

We also learn from the *Periplus* the plant products that were being exported from some of the ports of Damirica :

Tyndis, Muziris in the Kingdom of Cerobothra	Pepper, malabathricum, spikenard
Nelcynda, Bacare in the Pandian kingdom	Pepper, malabathricum, spikenard

Here is a knotty problem. Tyndis and Muziris belonged to the land of Cerobothra while Nelcynda downwards was the Pandian country. Thus it is keeping with the account of the *Periplus* to understand that the common border of the Tamis and Malayalis cut across the land at some latitude between Craganore and Kottayam.

All modern writers of political and cultural history of the Tamils assert that in the historical past, the whole of South India was shared by the Chera, Chola and Pandya kingdoms as if no other dynasties or powers ruled in this part of the country. With special references to the Cheras it is held that there was no distinction between them and Tamils either in language or customs or political divisions and that the present day disparity is of comparatively later origin. No author, however, documents such statements. Until confirmatory evidence to this effect is made available through fresh critical and objective studies, the highly prejudiced contemporary opinions stand rejected.

The *Periplus* itself clearly tells us that the kingdom of Cerobothra was distinct from that of the Pandian. It also informs us that the rulers of the market towns of Nelcynda and Bacare "live in the interior", which suggests that even within the Pandian territory different 'kings' were ruling diverse parts. Under these circumstances further researches are necessary to establish if the term 'Pandian' should be taken to mean single political kingdom (some authors have called this an empire) under the control of a single dynasty of kings, or as a cultural unit, the different parts of which were under the authority of independent rulers. In any case, in efforts to understand the sea-trade of the Tamils, clear distinction is to be made between the Tamil country proper and extra-Tamil land.

The chief ports of the Tamil (Pandian) territory along the west coast were Nelcynda and Bacare. It is said that the sea-craft picked up cargo on its outward voyage from the latter port. Of the export commodities, we learn, that pepper was obtained from Cottanara (identified as Kuddanad by Kanakasabhai 1904) malabathricum from the places interior and spikenard from the Ganges. "They send large ships to these market towns on account of the great quantity and bulk of pepper and malabathricum." In addition to these commodities, pearls, ivory, silk cloth, transparent stones of all kinds, diamonds, sapphires and tortoise shell were exported. The *Periplus* implies that some of these items came from Chryse Island also while others were "taken among the islands along the coast of Damirica."

It is quite conceivable that pearls were transported from the eastern coast of the Pandian land. Ivory was obtained from the montane belts of the then Tamil country; so also the tortoise-shell from her seas. It is likely that some of the precious stones were also indigenous. One of these, the beryl (Arokiaswami 1947 and Pillay 1969), was obtained, it is said by many modern authors, from some locus in the Coimbatore district. This would clearly refer to an area outside the Tamil land proper as there is no evidence of its having been included in the Tamil kingdom at that remote past. Furthermore, if we closely follow the *Periplus*, it appears that the beryl area should have been located westward of the Cerabothra country. The silk product certainly was not of Tamil origin, nor of South India. There is a considerable body of evidence to point out that the product was imported into India through the ancient 'silk trade route' (Map 1) from China.

Critical comments are offered below in reference to the plant products of export from the ports of the Tamil country proper, Nelcynda and Bacare. It should be noted, however, that the same products were being exported from the ports of Cerobothra also.

PLANT PRODUCTS

Pepper (Piper nigrum)

The *Periplus* speaks of the Cottanara district as the area situated near the market of Tyndis and Bacare, producing this commodity in quantity. I am not certain to what extent this statement conveys the real situation. Although this same product was being exported from the ports of Cerobothra, the *Periplus* is silent about the occurrence or growth of the plant in the neighbourhood. If we take this information on its face value, it means that the cultivation of the plant was restricted to Cottanara area. It is probably on account of the ready availability and quantity that large ships were sent to the ports of Bacare and Nelcynda. The other ports, for example, Tyndis and Muziris, which also are said to have exported the same commodity, should have received it from elsewhere.

Pliny, the Elder, the author of Natural History, also refers to Muziris but says that "it was not a desirable place for call, pirates being in the neighbourhood.... . and besides it is not well supplied with wares of traffic." He, however, tells in the same account about Neacyndon (Nelcynda of the *Periplus*) to which port pepper was carried down in canoes from Cottanara (Kolatta-nadu in Tellacherry area according to Brunell).

