‘Hind Leg’ + ‘Fish’: Towards Further Understanding of the Indus Script*

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Methods and results of a systematic attempt to decipher the Indus script as a logo-syllabic writing system with Proto-Dravidian as the underlying language are first outlined. Then one so far undeciphered sign is interpreted as depicting an ungulate’s ‘hind leg.’ A phonetic reading is proposed on the basis of its one-time occurrence in front of the plain ‘fish’ sign. (Besides the plain ‘fish’ sign, there are ‘fish’ signs modified by the addition of various ‘diacritics,’ such as a ‘roof’ placed over the fish, a horizontal or diagonal line crossing the fish in the middle, etc.) The sequence ‘hind leg’ + ‘fish’ is likely to represent a compound name of a heavenly body like several other already deciphered sequences, where the latter member of the compound is Proto-Dravidian *miin ‘star,’ homophonous with *miin ‘fish.’ A probable solution (to be tested by a study of other occurrences of the ‘hind leg’ sign) is offered by Old Tamil taaL ‘leg,’ which is once attested as denoting an asterism. Finally, some inconclusive in-depth attempts to decipher other undeciphered signs are recorded. Their purpose is to highlight difficulties due to the scantiness of early Dravidian lexical and textual material.

Keywords: Decipherment, Indus, Harappan, script, Dravidian, Tamil

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Introduction

With its c 5000 presently known inscriptions, the Indus script stands out in importance among the still undeciphered writing systems of the world.\(^1\) Unfortunately the texts are very short, but their substantial number makes fair analysis possible. They have the potentiality to reveal otherwise inaccessible information on the language and religion of a great but totally forgotten civilization.

The Indus or Harappan Civilization flourished from 2500 to 1900 BCE.\(^2\) It is thus the fourth oldest culture of the world to have a script of its own.\(^3\) Geographically, it was the most extensive culture of its time. More than a thousand settlements have been identified in Pakistan and northwestern India, and the total population is estimated to have been around one million. Yet the Indus Civilization vanished many centuries before the historical period in South Asia began c 1000 BCE with Vedic hymns; these oldest preserved compositions in the Sanskrit language do not contain any historical information that indisputably can be connected with the Indus Civilization.\(^4\) Harappan merchants sailed to the Gulf and Mesopotamia,

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\(^1\) For a survey of the principal undeciphered scripts of the world, see Robinson 2002.


\(^3\) The oldest script of the world is Archaic Sumerian of the Late Uruk (Uruk IV-III) period (c 3400-3100 BCE). (A good description of the script and its use in Englund 1998 and Cooper 2004.) Influence of the Archaic Sumerian script led to the creation of the very similar but poorly understood Proto-Elamite script which was used widely in the Iranian Plateau c 3200-2900 BCE (for the Proto-Elamite script see Englund 1996; 2004; Potts 1999: 71-83).

The creation of the outwardly indigenous Egyptian hieroglyphic script by 3200 BCE seems to have been inspired by Archaic Sumerian through stimulus diffusion (cf. Ray 1986: 308-311; Ritner 1996: 73). There is clear evidence for significant Uruk influence on the glyptics and iconography of Pre-Dynastic Egypt in the Naqada IIb-IIIa periods, c 3500-3150 BCE (cf. Boehmer 1974a; 1974b, updated in Honoré 2007 and Watrin 2004-2005, where other archaeological evidence as well is assessed).

The agriculturally based Chalcolithic cultures of the Carpatho-Balkan area in southeastern Europe used script-like signs in the fifth millennium BCE; in spite of claims to the contrary, this was hardly yet real writing — its development to such was arrested by cultural upheavals (on this so-called “Danube script” see Marler ed. 2008).

\(^4\) For the cultural and historical information contained in the Rig-Veda, see Zimmer 1879 and Witzel 1995a, 1995b.
and the cuneiform texts there do occasionally speak of ships coming from a far-off country called Meluhha bringing exotic goods such as ivory that are likely to be of Harappan origin. But even these contemporary sources do not allow recognition of the linguistic identity of the Harappans. The Indus script is not clearly related to any other known script, nor do we have any bilingual inscription translating or transcribing an Indus text into a known language or script. Circumstances which have made it possible to decipher other ancient scripts are thus for the most part lacking here. It is not surprising that the Indus script has resisted the more than a hundred attempts to decode its secrets that have been made since 1875, when the first specimen was published.

Recently a team consisting of a historian, a computer linguist and an Indologist published a new hypothesis concerning the Indus script: they maintain that it does not constitute a language-based writing system, but just consists of non-linguistic symbols of political and religious significance. Nine major arguments are put forward, but none of them

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5 For interesting new evidence on the Meluhha people settled in Mesopotamia see Vermaak 2008.

6 Proto-Elamite texts have been found as far east as Tepe Yahya in Kerman (cf. Damerow & Englund 1989) and Shahr-i Sokhta in Seistan (cf. Englund 2004: 103; Lamberg-Karlovsky 1978; Potts 1999: 81-83). Shahr-i Sokhta was in contact with the Early Harappan sites of Pakistani Baluchistan in 3000-2600 BCE (cf. Biscione 1984). In 1994, a collection of typically Proto-Elamite beveled rim bowls was found in Pakistani Makran at Miri Qalat, a site later occupied by the Indus Civilization (cf. Besenval 1997: 207-210). As some iconographic motifs of the Indus seals moreover seem to go back to Proto-Elamite models (cf. Parpola 1984), it appears possible that the Early Harappans obtained the idea of writing from the Proto-Elamites during the first quarter of the third millennium. In any case the Early Harappans did not copy Proto-Elamite script signs, but devised their own, adopting local symbols, some of which we know from the “potter’s marks” and motifs of painted pottery (cf. below).

7 On successful decipherments of ancient scripts and the methods used in them see especially Pope 1999 and Daniels 1996.

8 Possehl 1996 offers a relatively complete review of the various attempts to decipher the Indus script.


10 The points discussed or theses are: 1. Statistics of Indus sign frequencies & repetitions. 2. The “texts” are too short to encode messages. 3. There are too many rare signs, especially “singletons.” 4. There is no sign repetition within any one text. 5. “Lost” longer texts (manuscripts) never existed. 6. No cursive variant of the “script” developed, hence there were no scribes. 7. No writing equipment has been found. 8. The “script” signs are non-linguistic symbols. 9. Writing was known from Mesopotamia, but it was
proves the case.\textsuperscript{11} On the other hand, some circumstances not taken into consideration by these authors are difficult to account for except by assuming a language-based script. Particularly important is the recurrence of a great number of longer sign sequences at many different sites: why were the signs always written in the same order, and how did people know these sign arrangements at widely separate sites?\textsuperscript{12}

The principal claim — that all real writing systems left behind longer texts than what survives of the Indus script (thousands of short texts, mainly seals and sealings, with the average length of five signs) — demands comparison with the Archaic Egyptian script. Dated to c. 3200 BCE,

> “The earliest recognizable writing from a secure archaeological context is on tags originally attached to grave goods in the royal Tomb U-j at Abydos and on pottery from the same tomb\textsuperscript{13} ... Its system, although very limited, appears well formed and its repertoire includes the royal throne and palace façade” which accompany the names of later Predynastic kings.

> “At least four pre-1st Dynasty kings can be identified ... Although the readings of their names are uncertain, the script was quite developed; words were encoded both in logographic form — with a single sign writing a complete word — and phonetically ... By the early 1st Dynasty, almost all the uniconsonantal signs are attested, as well as the use of classifiers or determinatives, so that the writing system was in essence fully formed even though a very limited range of material was written.” (Baines 1999: 882).

> “Many inscribed artifacts are preserved from the first two Dynasties, the most numerous categories being cylinder seals and sealings, cursive annotations on pottery, and tags originally attached to tomb equipment, especially of the 1st Dynasty kings. Continuous language was still not recorded ...” (Baines 1999: 883).

Thus until the beginning of the Old Kingdom starting with the 3rd

\textsuperscript{10} This new thesis helps to understand the Indus Civilization better than the writing hypothesis.

