STUDY OF THE INDUS SCRIPT THROUGH BI-LINGUAL PARALLELS

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1. THE BACKGROUND

During the half-century which has elapsed since the discovery of the Harappan civilization, three developments have taken place which have greatly increased the probability that the civilization was Dravidian.

2. In the first place, new discoveries have revealed the great extent and duration of the Harappan civilization and have led to a fundamental re-assessment of its character. The spade of the archaeologist has uncovered hundreds of Harappan sites over a vast area from the eastern borders of Iran to the Gangetic Doab and from the foot-hills of the Himalayas to the estuary of the Tapti. In the Gujerat region, late Harappan, sub-Harappan and post-Harappan settlements occur in sequence and demonstrate the survival of the Harappan influence well after the middle of the Second Millennium B.C. What was thought to be a localised culture of the 'Indus Valley' (which, at least by implication, could have been created by relatively small bands of alien maritime people) has now turned out to be the largest Bronze Age civilization known to the ancient world. It has now become inconceivable that this great and populous civilization, with its continental spread and millennial duration, should have appeared suddenly or utterly perished without a trace. Ethnic continuity overlaid by a linguistic change wrought by the incoming Aryans seems to be the only possible answer to the question, 'What happened to the Harappans?'

3. Secondly, recent advances in Dravidian studies have led to an increasing realization of the decisive influence of the Dravidian substratum over the evolution of the Indo-Aryan languages and Hindu social institutions. It is now well established that the Dravidians were present in North-west India when the Aryans entered the country, most probably sometime around the middle of the Second Millennium B.C. The survival of the Brahui, a Dravidian language, and the presence of words of Dravidian origin in the Rigveda, provide irrefutable evidence for this fact.

While the Aryans imposed their language and established a new social order, they themselves must have been in a small minority and rapidly lost their ethnic identity. So complete is the racial fusion, that the terms 'Aryan' and 'Dravidian' can now be used legitimately only in a linguistic context. While the Dravidian languages have disappeared over most of North India, their substratum influence on the Indo-Aryan languages is most clearly seen in the latter in phonological changes like the introduction of retroflex sounds, in morphological changes like the switch-over from inflexion to post-fixation, in lexical borrowings, and especially in the near-identical syntactical structures of the modern Indo-Aryan and Dravidian languages. Such changes could have been brought about only after an extended era of bi-lingualism particularly on the part of the subject people (Dravidian speakers, in the present instance), as always happens in similar circumstances.

4. The racial assimilation of the Aryans by the Dravidian people led in due course to the re-emergence of Dravidian social institutions, although with a Sanskritic veneer. In the field of religion, the older Dravidian deities like the Mother Goddess and Dravidian modes of worship pushed the Vedic religion into the background even by the time of the evolution of the middle Indo-Aryan dialects. Our increasing knowledge of the extent of the non-Aryan and Dravidian substratum influence in North India, has made the earlier view of some historians that, upon the advent of the Aryans, the indigenous population retreated southwards and that those who remained back were made into slaves and serfs, much less probable. There were undoubtedly migrations and subjugation in the earliest phase; but the numerical and cultural superiority of the indigenous population make it unlikely that they were all driven away or relegated to the lowest rungs of the society. The transformation of the Hindu religion in the post-Vedic period would have been impossible but for the fact that the new classes of priests as well as of kings, nobles and merchant-princes who patronised the priests, had risen from the indigenous non-Aryan stock. This circumstance also makes it probable that at least a part of the historical tradition of ancient India recorded in the Epics and the Puranas or handed down as ballads and folk-lore may go back to the pre-Aryan epoch.

5. Thirdly, systematic studies of the Indus Script, using scientific methods of statistical-positional analysis have led the investigators to the conclusion that the Harappan language is tpyologically non-Indo-European and resembles the Dravidian

languages closely. In particular, it appears that the Harappan language was mono-syllabic and of the suffixing type with a Dravidian-like word-order.