There has been a doubt among botanists whether black pepper is indigenous to India. Although pepper, as a plant product, has been known to Hindu medicine and cuisine from a very long time there is no proof to presume that the plant was a part of the indigenous flora of our land. Statements in the *Periplus* confirm the ambiguity in reference to the nativity of the species. It is possible that besides the cultivated

quantity, additional requirement both for local and export consumption was being obtained from the *Malayasian* regions at the time of the *Periplus*.

It is also surprising that of the less than half-a-dozen references to pepper in the entire body of *Saṅgam* literature under the name *milaku* and about 20 references under the name *kari*, only two speak of possible commercial aspects; bags of pepper were stocked on the beach where the boats ply in the backwaters of Muśiri (*Puram* : 343); and pepper was imported from inland (*Kalin vanta Karunkari*, Pattinappālai : 1-186) into the port of Pukar.

The first of these references certainly confirms the statement in the *Periplus* that Muziris (Muśiri) was the place of export of pepper. However, there is no warrant to presume the contemporaneity of the *Periplus* and of the author of the *Puram* 343. It should not be forgotten that Muśiri continued to be an important trading port during later centuries as well.

Pepper as a plant product was well-known to the Greeks of the 1st century A.D. Dioscorides (Gunther 1959), a contemporary of Pliny the Elder, states in his herbal that the product came from India and narrates the diverse qualities and medicinal applications to which it was put to.

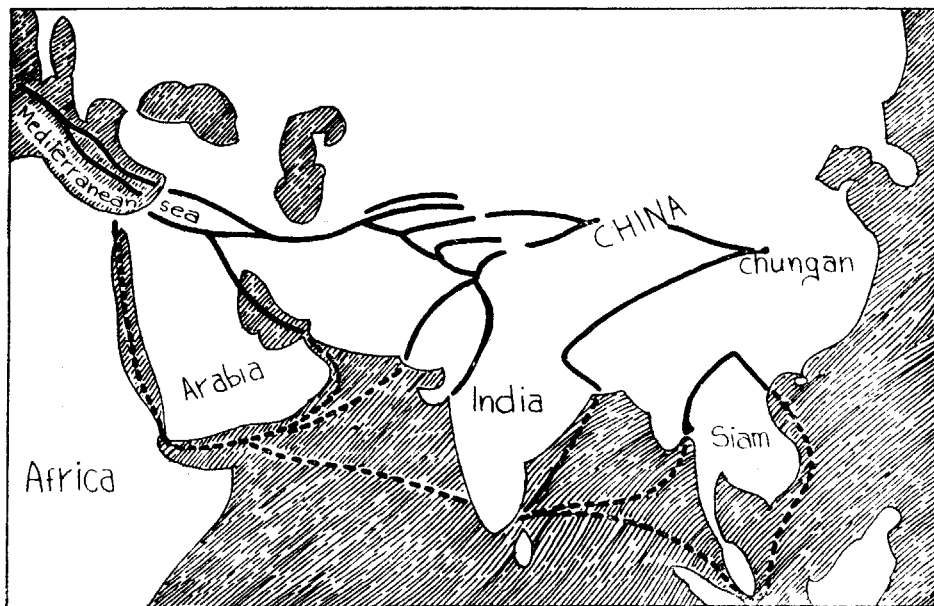
Malabathricum

The botanical identification of this plant or its product has not been established with certainty. Generally it is believed to represent the leaves of some Lauraceous taxa, and possibly of a mixture of species possessing somewhat similar or confusing odoriferous properties.

McCrinkle (1901) suggested the betel leaf to be its equivalent, an identification that is not acceptable. On the other hand, Ball (1885) identified the source of the product "in the mountainous regions included and in surrounding Assam" and thought that it was derived from species of *Cinnamomum*, probably, *C. tamala*. Although not the diagnosis of the species, Ball's determination of the locus appears to get confirmation from the observation of Ptolemy that the best varieties of *malabathricum* were obtained from Sestai and exported to India, and in turn, conveyed down the Ganges to near its mouth. From this point it could have been brought to Muziris and Nelcynda through the silk trade route (Map 1).