\textsuperscript{11} Each thesis is countered in Parpola 2008a. Cf. also Vidale 2007.

\textsuperscript{12} See Parpola 2008a: 123-124, with examples in fig. 2, and, as counterexamples, three different non-linguistic signs in any order on pottery from a Megalithic site in South India in fig. 3.

\textsuperscript{13} The tomb U-j of a Predynastic king (probably “Scorpion”) at Umm el-Qa’ab near Abydos was excavated in 1988 and its c. 150 bone tags, as well as the pottery inscriptions and sealings were published ten years later (Dreyer 1998).
Dynasty in 2686 BCE, for about 600 years — equaling the duration of the Indus Civilization — the Egyptians used a language-based, phoneticized writing system, but did not write full sentences, only very short texts fully comparable to the surviving Indus texts. Early administrative documents are assumed to have existed but have not survived (cf. Baines 1999: 884).

My own labours on the Indus script started as a hobby in 1964 in collaboration with a computer specialist and an Assyriologist. By 1973 we produced the first computer-aided concordance to the Indus inscriptions, later improved in collaboration with a specialist in computer linguistics; a revision and extension is again under preparation. A comprehensive photographic Corpus of Indus Seals and Inscriptions (CISI) involving professional re-photography of all material in museums of South Asia and the rest of the world was started in 1973 under the auspices of the UNESCO.

Besides this epigraphic work, our original team figured out principles and methods of decipherment, including automated ones. Following a hint given by my teacher Pentti Aalto, I started applying some hypotheses in practice in 1968. As the results seemed to make sense, I drafted three booklets in which these ideas were published rightaway. In the flush of first enthusiasm, I included also unripe and untested ideas and moreover presented them without reservations, though I was quite unfamiliar with some of the fields involved like Dravidian linguistics. Understandably

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14 For a detailed discussion of the Archaic Egyptian script and its use, see Baines 2004.
17 CISI 1-, 1986-.
20 The rebus or picture puzzle principle which is the basis of phonetization in the early logo-syllabic writing systems operates with homophony, the phonetic similarity between given words (cf. “to be or not to be” written with pictures as: 2 bee oar knot 2 bee). Ideally, the words used in punning should be identical, but there are too few perfect homophones in any language to yield an effective writing system. The Egyptian and Semitic writing systems ignore all differences in vowels. My initial interpretations were rightly criticized for sound equations in the posited homophonies that are impossible from the point of view of Proto-Dravidian phonology (e.g. dental t = alveolar t). Acknowledging this, I now demand near-perfect homophony, allowing basically only difference in the length of the same phoneme; most Dravidian etyma
these “first announcements” were received with severe and quite deserved criticism. The reviews made painful but useful reading, pointing out both mistakes and the need for effective testing and screening. Not all of the many reviews were negative, however; particularly encouraging was John Chadwick, the collaborator of Michael Ventris in the decipherment of the Mycenaean Linear B script. As a result of Chadwick’s positive reaction, I was invited to speak at the Royal Asiatic Society’s sesquicentenary symposium on undeciphered scripts. Chadwick also later recommended my book *Deciphering the Indus Script* (1994) for publication to Cambridge University Press. In that book I have developed the early ideas considerably further, proposing specific Proto-Dravidian readings for two dozen Indus signs. Checking these interpretations in various ways was among my main aims.

Some critics have labeled this attempt at a partial decipherment abortive, also because it allegedly has not been able to make any progress. Yet a lot of advance took place between 1969 and 1994, and also thereafter have I suggested further interpretations along the same lines. Originally I thought of presenting at the Scripta 2008 symposium many more suggestions of how this limited decipherment might be carried on, but realized that such ideas would not be very interesting or indeed understandable for an audience unacquainted with my previous work. I still think it will be instructive to give a few examples of how I have been groping with the problems of the Indus script for decades. My purpose is to illustrate not only how one might progress in this decipherment but also what sort of difficulties one encounters on this path. I shall do this at the end of the paper. I have not published these thoughts before on account of their very tentative nature. Hopefully they will inspire other scholars to

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21 Clauson & Chadwick 1969.
22 Parpola 1975a.
23 As if nothing had happened after 1970, some scholars go on criticizing the present approach for the shortcomings of those first announcements and for hypotheses abandoned long ago.
24 See especially Parpola 1997b. This paper discusses some pivotal signs for which I have tentative interpretations, yet too uncertain for inclusion in the 1994 book.
find more definitive solutions to these and other similar problems. In the first of these cases, I actually believe to have arrived at a fairly satisfactory conclusion — and this happened while writing the present paper in 2008!

But before embarking upon this new material, I will summarize the principal methods and working hypotheses, as well as the main results so far achieved. In the immediately following first part I shall be fairly short, as I have covered this material more extensively in recent articles. Thereafter I will present more detailed interpretations, intending this to be a continuation of the summary articles just mentioned.

In the decipherment of any ancient script, there are two principal unknowns to be clarified at the outset, namely the script type and the underlying language or languages. The Indus script with its c 400 graphemes is a logo-syllabic writing system, which is the oldest script type and the only one known to have existed anywhere in 2600 BCE when the Indus script was created. In this type of writing, each pictographic sign can denote either the thing depicted or (as a rebus) the phonetic sound that its appellation had in the underlying language. Basic signs can be combined, either to express compound words, or to add silent semantic or phonetic indicators. In the Indus Civilization, only one language was written; this is shown by the sign sequences that remain uniform throughout the Harappan sites in South Asia. Historically, it is most likely that the language was Proto-Dravidian. The Vedic texts composed in the Old Indo-Aryan language in the Indus Valley around 1000 BCE have Dravidian loanwords. Today, most Dravidian languages are spoken in South and Central India, but one called Brahui has been spoken in Baluchistan in the northwest for as long as the historical sources go. Tamil in the far south has a 2000 years old literature.

Individual signs of an unknown logo-syllabic script may be deciphered if four conditions can simultaneously be fulfilled: (1) the object depicted in a given pictogram can be recognized; (2) the said pictogram has been used as a rebus; (3) the intended rebus meaning can be deduced from the

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25 For detailed documentation, see Parpola 1994 and the papers mentioned below.
26 Parpola 2005; and in press.
context(s); and (4) acceptably\textsuperscript{28} homophonous words corresponding to the pictorial and rebus meanings exist in a historically likely known language.

The starting point for my interpretations was the very frequently used sign depicting ‘fish’ (in addition to plain ‘fish,’ there are fish signs modified with various diacritics). In Proto-Dravidian, \textit{miin}\textsuperscript{29} meant both ‘fish’ and ‘star.’ The meaning ‘star’ is more likely in seal texts, for the contemporary Mesopotamian \textit{seal inscriptions} mainly contain proper names and \textit{never speak of fish}, while in India from Vedic times onwards persons have names derived from stars and planets.\textsuperscript{30}

In this fashion, all hypotheses for readings must be checked against script-external evidence. Do the proposed interpretations make sense in the Harappan context, and with regard to the later South Asian tradition, and the Mesopotamian contacts? The hypotheses are to be subjected also to script-internal checking in the manner of cross-word puzzles. If we apply exactly the same assumptions and methods of interpretation to signs associated with an interpreted sign in a compound sign or in a recurring sign sequence, do we get sensible results? If yes, further external checking must be done: are the posited compound words actually attested in Dravidian languages and not mere imagination? Particularly important is Old Tamil literature from the early first millennium CE, the only ancient Dravidian source not yet much contaminated by Indo-Aryan languages and traditions.

