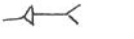
ASKO PARPOLA

Interpreting the Indus Script == II

1. The purpose of this paper (=II) is to supplement my previous article entitled "Interpreting the Indus Script" (=I), which was submitted for publication in Fifty Years of Harappan Studies (A Sir Mortimer Wheeler Felicitation Volume, edited by B.B. Lal and S.P. Gupta, New Delhi) in June 1974, and circulated in cyclostyled form to a limited number of scholars. Because of prescribed limitations of space, this previous paper, which I presuppose the reader will have at hand, was written in a telegraphic style. While an extended and more definitive version of it is in preparation, it may be useful to make known some important additional evidence that has accumulated during the past year. It consists in part of new details supporting the interpretations previously presented (in paper I), and in part of new interpretations interlocking with the earlier ones. First, however, I should like to advance (in II § 2) the basic premise concerning the nature of the Indus script (cf. I § 4) in some more detail and to go here into an important methodological issue which was not at all touched on previously, namely the problems inherent in the application of the rebus principle, notably the definition of 'homonymy'.

2. Our main concern in this § will be the use of the rebus principle in early writing systems, and the associated problem of equating homonyms, with particular reference to its

application to the Dravidian material. At the outset, however, we must go into the general nature of the earliest writing systems. These have been, as a rule, defined as "logo-syllabic", i.e., systems using "word signs" (expressing complete words pictographically) and "syllabic signs"(expressing parts of words phonetically through the rebus principle). Such a distinction seems, however, appropriate only with regard to the later development, a stage which in Mesopotamia was reached only in the latter half of the third millennium BC. Gradually there developed a tendency to a more accurate rendering of all the grammatical elements of the words, naturally with syllabic signs, while the "word signs" remained in the script as a relic of the previous stage. In the earlier half of the third millennium, however, only very few grammatical elements were expressed, thus e.g. still in the Fara texts (ca. 2600 BC) not even the genitive and dative postfixes are marked, although they later appear everywhere (cf. A. Falkenstein, Archaische Texte aus Uruk, Berlin 1936, p. 20). Yet writing had been known already some 500 years. In these early texts, one and the same sign could be used both as a "word sign" (e.g.  "arrow" = Sumerian ti) and as a"syllabic sign", this latter use being documented for abstract expressions occurring in proper names, e.g. En-lil-ti "(god) Enlil(keeps) alive" (where the "arrow" sign stands for the word ti(l) "life"), cf. Falkenstein, op.c., p. 33, 38. Gelb writes even with regard to the later "logosyllabic" systems: "The people who used logosyllabic writings certainly did not distinguish between the logographic and syllabic signs in the manner we do. What they knew about their writing was that all signs stood originally for words of their language and that under certain conditions some of these signs could also be used as syllables" (A Study of Writing, rev.ed., Chicago 1963, p. 110). It seems useful to lift this distinction, which is unnecessary and confusing for the

earlier period, by adopting the following terminology coined by Simo Parpola:

morphemogram = a grapheme created to express a particular lexical morpheme of the language, either by (1) drawing the picture of the underlying sememe, or (2) of a sememe "homonymous" with the lexeme intended, or (3) by combining two (or more) signs belonging to either of the two above mentioned types (1) and (2). To keep the graphemic inventory within reasonable limits (the "principle of economy"), morphemograms can also be used to express all lexemes (and - in foreign words, etc. - sequences of phonemes) of the language that are phonetically or semantically associated with the primary "morphemic value" of the grapheme.

morphemic value = the semantic content of a morphemogram, identified either in terms of its pictographic or "phonetic shape".

phonetic shape = the sequence of phonemes constituting the lexeme expressed by a morphemogram, including all allomorphs and dialectal variants. Allomorph in the sense of primitive linguistic theory here implied, also covers the derived and inflected forms of lexical morphemes.

The term morphemographic implies a writing system making use of signs with inherent semantic and phonetic values and usable in either function, in contrast to logographic/ideographic systems employing signs with semantic content only, and syllabic systems with phonetic values only. All writing systems of the early third millennium BC (the Sumerian, the Proto-Elamite, and the Egyptian) were morphemographic in character, and only later developed into logo-syllabic systems, which are to be understood as specific developments within the morphemographic system.

Morphemograms, then, are primarily pictograms standing for a sememe, whether its semantic or phonetic meaning is intended.

This means that, as a rule, they stand for the root syllables carrying the lexical meaning. We have already seen that the archaic Sumerian writing very rarely expressed derivational or inflectional morphemes and if it did (Falkenstein, op.c., p. 34 and 37 quotes as the only example the Sumerian plural suffix -me), it was through the root syllable of some homonymous lexeme (in this case possibly eme "tongue"). Usually, however, grammatical forms were left unmarked, but, as Gelb notes, this drawback in the primitive writing was not so serious since the meaning was usually clear from the "context of situation" (cf. Gelb 1963, p. 66). The morphemographic system fits well the Sumerian language because most of its roots were monosyllabic (cf. Falkenstein 1936, p. 35 and Gelb 1963, p.110). It seems very likely that in the Indus script, too, the pictograms stand primarily for Dravidian root syllables, which have probably all been originally monosyllabic (cf. Zvelebil, BEFEO 60, 1973, p. 25-35). The morphemographic system, operating with bare roots, is perhaps even more natural and easy in the case of Dravidian, since in Dravidian the bare root as such usually has both a verbal meaning (the 2nd sg. imperative being normally identical with the bare root) and a nominal meaning (root nouns). Besides, it is a characteristic feature of the Dravidian, that the bare stem may stand for the inflected forms, the meaning being expressed by the word order alone (zero genitives, etc.). It may hence be considered a legitimate procedure to operate with the roots only while attempting a decipherment of the Indus script.

It is clear that we must try to reconstruct the proto-(North-)Dravidian forms of the roots, and that in doing so we must try and stick very strictly to the rules established by comparative Dravidian linguistics, the main lines of which have been made conveniently accessible by Kamil Zvelebil's Comparative Dravidian Phonology (The Hague 1970). But an

important problem that requires theoretical consideration is whether two or more words considered to be homonyms for the purpose of expression by rebuses should be strictly identical or not, and, if not, how much variation may be allowed.

Since a number of critics have even questioned the whole procedure of using homonyms, I should like to begin by emphasizing that the use of the homonymy or rebus principle is not only an integral part of all early writing systems (in addition to Sumerian and Egyptian [e.g. hpr "scarab" is used for hpr "to become"], cf. notably the New World writing systems, which, though largely "ideographic", i.e. non-phonetical, used the rebus principle for writing proper names: cf. Gelb 1963, p. 54, and below), but is also deeply rooted in the thinking and oral literature of the pre-literate societies. The following phenomena may hence be considered as important forerunners of writing in the same way as the use of pictorial symbols and primitive book-keeping in the form of tally-sticks, etc.

Most languages have a fairly large number of words that are pronounced identically, although they have a widely different meaning, and often also a different origin. It must be borne in mind that in ancient times there were no means of distinguishing these words from each other such as traditional spelling (e.g. English sole : soul) or derivations . Such examples of the convergence of words, often occasioned by sound changes, are not usually confusing if the words concerned belong to different classes, as is often the case; but in some instances it is necessary to attach some distinctive additions (e.g. the sole of her feet). Confusions due to homonymy have been one reason for the disappearance of words.

Children who are learning to speak often mix homonymous words. Jespersen quotes as an example a small Negro boy saying "It's three hot in this room", which shows that he had

confused too and two, and tried to express an even greater degree of heat than the previous situation had involved. Such confusions are particularly common in the case of rare or nearly obsolete words: one British boy used to say many years "Harold be thy name" for "hallowed be thy name" in his prayers. Such unintentional association of homonymous words, combined with the intention of making the expressions clear to the speaker, is found also in the contaminations (English good-bye for God-bye in the analogy of good morrow etc.) and folk etymologies, which are a universal phenomenon in the languages of the world.

Already in pre-literate societies there has, however, been also conscious use of homonyms. Children have games in which homonyms are sought (cf. e.g. Mary Haas, J. of American Folklore 70, 1957, 173-5). Poetry, even the most archaic, uses such stylistic devises as rhyme, alliteration, paronomasy, figura etymologica, and puns.