Dioscorides clearly says that this leaf product was presumed by some in his country to be the same as Nardos, but that it is wrong. This confusion obviously arose because of the adulterants at the source itself. As compared with nardus, he writes that the true *malabathricum* is "more Diureticall, and better for the stomach, and it doth conduce for the inflammations of the eye, being boiled in wine, beaten small, and so anointed on. It is put also under the tongue for the sweetness of the breath; and it is put amongst cloths, for it keeps them free from moths, and (makes them haue) a sweet scent." Furthermore, he refers to a hard and brittle variety as the true *malabathricum* and a soft and fragile variety as of a spurious kind. These

observations further confirm that more than one species of leaves were involved in the exported stuff. And it is possible that the leaves of some indigenous species of *Cinnamomum* were used as adulterants or fillers in the Tamil country in view of the statement in the *Periplus* that it was obtained from "the places in the interior".



Map 1.

Continuous lines : Silk trade routes.

Broken lines : Sea routes.

Recently an attempt has been made to Tamilize *malabathricum* into *malai-pattiriam* and thereby fix its locale in the montane regions of the Tamil Nadu (Samy 1967). It should be noted that Dioscorides mentions other products/preparations bearing a similar name, —*malabathrinum* (oleum) e *malabathro vinum*. Furthermore, he categorically states that *malabothron* is a "peculiar kind (of herb) growing in the Indian marshes upon water ..." which precludes its identification with montane habitat as implied in the Tamilized version of the name.

All that meant to the Greek authors by the word *malabothricum* was probably that the products were exported from the coasts of Malabar and nothing more.

Spikenard

The *Periplus* informs us in very clear terms that this product was exported from the ports of Cerobothra as well as from those of the Pandian country and that the product reached these ports from the Ganges. The commodity which was obtained from the regions of the upper Indus and Indo-Skythia was forwarded

through Ujjain and Broach and from thence exported to Egypt (Ball 1885). As in regard to *malabathricum* the spikenard could have been transported by way of the silk trade route to the west coast of South India.

The botanical identification of the plant as *Nardostachys jatamansi* (Wall.) P.DC., has been made on sound grounds. The plant finds mention in the Bible also. The Hebrew words *nerd*, *naird* or *nard* refer to this plant. It is a native of high altitudes in Nepal, Bhutan and other parts of the Himalayan mountains and its range extends from there into Western Asia. The roots and the spike-like woolly young stems, before the leaves unfold, are dried and used for making perfume (Moldenke and Moldenke 1962).

Dioscorides recognized two kinds of nardos : the Syrian and the Indian. It should be noted, however, that the former was altogether a different plant, *Patrina scabiosaefolia*. The Indian kind was known to him as Gangeticall, "from a certain river named Ganges running by the hill where it grows." Thus there is perfect correspondence between the statement in the *Periplus* and the Greek herbal as to the nativity of this commodity.

Recently Samy (1967) has proposed a highly intriguing thesis. He identifies the *naranta* of the *Saṅgam* literature as *Cymbopogon nardus*, the commercial source of *citronella* oil. As this species is found in South India only under cultivation and this too from the last few decades, it cannot be the plant referred to by the *Saṅgam* poets, who are said to have lived during the early centuries of the Christian era. A more probable identification would be with some other species of the genus which are indigenous in the field tracks of South India and possess similar smell, although much inferior for commercial purposes.

Next, Samy finds close relationship between the Tamil *naranta* and the Sanskrit *nalada*, and of course, inturn, with the Greek *nardus*. He exclaims that the Tamil name has found entry into the *Atharva-veda* by a change of *r* into *l* : well, so far as the principles of linguistics are concerned his stand may appear to be plausible. But there is absolutely no warrant to equate *Cymbopogon nardus* with *Nardostachys jatamansi*. The two are wholly unrelated plants, the former a monocotyledon and the latter a dicotyledon !

Thirdly, he brushes aside the very important clues provided by the Greek authors in reference to the habitat of the plant. *Nardostachys jatamansi* is unknown in the indigenous flora of the major part of India and is endemic in the sub-Himalayan belt. It has not even been known in cultivation elsewhere in India at any time.

Thus, of the three chief vegetable products exported from the ports of the Tamils, pepper appears to be the only item which was in part grown on her own soil while the *malabathricum* and the spikenard were imported from the sub-Himalayan tracks to the portal towns prior to export. It should also be emphasized that the same commodities were being sent out across the seas from the ports of Cerobothra land as well. The *Periplus* also mentions that the spikenard obtained from Caspapyrene

(Kashmir), Paropanisene (Hindukush) and Cabolitic (Kabul) was exported from Ozene (Ujjain).