6. When we place these developments side by side and consider objectively (*a*) the extent and duration of the Harappan civilization, (*b*) the extent and character of Dravidian substratum influence in North India from the Vedic Age, and (*c*) the Dravidian-like typological features of the Indus Script, we cannot but be struck by the inevitability of their inter-connection. To hold otherwise would be to presume that the extensive Harappan civilization left no discernible traces and that the deep Dravidian substratum influence is totally unmatched by any material remains. Neither assumption seems to be reasonable in the light of our present knowledge of the linguistic and social pre-history of India. It has also been argued that the possibility of the Harappan language being typologically similar to, but not necessarily identical with Dravidian, cannot be ruled out. The evidence of the new developments summarised above makes this view altogether too cautious and even somewhat pedantic. Taking the totality of available evidence, the hypothesis of a Dravidian authorship of the Harappan civilization seems to offer the most promising line of investigation. Absolute certainty can however be reached only when an acceptable solution to the riddle of the Indus Script emerges in the fullness of time.

II. THE METHOD

7. When I began working on the Indus Script four years ago, I had confined my attention almost exclusively to the Dravidian parallels, — old Tamil literature and inscriptions, Dravidian syntactical patterns, typology of Dravidian names etc. I am still of the view that it is essential to look for Dravidian parallels in view of the strong probability of the Harappan civilization being Dravidian. However, the preliminary findings published in my paper 'Dravidian Parallels in Proto-Indian Script' (*Journal of Tamil Studies,* II : 1, April 1970) evoked two kinds of constructive criticism. In the first place, it was pointed out that it would be necessary to find evidence to bridge the enormous gap in time and space between the end of the Harappan civilization and the earliest records of Dravidian culture in South India. Secondly, some method is needed to provide a check on the prposed readings and interpretations. It was while pondering over these problems that I hit upon the method of tackling the Indus Script with the aid of bi-lingual parallels drawn from both the Indo-

Aryan and the Dravidian languages. The theoretical possibility of such an approach suggested itself to me from considerations of the historical background summarised in the first part of this paper.

8. The method of bi-lingual parallels is based on three crucial assumptions :

(1) The Harappan seals, in accordance with universal usage, give the names of their owners. The longer texts probably also contain titles, honorifics, references to occupations, place-names and other ancillary information. It is likely that due to extended bi-lingualism and racial fusion, some at least of the more important names and titles (as judged by their frequency on the seal-texts) passed into the Indo-Aryan languages as loan-words, loan-translations or hybrid translations.

(2) It is also possible that when the Indus Script disintegrated as a writing system at the end of the Harappan civilization, at least some of the signs consisting of the more important ideograms and phonograms (again as judged by their frequency) survived and evolved into traditional symbols of various kinds. Such symbols may consist of iconographic elements and other religious symbols, royal insignia, emblems on coins and seals, heraldic signs of the nobility, corporate symbols, totem signs of clans and tribes etc. It is likely that the symbols were continued to be associated, even though in a conventional manner, with the new forms of the same names and titles which were earlier represented by the corresponding signs in the script ideographically or homonymously.

