

## Tamil, Greek, Hebrew and Sanskrit: Sandalwood (Σανταλόξυλο) and its Semantics in Classical Literatures

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*The Greek and Tamil people did sea trade from the pre-historic times. Sandalwood is seen only in Tamil land and surrounding places. It is also one of the items included in the trade. The Greek word 'σανταλίνων' is first mentioned in the ancient Greek works around the middle of the first century CE. The fact that the word is related to Tamil, but the etymologist did not acknowledge the same, rather they relate it to other languages. As far as its uses are concerned, it is not found in the ancient Greek literatures. One another type of wood 'κέδρου' cedar is also mentioned in the ancient Greek literature with the medicinal properties similar to 'σανταλίνων'. In the same way the use of the Hebrew Biblical word 'Almuggim -אַמּוּגִים' which is the word used for sandalwood, also denotes teak wood. This shows that in these words, there are possibilities of some semantic changes such as semantic shift or broadening.*

**Keywords:** biblical word, Greek, Hebrew, Sandalwood, Tamil

### Introduction

Every word has its meaning. The semanticism of a word is not permanent. Changes may have occurred during different periods of time. If the time period is of longer duration and in the case of people's movement from different places the changes will be more. The semantic change of a word depends upon its mobility to different places. One such word is sandalwood. Grammatically this word is a noun. It is also exported from Tamil land to foreign countries along with teak and cedar woods. From the pre-historic era, the word sandalwood is also used in Greek and Hebrew languages because of the sea trade with the Tamil land.

### Sea Trade between Greeks and Tamilians

Ancient Tamilians had sea trade relation with many foreign countries (Pugazhendhi 2020a, 2020b).

καὶ τάδε δὲ μετεξέτεροι Ἰνδῶν περὶ  
Ἡρακλέος λέγουσιν, ἐπελθόντα αὐτὸν πᾶσαν  
γῆν καὶ θάλασσαν καὶ καθήραντα ὅτι περ  
κακόν, καινὸν εἶδος ἐξευρεῖν ἐν τῇ θαλάσσει  
κόσμου γυναικίου,  
ὄντινα καὶ ἐς τοῦτο ἔτι οἱ τε ἐξ Ἰνδῶν τῆς  
χώρης τὰ ἀγώγιμα παρ' ἡμέας ἀγνέοντες

Certain of the Indians tell the following  
story about Heracles, that when he had  
passed over every land and sea and had  
rid them of every evil beast, he found in  
the sea a woman's ornament, such as up to  
the present day those who bring wares  
from India to us still buy with zeal and

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σπουδῆ ὠνεόμενοι ἐκκομίζουσι,  
καὶ Ἑλλήνων δὲ πάλαι καὶ Ῥωμαίων νῦν ὅσοι  
πολυκτέανοι καὶ εὐδαίμονες μέζονι ἔτι  
σπουδῆ ὠνεόνται τὸν μαργαρίτην δὴ τὰν  
θαλάσσιον οὕτω τῆ Ἰνδῶν γλώσση  
καλούμενον. τὸν γὰρ Ἡρακλέα, ὡς καλὸν οἱ  
ἐράνη τὸ φόρημα, ἐκ πάσης θαλάσσης ἐς τὴν  
Ἰνδῶν δυναγινέειν τὸν μαργαρίτην δὴ  
τοῦτον, τῆ θυγατρὶ τῆ ἑαυτοῦ εἶναι κόσμον.

carry away. In former times the Greeks  
and now the Romans who are fortunate  
and wealthy with still greater zeal buy  
what is called in the Indian tongue the  
marine pearl. The ornament seemed so  
fine to Heracles that he collected pearls  
like this from all the sea and brought them  
to India to be an adornment for his  
daughter.”

8–10, Chapter viii, Indica, Arrian  
(Eberhard 1885)

Thus the ancient Greek author Arrian mentioned about the sea trade of pearls between Greeks and Indians. He also gave a hint about the name of the place related with the pearl.

καὶ τοῦτω ἄρσενας μὲν παῖδας πολλοὺς  
κάρτα γενέσθαι ἐν τῆ Ἰνδῶν γῆ — πολλῆσι  
γὰρ δὴ γυναιξίν ἐς γάμον ἐλθεῖν καὶ τοῦτον  
τὸν Ἡρακλέα —, θυγατέρα δὲ  
μουνογενέην. οὖνομα δὲ εἶναι τῆ παιδί  
*Πανδαίην*, καὶ τὴν χώραν.

[Heracles has] Many male children, but  
only one daughter was born to him in India,  
for he married many women. The  
daughter's name was Pandaea, and the land  
where she was born, and over which  
Heracles placed her as ruler, was named  
Pandaea after her.”

Chapter viii, Indica, Arrian (Eberhard  
1885)

Thus the name of the place had resemblance with Pandaea which is well known for export of pearls. The ancient Greek work called ‘Periplus of the Eritheranian Sea’ around the middle of the first century CE confirmed that particular place as Pandion kingdom, which is famous for pearls and highlighted that it belonged to Tamil Nadu.

59. Ἀπὸ δὲ τοῦ Κομαρεὶ ἐκτείνουσα (πρὸς  
τὸν νότον) χώρα μέχρι Κόλχων, ἐν ἣ  
κολύμβησις τοῦ πινικοῦ ἐστίν· ἀπὸ δὲ  
κατακρίσιμων κατεργάζεται· ὑπὸ τὸν  
βασιλέα Πανδίωνά ἐστι. Μετὰ δὲ Κόλχους  
ἐκδέχεται πρότερος \* αἰγιαλὸς ἐν κόλπω  
κείμενος, ἔχων χάρον μεσόγειον, λεγόμενον  
Ἀργάλου· ἐν ἐνὶ τόπῳ \* τερονεῖται τὸ παρ’  
αὐτὴν τὴν Ἡπιοδώρου [νῆσον] συλλεγόμενον  
πινικόν· φέρονται γὰρ ἐξ αὐτῆς σινδόνες, \*  
ἐβαργαρεΐτιδες λεγόμεναι.

59. From Comari toward the south this  
region extends to Colchi, where the pearl-  
fisheries are; and it belongs to the Pandian  
Kingdom. Beyond Colchi there follows  
another district called the Coast Country,  
which lies on a bay, and has a region  
inland called Argaru. At this place, and  
nowhere else, are bought the pearls  
gathered on the coast thereabouts; and  
from there are exported muslins, those  
called Argaritic.

Περίπλους της Ερυθρᾶς Θαλάσσης

Periplus of the Eritheranian Sea (Wilfred  
1912)

This work also confirms the voyage of the ship from Greece in that particular location.

