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## **SOME K-INITIAL DRAVIDIAN LOAN WORDS IN SANSKRIT: PRELIMINARY OBSERVATIONS ON THE INDUS LANGUAGE**

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### **Abstract**

*Given the large area that covers the classical Indus valley civilization, many languages must have been spoken there. However, the Indus script, due to its consistency in symbols, was likely to have been created by a single linguistic community [1]. Since Fish and Crocodile played a major role in the Indus astronomy, culture and religion, they got represented in the Indus script [2]. Harappans likely called these signs as mīṅ and mokara/makara in their language. The word śimśumāra, first referring to Gangetic dolphin by similarity with the gharial crocodile, is analyzed with the suggestion of a Proto-Dravidian root. Many such examples where word-initial k- gets transformed into ś- in Vedic Sanskrit are included. Words connected with asterisms, kāla 'time', nimiṣa 'second' and, Agricultural terms such as 'timira' from the hump of a Zebu bull, puccha 'tail', indu 'drop, seed' and aṅḍa 'egg' are explained as heritage terms from Indus farming economy.*

### **Introduction**

There is linguistic and archaeological evidence to support the view that the Indus civilization is non-Aryan and pre-Aryan. It consisted of urban sites and there is no depiction of horse or chariots with spoked wheels in Indus seals which number more than 4000. The Aryans were pastoral and did not produce the sedentary,

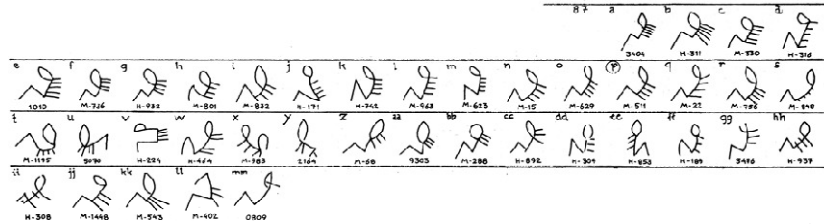
agricultural Indus culture. Recent scholarship has shown the linguistic nature of the Indus script (Fig. 1). Like *makara* 'crocodile' in Figure 1, fish sign is *mīn* meaning both star and fish in Dravidian, as first shown by the Jesuit priest H. Heras in the 1930-s. Rajesh Rao *et al* have shown by computational statistical analysis that the Indus script is likely a linguistic script because the conditional entropy of linguistic scripts match with the Indus script [3]. The pictorial art in the Indus seals show the religion involving importance accorded to fishes and crocodiles, not just in the waters but in the sky and astronomy as well. The Indus religion included buffalo-horned gods, mother-goddesses, the serpents and banyan and pipal fig trees. Taking the case of crocodiles, five important words (*gharīyāl*, *kumbhīra*, *makara*, *nakar* and *viṭaṅkar*) for crocodiles in the northern rivers, Indus and Ganges, have been shown to be of Dravidian origin.

Prof. Asko Parpola has derived both *gharīyāl* and *kumbhīra*, the names of gharial crocodile in Sanskrit and Hindi, from Dravidian [2]. In Eastern Indian languages such as Bengali, Bihari and Nepali, the name *nakar* (cf. Tamil *nakkar*) is used for the gharial (pp. 417-418, [4]). Representations of *makara* in early Indian art matches with the form of crocodiles very closely. The marsh crocodile (*Crocodylus palustris*) lives throughout the Indian subcontinent. The makara (> *magara* in Hindi) crocodile does 'high-walk' for short distances when it comes to the banks of rivers and lakes. This *makara/magara* marsh crocodile has four strong feet which are explicitly shown in the following Indus valley sign and he connects the sign with Proto-Varuṇa: "In Taittirīya Āraṇyaka 2, 19, the heavenly crocodile is called "the lord of all beings (*bhūtānām adhipatir*)", an appellation which further supports identification of this *\*kaṅ-kāṇi* 'overseer' with the Harappan predecessor of Varuṇa." Compare the Indus crocodile sign with the picto-grammatic Chinese

reptile radical sign 豸 and in Japanese, the "reptile radical" *ashinakimushi hen*. In English, the marsh crocodiles are called as "mugger" and dictionaries trace "mugger" ultimately to be of Dravidian origin. The most important words for 'crocodile' in South Asian languages have a Dravidian etymology. Austro-Asiatic, on the other hand, does not seem to have any relation to the terms for 'crocodile' used more widely in South Asia [5].