(3) Such survivals of names and associated symbols can be recognised by

(*a*) the arbitrariness of the symbolism,

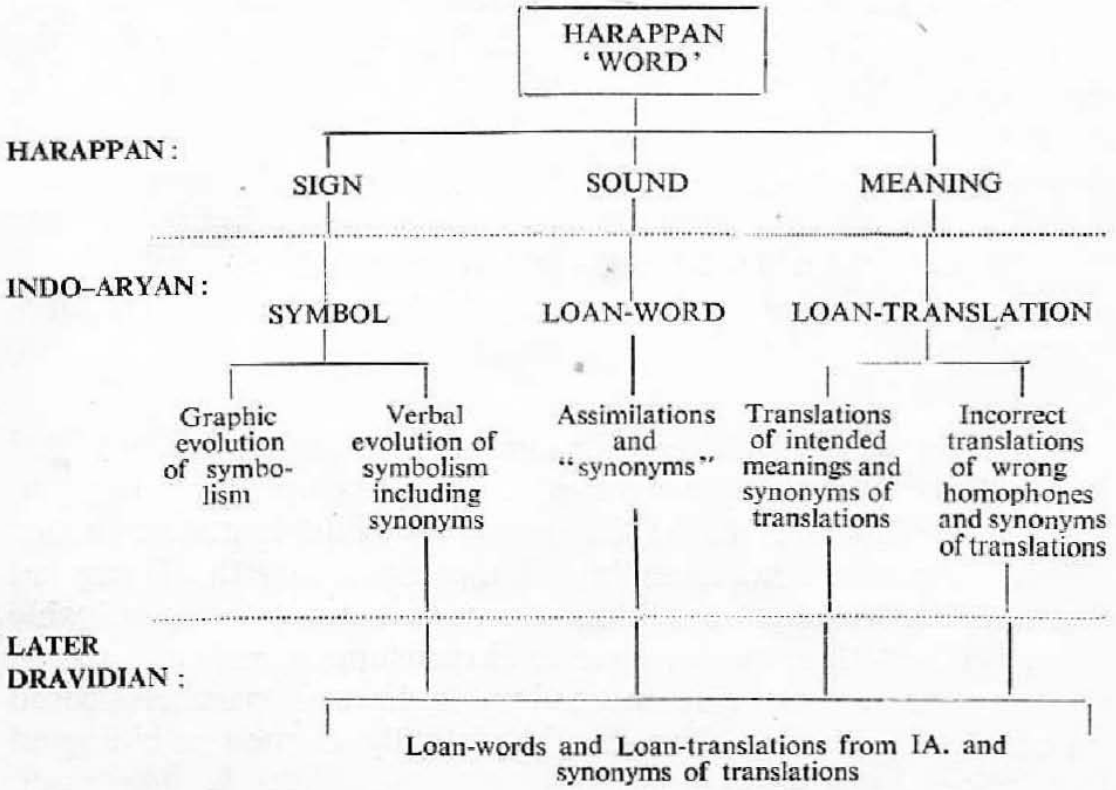
(*b*) the absence of a convincing Indo-Aryan etymology for the loan-words,

(*c*) the tell-tale presence of myth and folk etymology invoked to explain the symbolism and the loan-words, and

(*d*) the clues furnished by the inevitable distortions that ideas and meanings undergo on transfer from one socio-linguistic context to another.

9. The method opens up, in principle, a promising avenue for the exploration of the Indus Script. It should be possible to undertake a comparison of the traditional symbols resembling the signs of the Indus Script and the names and concepts associated with the symbols in Indian historical tradition in an attempt to establish the original ideographic meanings of the symbols and, in especially favourable circumstances, even to suggest their phonetic values. The results thus obtained should not be inconsistent with those suggested by statistical-positional analysis of the signs and the sign-combinations.

10. The application of the method in actual practice is rendered difficult by an incredibly complex evolutionary situation. The traditional symbols (derived from the Harappan signs) may undergo both graphic and verbal evolution, acquire new significance, and even become unrecognizable pictorially or be replaced verbally by synonyms. The loan-words (borrowed from the Harappan language) may be assimilated to phonetically similar words in the borrowing languages and may be substituted by 'synonyms'. The loan-translations may not be faithful to the originals and may be based on the wrong homophones. These translations may also get replaced by synonyms in due course with attendant distortion in emphasis or shades of meaning. These developments are shown schematically in the following chart:



11. The situation is in fact much more complex than is suggested by this neat little chart. The continental size of the country and the great time-depth (not less than three millennia) involved in the changes and the incredible diversity of the Indian society have also to be taken into account. One has therefore to be on the look-out for *layers* of parallelisms as well as different, and often divergent, *streams* of parallelisms. As a result, the Harappan sign, word and its meaning may be reflected in Indo-Aryan and in later tradition, not by just one set of symbol, loan-word and loan-translation respectively, but by multiple sets of symbols and words, occurring in different regions and at different periods, all differing from one another, but all of them based on the same proto-type.