Βασιλείας δ' ἔστιν ἡ μὲν Τύνδης Κηπροβότρου, κόμη παραθαλάσσιος ἔνσημος· ἡ δὲ Μουζιρίς βασιλείας μὲν τῆς αὐτῆς, ἀκμάζουσα δὲ τοῖς ἀπὸ τῆς Ἀριακῆς εἰς αὐτὴν ἐρχομένοις πλοίοις καὶ τοῖς Ἑλληνικοῖς· κεῖται δὲ παρὰ ποταμὸν, ἀπέχουσα ἀπὸ μὲν Τύνδεως διὰ τοῦ ποταμοῦ καὶ διὰ θαλάσσης σταδίου πεντακοσίου, ἀπὸ δὲ τοῦ κατ' αὐτὴν εἴκοσι. Ἡ δὲ Νέλκυνδα σταδίου μὲν ἀπὸ Μουζιρέως ἀπέχει σχεδὸν πεντακοσίου, ὁμοίως διὰ τε ποταμοῦ (καὶ πεζῆ) καὶ διὰ θαλάσσης, βασιλείας δὲ ἔστιν ἑτέρας, τῆς Πανδίωνος· κεῖται δὲ καὶ αὕτη παρὰ ποταμὸν, ὡσεὶ ἀπὸ σταδίων ἑκατὸν εἴκοσι τῆς θαλάσσης.

— παράγραφοι 53-54,

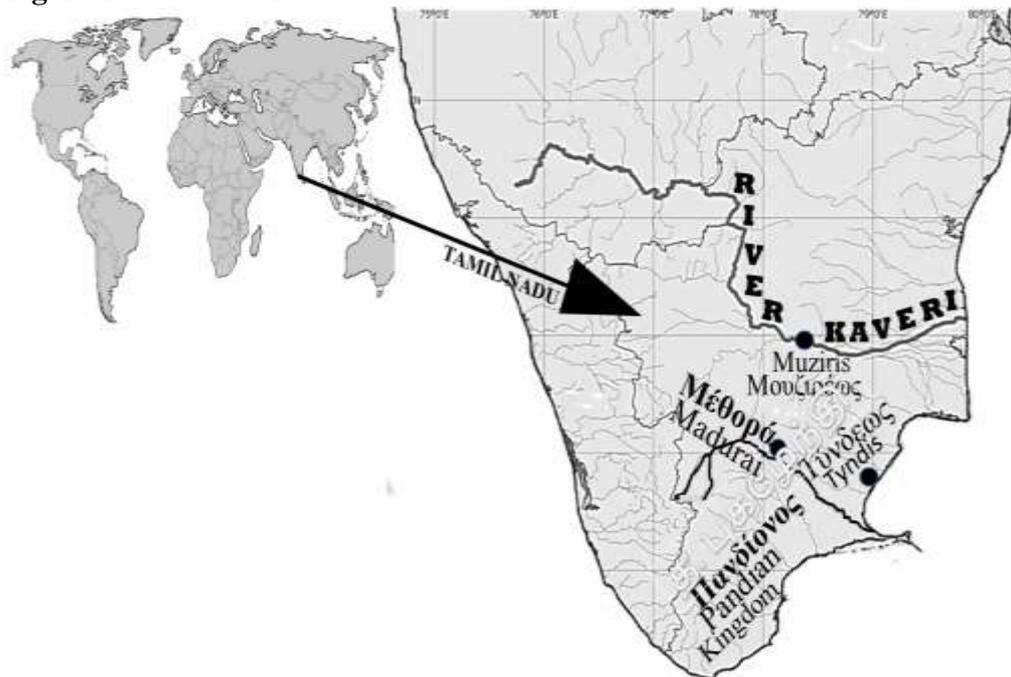
Περίπλους της Ερυθρᾶς Θαλάσσης

Tyndis is of the Kingdom of Cerobothra; it is a village in plain sight by the sea. Muziris, of the same Kingdom, abounds in ships sent there with **cargoes from Arabia, and by the Greeks**; it is located on a river, distant from Tyndis by river and sea five hundred stadia, and up the river from the shore twenty stadia. Nelcynda is distant from Muziris by river and sea about five hundred stadia, and is of another **Kingdom, the Pandion**. This place also is situated on a river, about one hundred and twenty stadia from the sea.

Periplus of the Erietherian Sea (Wilfred 1912)

This is shown in Figure 1.

**Figure 1.** Greek and Tamil Nadu



In this way, the ancient Greek works ensure the sea trade between Greeks and Tamilians. There are many items that were imported and exported in this trade. The ancient Tamil literature mentions the possibility of timber trade.

*Timber Trade*

Ancient Tamil literature picturizes the wood that was brought to the harbour from the mountaineous forest, through the river for the sake of exporting.

.....wood  
pieces of punnai and sandal [*agil*]  
come down the rivers and become  
floats for women playing in the ports  
116–121, Sirupānātruppadaï, Sanga Ilakkiam (Tamil Virtual University 1995)

This is picturized and shown in the Figure 2.

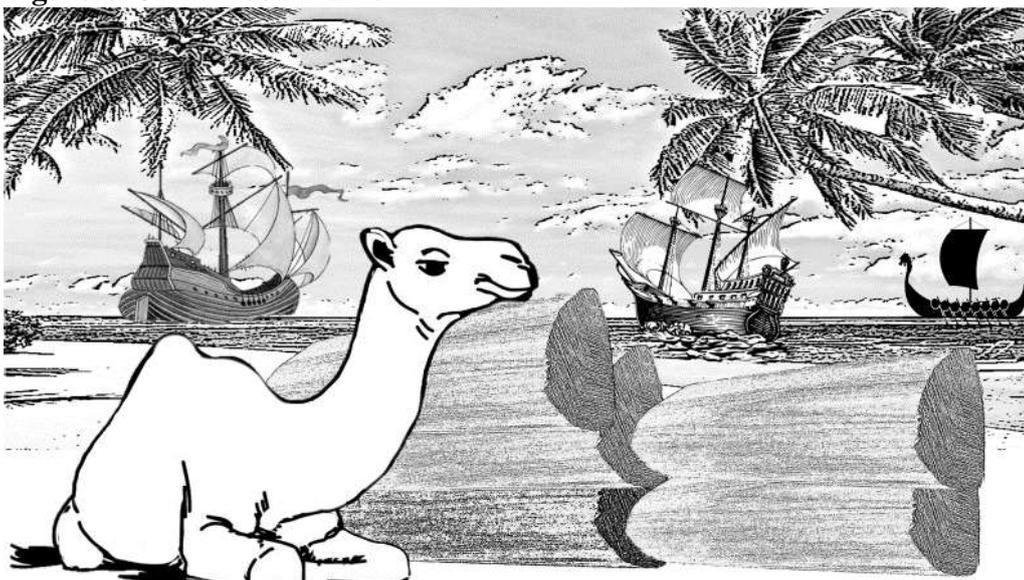
**Figure 2.** *Sandalwood and River*



These woods were arranged along the port.

‘Seashore town of Eyirpattinam  
you reach a Eyirpattinam  
with walls and cold-water ponds.  
When you reach there...  
the wood brought and heaped on  
the shore by the swollen waves, and  
appearing like tall, sleeping camels’.  
152–155, Sirupānātruppadaï, Sanga Ilakkiam (Tamil Virtual University 1995)

This is picturised and shown in Figure 3.

**Figure 3. Sandalwood and Port**

The Greek and Hebrew literatures also confirm the occurrence of timber trade through sea.

