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## *The North-West Passage Between Ceylon and India*

**T**HIS is an attempt to assemble and examine the existing evidence relating to the sea passages used by sailing ships in ancient times (from Greek and Roman to Dutch times) to cross the seas which separate Ceylon from India. These seas are now named the Palk Strait and the Gulf of Mannār.

The coherent methodological approach appears to be, and it is here adopted, to begin at the present time and work backwards into the past, that is, to proceed from the known to the little-known and the unknown. The accompanying sketch map<sup>1</sup> illustrates the problems of navigation. Separating the Gulf of Mannār on the south from the Palk Strait on the north is a chain of islands, reefs, shoals and shallows, consisting of the island of Mannār, Adam's Bridge and the island of Pāmban or Rāmēśvaram : the last-named has always belonged to India.

On the Ceylon side is the Mannār passage between the Ceylon mainland and Mannār island ; its southern entrance is now spanned by a low railway bridge under which masted vessels cannot pass, but the interference of the bridge with navigation has been negligible because the channel became constricted and was only a fathom deep, and, at the time the bridge was constructed it had ceased to be used by all except small fishing craft. On the Indian side is the Pāmban passage between the Indian mainland and the island of Pāmban, a narrow, curving channel flanked by dangerous reefs, but now, by dredging, more than double the depth of the Mannār passage and navigable by vessels with a draught of eleven feet. A viaduct carries the Indo-Ceylon railway from Pāmban island to the mainland, the

1. Adapted from Admiralty Charts Nos. 68*a* (Palk Strait and Gulf of Mannar), 1959, and 3581 (Approaches to Pāmban Pass), 1955.

Pāmban passage being crossed by a swing bridge which can be raised to admit the passage of small ships. The navigability of the Palk Strait is not, however, limited by the depths of the Mānnar and Pāmban passages: the Strait itself is obstructed by many shoals, and of the three navigable channels through it, the least depth of the deepest is four and a half fathoms and of the shallowest three and a quarter fathoms, so that at no time could a vessel with a draught exceeding 24 feet have traversed it.<sup>2</sup>

To this general introductory statement of present day conditions, a fact of very great importance has to be added, and that is, that there is no longer a harbour at modern Māntai, the ancient Mahātittha (variantly Modouttu, Mahapuṭu, Mahavoṭi, Mātōṭṭam, Māntoṭa, etc. of Sinhalese, Indian and European writers),<sup>3</sup> the greatest of all the old seaports of Ceylon and one of the most important centres of entrepôt trade in the Indian Ocean. The large mound now conspicuous at Māntai, from which rises the Hindu temple of Tirukēśvaram, entombs the ruins of our largest buried city. The upper surface of the mound outside the spacious precincts of the Hindu temple is overgrown with thorny, scrub jungle, but its bare slopes are littered at every step with the fragmentary remains of the ancient city, consisting of brickbats, sherds of pottery and porcelain, beads, broken terracotta and clay objects, and occasional coins. Archaeological excavation has, owing to certain limiting circumstances, been cursory and incomplete. Around the mound in a seaward direction is low-lying or marshy ground extending a quarter to half a mile to the sea: this is land which was once the sea bed. The sea as far as Mannār island, a distance of two miles, has an average depth of about one foot, so that what was once a renowned harbour for the ships of both East and West is now a silted up area of shallow water insufficiently deep for use by fishing craft.

The port of Mahātittha (Māntai) has a history going back to the traditional beginnings of Sinhalese civilisation in the 6th/5th century B.C., and continuing uninterruptedly thereafter for about eighteen centuries to the year 1275, after which it is not mentioned in the Chronicles.<sup>4</sup> The Portuguese in the 16th century could not use it even as a roadstead, so that the heavy "siltation" which rendered it unusable as a harbour must have taken place in the 14th and 15th centuries. This process of the shallowing of the sea

off Māntai (as well as in Palk Bay to northward) has continued from Dutch times up to the present day, as a comparison of van Keulen's chart of 1740<sup>5</sup> with the modern Admiralty charts reveals. The depth of the sea off Māntai has decreased an average of one fathom during the last 220 years: on the other hand, no material changes in depth are noticeable in the Pāmban passage, to which van Keulen assigns a depth of two fathoms, as well as in the sea to south of Mannār island and Adam's Bridge, and off the Indian coast.