In archaic societies the name of an object or a being is usually conceived as a power containing the essence of what it names. Hence the knowledge of a name means control of the matter or person who carries it. In the ancient Near East, the name was an integral part of man's person, and the proper names usually contained some important idea, normally a request or praise addressed to a god, such as Jacob (Hebrew ya^{ʿ}qōb) "May (God) protect!". But even in cases like this, where there should be no doubt about the primary meaning of the name, the Old Testament (and other texts) provide folk etymologies, which show that the name was thought to comprise also the meanings of the homonyms. Compare, for instance, Genesis 25: 26, where Jacob is said to have come out of his mother's womb after his twin brother Esau: "and his hand took hold on Esau's heel (ba-^{ʿ}aqēb ^{ʿ}ēśāw); and his name was called Jacob." In Gen. 32:23-33, again, Jacob is said to have wrestled (25 way-yēʾābēq, consec. impf. "and (he) wrestled") with a man on the bank of the

Jabbok (23 yabbōq) river. To take another example from very many others, it is said in Gen. 11:9, "Therefore is the name of it called Babel (Hebrew bāb-'êl =Akkadian bāb-ili "the gate of the gods"); because the Lord did there confound (Hebrew bālál) the language of all the earth."

The similarity of words has hence led to the creation of aetiological myths. This is again a common phenomenon from many parts of the world, but it was especially important in India at the time of the Vedic Brāhmana texts, whose priestly authors by their etymological speculations laid the foundations for the later grammarians in this regard. A small, yet rather sizeable portion of these early Indian etymologies has been analysed by J. Gonda (Lingua 5, 1955-56, p. 61-85), who concludes: "Explaining a name, therefore, was a means of penetrating into the hitherto unknown nature of a person (or object), a means of acquiring control over him. In practising the art of etymology these authors first and foremost aimed at gaining knowledge of the ideas expressed by the words, of the mutual relations of these ideas with other concepts or entities, of the more or less 'mystic' significance of those elements which they had in common. Pre- and non-scientific etymology, based upon the belief that words have some inherent connections with the objects , qualities or processes denoted, does not attempt to find the historical truth about words, but to find the truth about objects and phenomena by means of the words; and, it may be added, sometimes also to take advantage of this knowledge" (p.78). "In spite of their, as a rule, thoroughly 'unscientific' character, these speculations are not devoid of importance because they enable us to discover the associations of ideas existing in the minds of the authors" (p. 80): "There may be a sense in nonsense: 'the waters pervaded (√āp-) and covered (√var-, vṛ) whatsoever there was here, therefore they are called āpaḥ and vār-'(ŚB 6,1,1,9; cf.Nir.5,2 and 9,2)"

(p.76). "Those Indians who connected grīṣma-'summer' with gras-'to devour' (grasyante 'smin rasāḥ Nir. 4,27) emphasized the scorching and withering character of the tropical summer" (ib., p. 76). I shall quote two more typical passages: Bṛhad-Āraṇyaka-Upaniṣad 4,2,2 "Indha (ie. the Kindler) by name is this person here in the right eye. Him, verily, who is that Indha people call 'Indra' cryptically, for the gods are fond of cryptic, as it were, and dislike the evident" (transl. Hume; the same etymology recurs in ŚB 6,1,1,2, while the reference to the gods' love of cryptic occurs many times in the texts; cf. Gonda, op.c., p. 79). Ibid. 1,4,1 &3: "In the beginning this world was Soul alone in the form of a Person ... Since before (pūrva) all this world he burned up (√us) all evils, therefore he is a person (pur-us-a). He who knows this, verily, burns up him who desires to be ahead of him ... Verily, he had no delight. Therefore one alone has no delight. He desired a second. He was, indeed, as large as a woman and a man closely embraced. He caused that self to fall (√pat) into two pieces. Therefrom arose a husband (pati) and a wife (patnī)..." For similar speculation on homonyms among the Greeks cf. L. Ph. Rank, Etymologiseering en verwante verschijnselen bij Homerus, Thesis Utrecht 1951.

These examples are sufficient to demonstrate that there is nothing unusual if the word for "star" (Dravidian mīn) is not expressed in the Indus script directly through a picture of star, but by means of a picture of a fish  (Dravidian mīn, cf. I § 17 ff.): the Indus priests, who probably were responsible for the development of the Indus script, were certainly speculating on such homonymies and associations (cf. especially I § 30 and II § 25) in the same manner as their colleagues a millennium or more later. In fact, since both words are still homonyms in modern Tamil and are both nouns, they are all the time susceptible of confusion; to avoid mistakes, the word vin "sky" is

sometimes prefixed to the word mīn when the meaning "star" is meant; for the mental association cf. the 24th report of the Danish missionaries from Tranquebar, dated October 8, 1726: "Einen ieden Stern a part nennen sie Mîn, das ist, Fisch: als schwuemmen gleichsam die Sterne in der Luft wie Wünmîngöl oder Luft-Fische" (Der Königl. Dänischen Missionarien aus Ost-Indien eingesandter Ausführlichen Berichten Anderer Theil, Von der XIII. bis XXIV. Continuation ... hrsg. von G.A. Francken, Halle 1735, p. 1027).

Gelb (1963, p. 4 f.) has also noted a case where the rebus principle is used for communicative purposes in a preliterate society. The Yoruba Negroes have a system of sending cowrie shells. "One cowrie mussel denotes 'defiance and failure', two placed together mean 'relationship and meeting' while two placed apart mean 'separation and enmity', ... six cowrie mussels mean 'attracted' because the word efa in the Yoruba language means 'six' and 'attracted'; a message consisting of a string with six mussels, when sent by a young man to a girl, therefore expresses: 'I feel attracted to you, I love you! And since the word eyo means both 'eight' and 'agreed' the answer from the girl to the young man may be a message consisting of a string with eight mussels, saying 'Agreed, I feel the same way as you do!" Altogether, the evidence for the popularity and extent of the use of the homonyms for communicative purposes and otherwise in archaic societies is so owerwhelming that it can hardly be doubted that the Indus script, too, made good use of it.

Gonda observes with regard to the Brāhmana etymologies that " a considerable part ... can stand any criticism on the part of modern linguistic science", while "other etymologies, though not entirely correct or endorsed by modern scholarship, may be called sensible or open to discussion", while still in some other cases "no objection can be raised to

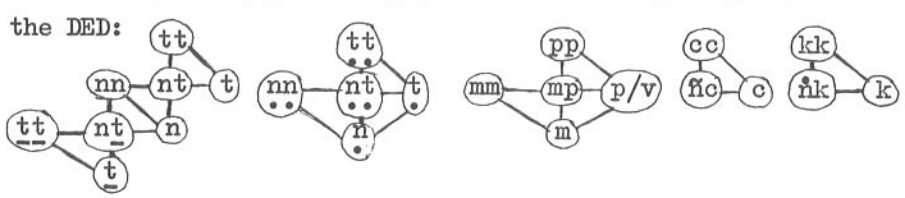
the combination from the phonetic point of view" (p. 65 f., with examples). To the great majority, however, applies what Gonda has phrased as follows: "In these etymological speculations everything was held to be permissible and it would not have occurred to the authors that there could be any objection to their procedure" (p. 65). "Although the possibility of Prakrit influences must be taken into account --KB. 6,3 the identification śarva-:sarva- presupposes an identical pronunciation of the sibilants; ŚB 7,5,1,22 the aspirate kh interchanges with its corresponding simple tenuis k: urukara- = ulūkhala-; a lengthening of a vowel is assumed ŚB. 7,4,1,13 pūṣkara-: puṣkara-;a cerebral and dental interchange ŚB. 1,6,2,6 where purodāśa- is explained as purodāsa- -- we may say that various phonetic incongruities could not prevent these authors from bringing such words as brahman- and āṅgirasa- into connection with √bhṛ- bibharti and aṅgānām rasa- respectively (BārU. 1,6,3 and 1,3,8). Semantic shifts or rather leaps of the boldest character were easily assumed:ŚB. 8,5,2,17 aśīti- 'eighty' is connected with aś- 'to eat' ..." (p. 63 f.). Similar remarks may be made with regard to the Hebrew material referred to above.