Interlocking of consistent readings with each other and with external linguistic data and clues constitutes the essence of all successful decipherments. For illustration, I take up just two decisive steps in the decipherment of the Maya script. Léon de Rosny discovered in the Madrid codex some pictorial translations. He realized that the glyphs for certain animals, such as dog, turkey, parrot and jaguar, could be identified by examining the glyphs above the pictures of these creatures …. He now applied [Bishop Landa’s Maya alphabet from

\textsuperscript{28} See above, footnote 16.
\textsuperscript{29} For convenience in printing, the length of a vowel in Dravidian and Indo-Aryan words is expressed here by repeating the vowel, while retroflex consonants (normally noted with a dot beneath the letter) are here capitalized; capital R, however, denotes alveolar \textit{r} or \textit{t}.
\textsuperscript{30} Cf. Parpola 1990.
Rosny’s surmise was validated 75 years later by Yuri Knorozov, who noticed that the first sign in the dog glyph was the same as the second sign in the turkey glyph. If the first sign in the dog glyph had the phonetic value \textit{tzu} (as proposed by Rosny), the second could be assigned the value \textit{l(u)}, on the basis of its resemblance to Landa’s symbol \textit{l}. Hence the dog glyph might stand for \textit{tzul}. Was there a Yucatec word ‘\textit{tzul}’ in the dictionary? There was. It meant ‘dog’ (Robinson 2002: 123-125). This initiated the phonetic decipherment of the Maya script.

The Indus sign sequences consisting of ‘six’ (six short vertical strokes) + plain ‘fish’ and ‘seven’ (seven short vertical strokes) + plain ‘fish’ correspond to the names of the Pleiades (with six stars) and the Ursa Major or Big Dipper (with seven stars) in Old Tamil texts. The Pleiades started the Vedic list of calendrical asterisms, as their conjunction with the sun at the vernal equinox marked the beginning of the new year. This conjunction took place during the second half of the third millennium, when the Indus Civilization, like all urban cultures based on agriculture, needed a solar calendar. In Vedic and Hindu mythology, the six Pleiades are the wives of the Seven Sages, the ancestors of the priestly families identified with the stars of Ursa Major. The Pleiades were rejected by their husbands, because they had had intercourse with the Fire God (later: God S’iva), their present lover, represented by the vernal sun. Only Arundhatii, the faithful wife of Sage VasiSTha, could not be seduced, and she was allowed to remain with her husband in the northern sky.

The next sections of this paper will retrace in greater detail steps taken to extend these initial hypotheses. Systematic application of the same methods and rules has produced a web of interpretations, which are cross-checked both internally within the Indus texts and externally against the Dravidian languages and texts. I feel fairly secure with these interpretations, because they in addition agree with Harappan art and iconography and not only cluster around some central and rather archaic concepts of early Indian religions but also help in understanding how those conceptions have arisen.
The Banyan Fig and the Pole Star

One recurring sign sequence, which has the plain ‘fish’ sign as its latter member, begins with a sign whose iconic meaning seems to be ‘fig tree’ (Fig. 1). The question is, can we here too have a Dravidian astral term? The iconic interpretation as ‘fig’ is based on a comparison with Harappan painted pottery. The fig tree is shown as three-branched, just as on the painted pottery, except when another sign is placed inside it; then the central ‘branch’ is omitted. In the combined sign, the branches end in fig leaves as they do on the painted pottery, but in the basic sign with less space the fig leaves are simplified, and one or two down-going lines are sometimes added beneath the leaves on either side; in some variants

Figure 1. Modern impression of the seal M-414 from Mohenjo-Daro. The normal direction of writing, from right to left, is that of the impression; in the original seal the text has been carved in mirror image. (After CISI 1: 100.)

Figure 2. Allographs of the Indus sign (no. 123) representing a three-branched ‘fig tree’ and of its ligature with the ‘crab’ sign (no. 124), where the middlemost branch has been omitted to accommodate the inserted ‘crab’ sign. (After Parpola 1994: 235.)
three or four such lines replace the leaves altogether (Fig. 2). The ‘three-branched fig tree’ motif occurs on Harappan pottery from the Early through the Mature to the Late phase. In one variant from the time when the Indus script was created (c 2600 BCE), four strokes are attached to either side of the middle stem (Fig. 3). They are similar to the strokes of the Indus sign, except for their upward direction, which may be due to the direction of the two lower stems. The strokes seem to represent the air-roots of the banyan fig.

The rope-like air-roots are characteristic of the banyan fig, *Ficus bengalensis* or *Ficus indica*. This mighty tree is native to South Asia and does not grow in the parts where the Indo-Aryan speakers came from. A post-Vedic Sanskrit name for the banyan fig is *vaTa*. This is a Dravidian loanword, ultimately derived from Proto-Dravidian *vaTam* meaning ‘rope’ or ‘cord.’ As a name of the banyan fig, *vaTam* is short for the compound *vaTa-maram*, ‘rope-tree,’ which is attested in Tamil. *VaTam* ‘banyan’ has a Proto-Dravidian homophone *vaTa* ‘north’ or ‘northern.’ This yields the expected astral meaning to the sign sequence ‘fig’ + ‘fish.’ *VaTa-miin* ‘north star’ is attested in Old Tamil as the name of the star Alcor (in the Big Dipper), called *Arundhatii* in Sanskrit (Fig. 4). In Old Tamil texts, *vaTa-miin* is a symbol of marital fidelity, and this star is pointed out to the bride as an object of emulation during the wedding.

Originally *vaTa-miin* probably denoted the pole star, which in the third millennium was the nearby star Thuban (cf. Fig. 4). The pole star is the ‘immobile’ centre of the rotating heavens, and called in Sanskrit *dhruva*, ‘fixed, firm, immovable, constant.’ It is a fitting symbol of firm fidelity, and indeed in Vedic marriage ritual the pole star is pointed out to the bride as a model in addition to *Arundhatii*.

This interpretation explains in a new way some peculiar cosmological conceptions. In the first place, the Sanskrit texts mention the banyan fig as

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*Figure 3.* A painted goblet with the ‘three-branched fig tree’ motif from Nausharo ID, transitional phase between the Early and Mature Harappan periods (c. 2600-2550 BCE). (After Samzun 1992: 250, fig. 29.4 no. 2.)
the tree of the northern direction. Homonymy connects the banyan fig with the north in Dravidian, but there is no such linguistic association in Indo-Aryan languages. Secondly, in reply to the question, why do the stars and planets not fall down from the sky, the texts say that the heavenly bodies are bound to the pole star with invisible ‘ropes of wind.’ In Dravidian vaTamiin as the name of the pole star also means ‘rope-star’ and ‘banyan-star.’ Around 1000 BCE, a hymn of the Rig-Veda (1, 24, 7) speaks of the roots of a cosmic banyan tree being held up in the sky by God VaruNa.

The Vedic and Hindu texts repeatedly refer to a heavenly fig tree. This conception seems to be reflected on an Indus tablet, which depicts an anthropomorphic deity inside a fig tree. At bottom, the fig tree is flanked on either side by a star. They suggest a heavenly connection for the tree.

The ‘Crab’ Sign

The interpretation of the ‘fig’ sign can be further checked by attempting to
understand the compound sign where a crab-looking sign has been inserted in the middle of the ‘fig’ sign. Here the ‘crab’ sign is depicted both with feet and without feet.

That the sign where the crab has feet is an allograph of those where the crab is without feet can be seen from the similarity of the context in two Indus seals (H-598 and L-11, Fig. 5a&b). On both seals the compound sign is followed by the same two other signs.

The ‘crab’ sign occurs more than 150 times as a separate grapheme. With feet added, it clearly depicts the ‘crab,’ but mostly the sign is simplified to a round body with claws (Fig. 6). The emphasis laid on the claws suggests that the sign expresses ‘grasping’ or ‘seizing,’ which is consistently associated with the crab in Indian folklore. Thus in the

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31 The Indus texts are cited after CISI.
Buddhist Baka-Jaataka, a crab says to a heron that has promised to carry it away from a dried-up pond:

‘You’d never be able to hold me tight enough, friend heron; whereas we crabs have got an astonishingly tight grip.’ Then the crab gripped hold of the heron’s neck with its claws, as with the pincers of a smith. (Transl. R. Chalmers, in Cowell 1895: I, 97.)

