only go down. Then we’ll run up on him and get line.”

The fish made his first run from just off the Morro Castle to opposite the National Hotel. That is about the way we went. Then, with less than twenty yards of line on the reel, he stopped and we ran up on him, recovering line all the time. I remember that there was a Grace Line ship ahead of us with the black pilot boat going out to her and I was worried that we might be on her course as she came in. Then I remember watching her while I reeled and then working my way back to the stern and watching the ship pick up her speed. She was coming in well outside of us and the pilot boat would not foul us, either.”

Pursuit as Happiness was posthumously published last month in The New Yorker. Hemingway’s writing with the maritime themes be it in his famous short novel *The Old Man and the Sea* or in this particular short story depicts his close association with the maritime expanse.

The Old Man and the Sea written by him is very well known as a metaphor for life and this recent short story a good addition to how we understand the sea through Hemingway’s narrative.

Not only he is invested in the writing, his work is more of an observational component, mixed with fiction to narrate the story. His writing in this story is predicting a good season for fishing the marlins and so on and shows just how cleverly he has incorporated the scientific data, subtly, in his narrative.

The story depicts the idea of pursuit of fish, of happiness as an end in itself. Life at sea, imagined on a boat, can appear to be quite still and lacking in movement. In order to see the movement of time and space, mariners like those who fish, use other ways to understand how much time has passed and how much distance they’ve travelled. Unless something dramatic happens. Like the spotting of a fish as Hemingway writes about. The chase at sea is as much thrilling as thrillers can get. And it comes out so strongly in Hemingway’s writing because he’s an author who did fish. He’s a fine example of how to spot a story when there isn’t one easily available and how to craft it in the form of a narrative.

Hemingway writes passionately about the Sea. To highlight his perspective about Sea and Life in general, let me read a small excerpt from *The Old Man and the Sea* which brings attention to his brilliant writing and serves to bring more insights to this particular short story.

“He always thought of the sea as 'la mar' which is what people call her in Spanish when they love her. Sometimes those who love her say bad things of her but they are always said as though she were a woman. Some of the younger fishermen, those who used buoys as floats for their lines and had motorboats, bought when the shark livers had brought much money, spoke of her as 'el mar' which is masculine. They spoke of her as a contestant or a

place or even an enemy. But the old man always thought of her as feminine and as something that gave or withheld great favours, and if she did wild or wicked things it was because she could not help them. The moon affects her as it does a woman, he thought." -*The Old Man and the Sea*

We have Poseidon and Lord Varuna as the Lord of the Ocean. But Ernest has a different opinion. He sees the Ocean as a feminine entity as opposed to many cultures, including our Indian culture, where Sea or the Ocean is referred to have a masculine entity.

Hemingway sees the Ocean as a 'giver', as a woman. In this particular short story, I believe he is appreciating the vast body of maritime expanse and the nature and surrendering to it, learning from it and embracing life.

Amruta Talawadekar: Thanks, Janhavi. I will now recite a poem titled 'fear' by Khalil Gibran who was a Lebanese-American writer, poet and visual artist. He is known to have authored some of the best-selling books in the 20th century.

"It is said that before entering the sea
a river trembles with fear.
She looks back at the path she has traveled,
from the peaks of the mountains,
the long winding road crossing forests and villages.
And in front of her,
she sees an ocean so vast,
that to enter there seems nothing more than to disappear forever.
But there is no other way.
The river cannot go back.
Nobody can go back.
To go back is impossible in existence.
The river needs to take the risk
of entering the ocean
because only then will fear disappear,
because that's where the river will know
It's not about disappearing into the ocean,
but of becoming the ocean."

The poem thus talks about ocean and life. The title of the poem makes it obvious that the ocean is all about fear and conquering the fear. But that's like stating the obvious. The ocean plays another role here in this poem.

The ocean is like our future. It's there in front of us. The mountains or the peaks of our glory are a matter of the past. And just as one can't go back into the past, one can't go back into illusionary origins. There's no choice but to flow forward. There's no choice but to flow into the ocean. Precisely because there's no running away from the ocean. There's no hiding from the ocean at all.

Another beautiful idea present in the poem is that of "becoming the ocean". We've heard Hollywood wisdom saying that what doesn't kill us makes us stronger. Or as the Joker would say it, what doesn't kill us makes us stranger. Gibran, centuries ago, said that the best way to face what we fear is to become that very thing. How will we fear the ocean if we are the ocean? If we become the ocean? Related to that becoming is the idea of orienting ourselves and finding ourselves disoriented. The ocean might be scary because the ultimate fear is how will we know if we're lost? In Gibran's words,

what if we disappear into the ocean? And Gibran is saying, we won't disappear at all. We'll become the ocean. Yes, the ocean is the ultimate expression of surrender to the divine and to the idea of life. It's not just about conquering fear as other poems we've heard today, it's about vanquishing the self and the ego as well.

Aishwarya Devasthali: Maritime domain includes the forts that defended the ports. Here's a poem dedicated to the fort of Sindhudurg built by Chhatrapati Shivaji Maharaj in the 17th century. It was built to resist the influence of the European merchants when they were beginning to get more powerful through trade on the coasts of India. We get this information through a source known as *Bakhar.* So, *Bakhar* is a form of historical narrative written in prose. These can be called as one of the earliest genres of medieval Marathi literature. More than 200 *bakhars* were written in the seventeenth to nineteenth centuries, the most important of them chronicling the deeds of the great Maratha ruler Chhatrapati Shivaji Maharaj. *Bakhars* are considered as valuable resources depicting the Maratha view of history

The present piece is taken from Chitragupta *Bakhar* written in year 1760 by Raghunath Yadav Chitre. It is a fine example of all that is involved in maritime heroism. While the other poems we've heard today talk about the mysteries associated with the sea, even its spiritual and playful dimensions, or the dramatic power it holds, this poem is an expression of the naval power that is linked to the sea especially in our country that has such a long coastline.

As our ancestors-built forts to protect their lives, their lands, they also wrote tributes to the forts. The poet glorifies Fort Sindhudurg here saying*: "Maharajanni malvanas Sindhudurg baandhila, to sarva janjiryaat pramukh zala…*

Sindhudurg asech Kaustubha mani, yaa ratna viilokita |

Naahi aan vidhich (yaas) vadala yaachi cha ya yogyata ||

Devaadi asuraan prati hi bhudhara dilha nase saagare |

To ha shiva nrupaas laabh ghadila shri shankaraache vare ||1||

Sindhudurg samartha jaan mani haa viraajala bhutali |

Dushtaanche bhaya aagale mhanuniya sanrakshila mhaajali ||

Suvarnaankita Dwaaraka tadupari lanka na ye tulita |

Kaustubhaahuni aagala chi garima tyachich tyaa yogyata ||2||

Kille aanik janjire ganuniya keli nrupe maalika |

Sindhudurg samartha tyaat mani haa viraajala ho nika ||

Ityaadik sthale jashi udugane chandropama tya nase |

Janjira vidhu dusra cha bhutali he satya jaanaa ase ||3||

Singaldeep ramaniya Hunavarala |

ovaalani karuniya tyajane tayala ||

Vilaayata Maskata hinataach aali |

Gomaantakaadik sthale trunatulya zaali ||4||

Taisi chach hi purtakaal upama paavech naa sarvatha |

Sindhudurg samartha jaan vilase ityadi paaho vrutha ||

Aisa ha nrupatis durg sadaye shri saagaras arpila |

Kaalaachi gati bhinnatach ghadali pratyaksha nirikshila ||5||

Jaanaa toh jali padmadurg mhanavi taandel aahe sada |

Underi ati saan hiin chi ase diinatva bhaavi padaa ||

Sindhudurg Priya ati ramanika Ratnagiri netaki |

Duuji Anjanveli faar vilase aahe swaroope niki ||6||

Killekot aganya jaan chi ase sena sada bhutali |

Sindhudurgachi swami ha hi sakala aashobh aahe jali ||

Tyachi naataki varnilich garima, Chaaturya vilokije |

Sanmane prati palanasi karane he ituke arpije ||7||"

The poet sums it up saying:

"Sindhudurg Janjira jagi janu asmaani taara

Jaise mandirache mandan Tulasi vrundavan

Taisa maharajanche raajyache bhushanaprad alankaar"

Poetry and literature play a great role in evoking a sense of pride in communities. It is fitting that we take note of such maritime monuments also being praised in poetry and literature. It is thanks to pieces like this that we have a sense of how those who lived in and around Sindhudurg saw history as it unfolded in front of their lives and times.

Dr Soni Wadhwa: We started with a voyage in a Jataka and ended with landing on a fort back home. On the way, we encountered snapshots of children playing on the seashore. We saw an ocean turning into a canoe. We saw the pursuit of fish. We came across a river becoming an ocean. And we paid tribute to our maritime heritage. It's a good beginning in appreciating the beauty of exploring the maritime medium through literature. Just as we need to do a lot to understand maritime history, we must also take a fresh look at what the maritime dimension does to literary devices of metaphors, and to the components of the narrative. The ocean is life. And the stuff of literature is also life. We look forward to exploring with the intersection between ocean and literature as we go along.

I invite Anjali Purohit, our guest speaker of the evening, to share her thoughts about literature and the

maritime medium. Anjali Purohit is an artist, writer, poet, translator and curator. She is the author of two books, Ragi Ragini: Chronicles from Aji's Kitchen (Yoda Press, 2012) and Go Talk to the River: the Ovis of Bahinabai Choudhari (Yoda Press, 2019). Her writing has also featured in several anthologies and literary journals. She is the founder and curator of The Cappuccino Adda. She is presently working on her forthcoming book of poetry.

Anjali Purohit: If we attempt to explore maritime history as reflected in literature then what predominantly stands out is the fact that maritime travel expeditions development is intrinsically linked with trade and the economic history of the world one of the happy outcomes of this activity is the syncretic exchange of cultures language narratives and indeed people who went from one land to another and settled in those foreign lands after which assimilating those cultures into their own and giving from their cultures to that host country therefore I was very happy to hear today's stories with such a wide range across times as well as geography traveling from the Marathi *Bakhars* about *Sindhudur* that Aishwarya read so well to the *Suparaka Jataka. A*nd if we remember the jataka tales themselves have traveled widely to Southeast Asia, Cambodia, Vietnam even Tibet and have been translated into Persian. From there your researchers took us to Lebanon to go on to America and back again to India with Rabindranath Tagore. Literature that was woven around maritime tropes is I think possibly as vast as the oceans themselves. Therefore, I would not really even attempt to encompass the whole gamut of such literature. Instead I will just briefly touch upon a few books that in my life have brought the sea to me. Of course, the very first one is a children's book. As children, not just me but so many others have been fascinated by the seven voyages of Sinbad the sailor from the Thousand and one Arabian nights.

The sea a child is always curious to know what lies beyond the horizon. And the sea and the oceans and large waterways are the places which allow for the largest and the most extensive horizons to a child. Therefore, Sinbad sailor would have a special place I believe in every child who has read them.

After that I would like to speak about a poem, "The Rhyme of the Ancient Mariner", which was introduced to us in school written by Samuel Taylor Coleridge. It was published in 1797. The poem "The Rhyme of the Ancient Mariner" which is a slightly longish poem explores the idea of sin, suffering and salvation. Sin is when a sailor the ancient mariner kills the albatross after which he is condemned and the whole ship and its crew is condemned to suffering and sew. The famous line "water water everywhere nor any drop to drink". Salvation finally comes to the ancient mariner when he expresses love and recognizes the beauty of nature and every beast that lives in nature.

After that one of the books that is lesser known - of course we have already spoken about Hemingway's "Old man and the Sea" - but one book and one author that is lesser known

generally is Eugene Sue who lived from 1804 to 1857 and wrote this particular book called “The Wandering Jew”.

Eugene Sue himself was a physician, a surgeon, and he was in the French Navy. He spent six years in the navy serving in two wars for France and then he returned to France and became a very popular novelist writing “The Wandering Jew” which brought him worldwide fame. He was also very active in in the liberal politics of that time in France and after the Coup D’état of 1851 when Louis Napoleon III overthrew a somewhat democratically established form of government and established his own monarchy, Eugene Sue was forced into exile and died in banishment five years later. “The Wandering Jew” written in 1844 takes off from the legend where the Jew on whose doorstep Jesus wants to rest on the way to crucifixion and he taunts him in some versions of the story he strikes him and tells him not to rest at his door and to move on. After this the Jew is condemned and cursed to forever wander and not rest till the second coming.

Apart from this particular theme the wandering Jew has very many subtexts. Here the wandering Jew also represents the cholera epidemic because wherever the wandering Jew travels - and he travels all over the world - he is followed by various epidemics in his wake. It is strange that we ourselves are today living through a rather difficult period of great illness striking the land. During the same period and in France was another giant of an author, Victor Hugo who in fact was also in many ways known to have had a liberal democratic outlook. And similarly, to Eugene Sue, Victor Hugo was also exiled to the island of Florence after that same particular coup.

Victor Hugo of course is famous for his other books, “Les Miserables” and “The hunchback of Notre Dame”. But I would like to touch upon his book which was I think published in 1866 called “Toilers of the sea”. This particular book is dedicated to that island of Gurney where he spent 15 years in exile. The book itself is set just after the Napoleonic wars and deals with the impact of the industrial revolution on the island and its people.

Then coming several centuries ahead, I would like to speak about Amitav Ghosh's Ibis trilogy “Sea of poppies”, “River of smoke” and Flood of fire” which together are very closely lined with maritime trade and history. There are two themes that run through it. One of them is the great experiment which the British India indulged in by taking indentured workers from India to work on sugar plantations of Mauritius. And secondly, the opium trade that took opium from India to China where the British Navy itself played a significant part when mercantile traders waged wars and created markets for opium for themselves in the name of free trade.

Another book I was greatly influenced by is one published very recently about two to three years ago. A book of poetry by Ranjit Hoskote called “Jonahwhale”. This entire book talks about the histories of the seas. It deals with the myths, with mobility that comes from travel with the seas. And mostly when we speak of

histories, we speak of histories of nations but often overlook at what a big part the sea and the oceans have played in world history about this book. I will quote Ranjit Hoskote himself which would give you some idea and then I would like to read a small poem of his from the book.

Ranjit says about Jonahwhale, "I have long been fascinated by geographical and cultural mobility across land as well as water. The manner in which people over the centuries have created webs of inter-relatedness across natural boundaries and in defiance of territorial borders. I warm to the way in which pilgrims and merchants, scholars and artisans soldiers and monks storytellers and sailors have met in shifting contact zones and created new continents of affinity," Later he says, "Water allows for particularly dramatic trans-cultural journeys, epic migrations, long arcs of travel that carry people goods ideas, beliefs narratives and art forms from one place to another in the most unexpected ways."

This particular poem that I'd like to read from the book "Jonahwhale" is titled "Ocean".

"My name is ocean I shall not be contained,

My tides spell starting gun and finish line

Afterwards only shells and scattered roofs will remind you I was there.

My combers wash away the roots of trees, towns, the shaken heart

but mortals there's hope

My breakers will hurl seeds back at your shores

After the flood the chroniclers will write in Konkani, sabir, aymaru, tulu jarva, creo, torquison

After the flood the beach exploded with giant peacock trees

In whose branches on windy days you

could hear

the surge and swell of ocean summoning, whales, whalers hood chased blood wakes,

Redhead women who fought pirates.

Sleepless harpooners who sailed from fjord land to where volcanoes splintered

The sleeping eyes furies who choked pearl drivers, drove catamarans aground

Voyagers who fell into the sea and grew wings

Ocean reciting from his debts every drifting epic of pursuit,

Every song of shipwreck

Every trace of raft and sale and trailing anchor flotsam, jetsam, vellum he could remember."

After that very beautiful poem, I would end with a very short poem of my own with a little anecdote attached to it. A friend of mine, Sanjay Dharvadkar is a very brilliant essayist especially of travel essays. In Longville last year he released one called, "Diamond in my palm". He lives in South Africa, Johannesburg and he wrote this particular essay about what his trip his road trip from Johannesburg to Cape Town.

Now Cape Town as you know is located at the Cape of Good Hope which was during those times one of the most dangerous place for ships because there were very many shipwrecks in that particular sea. So, there was a maritime museum there and Sanjay and his wife went visiting to

that museum where the wreckage from many of these shipwrecks were placed and neatly labeled. They were accompanied by a young Navy Officer who was explaining all the objects in the museum. He said most of the ships that had sunk and whose wreckage had names of European and British Royalty, of Greek Gods and other Greek figures. But he said there is this one particular exhibit of wreckage from a ship whose name I cannot understand. When my friend Sanjay looked at it, he was surprised to see that the name of that ship was Narmada! After which of course he informed the Naval Officer that Narmada was a river in India and that particular ship had sunk with all of its crew had died.

He dug a little further and found that in a graveyard at Cape Town they have a memorial to the crew of this ship Narmada and all the names of the crew had been very painstakingly inscribed onto that tombstone. When I read the story of Dharwadkar I was very moved as he was when he saw that tombstone and so this small poem got written. The poem is titled "Words like ships and people"

"Strange that words reach distant shores

and stay shipwrecked

a mystery to themselves

an anomaly to that land of accident"

And with that I close my concluding remarks on this very beautiful session of readings around literature and maritime history and with another thank you to the Maritime History Society and to Cmde Johnson for really giving me this opportunity to listen to such an eclectic selection of texts.