An entire decad of songs is in Tēvāram by Sundarar on the naked erotic mendicant Śiva enticing women. The commentators explain that this chapter in Tēvāram refers to the episode vividly portrayed in Liṅgapurāṇa. V.M. Subramania Aiyar wrote: "This decad was composed as the words of those ladies who fell in love with the fascinating beauty of Civaṇ when he went begging and were afraid of coming into contact with his form; this idea is mentioned by Cuntarar himself in the last verse." It is important to note that in each of the verses, Śiva is called *Viṭaṅkar*. Obviously, the Tamil term *viṭaṅkar* (cf. *iṭaṅkar*) cannot be split as *vi+ṭaṅka* 'Linga made without the use of the chisel', which is just a folk etymology to assign a pure Tamil word's origin to Sanskrit. Like *nīra* 'water', *nīla* 'blue color' in all Indian languages from Dravidian, we have alternation of -l/-r- in *vār-* 'to pour, to flow down, a long belt' etc., as *vāl/vālam* 'tail of birds, animals'. From the same root, with the loss of word-initial v-, *āli-* (< *vāli-*) is hailstones, raindrops. Some more examples of v- loss: *indu/vindu* 'drop, seed', *iṭi/viṭuku* 'thunder', *āli/vāli* 'raindrops', *aḷai/vaḷai* 'hole', *iḷutu/viḷutu* 'fat, ghee'. Similarly, *viṭaṅkar* 'gharial' loses the v- and is attested as *iṭaṅkar* 'gharial' in Sangam texts. Note that *iṭi*, *āli-*, *aḷai*, *iṭaṅkar* are in Sangam but their root words *viṭi* (= *viṭuku*, Pallava royal title), *vāli-*, *vaḷai*, *viṭaṅkar* respectively are attested in post-Sangam period. The word, *indu* (< *vindu*) is attested even in Rgveda itself. Both *vitai*, and with v- loss, *itai* are attested in

Sangam poems as part of the words meaning ‘sown field’. Without considering these root words beginning with v-, it is impossible to explain the origin of these words in Sangam which is a rather small corpus. In old Tamil texts, *viṭai* refers to the virile male of animals - bovids, caprids, antelopes, elephants. This *viṭai* (Tamil) can be compared to *viṭa* (Sanskrit). It is a verbal noun from *viṭai-* ‘to enlarge, to thicken, to stiffen up, to stand with pride’ (also *virai-/viṭai-*, cf. DEDR 5439) [5]. In commentaries, the meaning of *viṭankar* in Tēvāram verses is given as *kāmuka*.



**Figure 1**

*Indus Sign Number 87*  
*(Makara Crocodile – Identification by Parpola, [2])*

I have published a paper at the 16<sup>th</sup> World Sanskrit Conference showing the continuity of the Indus crocodile cult in post-Harappan period. This is an important period of “Vedic Night” when language shift was happening in North India towards Aryan languages. In the Ganga-Yamuna doab region, Anthropomorphic Axe sculptures in bronze are found around 1500 BCE, and when they disappear there, monolithic sculptures of Anthropomorphic Axe are carved in South India using iron chisels in places like Mottur, Udayarnatham and Sittannavasal dated to 800 BCE in Early Iron Age when horse, iron, paddy cultivation etc., were introduced from the North. The long-snouted gharial seems to be the ultimate source for phallic symbol, the Lingam. In Tamil texts, *viṭankar*

means Linga, Śiva as a nude *kāmuka* (erotic ascetic), as well as crocodile. At places like Gudimallam, the phallic symbol represents Varuṇa, the god of the littoral landscape of Sangam poetry [6].

### **Need for A Fresh Look**

Prof. Michael Witzel, Harvard University has written two important papers 17 years ago providing a corpus of words from Vedic literature that are non-Aryan. These references are in the internet: (a) *Early Sources for South Asian Substrate Languages*, 1999 (b) *The Languages of Harappa*, 2000. In the years since their publication, many new research publications have appeared about the Indus civilization. Rajesh Rao et al., has a computational statistics paper that indicates the possibility that the Indus script is a linguistic script [3]. David McAlpin has shown that Brahuis are in their current location in Indus civilizational area for millennia, and were the first to branch off from Proto-Dravidian (Velars, Uvulars and North Dravidian hypothesis, *JAOS*, Vol. 123, pp. 521-546, 2003). Asko Parpola, University of Helsinki has written three articles on Indus and Vedic astronomy where *Nakṣatra* asterisms, Pleiades, planets and Indus religion with fish and crocodiles as divinities in the sky point to Dravidian origin that predates the available written Indic texts. Areal linguistics shows the genesis of systemic retroflexion in Sanskrit due to impact from Dravidian. Munda language specialists have interesting conclusions about the Munda folks ingressing into Eastern India on the borders of Burma. They have looked at the Munda data from historical linguistics, genetics and archaeological perspectives [7]. Munda language speakers enter East India only 3500 years ago and by that time, the mature phase of Harappan civilization was already in decline in Pakistan. Harappans have started moving out of Punjab region towards Uttar Pradesh and Gujarat. In view of these multi-faceted developments in the research areas on the Indus civilization, it