Crab’s claws are compared with the smith’s pincers also in Old Tamil texts, where the root koL ‘to grab, seize, take’ is used of the crab’s ‘seizing.’ Indo-Aryan texts use the synonymous Sanskrit root grah- or grabh-, which is related to English grab. The ‘crab’ sign often occurs close to the ‘fish’ signs and might therefore have an astral meaning. Proto-Dravidian kooL ‘seizure’ also means ‘planet’ in Tamil. Sanskrit graha has exactly the same meanings, ‘seizure’ as well as ‘planet.’ Other Indo-European languages do not have a noun meaning ‘planet’ derived from the cognates of the root grah-. Sanskrit graha is therefore more likely to be a loan translation from Dravidian than kooL is to be a calque on Sanskrit graha. In the oldest Tamil and Sanskrit texts kooL and graha refer to the invisible heavenly demon that causes eclipses.

Instead of kooL ‘planet’ or ‘eclipse demon,’ a synonymous compound, kooL-miin ‘seizing star,’ is used in several Old Tamil texts. Not only does the corresponding sign sequence ‘crab’ + ‘fish’ occur three times in the Indus inscriptions, but the identity of the subsequent part in two parallel inscriptions (M-387 and M-57) suggests that this sequence, ‘crab’ + ‘fish,’ is synonymous with the plain ‘crab’ sign, as is Tamil kooL with kooL-miin.

The planets are firmly believed to ‘seize’ people and afflict them with ills. DaNDin around 700 CE speaks of the ‘terrifying stars and planets,’ which the sorcerers control with magical diagrams. From the 18th century we have a graphic description of such incantations:

The term graha, by which they are designated, signifies the act of seizing, that is, of laying hold of those whom they are enjoined by the magical enchantments to torment ... The magician ... exclaims as though in a vehement rage, ‘Grasp it! Grasp it!’ ... No sooner is this done than the grahas or planets take possession of the person against whom such incantations are directed, and afflict him with a thousand ills. (Dubois 1906: 387ff.)
The Compound Sign ‘Crab Inside Fig’

We can check the interpretation of both the ‘crab’ and ‘fig’ signs by examining the compound sign where the ‘crab’ has been placed inside the ‘fig.’ Luckily, this compound sign is among those few Indus signs for which the copper tablets provide ‘pictorial bilinguals,’ mediating their intended meaning visually, through an iconographic image.

The 240 copper tablets from Mohenjo-daro constitute a rare category of objects in this respect that there is a clear interdependence between the inscription on the obverse and the iconographic motif on the reverse. The numerous duplicates form sets of identical tablets. In some sets, a single sign on the reverse has the same inscription on the obverse as the obverse of another set where the reverse shows an animal or human figure. It appears as if the single sign stood for the name of the divinity illustrated in the corresponding animal- or human-shaped image. The ‘crab inside fig’ sign can thus be equated with a male figure armed with bow and arrows, anthropomorphomorphic apart from horns and tail, and with long eyes (Fig. 7).³²

In Near Eastern and Chinese scripts, an inserted sign often functions as a semantic or phonetic determinative. The ‘crab’ sign could indicate that here the ‘fig’ sign is not to be read with its usual phonetic value as vaTam ‘banyan tree.’ The meaning ‘fig’ is retained, but the phonetic shape of the word is similar to that expressed by the ‘crab’ sign, i.e. kooL. Proto-South-Dravidian

possesses exactly such a word: *kooLi*. This word denotes a fig tree, on the one hand as a grasping epiphytic plant that strangles its host tree, and on the other hand, as a plant which bears fruit without blossoming. In this latter sense *kooLi* is related to Old Tamil *kooL* which denotes ‘the act of bearing fruit.’ Both are derived from the root *koL* ‘to take.’ Sanskrit *grabh-* has the same additional sense of ‘bearing fruit.’

But how can this word *kooLi* be connected with the Harappan archer-god depicted on the copper tablets? In early Vedic texts the grasping fig strangling its host tree and breaking buildings is implored for help in crushing enemies. It is a fitting symbol for the god Rudra, who is described as a cruel hunter and raider. With his bow, Rudra shoots arrows at animals and people. He is also called in Sanskrit *Hara* ‘seizer, taker, robber,’ which could reflect the Dravidian word *kool* ‘seizure, plunder, robbery.’ There is also a homonym *kool* ‘hitting, killing,’ from the root *kol* ‘hit, shoot with bow, kill.’ The compound sign seems to express even iconically this ambivalent deity who both ‘seizes’ or ‘kills’ and ‘bears fruit’ or ‘fructifies,’ for the crab sign is placed inside the fig sign, just as anthropomorphic deities are placed inside fig trees in Indus glyptics.

Yet another significant homophone is *koLLi* ‘firebrand, fire, glowing ember.’ Rudra is in Vedic texts constantly said to be the same as the Fire god Agni. Rudra’s Hindu successor, the war-god Skanda, is the overlord of the red planet Mars, called in Sanskrit *Rudhira* ‘red, bloody’ and *Angaara* ‘coal, glowing ember.’

The Ram- or Goat-faced Fertility God and the Fig Tree

On one tablet from Harappa (H-178), we see a ram-headed but otherwise anthropomorphic deity inside a fig tree (Fig. 8). The god’s arms are full of bangles and in their great length these arms resemble the hanging air roots of the banyan.

The Harappan ram-headed fig-deity has an obscure and little known successor in later Indian tradition. On a second century relief from Mathura (Fig 9), the goat- or ram-headed fertility god NaigameSa is flanked by a baby boy and three women. With the three women broken off from the other side, the six women are likely to represent the six Pleiades as mother goddesses.
In an early Vedic prayer (Rig-Veda Khila 4, 13) the ram-deity NejameSa is asked to bring the embryo of a beautiful male child. The prayer is to be muttered by a woman who does not conceive, or by the husband at the first intercourse. In the Vedic wedding rite, the newly married couple may not have intercourse during the first three nights. During those three nights, a fig stick is placed between the spouses, symbolizing a fertility deity, who is the bride’s divine husband and seminator.

The Sanskrit medical texts prescribe bathing the new-born baby under the banyan-tree, if its disease is diagnosed as caused by NaigameSa, together with a bloody offering to this deity at banyan figs on the sixth day from birth. The god is said to have a goat’s face and to have fathered the baby.

In the Vedic ritual called ‘engendering male offspring,’ the wife wears a phallic amulet made of the shoot of a banyan-fig. It should have two fruits symbolizing testicles. The shoot is to be cut from the king of banyan figs that grows outside the village after propitiating the deity who inhabits it.

Figure 8. A tablet from Harappa (H-178) showing a ram-headed but otherwise anthropomorphic deity standing inside a fig tree. (After CISI 1: 209.)
The Vedic fire-god Agni, who is said to be the mate or son of the Pleiades, has Indo-European ancestry, but has absorbed attributes and myths likely to have local Indian origin as they are connected with local plants and animals. Thus the upright kindling stick of sacred fire is taken of the pipal-fig or *Ficus religiosa* with flame-shaped leaves. The churning of fire has sexual symbolism and the upright stick represents the male organ. Agni is called the “embryo of forest-trees” and as such prayed to place an embryo in the womb.

According to the Kalpasutra of the Jains, the ram-faced God Hari-Naigamesin is the leader of the divine army with the peacock as his mount, thus clearly a double of the Hindu war-god Skanda who rides the peacock. Hari-Naigamesin transfers the embryo of Mahaavira Jina to the womb of his mother.

Ancient Indian medical texts have an unusually primitive section on the illnesses of new-born babies, where the term *nava-graha* denotes a group of malignant demons keen to attack and seize the infants, if proper respect is not shown to them and the rules of cleanliness and nursing are not followed. If worshipped, they protect the child and the mother. The lord of these demons is Skanda-Graha. The group also comprises two of his multiforms including the goat-headed Naigamesa and six goddesses. These nine demons were created by the Fire God Agni and S'iva along with the six Pleiades so that they would protect the new-born god Skanda.

The best known version of the Pleiades myth relates the birth of the ever youthful war-god Skanda. The God of Love shot his arrows of desire at S'iva, whose seed “leapt” (*ca-skanda*) and fell into the river Ganges. The wives of the Seven Sages were bathing in this heavenly river, and became either the mothers or the wet-nurses of this instantly born beautiful boy, who rides a peacock.