No language, not even Dravidian, which is rich in homonyms, possesses them in such quantities that it would be possible to compile an effectively functioning morphemographic script in which all rebus puns are based on perfect homonyms. One gravely limiting factor effecting this situation is the demand for words denoting more or less easily identifiable concrete objects or actions that can serve as the basis of the graphemes. Another is the principle of economy of the ancient writing systems "aiming at the expression of linguistic forms by the smallest possible number of signs" (Gelb 1963, p.69). In examining the other early scripts, we note that these limitations were met by various allowances. "No Mesopotamian system

distinguishes between voiced, voiceless, and emphatic consonants in the case of signs ending in a consonant. Thus, the sign IG has the value ig, ik, and iq ... In addition, some older systems, such as Old Akkadian and Old Assyrian, do not even indicate the quality of the consonant in signs beginning with a consonant ... In all cuneiform systems many signs ending in i may stand also for those ending in e ... In the case of syllables which are not represented by a sign in the syllabary, signs with similar consonants can be used as, for instance, in writing the syllable rin by means of the sign which has a normal value rim"(Gelb 1963, p. 69 f.). The Hittite, Cypriote, and older Japanese scripts do not indicate the distinction between voiced, voiceless, emphatic, or aspirate consonants (cf. ib., p. 72). The Egyptian writing indicates the consonants correctly but not to vowel : thus the sign transliterated as mn by the Egyptologists stands for măn, mīn, mĕn, mūn, mŏn, mēne, mīne and mno of later Coptic (ib., p. 77 and 280 n. 21), and the same is true of the Semitic writings which descend directly from the Egyptian (ib., p. 79)." 'Tone puns,' in which a word pronounced with one tonal pattern implies the word made up of the same sounds but pronounced with a different tonal pattern, are very common in Mixtec. And as will be seen in the discussion of the Mixtec history manuscripts ..., these manuscripts use pictorial ' tone puns ' , in which the pictorial sign of a word implies another unillustrated word that has a different meaning but is homonymous with the word depicted except for differences in tone. For example, in the dialect of San Miguel el Grande, Oaxaca, the Mixtec word cá'nu (with a high tone on the first syllable) means 'large', and the word ca'nù (with a low tone on the last syllable) means 'to break'. Because it is easier to depict the action of breaking than to illustrate the concept 'large', a pictorial sign in which something is being broken often implies that the adjective 'large' should be applied to the motif in question" (M. E.

Smith, Picture Writing from Ancient Southern Mexico, Norman, Okla. 1973, p. 7). Even in most alphabetic scripts, excepting ancient Greek (epsilon : eta, and omikron : omega) and a few others, the length of the vowel is not indicated.

Experiments of rebus writing in modern Finnish, which in phonetic structure resembles Proto-Dravidian and modern Tamil, suggest that it is necessary to allow a free alternation between short and long vowels and short and long consonants, but that these alternations only are required to make up a fairly effective system. An allowance of similar alternations for the Dravidian of the Indus script seems quite legitimate, not only because such a modest liberty is in line with practice of the other ancientwriting systems, but also because an alternation between short and long vowels and short and long consonants within one and the same root belong to the three most important morphophonemic rules affecting the Dravidian roots (cf. Zvelebil 1970, p. 35 ff., 84 f., 184 ff; BEFEO 60, 1973, p. 36-48). In addition, only alternations actually attested within single etyma, both between the variant forms in the different Dravidian languages and the alloforms of the individual languages, which can be presumed also for the proto-(North-)Dravidian, should be allowed. I should like to mention here as such alternations i/e and u/o (Zvelebil 1970, p. 63, 65 ff.), ay/ey (p. 35, 61, 71 f.), c/y(p. 111 ff.), v/m (p. 125 ff.), and alternations within the following "correlated bundles of oppositions" (adapted from J. Vacek, "Some problems of Tamil phonological structure", Acta universitatis Carolinae 1969, Philologica 2, p. 87-103), attested in very many etyma of the DED:

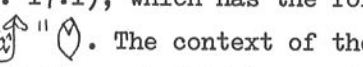
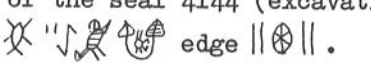


Hence, these and other less frequent alternations attested within words belonging to one and the same root in Dravidian should be allowed when comparing the posited homophones. It would, however, be advisable to indicate the attested alloforms in each case, and naturally the comparisons will be the more convincing the less there is alternation. On the other hand, no such alternations which are not generally attested in this way should be allowed for the compared reconstructions, e.g. a/i; t/ṯ, t/ṭ, ṯ/ṭ, l/ḷ.

3. The contents of I § 10 have been dealt with in two fully documented papers, with conclusions that differ in some details from those in I § 10. One is Asko and Simo Parpola, "On the relationship of the Sumerian toponym Meluhha and Sanskrit mleccha", Studia Orientalia 46 (Fs. Armas Salonen), 1975, p. 205-238. Here it is suggested that the Sumerian name as well as Pāli milakkha reflect the ancient Dravidian name of the Indus civilization surviving in Old Tamil (Ta)mil-akam [-axam] 'Tamil country', while Sanskrit mlēccha < *mlēkṣa [mle:xa] is borrowed from a Central Dravidian form of this name with a metathesis and vowel contraction. The Dravidian root underlying the first part might hence be DED 4457. The other paper is Asko Parpola, "Toponymic evidence for the Dravidian identity of the Harappan language", Felicitation Volume in Honour of Father X. S. Thani Nayagam (in press).

4. At the end of an inscription the sign  can hardly stand for a relative participle, as suggested in I § 12, because in Dravidian an adjectival qualifier must normally be followed by a noun. It seems, therefore, that the sign rather stands for the corresponding substantive koṭai "giving away as a gift", which is also used as a technical term in the Tamil inscriptions, corresponding to Sanskrit dānam. Such a nominal clause would be quite idiomatic, and would have been easily understood from the context.

5. For kolli "firebrand, glowing ember" (DED 1794) as the etymology of kōl "planet" (probably originally Mars) postulated in I § 21 and earlier by N. V. Gurov (J. of Tamil Studies 2:1, 1970, p. 78), cf. Sanskrit aṅgāra(ka) "living coal" as the name of planet Mars, and the Tamil expressions vin-kolli and vin-vīl-kolli meaning "meteor" (Tamil Lexicon s.v., citing Nāmatīpa. 76 and Cūṭā.): the word vin means "sky" (DED 4422), and vīl "to fall down" (DED 4457).

The identity of the ligatures  and  (cf. I § 21) is confirmed by a seal found from Lothal (S.R. Rao, "Shipping in Ancient India", India's Contribution to World Thought and Culture ---- A Vivekananda Commemoration Volume, Madras 1970, p. 83-107, pl. 17:1), which has the following inscription:  . The context of the ligature is here the same as that of the seal 4144 (excavation no. 13751) from Harappa  .

The claws of the crab are compared to the pincers of the blacksmith not only in the Jātakas quoted in I § 21, but also in the Old Tamil text Perumpāṇārruppaṭai (206-208).

6. In I § 22 kōl/kolli is suggested as the original name of the hunter-god represented on the copper tablets of Mohenjo-daro and identified with the Vedic Rudra. The name of Rudra has been an etymological crux: while several scholars have connected it with Greek ἐρυθρός "red" and Sanskrit rudhira "red, blood", because many different epithets all meaning "red" are applied to Rudra in the Ṛgveda and later texts, others have denied the correctness of this explanation because the loss of aspiration (dh > d) would be irregular; the analogy of another god's name, Indra, ending in -dra, has been invoked to explain this irregularity (cf. M. Mayrhofer, Kurzgefasstes etymol. Wörterbuch des Altindischen III/18, Heidelberg 1965, p. 66 f.). The Brāhmaṇa texts, however, seem to provide an explanation for this dilemma by their "etymological" connection

of Rudra's name with the root rud- "weep, lament" (e.g. ŚB 6,1, 3,7 f.; 11,6,3,7; TS 1,5,1,1; MS 4, 2,12). It seems to me that the change of dh into d in Rudra's name represents a conscious effort to preserve in Sanskrit a well established mythical pun connected with the Dravidian name of their "red" god (of fire, of rising sun, Mars, blood-shedding war, etc.), for there is a homonym of kōḷ/kolḷi which has precisely the meaning of Sanskrit rud-: kōḷ "sorrow, grief, lamentation, sound of howling, lamenting, wailing or roaring"(DED 1866). Cf. also I § 18 in fine, and note that Rudra (represented by the sacrificial horse in the Vedic aśvamedha, and Rohita, the proposed human victim in the Śunaḥśepa myth) appears to have been the Indus counterpart of the "lamented" dying god Tammuz/Adonis of the Near Eastern civilizations.