becomes necessary to take a fresh look at the non-Aryan words in the Vedas. Let us quickly look at some of these non-Aryan words and their parallel Dravidian etyma. Most of these words come from Nature and Agriculture of the Indus civilization.

The importance attached to astronomy and astrology in planning festivals, city architecture, commencing trade and agricultural activities in annual cycles in the Indus civilization calls for a look at two words in Sanskrit connected with Time. *Kāl* or *kālam* in Dravidian languages means leg, wind or time as all the three are always in motion. Just like *mīṇ* has the meanings of either star or fish, the word *kāl/kālam* ‘time or leg’ can be understood. The four *yugas* are compared to the four legs of the Dharma cow in the epics. *nimeṣa* “winking of the eye or snapping the finger” as a small unit of time is related with the verb *ñimīṣu-/nimīṣu-* “to press, ...” (DEDR 2926). Cattle farming involved zebu bulls and bull vaulting festivals as seen in the Indus seals (Jallikattu during Pongal festival in Tamil Nadu) and *timira* ‘black, dark’ (CDIAL 5817) is related with *timil/timir* (DEDR 3233 and 3239), the prominent black hump of the zebu steer bulls before neutering them into oxen. *Puccha* ‘tail, hinder part’ (CDIAL 8249) is connected with *pokku/poccu* (DEDR 4452 and 4476). *Vindu/vittu* ‘seed, drop, semen’ (DEDR 5401) with the loss of word-initial *v-* becomes *indu* ‘seed, drop, soma’ in the Veda. There are many such words in Dravidian where word-initial *v-*, *y-*, *c/s-*, *m-* or *n-* are lost. For example, *viṭaṅkar/iṭaṅkar* ‘crocodile’. *muṇḍai/maṇḍai* ‘egg, head; also widow due to her tonsured head’ (DEDR 4939 and 4682), and when *m-* is lost, it is *anda* ‘egg’ in the Veda. *titti/tital* ‘spots, blemish’ is linked with *tittira* ‘partridge bird’. *ōdam* ‘wetness’ (DEDR 1047) gives rise to *ōdana* ‘rice gruel’ in Sanskrit. Indus civilization is known for buildings made of brick, both sun-dried and kiln-fired. *iṭu* “to place” (in a wall, DEDR 442) gives birth to *iṭṭi(ka)* ‘brick’ used even in



ancient Sangam texts. This Dravidian *iṭṭi* > *iṣṭi* in Sanskrit. *āl-* “to sink, to press down” (DEDR 396) verb becomes *āṇi* ‘lynch pin’ in the Veda for carts or chariots. *vaṇij-* ‘trader’ and *paṇ-* ‘barter’ are from Dravidian as Indus culture is known for its trade with the Western neighbours. *kāṇa* ‘one-eyed’ in the Veda is from *kaṇ* ‘eye’ in Tamil. *vīcu-* ‘to sow’ (DEDR 5450), (cf. *viccu/vittu/vintu*, DEDR 5401 ‘seed’) gives birth to *bīja* ‘seed’ in Sanskrit. *kuṛu-* ‘to shorten, to shrink’ (DEDR 1851) gives rise to *kūrma* ‘tortoise’. *Bali* ‘sacrifice’ is from *pali/poli* in Tamil Sangam texts.