Greek reference:

36. Παραπλεύσαντι δὲ τοῦτο τὸ στόμα τοῦ κόλπου μετὰ δρόμους ἕξ ἕτερον ἐμπόριον ἔστι τῆς Περσίδος, τὰ λεγόμενα Ὀμμανα. Ἐξαρτίζεται δὲ εἰς αὐτὴν συνήθως, ἀπὸ μὲν Βαρυγάζων εἰς ἀμφοτέρωτα ταῦτα τῆς Περσίδος ἐμπόρια πλοῖα μεγάλα χαλκοῦ καὶ ξύλων **σανταλίνων** καὶ **δοκῶν** καὶ **κεράτων** καὶ φαλάγγων σασαμίνων καὶ ἔβενίνων,

Περίπλους τῆς Ερυθρᾶς Θαλάσσης

36. Sailing through the mouth of the Gulf, after a six-days' course there is another market-town of Persia called Ommana. To both of these market-towns large vessels are regularly sent from Barygaza, loaded with copper and **sandalwood** and timbers of teakwood and logs of blackwood and ebony.

Periplus of the Erythraean Sea (Wilfred 1912)

Hebrew reference:

And the servants also of Hiram and the servants of Solomon which brought gold from Ophir brought *almug* trees and precious stones.

2 Chronicles 9:10 (Briggs 2006)

The manner they carried the wood is pictured and shown in Figure 4.

**Figure 4.** Wood and Sea

Here the Greek reference mentions there were three types of woods that were used in the trade namely, ‘σανταλίνων καὶ δοκῶν καὶ κεράτων’. In this the word σανταλίνων meaning sandalwood grows only in places surrounding Tamil Nadu. The word δοκῶν which denotes teakwood grows in and around Tamil Nadu and South East Asia. The other word κεράτων also represents a type of wood that grows in different places including Tamil Nadu. Thus these three woods were used in the ancient sea trade. Among these the wood σανταλίνων has medicinal value and is also used as perfume, κεράτων is related to perfume and δοκῶν is incompatible with others and is used for making furniture and doors. The benefits of one type of wood also suit other types. Hence, the usage of these words is synonymous and in the same sense it seems to have got transferred to other languages. In linguistics it is called as semantic shift (Bloomfield 1933)<sup>1</sup> or semantic change (Akidah 2013, Campbell 2004)<sup>2</sup>. Ancient Greek literature has many references of these different types of woods.

<sup>1</sup>Semantic shift may be of the following nine types: (1) narrowing, (2) widening, (3) metaphor, (4) metonymy (where meanings are near each other in space or time), (5) synecdoche (where meanings are related as whole and part), (6) hyperbole, (7) litotes, (8) degeneration, and (9) elevation.

<sup>2</sup>1. Semantic change refers to semantic shift or semantic progression and involves changes in the usage of words to the point where its current meaning radically differs from its original meaning. Such change may take place over a period of time. For instance, the Greek word ‘demagogue’ originally meant ‘a popular leader’ but now refers to a ‘politician who panders to emotions and prejudice’. Semantic change may be classified into various types. A widely accepted form of classification is the one proposed by Bloomfield (1933) that involves semantic narrowing, semantic widening, metaphor, metonymy, synecdoche, hyperbole, meiosis, degeneration and elevation.

2. The four most common changes when it comes to semantic change are the following:

- Broadening, the restrictions associated with the word are lost, the meaning hence goes from a more concrete to a more abstract sense and the meaning of the word increases, becoming less specific.
- Narrowing, the meaning goes from a more abstract to a more concrete sense hence becoming more restricted and specific in its use.
- Metaphor, when a word extends its meaning and keeps a semantic similarity or connection with both the original sense and the new sense. The new sense of the word gets put in a new sphere but there is still a connection to the original sense of the word.
- Metonym, the meaning increases its senses by including closely associated senses very near to its original meaning.

Semantic loans are another type of semantic change and refer to when a word broadens its meanings as a consequence of association with a meaning of a similar word in a different

*Teak Wood*

The word ‘δοκῶν’ means teakwood which is called as ‘thecku’ in Tamil (Kay 1995)<sup>3</sup>.

where the beauty of the forest is ruined,  
 .....the sun’s harsh rays have dried  
 .....the tall tree branches of teak trees  
 .....growing dense on the mountains,  
 Akanānūru 143, Ālampēri Sāthanār  
 Sanga Ilakkiam  
 (Tamil Virtual University 1995)

This Tamil word when written in English as ‘teak’ has homographs but not homophones. The letters which are placed in the middle, ‘e’ and ‘a’ are pronounced as second letter ‘e’ in the telephone and second letter ‘a’ in the ‘take’ in Tamil language. In English it is pronounced as fourth and second letter ‘e’ as that used in the word telephone and third letter ‘a’ as that pronounced in the word ‘tea’. The above details are picturized and shown in Figure 5.

**Figure 5.** *Teak Wood*



The suffix ‘ku’ is a coinage of some of the South Asian languages (Kay 1995)<sup>4</sup>. This teak wood is light weight, smooth and durable. So the Greeks imported this wood from Tamil Nadu and made for bearing-beam, main beam, especially used as roof or floor of a house.

language. The two terms might be historically related or similar to each other, it is therefore difficult to establish whether it is a coincidental semantic development or a semantic borrowing.

<sup>3</sup>Speakers of one language often have difficulty in reproducing the sounds of another language which do not exist in their own. The borrowing of lexical items containing such sounds usually entails adaptation of their pronunciation.

<sup>4</sup> English	Japanese
teacup	tikappu
disk	disuku
fax	fakkusu

175σειρήν δὲ πλεκτὴν ἐξ αὐτοῦ πειρήναντε κίον' ἀν' ὑψηλὴν ἐρύσαι πέλασαι τε **δοκοῖσιν**,  
Od. 22. 176 (175) then make fast to his body a twisted rope, and hoist him up the tall pillar, till you bring him near the roof-beams, that he may keep alive long... (Murray 1919)

190εὖ μάλ' ἀποστρέψαντε διαμπερές, ὡς ἐκέλευσεν  
υἱὸς Λαέρταο, πολύτλας δῖος Ὀδυσσεύς:  
σειρήν δὲ πλεκτὴν ἐξ αὐτοῦ πειρήναντε κίον' ἀν' ὑψηλὴν ἔρυσαν πέλασάν τε **δοκοῖσι**.  
Od. 22. [190] binding them firmly behind his back, as the son of Laertes bade them, the much enduring, goodly Odysseus; and they made fast to his body a twisted rope, and hoisted him up the tall pillar, till they brought him near the roof-beams. (Murray 1919)

οἱ δ' ὥς θ' ἡμίονοι κρατερόν μένος ἀμφιβαλόντες  
ἔλκωσ' ἐξ ὄρεος κατὰ παιπαλόεσσαν ἀταρπὸν  
ἢ **δοκὸν** ἢ ἐ δόρυ μέγα νήϊον: ἐν δέ τε θυμὸς 745τεῖρεθ' ὁμοῦ καμάτω τε καὶ ἰδρῶ  
σπευδόντεσσιν:  
II. 17. 744 But as mules that, putting forth on either side their great strength, drag forth from the mountain down a rugged path a beam haply, or a great ship-timber, and within them their hearts (Murray 1924)

Thus the teak wood was used for making pillar as mentioned in the ancient Greek literature. The other wood which was mentioned along with this teak wood in the sea trade was sandalwood.