From the root koḷ "to seize" (DED 1788) a number of Dravidian languages have words like koḷḷai or koḷ meaning "robbery, plunder" (cf. also Kota koḷ gal "thief"): in Śūdraka's Mṛcchakaṭika III, 13-15 Skanda or Kumāra is the god of thieves, just as Rudra, too, was the god of thieves and robbers (cf. VS 16,20-21).

7. In I § 23 the combination  occurring twice in the Indus inscriptions was interpreted as vaṭa-mīn, the Old Tamil name of the small star Alcor near ζ Ursae Maioris, which in Sanskrit is called Arundhatī. In this star name vaṭa means "north" (DED 4267), but the pictogram appears to represent vaṭa in the sense of "banyan tree"(see I § 22-23). Although vaṭam "banyan" is attested at least in Tamil (Cūṭā.; cf. also vaṭal "banyan" in Malai.) and Malayalam (Bhagavatī), it has not been included in the DED nor the DBIA. Already Uhlenbeck has suggested that Sanskrit vaṭa "banyan" (attested only since the Mahābhārata, which suggests a native Indian origin) may be derived from Sanskrit vaṭa "rope, string", the banyan tree being characterized by rope-like aerial roots (cf. Mayrhofer,

op.c., III/19, 1967, p. 129); Skt. vaṭa "rope, string", however, is only found in lexicographers, and is generally considered to be a borrowing from Dravidian vaṭam, vaṭi "rope, large cord, cable" (DED 4268), cf. Mayrhofer ibid., and Turner, CDIAL s.v. It was already pointed out in I § 23, that the homonymy of "north" and "rope/banyan" in Dravidian, and their connection with the north-star, may lie behind the very ancient but peculiar Indian concepts of a cosmic banyan tree in the middle of the heavens (Ṛgveda 1,24,7), and of the stars being held up in the air by invisible ropes by which they are attached to the pole star, and of the banyan as the tree of the north (cf. W. Kirfel, Die Kosmographie der Inder, Bonn und Leipzig 1920, p. 93 f.). I here propose to present some more evidence which seems to confirm these suggestions.

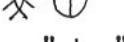
All the Old Tamil references to vaṭa-mīn refer to her conjugal fidelity (karpu or tiram): thus Cilappatikāram 1,27 (tītilā vaṭamīṉiṉ ṟiṟam) and 5,229 (vaṭamīṅ karpiṉ maṉaiyuṟai makaḷir); Puṟaṉāṉūṟu 122,8 (vaṭamīṉ puṟaiyuṅ karpiṉ); Kalitokai 2,21 (vaṭamīṉ pōl toḻutēṭṭa vayaṅkiya karpiṉāḷ). The commentators unanimously identify vaṭamīn with Arundhatī, the chaste wife of sage Vasiṣṭha, the foremost of the seven sages of the constellation of the Great Bear. According to the myth, Arundhatī was the only wife of the seven sages who was not divorced , the other six having been involved in the birth of god Skanda, and therefore separated from their husbands as the Pleiades (Sanskrit kṛttikā: cf. I § 22 and 29). The great antiquity of this myth is proved by its being mentioned already in the Śatapatha Brāhmaṇa (2,1,2,3-4) and even in the Kāṭhakam (8,1). Moreover, it is an integral part of both the Vedic and the South Indian marriage ritual to show the bride the pole star and Arundhatī (cf. especially M. Winternitz, Das altindische Hochzeitsrituell , Wien 1892, p. 77-79, and the first canto of Cilappatikāram). The Tamil goddess of chastity

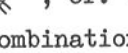
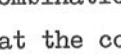
(pattiṉi < Skt. patnī "wife") whose cult "must have been rather important and widely spread" in South India some 1500 years ago, although it now survives only " in a few places in Kerala and Ceylon, as a minor cult connected with fertility rites and marriages" (cf. K. Zvelebil, The Smile of Murugan, Leiden 1973, p. 173 with references), may be identical with Arundhatī/vaṭamīṉ: note that according to Cilappatikāram (23, 199 ff.) Kaṇṇaki ascended into heaven and became a goddess.

An important connection between Arundhatī and the banyan tree is the mention of a place of pilgrimage called Arundhatī-vaṭa in the Mahābhārata (3, 84, 8019). Cf. J. Ensink, "Problems of the study of Pilgrimage in India", Indologica Taurinensia 2, 1974, p. 63: "Among the trees the Bodhi-tree at Bodh Gayā has won special fame through the Buddha finding enlightenment at its foot. It is the Ficus religiosa, called aśvattha in Sanskrit, pīpal in Hindī. But the worship of the banyan tree (Sanskrit vaṭa; Ficus indica)is probably more widely spread: many places of pilgrimage have their 'undying banyan tree (akṣaya vaṭa)'." The epithet akṣaya (on which cf. also P. K. Gode in ABORI 38, p. 82-92 and K. D. Bajpai (ed.), The Geographical Encyclopaedia of Ancient and Medieval India I, Varanasi 1967, p. 12)apparently refers to the heavenly banyan (cf. sanātana and avyaya "eternal" as epithets of the heavenly pipal tree in Kaṭha Upaniṣad 6,1 and Bhagavadgītā 15,1).

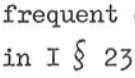
Mahābhārata 1,196,14 B = 1,188,14 crit.ed. refers to "ancient lore" mentioning Jaṭilā from the family of Gautama as the common wife of the seven sages (śrūyate hi purāṇe 'pi jaṭilā nāma gautamī / ṛṣīn adhyāsitavatī sapta dharmabhṛtām vara//). There is a general agreement that Jaṭilā is very probably Arundhatī, who seems to be referred to as the wife of all the seven sages in Mahābhārata 5,110,3834 (cf. e.g. E. W. Hopkins, Epic mythology, Strassburg 1915, p. 182; von Negelein, OLZ 1926, Sp.905). The name jaṭilā is of very great interest.

The dictionaries record jaṭila in the meaning "wearing twisted hair (jaṭā-dhārin)", jaṭā denoting the twisted hair of Śiva and ascetics. The name suits Arundhatī as the wife of seven sages who live in the forest as ascetics (cf. W. D. O'Flaherty, Ascetism and eroticism in the mythology of Śiva, London 1973, passim). The word jaṭā is generally recognized to be of Dravidian etymology (DED 1897 caṭai "plaited hair"). But as pointed out by M. B. Emeneau (The Strangling Figs in Sanskrit Literature, Berkeley and Los Angeles 1949, University of California Publications in Classical Philology 13, p. 363), it appears clearly from some passages of Hemacandra that "jaṭā has as one of its meanings 'aerial root', and the derived adjective jaṭila has a meaning not recorded in the dictionaries: 'possessing aerial roots (jaṭā)'.""Three passages refer to the aerial roots of the banyan, one of them adding the plakṣa also.The word used for 'aerial roots' is jaṭā, which, as also meaning 'the matted and twisted hair of an ascetic', affords an opportunity for puns" (ib. p. 364).

8. The combination  is apparently identical in meaning with  , since both are preceded by the same sign  and followed by the same sign in the inscriptions 1071  and 3006  . The latter combination gives a further confirmation to the interpretation of  as vaṭa-mīn "north star" (with  ="fish" = mīn = "star", cf. I § 17), for it seems fairly certain (cf. I § 28 and II § 18 & 20) that the sign  normally stands for the sound vel(li): the word vel(li) means, in addition to the more common meanings "white(ness), silver, planet Venus (=  , I § 28)" also "star" in general (DED 4524; TL s.v. 4; cf. also P. Jotimuttu, A Guide to Tamil, Rev. ed., Madras 1970, p. 184: iravil vāṉattil velliṉkaḷ kāṉappaṭum) and is thus a synonym of mīn.