There are many words that lose retroflex consonants in Sanskrit when taken over as loans from Dravidian. *kaḍamba* ‘nauclea cadamba tree flower sacred for Skanda-Murukan (Drav.)’ > *kadamba* (Sanskrit), *paḷa* ‘fruit’ (Drav.) > *phala* (Skt.), *yāḍu* ‘goat (Drav.)’ > *yādava* ‘herders of goats, cattle’ etc. Like these examples, G.U. Pope and Th. Burrow have argued that *anaṅga*, the god of love, in Maharashtri Prakrit gets this name as a loan from Dravidian *aṇaṅku-* “affliction, hostile approach”. The legend was invented that the god of love has no limbs but originally that is not the meaning. This medieval *an+āṅga* (limbless, by extension bodiless) explanation is like *vi+ṭaṅga* (chisel-less) explanation for the Dravidian word *viṭaṅkar* ‘crocodile (e.g. gharial), Linga, naked Śiva as a *kāmuka* enticing women’. The crocodile cult representing Varuṇa in post-Harappan period Anthropomorphic Axe sculptures, first in bronze in Ganga-Yamuna doab region in Second Millennium BCE and then as huge monoliths in Early Iron Age (First Millennium BCE) South India was discussed in Section 1. Eventually, Varuṇa connection with Linga gets morphed into Śiva, as Varuṇa's importance was reduced when compared to the Vedic period. Gaurī, originally wife of Varuṇa, becomes wife of Śiva. Gaurī in the Veda meant wild buffalo or Indian bison: *gaurī* < *kavari/kōṭu* ‘wild buffalo, horned’ (Drav.) [8].

*Pili-* “to press to extract oil, to compress” (DEDR 4183) is the verb for *pinda* in Sanskrit. *gōla* ‘round, sphere’ is from *kōḷ/kōḷam* (cf. *kāl/kālam* ‘time, leg, wind’, *vāl/vālam* ‘tail’). *nīla* ‘blue’ is -r/-l- interchange from *nīr* ‘water’ in Dravidian. *ukha* ‘hip’. *eḷḷu* ‘sesame’ is \**ñeḷḷu* ‘the black seed’ (cf. *ñeḷ/naḷ/al-* = black, night). *tila-* seems to be from *cil-* ‘tiny seed’ (cf. *cecci* > *tecci* ‘Ixora coccinea flower’; *yāmai* ‘turtle’ in Sangam texts > *same*, *tābēlu*, *tāmbēlu* in Telugu (DEDR 5155)). *tilpiñja* ‘infertile sesame’ with *piñju* ‘tender fruit fresh from bud’ (DEDR 4145). CDIAL 192 *āṇu* ‘the grain-plant *Panicum miliaceum*’ VS. Pk. *aṇu*, *aṇua*, *aṇuā* ‘a sort of edible grain’ and Tamil *aṇukku-/aṇakku-* ‘to break into little pieces, to torment’ can be compared. *aṇunku/aṇanku* is Indian pangolin as it shreds anthills to tiny *āṇu*-s. *aṇanku* is an afflicting power capable of hurting and Sangam era Tamil religion based on control of *aṇanku* is quite significantly different from Veda-based religion of the Brahmins [9]. There is some evidence that human sacrifice, probably involving the bards and dancing women, was practiced in annual festivals even in the Indus civilization and this is discussed in A. Parpola’s publications. The Dravidian word, *aṇu* derived from the verb, *aṇunku/aṇanku* is used in ancient Indian philosophy texts, and nowadays used as the term for denoting atomic energy. *vēḷ*, *vēḷir* (DEDR 5545) is in *vailasthāna* of the Veda. *vicumpu* ‘sky’ in Tamil is to be linked with *vaiśambhalya*, the name for the seasonal river Sarasvati which depended on rains for water flow. This is comparable to the name *vāṇi* river in Tamil Nadu with *vāṇ* ‘sky’, and Sarasvati (Ghaggar-Hakra) vanishes into the sand at Bhavāni. Interestingly, *vāṇi* river meets Kāveri river at Bhavāni (< *vavvāṇi* where *vāṇi* meets Kaveri, cf. *vavvāl* ‘bat’) - the place where *ulū-khala* is related with *ural-kaḷam* in Tamil. In Indus culture, *ulūkhala* is the circular platforms with wooden mortars for indigo extraction. *kaḷam* is thrashing floor. Some vocabulary like those of bricks (*iṭṭi* > *iṣṭi*), sesame (*ñeḷḷu* > *eḷḷu*), seed (*vīcu-* > *bīja*) appear to

have spread from Indus culture westward to Sumeria in Harappan times and to Bactria (BMAC) later. *pī-* is Dravidian root word for yellow, golden colour: *pīta* 'yellow' (CDIAL 8230), hence *pitta* 'bile', *pittala* 'brass', *piṅga* (CDIAL 8147); *pīra* 'sponge gourd with yellow flowers' (DEDR 4224); *pīpal* (Hindi), *pippala* 'figus religiosa' as the Bodhi tree important in Indus culture sheds leaves annually by turning them into yellow colour and looks beautiful. The long-pepper plant which is also called *pippala* has a stick-like yellow flower that matures into the peppercorn used as a curry spice.