The Ancient Tamil Counterpart of Rudra and Skanda: Muruku, and His Identification in the Indus Texts

Skanda has a counterpart in the principal native deity of Dravidian South India, the youthful god of war, wisdom and fertility, Murukan, whom the Tamils today worship as their “national god.” Common people pray Murukan for sons. His mount is the peacock and his weapon the spear.
In Old Tamil literature Murukan is the hunter god of hill forests, much like the Vedic Rudra. He is also the god of love and fertility. From 300 CE Murukan is explicitly amalgamated with Skanda.

Murukan’s name or names are likely to occur in Indus texts. But how to locate them? Skanda’s association with the Pleiades can be used as a clue, because the Pleiades can be identified as the sign sequence ‘6’ + ‘fish.’ This sequence occurs on a seal (M-112), where the first three signs all occur in the same sequence as on another seal but nowhere else (Fig. 10a). The immediately following sequence in this second seal (M-241), comprising the signs ‘intersecting circles’ + ‘two long vertical strokes’ (Fig. 10b), could be a name of Murukan. It occurs very frequently in Indus inscriptions.
Some contexts strongly suggest that this sign sequence refers to a deity. Complemented by the regular text-final sign it forms the sole text on both sides of one unusual tablet (H-182). The same sequence concludes the inscription on an amulet (M-453) whose reverse shows a god sitting on a throne, flanked by a kneeling worshipper and a snake on either side (Fig. 11a&b). In South India, Murukan is associated with phallic snake cult, and his peacock feeds on snakes.

If the ‘intersecting circles’ express Murukan’s name or the first part of it, the first choice is the god’s principal name, the Proto-Dravidian word *muruku*, which means ‘young man’ or ‘baby boy.’ This name is a synonym of Sanskrit *kumaara*, ‘youth’ and ‘baby boy,’ one of the names of both Skanda and Rudra. Muruku has an exact and ancient homonym, whose meaning fits the shape of the pictogram, namely *muruku*, ‘ring, ear-ring, bangle.’

This interpretation is supported by the sign’s formal identity with the symbol for royal ear-rings in the art of Tibetan Buddhism.\(^{33}\) In Gisèle Krauskopf’s drawing\(^ {34}\) that illustrates her field research in Nepal, a pair of bangles offered to a spirit menacing children and pregnant women looks exactly like the Indus sign ‘intersecting circles.’

‘Arm-ring’ or ‘bangle’ is among the meanings of Dravidian *muruku*. This meaning for ‘intersecting circles’ is endorsed by the high frequency of this pictogram on the 40 or more inscribed ‘stoneware’ bangles. Several of these bangle inscriptions contain nothing but this sign. It is not unusual

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\(^{33}\) Cf. Beer 1999: 165 and pl. 79; also, Parpola 1994: 227, fig. 13.4.

\(^{34}\) See Krauskopf 1989: 101, fig. 29; also in Parpola 1994: 228, fig. 13.7.
for ancient inscriptions to mention the name of the object on which it was written, especially if it was given as a votive offering. These stoneware bangles were manufactured with a difficult process, and they must have been very expensive. On a votive bangle, the pictogram read as *muruku* could denote not only the ‘bangle’ offered but also the ‘boy child’ wished for by the donor, as well as the proper name of the child-granting divinity, himself the divine child par excellence. Even today many Tamil couples desiring a male child make a pilgrimage to a famous shrine of Murukan and, after the birth, name their son after the god.

The bangle has a strong association with pregnancy in many parts of India. During pregnancy and childbirth, the mother and baby are both in great danger of being attacked by demons, and the bangle symbolizes an enclosed circle of protection. In Tamil Nadu, the expectant mother is ritually adorned with bangles and blessed by older women in the seventh month of the first pregnancy.

Bangles and rings are also charms effecting reproduction. Composed around 1000 BCE, an Atharva-Vedic hymn (6, 81) addresses *pari-hasta*, ‘bracelet,’ literally ‘what is around the arm.’ The bracelet is fastened upon a woman ‘intending that she shall beget a son’; this charm is said to drive off the demons, open up the womb and bring an embryo into it.

In Indian folk religion, Hindus and even Muslims offer pregnancy bangles to tree spirits. People anxious to have children hang as many bangles as they can afford on the branches of a sacred tree. If the tree spirit favours their wish, the tree ‘snatches up the bangles and wears them on its arms’ (Crooke 1926: 417).

This widespread folk custom is likely to go back to Harappan traditions. The deity standing inside the fig tree on one Indus seal (H-178) wears bangles on both arms (see Fig. 8). The seven anthropomorphic figures at the bottom of one famous seal (M-1186), wearing their hair in the traditional fashion of Indian women, are likely to be female and to represent the ‘Seven Mothers,’ the Wives of the Seven Sages, famous as child-granting and child-killing goddesses like their son Skanda.

That the stripes on the fig deity’s arms depict bangles is supported by a Harappan bronze image of an otherwise nude woman whose entire left arm is covered by bangles.
Cross-checking the *Muruku* Interpretation

*(1) ‘the two long vertical strokes’*

The reading *muruku* for ‘intersecting circles’ could be verified by means of the sign frequently POSTFIXED to it, that is, one consisting of ‘two long vertical strokes’ (Fig. 12a). Actually this sign makes a triple cross-check possible, for it often PRECEDES the plain ‘fish’ sign (Fig. 12b). What is its iconic meaning? Such a simplified symbol lends itself to various interpretations, and it would be difficult to decide which of them, if any, is correct. But our tentative readings enable a different approach. We can collect all actually attested Old Tamil compounds which start with the word *muruku* on the one hand, and all which end in *miin* on the other. If these two very limited lists turn out to contain one and the same word among the candidates for the missing component, the solution thus found can be further tested by asking whether its meaning adequately explains the pictorial shape ‘two long vertical strokes.’

Among the few Old Tamil compound names of Murukan is *MurukaveeL*. *VeeL* means ‘love, desire’ and is used even alone as a name of Murukan. From Murukan’s name we turn to astronomical terms. Old Tamil *veL-miin* denotes the planet Venus, the brightest star of the sky. The first component *veL* means ‘white’ or ‘bright.’ Its derivative *veLLi* denotes ‘Venus’ in several Dravidian languages, in Tamil also compounded with *miin*. The shared component of the two compounds thus has the phonetic shape *veL* or *veeL*. Its homophone *veL* or *veLi*, denotes ‘space (in general)’ and ‘space

![Figure 12](image-url). (a) Obverse of the moulded tablet H-723 from Harappa. (After CISI 2: 319.) (b) The seal H-669 from Harappa, flipped to show the signs as they would appear in an impression. (After CISI 2: 310.)
between for instance furrows.’ This matches well the shape of the sign ‘two long vertical strokes.’

The sign ‘two long vertical strokes’ is used in the Indus script not only as an ATTRIBUTE of the ‘fish’ pictogram, namely in the compound read as veL + miin ‘bright star, Venus,’ but also as a SYNONYM of the ‘fish’ sign. The synonymous usage can be seen by comparing two inscriptions (M-172 and H-6) which otherwise share the same four-sign long sequence, though three of the graphemes have variant forms (Fig. 13a&b). The ‘fish’ sign is here preceded by the ‘fig’ sign, yielding the compound vaTa-miin ‘north star.’ This interesting case passes the test well, for the word veLLi denotes besides ‘Venus’ also ‘star (in general).’ Two Tamil dictionary renderings for English ‘star’ are viN-miin and vaan-veLLi. The words viN and vaan both mean ‘sky’; they have been prefixed to avoid confusion with homonyms (cf. miin ‘fish’). The synonymous use of miin and veLLi is attested also in the Tamil compounds viTi-miin and viTi-veLLi, both meaning ‘the star of the dawn.’