9. I shall here not go deeper into the interpretation of the sign ◇ (with graphic variants ◻ and ◯ , ◊), but only remark that it with great probability denotes an attribute of the "faithful" Arundhatī. Another epithet parallel to ◇ is the sign  , cf. the inscription 2004  , and in addition the combinations  (once) and  (twice). It seems to me that the combination  which occurs twice (cf. the concordance, p. 40) is another name of vaṭa-mīn. The sign  is difficult to recognize, but the lower part of it does look like a scorpion's sting (cf. A. H. Dani, Indian Palaeography, 1963, pl. Ia, and our First Announcement, 1969, p. 38). I can make only two very tentative suggestions on this basis. One possibility might be that the word tiram, tera "(fine) manner, ability, goodness, etc." (DED 2668) attested in Old Tamil texts in connection with vaṭa-mīn (cf. II § 7) is represented through teru "to sting (as wasp)"(DED 2832); but this latter word has this meaning only in Tamil, the normal meaning being "to burn, scorch, be fierce (of sun's heat), etc.". Another possibility is to read the sign as tēḷ "scorpion" (DED 2855). It would namely give us two homophones which would suit vaṭa-mīn very well: on one hand, teḷ "to be(come) clear, pure, limpid, bright, white, serene, calm; shine clearly; be known, perceived, seen, understood" (DED 2825). This word would provide a good epithet for a star in general, and for the "pure" Arundhatī in particular. Arundhatī, however, is a very small star, being in Old Tamil called also ciṟu-mīn "the small star" (Perum. 303); hence also the word teḷ "thin, fine, delicate, little" (DED 2826) would be very appropriate here. It is also worth noting that from the first word there are derivatives like Tamil tettavar "clear-sighted persons": according to an ancient Indian belief a person who cannot see Arundhatī will die soon (cf. especially Lāṭyāyana-śrautasūtra 3,3,6-7; Kāṭhaka-Gṛhyasūtra 25,45; Mahābhārata 12,318,11711;

and Winternitz l.c.). According to Mahābhārata 1,233,8456 Arundhatī became jealous of Vasiṣṭha, and in consequence she became a little star, like fire mixed with smoke, sometimes visible and sometimes invisible. Cf. also vaṭa "thin, lean , poor, weak" (DED 4270).

10. One of the most frequent combinations of the sign  =  interpreted in I § 23 as vaṭa is  which occurs 3 times (inscriptions 3243, 3439, 3862). It is interesting to note that in two out of these three cases the reverse side shows nothing but an isolated fig leaf:  . The sign  is indubitably number 4, which is nāl in Dravidian (DED 3024; cf. also S.V. Shanmugam, Dravidian Nouns,A comparative study, Annamalainagar 1971, p. 151-4). Here it apparently stands for the root ñāl "to hang down, be suspended" (DED 2373), which has an alloform nāl, and is used i.a. with reference to hanging ropes or the hanging tendrils of the pepper or betel vine (cf. ibid.). The initial Proto-Dravidian ñ- alternates not only with n- but also with zero (cf. Kamil Zvelebil, Comparative Dravidian Phonology, The Hague 1970, p. 137, and DED 2362, 2367). We may hence suggest that ñāl may be the etymology of āl, ālamaram "banyan" (DED 324). The compound ñāl-vaṭam would, hence, mean "(the tree) with ropes that hang down", i.e., the banyan tree (cf. also Sanskrit nyag-rodha "the downwards grower"). These inscriptions occur on amulets, not on seals, and probably refer to the cosmic banyan tree which appears to have played a very central role in the Harappan religion.

11. Another and even more frequent combination of the sign  is  which occurs 4 times (cf. the concordance, p. 152). This seems also to refer to the heavenly banyan tree. My suggestion is that the sign  might try to render the word mēl "that which is over or above, high, superior, lofty; the top, sky, etc." (DED 4173). I have already previously proposed (cf. South Asian Archaeology 1973, edited

by J. E. van Lohuizen-de Leeuw and J.M.M.Ubaghs, Leiden 1974, p. 95 n. 4) that this word, with the automatic release vowel -u, is the etymology of Sanskrit Mēru, the name of the cosmic mountain which according to the Mahābhārata (cf. S. Sörensen, An index to the names in the Mahābhārata, London 1904-1925, p. 478) serves as the abode of the seven sages; the change of l into r is not difficult, because the chief Rgvedic dialect of Indo-Aryan, for example, has only r, all original Indo-European l's having been changed into r. This hypothetical interpretation seems reasonable to me because we also have the combination  occurring 11 times (p. 291), and here  is almost certainly a picture of a mountain, since the more or less identical pictograms in other ancient hieroglyphic scripts all have this primary meaning (cf. the figure illustrating this in my paper to appear in JRAS 1975). The compound may hence read mēlu-malai or with the proper sandhi mēn-malai, a name which actually is attested in Tamil, though it there refers to "the hill where the sun sets" or (already in Paripātal) "a mountain range in Coorg": in Tamil mēl has the meaning "west" also, the Tamil country being bordered by high mountains in the west. Malai "mountain" (DED 3882) seems the most likely Dravidian word here, for it seems to be the most commonly used and most widely spread, and in addition the name of Himālaya, which in Hindu mythology is identified with the cosmic mountain (it is also the mountain of the north), may, like the Sanskrit name of the western Ghāts, Malaya (DED 3882), be originally derived from this Dravidian etymon, and later re-interpreted in Sanskrit as "the abode of the snow" (hima + ālaya); it is possibly derived through haplology from *Hima-malaya "snow-mountain", cf. Himavat "snowy", scil. mountain. The likewise very frequent combination  or  (15 times, p. 209 f.) does not seem to pose any insuperable difficulties to this interpretation. Here the

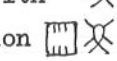
second sign is indubitably number 7, which in Dravidian is ĕl(u) (DED 772). The Tamil Lexicon records here a suitable interpretation by attesting an actual combination mēl-elu- with the meanings, i.a., "to rise up" and "to be superior". Since the root elu "to rise, as from seat or bed, to ascend, as heavenly body, be high, etc."(DED 723a) is also used as a substantive (=elumai, eluppam) meaning "rising, el(ev)ation, height", it may possibly function here as a synonym of  . The other possibilities indicated by the TL seem less probable to me: mēl-ēl-ulakam "the seven upper worlds" (Piṅkala); or mēl-eluttu "accountant-general, auditing officer" (T. A. S. I,177), "instructions of a superior authority, order".

12. The combinations of the fish signs, which probably refer to ancient Dravidian star names, offer one of the most fruitful starting points for further interpretations. One particularly promising case seems to be the combination  occurring once, in the beginning of the inscription 2614, since in this case also the picture can be recognized with certainty: it is the hind-leg of an animal. It is indeed very striking, therefore, that the word tāl "leg, foot, thigh of animal's hind-leg" (DED 2603) is found in an Old Tamil text as a star name: in Puranānūru 395,34-35 we read mika vānul eri tōnrinum/ kulamīnotun tāt pukaiyinum "if glowing lights (eri) should be(come) visible abundantly in the sky, and if the tāl together with kula-mīn should look dim".Here the old commentator has explained both tāl and kula-mīn as stars (kulamīnum tālmīnum ākiya vinmīnkal); also the Tamil lexicon (s.v. 11) takes tāl here as "comet". While V. I. Subramoniam's Index of Puranaanuuru (1962, s.v.) recognizes the word tāl in the last stanza of this song (395,40) to have the meaning "star", it assigns it here the meaning arul ("grace, blessing"); moreover, (while recording) also a variant reading kulampu ("hoof" , DED 1519), Subramoniam interprets kulamīn as a compound of

kulam "pond" (DED 1518) and mīn in the sense "fish", pukaiyin being taken in the literal sense "if(it produced) smoke". However, it can be seen that the last mentioned term refers to heavenly phenomena from Puranānūru 117,1 maimmīn pukaiyinum... "If the black star (i.e., planet Saturn) should 'smoke'". Secondly, the word kulam "pond", besides the word nīr "water", is in Tamil used as the name of the asterism asādhā which marks the beginning of the rainy season. And thirdly, I see a possible etymology for the word tāl as a star name in the root tala(-tala)- "to be brilliant, bright, glitter, shine, lustre, flash" (DED 2549).