As this *pī-* "yellow" Dravidian root gives rise to many important words in Indian languages, both Aryan and Dravidian, another productive root to look at is *cī-* "date palm tree", *cīmāru* "broom made of date palm leaves", *cīl/īlam* "toddy that oozes", *cīlam* "land of date palm = Sri Lanka" > *īlam*. From the root, *cī-* : *cīntu/īntu/īncu/īnku/īrkku* ... all meaning 'date palm tree'. Sindhu, name of the river and land, seems to be from this Drav. *cī-*, meaning land and river of the date palms. Another root, *kū-*, "sharp" productive in generating words that mean sharp tip of knife or pencil, needle, bristles of plants, will be discussed later. *kiyāmbu/kyambū* 'taro, water plant' in Rgveda is linked with *cēmpu* (< *kēmpu* from *kayam* 'water body, pond' and *kai/cey* 'field'). *kaḍal* is sea in Dravidian and because banana plants came from South East Asia by sea, they are named as *\*kaḍalī* > *kadalī* (Sanskrit). *camatṭu-/cavatṭu-* 'to pound' *cammatṭi* 'large hammer' (DEDR 2349), *camat-/cavat-* 'mortar' in Dravidian and CDIAL 4749 Skt. *cāmala* or *cāvala* 'husked rice'. Rice plant names *taṇḍula* and *sāli* are discussed in the next section.

### 3.0 Some Vedic Words with Ś-

There are several important words with word-initial ś- in Vedic Sanskrit. Prof. M. Witzel writes: "This is the opportune

moment to briefly discuss another northwestern peculiarity, the interchange of k/ś in Vedic. This has occasionally been observed, even one hundred years ago in the case of Karkoṭa/Śarkoṭa, but it has not been put into proper relief (Kuiper 1991: 41, 42, 44 as Proto-Munda, cf. KEWA III 309, Witzel 1999). The interchange of k and ś is not related at all to the well-known Indo-Ir. development of IE \*k' > Ved. ś, as the present variation occurs only in 'foreign' words; [...] In consequence, Vedic loan words with the interchange of ś/k may go back to a phoneme K' with realization close to [k'] or [ś] in the Indus language" (*Mother Tongue*, pp. 34-35, 2000).

Let us take a look at some Sanskrit words with initial ś- and their relationship with words with initial k- in Dravidian.

(a) Ganges river dolphin (*Platanista gangetica*) is given the name which means "baby-crocodile" in Pali, Prakrit and Sanskrit (*Vājasaneyi-Saṃhitā*): *śuṃśumāra*. This has variants, *śiṃśumāra*, *śiśumāra* etc., *māra* is from *makara*, a Dravidian word for crocodile. Because of the similarity of the narrow and long snout of the gangetic dolphin with gharial crocodile, the dolphin is named as "baby-crocodile". *kuñcu* is "baby bird, young of animals" (DEDR 1646), a term of endearment to call children at home, and \**kuñcu-māra* > *śuṃśumāra* and then *śiṃśumāra*.

(b) Duck weed is called *śaivala*. Duck weed, green, moss-like plant growing in pools, *Blyxa octandra*; *kaiyam/kayam* (DEDR 1251) 'pond' is connected with *śaivala* (Vedic). Also, cf. *kai/cey* 'wet land' (cf. *nan-cey* 'paddy field').

(c) *śiva* 'gracious, kindly' is connected with *kem-/cem-/civ-* (DEDR 1931). Later on, the great god Śiva (in Tamil, *Civaṅ*). Note the change from *k-* to *ś-* in *kem-* (Drav.) > *śiva* (Sanskrit).

(d) *kal-* "to dig" (DEDR 1319, 1373). CDIAL 2942 *kalpaka* m. 'barber' Kaut. [ $\sqrt{k\dot{l}p}$ ] Si. *Kapuvā* 'barber'. In villages, barbers serve

as surgeons, in removing the thorns etc., by sharp needle. Barbers contributed a lot to the science of surgery in India and also in Europe. *śalyayati* CDIAL 12354 ‘hurts, torments’, Pk. *sallia* -- ‘pained by a thorn’; *śalyá* CDIAL 12352 m. n. ‘arrow, javelin’ RV., ‘anything lodged in the body and causing pain (applied inter alia to dead foetus)’; *śályaka* CDIAL 12353 m. ‘porcupine’ *śala* CDIAL 12344 m. ‘porcupine -- quill’. *śalalī* CDIAL 12348 f. ‘porcupine -- quill’ *śalākā* CDIAL 12349 f. ‘any small stake or stick’ *śalākin* m. a surgeon, barber, a spearman.