Closing Remarks by Cmde Johnson, Director MHS

Director: Thank you Anjali. It's wonderful to of course hear you as always. Dr Soni Wadhwa, the Joint Director of Research, friends and supporters of Maritime History Society, thank you for joining us in strength. Your support is really important to us. May I begin by acknowledging you Anjali for being a good friend of MHS? You introduced us to the literature section at Kala Ghoda though that was probably your year of interaction. But today, your presence and your readings, your illustrative motivation to those who cherish the maritime dimension. I've had some comments I was reading in the chat box - that was great. Team Manthan the set of researchers are very keen ocean enthusiasts and if I borrow from Saba's words from our "Ars Pacifica", they have twisted the tongue to make an ocean into a canoe across life. So, thank you my young mariner team. And thank you to all the extended mariners and scholars who have come up with important observations and comments to help us improve and what we can do differently. Before we close, a couple of announcements the third of our Monsoon Musings is scheduled in

August. It's going to be a panel discussion on maritime industry through and post pandemic. Do also spread the word about the “Admiral JG Nadkarni Memorial Essay Competition on reflections on Indian Nautical Knowledge: Past, Present and Ways Ahead.” And the call for submissions will be on the website by the end of the month. Do keep in touch with us through our social media handles and our website mhsindia.org. Thank you all. Thank you Anjali. Thanks. The whole team. Wish each one of you great health in the safety of your homes and may you continue to engage in meaningful maritime conversations. Thank you. Have a wonderful evening.

MONSOON MUSINGS III

MARITIME DIMENSION THROUGH AND POST PANDEMIC

A conversation with Dr Malini Shankar, Dr Satheesh Shenoi, Shri Nitin Pai and Capt. Arun Sabnis

Director: Good evening to you one and All. I am Cmde Johnson. Director of the Maritime History Society and I am very happy in these unique times you are here. So, can I just start on a light note for those who are watching on YouTube? Have your cup of tea and join us. We hope to have a light conversation on a serious issue. No, not a light conversation but a serious conversation.

We had got here earlier some time back on the second of July and we talked about navigational methods of ancient mariners. Then we had a complete session on the twenty third about exploring the maritime medium through literature. What has happened is that the maritime dimension itself is something, that unless you are involved directly in some sector or another... and it is a very multidisciplinary sector. People are not usually cognizant that something is happening till you find a major incident. This was the situation when we talk about February 2020 and of course everybody's attention has gone towards the pandemic with phrases like "lockdown", "begin again", "new normal" and phrases are still coming. And the most certain thing we have is what lies ahead but if you take your mind to the maritime world itself, it is a multidisciplinary, multifaceted area which no one approach can get us enabled to get a hang of. That is why, when we talk about today's event, we have been very fortunate. I would like to have the visual come up with the panelists. So, we have an illustrious list of panelists to join the conversation. One of them is facing connectivity challenges. We have Doctor Malini Shankar, who is presently the Vice Chancellor at Indian Maritime University, Chennai and she brings in a wide range of experiences across sectors. Then we have captain Arun Sabnis who is presently on portable connection and we are hoping he will join. He is a veteran from the navy but is currently a very active maritime professional from the JNPT. Then we have Dr Satheesh Shenoi. See, the maritime world is so fascinating. Many people forget it is a very technical scientific and a very wide faceted world.

So, Dr Satheesh Shenoi is from the world of oceanography, he retired as the director of the National Oceanographic Institute - Information Systems. He was a Director of that. And there is someone who does not need much introduction. Nitin Pai, co-founder of Takshashila Foundation, a public policy institute and a great enthusiast of maritime geopolitics, if I may say that. It is great to have you all, Ladies and Gentlemen. What we will do is I will go straight to my first panelist. My plan is to ask them to give a short two to four-minute overview.

Let me properly introduce Dr Malini Shankar. Dr Malini Shankar is a career bureaucrat of the 1984 batch and she had an illustrious career. But I think she capped it when she was assigned as the Director General, Shipping in the grade of Secretary to the Government of India. She has continued to be associated with the shipping world and she was called to be a Government of India's Task Force for Water Policy. She has been a keynote speaker at various maritime fronts. She is also the chairperson of the National Shipping Board and with her love for training and education, she has now been appointed as the Vice Chancellor of the Indian Maritime University, Chennai. So welcome, Dr Malini Shankar.

What do you have to say if you especially have to take us to before all this new normal game? You were always into the field. So, could we have your perspective on the maritime dimension especially in the training institutions?

Dr. Malini Shankar: At the outset, I must complement MHS for organizing an interesting series of talks called Monsoon Series. I think we are all aware that there is widespread negative impact from the coronavirus pandemic beside the weak macroeconomics around the slew of countries. There was a Phase One agreement between China and US to boost volumes in the Global Trade and as a result, economies of many countries have been affected and the most affected is the service sector in the short run. The BIMCO Outlook Shipping, which is the bible for many of the stakeholders in shipping, has not been too encouraging either. Unfortunately, they speak of something called a negative demand shock which basically talks about... for example, in container shipping, the demand is negatively impacted for the entire year which causes BIMCO to revise its estimate from a low global demand growth to a negative one. So, it is not just low: it is negative and this comes on top of a long run of a low shipping cycle. The government has been taking several measures to boost the economy as well as to facilitate the ease of doing business for all stakeholders in the maritime sector. Now some of them are long term like up gradation of port infrastructure, relaxation of tariffs for cruise vessels which are not so long term. They are trying to do it in the short term and they are working toward the recognition of electronic trade documents. This is very significant because if there is one positive impact felt in government, it is a big push towards electronic file movement and paperless processing. This is something the government has been encouraging for several years but the lockdown has given an automatic boost to it and surprisingly, all problems of the internet connectivity and bandwidth problems seems to have been… We've come to a certain equilibrium that we are able to engage with each other at different levels, different layers over the electronic form and immediate consequence of the pandemic and specific to the maritime sector. Especially the shipping part is the travel restrictions that were imposed both on to the domestic front and as well as the international front.

This led to immense challenges in crew change and some of the states did not quite comprehend the complex dynamics. In fact, as Chairperson of the National Shipping Board, I got requests from people: can you ask this particular state to allow...? Are seafarers to sign on and sign off?... But the particular state when I spoke to them, they mentioned, yeah, they are allowed to board the ship and leave the place but they are not allowed to come into the state. They can remain in the port but cannot come into the state. So, I had to take great pains to explain to them. So there has to be an exchange.

Director: Quite sad over here. Well, I guess it is the responsibility of every government personnel has increased so much it has diversified vertically horizontally... that they cannot get the intricacies of each action. But this was one aspect in which the Director General of Shipping came out in flying colours through 24/7 monitoring and coordination for several weeks at length. The second aspect I would like to touch upon is my shift to the education field which has brought me face to face with unique challenges. Challenges that are unique to this sector. Once again, the outside world would not know what the internal dynamics are. But I would leave with two questions that have been engaging us for the last few weeks because how does one ensure admissions are done in a transparent, effective and efficient manner given that there is disruption in normal life. The second, more important for the student, is how does one conduct online examination while ensuring integrity of the process? These are two questions we're grappling with and there are no easy answers. People are impatient. We are also impatient to find solutions but solutions don't come easy. So, this is the real question posed by the pandemic. As we go along, we will probably discuss what will be the results post pandemic. Thank You.

Director: Thank You, Dr Malini for a good overview, certain very harsh facts of maritime life and yet posing a question. I was seeing Captain Sabnis, whether his network is ok. I was thinking I will bring Nitin in.Nitin, sorry this is out of sequence but with Captain Sabnis' connection going in. Nitin, of course, you have had a very wide range of work experience but Takshashila is the Jewel in the Crown. Today, I was monitoring Twitter. Someone was saying: is there a reason for me to casually join the course and you saying that is the best reason to join the course. I think you have brought public policy especially geopolitics, in a manner of genuine interest, and not always from a career point of view which is important. You have been closely following global politics, what I call maritime global politics and you have been monitoring whether it was the factor of China or other parts. If I take you to February 2020, what is it that you would look and comment and what would be the transition after the pandemic? What would your opening comments be?

Nitin Pai: Cmde Johnson thank you for those generous words. You have been very kind in describing the work that we do. You actually do a lot that we do. We do it out of intellectual curiosity and just the sheer joy of

trying to do very interesting things and taking on projects which are considered extremely challenging. We have been strong advocates of maritime strategy, we have been strong advocates of India as a maritime power, we have been strong proponents of the idea that large parts of India have a maritime culture and tradition. So we are a sea power, but you know in the politics and the news cycle of the day the fact that India is a maritime power and has a maritime culture gets lost in favour of the continental issues. Maybe it is because New Delhi is surrounded by land and not by water and is thousand kilometres away from the border of water. But to come to your point, there were four things happening in this space even before this pandemic hit us. Four broad things. First in the geo-economics space, there was already a process of de-globalisation taking place because of the trade war which broke out between the United States and China. And that itself is a manifestation of de-globalisation and that was already happening and we saw for example economic impacts of that. I think Dr Shankar mentioned it even just before me... that there were economic downturns and the prospects of the global economy were not looking very good in February before the pandemic hit us properly. The second has been a series of changes over the last twenty years in terms of global climate change. Now climate change of course is asking you to reduce carbon emissions on one hand and also driving changes towards different types of propulsion. People were talking about a technological change in propulsion in the maritime space as significant from sail to steam. Sail to steam took place a hundred years ago. Now we are in a situation in which we have to move from diesel to something else. So, what would that be? Would it be gas, would it be fuel cells etc? So, the idea of changes in propulsion and the need to change this for climate change was already in the wing for the last twenty years. Then the third dimension was of technology. Mainly what I am talking about is digitization, automation, the idea of smart ships and also the idea that you will network everything and use large amounts of data to make decisions which humans used to do or replace human beings with machines. In many roles, you would do onshore and offshore. The fourth one was geo politics and this was those of us who would see the expanding Chinese navy in the last 15 years had created a set of repercussions for the rest of the world and it is just not the Chinese navy but there were other regional powers also using force to pursue political goals using naval forces. So, these were the four things and I don't know whether you want me to talk about how Covid has exacerbated this but if you want me to set for you the backdrop, these were the four big points in the backdrop.

Director: That helps Nitin and we will come around and in fact you have set me up very well. I will pick up your third point of technology. And technology means the entire stem approach. We are looking into maritime heritage but maritime studies cannot be bracketed into humanities and technology, it is a very multidisciplinary field.

So, at this point allow me to bring in Dr Satheesh Shenoi. Thank you for joining us. Dr Satheesh Shenoi has of course been with the National Institute of Oceanography for a long period; he has contributed much work in physical oceanography. Before taking retirement, he was with the Indian National Centre for Ocean Information Services.

Dr Satheesh, if I can bring you in and ask you this: People do not know that the oceans need to be studied and the study of the oceans is a field which is not even tapped for a fraction. Can you tell about some of the oceanic observations that take place and what are the challenges that the present state has caused? Dr Satheesh, over to you.

Dr Satheesh Shenoi: Thank you Cmde Johnson and I compliment Maritime History Society for organizing such an intellectual discussion even during these tiring times of Covid. Being an Oceanographer, I would like to brief the august audience about the difficulties as an oceanographer and in the field of Ocean Science, what we are facing. mainly in making the observations at sea. The ocean observations are very important because we have to understand how the ocean keeps on changing and even to make the prediction about the weather. I'm sure all of you will agree that the monsoons are controlled by the oceans. Unless the Indian Ocean sets the groundwork, the monsoons cannot happen. Similarly, our entire weather system as well as the climate is basically controlled by the ocean and the ocean provides us food and the oxygen that we breathe etc etc. So, we have to monitor and observe this ocean to know how the things are changing. Especially in the world of climate change, how the ocean is changing is of paramount interest for everyone. Because as per the IPCCI reports, 93 percent of the excess heat which is going into the earth system is stored in the ocean. So, that is the kind of storage that is happening. So, we use different types of observing platforms. If you observe the ocean, not one type, there are different types. Some are moored buoys, which are anchored at the bottom of the ocean and they record the information and transmit via satellites. Some are profiling floats which you can go out at the sea onboard a ship and throw them in the water automatically; they will profile at a given time and transmit that data via satellite to the data centre. Some are surface or drifters; they also transmit the data via satellites. So, there are various types of observing systems. Also, we use something called robots: that's called the gliders.

So, these gliders are sort of robots which you can control in the ocean: where they should go and take measurements. In fact, though we say that other than us, nobody else should make observations in our Exclusive Economic Zone, but with gliders one need not come to the Exclusive Economic Zone, we can sit somewhere in Africa, and launch a glider to go and get the data from Indian Exclusive Economic Zone. So, these gliders are very popular and we use them to make observations. The importance of ocean observations is well demonstrated that during adverse weather like the tropical cyclone. For example, During

the cyclone Phailin, or any other cyclone also, our weather forecasters India Meteorological Department could give a very accurate forecast, whereas all other world forecasts were not that accurate. Some of them gave forecasts of very super cyclones, some of them gave a very long landfall point, etc. But our weather department could do a very accurate forecast for that event. Similarly, other events also. And this was highlighted for the first time the media. And that became possible only because we were receiving the data as the cyclone moves and develops for the Bay of Bengal. So, from the observing systems in the Bay of Bengal, we were receiving this data in real time and that added the impetus for the weather forecasters to give the right type of forecast.

You can see that this is just a map; you can see the type of buoys, which we use to collect our data. These buoys are equipped with different sensors to collect lower atmospheric data like, pressure, temperature, humidity, wind speed, shortwave radiation, long wave radiation, etc. and they are moved at the ocean bottom. You can see those dots: some are red dots and some are green dots. Red dots are the ones where the buoys are right now, not functional or not reporting data. These are going in red mainly because we are unable to go out and service because of this COVID pandemic. We are unable to take up any voyage to service these buoys, since last March. Normally these buoys should have been serviced before the monsoon season starts, that is, March to May period. And that keeps them ready for the monsoon and the season but this time we could not do that. And our worry is whether more buoys will get into trouble. Similarly, we collaborate with NOAA i.e. the National Oceanic and Atmospheric Administration in the USA. The other picture shows the similar mode buoys in the Indian Ocean, which are again getting into trouble because we are unable to go and service now.

Similarly, you can see that we also maintain the tsunami buoys. We are supposed to maintain the seven tsunami boys five in the Bay of Bengal and two in the Arabian sea. You can see that there are three red dots in the Bay of Bengal, the Arabian Sea. That means these buoys are now not reporting data, or are not functioning. In fact, we first planned that we should service them in March, but we could not take that route, even now also we are unable to go out and service these buoys... so some other boys are not reporting the data. The tsunami buoys are deployed there to get the information if a tsunami wave propagates towards our country, we should be able to know that tsunami wave, and we should get an appropriate forecast. Similarly, the sea level changes more and more of them are in red because the people are unable to go and do service, and the wave rider buoys. There are 15 of them on our course, and we are unable to go for service, many of them since March. So, basically what I say is that the likely implications are that if this situation continues for long, the weather forecasting will become a problem; the errors will increase. And if we use this data to assimilate into numerical models for weather forecasting as well as the ocean state forecasting, the errors will start growing. Some

estimates state that we are receiving 10 to 30%, less data than what we should have received so there is an implication for this. Thank you.

Director: Thank you. Thank you, Dr Satheesh, and this was very intentional. A lot of people don't realize some of this. I'm also very glad to welcome, and I am going to add Cpt. Arun Sabnis. Hi Arun, glad to have you. I know you're having a challenge in connection. But Ladies and Gentlemen, he is Cpt. Arun Sabnis, a veteran of the Navy and now a very experienced harbour pilot to the Jawaharlal Nehru Port Trust. And it's a different fact that we've been shipmates, and we are course mates. So, we have good conversations. Captain Sabnis comes in as a practitioner, and what I also call as a silent observer. Nearly every day, when he does piloting as a harbour pilot, he comes across multiple international crew coming in and out of JNPT. So, he gives you a ringside view of what are the actual functionaries in the maritime world. So, Arun, share your experience even before the pandemic started. What were people in shipping on the ships, talking about. And I don't know how your connection is. After the pandemic, what have you heard? So, Let's have your views.

Arun Sabnis: Hi, sorry, I have some connectivity issues. Regarding the crew, let me tell you, everything was normal before pandemic struck. Thereafter certainly the crew was lost. I think to some extent, everyone was lost before things settled down. Somebody was expecting to go for some function in fifteen days, or just two days. They just couldn't get out. The first issue was medical, because they continued to go to the countries affected. Initially if you remember, the west side was affected first., and they had to go there. They had to adapt to system change, wear PPE, and also maintain safe distance from daily customers who were interacting with them. Second was the emotional part. Lot of people felt that they were safe on the ship. Because everything suddenly came to standstill. They had no transport to go, they had quarantine regulations, and they found their families safe... hence found themselves pretty comfortable here except endurance and mental health were little problematic. Only some individual cases were really serious like one AB (seamen) reported that he could not go home despite his wife having expired of Covid. But such were extreme cases and just one or two such cases happened. Later on, Director General Shipping, the port authorities, and the government effectively coordinated. The shipping companies were themselves very proactive. DG Shipping had given a link for looking at transport, interstate transport for the pilots, getting approval from them. Company chartered flights used to go and come around.