12. The two great linguistic traditions of India, Indo-Aryan and Dravidian, continually acting and re-acting upon each other, add yet another dimension to this picture. We saw that the Indo-Aryan languages were influenced by the substratum Dravidian languages and moved closer to the latter in many ways. But we should not forget the much greater influence of the dominant Sanskritic tradition on the Dravidian languages in historical times. In this situation it could happen that ideas which originated in Dravidian in the Harappan age, and which were borrowed by the Indo-Aryan at a very early period, travelled back to Dravidian at a much later time. In such cases it is almost certain that the secondary Dravidian concepts and words would not restore the primary Dravidian values of the earlier epoch.

13. Finally, the method itself is severely limited by its dependence on accidental and random survivals of symbols and words and the uncertainty in recognizing loan-words and loan-translations.

14. In spite of these uncertainties and limitations, which I have deliberately emphasised here, the method of bi-lingual parallels would seem to be the only one available at present for at least a partial understanding of the context of the Harappan texts. The discrepant traditions themselves can provide valuable clues. I feel that, in favourable circumstances and interpreted with due care and circumspection, bi-lingual parallels based on concrete Harappan signs, can be virtually as good as bi-lingual inscriptions.

III. SOME BI-LINGUAL PARALLELS

15. In this concluding section, I shall give some examples to show how bi-lingual parallels work. To present the entire evidence I have collected would require monographic treatment. Here I shall have to be content with a few typical cases to illustrate the various theoretical aspects of the method discussed in the earlier sections of the paper. There will be no emphasis on any individual case, each of which represents no more than a possibility with varying degrees of probability. However many of the parallels collected by me turn out to be inter-linked and, in sum, present a coherent picture. In particular, the correspondences between sign-combinations and names and titles known to later Indian tradition are quite interesting and seem to indicate the basic soundness of the method.

The 'WHEEL' sign : 

16. An easily recognizable Harappan sign, which appears at first sight to be the 'wheel', is a circle with six radial lines or 'spokes' within. There is no evidence for a spoked wheel at Harappa or Mohenjodaro, where all the toy-carts so far found have solid wheels. However the resemblance between the sign and the wheel is so strong that we may, as a first approximation, take the sign to represent the wheel and look for parallels. The wheel is a well-known symbol in Indian tradition, standing for two distinct but inter-related concepts, namely, divinity and sovereignty. The wheel is one of the attributes of the supreme Deity, conceived as Vishṇu or Krishṇa. In the Buddhist tradition, the wheel represents *dharma*, an abstract concept which takes the place of the supreme Deity in this creed. The wheel is also the symbol of the paramount sovereign, *cakravartin*, in both Hindu and Jaina traditions. It is therefore not unlikely that the WHEEL sign has a somewhat similar meaning in the Indus Script and is an ideogram representing some divine or sovereign entity.

17. The Vedic imagery of a 'solar wheel' gives us the clue to the probable original meaning of the sign. Again the Vedic Mitra whose most characteristic attribute is sovereignty, is a solar deity. Thirdly, contemporary West Asian representations of the sun show striking graphic similarities. From all this evidence, it can be inferred that the Harappan sign originally represented the sun or rather the Sun-god. The Sun-god was probably the supreme Deity as well as the titular sovereign of the Harappans.