Hence, the silk cotton tree (*Bombax heptaphyllum*) which is a large thorny tree with bright red flowers is called *kalmali/śalmalī* in the Rgveda. *-mali* in *śalmalī* could be from Dravidian as well: *mara* ‘tree’ or *mali-tal* ‘full of’.

*śala-* is quill, porcupine thorn gets extended in meaning to ‘any small stake or stick’ (CDIAL 12349). In this sense, the important food plant of South India and which was introduced by Dravidians in Indus culture is named *śāli* ‘growing rice plant, unhusked rice’ (CDIAL 12415). The comparable name is *taṇḍula* (CDIAL 5637) from *taṇḍu* ‘small rod, stick, reed’ (DEDR 3030).

(e) *śāpa* CDIAL 12393 ‘curse’. Compare against DEDR 1341 *kavvai*, DEDR 1458 *kā(y)ppu* ‘to curse, to become hot/angry’.

(f) *kal* ‘stone, pebble’ in Dravidian. *kaṛkaḷ* ‘pebbles’, Compare against Vedic *śarkara* < *karkala* (Drav.). Burushaski has a loan word from Dravidian, ‘*kal*’: *γoro* ‘stone, pebbles’ (H. Berger).

(g) *kūr-* ‘sharp’ (DEDR 1898), *śūra* (Sanskrit, CDIAL 12569) Hero, warrior, champion; *padma-śūra* : the asura killed by Skanda.

*śū’la* CDIAL 12575 *śū’la* m.n. ‘spike, spit’ RV., ‘impaling stake’ Mn., ‘any sharp pain, esp. colic’ ŚārngS. Note *kūr-* (Drav.) > *śūra* and *śūla*. Also, *kūr* = thorny tree. Arid land is *kūr-curam/kūrccaram*,

old name of Gujarat. *kūr* are thorny trees like acacia species. *śūr-rāṣṭra* > *Saurāṣṭra*.

(h) *kaṭu-* 'astringent, pungent' (Drav.), In Tamil, *kaṭukkāy* 'Chebulic myrobalan' is astringent. *kaṭu* (Drav.) > *śaṭa* (Sanskrit) mfn. sour, astringent, acid L.

(i) In Dravidian, *kāl* means 'leg, post/pillar of a building, wheel of a cart, path, channel'. The straight tall tree used in erecting houses and pandals is *shorea robusta*, its posts are used. *śāla* (Sanskrit) < *kāl* (Drav.); *śālā* - a house, mansion, building, hall, large room, apartment, shed, workshop, stable AV.

(j) *śilīmukha* CDIAL 12469 m. 'arrow MBh., sword, bee' Kāv.; *śilī* CDIAL12466 *śilī* f. 'dart, arrow' Compare *śilī* (Sanskrit) against *kīli-* 'to tear' (DEDR 1581). For *-l-* > *-l-*, consider *paḷa-* 'fruit' (Drav.) > *phala* (Sanskrit).

(k) *kuntu-* in Dravidian means "to sit/perch on the heels". As the birds roost this way, women were named "*kuntī*" likening them to birds. Often in Indus sculpture, girls are portrayed with parrot-like faces. *mantu/mañcu* 'black cloud' (cf. *mai* 'black'); *pantu/pañcu* 'ginned cotton, ball made of cotton'; *pintu/piñcu* 'young fruit from bud'; etc., The parallel is *kuntī:kuñci* 'baby bird'. Hence, *kal-kuntī* 'bird that roosts on pebbles'. *kakuntī* > *śakuntī* (cf. Names like *kuntī*, *śakuntalā* in Mahabharata epic).

(l) *karkoṭa/śarkoṭa*. Vedic texts mention *karkoṭa/śarkoṭa*: *karkoṭa* nama sarpaḥ (RVKh 7.55.7) and *arasasya śarkoṭasya* (AV 7.58.5). The other form is *karkoṭa/śarkoṭa*. I propose like *kalkaḷa* > *śarkara*, the Dravidian form is *\*kal-koṭa* 'gem-giver' as in the myth told in classical languages of India (Sangam and Sanskrit texts), king cobras living for a long age, shrinking in size and producing gems that they use to search for food during the nights. Viṣṇu or Buddha has this "gem-giver" protecting them, also called as *maṇimat*, the

chief of snakes with many heads of this snake shown with gems in art.