Director: From what Cpt. Sabnis mentioned, and I think, we are endorsing what Dr. Shankar was mentioning is very encouraging in the maritime sector for the Indian setup, the administration, and ministry. Though the initial news reports talking about things come to standstill, I am having two accounts of the proactiveness. Dr. Shankar, before I come to your part on education, do you

also want to amplify that comment which also probably those who are hearing will give them assurance that there is a synergy, contrary to what people believe in the maritime sector. Do you want to just add and endorse what Sabnis was saying?

Dr. Malini Shankar: Sure. Domestic flights, international flights came to halt, and it was a complete sudden lockdown. So, there was obviously some frustration among seafarers, some lack of coordination on this side because it just was a sudden break. As I mentioned, I remember talking to DG. Something which would have taken two months to coordinate and finally, he agreed to get people online, have a meeting to see how this can be resolved. So, they managed to discuss it in consultation with the Ministry of Shipping and External Affairs. There were two hundred people. Because ultimately shipping alone cannot do this. It's a long supply chain from seafarers, to the ports, to ships, to external affairs ministry. So, it was a tremendous collaboration and co-operation and I think they worked day and night. There could have been some changes from time to time because the situation was also dynamic, with evolving situations, solutions were also evolving. Initially I remember they managed to say that Indian seafarers could sign in and sign off. But then a question came about international seafarers serving on Indian ships and they had to get off on Indian ports. That was also put in place. I remember them saying that since there were problems with Indian ports and Indian states, as it's a federal country. The pandemic was spreading at different rates, at different intensity at different ports. So, Dubai was made a hub port where seafarers would land there and there would be understanding that they would be brought into a particular airport in the country. So, it kept evolving but I think it was very rapid considering the unprecedented situation. It was tremendous cooperation across sectors and departments and from stakeholders as well.

Director: So, that's really encouraging to hear and before I go back to talk about technology issues and education, Nitin, I was wondering if I could bring you in here. I know we have a closing Guest of Honour, who will talk a little bit about security, but from someone who watches the geopolitics in maritime dimension, in terms of security issues from your readings and discussions, Nitin, whether it was India's response to Vande Bharat or in other ways from a security perspective as an observer and as a policy analyst, what would your comment be on those issues in terms of maritime security and maritime cohesiveness in this period?

Nitin Pai : What strikes me is that the world's powers have used Covid as an opportunity to promote their political interests. No other power than China did this. China is right in the centre. What they did in Hongkong, South China Sea, Ladakh is just an example. People are trying to figure out how to solve this health crisis. And Xi Zimping and the People's Republic of China allowed China to take political advantage of this. In a way, that is almost hitting below the belt Of course,

there are no rules in politics. But you would expect to see that in the 21st century there would be some civilised norms of behaviour especially when you look at the pandemic as a common threat to humanity. Notwithstanding the irony that pandemic emerged in China, the way Chinese interpreted it that, it arose out of China first, and we managed to put it under control first. We now have an opportunity to go out and do things. That is unfortunate. Nowhere can we see this played in the South China Sea. Navies of six different countries are out there. China is probably threatening to impose a red fence identification zone in that area. The US and allies are trying to do freedom of navigation ops, and if you think that situation in Ladakh is dangerous, what's happening in South China Sea is definitely more dangerous. One small thing goes wrong, the situation can get out of hand and the Chinese seem to be quite okay with it. More than all the wonderful things we are doing on the human security front, when it comes to hard power, and hard security issues, we are into extremely unfortunate situations right now.

Director: So true, Nitin. In a way, silently you are contrasting, say, what is happening in the Western Pacific compared to what is happening in our waters. Where the news was more about how non-combatant evacuations which India led; it didn't matter where you work and entire Vande Bharat and Samudra Setu missions where nobody is saying that we will stop the security component. I think the contrast becomes even more clear. Do you feel in Covid, the behaviour of international players in their response to pandemic is they are likely to show signs through and post pandemic? Will there be a possibility of people aligning because of responses some countries show compared to others particularly India?

Nitin Pai : There are two ways to look at this. First is if you change the status quo using force during a pandemic, so in post pandemic you still live with your gains. There is a physical change on the ground. Hong Kong is now no more an independent or semi-independent political entity. It is a part of PRC. That's not going to reverse, or people are not going to think about adjusting. People are more likely to adjust to the fact that it's part of China. What it might do is that people will be a lot more wary of Chinese power now, seeing how they behave to the extent that Chinese would now want to make further political gains or strike political relationships with the countries of the world in the post pandemic world. It will have to be on the basis of hard force because the cooperative element, willingness or the element of where you want to interlock and engage that is going to be much needed. Now you will have to either throw money or use force. There is no attraction with it now probably before pandemic, that could have been possible.

Director: So, let me take this discussion to a very key sector, where MHS is involved in, which is education and creating awareness in the maritime front.

And I'm going to come back to Dr. Shankar. Especially in your present capacity, you mentioned the challenges, and I think every academic

set up is facing the challenge. How do you bring transparency and how do you promote?

I get that, when a four-year-old says my classes are online. So, I can imagine how it is for people and their challenges. Can you mention in this as it is the dimension, it is something which is pretty alien to most people till they step into it. If you had not got into the maritime sector, you don't know how it hits you in its very nature. Would you want to comment on how things evolved because online education can never substitute hard practical learnings, which are required in the maritime sector? What's your thought on harnessing this time if the situation goes longer?

Dr. Malini Shankar: Obviously every single academic institution is struggling with online learning. It should not be just online learning but as a passive mode where I send you lessons and you read it and then you send me back. Slowly, there are organisations and there is development on this front to make it more interactive. So that's one thing that will evolve and what we call blended learning or sometimes it's called hybrid learning which is a combination. But I think if we see developments in cognitive science and teaching methodologies, I think there are more videos coming out, we get hands-on feeling experience. It will never substitute practical training but it's a good substitute to understand the concept of technology. For example, there is 3D technology available to get the feeling that you are actually standing on the bridge, while you are sitting on a chair in the classroom. Those kinds of things will become something of common place. Animated programmes will be of great help. Students grasp the concepts very easily. What we are adapting with now is how to conduct online exams. Once we crack that with integrity as I said, we are still not a matured field in education in India where you can give open book exams. Open book exams are always more difficult than the close textbook exams. So, if we evolve towards that, all this can go towards actually talking about educational institutions, the prospects of the opportunities for online training, thereby distance learning, thereby expanding the number of people, through which a single institution or department can cater to. I think these all are opportunities, opportunities for collaboration so that everybody can grow together also.

Director: I completely agree with you. I'm very tempted but I will come to Nitin for the training component. But, Dr Satheesh, I want to bring you in. You have really spent your life in the field of physical oceanography. It's a different fact that I am personally very fascinated and I keep pouring in lessons on oceanography to my research team because if you don't understand the medium, if you don't understand the physics of the media, then how do you understand the humanities of it? So that's what we thought. What do you see in this period where science and technology or core physical sciences in this pandemic or Dr. Shankar was talking about the way of teaching? How would you make the field of oceanography appealing in this

field? Isn't there a way to capture small essences to make people aware like today? When you are talking of ocean buoys and gliders, I am going to ask that also a question in terms of security. What are your thoughts from a wide experience of making the learning of oceanography more interesting?

Dr Satheesh Shenoi: I must say that the interest of the younger generation in the Ocean Sciences is slowly picking up. That's what we are seeing. The reason is earlier when we talked about the ocean, the only thing that came to our mind was life in the ocean. There is nothing more than that. So, if you say you are an oceanographer, everybody thinks that you are a biologist and you are studying about some octopus or some weird life in the Ocean. That is all that you are doing. But there is so much more than that. Whatever science we study Physics, Chemistry, Geology, Biology, Biochemistry everything applies to the ocean also because in the world, more than three-fourths is covered by the oceans. So, our whole world cannot ignore life in the ocean. We cannot ignore what is happening in the ocean. To give you some examples: as a physical oceanographer, we need to know of course for your shipping and all which is very important... that one should know how the ocean is going to behave when the ship works out. This is where our Centre, Indian National Centre for Ocean Information Services provides Ocean State forecasts on a regular basis. We do provide this to the shipping companies also on a regular basis; we do provide this information to Oil and Natural Gas companies so that we can give the forecast on the currents, waves, winds etc. which is required for the maritime user. From a science point of view, especially in this world of climate change, as I mentioned earlier, 93% of the excess heat which is thrown in the Earth's system is being absorbed by the Ocean. So, one can imagine, if that 93% is not absorbed by the ocean. Actually, our atmosphere is absorbing only one per cent and the other three percent is absorbed by glaciers and the land. So, that means that 93 percent is absorbed by the ocean and this is getting accumulated in the ocean. So, the ocean accumulates this heat and then slowly it adjusts itself and gives out to the atmosphere in a regulated manner. The major concern that arises is that when this kind of heat is getting accumulated in the ocean and it gives out to the atmosphere what will happen to our weather or what will happen to our climate? So, there are a lot of challenging issues which we need to study about the ocean. Now take the geology or geophysical aspect of the ocean. So, we talked about the Tsunami. What is Tsunami? Tsunamis are created by the earthquakes on the ocean bottom and why the earthquakes are happening is because there are a lot of processes going on the seabed which is only made up of different plates and these plates are moving against each other. And when they move against each other, one-time they break that creates this earthquake. So, you need to study the geophysics along with a study of the geology of that region to understand the heat on these plates. And one tsunami is enough to clean out the entire population or clean out an entire civilization. So, the effects are very rare but they are very devastating.

So, bringing more into this education these kinds of challenging questions have to be studied by the younger generation.

Director: Yes. That's true. And that was the whole idea. In fact, I am going to use this as a silent projection to my team and to others. We talk about Maritime Studies without looking at oceanography. My opening remarks in our orientation is that Ocean is a 16 plus subjects, all rolled into one. In fact, I tell them a challenge: you name a subject to me and I'll show you a maritime connect. So, that is my aim: to bring maritime consciousness. But I want to take the information you shared in your opening remarks and go to Nitin and then continue with him regarding something on education. Nitin, you would have heard Dr Shenoi talk about gliders. There was news about we turned away a Chinese ship from our EEZ (Exclusive Economic Zone) for observations. Now as technology evolves and in Covid, forget about the hard part of games that powers are playing... we sometimes still need to observe the other games that are going on. Were you aware and what are your implications when you have observations you could restrict physically? But these things happen. Are there new security challenges that the Covid is taking our attention away from in terms of open ocean issues and then I'll come to the second question I have for you. So, what do you think of that method?

Nitin Pai: See, Covid is just a startling reminder for us that we are not only in an interconnected planet, but we are in a transparent planet. So, in the sense that a lot of the physical observation can be done without necessarily being anywhere close! So, satellites can observe with much higher resolution surface and subsurface phenomena both on land and sea you could have vehicles which are at sea like some ships and submarines and submarine robots, which are out under the sea which can map much larger expanses of the sea. So, what we're seeing is that not so much of the adversary or the hostile element or the person who is surveying you doesn't have to be in your Territorial Waters or in the EEZ. It can be on the other side of the planet and still be able to do that. Now, the challenge therefore is: how do you counter that? How do you learn to operate in an interconnected world that is also transparent where you can't keep secrets from your adversaries, you can't keep secrets from your own people, right? So that makes it a very, very challenging world. I don't think there are good answers to this. But what we have to get into our heads in 2020 is that this is the world we're living in. There is no going back to the world where you could hide things. You know I was reading some spy novels of the 1940s. They look so quaint. You really need to have one human being who's observing movements of ships sitting in the port and that person is so important and can see the difference like a situation of war or no war. It is so quaint that it just doesn't make sense today.

Director: I'll actually come back to you Nitin but I am very tempted to go back to Dr Shankar on this. Now, Dr Shankar, beyond the systems and the policies, there are real stories of people

in terms of when it comes to stories. Last year in our seminar, we had a story about some acts of piracy in West Africa. Very often, unless there is a crisis, these never come to even light. Someone writes a novel, like Nitin was saying only when someone really writes a novel. During this time, especially in your transition from looking after the Shipping Board and now as you are transitioning, I'm sure you have been a very closely connect to this entire field. Is there something that stands out which is coming from a human point of view apart from the difficulties which are in the maritime sector? And from a human angle point of view, what is the maritime sector's call out to attention as we start getting things under control? It is an open-ended question but what attention should it draw to us from a human angle? I am asking you because you have seen a lot of fields.

Dr Malini Shankar: I think the human angle is not just unique to maritime. I think very often I find whether I was in the Secretariat in Maharashtra or whether I was DG, Shipping or even now in the IMU, we forget that we all exist to serve a purpose with the human angle in mind. I always go back to the statement made by our former President of India, Late Dr Abdul Kalam who said that 'Scientific discovery and invention is of no purpose unless it serves a human being'. Most of our scientific experiments actually strive for that even if it is pure theoretical Physics or Chemistry, but then applications have to be seen on a human angle. So, even the maritime sector when I think... The focus has returned to the seafarer, the well-being of the seafarer, the health of the seafarer as much as any other segment of population. But I think we were talking with so much concern about the trade, the volume of the trade, exports-imports, empty containers versus the filled containers, the cost of shipping, the cost of the entire supply chain. I think this pandemic has made us focus on the seafarers. If there is no seafarer, there is no trade. We can talk about autonomous ships and intelligent systems, but there is a human being behind the entire system, behind the machine and the machine is as good as the human being behind it. So, if the seafarer could not sign on, not sign off, the ship would not sail. I think that was brought to the fore as a collective thought thanks.

Director: Thanks, Dr Shankar. In fact, I'm going to come to the seafarer and I'm going to bring this close from an awareness education. One of the things that I always tell when I have my talks among the colleges. and there are a lot of students watching. I said everyone won't be able to join the Navy or the Merchant Navy. Now we have a new field. Everyone may not become an oceanographer. Everyone may not become a diver. We have interest in underwater archaeology so maybe everyone may not get to do that. But the least is you can get educated about the ocean and that's where I want to come to Nitin as I have one pending question for him. Nitin, you have been very successful in creating interest and awareness, let's say from policy. If you had the option through collaboration to bring awareness to the sector from power that is core maritime power, to

education about Science and Technology plus to make people realize you are surrounded on three sides by water, the planet is water. Dr Satheesh was talking about 93% of global change. My young interns are talking about ocean acidification which I didn't know about but they have brought this up. What would your word be to people like us - you, I, Dr Shankar and others - what can we do to make this education real when there are challenges? Or is online education a no-go? What happens if this situation lasts a little longer? What would your thoughts be as someone who has been involved in propagation and policy? What would your comments be on creating better awareness?

Nitin Pai: I think this opportunity - the Covid lockdown - and the fact that we are all working from home and with travel being highly limited is a fantastic opportunity to re-emphasize the fact that large parts of India have a maritime culture. I think we have got to start from there. The coast all the way from Gujarat to the coasts down South and right up to Bengal, these coasts are witness to millennia of maritime culture. It is not Vasco da Gama who sort of discovered India. There were coastal pilots and mariners in that part of the world a millennia before the guy even turned up. I think the idea that we have to understand and channelize our maritime culture... and a maritime heritage must come. And I think Federalism is a wonderful way to do that because there are also large parts of India who have not seen the sea. They are scared of the sea and they have psychological problems with the sea but large parts of India do, right? So then what is federalism for? Because the states that have a very strong maritime culture must emphasize that and I think what's happening is that in this drive to try and integrate into a national singular nation, we sort of de-emphasize those parts of our culture. And I think this is a good opportunity because now, we can have this conversation on Zoom or Streamyard or whatever thing that we're doing. We could put content on YouTube. There's nobody stopping us. So, in the sense that there's no one single television channel that you are all glued to and that the power of the television channel used to focus on the news of the day, which might be something to do with our northern neighbour or a western neighbour, you know, very continental kind of issues. But now we're looking at a very regional, disparate, disintermediated media scene. It's wonderful. Now what has changed is that now you can get maritime experts from anywhere in the world to be in your conversation. It would be extremely difficult for us to do that; you know in the days before the lockdown. But now, I'll give you an example. We had Professor Carl Thayer give a series of lectures to Takshashila about the South China Sea. Now, Prof Thayer is the single biggest authority on the South China Sea and he is in Canberra. Now to get him to India to do a series of four lectures would have been extremely complicated. He is also advanced in age. He doesn't travel as much as he used to. Now because of online medium, we could just get him to do four lectures and there are experts both abroad and in India, retired Navy folks, retired scholars, current scholars, young scholars. I

think this is a platform for people to bring this together to make it exciting. And as you said, there are a lot of people who are curious about this. It's not that there is no curiosity - just that there is no avenue for that curiosity to be satisfied.

Director: So, thanks, in fact I have been given an indication to look at the clock. So, I'm going to go to a couple of comments that have come and not surprising at all. Dr Satheesh, you have managed to create a lot of interest in oceanography. I am going to show this question from a hydrographer Ashish. The question is, "It is appalling to note that the GOOS and NDBP buoys were not serviced on time. Was it that there was no one willing to do it or take some bold decisions?" Somebody else has also said "Isn't that a strategic issue on that part of it?" And I look for that comment. Dipesh Karmakar says, isn't it considered with other strategic and emergency services that are running during the pandemic? Dr Satheesh, your comments?