(2) The ‘squirrel’ sign

Finally the interpretation of a sign which has a very narrow pictorial meaning. From distinctly carved occurrences, this sign can be recognized
as depicting the palm squirrel in its typical pose, head downwards and tail up with four legs on vertical tree trunk (Fig. 14a). The palm squirrel can sleep for hours in this pose, which has given it its Sanskrit name ‘tree-sleeper.’ It lives all over the Indus Valley and is represented in tiny faience figurines at Mohenjo-daro.

The sign interpreted as muruku is twice followed by the ‘palm squirrel’ sign (Fig. 14b&c). Can this sequence too be read in Dravidian so that the resulting compound is among the attested composite names of God Murukan? One (H-771) of the two inscriptions has nothing but this sequence followed by the sign read as VeeL ‘Desire,’ one of Murukan’s names.

In Tamil, the palm squirrel is called aNil or aNil piLLai. PiLLai means ‘child, infant, son, boy’ as well as ‘young of animals and trees.’ In the case of the squirrel, parrot and mongoose, the word piLLai is added to the actual word for the animal in order to form an affectionate diminutive. The word piLLai can also alone refer to the animal concerned. This Tamil usage of piLLai in the meaning of ‘squirrel’ goes back to Proto-Dravidian, for Central Dravidian preserves cognates of piLLai meaning ‘squirrel.’ PiLLai is added also to the various names of the god Muruku to form affectionate variants

Figure 14. The ‘squirrel’ sign of the Indus script: (a) Part of the text engraved on the seal Nd-1 from Nindowari. (After CISI 2: 419.) (b) The seal M-1202 from Mohenjo-daro and its modern impression. (After CISI 2: 143.) (c) Obverse of the moulded tablet H-771 from Harappa. (After CISI 2: 324.)
that are popular as male proper names in Jaffna Tamil, and these names include *Muruka-p-piLLai*.

In honourific plural, *PiLLaiyar* is the Tamil name of the popular god GaNes’a or GaNapati, whose Sanskrit name means ‘Leader of the Host.’ This god is an ancient double of Rudra and Skanda, the ‘Leader of the divine Army.’ GaNes’a is also a phallic deity followed by a host of Mother Goddesses. At least in South Indian villages, his cult image is often placed under a fig tree.

**New Interpretations in the Making**

Thus there is a fair number of consistent rebus interpretations which interlock with each other and with external linguistic and cultural data. The readings moreover make good sense in the framework of ancient Indian cultural history and the Harappan context, and they keep within narrow limits: fertility cult connected with fig trees, a central Hindu myth associated with astronomy and time-reckoning, and chief deities of Hindu and Old Tamil religion. These interpretations and their wider contexts provide a lot of clues for progress, but our defective knowledge of Proto-Dravidian vocabulary, especially compounds, and the scarcity of ancient Dravidian texts (practically available in Old Tamil alone) severely limit the possibilities of effective checking. As already mentioned, the following examples connected with just a few signs aim at giving an idea of how I am endeavouring to enlarge this rather limited decipherment, and of the difficulties one is groping with.

**Targeting the ‘Fish’ Compounds: The ‘Hind Leg’ Sign**

The sign sequences ending in the plain ‘fish’ sign are an obvious first target, as they are likely to express Dravidian appellations of either fish species or, more probably, heavenly bodies. To assist their identification, I added to my book (Parpola 1994: 279-283), on the basis of an unpublished reverse index, an annotated 5-page list of all compounds ending in *miin* that are contained in the 7-volume *Tamil Lexicon*. Tamil has best preserved ancient Dravidian astronomical terms, which in most other Dravidian
languages have been largely replaced by Indo-Aryan loanwords. As astronomical terms moreover are not the first target for linguists recording tribal languages, even the scarce remainder of native astronomical terms in Dravidian languages other than Tamil is very defectively recorded.

One big obstacle in matching the Indus sequences with the Tamil compounds is that it is difficult to recognize the pictorial meaning of the Indus signs. The only one among the not yet interpreted signs preceding the plain ‘fish’ sign that can clearly be understood represents the hind leg of a hoofed animal (Fig. 15a&b). But there is no suitable match in the list of Tamil compound words ending in \textit{miin}.

Only while writing this paper I found a satisfactory solution to the ‘hind leg’ + ‘fish’ problem, published here for the first time. An important point to realize was that although the said list contains all the compounds ending in \textit{miin} that have been recorded in the \textit{Tamil Lexicon}, it does not necessarily include all relevant compounds that have once existed. \textit{Panai-miin} is recorded only as the name of two fish species, \textit{Polyacanthus cupanus} and \textit{Anabas scandens}. The first member of this compound, \textit{panai}, has the basic meaning ‘palmyra palm’ (\textit{Borassus flabellifer} Linn. = \textit{Borassus flabelliformis} Murr.). But in addition to its basic meaning, the word \textit{panai}, without the addition of the word \textit{miin}, also means ‘the fish \textit{Polyacanthus cupanus}’ as well as the calendrical asterism called \textit{anuraadhaa} in Sanskrit. Evidently the astral meaning too could have once been expressed with
the compound panai-miin. Actually, this asterism has four other names in Tamil all meaning ‘palmyra palm’ (taaLi, pul, peNNai, poontai) and in addition one meaning ‘bent palmyra palm’ (muTa-p-panaiyam). The tradition of conceiving this asterism as having the shape of a palmyra palm is of Dravidian origin, for it is totally independent of Indo-Aryan sources: according to Brahmanical texts, the constellation anuraadhaa has the shape of an offering (bali) or an ornamental arch (toraNa) (cf. Kirfel 1920: 139) and according to Digambara and S’vetaambara Jains, respectively, of a one-stringed pearl necklace (ekaavali) or pearl necklace (haara) (cf. Kirfel 1920: 282). Obviously there can be other cases too, where the full name of the asterism would end in miin, but the asterism may be referred to by just the first member of the compound.

The Old Tamil poem in PuRanaanuuRu 395 mentions the unfavourable position of a heavenly body called taaL. According to the Tamil Lexicon, a comet is meant, but according to George Hart (1975: 73) taaL is more likely to be “a constellation, since Eri evidently means comet in the same poem”; Swaminatha Aiyar in his edition glosses it just ‘star’ (viNmiin). In Tamil the word taaL has the meanings ‘leg, foot, foot of a tree or mountain, stem, pedicle, stalk,’ but in the Toda language spoken in the Nilagiris, the cognate tooL is recorded in the specific meaning ‘thigh of animal’s hind leg’ (cf. Burrow and Emeneau’s Dravidian Etymological Dictionary = DEDR 3185), which tallies rather well with the ‘hind leg’ sign of the Indus script we are discussing. The same can be said of the Sanskrit compound ajaanghri-, literally ‘goat’s foot,’ which in some texts such as the VasiSTha-Smrti (32,204) denotes a calendrical asterism. In the Vedic texts this constellation is puurve proSThapadaah (cf. Kirfel 1920: 36), in later Brahmanical texts also puurva-bhaadrapadaah (Kirfel 1920: 139). The word proSTha- denotes a ‘cot’ or ‘bedstead’ (which agrees with the form the later Brahmanical texts ascribe to this asterism: s’ayaa, paryanka, Kirfel 1920: 139), while the word pada- means ‘foot, leg’; according to the Digambara Jains, this asterism resembles the legs of an elephant (gajapuurvaaparagaatra, ibhagaatrasamcaya, cf. Kirfel 1920: 281).

Thus taaL may well be the right reading for the ‘hind leg’ sign, but it should be tested against other contexts. One such context is the seal M-290, which is promising in this respect that here the ‘hind leg’ precedes a sign that can be pictorially recognized: it depicts an animal with large upright ears and an upright tail ending in a tuft of hair, either dog or (more likely)
wild ass. But in South Asia, the latter animal exists only in Kutch and Baluchistan, and is hardly mentioned in any old text, Indo-Aryan let alone Dravidian.