The latter inference is supported by contemporary West Asian parallels, later Dravidian tradition and the complete absence of royal paraphernalia in the Harappan cities. The accidental resemblance of the stylised representation of the sun to a wheel led, after the introduction of the spoked wheel in India, to the symbolism of the solar wheel. With the eclipse of the Sun-god cult at a later date, the symbolism centred only on the wheel and it is to this last stage that we should attribute the wheel-based concepts like *Vishṇu-cakra, Dharma-cakra* and *cakravartin.* Schematically, the evolution of the solar-wheel symbolism can be represented as follows :

SUN-GOD-KING
(ideogram)
|
SOLAR WHEEL
|
WHEEL
|
WHEEL OF GOD (*Vishṇu-cakra*) | WHEEL OF 'LAW' (*Dharma-cakra*) | WHEEL OF KING (*cakravartin*)

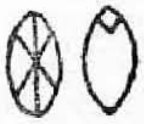
18. This analysis shows that the 'wheel' symbolism is unlikely to be related to the original phonetic value of the sign. We can thus rule out Dravidian words based on the 'wheel' symbolism as secondary borrowings from a modified Sanskritic tradition. The earliest and the nearest Indo-Aryan equivalent to the original SUN-GOD-KING concept is the Vedic Mitra, who combines in himself all the three elements. But the name Mitra ('friend') does not appear to be naturally related to any of the three elements. The primitive Dravidian expression for SUN-GOD-KING can be reconstructed with some probability as **vec/vey/vē-* from the following etyma :

SUN :	*vēy-ōṉ* (O.Ta.) < *vē-* : to be hot	(DED. 4540)
GOD :	*vē-(n)d-id, vē-(n)d-iḍ* (Pa.) *vē-nd-iṭ* (Ga.), *vēnu* (Kui)	(DED. 4550)
KING :	*vē-nt-aṉ* ; (the word also connotes the sun and some deities)	(DED. 4549)

19. There are several interesting features in these results. It should be noted that the primitive Dravidian word **vē-* for 'god' is confined to non-literary Dravidian tribes and could also mean 'demon'. It is clear that both these developments are due to the dominant Sanskritic and Brahmanical influence on the Dravidian literary languages. It will also be seen that the old Tamil *vē-nt-aṉ*, 'paramount sovereign', while being the equivalent of *cakravartin* is not based on the 'wheel' symbolism and is distinctly related to 'sun' and 'god' concepts — a clear indication of its direct descent from the original. Finally, a rather surprising result is that even the Rigvedic (and Indo-Iranian) Mitra seems to have developed from, or is in some manner related to, the Harappan-Dravidian substratum.

20. The duality of the tradition in respect of this sign as the 'sun' and the 'wheel' symbols suggests the following two pairs of interesting parallelisms based upon three 'introductory' signs in the Harappan texts with very similar positional and functional characteristics :

 : SUN and (CRESCENT) MOON

 : WHEEL and CONCH

The SUN and the MOON signs should be compared with the legendary symbolism of the Solar and the Lunar dynasties of Indian tradition. While this pair seems to have retained the original pictographic (but literal) values, the 'WHEEL-CONCH' (*cakra* and *śaṅkha*) symbolism associated with Viṣṇu, is a later development which appears to be based on accidental resemblances to the objects in question. While the matter cannot be pursued further within the scope of this paper, it can be stated that both the pairs of later parallelisms point out to the general direction of evolution of these Harappan concepts and help us to interpret other associated signs.

The 'BEARER' sign : 

21. Among the anthropomorphic signs of the Indus Script there is a frequent sign which depicts a person carrying a yoke

across his shoulders with loads suspended from either end. From the frequency and the positional characteristics of the sign, it appears to be the ideogram for an important title. We can thus rule out literal interpretations like 'porter' or 'water-carrier', though a meaning somewhat like 'servant of god/king' is still possible. The matter has to be decided not on the basis of theoretical possibilities but on the evidence of Indian tradition. There seems to be no graphic example of the 'bearer' motif from later times. However, I have been able to find out a number of interesting 'verbal symbolisms' based unmistakably on this concept.