Dr Satheesh Shenoi: Yes. I will answer. No, it is not like that. The servicing buoys are given top priority when we plan the ship time for the cruisers. But it so happened that normally these buoys are serviced during October to December period when our Arabian Sea is calmer and the Bay of Bengal buoys were normally serviced during the February to early May period. But this time we did the servicing of tsunami buoys in February-March period and after that, it was supposed to be to take up the next cruise to service some of the tsunami buoys as well as the Met ocean buoys but because of the pandemic, the team which went out itself has to stay on board for extended. They came out only after the first lockdown was lifted after 03 May 2020. That's the time they could. So, the entire March, April up to 03 May 2020, me or when they came out, it was 10 May 2020 or something like that. So, the team which went itself could not come out so that we could have put the next team. Then again, the restrictions and a lot of local restrictions etc prevented us and then the monsoon started and it is extremely dangerous and difficult to service these buoys during the monsoon. So now we have to wait at least until September-October to attempt to service these buoys.

Director: Okay. I want to go out of sequence and flash this comment from Sathya, "What is going to be the impact of ocean life due to less movement due to Covid? How is the insurance sector going to get affected as the risk-ratings will change? Either Dr. Shankar or Nitin, do you want to just give a quick comment?

Nitin Pai: Yes. See, on marine life what I can see. The first part of the question is interesting. The lockdown is an indication. There are birds chirping outside my window. I'm in Bangalore, and I can tell you that a lot of birds have disappeared. But now we have birds back on the scene and during the lockdown, it was really rich. So, if that is any indication, I think we can expect the ocean ecosystem to bounce back and some of the species probably will get replenished and be able to bounce back. I do not know whether it will come back in the same

form as it was or not, that is a different question. But I think there is good news there. More than insurance, what I think is interesting here is whether the economic crisis in the shipping industry and the maritime industry brought about by a combination of factors exacerbated by Covid will cause certain companies to transform themselves because there is a case for transformation. The case for transformation, as I said, comes from the need to change propulsion to the talking about zero-emission ships by 2030. They are talking about replacing a lot of human beings who do hazardous work with automation. We are talking about smart ships with a lot of sensors etc. Now purely these kinds of transformative changes will create a competitive advantage for ship-owners and countries that embrace them which means you need a lot of money to do this but do you have that kind of money at this point? Right? So, the industry by itself might not have the kind of economic resources to put in the capital investments required to make this transformation. But we know that the countries and the companies that do will be very successful in the longer term. So, how do we solve this problem? I think there is a role for the government to look at probably to create a fund where it will selectively help the shipping industry, maritime industry in general to retool itself and transform itself to be competitive in the future and that is also massively in the national interest as we cannot be in a new old world order with major powers jostling in, coming into our ocean. With the kind of technologies and the industrial base that we used to have it. So that transformation is necessary both for economic and strategic reasons.

Director: Dr Shankar, do you want to just mention on that comment's last part about government support in some ways. I know it exists in many fields. Will the shipping industry get the priority in the midst of the Covid because other sectors might have more priority? What are your thoughts on it?

Dr Malini Shanakar: Very recent developments in the Government show that they've identified about 10 or 13 strategic sectors for the country's future and if I remember correctly, shipping is definitely one of those sectors. There's been a move to say, 'Make in India as a part of making India'. Of course, there are reservations of the other sectors and any purchase, any acquisition, any trade which is less than 200 crore rupees per annum has to go to the sector So there are things like they always say... if you go out of the formal sector, does the Indian Shipping Industry do as much? I mean are they investing as much? The number of Indian ships and Indian tranect is actually coming down over the years. So, what is it that it will take the Indian shipping sector to actually get themselves involved? And the larger insurance question you know, the pandemic is something which from time to time throws up this dilemma 'health vs livelihood'. We have seen it go from slightly towards health. The debate is very dynamic, saying do you keep protecting the health or do you keep protecting the livelihood? It's a very delicate balance. So similarly, I think in insurance, if the cost of the insurance increases that's going to just

reduce the demand for shipping in trade. So, I am sure it will stabilize somewhere. It's a demand and supply situation.

Director: We would love a longer discussion. I am just going to flash to Nitin but we are not going to discuss this due to the lack of time. You'll be surprised that people have taken on your security discussions. So, I'll just flash a couple of, you know, the peaking of the US China with the elections. And you know, there was another very interesting comment, similarly on the part of it but I am going to head this to a close and I am going to hide, there was a similar comment elsewhere. Maybe a thirty second to one-minute closing comment, your message to the larger group of people on the Maritime Sectors. What would your closing remarks be? I'll begin with you Nitin, go to Dr. Satheesh and then Dr. Shankar. So, Nitin, your one word.

Nitin Pai: I think the interesting opportunities are at the intersection of what changes due to Covid and what is not going to change. Identifying those opportunities, identify things which change, which are going to change because of Covid and identify things that are not going to change regardless of what happens. At the intersection of these two places are where the opportunities lie. That is going to be as much for economics, for commercial shipping, as much it is for naval and strategic factors.

Director: Thank You. Dr. Sateesh, a short remark on what you would say to the larger public in terms of our discussion.

Dr. Satheesh Shenoi: I think there are some difficulties, there are serious difficulties due to Covid but it also gives us opportunities to look at things differently. Now, one point for us, the oceanographers, brings out is, as I was mentioning, many of these buoys as well as most of the observing instruments, we have designed to last for a year in a defined capacity. I think we have to look for increasing the capacity in such a way that even if you're unable to service it, within less than a year's time, we should be able to manage with that. That is happening but I think that we have to accelerate. The second aspect, personally for me as well as several of my colleagues I have seen... We get lots of time to analyze the data and do some basic research because we are unable to travel and unable to do other things. So, we can concentrate more on looking at the data and understanding better the data, etc. So, there are positive as well as negative aspects of this Covid and one thing I am sure the Covid has taught us is a lesson: nothing we can just continue as we were doing. We have to be more cautious; we have to be gentler to the environment; we have to be gentler to the needs of everyone.

Director:: Okay, Thanks. Thanks, Dr. Satheesh. Dr. Shankar, you are at a hub of something very crucial. So, what is your word to the larger audience?

Dr. Malini Shankar: Yeah, I'd like to lead with three thoughts. One is productivity. I think many organizations - both public and private - have realized how productive we can become, you know, if you're working

online. But at the same time, we have to understand that there is a reason why we are on this earth, to interact with people. So, let's be careful when we work online. Productivity alone is not enough. That brings me to my second point which is - I agree with Nitin Pai: I think the Covid pandemic is a lesson for all of us to respect nature more, and to learn to live with it, and be very gentle to all beings, environment and all the living creatures. Give them space and learn to coexist with mutual benefit. And the last point you know is the maritime. When we say that there should be more awareness for maritime, I think that would come when we actually have people travelling aboard. If you're only transporting goods, I think it will always remain behind the curtain. It's like the scientist at work and pure science in a lab. I would like to look forward to a day in India where the postal shipping will become very active and dynamic and carry people from port to port, not just goods, and that's the day when people will know who is a captain of the ship is and how exciting the field is and what opportunities exist to work aboard a ship. I would love to see that day happening sometime in the future, not so far away.

Director: Thank you so much. I am going to have all of us say thank you. You have been a wonderful panel. Time is really clipping at my heels. So, thank you and I am going to just move to the next part. So, I am not going to try to sum up. I think the panellists have said enough and that part is there. But I am very honoured to take this opportunity to introduce our closing speaker. A very dear good mentor, I would even dare to call a maritime friend, Admiral Hampiholi is not just a serving Flag Officer: he held a range of significant appointments, command of ships. He commanded the fleet; he's been at the head of naval operations. He's himself an anti-submarine warfare specialist. So great interest in the ocean. A specialist in underwater knowledge, he's been across and right now he's sitting at a very wonderful place, at the Indian Naval Academy as a Commandant. So, I am sure he's been hearing all the observations on the education component of it. So, I think sir, over to you. We're looking forward to your comments and observations, your closing remarks, welcome sir.

VAdm MA Hampiholi: Thank you Commodore Johnson. Eminent panellists of today's discussions, Dr. Mrs. Malini Shankar, Dr. Satheesh Chandra Shenoi, Capt. Arun Sabins and Mr. Nitin Pai and of course our favourite moderator Cmde. Odakkal Johnson, Director MHS and Head of Research. Personally, it's been a very educational and an engaging experience for me this evening, having partook in today's panel discussion. I must really compliment MHS for all its endeavour and I regret not having been part of these panel discussions and the musings earlier. You see I gladly accepted to participate when Cmde Johnson sent me this email, because I thought the email that I received from Cmde Johnson read 'Wine Bar' only to realize later that it actually meant the webinar. Whilst corona and its impact as what's been discussed today, it was also a harbinger of some very good events which had been alluded to by

the panellists in the course of the discussions. You see the skies became clearer, the pollution levels plummeted to the extent that when I was in Delhi, I finally saw starry nights. The world became cleaner and, as they say, nature started to heal. Of course, that was all on a positive side but with more than two crore people infected and still counting, over 7 lakhs having lost their lives and with herd immunities and vaccines still not in sight, we continue to be in the midst of this ubiquitous, invisible and deadly Covid-19. Covid-19 has put the world in a major humanitarian crisis and possibly every country, big or small, has been impacted by this virus. Whilst reference was not really made to several other sectors like travel and tourism, hospitality having taken a major hit because of the Covid-19 pandemic. Some others such as automobiles, oil, gas is just about scraping through.

Government announced a massive 20 lakh crore stimulus package to gear up the economy and provide the much-needed liquidity to the SMEs and other sectors who are in dire need of such finances. Potentially, the government targeted two aspects of 'Make in India' and 'Buy Indian' with this massive much reserved and much sought-after stimulus package. Specifically, on the maritime front this pandemic has caused supply and demand shocks and has definitely disrupted the trade which was alluded to by Dr. Shankar. Economists at the World Trade Organization project a world merchandise trade volume to fall by as much as about 15% to 30%. The World Bank experts forecast a global growth shrinking of the GDP by almost about 8%. Our ports and shipping sectors are a key driver for trade in India. Needless to say, 90% of our international cargo by volume commutes through the oceans. Our economic development cannot be emphasized or over emphasized with our country strategically placed at the very heart of this global chain or the network in the Indian Ocean.

With a vast coastline of about 7,500 kilometres and our strategic location, the progress of our ports, shipping sector has been below potential. Where legal contribution of the shipping sector to the GDP, I don't even know how much it is, there have been many constraints because of procedural and policy related aspects, limited port infrastructure, limited hinterland linkages, rather low penetration of Coastal and Inland shipping. Again, Dr. Shankar referred to that.

Limited digitization and mechanization. I was glad to hear the kind of e-efforts that have taken place and certain procedural bottlenecks at various ports in India. However, there is much to cheer because Mr. Pai also sought an explanation on that front and I'm sure he would be aware that the Government of India has instituted the Sagarmala program in 2015. And as part of that program, more than about 500 odd projects have been identified for implementation across areas of port modernization, development, port link industrialization and hinterland linkages and the works.

Ports are not just a mode of interfaces between surface and sea transport; they are now integral to an extremely dynamic and time-sensitive supply chain network, and this aspect is now all the more visible because of

the ongoing disruptions caused by Covid-19. Taking cognizance of the pandemic to the shipping industry, virtually all the world bodies and specifically the International Maritime Organization, the specialised agency of the United Nations that is responsible for shipping, is making concentrated efforts to ensure uninterrupted shipping operations. They have promulgated SOPs or Standard Operating Procedures, such as operational considerations for managing Covid-19 cases, outbreaks onboard merchant ships, etc. So they have kept pace to meet the challenges here and now.

Specifically, if I were to say as to what the Navy did, I would like to highlight that when Covid came to the ports, as a risk mitigation measure, certain long-term and short-term objectives and mitigating measures were drawn up to streamline the conduct of operations in the face of Covid-19. Specifically, the Navy resumed its ops commitments, its foreign engagements. Elaborate guidelines were issued to the ships towards management of personnel on board, to maintain op-efficiency, despite challenging circumstances. Just to give an example, before the ships were put out to sea, they were all on the 14-day quarantine period. Education was resorted to enhance awareness on Covid-19 to collectively fight the pandemic at pan-navy levels. A document on management of Covid-19 on both ships was promulgated. Besides, this document was also uploaded on the navy website, on the IONS website to be specific, to shape best practices with other Navies. The Chief of the Naval Staff directed that we as caregivers cannot be delegated to the status of care seekers and hence the emphasis on self-discipline on individual and collective responsibility, was what was professed and practiced.

Similarly, our naval officers who are in foreign countries in their capacities as NAs and DAs were directed to organize planning conferences, share best practices, get us to know as to what are the best practices which are being followed by their countries to ensure the seamless conduct of otherwise planned exercises which were any way in vogue at that point in time.

We also resorted to conducting certain planned exercises and coordinated patrols with other countries in a non-contact manner. We also liaised with our missions and embassies abroad to ensure non-contact operational turnaround of ships in harbours of other countries. So, in short, I would say that the proactive measures which were taken by the Navy in the face of the ongoing pandemic paid us rich dividends.

And in conclusion I would like to bring forth certain aspects which may be undertaken for the cause of the nation. This was as a sequel to the announcement of the Vande Bharat mission on the 5th of May by our External Affairs Minister, Dr. Jaishankar. The Vande Bharat mission is something which of course everybody is aware of. But I suppose the ethos behind this activity is extremely important. We were demonstrating the fact that every Indian national was an invaluable element of India's functional democracy and was worthy in his or

her own right, for the care and protection of the state.

India was visibly stitching together the DIME which stands for Diplomatic Information Military and Economic components of its national power which is embodied in the mystery of external affairs, the integrated headquarters of the Ministry of Defence, the civilian assets under the Ministry of Civil Aviation and the Ministry of Shipping and the fiscal resources of the Ministry of Finance. So, in keeping with the Vande Bharat mission, the Navy's contribution was during the launch of operation, Samudra Setu on the 4th of May, to bring back stranded Indians abroad. Four Indian ships, that is, Jalashwa, Shardul, Magar and Airavat, repatriated nearly 4,000 stranded Indian nationals from Iran, Maldives and Sri Lanka whilst demonstrating innovativeness adaptability despite the risk of Covid contagion onboard the ship. Our salute goes to all the fine officers, men of these ships who took all the precautions adhering to the SOPs which was laid down because in a closeted environment, in a ship, the risk of outbreak is definitely very damaging and it could happen any point in time.

Close to the heels of the Vande Bharat mission, India once again deployed the Indian Navy to provide assistance to five Indian Ocean Region Island Nations, that is, Maldives, Mauritius, Seychelles, Madagascar and Comoros. This was named as Mission Sagar. Whilst Operation Samudra Sethu emphasized the importance graced by India on rendering evacuation assistance to our citizens which we call the non-combatant evacuation operations, Mission Sagar formed part of HADR that is Humanitarian Assistance and Disaster Relief Mission. Both operations highlight the benign role of the Indian Navy and provide tangible manifestation to the objectives, missions and tasks listed under the swirl. And it is a major part of our strategy of shaping a favourable and positive maritime environment, and this is aligned to the Honourable Prime Minister's vision of SAGAR, which is Security And Growth for All in the Region.

And essentially, this is aimed at strengthening the position of our country as a preferred security partner for the countries in the Indian Ocean Region. In Mission SAGAR for the five Indian Ocean region countries, Indian Navy delivered food items, Covid related medicines, special Ayurvedic medicines and also landed medical assistance teams to support the ongoing national efforts of these nations. Indian Naval ship Kesari, an amphibious ship was specifically deployed for this mission. Needless to say, warships are very well suited in this kind of a role because they have certain inherent characteristics of excess mobility, lift capacity, reach versatility - all of them giving them flexible responses, for the various roles, which they can interchange at any point in time be it military, diplomatic or constabulary. In the face of Covid-19, the other aspects, the operations of Indian Navy remained uninterrupted. For example, Anti-Piracy Patrol of which the Indian Navy has been doing for quite some time, for almost since 2008, continues. In June 2019, the Indian Navy launched Op Sankalp to provide the kind of security

to our merchant ships which are transiting through the Gulf of Oman and the Strait of Hormuz. And I must say that as part of Op Sankalp in June '19, the Indian Navy has ensured the safe passage of almost about a hundred and fifty lakh tons of cargo, on board hundred and thirty-seven Indian Flag merchant vessels transiting to the Straits of Hormuz.

That said, I would like to say that hope is unique to humans and it is indeed very infinite. Faced with adversities, we have an uncanny knack in all of us to innovate. We saw during Covid; many things happen and our salute goes to everyone who made it happen, very simple things be it the health workers or the warriors. The conversion of coaches of trains for isolation facilities - Dharavi for example, of how settlement of a million people in an area of about say 2-2.5 square kilometres turned out to be a success story. Use of technology as was discussed by our eminent panellists. Conduct of the webinar itself now, aspects of education going online, telemedicine which was not referred to, the aspect of flipped classrooms and blended learning are here to stay. So, as we continue to reinvent and innovate, I'm sure that this battle would be won without losing the war. That said, I must once again, thank the MHS for the lovely session this evening and wish you all the very best in all your forthcoming endeavours. My congratulations to all the eminent panellists who very articulately put across their views and I stood to learn quite a bit. Thanks a lot.