Attributes of the Pole Star/Alcor

(1) The ‘scorpion’ sign

The sequence in Fig. 13 interpreted as vaTa-miin and vaTa-veLLi, Proto-Dravidian names of the pole-star and the star Alcor, provides a context that defines the likely intended meaning of two Indus signs. Both of these two signs occur as the first of the text in three separate inscriptions, immediately before the deciphered compound name of the star, apparently as its qualitative attribute, in accordance with Proto-Dravidian syntax. In the seal M-414 (see Fig. 1), the attribute and the star name constitute the entire inscription. Here the first, probably attributive sign looks as if it represented the scorpion. It must be admitted that the nippers and pincers of the first and second pairs of legs are curiously rendered, but the sting is clear and invariably present in all variants (cf. Parpola 1994: 71 no. 83). If the sign depicts ‘scorpion,’ the principal Proto-Dravidian word for it is teeL (DEDR 3470). This has the near homophone teL ‘thin, fine, delicate, small’ (DEDR 3434), which would agree with the other Old Tamil name of the star Alcor, ciRu-miin ‘small star.’ Another homophone teL ‘clear, lucid, bright, pure, knowing, learned’ (DEDR 3433) would suit the Alcor’s or pole-star’s connection with learning, to be discussed below.

The sign could however also depict scorpion’s ‘sting’ or ‘stinging,’ in which case the most likely Proto-Dravidian word is koTTu (DEDR 2064 & 2063), with variant form koNTi (DEDR 2080). This is homophonous with Proto-Dravidian koTTu, kooTu, koTi ‘top of tree, tip of mountain, top tuft of hair, bird’s crest, pointed end, extremity’ (DEDR 2049). This conforms with the Rig-Vedic stanza (1,24,7) mentioned above in connection with vaTa-miin as pole-star and its association with the cosmic banyan tree. The divine king VaruNa is said to hold up the ‘top of the tree’ (vanasya... stuupam): its roots are high but descend downwards. Among the meanings of this ‘tip’ word in Tamil and Malayalam is ‘the pivot of door used as hinge, the projecting corners on which the door swings’; pivot is something
that does fit the pole star.

(2) The ‘oval’ sign

Unfortunately, the word vaTa-miin occurs in Old Tamil texts no more than four times and ciRu-miin, another name for the same star, just once (in addition to the references in Lehmann & Malten 1992: 385a and 191b come those of the post-classical epic Cilappatikaaram):

Kalittokai 2,21: vaTa-miin pool toZutu eetta vayankiya kaRpinaaL
PuRanaanuuRu 122,8: vaTa-miin puraiyum kaRpin maTa-moZi / y-arivai
PerumpaaNaaRRruppaTai 302-303: peru nal vaanattu vaTa-vayin viLankum ciRu-miin puraiyum kaRpin naRu nbtnal
CiLappatikaaram 1,27-29: tiitilaa vaTa-miinin tiRam ivaL tiRam enRu, maataraar toZutu eetta vayankiya perum kuNattu / kaatalaal
CiLappatikaaram 5,229: vaTa-miin kaRpin manai-y-uRai makaLir

In all these five occurrences, vaTa-miin is symbol of ‘conjugal fidelity, chastity,’ kaRpu or tiRam (this latter word is not so relevant here as it seems to be used in this meaning in Tamil and Malayalam only; elsewhere the basic meaning is ‘manner, mode,’ cf. DEDR 3260). KaRpu literally means ‘learning,’ from the root kal, ‘to learn’ (DEDR 1297). This root is homophonous with the word kal ‘stone’ (DEDR 1298). It seems significant that in the Vedic ritual, the bride is made to step on a stone and in the accompanying mantra asked to be firm like a stone (e.g. Baudhaayana-Grhyasutra I, 7: aa tiSThemam as’maanam as’meva tvam sthiraa bhava; cf. Winternitz 1892: 57-59). Exactly in the same way, and with a similar mantra, the youth initiated into the study of the Veda is made to step on a stone (e.g. Jaiminiya-Grhyasutra 1, 12 imam as’maanam aa rohaas’smeva tvam sthiro bhava). Though nothing certainly compels this pictorial identification, stone could be depicted by the other attributive sign that occurs before the sequence read as vaTa-miin; this sign is found also before the sequel read as vaTa-veLLi (see Fig. 13a&b). Its normal shape is a simple oval, so I shall call it the ‘oval’ sign, but the graphic variants include a simple circle and a simple square (see no. 341 of the sign list in Parpola 1994: 77).

Any provisional reading has to be tested by checking whether it fits all contexts where the sign occurs. I mention here just some of these contexts.
The ‘oval’ sign is sometimes reduplicated (M-1671), and sometimes it occurs alone, in particular on the stone-ware bangles (cf. M-1645 & M-1646) or as the only sign of a second line (cf. M-724, M-748, M-1202, M-1767). In Chanhu-daro, a sign that occurs 11 times at this site but nowhere else may render the ancient name of Chanhu-daro, and this sign is often written alone on a second line (cf. Parpola 1975b).

In M-1202 (see Fig. 14b), the small ‘oval’ sign carved alone on the second line is immediately beneath the sequence ‘intersecting circles’ + ‘squirrel,’ which was read above as Muruku-Pillai. Moreover, the relatively common sequence ‘oval’ + ) (the sign looking like the ‘closing parenthesis’) may be yet another name or epithet of the god Muruku, for it occurs on the obverse of the earlier discussed copper tablets that have either the horned bowman or the ‘crab inside fig’ sign on the reverse (see Fig. 7). A significant further fact is that the sign is often drawn in very small size compared with other Indus signs. Smallness is associated with the star Alcor or Arundhati, which is called in Tamil not only VaTa-miin but also ciRu-miin, ‘small star,’ on account of its poor visibility. Tamil ciRu ‘small’ goes back to Proto-Dravidian *kiRu ‘small,’ in many languages used of children (DEDR 1594). Proto-Dravidian cin / cinnV ‘small’ is likewise often used of ‘child’ (DEDR 2594).

The shape, the small size and possible connection with the child god Muruku who is connected with fertility makes one think that the sign could represent the egg, or the seed-stone of a fruit, or the embryo (though the sign no. 330 in Parpola 1994: 77 has a shape better depicting an ‘embryo’: this sign no. 330 sometimes immediately follows the sequence of ‘oval’ + ‘closing parenthesis’). The child-god Muruku could be the cosmic ‘golden embryo’ (Sanskrit hiraNya-garbha) which according to Rig-Veda 10,121,1 alone was born at the beginning of the world. Subsequent Vedic texts (cf. S’atapatha-BrahmaNa 11,1,6,1; Jaiminiya-BrahmaNa 3,360-361) speak of a golden egg (hiraNmayam aaNDam) in the womb of primeval waters, of which the sun was born. The still later Sanskrit epic Mahaabhaarata (3,186,75-85) links this myth with the cosmic banyan tree. Here Sage MaarkaNDeya, the solitary surviving witness of the deluge, saw a radiant baby in a huge banyan tree which alone arose above the cosmic waters at the beginning of creation. We have seen that in Dravidian VaTa-miin ‘north star’ also means ‘banyan star’ and ‘rope star,’ and that these conceptions are very probably connected with the Rig-Vedic reference to a cosmic
banyan tree in the sky. The ‘oval’ sign, which precedes the sequence ‘fig’ + ‘fish’ (＝ vaTa-miirn), also begins the inscription on a rare terracotta tablet from Harappa (H-1951) the back side of which has an anthropomorphic deity inside a fig tree.

The square-shaped graphic variant does not agree so well with the ‘egg’ hypothesis, but is not an insuperable difficulty, as the square shape of the Chinese sign for ‘open mouth’ (cf. e.g. Henshall 1998: 7 no. 20) shows. ‘Mouth’ is indeed one further possibility as a pictorial explanation for the ‘oval’ sign, for ‘mouth’ (Sanskrit mukham < Dravidian mukam, DEDR 4889) also means ‘beginning.’ According to the Mahaabhaaraata, Sage MaarkaNDeya was invited to enter the cosmic child of the banyan tree through the child’s mouth, and inside he saw the whole world. It looks as if the pole star as the zenith of the universe was conceived as its point of departure. (One is reminded of the pole star’s microcosmic counterpart in the human body, the brahma-randhra, ‘Brahmaa’s crevice,’ the fontanelle in the crown of the head through which the soul is said to escape on death.)