22. It turns out that in Indian tradition the 'bearer' is an idiom and refers to a person who 'shoulders' any responsibility or 'bears' the 'burden' of any office. Take the common Sanskrit expression *bhartṛ*, 'lord, master, husband', etc. It is derived from the root *bhṛ*, 'to bear' and means literally 'one who bears', but idiomatically 'one who sustains or maintains'. The Prakrit equivalent, *bhaṭṭa* is also a honorific applied, significantly enough, to a prince or a priest. We have similar expressions derived from the root *vah*, 'to bear' as in *kārya-vāhaka*, 'office-bearer'. Other expressions are derived from the symbolism of the yoke, as in *yugam-dhara* and *dhuram-dhara*, both literally meaning 'yoke-bearer' but used as honorifics or names. On the basis of this linguistic evidence, we can interpret the BEARER ideogram as a honorific assumed by the priest-rulers of the Harappan polity with approximately the same significance as in later tradition.

23. A common tendency in Indian tradition is for honorifics and titles to lose their original significance and become proper names. If a similar development had taken place in respect of the 'bearer' symbolism, we should find such names among the princely or priestly clans in later times. This reasoning leads us straight to the earliest and the most famous of the 'bearer' clans in ancient India, namely, the Bharatas (literally, the 'bearers'). Since the Bharatas were priests and rulers and known to have occupied the Indus region during the Vedic period, it is probable that they were the descendants of the priest-rulers of the Harappan civilization.

24. A search for other royal names based on the 'bearer' motif, led me to the famous Andhra dynasty whose kings called themselves Sātavāhanas or Sālivāhanas. The suffix *-vāhana* appeared to be connected with the 'bearer' theme (*vahana*: bearing, carrying). Since however the second element *-vāhana* never appeared separately, it struck me as probable that the

preceding elements *sāta-* and *sāli-* might also be derived from the Harappan substratum. Now it so happens that the BEARER ideogram in the Indus Script often appears with one of two signs ligatured to it, namely, the JAR sign and the ARROW sign. I wondered whether these ligatured signs occurring with the BEARER ideogram, had anything to do with the prefixed elements found with the later *-vāhana* names. A search led to the discovery of the following interesting parallelisms :

Sign	*Pictorial value*	*IA equivalent*	*Meaning*
	JAR	*Sata*	A kind of (sacrificial) vessel
	ARROW, LANCE	*Śalya*	arrow, lance
	BEARER	*Vahana*	Bearing, carrying
	JAR +BEARER	*Sata-vahana*	(lit., ' jar-bearing ')
		> *Śāta-vāhana*	n.pr. of Andhra dynasty
	LANCE +BEARER	*Śalya-vahana*	(lit., ' lance-bearing ')
		> *Śāli-vāhana*	n.pr. of Andhra dynasty

Can all this be due to mere coincidence? Is it probable that three Harappan signs, given their pictographic equivalents in Sanskrit, produce by random chance, two composite historical names corresponding to two different sign-combinations in the script? I think we can rule out coincidence and conclude that these are true parallelisms resulting from the substratum Harappan influence.

25. The Andhras were a Dravidian people and their earliest territory lay in the north-west, not far to the south of the known southern limit of the Harappan civilization. The Andhras, though kings, claimed also to be priests (*'eka-brāhmaṇa'*) and derived their descent from the Vedic sages matrilineally. It is

however certain that 'Sātavāhana' and 'S'ālivāhana' are not the original names of the Dravidian Andhra dynasty. We know definitely that the JAR and the ARROW signs in the Indus Script are suffixes and have to be read *after* the BEARER sign with which they are ligatured. Thus the Harappan word-order was BEARER-JAR and BEARER-ARROW and not the other way about. It is probable that the Andhra chieftains, who must have been bi-lingual, assumed their Sanskritised titles on the basis of their traditional clan symbols whose original significance had been lost much earlier. In the absence of any information to the contrary, the sequence JAR/LANCE-BEARER would have seemed more natural and became the basis for the loan-translations.