Director: Thank you sir and just to show the person who's not here Captain Sabnis. But all of us, really, Thank you Admiral and each of my panellists. I'm just waiting for my backend; this is called a screen grab moment since we can't be on the stage and take a photograph. Mathew, if you can have the banner come up, but I really want to thank each of you for having increased our journey. This is our tagline 'Let Heritage Awaken Our Maritime Consciousness'. So, thank you. Thank you, each one and I will hand over back to my Academic Assistant Saba for some closing comments. But thank you each one and we really salute you for taking time. Thank you. Thank you.

MONSOON MUSINGS IV

CELEBRATING THE MARITIME HEROES OF INDIA

By MHS Research Team and Sir Robin Knox-Johnston

Opening Remarks by Chairman MHS, VAdm RB Pandit: Ladies and gentlemen, and all those of you who have signed up for this Commemorative Conversation on the Maritime Heroes of India in honour of Vice Admiral Manohar Awati, a doyen, a modern-day India's tryst with matters maritime and the Founder of the Maritime History Society. It gives me great pleasure to welcome you all today. The 7th of September is a significant day for it is the birth anniversary of Admiral Awati. I'm glad the MHS has chosen to commemorate the occasion with the conversation on India's maritime legacy and the extraordinary voyagers that mark the pages of our history.

This is the most appropriate theme not only to acknowledge Admiral Awati's love for the oceans but to also dust out and celebrate the maritime heroes that India has produced over the ages. As a nation, collective sea blindness has kept us from fully recognizing the significance of the seas and of sea power in shaping our nation. It has also kept us from acknowledging the immense contribution of those who despite the constraints and even shackles that the sea blindness has imposed have gone out on the limb to secure and advance our interests in the maritime domain.

If we are to prepare and equip ourselves to create an impact on the emerging world order we need to recognize that the contemporary geopolitical situation is greatly influenced by happenings on the oceans of the world. The turbulence in the geopolitical arena can be likened to the mythological "Samudramanthan" that throws up opportunities. It will be up to us individually and collectively to capitalize on these. Our maritime legacy modest in some ways and yet monumental in others will illuminate the course that we will need to steer. Today's conversation should give us hope and remind us that there have been many occasions when our forebears have risen to similar challenges and through their endeavors have set a solid foundation for the edifice of a nation to be built on. Some of them built strong navies and fought on the seas others were itinerant explorers and yet others have established glorious shipbuilding traditions. Each in his own way as been a hero.

A word about the young research team at the Maritime History Society. I do believe that the pull of the seas has awakened the spirit of inquiry in them and they have unearthed proud nuggets to recall inspiring maritime heroes of India and their extraordinary voyages do hear these accounts and

you will be inspired to know more. To cite just one example, you will find it most interesting to understand why the regimental insignia of the Punjab Regiment is a Naval Galley with a bank of oars probably the only infantry regiment to have such an insignia. I similarly look forward to hearing Sir Robin Knox Johnston, a sailing legend who made history by becoming the first man to sail solo and non-stop around the globe. Some nuggets of history here Sir Robin mentored Cdr Dilip Donde, our very own voyager extraordinaire who also circumnavigated the globe solo and unassisted in a voyage called "Sagar Parikrama" the brainchild of Admiral Awati. Incidentally the yacht used by Sir Robin in a seminal voyage was built in Bombay. With these words I shall give way to the Maritime History Society to take forward this edition of the monsoon musings and I wish that all the connoisseurs listening in are smitten by the romance of the seas. Thank You.

Maritime Legacies: Extraordinary Voyagers

Dennard H D'Souza: The first maritime hero we could talk about is Pulakeshin the second. He was the Chalukyan Emperor who ruled most of Southern and Central India from 610 to 642 CE. During this time, period the Arabs were on an expansionist spree. Under the Rashidun Caliphate, the Arabs were intent on making inroads into India via the sea route. They made three attempts at invasion by the sea. The first attempt at laying siege on Indian soil was in the year 637 CE. A naval expedition was sent to attack the port of Thana which was then under the control of the Kalyani Chalukyas. The Arabs faced a crushing defeat at the hands of Emperor Pulakeshin's naval force. But tenacious as the Arabs were under the Aegis of Caliph Umar, they sent two more naval expeditions against India in a short span of five years.This time the Arab naval fleet attacked Baroach in Gujarat and Port Debal in Sindh. No one knows what happened next. But after these three attacks, the Arab Caliph completely abandoned the naval conquests. These naval raids may not have yielded any success to the Arabs and, therefore, it must have felt sensible to jettison naval raids from their war strategies.

A century later though, the Arabs once again attempted to attack the Chalukyas in 737. But this time, it was via the land route at a place close to the port town of Navasarika. The Arabs were defeated again at the hands of the Emperor Pulakeshin's descendant. His name was Pulakeshin of Navasarika.

He was bestowed with the title Avani Janashraya which meant "The Protector of the World's People" by the Emperor Vikramaditya II for having crushed the Arab invasion once again. The Arabs continued to launch naval raids under the Umayyads who were successors of the Rashidun Caliphate.

They engaged the Saindhavas of Saurashtra in a naval battle twice: once in the reign of Pushyadeva in 756 CE, and then 20 years later, in 776 under the reign of Agukka who took the title Apara Samudradhipati, which means "Master of the Sea". In both these battles, Indians registered a victory. As a result of this disaster, the Caliph Al

Mahdi gave up the project of conquering any part of India.

Our second maritime hero is Parakesari Rajendra Choladeva I. He was born to the Great Chola Emperor Arulmozhi Varman alias RajaRaja Chola and a Chera princess named Vanavan Mahadevi. His greatest achievement was the conquest of Sri Vijaya, which according to NIlakanta Sastri, the eminent historian of south India, was motivated by a trade blockade induced by the Sri Vijayans.

But let's look at the beginning of Rajendra Chola's reign. Rajendra and his illustrious father RajaRaja were the two shining stars of the Imperial Cholas. The duo expanded their territory from the Maldives in the west to Kadaram in the east and Ceylon in the south to the banks of the Ganga in the north. Emperor Rajendra I inherited his father's already flourishing kingdom even before he was anointed the emperor of the Chola empire in thousand fourteen CE. He was made the co-regent with his father RajaRaja in the year 1012 CE.

During Rajaraja's reign, the Chola navy was already a formidable force to deal with. It was instrumental in capturing the 12000 Islands, that is the Maldives, in the 29th regnal year of the emperor, and later in laying siege on Anuraddhapura in 992-3 CE. Rajaraja was aware of the importance of a naval force in the war apparatus of a kingdom. According to Nilakanta Sastri, his conquest of Kaandalur Salai and Vizhinjam was with the intent of sterilizing the power of the Cheras. The Cheras were one of the arch rivals of the Cholas and had a significant maritime presence in the western Indian Ocean region.

Rajendra Chola had the fortune of inheriting a robust naval force from his father. It was this naval apparatus that was instrumental in maintaining the Chola monopoly in the Indian Ocean region.

During this era, the Cholas were the most powerful Indian kingdom in Asia and they made their presence felt in the maritime domain. Naval conquest was not new to Rajendra. He had used it even more effectively to conquer larger territories. Before he conquered Sri Vijaya in 1025, he reconquered Sri Lanka for the Cholas in 1017 CE.

During the reign of his father the island was partially conquered, but Rajendra brought the entire island under his sway. The question that lingers in the minds of scholar is What exactly triggered this invasion? It is important to note that the Sri Vijayan king had sound diplomatic relationship with the Cholas during the reign of Rajaraja.

The Sri Vijayan King Srimara Vijayattunga, with the patronage of RajaRaja, built a large Buddhist monastery named the Chudamani Vihara. The upkeep of this monastery was ensured by a grant of a village named Aanaimangalam by RajaRaja. The grant was renewed by Rajendra after his father's death. So, what exactly caused the rift?

Some are of the opinion that the invasion of Kadaram was instigated by the trade blockages imposed by the Sri Vijayans as they did to Jewish

merchants who were allowed passage after levying twenty thousand dinars. While others are of the opinion that it was an imperialist conquest, similar to those expedited in Maldives and Lanka.

My take is that it was instigated by the trade blockages imposed by the Sri Vijayan and to instil the Chola hegemony on the eastward maritime trade.

There is an interesting inscription from the Tanjore temple which gives a detailed account of the invasion of Kadaram. It is thanks to such records that we get a glimpse into ancient Indian maritime heroes.

Aishwarya Devasthali: The third of our maritime heroes is not one person but four of them together called the Kunjali Marakkars.

Since ancient times, Malabar, the ancient name of Kerala, had trade relations with far away countries like Rome, Arabia and China. Kollam, Kodungallur and Kozhikode were the major trading ports then which led to tough competition.

Most of us in India know about Vasco da Gama but very few among us know about the history of Kunjali Marakkar (Kunhali Marakkar) – credited with organizing the first naval defence of the Indian coast.

Long time ago, Zamorins were the rulers of Kozhikode and were one of the most talked-about, powerful, wealthy and strong kingdoms in India. This was possible because of the cordial trade relations the Arab, Chinese and Roman traders had with the people of Malabar for centuries. Though Zamorins followed Hinduism, they were tolerant of other religious ideas and business relations.

The story got a twist with the arrival of Portuguese explorer Vasco da Gama in 1497. Both the Zamorin and da Gama rubbed each other the wrong way and a friendly trade talk did not happen. Though da Gama returned to Lisbon, he came back to Kozhikode again in 1503 with a strong intention to spread Christianity and monopolize spice trade. Steadily, the Portuguese began to dictate terms of trade to evict Arab traders from the Malabar. They had the audacity to mandate that any ship carrying profitable goods even if it is of Indian origin, had to have a pass from the Portuguese, else they were confiscated. Now, this was naturally not acceptable to the Zamorins, and thus created a lot of conflicts and war situations.

There were four Kunjali Marakkar who commanded the Zamorin's armada between 1500 and 1600 C.E. and played a big role in keeping the indigenous rule in safe hands. They were: Kuttyali Marakkar, Son of Kuttyali Marakkar, Paathu Marakkar, and Muhammed Marakkar.

Kunjali Marakkar I defeated the Portuguese army and inflicted heavy casualties on them. Mendez, the Portuguese commander, retaliated by raiding Ponnani, the base of the Marakkars and destroyed several ships. In successive battles, the Portuguese were defeated at Pantalayani and Kollam, besides the fort at Kallai, forcing the Portuguese to leave the fort. Kunjali Marakkars then shifted their base to Puthuppanam near Vadakara. The son of Kuttyali Markkar took over as Kunhali Marakkar

II. He waged guerrilla warfare against the Portuguese and caused them severe losses. His naval ships struck terror in the minds of the invading colonialists. Finally, the Portuguese expressed willingness to negotiate with the Zamorin.

In 1540, the Portuguese signed a treaty with the Zamorin to re-establish trade. But once they regained the strength, they reneged on the treaty and declared war on the Zamorin. In the battle that followed, the Portuguese, with their superior firepower, defeated the combined onslaught of the Zamorin and the Kunjali Marakkar at Edappally. The Zamorin had to allow the foreigners to build a fort at Chaliyam.

In 1569, Kunjali Marakkar III took charge. Within two years, he established himself as a very efficient and powerful commander. He attacked the fort at Chaliyam, destroyed the Portuguese armoury, and struck terror in their minds.

The Third Kunjali Marakkar planned and erected the fort at Iringal near Vatakara. The Zamorin permitted him to erect the fort which he saw was in his strategic interest. The fort area is now known as Kottakkal, where the naval commander established officers' quarters, mosques, business centres and residential areas around the fort. A full-fledged naval base was put in place.

The Portuguese once again tried to build their fort at Ponnani, but Kunjali Marakkar's quick and devastating style of attack frustrated them, and the Portuguese surrendered. However, they employed agent provocateurs to spread false information and scandal against the Kunjali Marakkars in order to ruin his relationship with the Zamorin. Eventually, their canard led to the decline of the Marakkars.

Kunjali Marakkar IV came to power in 1595. He abrogated the treaty of surrender of the Portuguese and declared war. The Zamorin sided with the Portuguese and the Marakkar fought the combined forces of the Zamorin and the Portuguese at Iringal in 1599. The Marakkar lost the battle and was forced to sign a treaty with the Portuguese. Though he signed the treaty in order to buy peace, the Portuguese reneged and cheated him and captured him through treachery and deceit. He was tortured and eventually killed and his body ripped apart, denying him the honour due to the proud and patriotic warrior.

The Zamorin was shocked to hear the news. He felt guilty over his role in the cruel act. He decided to wipe out the Portuguese from the land. In 1604, he struck a friendship with the Dutch with the sole aim of defeating the Portuguese. The Portuguese were defeated and were made to flee Kozhikode. Indeed, the four Kunjali Marakkars proved to be heroes of Western Coast. If one is interested in tracing the maritime history or know more about Kunjali Marakkars, one can visit the ancestral home of the Marakkars at Kottakkal, which is now preserved as a museum. As a tribute to these unsung legends of the Indian Seas, the Indian Navy has erected a Kunjali Marakkar Memorial here.

Saba Purkar: The world history has observed that the one who holds power over a strong navy, owns the seas. I am going to talk about our fourth Maritime

Hero who is again not one but two individuals from the Koli Patil community. Both have a remarkable contribution towards the fort of Janjira.

'Patil' is a title of the Kshatriya Koli caste of Maharashtra and Karnataka. Patil means head or chief. In ancient times, the Koli Patil was head of villages or the police under the Deccan Sultanate and the Maratha empire. Some of petty Koli rulers held the Patil title as well. Here is a story of two personalities amongst Patils, who made a small yet remarkable contribution to coastal Maharashtra with respect to Janjira and they are Rama Patil and Layaji Patil. Both of them belonged to different periods, but, through their knowledge and bravery, made an influence in Maratha history. The small towns on the coast were of tremendous importance in shaping the maritime history of the western coast of India.

Rama Patil: As we all know, Janjira was one of these small princely states on the western coast of India. Although it was small in size, it left a tremendous impact on the history of the Konkan region for over three centuries because of its strategic position and its widely indomitable rulers. The fort of Janjira on the sea is the only one of its kind. A less known fact is that the present Janjira fort was once a rocky island on which a *medhekot*, that is, a place fortified with wooden logs, was built by the fishermen as a protection against pirates.

Rama Patil was the Commander of these fishermen. He was Admiral of the Ahmednagar Navy and built the Janjira with permission of Sultan of Ahmednagar. But later, Rama Patil refused to obey the orders of the Sultan. The *Kolis* had built a wooden fort to fend off pirates and robbers. However, they themselves became an unruly lot after that.

Rama Patil began defying orders of his sovereign, the ruler of Ahmednagar started giving a tough fight to the Nizam. As a result, the ruler of Ahmadnagar appointed his new admiral known Piram Khan and ordered the capture of Janjira from Ram Rao Patil.

Piram Khan marched from Surat but did not dare to attack Patil. So, he made plans to enter into Janjira. Piram Khan and his Siddi officer disguised as merchants and requested the Patil for safe keeping their three hundred large boxes containing the silk and wine at their island. Their request was granted. After that, Piram Khan thanked him and threw a party of alcohol. When all the soldiers and Ram Rao Patil were under the influence of alcohol, he attacked at Janjira and captured it from the Patil. Indeed, it is surprising to know that Janjira, a mesmerizing maritime monument, was identified by Rama Patil, and belonged to the sons of soils for a long time due to the efforts of Rama Koli.

Laya Patil In Maratha Navy: Janjira is the only fort that no Maratha king could capture. Its ruler, Siddi, used to rule and loot the region from this fort. Multiple expeditions to conquer the Janjira fort failed over the years. In 1676, Maratha king Shivaji Maharaj

sent his deputy Moropant Pingale along with a large army to conquer the fort.

Moropant, a seasoned military strategist, first tried bombarding shells on the fort using small ships, known as Machwa, but in vain.

He then came up with a second plan to send some men in the night to the fort and install ropes for the army to follow. This mission was extremely dangerous and almost suicidal. Laya Patil, a Son Koli, was invited by Subhanji Kharade Sarnobat and Subhanji Mohite, Havildar of Padmadurg, to enter the fleet. Moropant Peshwa had planned to scale the Janjira fort with the help of Laya Patil. Along with 8 to 10 more soldiers, Laya Patil left from Padmadurga in the dead of the night. After reaching the rear side of the Janjira fort, he and his men installed ropes and waited for the remaining army to follow. Laya Patil is thus known for doing what was thought as impossible, came very close to the capture of Janjira controlled by the Siddis.

However, assuming that the taking of Janjira was an impossible task, the Maratha army did not come and Laya Patil had to leave before anyone noticed. Although the mission was unsuccessful, his bravery did not go unnoticed. Shivaji Maharaj rewarded Laya Patil with a ship and other accolades. The enterprising Koli chief executed his role very well. Shivaji honoured the Koli chief by bestowing on him the title of Sar Patil and the distinction of riding in a palanquin. As the Koli chief would not accept this distinction, Shivaji had a new ship constructed and named it Palkhi.

Kanhoji Angria: The well-known legacy of Maratha warriors had started from 1664 with the rise of the great Shivaji Maharaj. Chhatrapati Shivaji Maharaj gave tremendous importance to the navy. He won Jawali in 1657 and expanded the frontiers of Swarajya, up to the western coast of the sea.