The shallowing of the sea between Māntai and Mannār island, turning the great Māntai harbour into a foot-deep expanse of shallow water in the course of the past 700 years, affected the deeper Mannār passage precisely to the same extent. The period and progress of this shallowing and its effects upon navigation, and not the causes of the shallowing, are the matters pertinent to the present study. It is important, therefore, to recount what the Dutch and Portuguese writers have to say about the navigability of the Mannār and Pāmban channels, because specific information from earlier sources is scanty.

The later Dutch records emphasise that the importance of their fort at Mannār lay in the fact that "it protects Jaffnapatam on the south."<sup>6</sup> The present depths of the Mannār channel are one fathom at the northern entrance and two fathoms at the southern entrance; in 1740, according to van Keulen, these depths were two fathoms and two and a half fathoms respectively. In 1658 (82 years before van Keulen) Dutch ships sailed into the Mannār passage, landed troops and captured the Portuguese fort at Mannār: Baldaeus, who was present at this action, gives an illustration of the landing in his book. He says that the channel admitted the navigation of light craft drawing up to five (Dutch) feet of water, and he adds that "the river" (by which he and other writers mean the shallow sea between Mannār and the mainland) "is not over knee-deep and can be crossed in half an hour."<sup>7</sup> In 1697 the Mannār passage was "so inconvenient on account of its shallowness that no vessel can pass without first being unloaded: therefore, no vessel can pass nor any smuggling take place without it being known in Mannār."<sup>8</sup> In 1766 it is recorded that the Mannār

2. *Bay of Bengal Pilot*, 1953. I am indebted to Mr. Christoffels and Instructor-Lieut. Devendra of the Royal Ceylon Navy who procured the relevant charts and sailing directions for me: the former has taken his ship through the Pāmban pass and gave me a valuable first-hand account.

3. *Journal of the R.A.S. (C.B.)*, *New Series*, Vol. VI, Special Number, 10, 75—80.

4. *Culavamsa*, 88. 63.

5. Unpublished. I obtained a photostat copy through the kindness of Mr. J. H. O. Paulusz.

6. *Memoirs of Anthony Mooyart* (1766), 9: *Hendrick Becker* (1716), 4, 5: and *Hendrick Zwaardcroom* (1697), 116.

7. Baldaeus (trans.), *Ceylon Historical Journal*, Vol. VIII, 283, 287, 294.

8. *Memoir of Hendrick Zwaardcroom* (1697), 79.

passage was "very difficult owing to the sandbank : vessels have therefore to be unloaded and brought across during flood (high tide) with much difficulty."<sup>9</sup>

Portuguese references to the Mannār passage are not so precise as those of the Dutch. Because navigation became hazardous after sailing past Chilaw in a northerly direction, the Portuguese gave the collective name, "shoals of Chilaw," to the islands off Kalpiṭiya, the Pearl Banks, Pāmban island, Adam's Bridge, and Mannār island. Their early writers, de Barros and do Couto, are not very definite : the former says that navigation out of season was fraught with so much danger that "there is current among the people of the East another fable like that of Charybdis and Scylla," and that in calm weather the shallow sea was very clear and the rocky bed at the bottom could be seen.<sup>10</sup> de Queyroz is positive that there were only two passages in the sea between India and Ceylon, one, the broader, at Mannār, capable only of foists (two-masted vessels), and the other near the island of Rāmēśvaram, of less depth. Portuguese galleys could not pass the Mannār channel.<sup>11</sup> Ribeiro also speaks of "two very narrow channels at Rāmēśvaram and Mannār through each of which only a small *sumaca* can make its way, and that too when the sea is high."<sup>12</sup>