Critical notes on other plant products

Modern authors list a number of other items of vegetable origin that are presumed to have been exported from the Tamil country in remote times. The list somewhat varies from author to author in reference to number and kind. The following table represents a cross-section of the variation.

Arokiaswami 1967	Pillay 1969	Purnalingam Pillai 1927	Rajamanikam 1970	Ramachandran 1963-64	Subrahmanian 1966
ginger	*				
cardamon	*				
clove					
nutmeg					
coconut					
plantain					
gingelly oil					
jaggery					
ebony					
rosewood					
teakwood		*			
sandalwood	*	*	*	*	*
	Cinnamon		*		*
	'akil'		*		*
	turmeric		*		
	saffron		*		
	rice	*	*	tamarind	
				aloe	
					indigo

Ginger—This plant, *Zingiber officinale* has not been found wild anywhere in India except as an escape from cultivation. It is Indo-Malayan in distribution and has been known as a cultigen over centuries in India.

Although the *Periplus* makes no mention of this product, it was known to the Greeks of the 1st century A.D. Dioscorides says that the product was grown plentifully in Troglodytical Arabia. "It hath small little roots as those of Cyprus whitish, resembling pepper in taste and of sweet smell."

The old Arabic name for the plant as well as for its product is *zanjabil*. The Greeks adopted this name which, in turn, appears to have been Sanskritized

as *srīgavera*. Ancient Indian medical treatises, however, used the word *ardraka* (cf. Caraka) which has persisted to this day in variant forms such as, *ardak*, *adrak*, *ada*, perhaps with further derivatives, *allā*, *āla*, *alā*, *ālem*, etc. in the languages of north India and Dekkan. The first part of the Latin binomial has been taken from the Arabic root *zanjabīl* rather than from the Tamil word 'inji' (Pillay 1969).

Turmeric—Like ginger, this plant has been in cultivation for such a long time in India as well as outside in Asia that it has not been possible to arrive at its place of origin. Furthermore, wild plants have not been located.

Nearly all pioneer plant taxonomists in India doubt the Indian nativity of the plant. Their views are best summarized by Watt (1899): "Although there is a Sanskrit name for the plant and also names for it in most of the languages of India, the suggestion may be offered that it is most probably a Chinese or Cochinchinese species which may have superceded some of the indigenous curcumas formerly in use and which bore the names now given to this plant...". The position has remained the same today.

The drug is mentioned in Caraka as *haridra*, saying that the dry underground stem part is used in medicine. In nearly all Indian languages corrupted names of the Sanskrit word is in vogue, —*haldī*, *halede*, *halada*, *arisina*; the Hebrew word *kurkum* also appears to be a related form.

Neither the *Periplus* nor the contemporary Greek authors mention this article; it is absent from the Bible also. The *Saṅgam* literature refers to the plant by the name *mañcal*, but does not speak of its export. Furthermore, this word bears no relation to the names in other Indian languages and as such raises the question whether it was not a name originally applied for some other plant of the region, —probably possessing yellow colour in some part of the plant body—which was applied to the turmeric when it came to their notice?

Clove and nutmeg—Although these two are wholly unrelated plants botanically and otherwise, they are treated together here because of their common history. Neither the clove (*Eugenia caryophyllata*) nor the nutmeg (*Myristica fragrans*) grew in India at any time. Both of them are experimental introductions into India in the second half of the nineteenth century. During earlier periods, as mostly it is today, their products reached the west coast of India from the Pacific Island and thence the Mediterranean countries (Map I).

There is no mention of the clove in *Saṅgam* literature; nor in the Bible or in the *Periplus*. The mace of Dioscorides is a bark of an undetermined species and therefore the product was unknown to contemporary Greek writers. The Tamil word *ilavankam* is nothing but a slight variation of the Sanskrit *lavanga*; the alternative Tamil name *kirāmpu* is a corruption of the portuguese *cravo*. Nutmeg or mace were also unknown to the west Asian countries in the early years of the Christian era. Old Sanskrit medical texts, however, mention the clove (product) in the treatment of some disorders.

Coconut and plantain—I am unable to discover the source of these products as having been exported from the Tamil country or from any other place in India in the 1st century A.D., although both these find frequent mention in the *Saṅgam* literature. The coconut (*Cocos nucifera*) is a naturalized littoral species, found also in cultivation in various interior parts of South India, it is absent north of the Vindhyas. Plantain is undoubtedly indigenous in South India and elsewhere. The plantain of Dioscorides, however, has nothing to do with what is known in India. The *Periplus* also makes no mention of these plants or their products.