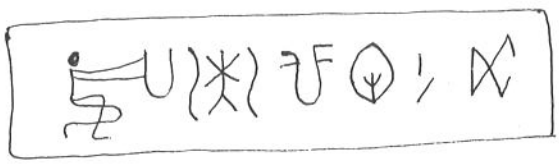
13. In the inscription 2111  the sign  has a stroke added underneath it. Since the sign is followed by a double stroke raised in the upper register and probably having a grammatical function (cf. I § 13), this extra stroke underneath may serve to indicate that the sign does not here have its ordinary meaning, that of āl "man" (cf. I § 26). In the Egyptian script, there is a similar way of showing that the sign must be read with its ideographic value and not with phonetic value of the pictogram; cf. A. Gardiner, Egyptian Grammar, London 1957 , p. 34 § 25 (cf. also W. A. Fairservis, Jr., Roots of Ancient India, New York 1971, p. 281: "So called diacritical marks by a sign may have vowel connotation, but they could also mean that the object depicted is meant rather than its sound, or vice versa."). It may therefore be permissible to read  with the homophonous value al(a) "to measure" (DED 252). In I § 15 we have interpreted the sign  as a symbol of the three worlds transcendended by Viṣṇu. The word ala is, in fact, used of Viṣṇu as the measurer of the world in the Old Tamil texts, cf. Cilappatikāram 6,55 nīnilam alantōn "he who measured the long earth". Moreover, it is very important to note that in the Ṛgveda not only is the root (vi or uru +) kram- "to step" but also (vi +) mā- "to measure" used of Viṣṇu's

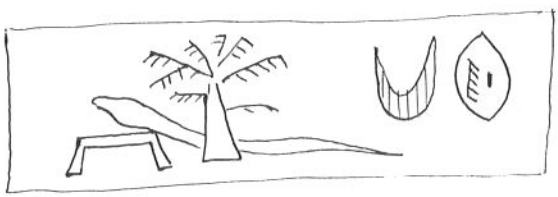
striding (cf. G. C. Tripathi, Der Ursprung und die Entwicklung der Vāmana-Legende in der indischen Literatur, Wiesbaden 1968, Freiburger Beiträge zur Indologie 1, p. 7 ff.). A. Bertholet (1952) and Ulrich Schneider ("Visnu's höchste Fussstapfe", ZDMG, Suppl. II, XVIII Deutscher Orientalistentag, Vorträge, Wiesbaden 1974, p. 404) have, in fact, been led to propose that the concept which in the human world lies behind the image of the striding Visnu may be that of the surveyor. To judge from the Mesopotamian parallels of the second half of the third millennium B.C. (cf. e.g. S. N. Kramer, The Sumerians, Chicago 1963, p. 74 ff.), it seems quite likely that the surveyor was an important man in the Harappan society, too.

14. If the above interpretation is correct, it is possible that the combination  forming one separable element in the above inscription might be another way of writing  =kata-v-ul "Visnu" (cf. I § 15). In other ancient scripts such orthographic variants are a regular feature. The pictogram  ,  with the variant form  where the semicircular object may represent a domestic fireplace on the the analogy of present-day Pakistani village-houses, could be an image of a house, with rooms; cf. Hittite  ="house". It might stand for the word ul "inside" (DED 600), which seems to have been originally the same word as oli, ola "hiding-place, secret, private" (DED 853). There is one circumstance which seems to support this interpretation, namely the connection of the sign  with  "planet Venus" (cf. I § 18): the stable combination  occurs 23 times(cf. the concordance, p. 432 ff.), while no other planet is found in this position. Venus is a particularly brilliant star, and it could be anticipated that the sign  might refer to this characteristic. A very appropriate homonym in this context would be oli "splendid, bright; the light, sun, moon, star, etc." (DED 854). Venus is, in fact, called in Tamil olli (cf. TL Suppl. s.v.)

and olliyōn (cf. Saptarisi Nāti Vol. III, Madras Government Oriental Series 115, p. xxiii): it seems to be derived from the last mentioned root (cf. Tamil olliyan "good man, wise man": oli "excellence, fame, wisdom" in DED 855).

15. Ad I§ 27: With regard to the association of the sign  with "cobra's hood" (cf.  and Pāli phaṇaka "comb shaped like cobra's hood"), cf. the "amulet tablet" 2756 (E.J.H.Mackay, Further Excavations at Mohenjo-daro,Delhi 1938, II pl. CI No 6.) where a hooded cobra,which is partly behind a tree and partly on a seat or dais (similar to those upon which the anthropomorphic gods of the Indus civilization are shown squatting), is accompanied by two pictograms possibly giving the name of this snake god(dess?):

a 

b 

It is interesting to observe that the first pictogram (from the right) on side b is a ligature where the sign is in all probability either a semantic or phonetic indicator.

As I could myself see in Karachi, in March, 1975, wooden combs exactly similar to the ivory ones found at Mohenjo-daro, even bearing the same decorative pattern of concentric circles, are still manufactured in Sind by the aboriginal tribes. Such combs, I was told, are called in Sindhi phani; Turner, CDIAL, sub no. 9042 phaṇa-[1] m. "expanded hood of snake (esp. of

cobra)", records this word for Sindhi, but only in the meaning "shoulderblade".

As explained in I § 27, the sign  probably in most cases stands as a rebus for the Dravidian word pen "woman" (DED 3607), or, in an extended use, the feminine suffix (especially -i). This gives occasion to speculate upon the significance of the palm tree besides the snake in the above amulet, for in Tamil we happen to have a word pennai = pen-panai "female palmyra" (cf. Tamil Lexicon, s.v.). It may finally be observed that the sign  probably represents the horned deity who squats on a dais surrounded by cobras and pot-holders in the amulet reproduced in Mackay, op.c., pl. CII no.9 = CIII no.9.

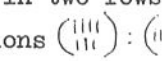
16. Ad I § 28 (p. 20, l. 3 ff.): the sign  seems to depict the word muruku, which in addition to the meaning "ear-ring" also means "nose-ring " and "bracelet, bangle" in a number of Dravidian languages (DED 4082 with the two supplements). The idea of "ring" could of course have been expressed through a single circle as  , but this could also be interpreted as a "ball", a "wheel" (cf.I §24) and probably many other things as well, while misunderstanding could be avoided by adding the second circle, whether this depicts another "ring" chained with the other, or the ear to which the ear-ring is attached. The interpretation as muruku seems to be confirmed by the fact that all the three inscribed stone bangles so far known (none of them in the concordance) contain this particular sign which in one case stands all alone (bangle with exc. no. Dk 8109, cf. Sind Vol. 21, p. 21 neg. 284 in the Photo Section of the ASI); the other bangle inscriptions are (exc. no. C 1357, cf. Sind Vol. 8, p. 66 neg. 433) and or (DK 634, Sind Vol. 9 p. 11 neg. 461; read ?).

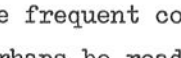
17. Murukaṉ has golden earrings (cf. e.g. Tirumurukāṟṟuppaṭai 86: poḷaṅ-kuḻai). He is red-complexioned, being called cēy, cēyōṉ, cēyavaṉ, etc., "the red one", and his red complexion

is compared with that of the rising sun (cf. comm. on Tirumurukārruppaṭai 2); cēy means also "son, child", and Murukaṉ is also represented as a child-god. In the Mahābhārata (3,224,14318) the new-born baby Skanda is compared with the rising sun which shines in a red cloud. The red colour of the new-born baby is frequently referred to in the Mahābhārata, and specifically also in the story of the birth of Karṇa, one of the heroes of the Mahābhārata, the son of the sun-god (cf. J. J. Meyer, Das Weib im altindischen Epos, Leipzig 1915, p. 28 with n. 1). Karṇa means "ear" in Sanskrit, and the Mahābhārata explains this name by relating that Karṇa gave to Indra his natural ear-rings, getting in return an unerring lance that could be hurled only once (cf. S. Sörensen, An index to the names in the Mahābhārata, London 1904-1925, p. 385b). The ear-rings were those of the sun-god, the famous ear-rings given by Aditi, which made Karṇa immortal (cf. Meyer, op.c., p. 24, 27). It is interesting to observe that the Dravidian word for "ear", *kevi (DED 1645a) is very close to the root *ke- "red" (DED 1607) which is found Murukaṉ's Tamil names Cēy, Cev-vēl, etc. Also the lance mentioned in the story of Karṇa makes one suspect that he may be a form of Murukaṉ.

18. Ad I § 28 (p. 20, l. 9): The pictorial meaning of the sign || can be explained in analogy to the interpretations of the signs ||| and ||/ in I § 15-16. It would seem to depict "heaven and earth", and more specificly (cf. |𐀏| = 𐀏 within or between to the two strokes of || = vell-āl, cf. I § 28), the space between heaven and earth, Sanskrit antarikṣa, Tamil veḷi (in Piṅkala), which also means "(intervening) space" in general (DED 4526).