### Sandalwood

The Greek name for sandalwood is 'σανταλίνων' and the root of this word is believed to have been obtained from the Old French sandale or medieval Latin sandalum or Late Greek santalon, ultimately from Sanskrit *čandana-m* 'the sandalwood tree'. Perhaps literally this wood is used for burning incense, related to *candrah* 'shining, glowing,' and cognate with Latin *candere* 'to shine, glow' (Skeat 2005). Its scientific name is *Santalum album*. Thus the root of this word is related to Sanskrit language. There is one translation of the Greek epic Odyssey which has mentioned the use of sandalwood.

πῦρ μὲν ἐπ' ἐσχαρόφιν μέγα καίετο, τηλόσε δ' ὀδμῇ  
60 κέδρου τ' εὐκεάτοιο θύου τ' ἀνὰ νῆσον ὀδώδει  
δαιομένων: ἢ δ' ἔνδον ἀοιδιάουσ' ὀπι καλῆ  
ἰστὸν ἐποικομένη χρυσείη  
κερκίδ' ὕφαιεν.  
Od.5.2.60 A great fire was burning on the hearth, and from afar over the isle there was a fragrance [60] of cleft cedar and juniper, as they burned; (Murray 1919) There was a large fire burning on the hearth, and one could smell from far the fragrant reek of burning **cedar and sandal wood**. (Butler 1900)

Thus there are two translations - 'cedar and juniper', and 'cedar and sandalwood'. Here the translation as 'sandalwood' is more questionable. It can be

said that before the ‘Periplus of the Eritherian Sea’ of the first century CE, there was no reference about sandalwood in ancient Greek literature. At the same time there are references to teak wood which was imported along with the sandalwood. There is a probability that the sandalwood is referred by other names in ancient Greek literatures. So there is a need to know the use of sandalwood in other literatures. The literatures of Hebrew and Tamil have some references to sandalwood.

### ‘Almuggim - אֱלֻמְגִים’ in Hebrew

Hebrew Bible (Waugh and Mason 1832) mentioned a wood called ‘Almuggim - אֱלֻמְגִים’. There is difference of opinions<sup>5</sup> among the scholars in identifying this wood due to its foreign origin. The scholars suggested more than ten different woods for the meaning of the word almug as given in Table 1.

**Table 1.** *Different Ways of Understanding Almug*

S. No.	Almug Tree	Use	Place	Scholar
1.	Juniper			
2.	Wrought wood			
3.	Gummy wood		Arabic and Persian	Dr. Lee Hiller
4.	Unknown wood			Michaelis
5.	Cypress tree	For violins, harpsichords, and other stringed instruments.	Italy and other places	Dr. Shaw
6.	Thyiuua wood (Thuya artictdata)	Used it for doors of temples, tables	North of Africa, and is not found in Asia	
7.	Cedar			Dr. Hooker
8.	Arabic albaccam, bukhum wood	Of a deep red color, used in dyeing		Rabbins
9.	Pine - fig-tree, but were whiter and more shining			Josephua

Besides the above a few scholars suggest this wood as sandalwood that was imported from India.

<sup>5</sup>The same author enumerates not fewer than fifteen different trees, each one of which has been supposed to have a claim to represent the algum or almug-tree of Scripture (Hackett 1872, p. 65).

‘And it is quite impossible to arrive at any conclusion in the attempt to identify the *almug* or *almug-tree*. The arguments, however, are more in favour of the red *sandal-wood* than of any other tree’ (Smith 1872).

Thus the scholars finally arrived at a temporary conclusion about this almug as sandalwood and also attested that this wood probably might be imported from India. Here it is noted that there is no reference about the import of teak wood in Hebrew.

### *Indian Usage*

Though there are varied opinions in the identification of the almug wood, majority of the scholars momentarily accepted that the almug wood be sandalwood belongs to India. The European scholars Lassen and Max Miller have done research in Sanskrit language and arrived at some hypothesis.

Lassen tried to support the translation almug with Sanskrit valgu or valguka (Ritter, Erdkunde, Indische Alterthumskunde). Max Miller argued that Sanskrit valgu(m) was corrupted first to almug and then to almug (Muller 1861).

Thus Lassen and Max Miller have seen some resemblance between the Hebrew almug and Sanskrit valgu. But this hypothesis was denied by the other scholar named Walter Eugene Clark.

‘The Sanskrit word valgu means ‘beautiful,’ and it is never applied to sandalwood. As a noun [and that only in late lexicons] the only meaning the word has is goat. The derivative valguka beautiful is given the meaning sandalwood only in late Lexicons (Clark 1920, p. 107).

And he continued to understand the relationship between the Sanskrit people and the sandalwood.

‘The earliest Sanskrit word for sandalwood is candana, found first in Yaska’s Nirukta which belongs to the later years and Sandalwood is unknown to the people of Rig Veda (Ralph 1896, Clark 1920, p. 107).

Thus, there is no availability of resources about sandalwood or Hebrew almug wood in the Indian classical language Sanskrit. So there is need to shift over to another classical language Tamil.

### **The Usage of Sandalwood in Tamil**

There are many references to sandalwood in the classical language Tamil especially in Sangam literature (Pugazhendhi 2020a, p. 188).<sup>6</sup>

The mountain dwellers [*Kuraver*] who wear  
hemp fiber clothes have peeled the  
the barks of *agil* sandal trees in  
ignorance, wilting and ruining them  
Natrinal 64, Ulōchanār, Sangam literature (Tamil Virtual University 1995)

<sup>6</sup>According to a research on ancient Greek literature which is related with Atti and Cybilie, the era of the Tamil Sangam literature goes up to 1200 BC.

Here the Tamil word ‘agil’<sup>7</sup> means sandalwood. This has total resemblance with the Hebrew word almug. So it proves the hypothesis that the Hebrew almug is sandalwood (Mateer 1871). Further there are references in Tamil to show the much availability of sandalwood. It is also used even for cooking.

and cooks and eats meat on a fire lit with agil sandalwood!  
Akanānūru 172, Mathurai Pālāsiriyar Nappālanār  
Sangam literature  
(Tamil Virtual University 1995)

This ensures the import of agil or almug from Tamil land to Hebrew land.

### *Use of Agil Wood*

The classical literatures of Tamil show the two ways of using agil wood.

1. Burning
2. Pasting

### *Burning*

Agil wood is used for its fragrance and medicinal value. It is used for drying the hair by burning.

Women do not decorate their hair with  
fresh flower strands.  
To wear a few flowers on their thick, dark  
hair, they started fires with cool, fragrant  
thakaram twigs and burned dense, black  
akil wood along with candied sugar.  
53-56, Nedunalvā dai, Sangam literature (Tamil Virtual University 1995)

This reference is picturized and shown in Figure 6.