“The *Periplus* testifies to the South Indian export of coconut oil...bananas...” (Pillay 1969). The term used in the *Periplus* for a commodity is *naupolios*, which has been identified by Ball (1885) as the *nārgil* (= *nārikel*), Sanskrit). The Sanskrit word itself is of decidedly late origin and the identification is not convincing.

Gingelly oil—The *Periplus* records that this product was exported from Barygaza (Broach), it having been brought there from the region in the Narbada valley, then known as Ariake (Ball 1885).

Jaggery—There is no evidence to presume that this commodity, probably sugarcane, was an article that was shipped to the Mediterranean country either from Tamil country or from elsewhere in South India. The *Periplus* specifically states that the commodity (‘honey from canes’) was exported from Barygaza (Broach) to the markets of Barbaria. Arokiaswami’s (1967) rendering of the commodity as jaggery is misleading.

Ebony—This timber tree (*Diospyros ebenum*) grows in small quantities in the drier forest belts of the western half of South India. If this plant is mentioned in the *Saṅgam* literature at all, it is not identifiable. Yet the Biblical scholars are agreed that “the 200 logs of ebony presented to the kings of Persia every year by the Ethiopians were originally from India or Ceylon” (Moldenke and Moldenke 1962). The *Periplus* does not mention this product as an article of export. There is no way of ascertaining whether the ports of the Tamil country exported this article.

Rose wood—The *Periplus*, the Bible and the writings of other Greek authors do not mention this wood, *Dalbergia latifolia*.

Teak wood—There are about half-a-dozen references to this tree/wood, *tèkku*, in the *Saṅgam* literature, but there is no indication that it was an article of export. According to some writers (Purnalingam Pillai 1927) the teak logs found in the remains of Ur (the capital of Babylon) were of Tamil origin. Too much of subjectivity is involved in this opinion since teak grows throughout the deciduous belts of the western ghats and also in the Satpura Ranges. Furthermore the identification of the Ur wood needs confirmation. Also, as Pillai (1969) observes, “it is not positively certain that at that early period of time no nearer region had teak wood which could have been utilized at Ur.”

Sandal wood—The *Periplus* does not speak of this product; nor the contemporary Greek writers. In the *Saṅgam* literature the word *cantanam* (= sandal) occurs

very infrequently (French Institute Index, 1968) and not as an article of commerce or export.

It is suspected that the Bible refers to this wood as a component of aloe, although that particular aloe brought by Necedemus to embalm the body of Jesus was "doubted-less the true aloes, *Aloe succotrina*" (Lasma 1940). It must be admitted, however, that the identification of the wood in the Biblical context is doubtful. It could have been one of the aloes or a component of the incense or of the almug (Moldenke and Moldenke 1962).

Cinnamon - See notes of *malabathricum*.

Ball (1885) justifiably remarks that this generic name involves all the ten varieties of "cassia" mentioned by the *Periplus*. The botanical identification of this and related products is still more confusing. More than one plant product possessing nearly similar aromatic properties appear to be involved in the complex, although most of them appear to belong to the diverse generic and specific taxa of the Lauraceae. The contemporary Greek herbals speak of two products *Kassia* and *Kinamomon*, which have been respectively referred to *Cinnamomum iners* and *C. cassia*. Dioscorides says that the first one grows in Arabia; while he does not mention the locale of the second, recognizes several varieties, —Mosulities, mountain cinnamon, woody cinnamon, etc. The sweet cinnamon (*Kinamon*) of the Bible has been identified as *C. zeylanicum*. Of these, *C. iners* grows in the montane belts of the Western Ghats, while *C. cassia* is endemic in southern China; *C. zeylanicum* is under cultivation in Ceylon for two to three centuries, having been introduced over there from China. If any cinnamon was exported from the ports of the Tamil country, it could have been the leaves of the indigenous species. On the whole, the identity of the cinnamon and related products illustrate "a sad hodgepodge of misinformation including material about Indian cinnamon, Arabian traders and Persian Zoroasterian priests, and is fairly typical of the misinformation that has been recorded in the past..." (Skinner 1911). [See also the comments on *karpion/karuppu* in Vaiyapuri Pillai (1956)]

'*Akil*'—This is again a product, the identity of which has not been satisfactorily ascertained, Ramachandran's (1963/4) 'aloe' obviously refers to this product.