There is, thus, a sufficient volume of corroborative evidence to support a conclusion that, at least as early as Portuguese times, the once great harbour of Mantai was no longer an anchorage for ships, while the adjacent and deeper Mannār passage had a depth of about two and a half fathoms or less and was navigable only by small vessels, larger vessels having to unload their cargo and make the crossing during high tide. Prior to the late 13th century, when Mantai is last mentioned as a port, its harbour must have had a depth of three fathoms or more in order to accommodate with safety the many large ships which frequented it. If one fathom of shallowing during the last 220 years (which is the difference between van Keulen's and modern soundings) is a rough index of the rate of advance of the shallowing process which has been going on in these waters for some centuries, then Mantai harbour would have had a depth of about four fathoms in the 12th century. Ancient sailing ships were not small vessels, such as modern sailing ships are. Large Portuguese ships were manned by 300 sailors and soldiers. Parakramabahu's invasion fleet in the 12th century could not approach close to land

because the depth of the sea was only one and a quarter fathoms at a distance of nearly three-quarters of a mile from shore. The great traveller-monk, Fa Hsien, set sail from Ceylon for China in the 5th century in a ship carrying 200 souls. Roman ships engaged in the Indian trade were of 200 to 500 tons burthen.

The Mannar passage in the 12th century would have been, on the basis of the present difference in depth, about a fathom deeper than Māntai harbour and navigable by large ships, but pilotage would probably have been necessary for greater safety. It is not unlikely that the low lying areas of the easternmost part of Mannār island were submerged in the sea.

In regard to the Pāmban passage, the evidence, as the sequel will show, suggests that in Dutch and Portuguese times it was of lesser depth than it is now and much more hazardous than the Mannār passage. It was in Indian territory always, subject to Indian rulers. van Keulen (1740) gives its least depth as two fathoms, and so does the Dutch map, "Ceylon and Madura"<sup>13</sup> of 1725, while its present depth, after dredging, is not less than two and a quarter fathoms. Baldaeus says that the Teuver (the Setupati, the ruler of Ramnad) prevented Dutch ships from pursuing a Portuguese squadron through the Pāmban passage "by filling up the passes which admit the ships' passage with masses of rocks, and then removing them at pleasure which he could do easily whenever he wished."<sup>14</sup> In 1663 the Dutch governor of Ceylon wrote that the Pāmban channel "meaning snake river, owing to its numerous curves and windings, was hardly six (Dutch) feet deep at the highest tide."<sup>15</sup> In 1697 the Dutch were aware that smugglers were avoiding the Mannār passage, which was under direct Dutch control, and using the Pāmban passage to convey goods illicitly from Ceylon to India.<sup>16</sup> In 1709 the Dutch commandant of Jaffna negotiated with the Teuver and obtained permission to station a small garrison at Pāmban to check smuggling through the Pāmban passage. (The remains of the small Dutch fort are still to be seen). This official states that "a row of cliffs" (now called the Great Dam) "at the entrance to the strait of Pāmban makes it necessary for all vessels to unload there, and thus gives the local commander time to protest."<sup>17</sup> The Dutch, it would appear, seldom used the Pāmban passage and became alive to its possibilities as a mean of smuggling by native vessels only in the latter part of the 17th century.

9. Memoir of Anthony Mooyart (1766), 9.

10. *J.R.A.S. (C.B.)*, Vol. XX. Barros 29—30, and Couto, 184.

11. *de Queyroz* (trans. by Fr. S. G. Perera), 1, 57, 352, 353.

12. *Ribeiro* (trans. by P. E. Pietris), 1.

13. "Land, Maps and Survey," by R. I. Brohier, Part II, Plate XII.