19. Ad I § 28 (ibid.): In addition to the combination ||⊗ , the sign ⊗ occurs with particular frequency in the stable combination ⊗|| (20 times, p. 476 f.), which may account for the ligature 𐀀 also. If ⊗ is to be read as muruku "youth, Skanda" = Skt. kumāra, it seems most likely that this compound

would stand for the original of Skt. Sanat-Kumāra "eternal youth", an early name of Skanda attested already in Chāndogya-Upaniṣad 7,1,1 and 7,25,2 (...bhagavān sanatkumārah. tam skanda ity ācakṣate), and fitting appropriately the character of Skanda & Murukan. Although e.g. number 7 is frequently written in the Indus script both in two rows and in one, as  and  (cf. e.g. the combinations  and  proving their identity), number 3, as a number, seems to be always written as  . The exceptional mode of writing may here serve as an indication (cf. above, on ) that it is here to be read phonetically and not in the ordinary, ideographic sense. "Three" is mūnru in Dravidian, with the adjectival form mŭ- (DED 4147). The latter has an exact homophone in the root mū- "to be(come) old", which is also used adjectivally, e.g. in mū-tēvi "the elder sister of Lakṣmī, the goddess of misfortune"; the root appears, however, also in the form mutu "old, ancient", "old age", "to become old", etc. (DED 4057). One of Skanda's Tamil names is mutalvan cēy (cf. TL s.v.), where mutalvan means "one who is first, chief, head, god, king, father": it is a derivative of mutal "beginning, first as in rank, place, etc.; cause, God as the first cause, one who is first or oldest, best" etc. (DED 4053), a word which seems to be related not only to DED 4054 mutal "stump of a tree" and 4119 mun "first" but also with 4057 mutu "old".

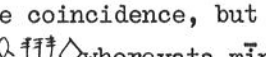
20. The frequent combination  (8 times, p. 251) may perhaps be read as ven-nīr "white (or clear) water"="seed, seminal fluid", taking  to depict "water" = nīr "water, sap, juice, liquor, semen, urine" (DED 3057) on analogy of parallel pictograms in other ancient scripts symbolizing water (archaic Sumerian  , Elamite  , Egyptian  etc.). "Seed, semen" is one of the central concepts of the Indian religions, and is connected also with astral concepts: Agastya, identified with the star Canopus, is said to have been born of

Mitras's and Varuṇa's seed which fell into a water-jar when they saw the beautiful nymph Urvaśī (cf. already ṚS 7,33,13). The very name of the planet Venus, both in Sanskrit (śukra = śukla) and in Tamil (velli), means as well "white" as "semen" (the latter meaning in TL s.v. 10, citing Tirumaṅ. 834); the Mahābhārata (12,291,10659 ff.) also relates a story how Śukra (Venus) was released from Śiva's belly in the form of seed emitted through his liṅga. It is interesting to note in this connection that another very frequent combination of the sign ⟨⟨ = ⟩⟩ is ⟩⟩  (6 times, p. 251), or ⟩⟩  (twice, p. 250), although also other fish signs are found in this position (3 times, p. 250). Venus is in the Mahābhārata (cf. Hopkins 1915, p. 180) as well as the Tamil tradition also conceived as a "rain planet", cf. velli-nilai "theme praising the planet Śukra on his powers to cause rain and relieve distress (TL citing Pu. Ve. 9,16), puyal "cloud, raining, Venus", and malai-k-kōl "rain planet = Venus". Is the frequent combination ||  (15 times, p. 224 f.) to be read as malai-velli "rain-star"?

21. If the interpretation of the sign  as standing usually for the word peru "great" (cf. I § 14) is correct, the signs sometimes preceding it in its normal position (i.e., in the beginning of the inscription and followed by the two short strokes raised in the upper register) should be decipherable, if we had a complete list of the words in which peru in Dravidian really occurs as the second member of a compound. I am grateful to my friend Dr. Eric Grinstead for having undertaken to compile a compound index to the Tamil Lexicon and for placing it at my disposal in pre-print form. The most important word both statistically and semantically (from our point of view) is kō "king" (DED 1810), which occurs in this position (before peru) in five words recorded in the Tamil Lexicon: kō-p-peru-ṉ-kaṇakkar "chief accountants of the state",

kō-p-peru-ṅ-kilavōḷ and kō-p-peru-n-tēvi "chief queen", kō-p-peru-mutiyar "aged and experienced counsellors in a state", and kō-p-peru-vēntaṉ "emperor". The DED records as the preceding entry (1809) the homophonous root kō "to string (pearls, beads, etc.)", which seems to be represented by the pictogram  which occurs four times in the beginning of an inscription in front of the sign  (cf. the concordance, p. 501). In three cases the sign  occurs at the end of an inscription, immediately before the most common "ending"  , and in two cases out of these three, this combination forms the entire inscription (cf. the concordance, p. 447). Here the meaning could be simply kō "king", these seals having probably been usedto stamp goods as "king's property". An additional argument in favour of this hypothesis is the combination  occurring in largely similar contexts (cf. concordance, p. 219, notably the inscription 3181 ). This may be interpreted as a ligature of the signs  and  (cf.  , above II § 18).  =kō = "king" may here be a semantic indicator, which is used in order to indicate that the sign  = veḷ(li), which has many meanings (the most common ones apparently being veḷ(li) "white, Venus, star"; and vēḷ "desire, Kāma, i.e., god of Love" in Murukaṉ's names) is to be read here as vēḷ "petty ruler, chief, king" (DED 4562).

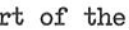
22. In I § 29 the combination  occurring in the seal 1227 which probably belonged to the shamanistic priestess of Murukaṉ (cf. I § 28) was compared with the six heavenly nymphs of the Pleiades (kṛttikā), the mothers or nurses of Murukaṉ (Skanda). The sign  = was explained to depict "hand" = Dravidian *kay (DED 1683) = "younger sister, young woman"(DED 2445), the latter word possibly being a derivative of the former through the expressions meaning "take the hand" = "marry"(I § 29). The pāṇigrahaṇa, "taking of the hand", was an integral part of the Vedic marriage ritual, as it still is in

the South Indian marriage (cf. Winternitz 1892, p. 48 ff.). It may be a mere coincidence, but the above cited inscription 1071  where vaṭa-mīn = Arundhatī seems to be mentioned, contains the combination  , which demands comparison with the following verse of the Vedic marriage ceremony: saptárṣayaḥ prathamāṃ kṛ́ttikānām arundhatī́ṃ yád dhruvátāṃ há ninyúḥ / sát kṛttikā mukhyayogáṃ vahantīyáṃ asmákam edhatv astamī́ //. The bride is here wished to become the eighth of the kṛttikās (who are seven with Arundhatī), cf. Winternitz 1892, p. 77 f., esp. n. 4. The context and the Old Tamil parallels (II § 7) lead us to suggest that the sign  following immediatly after  may stand for the particle of comparison, pōl "like" (DED 3758). This would be a convergence with the interpretation of the sign  as "golden star" (I § 18), which now needs some restatement. pon "gold" (DED 3732), which in Tamil means "planet Jupiter" too, may be a secondary sandhi form (cf. pon-mīn "golden star", etc.) of the related (thus DED) root pol(i) "to shine, bloom", from which we have polam and polan "gold" in Tamil (DED 3717, where reference is made also to the root pular or pola "to dawn", DED 3531). The rebus is supplied through pōl (cf. Tamil pōl and Telugu bōlu "hollow object", TL but not DED), the contracted form (from pok-al or poy-al) of the verbal noun from the root proposed in I § 18, po or poku "to perforate, puncture, make a hole", poy "to be hollowed; n. hole" (DED 3646).

23. The alternation between ā̆y and ē̆y in Dravidian (cf. II § 2) seems to permit the positing of another value for the sign  kay: it can perhaps stand also for kēy, the form from which Tamil cēy "the red one", an important name of Murukaṉ, is derived (cf. DED 1607). This meaning would be appropriate in several contexts, notably the following: the very frequent combination  (40 times, concordance, p. 114 f.), where it is preceded by a sign that may be interpreted as Murukaṉ's

name (cf. II § 19); the likewise very frequent combination  (22 times, p. 103 f.), in which the sign  probably stands for vēl "desire, Kāma", which is attested in Tamil as Murukaṉ's name (cf. I § 18 in fine and 28): the copper tablet inscriptions ending in this combination have on the other side the single sign  which seems to stand for Murukaṉ's name (cf. I § 21-22); and in the combination  (41 times, p. 104 ff.), which in a number of cases follows immediately after the sign  , and notably so in copper tablets again showing on the reverse the sign  or the horned hunter-god, who can be compared with the Vedic Rudra (for * rudhra, "red", cf. I § 18 and II § 6). Since Murukaṉ's Vedic counterparts Rudra and Rohita (the rising sun) bear a name meaning "the red one" we must anticipate the occurrence of the name kēy in the Harappan inscriptions.