The references in the *Saṅgam* literature concern its fragrance when burnt,—that women used the smoke to dry their hair; that where this wood was available in plenty, it was used as a fire-wood (Rajamanikkam 1970). However, there is no mention that it was an article of export.

Caldwell (1875) was the first to suggest the identity of this product with the Hebrew '*shalim*', '*ahaloth*', and to imply that they were derived from the Tamil *akil*. This conclusion has obviously been accepted by the majority of modern Tamil scholars, although Vaiyapuri Pillai (1956) entertains valid doubts, particularly in view of the uncertainty expressed by Caldwell himself.

The plant is commonly identified as *Aquillaria agallocha* (Roxb.). It is of interest to note what the author of the species has to say about the plant (Roxburgh 1832):

“Sans : *ugooroo*, the name of the incense

Hind. and Beng : *ugoor*

Arab. : *ayaloogi*, *ayuloogin*, *yellanjooj*, etc.,

pers. : *ayaloor-chee*

“There can be little or no doubt, that this is the tree which furnishes the real calambac or agalochum of the ancients, and there seems more reason to think that it was carried to China from our eastern frontier, than to suppose it was carried from Cochin-China or any other country in the vicinity of China, where it has always been in great demand.”

The natural home of the tree is limited to Cochin-China, Malaya and the eastern limits of the contemporary India. At no time the tree grew elsewhere, nor was it in cultivation in South India. It is also of interest that the wood of normal healthy trees is not odoriferous. A resinous substance is exuded following the deterioration of heartwood as a result of which the affected part emits the characteristic fragrance.

As Vaiyapuri Pillai suggests, the Sanskrit word *aguru* (*ugooroo* as transliterated by Roxburgh) appears to be more nearly related to the Hebrew *‘ahilam* than to *akil*. The intermediate forms are probably represented by the Arabic and Persian forms. It is possible that the product reached the Bible land from China directly by way of the silk trade routes (Map 1).

The *akil* of the *Saṅgam* poets could have been imported from its place of origin or from China. More likely, it could have been an indigenous product, in which case, I identify it as the wood of *Dodonaea viscosa*, which grows wild and ubiquitously in the deciduous hill forests of South India. The mature wood of this tree is aromatic and has been an age-old adulterant/substitute for sandal. In any case there is no evidence that this product was exported.

Saffron—I presume that Rajamanikkam’s (1970) *kunkumam* and Pillay’s (1969) saffron refer to one and the same product, *Crocus sativus*. This is a bulbous annual growing in Greece and Asia Minor; it has long been in cultivation in the Kashmir valley. The product has been known to the Bible and to the early Greeks. Its arrival in South India is rather late as judged by literary records, — not earlier than 6/7th centuries A.D.

This product is unlikely to have been an article of export from South India. By virtue of the geographical proximity of the indigenous belt to the Mediterranean countries it is reasonable to assume direct commercial contacts between them. Hence there was no necessity for them to have imported the stuff from the Orient.

Tamarind—The word *puṭi* occurring in the text *Maduraikkanci* (1, 318) has been taken to mean the tamarind, *Tamarindus indicus*. The second name in the

binomial does not indicate the nativity of the plant. It has been validly questioned if this plant has not been accidentally imported at some period during the historical past. This species is never seen as a component of our indigenous flora, but occurs only in cultivation. To a small extent natural regeneration through seed dispersal may take place but here again the agency of birds or other animals appears to play an important role.

Although much research is yet to be done in the history of the tamarind, I am inclined to postulate a parallel situation that has been outlined for the introduction of *baibab* (*Adansonia digitata*) into India (Burton-page 1969). The tamarind also is likely to have been introduced from Africa sometime during the fourteenth century A.D. by the *Habishi* settlers (Islam slaves of Abyssinian origin).

Ibn Batuta (fourteenth century A.D.) refers to a number of *Habishi* colonies in India. Because of the congenial climate the plants grew well in the new environment. Both leaves and fruits supplied the *pufi* (sour) source in culinary preparations; this utilitarian quality caused the artificial dissemination of the species through the agency of man.

If *pufi* has actually been exported from the ports of Korkai, it could have been the product of some other plant, —probably dried blackish fruits of some indigenous *Garcinia* species.