14. Baldaeus, trans., (C.H.J.), 268, 269.

15. Memoir of Ryckloff van Goens (1663), 5, 6.

16. Memoir of Hendrick Zwaardecrom (1697), 65, 66, 79.

17. Memoir of Hendrick Becker (1716), 4, 5.

The Portuguese accounts of the Pāmban passage contain much more valuable information. de Queyroz says that the Pāmban channel was less than two fathoms deep and shallower than the Mannār channel, and that vessels going through had to “tancar,” that is, to unload their cargo : he adds, “it is wonderful to go over those shoals and to see the fury with which the waves break against them at the time of the north wind (north-east monsoon), for at that time the waves in the Gulf of Mannār are still ; and on the contrary, the latter are furious at the time of the south and east winds (south-west monsoon) and the others are absolutely calm.”<sup>18</sup> Barros is more informative. He says, “the land of this place has the appearance of a thumb, because on the outer side of it, as it were at the first joint, where it joins the hand, stands the town (Vadali), and on the other and inner side is a large gulf, as one can figure by separating all the other four fingers from this thumb, which forms the coast that ends at the point and cape they call Calimere. At the end of this thumb, on the nail, is built a sumptuous heathen temple, Ramesvaram ; and so narrow is the land from this sea outside to that inside the gulf, where stands Vadali, that Joao Fernandez Correa, the former captain of the fishery of seed pearl, which is fished in that latitude, was about to cut through the land. And the advantage of this breach was, that that passage from there to Point Calimere is full of many islets, sandbanks and shoals ; and in windy weather it is very perilous for navigation. And passing through this breach that he intended to make, vessels would enter the great gulf, and with the mainland that lay at the upper part they would be more sheltered, and it would be better sailing.” The distinguished translator, A. M. Ferguson, comments :— “The foregoing passage is of great interest in connection with the history of the Pāmban channel. According to Hunter’s Imperial Gazetteer, XI, 22, ‘the ancient records preserved in the temple of Ramesvaram relate that in the year 1480 a violent storm breached the isthmus, and that, despite efforts to restore the connection, subsequent storms rendered the breach permanent’ I cannot find that the pioneer work of the Portuguese in the cutting of the channel has been noticed by writers on the subject. According to the anonymous writer of *Primor e Honra* (I.24) the actual cutting of the channel was carried out by Joao Fernandez Correa in 1549, when the Jesuit Father, Antonio Criminal, was murdered by the natives—see F. y S. II, ii, vii, 6.”<sup>19</sup>

This brings us to a vital question, did the Pāmban passage exist before 1549, or was it an artificial work of that year whose construction was

18. de Queyroz (trans.), 1, 57.

19. *J.R.A.S. (C.B.)*, Vol. XX, Barros 95, 96.

facilitated by the storm-made breach of 1480 : Ferguson accepts the evidence that the Portuguese cut the first navigable passage. A straight rocky barrier, presenting a wall-like appearance on the northern side (the “masses of rocks” of Baldaeus, the “row of cliffs” of Becker, and the “Great Dam” of modern charts),<sup>20</sup> based on sandstone formations and consisting of large masses of rock with a flat upper surface, now stretches for about 6,000 feet between the Indian mainland and Pāmban island : through a 200-foot gap in the Great Dam runs the Pāmban passage. This rocky barrier is a mainly natural and partly artificial causeway over the low, sandstone-based isthmus.

The *Cūlavāṃsa*’s account<sup>21</sup> of the Sinhalese invasion of Pāṇḍya during the reign of Parākramabāhu I (1153—1186) contains evidence from which the positive inference can be drawn that the Pāmban passage did not exist at that period. The Sinhalese expeditionary force embarked at Māntai, and the ships, after sailing for a day and a night, anchored off Talabilla (present Dhanuṣkoṭi).<sup>22</sup> As the ships could not approach the shore owing to the shallow sea (the present depth is below a fathom half a mile from shore), the troops landed in numerous small boats which had been specially taken by the invasion fleet for this purpose. Dhanuṣkoṭi was captured and the troops then advanced and occupied Ramesvaram. Their next objective was Kundukal, “which lies between the two seas.” After capturing Kundukal by an attack delivered overland, the Sinhalese commander made that place his base for the extension of his operations into the (present) Indian mainland and built there a strongly fortified camp (which he named Parākramapura in honour of his king), with walls and gates and “three trenches made in such a way that the waters flowed from ocean to ocean”. From this description it is clear that the Sinhalese fortress of Parākramapura (Kundukal) was situated on a narrow neck of land which separated the “two seas,” namely, the Palk Strait and the Gulf of Mannār, because it would not otherwise have been practicable to cut trenches to form a sea-water moat whose “waters flowed from ocean to ocean.”<sup>23</sup> After the landing at Dhanuṣkoṭi, the Sinhalese made no further use of their fleet : all subsequent movements of the troops were by land marches. From Kundukal, repeated forays were made by outward and return marches to localities to north and south of the Vaigai river on the Indian mainland.