(m) Like *pī-* 'yellow', *cī-* 'date palm' are productive in generating many words of high significance in Indo-Aryan and Dravidian languages, *kū-* 'sharp' is also important. In Tamil *kūku*, *kūvu* mean 'sharp tip' of a pencil, knife and so forth. From Dravidian *kūku-* > *śūka* (Vedic, CDIAL 12560) a bristle, spicule, spike (esp. the bristle or sharp hair of insects), the sheath or calyx of a bud. *śūkaka* 'barley, a bearded kind of wheat'. Like *mokara/makara* in Indus culture era giving rise to *mocale/motale* 'crocodile' in South India, *kūk-* > *śūka* 'bristle, sharp tip of the awn of wheat' > *śūci* 'needle' (= *ūci* in Tamil).

(n) *kōṇ* (DEDR 2209) crookedness, bent, curved. Therefore, *kōṇi* (DEDR 33, Deccan hemp DEDR 2183) is sack made of jute fibre, English word *gunny* bag comes from DEDR 33. The sunn hemp seeds are U-shaped and hence this name is *kōṇ*, *koṇal/kaṇal* used in village names. The hemp and jute plants grow very fast and their leaves are ploughed under to make organic fertilizer for the next crop on the fields. CDIAL 12272 *śaṇá* m. 'hemp' AV. is from *koṇa-/kaṇa-*. DEDR 2183 Ka. *gōgi* Deccanee hemp, *Hibiscus cannabinus*. Te. *gōḡu*, *gōnu* id.; *gōṅgūra* leaves of *H. cannabinus* can be compared against CDIAL 3964 *gañjā* f. 'hemp (from which an intoxicating drink was made)'.  
 Monier-Williams dictionary gives *śaṇa* m. (L. also n.) a kind of hemp, *Cannabis Sativa* or *Crotolaria Juncea* AV. &c. &c. and also an arrow L. In Tamil, *kaṇai* 'arrow' > *śaṇa* 'arrow' (Vedic).

(o) Like in the above example (m) where short *-o-* turns into an *-a-* (*koṇ-* > *kaṇ-/śaṇ*), there is another famous word, *śaṅkha* 'conch shell'. Conch bangles are famous in Indus culture and in Sangam texts. The change from *ko-* of Dravidian to *ka-/śa-* happens in Vedic

because it lacks the short -o- sound which is common in Dravidian. Kongu country is called so due to its curving landscape of hills. *koṅku* > *kaṅka* 'heron' in Sanskrit (DEDR 2125). The same word *koṅku* 'curving' is what is in *śaṅkha*. It is a coincidence that *konkhos* is in Greek also but Dravidians have the same word *koṅka/kaṅka*. Similarly, *araican* is 'king' in Dravidian (cf. *arai* 'bodhi tree' famous for Proto-Durga in Indus civilization, hence she is *araici*. *arai ōlai* is royal command issued on palm leaves). This *araican* is linked with the Indo-European *rājan* in Post-Harappan times.

There is a related word *śaṅku* (CDIAL 12260) 'peg, spike' RV., 'stake, post' MBh., 'stick, arrow' Harivamsa. This is a hook-shaped peg, carpenter's peg etc.; "*kokkāṇi kāṭṭuta*" is seen in children's games teasing the opponent. *koṅku* > *śaṅku*, due to lack of short -o- in Vedic.

(p) *kambara/śambara* "Most important in this respect is the name *Śambara*, which so far has been considered to be of Austro-Asiatic origin, being connected with the tribe of the Austro-Asiatic-speaking Sora (< Śabara) in the state of Orissa in eastern India. The Mahabharata, however, has preserved several variants of *Śambara* as the name of an enemy of Indra, one of them being Saṃvara. This suggests that *Śambara* is a Proto-Magadhi like variant of a noun meaning 'protector, defender', from the root *vr-* 'to surround, cover, protect'. The etymology agrees well with the meaning 'fort(ification)', which *śambara* as a neuter noun appears to have in the Rgveda (2, 24, 2) and with Karl Jettmar's comparison of the Dashly-3 fort with Avestan *var* 'fort'" (p. 151).

"Thus we have seen that the Vedic god Varuṇa appears to continue the earlier (Indus-influenced) traditions of Bactria associated with the Dasa god *Śambara* (§8:4). In the non-Vedic religion of the Tantras, *Śambara* is a terrifying and erotic



manifestation of Śiva in the form of a buffalo. In the Śakta tradition, again, Śambara has a counterpart in Mahiṣa Asura, the Buffalo demon, who is the antagonist / lover-husband of the goddess Durga (§ 14.2)" (p. 189, *Deciphering the Indus Script*, 2004, Cambridge University Press).