After his death, it appeared that the Maratha power might be crushed out by the Mughals. In between we saw the rise of maritime heroes such as Rama Patil and Laya Patil whose contribution left a mark on the Maratha history, as was discussed earlier. Then around 1698 rose another great Naval warrior namely Kanhoji Angre. Now I am going to talk about our fifth maritime hero, the legend himself. Sarkhel Kanhoji Angre. His victorious feats and daring strategies make him impossible to ignore, when one speaks of great warriors of Maharashtra. He was an ally of the Marathas as they shared the same mission of resisting the Portuguese, the Dutch, the Mughals and the English. Kanhoji Angre was born in Harnai in the Konkan coast of Maharashtra in 1668. Although not much is known about his early life and career, the legacy of maritime warriors was definitely pioneered by Sarkhel Kanhoji Angre.

According to the official family history Kanhoji was a Maratha Kshatriya by birth and his original surname was Sankpal. It is because of the long residence of the family in the village of Argarvadi, was their name changed to Angria. Not much is known of his early life and career, but he was active in the navy from 1698 to 1729. Kanhoji Angre became the Subedar of

the Maratha Armada early in 1698 after the demise of Sidhoji Gujar and according to his family history, Kanhoji Angre was appointed after the return of Rajaram, who offered him the post of 'Sarkhel'. The first reference to Kanhoji Angre is found in the Portuguese papers where he's addressed as "*Subedar da Armada do Sivaji"*.

His goal was to keep the foreign powers in control, so he improved several facilities in the naval training like discipline, efficiency, amazing skill set and proper administration of the Navy. Kanhoji Angre made all efforts to curb the tyranny of English, the Portuguese and the Dutch and whilst never losing a single battle. He had devoted his entire life to fight against the foreign enemies. His strategies had the element of surprise and stealth which overpowered the opponent therefore making him a valiant warrior of the navy and immortal figure of bravado.

Kanhoji Angre's armada were specifically devised according to the geographical uniqueness of the Konkan coast which became a big challenge to the foreign powers. He understood the importance of the coasts which nowadays most of us have forgotten.

The East India Company (EIC) however categorized him as a pirate because of his constant plundering of English vessels. Although the British Army was bigger in numbers, Kanhoji Angre's tactics were smarter, which overpowered them. One of his well-known remarkable confrontations with the foreign powers was with the English. The English were restless since Kanhoji Angre had made Kolaba his main station.

The unrest increased when the island of Khanderi got passed under his command because both Khanderi and Kolaba were only a couple of miles from Bombay. Khanderi became a strategic point for Angre to keep a watch on the English vessels entering Bombay. Despite a peace treaty established in 1713 between the two which allowed British ships to sail without being plundered, this treaty did not last for long.

In 1717, a ship 'Success' belonging to an English broker was captured by Kanhoji. Shortly another ship was captured and he refused to return both. This infuriated the English and on 17th June 1718, the British declared war against Kanhoji. Kanhoji contended that the English were not entitled to exemption from the ordinary rules of passports. English loaded foreign boats with their goods and demanded the same immunity for them to which the ships of undoubted English Nationality was entitled, which meant financial loss for the Maratha administration.

The expeditions led by English against Khanderi, Kolaba and Gheria were unsuccessful. Enemy of an enemy is a friend, so the English abided by this saying and made an alliance with the Portuguese, in the 1720s which also failed miserably. This failed Anglo-Portuguese expedition, without a doubt, contributed to Kanhoji Angres prestigious career. He continued to plunder these English ships until in

October 1722, Kanhoji sailed from Kolaba leaving his eldest son in charge of the Government.

The Maratha Navy had not yet emerged from the primitive stage. The seafarers indeed had skills for the sails but their fighting fleets were inferior compared to the contemporary European. There was no further development in the navy and hence the Maratha navy progressed satisfactorily to a certain stage but then any further improvements halted. Being remarkably consistent over naval battles he was bestowed with the title of chief of the navy by Chhatrapati Rajaram Maharaj. The Maratha navy had been active for nearly forty years when Kanhoji had succeeded to the chief of command. The fort in Khanderi was his operational headquarters for the last 21 years of his life.

Sarkhel Kanhoji Angre died in 1729, and with him died the Maratha Naval superiority. Kanhoji boldly followed Shivaji's policy, and rode the sea capturing ships without passes. He allowed the English ships to enter his ports on payment of the usual customs and was unwilling to make more concessions to the English.

In the memory of this brave warrior of the soil, the Island of Khanderi is renamed to Kanhoji Angre Island. Thank You.

Amruta Talawadekar: After the great Maratha sentinel Kanhoji Angre, let's talk about Bombay's Master Ship Builder, Lowjee Nusserwanjee Wadia, the sixth of our maritime heroes. But there's a difference. Lowjee wasn't an admiral or a naval war hero associated with battles we've been discussing. He was a shipbuilder. The marriage treaty between the Portuguese and British Empire in 1661 gave the ownership of the seven islands of Bombay to the British empire. It was then leased out to the English East India Company. Surat was then a very important seaport on the west coast of India where English East India Company was first established. Since all trade was done by sea, the shipping industry started to flourish.

Lowjee Nusserwanjee was born at Siganpur near Surat in about 1700. He was trained as a shipwright and was employed in the East India Company's dockyard at Surat, which, prior to 173,5 was the principal dock. It was not only an important dock on that side of the peninsula, but also in all of India. Constant attacks by the Marathas led to shift of base of the Company from Surat to Bombay. As Bombay grew, they realized the need to have an advanced ship building centre at Bombay. The Company recognized the skills of Lowjee Nusserwanjee and invited him to Bombay. Bombay was then an emerging port town where people from various fields were invited to settle. He arrived in Bombay from Surat in March 1736 along with 10 other carpenters.

He was employed to build ships for the Company at the Bombay Dockyard. By 1748, he became the master ship builder. The Bombay dry-dock, the first dry-dock in Asia, was built by Lowjee and his brother Sorabjee in 1750. Bombay began to be considered a viable trading port for all ships from the West and East. Ship building got a kickstart during this period. He and his family built over 350 frigates and

steamers for the Company, for the Royal Navy, and for a few private owners. These vessels were known to be of a superior quality than the ones made in England. These vessels were used not only in trans-continental journeys but also in naval battles. Bombay ships were preferred to the England-made vessels by the traders due to its durability and quality of wood. It was under his craftsmanship that a ship HMS Minden was made on which the American National Anthem was composed. The first war ship HMS Cornwallis was built by Wadia too. It was on the deck of the HMS Cornwallis that the Treaty of Nanking ceding Hong Kong to England was signed.

The second oldest ship in the world, 'HMS Trincomalee' which even today is afloat and intact in Hartlepool, is yet another marvel of the Wadias' shipbuilding prowess. It was after Lowjee's arrival in Bombay that a number of other docks subsequently began to be built in Bombay and a number of ships began to be made and trade bloomed like never before. The city transformed from seven marshy islands to a busy port city under the British Crown. The post of a master builder remained with the descendants of Lowjee Nusservanji till 1884 after which the Bombay Dockyard was shifted from the Bombay government to the Indian Government. Lowjee Nusserwanjee Wadia left behind a legacy of indigenous shipbuilding and skilled craftsmanship which transformed the town of Bombay into one of the busiest ports in the world.

Another icon in the shipping industry was Narottam Morarjee. He is the seventh of our maritime heroes we are talking about, again a shipbuilder. Let us first understand the times in which he was born. The revolt of 1857 and many other disputes had led to a major unrest in the country and many leaders emerged against the rule of the British Empire.

The British Empire had taken complete control over international waters that were the pride and recognition of India once upon a time. India has always been a maritime country with water on its three sides and a natural vast coastline. As years passed by under the British Empire, the English dominance increased, side-lining many Indian shipping companies. The new shipping policies further tightened the control over Indian vessels and led to the decline of Indian shipping.

Born in April 1877 at Porbandar, Narottam Morarjee was a son of Morarjee Gokuldas, a textile king. His two illustrious tutors, Narayan Chandavarkar and Gopal Krishna Gokhale, instilled in him a high sense of patriotism.

Inspired by the wave of national resurgence generated by Mahatma Gandhi and the Swaraj movement, Narottam Morarjee and his associates embarked upon a national shipping venture and the Scindia Steam Navigation Company Limited came into existence on March 27, 1919. Thus, were laid the foundations of modern Indian shipping. It was an attempt towards regaining India's maritime freedom and reviving the Indian shipping industry. On April 5, 1919, Scindia's first ship S.S. LOYALTY sailed from Bombay to the United Kingdom

and became pioneers of Indian shipping in international waters during the 20th century. The epic voyage symbolised the generation of a vanquished national industry, development of neglected ports, growth of Indian trade, prevention of drain of wealth and opening of a career at sea to the Indian youth. It was with infinite patience and tenacity of purpose that Scindias conducted the long voyage. For ten years, Narrotam Morarjee guided the destiny of the Scindia Company and promoted the interests of the Indian shipping industry. The progressive growth of Indian shipping beats testimony to his vision and foresight.

Narottam Morarjee, the architect of modern Indian shipping, passed away on November 5, 1929 leaving behind a legacy of entrepreneurship and service towards the country and for its people. The Company's first bulk carrier was named after the maritime hero who gave a new name and opportunity to Indians in the International waters. Thank you.

Janhavi Lokegaonkar: After Narottam Morarjee, we have more heroes from the 20th century, closer to our times. Amruta just spoke about the pioneers in modern Indian shipbuilding. We now turn to heroes from the Indian Navy. The eighth of our maritime heroes we are talking about today is VAdm N Krishnan. Here is the well-known photograph of the surrender ceremony at Dacca in 1971. One officer in the picture stands out in the sea of Khaki and Olive Green. He is the then Flag Officer Commanding in Chief, Eastern Naval Command of the Indian Navy, Vice Admiral N. Krishnan. If INS Vikrant played a lead role in December 1971 by blockading Pakistan in the Bay of Bengal, enabling Indian victory and the liberation of Bangladesh, its success is attributed to Vice-Admiral Nilakanta Krishnan. His strategy to lure Pakistan's deadly submarine PNS Ghazi to the mouth of Visakhapatnam harbour and sink her on the first day of Pakistan's attack on India on December 3, 1971 still ranks as one of the great naval victories and diplomacy. But the historical incident is not the only high point in the career of Vice Admiral Nilakanta Krishnan. His 17 decorations speak volumes of his service to the Indian Navy.

Born on 8 June 1919, Krishnan was successful in the entrance examination and joined the Indian Mercantile Marine Training Ship (IMMTS) Dufferin in 1935 and was one among the two selected for the Royal Navy-the other being Jal Cursetji, (CNS). He was formally trained in the United Kingdom and saw action in World War II in several theatres. Starting his military career at age 16, Vice-Admiral Krishnan fought in pre- and post-Independence battles, in Europe and Asia, and in World War II. The battle leading to the capture of Abadan contains one of the most heroic sagas of young naval leadership in battle. Our hero was then a Lieutenant. As the Captain of a small tug boat which was to act as a support to the Australian Frigate, HMAS Yarra, with a crew of just 12 ratings, then Lieutenant Krishnan was involved in the capture of Khorramshahr (Abadan) in the Persian Gulf. His tug not only provided

warning and information to the following Royal Navy attacking force, but also forced the surrender of an enemy gun boat in a battle in close quarters which saw them kill three enemy personnel and take twenty as prisoners.

Krishnan was awarded a gallantry medal, the Distinguished Service Cross (DSC), for his bravery in action. He is in a select group of only two Royal Indian Navy (RIN) officers who were awarded the DSC. Many such inspiring and hair-raising accounts have been described in his autobiography A Sailor's Story edited and put together by his son Arjun Krishnan.

Adm Krishnan is very well known in the Navy for his tact, diplomacy and daring-do. He went through a range of operations and postings. His accomplishments speak volumes of the range of his expertise. In the later years of his distinguished service, he had also been assigned with important postings and even helped to create a blueprint for the modern Indian Navy.

In 1961, he led the winning naval push that brought down the Portuguese flag and liberated Goa, Diu, and Daman. His postings gave him practical understanding in diplomacy and developed his strategic outlook which helped him in bringing reforms in the Indian Navy. Admiral Krishnan was seconded to the Ministry of Shipping and Transportation and was made the first Chairman and Managing Director of Cochin Shipyard Limited. He continued to be on active substantive service in the Navy and set up a greenfield shipyard from scratch. This legacy of his is now at work constructing the country's Indigenous Aircraft Carrier.

Krishnan not only was a part of Indian Navy's finest moment but also contributed significantly to making it possible. After a distinguished service in the Indian Navy, he retired in 1976.

Krishnan passed away in January 1982 but leaves behind a legacy that is cherished by all in the Indian Navy. Our ninth maritime hero is Admiral Bhaskar Sadashiv Soman. He was in command of the Indian Navy from 1962 to 1966 as the 4th Chief of the Naval Staff (CNS), Even to this day, young officers look forward to emulating this role model of value-based leadership.

Tracing the early life of Bhaskar Soman will take us back to his humble beginnings. He was a son of a Gandhian freedom fighter. An unlikely candidate to join the Navy and fight for the British Raj, it is to the credit of his parents that he could do so and to inculcate in their son some excellent values of life such as integrity, humility, simplicity, and forthrightness, and above all patriotic fervour.

Admiral Soman's rise in the service was meteoric, not unusual for good officers in those early days when there were so few. He was commissioned in the Royal Indian Navy in Aug 1934. He obtained his first command in July 1942, and attained flag rank on 12 Jun 1958. His first real experience of the war was in a land-based operation. The Italians had overwhelmed the small British Indian Army detachment in a surprise raid at Berbera, a small port

not far from Aden. To prevent an Italian consolidation, the task of releasing Indian prisoners was given to HMIS Cornwallis. Petty Officer John Eckersley and twenty sailors under the then Lt. Soman with an Italian interpreter formed the landing party.

His leadership qualities combined with tact, diplomacy and skills were developed as he went along and rose in the service. Not many Naval Officers, even those who knew him in service, are aware that he obtained an international pilot's license at the age of 20 in his spare time whilst under training in the UK. His integrity and forthrightness were evident when he refused to go ashore in South Africa when in command of a ship as his crew was forbidden to land due to apartheid laws.

He was promoted to Rear Admiral on 12 June 1958 and reappointed as Flag Officer Commanding Bombay (FOB). In April 1960, he took over as Flag Officer Commanding Indian Fleet (FOCIF), and was in charge of India's naval operations during the 1961 Liberation of Goa.

He was appointed the second Indian Chief of Naval Staff as a Vice Admiral on 5 Jun, 1962. He was the Chief when the 1965 war with Pakistan took place. Soman retired from the Indian Navy on 22 November 1966, relinquishing the post of CNS as a Vice Admiral, then the highest attainable rank in the Navy. In 1968, the post of CNS was upgraded to the rank of full admiral, and on 21 October 1980, Soman and Ram Dass Katari, his predecessor as CNS, were promoted to the honorary rank of full Admiral on the retired list by President Neelam Sanjiva Reddy.

Our Director Cmde Odakkal Johnson writes in Timeless Wake, “There is much in our legacy that provides heroic inspiration in a ship-based service which does not naturally breed heroism. The commando-like exploits of Soman and Krishnan are correct folklore for a resurgent maritime military spirit.”

We salute these naval heroes.

In Conversation with our Guest Speaker: Sir Robin Knox-Johnston

Director: Nice to have you Sir Robin. You are of course an adopted Indian from the very name of the boat that's on your t-shirt the one which you went around the world. Nearly 51 years ago. So welcome to the special commemoration to the tribute of late VAdm Awati whom you met and so welcome this evening.

Sir Robin Knox-Johnston: Pleasure to be with you.

Director: In this program we've been commemorating the maritime legacy of India through some extraordinary voyages from as long as a medieval history Rajendra Chola to various people down the line. But no story of India's maritime history ends till you don't talk about the man who would have been 93 today. I remember when I was all of 18, I saw him on national tv with his grand beard on the TS Jawahar and trying to guide the Asian Sailing Games. That was Manohar Awati. He had this great dream of having an Indian circumnavigate the globe and that dream lived on. When you yourself did it on an Indian built boat

and when he got Dilip to do the venture, it really set the journey going. Both Dilip and Abhilash always mention that interaction that they have with you and Adm Awati was always very grateful about the whole process and today we have eight circumnavigators which is a thing of great pride for us. So tell me your first recollection of Admiral Awati and some things that you heard about.

Sir Robin Knox-Johnston: Well, I first became aware of Manohar Awati when he contacted me to say he was thinking of trying to send a young Naval Officer around the world to be the first Indian to do it and could I help and I said I would be delighted. Well, I was getting ready to do a single-handed race around the world this would be about 2005/2006 and I said well I think the best thing you do is send your young officer over here because I'm getting ready to race around the world right now and it'll be a an introduction to what's going on in solo setting circumnavigating particularly and of course he'll learn an awful lot about putting a boat together for such an event. In due course he did have arrived and that was the beginning of a strong friendship which continues to this day.