Indigo—This was an article, (a product of *Indigofera tinctoria*) that had been known to and in constant use as a dye among Greeks and Romans. The *Periplus* clearly states that it was exported from the Skythik port of Barbarikon on one of the mouths of the Indus. It is doubtful if this species was in cultivation in South India in the early centuries of the Christian era. The *Sangam* literature does not mention the product from any of the ports of the Tamil country.

Rice—I am unable to find references to this product as an article of export in *Sangam* literature. We learn from the *Periplus* that *oriza* was produced in Oraia and Araiike, and was exported from Barygaza (Broach) to the Barbarine markets. This does not mean, however, that paddy was unknown elsewhere in India in cultivation. Archaeological remains clearly prove that the crop was cultivated in several regions of India including South India (Ghosh 1961) and the Tamil country (Adichanellur, personal observations) in pre-historic times.

An unwarranted controversy has been started that the Greeks borrowed the word *oruz*/*oruzon* from the presumed Tamil equivalent *arici*. Although Theophrastus states that this article was produced in India, Strobe mentions that the crop grows in Bactriana, Babylonia, Susida and Lower Suria. Several passages in the Talmud also refer to this product (De Candolle 1886).

Recent archaeological finds have brought to light rice husks from the neolithic horizons of China and also from the Shang Bronze age, c. 1950 B.C. (Watson 1969). It is known from 700 B.C. from several localities in India (Allchin 1969). The sum of

these evidences clearly indicate that the commodity was in cultivation over a wide area of Asia in pre-historic times; so also the fact that each of the widely different regions had their own independent names for the article. If the controversy is looked with this broad background, the West Asian words appear to be related to one another *rouz*, *arous*, *oruza*, etc. from which the Latin generic name *Oryza* is derived—than to the Tamil word *arici*. Furthermore, the former group of words refer to the plant as a whole and *arici* specifically refers to the grain minus husk in the Dravidian group of languages while the plant has a separate name, *nel*. Thus *nel-arici* (husked grains of paddy), *elarici* (seeds of cardomum) etc. in Tamil and Malayalam; *nel-akki*, *elakki*, *same-akki*, etc. in Kannada.

From the preceding critical notes it will be clear that all plant products presumed to have been exported from the Tamil country to South West Asia may be brought under three categories as follows :

I. Those specifically mentioned in the *Periplus* as articles of export from the ports of the Tamil country.

Pepper (in part home-grown and in part probably received from the Malaysian region)

Malabathrum (largely a mixture of cinnamon leaves of Chinese origin, probably including adulterant leaves from indigenous flora)

and (procured from sub-Himalayan region).

Note 1. The same products were exported from ports outside the Tamil country also, according to the unambiguous statements in the *Periplus*.

Note 2. Of these products, only pepper finds reference in the Tamil literature as a probable product of export.

II. Plant products mentioned in the *Periplus* as articles of export from ports outside the Tamil country : gingelly, sugarcane, indigo and rice.

Note : The *Periplus* mentions several other plant products under this category which, however, are not pertinent for the present purpose. For further details Ball (1885) may be referred.

III. Plant products not referred to in the *Periplus* but presumed to have been exported from the Tamil country by the modern authors : ginger, turmeric, clove, nutmeg, ebony, rose wood, teak wood, sandal wood, akil, saffron, tamarind, plantain, and coconut.

Note 1. It is generally stated in text books that spices and aromatics were exported from the Indian coasts to the South West Asian countries. For example, as early as 1845, Reinaud wrote : "Besides cloves and other products of Malaya and silk from China, the ports on the west Coast of India furnished pepper, ivory of the elephants of Malabar, indigo, steel, muslins, ebony, pearls from Cape, Comorin and teak wood which was employed in carpentry on the coasts of the Persian Gulf where in general teak did not grow." Obviously influenced by such exuberant statements, the modern authors on Tamil history have uncritically included many of the spice/aromatic articles that were well-known all over India in their lists of export.

Note 2. While some of these articles are indigenous to India, none are exclusively endemic to the Tamil country. Some others were definitely imported from north eastern and south eastern countries outside India and never formed a part of the natural or cultivated flora of India during the period under review.

VOYAGES OF THE ANCIENT TAMILS

Accounts of the foreign trade and commerce of the ancient Tamils have been largely reconstructed on the basis of the presumed articles of export. As we have seen on previous pages, there is no evidence,—either from the *Saṅgam* literature or from the foreign sources—in favour of the export of a large number of the presumed items. The foreign notices, however, are more eloquent about the commodities which the incoming ships carried with them to be emptied at the coastal towns in India and there is some corroborative evidences in the *Saṅgam* literature. In fact a summation of evidences points out that an impressively larger variety of articles were imported into than exported from the Tamil country.