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<sup>7</sup>Therefore we have brought an offering for Yahweh every man what found of ornaments of gold armlets and bracelets and signet rings and earrings [‘ā-gīl - לְאֵיל] and necklaces to make atonement for ourselves. The borders of the city with great fame before Yahweh Numbers 31:50 (Briggs 2006). So it is possible the Hebrew might made the earrings with the sandalwood and named as its original name as Agil [לְאֵיל].

**Figure 6. Sandalwood and Hair Dryer**

Thus, the agil wood was used as a source of fragrance and also used for drying the long hair of Tamil women. Here it is used not only for the drying needs, but also for fragrance and medicinal value. The smoke of the sandalwood kills the lice and other small insects in the long thick hair. Besides it has the antiseptic property. It dries the hair and makes the body cool. For these multiple purposes the Tamil women use the sandalwood that is mentioned in the classical literature of Tamil. Burning the sandalwood is one time use. As this wood was brought from Tamil Nadu to Hebrew after a very long sea voyage (once in three years), rules out the possibility of it being used for burning. So it leads us to understand the other way of using the agil sandalwood.

### *Pasting*

Even today a paste is made with the agil sandalwood in Tamil Nadu. It was also attested in the classical literatures of Tamil. By rubbing the sandalwood with the same wood or stone, an agil sandalwood paste will be ready. The method of preparing the paste is picturized in Figure 7.

**Figure 7. Sandalwood Paste**

The body of the ancient Tamil people who participated in the war were anointed with this paste as antiseptic cream.

Many elephants died attacked by arrows, unable to perform their war duties! Many fine horses of renown have died along with warriors of martial courage. All the wise warriors who came in chariots have died, shields covering their eyes. The respected drums of kings, tied tightly with straps, hair on the eyes, lay abandoned with no one to carry them. *Chests of kings smeared with sandal paste* have been pierced by long spears as they fought and died in the battlefield. Puranam 63, Poet Paranaṅgar sang for Chēramān Kudakkō Nedunchēralāthan and Chōlan Verpahratakkai Peruviral Killi, Sangam literature (Tamil Virtual University 1995)

.....The spear  
thrown by the great king in rage pierced the *sandal-smeared chest* of my lord, who plucked the weapon, lifted and threw it back, the elephants of his enemies showed their backs and ran away, and their naive females with sparse hair on their heads were ashamed. Puranānūru 308, Poet: Kōvūr Kilār. Sangam literature (Tamil Virtual University 1995)

This paste is called as sāndhu or sāntham in Tamil. The persons who were anointed with this sāndhu were liked by the Tamil ladies as it was the symbol of bravery.

Mother, may you live long!  
I am requesting you to listen!  
Your daughter with sorrow  
does not drink milk.  
You asked me why she is pale.  
I don't understand the reason  
clearly.  
The other day, when we went with  
our friends to pluck vēngai flowers  
on tree branches with clusters,  
in the slopes dense with flowers  
we heard loud words, "tiger, tiger."  
A man came wearing a garland with  
bright red waterlilies that resemble  
the eyes of women, strung with a needle,  
a strand of vetchi flowers on one side  
of his head, and red sandal paste that  
attracts young women to his chest,  
holding a decorated bow and arrow  
and appeared to be skilled.  
"Did you see a tiger come this way?"  
he asked.

On seeing him, we stood behind each other  
 hiding our bodies in shyness.  
 “O naïve young women with five-part braids,  
 pretty foreheads and dark, oiled hair!  
 Would your mouths utter lies?” he asked.  
 His eyes met your daughter’s kohl-lined  
 eyes as he looked at her many times after they  
 exchanged looks. Then he left,  
 the lord of the mountain, who had stopped the  
 swift horses hitched to his chariot. It was  
 twilight time when the sun went down, and  
 she looked at the direction that he disappeared,  
 and said, “He is a fine man, my friend.”  
 Only those who have intelligence  
 can understand the principle of this event!  
 Akanānūru 48, Thankāl Mudakotranār, Sanga Ilakkiam (Tamil Virtual University  
 1995)

This reference is picturized and shown in Figure 8.

**Figure 8.** *Paste of the Sandalwood*



Thus, the classical literature of Tamil arrives at three important notions.

1. The agil sandalwood was used in the form of paste.
2. It was called as sāndhu or sāntham.
3. It was anointed by the soldiers who took part in the war.
4. They were liked by the women as a symbol of bravery.

The same use of the wood as in Tamil should be seen in Greek literatures.

## The Usage of Wood in Greek

Ancient Greek literature does not mention about the use of sandalwood. The Greek literatures mentioned the use of the word κεράτων that is similar to the use of the wood resembling sandalwood the same is mentioned in Tamil literature.

### *Κεράτων*

This wood is translated and understood as cedar wood (tree of genus Cedrus or Juniperus). Ancient Greek literature mentions about the use of this wood.

### *Fragrant*

‘κέδρινον’ was used as fragrant.

190ὀπίσσει ἠνώγει, πείριθα δὲ δῆσαι ἐπ’  
αὐτῆς.  
αὐτὸς δ’ ἐς θάλαμον καταβήσεται κηώντα  
**κέδρινον** ὑπόροφον, ὃς γλήνεα πολλὰ  
κεχάνδει:  
ἐς δ’ ἄλοχον Ἐκάβην ἐκαλέσσατο φώνησέν  
τε:

Π. 24. 192

In the same way it is mentioned in other places.

ἤκουσαν, ὕδασι ποταμίοις λευκὸν χροῶ  
160ἐλούσατ’, ἐκ δ’ ἐλοῦσα **κεδρίων**  
δόμων  
ἐσθῆτα κόσμον τ’ εὐπρεπῶς ἠσκήσατο,  
καὶ στάσα πρόσθεν Ἑστίας κατηύξατο:  
Eur. Alc. 160

And himself he went down to the vaulted  
treasure-chamber, fragrant of cedar wood  
and high of roof, that held jewels full  
many: and he called to him Hecabe his  
wife, and spake (Murray 1924)

When she learned that the fated day had  
come, she bathed her pale skin in flowing  
water, (160) and taking her finery from its  
chambers of cedar she dressed herself  
becomingly (Kovacs 1994)

### *Wood for Burial*

This wood was used for burying the body.

365ἐν ταῖσιν αὐταῖς γάρ μ’ ἐπισκήψω  
**κέδροις**  
σοὶ τοῦσδε θεῖναι πλευρά τ’ ἐκτεῖναι πέλας  
Eur. Alc. 365

In the same way it is seen in other places.

1140μήτηρ νεκροῦ τοῦδ’ Ἀνδρομάχη,  
λύπας ὄραν,  
ἀλλ’ ἀντὶ **κέδρου** περιβόλων τε λαΐνων  
ἐν τηδε θάψαι παῖδα: σὰς δ’ ἐς ὠλένας  
δοῦναι,  
Eur. Tro. 1141

(365) For I shall command my children  
here to bury me in the same coffin with you  
and to lay out my body next to yours.  
(Kovacs 1994)

(1140) the mother of this corpse, would be  
wed, a bitter sight to her, but let her bury  
the child in it instead of in a coffin of **cedar**  
or a tomb of stone,... (Coleridge 1891)

*Medicinal Oil*

It also used for the preservation of the dead body.