26. There is a parallel Dravidian linguistic tradition based on the 'bearer' symbolism, as may be seen from the following cognates listed in DED. 3729:

Poṟu (Ta.) :	To bear, to take responsibility
Poṟai (Ta) :	Load, weight
Poṟaiyaṉ (Ta) :	Sustainer
Poṟid- (Koḍ.) :	To undertake an office

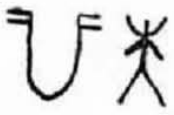
The names Poṟai and Poṟaiyaṉ occur as the clan titles of the Chera dynasty. The linguistic evidence presented above makes it unlikely that the title *Poṟai* is a secondary loan-translation from Indo-Aryan.

27. We may therefore conclude that the Bharatas in the Vedic and the Epic periods in North India, the Sātavāhanas in the Puranic and early historical periods in the Deccan and the Cheras (Poṟaiyar) in the early historical period in the Tamil country, represent different layers and streams of parallelisms, all ultimately going back to the 'bearer' concept of the Harappan-Dravidian substratum.

28. A striking corroboration of the ultimate common origin of these peoples is furnished by the identification of *sata* as one of the later epithets for the 'jar' symbolism. This word has been cited even by the ancient authors as a Dravidian loan-word and it is, in any case, little more than a lexical entry in Sanskrit. It is therefore natural that it should have been confused with *s'ata* (Pkt., *sata*), 'one hundred', a far more frequent word. This may explain the conventional number

of ' one hundred ' Kauravas who were also, according to legend, born in a jar! The epithet *śata* (> *śāta*) links the Kurus (who were Bhāratas) with the Andhras and both with the Cheras whose characteristic personal name Ātaṉ, seems to be a re-borrowing derived from * *Cāta-* by the dropping of the initial palatal. Thus the " bearer " clans and the " jar-born " clans are related and seem to be the descendants of the Harappan priest-rulers. The association of 'jar' names and legends in later Indian tradition with priestly families (e.g., Vasishṭha, Agastya and Droṇa) and royal dynasties (e.g., the Kurus, the Andhras and the Tamil Vēḷir) is the best evidence we have for supposing that the Harappan polity was ruled by a priestly oligarchy.

29. The identification of *sata* as a term related to the later ' jar ' symbolism provides us with yet another parallelism corroborating the preservation of the Harappan symbolism by the Andhra dynasty. A frequent honorific in the Harappan texts consists of a pair of signs, viz., a HORNED PERSONAGE (an obvious ideogram for a hero, warrior or chief) followed by the very common JAR suffix. Here again, as in the case of the BEARER and JAR combination, it appears that the original significance and phonetic values were lost, but the signs survived as traditional clan symbols. This resulted in the order of the symbols being reversed in this case also in the process of Sanskritisation of the term. With this assumption (for which there are quite a number of parallels), we can schematically trace the probable development of the later symbolism as follows :



JAR — WARRIOR

saṭa — *kaṇṭa* (DED. 986)

śaṭa — *gaṇḍa* (Central Dr. cognate and IA. loan-word)

gaṇḍa (IA. homophone meaning ' cheek ')

karṇa (IA. synonym for the latter homophone)

Thus we get *Śata-karṇa* (> Sāta - karṇin) as a later parallelism developed out of the Harappan JAR and HERO signs. Some evidence for this development is provided by the recorded variant

S'ata-kaṇṭha for the name of the Andhra dynasty and the occurrence of Kumbha (another 'jar' synonym) and Karṇa among the names of the Andhra kings, and Kumbakarṇa and Karṇa as mythological names without satisfactory etymologies.

30. The bi-lingual parallels cited in the paper (and many others I have been able to collect) bring out the amazing continuity of the Indian historical tradition which is indeed the 'Rosetta Stone' of the Indus Script. They also serve to bridge the gap in time and space between the two Dravidian periods and make the suggested interpretations of the Harappan signs more credible.