24. If the hypothesis put forward in II § 23 is acceptable, we may proceed a step further. Murukaṉ is in Old Tamil texts called among others tiru taku cēy, in which taku means "worthy, fit, proper, becomimg, good, lovely" (DED 2435); for tiru cf. I § 24. The word taku is prefixed regurlarly to the word appan "father" in South Dravidian (DED 2435), which might provide a test later on. At the moment I should like to suggest that the sign  , which e.g. in the case of the combination  (the concordance, p. 129 f.) often (5 cases out of 7) forms a prefix-like attribute ( ) , is to be read as taku.

This sign may be idential with  (perhaps = the lower part of the sign), cf. 1410  with  and the copper tablet inscription  reverse  (cf. II § 23.). A suitable rebus would be provided by the root tāk- "to walk" (DED 2571), which, though attested in Central Dravidian languages only, apparently is related (thus DED) to tāvu "to jump" (DED 2596), which is more widely attested and conforms to the nature of Skanda as "the leaper".

25. Further evidence for the possible Harappan fish cult

suggested in I § 30 is a pot excavated in the acropolis of the village site of Allah dino near Karachi in 1973-74 by W.A. Fairservis, Jr. and his team: the inside of this pot contained remnants of algae indicating that it had been full of water for a long time, and the bones of one single fish (personal communication of Robert H. Brunswig, Jr., who participated in the dig). Compare also the naturalistic fish painted as a motif on the 'Early Indus' Nal ware (e.g. in S. Piggott, Prehistoric India, Penguin Books 1952, p. 88) and the fish-scale pattern which is typical of the pottery decoration in the 'Early Indus' as well as the Harappan cultures.

26. Mr. I. Mahadevan has pointed out that the seal 3429 quoted in I § 5 as  should in fact be read as . I have examined the original, and agree with him. The argument in I § 5 is, however, not much affected by this modification, for is clearly parallel to . Apparently ātti "wife, woman" = (I § 28) would have been meaningless to stand alone in an inscription. In II § 13 the notch of the sign was explained as indicating that the sign should be read with its phonetic value. Here the stroke in the leg might mean that the compound is to be read as āti "dancer" or āticci "woman of the acrobat community" (DED 290): its placement upon the leg could refer to dancing also, calling to mind the foot-rings of the dancing girl, which jingle as she dances. The Sanskrit term for the dancing girl of the classical Indian temples is deva-dāsī "female slave of the god", and the corresponding Tamil term tēv-atiyāl (cf. K.K. Pillai, The Śucīndram Temple, Madras 1953, p. 277); tēvu is borrowed from Indo-Aryan. The second part of the compound offers another possibility for reading the combination . The Dravidian word ati primarily means "foot, footsole, footprint" (note the position of the stroke in the sign), but widely also "bottom, base" and "slave, servant, devotee" (DED 63).

27. In many ancient scripts, the concept of "woman" or feminine gender has been expressed ideographically, cf. e.g. Linear B  "man" :  "woman" (cf. J.Chadwick, The Decipherment of Linear B, Cambridge 1960, p. 45), and Archaic Chinese  *nio > nü "woman, lady, girl" (B. Karlgren, Grammata Serica recensa, Stockholm 1957, p. 43 no. 94; "the graph is a drawing"). In the archaic Sumerian script, too, the concept is written ideographically, but using the principle of pars pro toto, for there the female organ is depicted, as the distinctive sign of "woman":  (cf. Falkenstein 1936, p. 25 & Zeichenliste no. 21). We have suggested that in contrast to the ideographically expressed concept of "man" =  (cf. I § 26), the word for "woman" (secondarily standing for the feminine suffix as well) is written phonetically in the Indus script: concluding from its contextual occurrences that the sign  probably denotes the female gender, we have interpreted it as primarily expressing the Dravidian word pen or pentu "woman" through the homonym reconstructed as *pentika "comb" (see I § 27). It may be noted here that in the Egyptian script, too, the female gender is likewise expressed indirectly through the rebus principle: the hieroglyphic sign  depicting "bread" = Egyptian t (cf. Gardiner 1957[3], p. 531 no. X: 1) stands in the Egyptian script for the feminine suffix t (cf. ibid., p. 34 § 26) and is added as a determinative to nouns of the feminine gender (cf. ibid. § 25).

Some of our critics have suggested even a symbolic connection between the concepts of "woman" and "comb". Thus John Chadwick, provisionally accepting the reconstructions *penti "woman" and *pentika "comb", notes (Antiquity 43, 1969, p. 205): "Thus the sign for 'comb' would immediately suggest to the reader the word for 'woman'. The fact that *pentika might be a derivative of *penti (the womanly thing

par excellence) is irrelevant. The fact remains that Dravidian associates the words for these two concepts." Wolfgang P. Schmid (IF 74, 1969, p. 218) also thinks it possible that *pentika "comb" might be a derivative of pen(tu) "woman". W.F. Leemans (Phoenix 15:2, 1970, p. 266) quotes a Sumerian text (published by S.N. Kramer in JCS 21, 1969, p. 114 & 119) mentioning "a comb (for the indication) of womanhood".

From the evidence presented in I § 27 and II § 15 it appears, however, clearly that the Dravidian word for "comb" concerned is not a derivative of pen "woman" but is etymologically connected with the word patam (Ka. pede) "cobra's hood" (DED 3180) > Skr. (s)phatā-, phanā- "cobra's hood", phana also "comb (shaped like cobra's hood)". Because of this etymological and conceptual association, attention is here drawn to the frequent comparison of the female organ to cobra's hood in the Old Tamil texts. Cilappatikāram 12, (6), 2 & 3, and Manimēkalai 19,11 mention pai-y-ara-v-alkul, and Cilapp. 24,19,17 & 18 and Mani. 28, 220 paitt-ara-v-alkul. The root pai means "hood of cobra" (cf. Mani. 20,105) and "to spread the hood, as a cobra" (cf. DED 3644?), ara "snake" (DED 1949) (pai-y-ara "hooded snake", cf. also Cīvaka. 1540 paiyara viluṅkap paṭṭa... matiyam), and alkul "side, waist, pudendum muliebre" (DED 214: cf. Ma. alkīṭam "vulva", etc.). The ancient commentator paraphrases the first of the above cited passages (which Danielou, p. 80, translates "her pubis is like a cobra's hood") as follows: i-vv-aravin paṭam pōlum alkulai-y-uṭaiyāḷ "she who possesses a female organ that resembles the hood of this snake". The very word paṭam occurs in this connection in the Caṅkam texts, too, cf. Tiṇaimoḻi aimpatu 45,2 paṭam aṇi alkul, where aṇi means "decoration, ornament, beauty" (DED 98). In the poem Kuṟuntokai 294 by Aṟicil Āṉtaiyār, we read (v. 5

f.): tutti pāntat paitt-akal alkur / riruntilai ...; A.K. Ramanujan (The Interior Landscape, Chicago 1967, p. 89) translates this "(those artful jewels that shake /) on your venus' mound / now spread like a cobra hood ..." Here akal alkul "wide female organ" is a fixed combination recurring in Nar. 200,10; Kali. 1,6; 67,10; 108,2; 109,10; pāntal means "(mountain) snake"; and tiruntilai "woman, as adorned (tiruntu) with ornaments (ilai)". Of particular interest is the word tutti, which according to the Tamil Lexicon means both "spots on the hood of a cobra" (cf. Poruna. 69 paitta pāmpin rutti yēyppa) and "streaky spots below the navel especially of woman who has delivered"; such "streaks" can also be seen in the "comb shaped like the hood of cobra"! Alkul "female organ" recurs, according to the Pondicherry index (I p. 70) over 130 times in the Old Tamil poetry, and is used as a stereotype epithet (in the Homeric sense) of women, cf. e.g. the poem Puram 389 by Kallil Āttiraiyanār, which ends in the rendering of A. K. Ramanujan (apud K. Zvelebil, The Smile of Murugan, Leiden 1973, p. 83) as follows: "May your women, / wide mounds of venus, / may they never hear / in the long yards of your house / the funeral drums of grief!" The wording of the 16th verse in the original is ait-akal alkul makalir. In modern Tamil, the word for "female organ" is pen-kuri, literally, "the distinctive sign of woman": cf. archaic Sumerian  "female organ = woman".