οὕτω μὲν τοὺς τὰ πολυτελέστατα  
σκευάζουσι νεκρούς, τοὺς δὲ τὰ μέσα  
βουλομένους τὴν δὲ πολυτελείην φεύγοντας  
σκευάζουσι ὧδε:

[2] ἐπεὰν τοὺς κλυστῆρας πλήσωται τοῦ  
ἀπὸ κέδρου ἀλείφατος γινομένου, ἐν ᾧ  
ἔπλησαν τοῦ νεκροῦ τὴν κοιλίην, οὔτε  
ἀναταμόντες αὐτὸν οὔτε ἐξελόντες τὴν  
νηδύν, κατὰ δὲ τὴν ἔδρην ἐσηθήσαντες καὶ  
ἐπιλαβόντες τὸ κλύσμα τῆς ὀπίσω ὁδοῦ  
ταριχεύουσι τὰς προκειμένας ἡμέρας, τῇ δὲ  
τελευταίῃ ἐξιείσι ἐκ τῆς κοιλίης τὴν  
κέδρην τὴν ἐσήκων πρότερον.  
Hdt.2.87

That is how they prepare the dead in the  
most costly way;1 those who want the  
middle way and shun the costly, they  
prepare as follows. (2) The embalmers  
charge their syringes with cedar oil and fill  
the belly of the dead man with it, without  
making a cut or removing the intestines,  
but injecting the fluid through the anus and  
preventing it from running out; then they  
embalm the body for the appointed days;  
on the last day they drain the belly of the  
**cedar oil** which they put in before. (Godley  
1920)

These references show that the word κέδρου that means cedar was used as fragrance, burning the dead body and as medicinal oil. Thus the word ‘σανταλίνων’ is mentioned for the first time in the middle of the first century CE. But Greeks might have used the same even before the middle of the first century CE. They might have used the word cedar – κέδρου to refer sandalwood. In ancient Tamil literature, it is important to see the use of the wood κέδρου - cedar.

**Kadampam**

The ancient Tamil literature mentioned a tree called Kadampam. This wood is famous for its fragrant flowers.

like the colorful, fragrant Kadampam flowers  
- Line 203, Perumpānārupadai  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

Like garlands that are tied  
around a thick Kadampam tree  
- Line 176-77, Kurinjippattu  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

who wore a rainy season’s fragrant Kadampam  
flower garland  
- Natrinai 34, Piramasāri  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

Like the warriors of Murukan who killed  
Soor, who wear garlands with green kadampam leaves with  
the fragrance of the monsoon  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

This tree has an important role in the war.

Oh King filled with great rage! Your soldiers with swords  
slay those who oppose you, seize the lands of their kith and  
kin, cut down their sacred kadampam trees, and cause  
enemy kings in all four directions  
- Pathitruppathu 12, Poet: Kumattūr Kannanār  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

This Kadampam has played an important role especially in the sea war.

who rode the seas and chopped the sacred  
Kadampam tree of his enemy  
- Akanānūru 127, Māmoolanār  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

that king Chēralāthan  
..... with a very huge army made after  
.....cutting down the sacred kadampam  
.....tree of his enemy, riding into the  
..... ocean  
- Akanānūru 347, Māmoolanār  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

If you ask me who my king is, I can tell you that he is the brave  
Nedunchēralāthan who goes with rage to islands in the wide  
ocean and cuts down the sacred kadampam trees of his enemies.  
- Pathitruppathu 20, Kumattūr Kannanār  
Sanga Ilakkiam  
(Tamil Virtual University 1995)

It was also used to make war drums.

You sailed the oceans with swaying waves and fine sprays,  
won victories over your enemy king, cut down his sacred  
kadampam tree and made a huge, victorious battle drum.  
- Pathitruppathu 17, Kumattūr Kannanār  
Sanga Ilakkiam  
(Tamil Virtual University 1995)  
who sent warriors who cut  
down totally your enemy's flower-filled sacred kadampam

tree, the one honored and protected by many, and made a roaring battle drum with its wood.  
 - Pathitruppathu 11, Kumattūr Kannanār  
 Sanga Ilakkiam  
 (Tamil Virtual University 1995)

Thus the fragrance of the tree and its place in the sea war are mentioned in Tamil literature. Besides, it was also used to make musical instruments for war.

### Almug Wood Hebrew Biblical

The Hebrew Biblical sources explain usage of the almug wood.

And the king made of the *almug trees* [מִיֶּשֶׁרִים *mis·'ād*] for the house of the LORD and for the king's house harps also and psalteries for singers there came no such almug trees nor were seen unto this day.  
 1 Kings 10:12 (Briggs 2006)

Thus, an object named [מִיֶּשֶׁרִים *mis·'ād*] was made by almug (Briggs 2006). There is difference of opinions in understanding this object given in Table 2.

**Table 2.** *Timber and its Use*

S. No.	מִיֶּשֶׁרִים ( <i>mis·'ād</i> ) translation	Translator	Notes
1.	supports for the temple	New International Version, International Standard Version, NET Bible, God's Word Translation	
2.	supports for the house	English Standard Version, New American Standard Bible Young's Literal Translation	
3.	railings for the Temple	New Living Translation, Douay-Rheims Bible	
4.	railings in the Temple	Good News Translation	
5.	steps for the house	Berean Study Bible, New King James Version, Christian Standard Bible, Holman Christian Standard Bible	
6.	pillars for the house	King James Bible, New Heart English Bible, JPS Tanakh 1917, King James 2000 Bible, American King James Version, American Standard Version, English Revised Version, Webster's Bible Translation, World English Bible	
7.	buttresses of the house	Brenton Septuagint Translation	
8.	balustrade	Darby Bible Translation	

Thus the object is understood as the one that gives support to the building or steps for the building. It is also continued in 2 Chronicles 9:11 (Briggs 2006).

The king made the almug [hā·'al·gūm·mîm הַאֲלֻגְמוֹת] wood into [mə·sil·lō·wṭ מְסִילֹת] for the house of the LORD and for the king's palace, and into lyres [wə·kīn·nō·rō·wṭ וְכַנְרֹת] and harps [ū·nə·ḥā·līm וְנַחְלִים] for the singers. Never before had anything like them been seen in the land of Judah. 2 Chronicles 9:11 (Briggs 2006)

Thus, in Hebrew the properties of the Teak wood and kadampam κέδρις wood are marked in the name of sandalwood. There is no medicinal use of sandalwood marked in Hebrew in the same name. So there is a need to research on the medicinal thoughts mentioned in Hebrew literature.

*sam* [סם]

In Hebrew a type of oil or spices are called as sam [סם]. It is also related to blood for antiseptic.