20. Bay of Bengal Pilot, 1940, page 128 : and Imperial Gazetteer of India, 1908, XIX, 375—377.

21. *Cūlavāṃsa*, 76, 76—169.

22. *University History of Ceylon*, Vol. I, Part II, 495—498.

23. Geiger, in a footnote to *Cūlavāṃsa* 76, 101, locates Kundukala “on the tongue of land jutting out from the continent to the island of Ramesvaram.” The name Kundukala is now preserved in Kundukal Point at the southern entrance to the Pāmban passage.

It follows, therefore, that in and prior to the 12th century and, very probably also, prior to 1549, there was no navigable Pāmban passage, and that the isthmus now called the Great Dam was continuous from Pāmban island to the mainland. During the period of predominance of Māntai as a great seaport, the Pāmban passage did not exist and the only navigable seaway between the Gulf of Mānnar and the Palk Strait was the Mānnar passage. Māntai stood at the northern end of this single, sheltered and vital sea route, and it was this commanding position which conferred on it its importance as a seaport : in addition, it was close to the rich Pearl Banks to south of Mannār island. There is no natural harbour at Māntai ; its development as Ceylon's principal port was influenced solely by its command of the navigable Mannār passage, and the proximity of the Pearl Banks was just an accidental advantage. It gave the Sinhalese king control over the shortest and safest sea route between western and eastern India : his enemies and those who wished to avoid paying his exactions for harbour dues and pilotage would have had no alternative but to circumnavigate Ceylon. It might also be added here that, had the Pāmban passage existed in navigable condition contemporaneously with Māntai and the Mannār passage, the Pāṇḍyas would undoubtedly have established a port there to control that sea route, but there is no evidence, literary or monumental, of the existence of such a port. The chief port of Rannad was Kilakarai, 30 miles from Pāmban. The strategical importance of Māntai was such that its capture was an indispensable prelude to the invasion of Ceylon, and it is in connection with invasions that the port is most frequently mentioned in the Chronicles. These records of landings and embarkations contain no account of the nature of the ancient harbour or of the city, but it is abundantly evident that the port was capable of embarking and disembarking several thousands of soldiers on large numbers of ships.

We have to go back over a millenium to the Roman writer, Pliny, to discover a literary reference to the seas between India and Ceylon prior to the time of Parākramabāhu I. Quoting earlier writers, Pliny says, " the sea between the Island (Taprobane) and India is full of shallows not more than six paces (two and a half fathoms) in depth, but in some channels so deep that no anchors can find the bottom. For this reason ships are built with prows at each end to obviate the necessity of their turning about in channels of extreme narrowness. The tonnage of these vessels is 3,000 amphorae " (about 75 tons). The Sinhalese ambassadors who went to Rome in the reign of Augustus are reported to have said that the seas between India and Ceylon were " of a vivid green colour and that a great number

of trees grew at the bottom so that the rudders of ships frequently break their crests off ; " by " trees," coral formations are no doubt meant, but this statement may be as fictitious as other statements attributed to these same ambassadors. There can be no doubt that the Romans, during their long period of friendly trade with Ceylon from the 1st to the 3rd centuries, made regular use of the Mannār passage, on both outward and return voyages, to put in at the port of Māntai for trade with Ceylon as well as to proceed along the east coast of India to the Ganges and beyond. The Sinhalese king was in a position to close the Mānnar passage to the shipping of his South Indian enemies when he was strong enough to resist invasion. In the 5th, 6th and 7th centuries, as Cosmas Indicopleustes tells us, Ceylon was the centre of a very considerable extent of entrepôt trade between East and West. It was from the enormous volume of trade, both terminal and transit, which passed through the Mānnar passage and the port of Māntai that the Sinhalese kings derived the major part of their great money wealth.

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