I didn't meet the man until later when I actually visited India again and I met this wonderful character. I mean he was larger than life. He looked like an admiral. He had the beard of an admiral. He had the voice of an admiral. He was very clear on what he wanted and made sure everyone else knew it and he didn't really like people getting in his way. He decided on something - it was going to happen. I found it utterly delightful as I said," larger than life". Enormous fun, great sense of humor and I was very fortunate because I got to know him quite well. We visited the naval base in Bombay, I went up to the academy there in Pune. Dilip and I stayed with the Admiral in his house. So, I saw a lot of him. We went sailing on the boat before Dilip went around the world. Admiral was there and later on, when Dilip and I were crossing India on the train, we went to Nagpur and the Admiral met us there. We went to the Tiger Reserve which was very impressive. So, I spent a lot of time with him and the more I spent with him the more I found him to be absolutely delightful and enormous fun. I remember up at Nagpur we didn't see any tigers but the guy at the warden said, "tiger slept here last night" and the man (Admiral) said, "I must lie where the tiger slept" and I got this wonderful photograph of him lying in the grass where the tiger had slept. That was how he was. He was just grateful and you know you tell him things and things happened. I remember taking Dilip back to cross island in Bombay harbor and I said, "I've got to go to cross island." he said, "Why?" I said, "Because there's some cannons there and they're the old armstrong muzzle breach loaders. He said, "What! Wrong." I said there's a battery there that the whole island was a Battery let's go." We found the cannons, we toured them. Well of course the man (Admiral) was not going to leave them there, is it? He's going to get them recovered; he then traces them and finds that they were

made in Calcutta in fact. He was just such fun. He was so interested in anything to do with maritime history. And I share that interest. So inevitably we're going to get on very well and we did what we did.

Director: When you tell me the story of the tiger reserve there are a lot of stories people have told. He was not a one apple cart person. You could talk to him about sailing, you could talk to him about birds, you could talk to him about wild animals, you could talk to him about any subject and he would have an anecdote or he would have a question for you. The year before he went for what I call as 'his final voyage' he would come all dressed up with his yellow socks and his lovely hat. He used to say, "I am dressed up why don't I come on stage and speak." So when you say larger life, it's true. I'm sure you would have had many one-on-one talks about the interest in the maritime dimension, the maritime mindedness. Can you share with us some of the conversations you recall between the two of you?

Sir Robin Knox-Johnston: Well, obviously we spent a lot of time discussing the voyage before Dilip made it and then subsequently discussing Abhilash's voyage and by the time the girls came along I was in contact with them but not so involved as I had been with the other two although I thought the girls did brilliantly. We discussed those sorts of things and then we would get onto maritime history and of course what people perhaps don't realize is the wonderful maritime history that India has. Just go south of Bombay, a little way towards Janjira and there's an awful lot there. Of course you had that admiral who gave us Brits a very difficult time about four centuries ago. He was a remarkable man actually that's right. We discussed these things.

And because we were both interested and we weren't taking sides. We were both actually totally neutral just discussing. What was this man (Sarkhel Angre)... was like... remarkable in many ways and what he achieved was remarkable and we were both interested in the person (Sarkhel Angre) from the point of view of that person and indeed his impact on Indian maritime history, which is considerable!

Director: If there is one way to truly commemorate the legacy of Admiral Awati for the younger generation, what would you say that the best way they can take that legacy forward. I know there are more options than one but what are the couple of things that come to your mind.

Sir Robin Knox-Johnston: There's a wonderful poem by an American called "The Mustn'ts" and it goes,

"Listen to the mustn'ts, child.

Listen to the don'ts.

Listen to the shouldn'ts, the impossibles, the won'ts.

Listen to the never haves, then listen close to me...

Anything can happen, child.

Anything can be."

and my goodness Adm Awati absolutely lived by that. He would not

take no for an answer. He would just continue to press on to the achiever's objective and there's a lesson I think for all young people whether in the Navy, Army, Air Force, or civilians, never take no for an answer if you think you're right. I know that he didn't and look what he achieved!

Director: So, I really want to thank you and I just want to share with you that I met Manohar Awati in one of the paper presentations and then at some stage I was asked why don't I come and look after Maritime History Society. So I said I'll think about it and I received a call from him, "Johnny, when are you joining us?" It's very difficult to say no after that. He won't take no. He won't let you say no. We did have a couple of places where we disagreed and he was also very graceful. I mean he let you say of course he would have his very strong view. Were there some places you looked things differently and conversations went? Or the love for the sea overtook everything?

Sir Robin Knox-Johnston: Oh yes, I mean we when they first got the designs of the boat Mhadei I think I wrote three pages of things I felt should be done to it. Adm Awati just accepted them. I said, "you've got to do this, you've got to do this, you've got to do this." I think it was about three pages long. Dilip may have it somewhere still. But he just accepted it. You know he sort of said well, "You know what you're talking about and I'm going to listen." And I think that was another of his great attributes actually. He would listen and if he thought the advice he was hearing or the suggestions he was hearing was sensible he would adopt them. He wasn't one of those people stuck in the mud at all. He was very open to ideas and I think that's probably why he was such a fantastic leader.

Director: So, in closing if I were to ask specifically for a word for budding maritime enthusiasts with your legacy of sailing specifically. I know it's an expensive vocation or an interest to have and we are doing our best to promote it for budding maritime enthusiasts, sailors or writers or storytellers in any way. Give us a closing word in that same breath not just the Admiral but say from your side.

Sir Robin Knox-Johnston: Well yes boating unfortunately can be expensive. It doesn't have to be. It tends to be. People want the latest expensive toy. But the strength of British sailing is in the dinghies in the small inexpensive boat. And this is where I think India could develop. You've got the tradition. I've served for 14 years with the Indian crews and I know they're very good seamen. The liaison that we had were excellent and very loyal and I like them immensely.

But the traditions there, you look at your fishermen, you look at the people used to run the country craft up and down the coast. It's there. What you haven't yet done is open people's eyes to the fact that it's a wonderful leisure, pastime and it doesn't have to be expensive and it's not just that it's the social side of sailing. It isn't the big stuffy clubs which are expensive. It's what we call here, "the sailing clubs" where people roll their sleeves up and lay a concrete slip. They'll help each other, they haven't got a lot of money.

The clubhouse is probably a garden shed but are they sailors yes and do they develop sailing. Yes, do they train young people yes and that's where the strength of British sailing is and I believe that's where it should grow in India.

Director: So, thanks a lot that's a good note and I always say the best tribute to Adm Manohar Awati is - go to the sea. Don't just stay on the shore. Just get to the sea in any manner and if you can't at least write about it or read about it. Thank you, Sir Robin. Thank you for joining on this very momentous occasion for us because in India if we talk of maritime legacy, Adm Manohar Awati will very much be a very major voice in that. It's great for you to join and I'm sure he must be smiling from up there at the stuff that we have been talking about.

Sir Robin Knox-Johnston: He would turn around and say why didn't you mention this.

Director: That's true and he would have a closing word for it. Thank you for joining us today Sir Robin.

Closing Remarks by VAdm AR Karve

VAdm Karve, Patron MHS: I am glad to be here not to draw the program to its close but to highlight that the saga of maritime heroes is a continuous story. Since the future will certainly throw up even more of these extraordinary voyages whose spirit still lives within us continue to inspire us as role models. This commemorative conversation is indeed a good gesture in paying a tribute to our Founder and as a means to reminding fellow mariners about a maritime legacy. The day and occasion are indeed well chosen and who better than Vice Admiral MP Awati, a legend and a hero of our times to be remembered. on this occasion. Let me quote from an article about VAdm MP Awati and I quote, “Operating in the extremely dangerous territory with constant danger to his ship from enemy mines and submarines and an undeterred Awati went on a probing sortie of enemy defended harbors before finally striking a massive blow. Awati not only attacked and captured three enemy ships carrying contraband goods but also pursued an enemy submarine.” Such is the heroism we admire and remember. Thanks to the initiative taken by the Maritime History Society we salute these great maritime personalities who have inspired us with their deeds and actions. As we honour them, we gently nudge our young mariners to follow in the paths of these great heroes. There are even more Indian maritime heroes and I am sure we will find another occasion to learn more about them. May we continue to produce more heroes and even more importantly may we continue to remember them as we go forward. The current restrictions due to the pandemic have opened unimagined opportunities to enhance our awareness and knowledge. Maritime History Society has in the past few months bought before you a wide range of content on our maritime heritage through a variety of events video blogs and its website. I am certain it has kindled even more interest in our maritime past. We are

hoping to bring even more formalized learning programs and independent research opportunities about India's maritime history. My congratulations to the MHS research team. You have done well. This is a fascinating journey.

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You have embarked upon which will inspire you to do even more. Let us close with the MHS tagline “Let heritage awaken our maritime consciousness” Thank You

JEWEL FROM THE PAST

COASTAL FORTS OF INDIA AND THEIR IMPACT ON HISTORY

Wing Commander (Retd) Dr. M. S. Naravane

India has a very long coastline and a very ancient maritime tradition. Commerce and trade flourished and contacts had been established, from ancient times, between India and countries of Europe, the Middle East and Africa in the West and with Java, Sumatra and other countries in the East. Now it is axiomatic that where there is commerce there is competition. Where there is competition there is conflict and where there is conflict warfare and raising of fortifications naturally follows.

It is not surprising, therefore, to find the coast of India dotted with forts. All aspects of these forts deserve a detailed study. Their location, the 'why' behind their location, the nature of their fortifications, their classification, the climate of history in which these forts functioned, the use of the forts by various powers, and at various periods - ancient and medieval, their impact on military and political affairs, their present ruinous state and what can be done to restore them, preserve them and profitably utilise them, are some of the topics which invite attention and examination.

Due to the constraint of time and space, I propose to deal with only two aspects, and that too, briefly. I propose to cover the functional nature and location of the forts and then their importance to various powers. The period covered is from the arrival of the Portuguese on India's shores in 1495 AD.

Maritime and Coastal Forts I shall begin with presenting two new concepts that I have introduced in my forthcoming book "The Maritime and Coastal Forts of India". A clear distinction must be made between 'maritime' and 'coastal' forts. I use the word 'maritime' to denote activities on the high seas both commercial and naval. 'Coastal' on the other hand denotes activities near or along the coast and the immediate hinterland. Maritime forts looked outwards towards the high seas, and supported maritime operations. They acted as bases for the mercantile and naval fleets. The fact that they also influenced the course of events in the areas immediately behind them (landward) was a secondary preoccupation. The coastal forts, on the other hand, looked more inwards than outwards. They controlled traffic along the coast, both on the seas and on land, and harboured small fighting ships. But naval skirmishes in their case seldom extended beyond 30 kilometers from the coast. One reason was that the land breeze, on which much sailing depended, rarely swept more than 30 kilometers from the coast. Many of the smaller fighting craft were manned by oarsmen and their circle of operations was necessarily limited. But over-all, their orientation was towards land.

An example may make this concept clearer. The Bekal fort is situated on the coast of Kerala (13 18' lat, north and 75 02' long., east). It is about 70 kilometers from Cannanore with a bearing of 329 degrees. It was a large, strong fort but had almost no effect on maritime operations. Large ships did not take shelter under its walls. It mounted no offensive operations. Its main role was to control the coastal traffic between Cannanore and Mangalore and support land operations. This it did to a considerable extent in the wars of Haider and Tipu. Diu (20 42' lat, north and 71 00' long., east), on the other hand, was an important Maritime fort because it controlled the sea lanes between Gujarat and the Arab ports. The Portuguese warships regularly used it as a base. In fact, it played an important role in the Portuguese policy of weaning the trade away from the ports of Gujarat. Once captured, it played an insignificant part in the political and military affairs on the mainland.

The second concept that I have introduced relates to the classification of forts. It merits very close attention. Traditionally, the forts have been categorised on the basis of topographical features - island forts, coastal forts, hill forts and land forts. Even Kautilya in his Arthashastra uses these criteria. I feel that this method is totally inadequate, as it does not give any clue about the functional characteristics of the fort or its importance. I have, therefore, introduced the classification of "Main Forts", "Secondary Forts", and "Fortified Outposts". Main Forts, as the name suggests, were strong, large, forts, well manned, well provisioned and stocked, capable of withstanding a siege of long duration, and from where offensive and defensive sorties could be mounted. The outposts, as the name suggests, were small posts merely designed to screen the main forts or increase the range of reconnaissance of the Main and Secondary forts. Roughly, we can relate maritime forts with main forts, coastal forts with secondary forts and then there were a large number of outposts.

Bearing the above in mind let me project some data about these forts. Out of the 151 forts that I have catalogued, the data can be shown under different headings thus:

Maritime Forts	12	8%
Coastal Forts	40	26.5%
Outposts	99	65.50%

The popular impression is that the forts were the be all and end all of all military operations. The above data will show that only 12 out of 151 forts were of some consequence and that a large majority of them were merely outposts playing a very subordinate role. The next set of figures relate to the location of forts coastwise. Out of 151 forts 130, i.e., 87-88% were on the western coast. The reasons for this preponderance were both geographical and historical. From the purely geomorphological view point, the

Konkan coast is categorised inhospitable, not conducive for large scale movements of goods and people. Geographers say that this was because of the presence of mighty Sahyadris, the Western Ghats. The range was thickly wooded, there were very few passes or ghats between the hinterland and the coast, and the mountains caught up to the sea, some offshoots reaching into the sea. This meant that there was no coastal plain or a very narrow one. The whole region was isolated. Yet, the fact remains that there are a large number of rivers rising in the Sahyadris and flowing down to the Arabian Sea, and almost everyone has a creek or bay at its mouth. Sand bars and narrow channels may have prevented entry of large ships but the smaller craft could find a safe haven. There were also a few natural harbours. The eastern coast, on the other hand, was a long, straight, stretch with no indentations and with no natural harbor. Thus, in the west, the geographical conditions were conducive to fort building and we find a fort at the mouth of every river.

The historical and economic reasons were also important. I shall touch upon the former. The Western coast was controlled by numerous powers and the hinterland was split into numerous small principalities and kingdoms or fiefdoms After the fall of the Bahamas, the coast fell under the control, starting from the north of the Sultans of Gujarat, say up to Bassein. The Nizamshah rule extended to Chaul, the Adilshahi to about Honavar and south of it was the mighty Vijayanagar Empire. On the coast, there were innumerable small chiefs owing allegiance to either one or the other of the kingdoms at Ahmadnagar, Bijapur or Vijaynagar. Honavar was ruled by a Muslim chief owing allegiance to Vijayanagar and not Bijapur. The Zamorin of Calicut, the Kolathiris of Chirakul, the Rajas of Cochin and Travancore wielded immediate and effective control. Each had some kind of fortifications mainly because they were constantly fighting amongst themselves. In fact the Portuguese were welcomed with open arms at Cochin only because the Raja was at war with Calicut where the new visitor from across the seas was not welcome. This kind of political situation was not found at least to the same extent, on the eastern coast.

One more set of figures may be given. The coast of Gujarat, including Diu and Daman, has 16 forts at a density of 1.01. Here, by density, I mean forts per 100 kilometers of the coastline. Out of these 16, three are maritime. Maharashtra has 71 forts with a density of 9.46, but out of these 71 only three can properly be called maritime. Next, we have Goa with 8 forts, a density of 8 and two maritime forts. Karnataka has 16 forts, a high density of 5.63 but no maritime forts. Kerala has 19 forts, a density of 3.27 and 2 maritime forts. Tamil Nadu has 14 forts, a density of 1.5 and two maritime forts. Andhra Pradesh has just 4 forts, a poor density of .42 with no maritime forts. Orissa has 3 forts, a density of .6 and no maritime forts. West Bengal has no forts of any consequence and I do not consider Fort Williams at Calcutta as a coastal fort as it was not on the coast or within 5 kilometers of the coast. This

distribution again reinforces what has been observed for the Western Coast as a whole.

I must now turn my attention to the importance of forts, as a detailed analysis of the statistical data would be outside the scope of this paper.

The Portuguese were the first European nation to have arrived on the coast of India. In the beginning, there was a divergence in the views of the Portuguese governors or viceroys. Almeida was against the building of forts and wanted all the strength to be concentrated on the seas. Albuquerque on the other hand advocated the building of forts to provide a base for the navy and as a means of forcing the native rulers to adhere to his demands. The political objective of Portugal was to dominate the spice trade with India and the east. This was translated into the strategic objective of securing the sea-lanes for herself and denying it to the Arabs who had controlled the trade till then. This is what we now call 'Command of the Seas' or 'naval superiority'.

Tactically, the aim was to secure bases from where a quick and strong response to any threat to trade or their naval ships could be met. Diu and Daman effectively sealed the Gujarat ports. Bassein, Chaul, Goa, and Cochin provided cover to the coastal lanes and the very kafilas that brought spices and other produce to Goa for exporting to Portugal. It is not surprising, therefore, to find that out of the 12 maritime forts, 7 were built by the Portuguese. Popular sentiments would have us believe that the forts played a vital role in the establishment of Portuguese supremacy in the Indian Ocean. The truth really is that supremacy was gained by the fleet on the high seas without the intervention of the forts.

Let me explain. The Portuguese fought four major naval actions, off the coast of Cochin, Chaul, and Diu. In three of these, the Portuguese triumphed completely and their power in the Indian Ocean was firmly established. The forts did not play any role in these actions for the simple reason that they did not exist at the time of the battles. Cochin fort was built in 1503, after the victory at the Battle of Cochin in 1502. In fact the Raja of Cochin could repulse the determined attack of the Zamorin only because of Portuguese assistance and he was so grateful that he invited them to build a fort. Calicut fort was built in 1525 after the Zamorin was poisoned by his brother at Portuguese instigation and promise of great rewards. And the mighty fortress of Diu was built in 1534 when the last battle had already been fought and won. Bahadur Shah of Gujarat had realised that he was no match for the Portuguese on the seas. He was beset with difficulties at home and was threatened by Mughal invasion from the north. In desperation he sought Portuguese help.