Then washed I thee with water yea I thoroughly washed away thy blood from thee and I anointed thee with oil [baš-šā-men. - בַּשֶּׁמֶן] Ezekiel 16:9 (Briggs 2006)

From the sole of the foot even unto the head there is no soundness in it but wounds and bruises and putrefying sores they have not been closed neither bound up neither mollified with ointment [baš-šā-men - בַּשֶּׁמֶן] Isaiah 1:6 (Briggs 2006)

This oil is portrayed in the Hebrew community.

And Hezekiah hearkened unto them and shewed them all the house of his precious things the silver and the gold and the spices [hab-bə-šā-mîm - הַבְּבִשְׁמִים] and the precious ointment [še-men - שֶׁמֶן] and all the house of his armour and all that was found in his treasures there was nothing in his house nor in all his dominion that Hezekiah shewed them not 2 Kings 20:13 (Briggs 2006)

The persons who were anointed with this were liked by ladies.

Because of the savour of thy good ointments thy name is as ointment [še-men - שֶׁמֶן] poured forth therefore do the virgins love thee Song of Solomon 1:3 (Briggs 2006)

Thus, the Tamil agil sandalwood called sāndhu or sāntham is related to sam [סם] of Hebrew. This is the root of the Greek word Σανταλόξυλο (santalóxylo) means sandalwood. These references belong to ancient era where the people of Sanskrit do not know about sandalwood. So it clearly shows the name sandalwood is derived only from Tamil language and not from Sanskrit language as the present etymologists think.

There were three woods - ‘σανταλίνων καὶ δοκῶν καὶ κεράτων’ were in the sea trade. They have different properties. There were some semantic shifts that have taken place between these three woods due to the long journey of the sea trade made by people in groups. The time factor and distance factor are reasons for the semantic shift (Boukhaled et al. 2019, Kim 2014)<sup>8</sup>. It is according to the linguistic law of parallel change (Stern 1921, Lehrer 1985)<sup>9</sup>. Here it is noted that the Hebrew Biblical word almug wood was used for making pillar, path way and musical instruments. In Greek, teak wood was used for making pillar, path way and in Tamil the kadampam cedar wood used for making musical instruments. In Hebrew Bible there is no reference about teak and cedar wood. For this reason Dr. Hooker related the almug wood with cedar wood and not with sandalwood. So these upscurity shows the possibility of Hebrew Bible word almug had a semantic broadening (Eyal 2009, Bybee 2007, Deligiorgi 2015)<sup>10</sup> in Hebrew language that

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<sup>8</sup>From a technical point of view, one can computationally examine the degree of semantic change using two different measures. The first one, known as the global measure, simply consists in computing the cosine distance between a given words vectors from two consecutive decades and the bigger the distance, the higher the semantic change.

<sup>9</sup>1. The second law is the law of parallel change, which proposes that words with related meanings tend to change in similar ways over time

2. the law of differentiation, which dictates that synonyms tend to differentiate in meaning over time; the law of parallel change, which observes that related words tend to undergo parallel changes; the law of innovation, which holds that polysemous words tend to have higher rates of semantic change; and the law of conformity, which prescribes an inverse power-law relationship between word frequency and rate of semantic change.

3. Colexification can be described as “the capacity, for two senses, to be lexified by the same lexeme in synchrony” and “a given language is said to colexify two functionally distinct senses if, and only if, it can associate them with the same lexical form”.

<sup>10</sup>1. This is a process where the meaning of a word becomes more general or more inclusive than its historically earlier form. It is also known as generalization, widening or extension where the word increases its range of meaning over time. For instance in English, the word ‘horn’ initially referred to ‘a protrusion on the heads of certain animal’s’, but its meaning then broadened to include a ‘musical instrument’, then ‘drinking vessel of a shape like a horn’. The process of semantic broadening also takes place during the process of borrowing L1 language words into L2 language words, where certain L2 loans take on extra meanings that were not in the original L1 word.

2. Broadening (generalization, extension, borrowing): A restricted meaning becomes less restricted (e.g.. Late Old English *docga`a* (specific) powerful breed of dog” > dog `any member of the species *Canis familiaris*“

3. girl originally used to denote a child of either sex, but since the 15th century only refers to a young female

4. the conditioned relations are the ones which are found during the semantic origin in the formation of the semantic units, i.e. in the circle of the polysemous words, as well as the semantic relations among the words into one word-formation network, etc.....B. The conditioned relations are also interesting in the semantic relations of the Greek borrowings into Albanian, which are found in two main unit groups. Generally, the words are borrowed in one meaning, in the main or the first one. During the lifespan of the respective word, through the syntagmatic relations, some new meanings are created which are connected directly or indirectly semantically with the first meaning of the borrowed word.....

includes teak, cedar and sandalwood, imported in group<sup>11</sup>. This is a type of Trinary change (Cheng 1981)<sup>12</sup> that achieves semantic stability (Raffelsiefen 1998)<sup>13</sup>.

Thus the uses and the names get transformed among these three woods - ‘σανταλίνων και δοκῶν και κεράτων’ as they were imported together (Liebesman 2018, Valera 2017)<sup>14</sup>. Apart from its semantic shifts and semantic broadening, the Greek word ‘σανταλίνων’ or English word ‘sandalwood’ and the Hebrew Biblical word ‘almug’ and ‘sam’ are maintaining their roots with ‘Agil’ and ‘Santhu’ of Tamil language. The above thoughts are picturized and shown in Figures 9 and 10.

**Figure 9. Timber and Words**



<sup>11</sup>**Metonymy** - This refers to a word that is used in sense other than its actual meaning, but it has only one actual meaning and the employment of such a word in other senses is due to the fact that such other senses have a relationship with the original meaning of the word. That word shifting from a broad term to a narrow term. The opposite can also happen, in which case a narrow term shifts to a broad term.

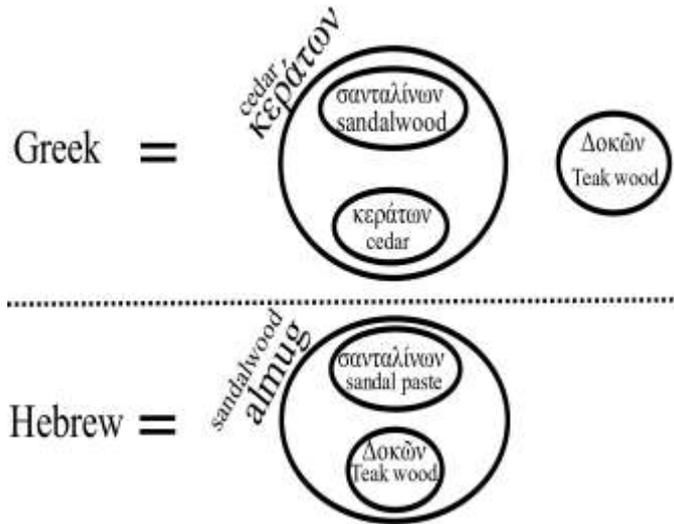
<sup>12</sup>Methods for binary change detection usually consist of two processes. The first one is to calculate a difference map between corresponding pixels, and the second one is to separate these pixels into “change” or “no change” based on a threshold.