As in example (n) where Dravidian *koṅku* > *kaṅka/ śaiṅka* merging with Indo-European *konkhos* for conch shell, parallel situation happens here also. *Kambalai* is tumult, uproar during ploughing by buffaloes in paddy fields. *Kambala* is the popular buffalo racing in Karnataka and *kambalar* are farmers in paddy fields. The typical *kambala/śambara* alteration in Vedic and Dravidian link with Mahiṣa buffalo can be seen.

(q) *kambu/śambu* 'bivalve shell'. *kampu* is used for the shell-lime mortar used in buildings in Tamil (*kampiṅ āṛ neṭumatil kāḷi*, Campantar Tevāram, 7<sup>th</sup> century). Another word is *kōṭṭu-nūru* for this shell-lime mortar used in creating fine surfaces of walls from lime by burning the bivalve shells. *kōṭṭu* and *kompū* both mean horn, tree branch, forking road, bivalve etc. *kompū* is called *kampu* also (cf. *poli* : *pali/bali* 'sacrifice').

*kombu* : *kambu/śambu* = species of cockle, bivalve, clams, oysters, shellfish. Indra's weapon *vajra* is called *śamba* < *kombu/kamba* (Dravidian) because of the horn-like shape. *śambuka*, *śambūka* < *kambu* m. a bivalve shell, any shell or conch.

(r) A. Parpola (2008, *Proto-Indo-European Speakers of the Late Tripolye Culture as the Inventors of Wheeled Vehicles*) has proposed that word for wheel has PIE origin and spread to Mesopotamia. The Harappans must have gotten the wheel and cart technology from the powerful Sumerian neighbours with whom they traded. Sumerian word *gigir* 'wheel, wagon', Semitic *galgal-* seem to derive from Indo-European *\*k<sup>w</sup>el-* 'to turn, to twist'. In Tamil language,

*cakaṭu/cakaṭai* is 'wheel' while *cākāṭu* = 'cart' (*pīli pey cākāṭu* - Tirukkuraḷ). *cakaṭai* is potter's wheel, wheel on a well to draw water, circular drum etc. The Harappans borrowed the term *galgala-* from Mesopotamia and devoiced it as *kakkaṭa/kakaṭa* > *śakaṭa*. The cognates of *śakaṭam* in the various modern Indo-Aryan languages presuppose variant forms *\*śakkaṭam* and *\*śaggaṭam* (Turner 1966:709; Mayrhofer 1996:II,601). *kakāṭa* 'back of neck' (Vedic) is related to *kakaṭa/śakaṭa* 'wheel'. *kaḷuttu/kaṇṭa* 'neck' (Drav.) as the head turns may be related to *kalkala-/galgala-* allophones of Mesopotamia. Another word, *akkuḷ* 'armpit where hand connects to shoulder' may be connected to words meaning axle. *śakaṭa* is wheel, and by extension of meaning, cart, wagon. In addition, I mentioned earlier the lynchpin holding *śakaṭa* 'wheel' in the axle is "*āṇi*" which is Dravidian. *kalkala/galgala* "wheel" from Mesopotamia > *śakaṭa* in Vedic. *śakaṭa/śakaḷa* 'wheel, cart' gives rise to *cakra* 'wheel' in Sanskrit and *cakkara* in Tamil as well.

#### 4.0 Summary

India has been called a common linguistic area by M.B. Emeneau in 1956 followed by other scholars later. Many Vedic non-Aryan words have been shown to be loans from Dravidian language of the Indus farming culture. In the Indus script, the linguistic symbols such as Fish and Crocodile were written and Harappans likely called them using words in their mother tongue as *mīn* and *mokara/makara* respectively. To further support that the Indus signs such as fish and crocodile were called using their Dravidian names, examples are provided here where word-initial *k-* changes to *ś-* in Vedic from Dravidian. The root semantics of these words have been provided from ancient Sangam and other Tamil texts. The diffusion of *k-* to *ś-* in at least the sample words mentioned in this paper provides an areal linguistics aspect due to the language contact between Indo-Aryan and Dravidian families in post-Harappan times.

It appears that Aryans employed the well-known Indo-Iranian development of IE \*k' > Vedic ś for these words of Dravidian origin as well. For the language change to Aryan that was accomplished in Indus region then, the interchange of k-/ś- also played its role and this needs to be recognized. These words were probably heard with a schwa ə in the word-initial syllable, so kə- changed to śə-/śa. Specialists of Indus civilization, South Asian archaeology, Art History, Human Genetics, Indian languages and Historical linguistics can study this phenomenon further.

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