A treaty was signed and Bahadur Shah ceded Bassein and the territory around it and permitted a fortress to be built at Diu. The Portuguese had captured Goa in 1510 and except for a very brief period when the Adil Shah general captured it, Goa was to remain firmly in Portuguese hands. The forts in Goa territory, Bardes in the north and Salsette in the south were meant to

provide defence from a land invasion. There never was a threat from the sea.

Thus, we can say that the maritime forts did not play any part in the establishment of Portuguese power, but only in the maintenance of that power.

Before I quickly touch upon the Anglo-French conflict in South India, a word must be said about the aim and attitudes of the Indian rulers. The Mughals, the Bahamanis, the Adilshahis, none showed any interest in the sea or correctly understood the value of the sea for the safety of their own territory. Even the mighty Akbar had to obtain passes from the Portuguese before his ships could sail for Mecca. It was left to Shivaji to realise the threat that foreign domination of the Indian Ocean posed the Indian rulers. He was the first Indian ruler to form a naval arm of any substance, build ships and use them offensively. Alas! His attempt came too late and was not sustained and enlarged by his successors. Only Kanhoji Angre was able to contain the foreign powers and controlled most of the Konkan coast. He was a great warrior and the Indian Navy has named an establishment after him. But after Kanhoji there was no expansion. In fact, here again the jealousy and animosity of one Indian ruler against another led to a joint Anglo-Maratha expedition against Tuloji Angre. At the Battle of Vijaydurg the Maratha Navy was effectively destroyed. While recognising the great part played by the Maratha Navy, we must clearly understand and note that it was in modern terminology, a coast guard. They did not and could not challenge the Portuguese, and later the French or British, fleet on the high seas.

A word now about the Anglo-French conflict on the Coromandel Coast: unlike the Portuguese or the Dutch, the British and the French had territorial ambitions. They actively interfered in the affairs of the native rulers, not only for gaining advantage in trade but also to acquire territory. After the brief sojourn by La Bourdonnais, the real trial of strength was between Admiral Hughes of the Royal Navy and Commodore Suffren of the French Navy. Within a space of about 8 months four major naval battles were fought. These naval engagements have been very thoroughly described and analysed by Mahan in his book. At the end, the balance was slightly in favour of the French, but this was more than made up by the Triumph of British arms on land. The main forts of Madras on the British side and Pondicherry on the French side played only a secondary role in the power struggle between the two fleets. Madras provided cordage, sails, spars and other items damaged during the battle to a far greater extent than what Pondicherry has to offer. The lack of natural harbours and the very adverse climatic conditions forced the British fleet to harbour at Mumbai for repair and refit. The French either went to Trincomalee or even much further west to Ile de France, the modern Mauritius.

In fact, the struggle for supremacy between the two nations came to a head not on the high seas or even at the maritime or coastal forts of Madras, Pondicherry, Fort St David, Cuddalore

but well inland-for example at Arcot, Vellore, Ami and Wandiwash. And after the French were defeated, the East India Company built an empire through great political and military sagacity.

The tragedy of India of that period was that when the Indian powers had a number of coastal forts with them, when they had the military strength and capacity to throw out the firangis, they did nothing and allowed them to lodge themselves on land. This was because the Indian rulers had no vision at all about the sea as a 'frontier'. Even a small raid on their land frontier, elicited immediate response. But large scale entry by sea was tolerated, even ignored. And once the foreigners had established themselves, the inherent lack of unity and constant animosity between Indian rulers paved the way for the building of an empire not through great battles on the sea or at Mumbai or Madras but in great battles fought inland - at Seringapatam, at Assaye, at Kirkee and above all at Delhi. With great rhetoric we can say that the maritime and coastal forts saw the rise and fall of the Portuguese, the Dutch and the French powers and finally the rise and fulfillment of the British power in India. True, they witnessed this rise and fall. But the question is, to what extent they participated in this rise and fall, and to what extent they contributed to the establishment of their power. When the last great Mughal, Bahadur Shah Zafar was humbled at Delhi, a British officer went up to him and said:

damdame me dam nahi

ab khair karo jan ki

Ai Zafar ! thandi ho gai

talwar Hindustan ki.

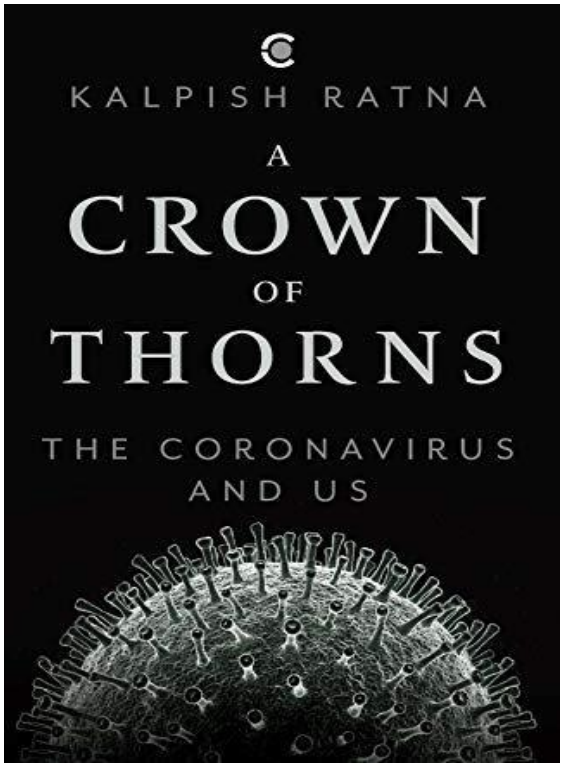
The sword of Hindostan was not blunted or broken at any maritime or coastal fort, or due to any high drama on the seas, but on land. In the ultimate analysis, therefore, the verdict of history must be that the coastal forts shone forth very briefly, to sink again into historical obscurity.

BOOK REVIEW

A CROWN OF THORNS: THE CORONAVIRUS AND US

BY KALPISH RATNA

Amruta Talawadekar (Research Associate, MHS)



Covid-19 is all that we hear today. The virus that shook not only India but the entire world has been the most talked about in today's time. Originating in Wuhan, China, the SARS Coronavirus spread like fire by mid-2020. It was in Jan 2020 that the first case of the virus was reported in India after which things got worse. By Mar 2020, the entire nation went under a lockdown. This was probably the first time, many of us were going to experience something like this. Surprises were yet to come. For most of us, initial days of the lockdown were filled with social media updates, dalgona coffee, shopping limited to our vicinity and how work from home was the new normal. The feeling of working from home at our own pace in our own space had its own charm at the beginning. Soon, the lockdown was extended in four phases across two months before the unlock phase finally began. By Jun 2020, enjoyment turned into distress. Staying at home began to feel like being trapped, going out began to feel like a punishment and work from home began to feel stressful. While the distress is increasing, only time can tell what lies ahead. Throughout the pandemic, there have been prenotions and assumptions within each one of us. The cause of the virus, the precautions and its cure have been in our thoughts since its unconfined growth.

Amidst the expeditious spread of the Coronavirus, Surgeons Ishrat Syed and Kalpana Swaminathan (together as Kalpish Ratna) have written a book called 'A Crown of Thorns – The Coronavirus and Us' to give us a different outlook towards this pandemic. The authors urge its readers to read about the virus through a new lens.

The book starts with the authors describing the ongoing pandemic. History has been a spectator of a number of viruses that have created havoc across generations. While most of us blame the bats as a cause of the

virus outburst, the authors have another take to this debate. According to them, the virus is a cause of human doings across ages. These are human activities that have resulted in a change in the environment, thus increasing the presence of viruses around us. We then arrive at the start of this roller coaster journey of the virus thereby discussing the three patients who were the initial victims.

Further, we see the argument emerging in the story. The authors point out the various diseases that shook the medical industry across the globe in several years and blame it on human behaviour. While we, as humans were aware of the many diseases that immensely took away lives and had an irreversible impact on us, we have repeated our mistakes each time. The depleting forests on the globe due to human greed is having a radical impact on not just the global climate but also human health. While a bat's virome is said to be the cause of Coronavirus, it is our misdeeds that have escalated its growth. The authors then travel back in history to the era when humans first existed among other species and expanded their existence under the pretext of progress. Discovery of fire, exploration and experimentation with tools made out of rock and farming by cutting trees are undoubtedly some of the key destroying activities amidst human explorations. In the last hundred years itself, the release of chemicals, fertilisers and even nuclear emissions in the environment has deeply disturbed the ecology. The authors then give a reality check on medical ailments that take more lives than Coronavirus does. Many non-communicable diseases such as diabetes, heart illnesses, malnutrition and obesity severely affect the body organs causing infection, complications and many a time, even death. So does Coronavirus.

Further, the authors point at how loosely words are used to create chaos. The word 'disease' is quite often misinterpreted. Aptly, the authors say: "Disease is a quarrel within the body. The quarrel is within the body, among its own family members, many of whom reveal unexpected facets and behave in unimaginable ways. We often see the disease as an infection which is just a part of the narrative".

What is a virus? While we loosely use the word, do we really know what it means? Virus, which is derived from the Sanskrit word meaning poison is a form of nucleic acid with a protective layer around it. While most of us are unaware, the authors throw light on our deep association with the Coronavirus. Did we know that it was first discovered almost 60 years back? The first evidence of the virus was found in 1965. While the following years saw very little discovery, it was found that it could affect not just humans but other species as well. Interesting, isn't it?

Have we pondered upon the existence of its name? While it came to be known initially as the Wuhan

virus, the official World Health Organisation (WHO) termed it SARS-COV-2 of which SARS stood for Severe Acute Respiratory Syndrome since it was a type of the earlier outbreak and COV stood for Coronavirus which was the cause of the outbreak. The authors interestingly see the respiratory tract in the human body as the airway thereby describing the virus's journey from the airway to the related organs.

The authors of *A Crown of Thorns* see the Coronavirus as a crown of thorns. As rightly said in the book, we can choose to respond to its challenge with panic or we can redeem ourselves with intelligence. Today, with the rapid spread of the virus globally and with the vaccines still in progress, the only factor to rely on is our immunity. Subsequently, the authors talk of how immunity works during the arrival of the virus into the body. The Coronavirus being an inhalable virus, boosting your immunity might not even help at times and will depend upon body to body unlike what is promoted in the current chaotic times.

Coming back to the beginning of the pandemic, the authors talk of the Wuhan market. By end January 2020, the virus had considerably spread in China and had begun its journey to travel the world. Moving further, the authors talk about the 'real' risk of the virus. Inflammation in the airway or co-morbidity is what makes the virus frightful. Co-morbidity means that the patient was already suffering from other diseases which possibly escalates the virus spread and its effects on the body. The narrative then goes back to the changes in human behaviour towards environmental destruction, clearly accusing it to be the reason behind what we are currently facing.

With the ongoing fad of sanitisation and disinfecting spaces and surfaces, the authors give a whole new perspective while questioning the survival power of the virus on these surfaces. Something to indeed ponder upon. The authors touch upon another overlooked aspect of the body, i.e., the human fat and its relation with the virus.By orienting the readers to the book 'The Book of the Dead' the authors have emphasised on the fact that the cause of death is something that has forever been studied to prevent another death due to similar reasons. In the case of the Coronavirus too, mortality has spoken its own story to ascertain the causes of the spread of the virus. While words like sanitisation, social distancing and masks are trending worldwide, the authors rightly wonder if they even make sense. Are we just paranoid? Have we thought deeply about the implications and use of these trending words? The book tells us

about it. Coming to the 'bat theory', have we ever wondered about the human and bat spill over? They have forever co-existed. What changed resulting in the pandemic? Talking of bats, did we know that a particular species called horseshoe bat *(Rhinolophus sinicus)* is responsible for the Coronavirus. The following chapter interestingly tells us about the virus that bats inhabit. The authors also tell us about the intermediate hosts such as a raccoon dog and pangolin that cause the virus. Through this, the authors bring up a new perspective of this paranoid scenario where we are still unaware of the many intermediate hosts that are present.

The initial cases of the Coronavirus were said to be reported at a wet market at Wuhan, China. Does this mean that all wet markets are breeders of the virus? Are vegetarians not prone to it? The authors now take you through a new perspective on the news that has been circulated in the public domain. It indeed opens our eyes to the increasing urbanisation that has led to the advent of the Coronavirus and the others. Loss of trees, loss of breathable air, increase in the ozone hole due to increase in harmful gases and climate change among the many reasons has led to the virus.

The narrative now travels from China to India just like the virus did. The first Indian case was reported in Kerala after which it spread like fire. The book then takes us through the Coronavirus journey in India from one case to millions, thereby questioning the decision of the lockdown and its effects. As rightly said in the book, this pandemic is probably not the only one we will face. Does it have an impact on the other species in the wild? Do we now have enough evidence to prove that the virus has affected us adversely because of us? Can we now treat it as another infection that can be resisted? Something to ponder upon.

With the rise in the cases, we see a rise in the manufacturing of masks and other so-called essential commodities. The following chapter points to the effectiveness of these commodities and its hype in today's scenario. Next comes the hunt for vaccines. Coming to the end of the book, the authors highlight the current scenario and the uncertain future stating the pit we are further falling into with the half knowledge about the virus. The new normal fills the last chapter thereby asking open ended questions towards it.

Thus, the book *A Crown of Thorns – The Coronavirus and Us* is a book for all of us. As a reader, you tend to realise the implications of human interference that has caused the Coronavirus among the many others. It is an eye opener towards our sins and the misdeeds towards the environment. The author

emphasises the careless attitude of humans. The book carefully talks about every aspect involved in the pandemic hitting at us currently while clearing some myths and questioning the others. Factors like deforestation, climate change, urbanisation, loss of habitat and extinction of species are the result of human wrongdoings thereby causing the virus to encroach human health. If we don't control our behavioural patterns, the virus that is otherwise in its own space, forcefully encroaches ours. In the current scenario in which our thought process is often driven by the media or by instances happening around, the book is an eye opener.

Discussion with the Authors of the book:

Q: What triggered you to write this book?

Kalpish Ratna: The arrival of this new entity in the world of medicine compelled us. This disease soon acquired the official label "pandemic" even before it got its present name, COVID-19. Pandemic implies a global spread. The world reacted with the standard response of quarantine and isolation; a response that has remained unaltered since it was first instituted in the mid-1300s.

We have studied epidemic diseases for two decades now, and we reckoned that the emergence of a novel one was nigh. And here it was. It was our duty to write this book.

Q: The title of your book '*A Crown of Thorns – Coronavirus and Us*' is interesting yet curious for the readers. What was your thought behind the title?

Kalpish Ratna: SARS-COV-2, this novel coronavirus, has a microscopic structure, now known to all, that looks very like a crown of thorns. Now humanity is wearing it, and not very wisely. *Viral diseases do not have cures.* We only treat their consequences. We decided to shift the focus on ourselves, because the battle with this new virus would be fought inside our bodies, specifically in our lungs.

Q: How long did you take to write the book? When did you start writing? By when was it ready?

Kalpish Ratna: We began writing in January and the cut off for us was 30 June. It was furious work but we had the book done by that date: all the extant facts and how they relate medically, socially, politically, nationally and internationally. The story isn't done yet, we are in the middle of it, but this is our first attempt at understanding.

Q: What do you want your readers to take away from the book?

Kalpish Ratna: We want to shift the attention from the virus to ourselves, humankind. It is not the

virus, but our state of health when we meet the virus, that decides the outcome of that encounter. Will we suffer from COVID-19? Will it pass us by? Will it cause a serious illness? Will we die? The answer lies not in the virus, but in each one of us.

Q: We keep reading something or the other about Coronavirus every day. By now, readers may be experiencing fatigue about reading anything more. As an author, how would you urge them to pick it up?

Kalpish Ratna: If the 'something or other' you've read so far has answered all your questions about this pandemic, sure, why should you read *A Crown of Thorns*? But if you're questioning the endless meaningless stream of information, if you are tired of the 24/7 barrage of mis- and dis-information that is deluging you, and if you seek clarity, please read our book.

Q: For the readers of the Sagardhara, what myths would you like to burst about the virus and the condition? That might nudge them to read more and find out more.

Kalpish Ratna: Just one. This is not a killer pandemic that will pass. It is a wake-up call for our species. If we read it right, we will reverse our assault on the web of life, and accept our ecological niche. We must then work hard and sincerely to correct the damage that has resulted in the emergence of new diseases. Our book shows how this realization can change things at an individual level. We are 7.6 billion sitting ducks right now, targets for diseases we cannot even imagine. And we're in this weak compromised position because of the wrong decisions we make every day. If we accept responsibility, a pandemic isn't a plague. It is a call for action.

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CONTACT US

Email: sethu@mhsindia.org / ops@mhsindia.org

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For Further Details Please Contact

Maritime History Society

First Floor, Noorbhoy Building, SBS Marg, Near RBI, Fort, Mumbai – 400 001
Phone: 022 22751944 Fax: 022 22626180 Email: mumbaimhs@gmail.com