<sup>13</sup>While semantic stability refers to relations between words over historical time, it also provides insight into the synchronic mechanisms for acquisition of word meaning. Semantic stability between two words A and B implies that, generation after generation, learners have interpreted A in terms of B. That is, the meaning they have assigned to A has consistently been based on the meaning of B.

<sup>14</sup>1. One task is to identify the properties of meaning transfer, given that it has occurred. Another task is to identify the conditions under which meaning transfer can occur..... Transferred meaning figures in the truth-conditions of the relevant utterances. (For example, when, in the relevant context, the waiter utters ‘The ham sandwich left without paying!’, the content they express is true if and only if a particular person—rather than a piece of food—left without paying)..... specifically, covert indexicals, i.e., variables that can take different values in different contexts ..... the central criterion for positing covert variables is the availability of readings on which those variables are bound ..... There may be close relationships between property inheritance and meaning transfer.

2. This type of semantic transfer and, in general, the patterns contained in Table 1 can be represented graphically as pattern A in Figure 1, where it is shown that a literal meaning is transferred from one word-class to another:

3. Possible sources of this divergence are other causes of polysemy than figurative extension, for example in the sense of pen (N) “a writing tool, and related senses” vs. pen (N) “a feather, a quill, and connected senses”, and the verb pen (V) derived from the former “to write or execute with a pen”. Here we assume that historically these were identical in meaning, and there is therefore no figure involved.

**Figure 10.** Timber and Meanings

### Conclusion

The three woods *σανταλίνων*, *δοκῶν* and *κεράτων* have been transported through sea trade from the Tamil land to the Greek and Hebrew lands. The pronunciation and the forms of these words might have changed because of the geographical distance between the places of migration and the nature of the imported languages. The word sandalwood is denoted by *σανταλίνων* might be mentioned with the use of *κεράτων* in Greek and the use of *δοκῶν* and *κεράτων* mentioned with the word *almug* (*σανταλίνων*) in Hebrew. Thus the words for sandalwood in Greek and Hebrew languages have semantic shift and broadening. The solid (wood) form of *σανταλίνων* is called as ‘agil’ in Tamil and is mentioned as ‘almug’ in Hebrew. The paste form of Sandal is called as ‘sandhu’ in Tamil and is mentioned as ‘σαντα’ in Greek and ‘sam [סם]’ in Hebrew. Thus it is seen that the Tamil word for sandalwood has been borrowed into both the languages, Greek and Hebrew and these languages could possibly have more words whose roots are derived from Tamil language.

### References

- Akidah MA (2013) Phonological and semantic change in language borrowing. *International Journal of Education and Research* 1(4): 1–20.
- Bloomfield L (1933) *Language*. London: The University of Chicago Press.
- Boukhaled M, Fagard B, Poibeau T (2019) Modelling the semantic change dynamics using diachronic word embedding. In *11<sup>th</sup> International Conference on Agents and Artificial Intelligence (NLPinAI Special Session)*. Prague, Czech Republic. February.
- Briggs BD (2006) *Hebrew and English lexicon*. Biblesoft, Inc.
- Butler S (1900) *The Odyssey by Homer*. Revised by T Power, G Nagy. London: A. C. Fifield.

- Bybee J (2007) *Frequency of use and the organization of language*. Oxford: Oxford University Press.
- Campbell L (2004) *Historical linguistics - An introduction*. Cambridge: MIT Press.
- Cheng W (1981) *Semantic change pattern analysis*. China: Wuhan University.
- Clark WE (1920) The sandalwood and peacocks of Ophir. *The American Journal of Semitic Languages and Literatures* 36(2): 103–119.
- Coleridge EP (1891) *The Trojan women by Euripides*. London: George Bell and Sons.
- Deligiorgi S (2015) Semantic relations among the Greek borrowings in Albanian language. *International Journal of Social and Educational Innovation (IJSEIro)*, 2(4).
- Eberhard ABG (1885) *Indica Arrian*. Leipzig.
- Eyal S (2009) Semantic density analysis: comparing word meaning across time and phonetic space. In *Proceedings of the EACL Workshop on GEMS: Geometrical Models of Natural Language Semantics*, 104–111. Athens, Greece, March.
- Godley AD (1920) *The histories by Herodotus*. Cambridge: Harvard University Press.
- Hackett HB (1872) *Dr William Smith's dictionary of the Bible*. Cambridge, New York: Hurd and Houghton.
- Kay G (1995) English loanwords in Japanese. *World Englishes* 14(1): 67–76.
- Kim Y (2014) Temporal analysis of language through neural language models. In *Proceedings of the ACL 2014 Workshop on Language Technologies and Computational Social Science*, 61–65.
- Kovacs D (1994) *Alcestis by Euripides*. Cambridge: Harvard University Press.
- Lehrer A (1985) The influence of semantic fields on semantic change. In J Fisiak (ed.), *Historical Semantics, Historical Word Formation*, 283–296. Berlin: Mouton de Gruyter.
- Liebesman D (2018) Meaning transfer revisited. *Philosophical Perspectives* 32(1): 254–297.
- Mateer S (1871) *The land of charity: a descriptive account of Travancore and its people, with especial reference to missionary labour*. London: J. Snow and Co.
- Muller M (1861) *Lectures on the science of language, the comparative geography of Palestine and the Sinaitic peninsula*. London: Longman.
- Murray AT (1919) *The Odyssey by Homer*. Cambridge: Harvard University Press; London: William Heinemann Ltd.
- Murray AT (1924) *Iliad by Homer*. Cambridge: Harvard University Press; London: William Heinemann Ltd.
- Pugazhendhi D (2020a) The ancient sea trade of the Hebrews with Tamil Nadu, India with reference to the biblical word 'Thukkiyyim' (Peacock). *Global Journal of Human-Social Science Research* S.1.(Jul): 23–33.
- Pugazhendhi D (2020b) The Greek root word 'Kos' and the trade of ancient Greek with Tamil Nadu, India. *International Journal of Humanities and Social Sciences. World Academy of Science, Engineering and Technology* 14(3): 185–192.
- Raffelsiefen R (1998) Semantic stability in derivationally related words. In *Historical Linguistics*, 247–267. Amsterdam/Philadelphia: Benjamins.
- Ralph THG (1896) *The Rig Veda*. Kindle Edition. India: Sacred.com.
- Skeat WW (2005) *An etymological dictionary of the English language*. New York: Dover.
- Smith W (1872) *Dictionary of the Bible*. Cambridge: Hurd and Houghton.
- Stern G (1921) *Swift, swiftly, and their synonyms: a contribution to semantic analysis and theory*. Goteberg: Wettergren & Kerber.
- Tamil Virtual University (1995) *Sangam literature*. Tamil Nadu, India: Government of Tamil Nadu.

- Valera S (2017) Conversion and figurative extension of meaning. *SKASE Journal of Theoretical Linguistics* 14(2): 2–17.
- Waugh B, Mason. T (1832) *A biblical and theological dictionary - Explanatory of the history, manners, and customs of the Jews*. New York: The Methodist Episcopal Church.
- Wilfred H (1912) *The periplus of the Erythraean sea*. New York: Longmans.