The Vedic year began at the vernal equinox when the sun was in the Pleiades, the asterism of the Fire god Agni. This was the proper time to establish the sacred fire, the mouth of the gods. ‘Mouth’ is a concept much emphasized in the case of the god Skanda born in the asterism of the Pleiades, as he is called SaN-mukha ‘six-mouthed’: Skanda is said to have developed six mouths (and faces) so that he could be simultaneously nursed by her six mothers or wet-nurses, the Pleiades. The young vernal sun of the yearly cycle (re-born at the Pleiades) corresponds to the young morning sun of the daily cycle, re-born from the dark womb of the night. Skanda, his Vedic predecessor Rudra, and their Tamil counterpart Muruku are all associated with the colour red of the dawn and the newly born sun. Muruku can thus well be the ‘golden embryo.’

The Pleiades in conjunction with the vernal sun began the year as its ‘mouth.’ The square variant of the ‘oval’ sign can be understood on the basis of the Proto-Dravidian word vaay ‘mouth’ (DEDR 5352), which also means ‘mouth of a vessel, hole, opening,’ for from this word is derived the Proto-Dravidian word for ‘door, doorway, entrance, gate’ (DEDR 5354, Tamil vaayil, vaayal, etc.), and doors and gates are usually rectangular. Interestingly, vaay ‘mouth’ also in many languages (from Tamil to Brahu) means ‘edge of knife or any cutting instrument,’ which can be understood from the meanings ‘rim, brim (of vessel), juncture.’ Not only
do the Pleiades form an important juncture of the year, but their Vedic name _krttiakah_ is derived from Sanskrit _krtti_- ‘knife, razor.’ According to the later Hindu and Jaina sources, this asterism has the shape of a razor (_kSuraa-) or razor’s edge (_kSura-dhaaraa-) (cf. Kirfel 1920: 138; 281). In Tamil, _aRu-vaay_ is a name of the Pleiades. The _Tamil Lexicon_ derives the name from Tamil _aaRu_ ‘six,’ because the Pleiades consist of six stars, but I would rather like to derive it from Proto-Dravidian _aRu_ ‘to cut, sever, reap, harvest’ (DEDR 315) and _vaay_ ‘edge of razor or scythe,’ for another Tamil name of the Pleiades is _naavit< Sanskrit naapita_- ‘barber.’ In the Vedic texts, the ritual of hair-cutting is considered equal to the periodic shaving of the crops at the end of the growing season; the cosmic copper razor is declared to be the sun or the Agni, who is red like copper (cf. Heesterman 1957: 111; 215-219).

Proto-Dravidian _vaay_ ‘mouth, lip, (knife’s) edge’ is found also in the Tamil name of the red planet Mars, _ce-v-vaay_, literally ‘red mouth, redmouthed’ (cf. Malayalam _covva_, _covva< Sanskrit naapita_- ‘barber.’ In the Vedic texts, the ritual of hair-cutting is considered equal to the periodic shaving of the crops at the end of the growing season; the cosmic copper razor is declared to be the sun or the Agni, who is red like copper (cf. Heesterman 1957: 111; 215-219).

But let us return to the pole star. The ‘steadfastness’ and ‘immobility’ is the main quality associated with the pole-star. The pole-star is called in Sanskrit _dhruva-_, for which a dictionary gives the following meanings: ‘firm, stable, constant, permanent, perpetual, fixed, immutable.’ When the pole-star is shown to the bride in the Vedic marriage ceremony, she is made to say: ‘You are the Firm one (_dhruva_-), may I become firm (that is fixed) in the house of my husband So-and-so’ (Jaiminiya-Grhyasuutra 1,21). Some manuals (e.g. HiraNyakes'i-Grhyasuutra 1,22,14-1,23,1) prescribe that the groom too should address the pole star with a mantra. Comparison with Rig-Veda 10,173 shows that this formula originally belonged to the royal consecration, where it was to be uttered by the king:

> I know thee as the nave of the universe.
> May I become the nave of this country.
I know thee as the centre of the universe.  
May I become the centre of this country.

I know thee as the string that holds the universe.  
May I become the string that holds this country.

I know thee as the pillar of the universe.  
May I become the pillar of this country.

I know thee as the navel of the universe.  
May I become the navel of this country.

Among these appellations of the pole star, the string corresponds to Dravidian vaTa ‘rope’ in vaTa-miin. With regard to the nave we may note that the axle of a primitive cart was either fixed or could move with the wheels, so the nave of its solid wheels was either circular or square. This concept explains perfectly the ‘oval’ sign and its square graphic variant. Two ‘oval’ signs have been connected to each other by a horizontal bar to form another sign that could represent ‘axle’ (cf. Parpola 1994: 77 no. 335 and M-326 D). Another sign (no. 334 and M-326 A) has been formed by fixing a vertical bar to support the ‘axle’: this vertical bar could represent ‘draught-pole’ and the whole sign could stand for that or for ‘cart.’ For ‘nave’ of the wheel, the DEDR offers just one word, tuumpu, but this also has such meanings as ‘big hole, sluice, gutter, eye of a spade.’ There are several words for ‘navel,’ which in Proto-Indo-European was used for ‘nave’ as well. None of these Dravidian words, however, seems to yield senses or homophones that would extraordinarily well suit to the ‘pole star’ context.

The ‘firmness’ aspect of the pole star seems to match well with the Proto-Dravidian root nil ‘to stand’ (DEDR 3675), which occurs also reduplicated, cf. Malayalam nila-nilika ‘to stand firm, be established,’ nila-nilppu ‘steadfastness, stability,’ nilakku nilkka ‘to keep one’s station and duty,’ and Tamil nilai-nil- ‘to stand firm, as in one’s principles, to stay firmly.’ The noun niRai from the causative of nil- means ‘bringing to a stand, stopping, fixed position, moral firmness, complete self-control, and chastity, marital fidelity’ (this last meaning in Old Tamil MaNimeekalai 18,100). In Tamil, the noun nilai is also used of stars (nilai naaL miin ‘the established star,’ of the Muula constellation, cf. Hart 1975: 73), while in Malayalam graha-nilα denotes the ‘position of planet(s).’ Tamil nilai further means ‘door post,’ on which the door-frame is fixed, and which swings on nilai-k-kal, the ‘stone base for door-frame.’ The pivot-stone (and I have seen several such pivot stones in the Indus city of Dholavira) would be a fitting
symbol for the pole star, and would tie up with the stone used as a symbol of firmness in Vedic ritual. An alternative pictorial interpretation for the ‘cart’ sign (no. 334) with the ‘oval’ signs as its elements could be ‘scale, balance, weighing,’ which are among the meanings of Tamil niRai.

The above quoted Vedic mantra called the pole-star the ‘centre’ as well as the ‘pillar’ of the universe. Both of these concepts are implied in the Proto-Dravidian word naTu, which on the one hand is the most important expression of ‘middle, centre’ (DEDR 3584), in Tamil also ‘zenith, the topmost part of the heavens,’ and on the other hand is a verbal root meaning ‘to set up, as a pillar, fix in the ground, fix firmly, plant, set, place, establish’; cf. also Tamil naTu-kal ‘memorial stone fixed in the ground for a deceased hero’ (DEDR 3583). Reduplication is also attested in Tamil naTTa-naTu ‘the very middle.’

One looks in vain in Old Tamil texts for a comprehensive coverage of Dravidian terms associated with the pole star. It would help very much to know what terms are actually used in Tamil and other Dravidian languages. More comprehensive linguistic documentation might make it possible to sift these and other hypotheses — but unfortunately our reference works are rather limited at the moment. On the other hand, the right solution should adequately and naturally fit all the contexts where the Indus sign studied occurs. None of the tentative interpretations offered here for the ‘scorpion’ and ‘oval’ signs is wholly satisfying for the time being.

The above are just a few examples of my unfinished efforts to decipher further Indus signs. Many more signs could be discussed in like manner.

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