After the discovery of the Red Sea route to India, we are told that “a ship a day left the Egyptian ports to the East. To the sailors of these ships the whole of the western coast of India was well-known” (Okeshott 1936). Not only the frequency, but also the number of ships in a fleet increased (Sastri 1939). Thus, while there is considerable evidence for the import trade of the Tamils and also for the voyages undertaken by the foreigners (Greeks, Romans, Arabs, etc.) to the Tamil country in connection with this trade, it is unfortunate that no data is available either from the Tamil sources or from foreign sources in respect of the maritime travels of the Tamils to far off countries during the early centuries of the Christian era or still earlier.

Pillay (1969) has critically reviewed the situation of the trade relationships between South West Asia and South India during the third and fourth millenium B.C. and shown the utterly dubious nature of the evidences. In order to establish the maritime relationships in the tenth century B.C., it has been asserted that the sandal and peacock were supplied to King Solomon from the Tamil country. While furthering these ideas Caldwell has gone out of the way in trying to identify the Tamil *tokai* (tail, peacock) with the Hebrew *tuki*, and thereby to prove the Tamil country as the source of origin of these products. This piece of evidence has been repeatedly invoked by modern scholars on Tamil history. Linguistic similarities alone are not enough proof for concluding either the direction of diffusion or the place of origin in the absence of corroborative evidences from other fields. It should not be forgotten that the peacock is a pan-Indian centred species, other species of scented woods which can as well pass for sandal also grow in many parts of India, and one other species of sandal, *Santalum yasi* is native in north eastern India and its neighbouring regions. Therefore, it is likely that these products could have reached the South West Asia from any part of India, either through land or through coastal sea route.

Whether the *Saṅgam* literature was composed during the early centuries of the Christian era as has been asserted by the Tamil scholars in general or sometime later Kunjan Pillai (1969) is a major problem that has to be studied separately. Accepting, however, for the moment the consensus of opinion, the maritime relationships of India with her adjacent lands are to be critically appraised. Taking an over-all view of available data, it appears clear enough that the Greek/Roman/Arab ships touched the West Coast of South India, proceeded up to Cape Comorin, from there voyaged in the northern direction along the east coast and reached the Gangetic delta. This locale was a great trading centre and was the meeting place for the Chinese and Malayasian trading ships. Thus on the return jourey the ships of South Western Asia carried cargo of North Indian, Chinese and Malayasian products which were partly disposed off at the Indian ports and partly reserved for home consumption. There is also clear evidence that the ships picked up merchandise from several Indian ports, including those from the Tamil country.

Now the question arises as to the part played by the ancient Tamils in this expanse of trade. Did they too venture in long voyages carrying their ware to foreign lands and returning with articles obtained in those places? It is a pity there is no evidence in favour of an answer in the positive. Some historians, however, dogmatically assert that the Tamils of that early period did possess a knowledge of ship building and had at their command sea-craft of the types of *saṅgāra* and *colondia*, the latter kind being large and used for long voyages. The *Periplus*, which gives this information, does not convey that the vessels were constructed by the Tamils and were used by them. The first type of craft is said to be made up of logs of wood tied together, more or less of the type of a raft, suitable for short coastal travels. The ancient people of the Tamil country certainly could have had these, just as they are using *kattamaran* today. The point is, besides the Tamilians, peoples elsewhere in India also used and are using the same type of craft for covering short distance along coasts and canals.

Such being the desperately inadequate nature of pertinent data in favour of the maritime adventures of the ancient Tamils, statements quoted below indicate clear exaggerations of highly biassed attitude :

“They (the Tamils) were great sea-goers...The Tamils traded with Chaldeans.”

—Purnalingam Pillai, 1927.

“Even before the Christian era, the Tamils must have been a sea-faring people, building their own naval craft and braving the breakers of the ocean...: Malaya, Java, Sumatra and China was mostly in the hands of the Tamils.”

—Subrahmanian, 1966.

“Tamils were among the earliest to travel far and wide in their ships to distant lands as far as China, the Mediterranean and Egypt with their wares of trade... It must be even said that the Tamils were among the first to learn the technique of ocean-going traffic.”

—Arokiaswami, 1967.

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