

and his priest Vasiṣṭha performed a *yajña* of 'Mitrāvaruṇa' for the purpose. But the first issue happened to be a daughter who was named Ilā. Manu, not very happy with this,<sup>19</sup> complained to Vasiṣṭha who got the sex of Ilā changed through the blessings of Viṣṇu and was renamed as Sudyumna. Once the latter, while on hunting, unknowingly entered the realm of Umā and Śiva, and was reconverted to a female; and thus again became Ilā. In the meanwhile she married Budha, the son of Soma and became pregnant. However she pleased Śiva and Umā and was blessed to be man for a certain period and woman for another; and that will not have remembrance of the period of the other sex. Ilā in the form of Sudyumna begot three sons, and, as Ilā begot one son named Purūravas who was the progenitor of majority of royal families of Bhārata.

However, we can sidetrack the question if the epicene Ilā could procreate children? And if so, was the earliest man epicene? We cannot answer these questions and may leave the question to be seen by the future scientists of fast growing genetic engineering. We should believe in the Pauranic accounts and at present can do no better than to believe it. However, there were about seven royal families that sprang from Ilā that flourished in Jambudvīpa including Bhārata while only three are known from the nine sons of Manu.<sup>20</sup>

### TRADITION SUPPORTS

This is not my imagination that humanity originated at Sumeru or Pamir region. There are some references about this. The *Mahābhārata* states: "There is Meru in the centre of world famous sacred Himalayas, which is one *yojana* wide and five *yojanas* long, where all were born."<sup>21</sup> *Rāmāyaṇa* of Vālmīki says that when men were born all were of one *varṇa* (class) and used one language.<sup>22</sup>

### THE NUCLEIC REGION PAMIR

We have already noted the nine segments of Jambudvīpa with the Ilāvṛitavarsh on Pamir in the centre. The human history, at least the early part of it is mostly centred around Ilā, the first dynast, and her descendents who are said to be the rulers of Ilāvṛtvarsha on Meru or Pamir. Without going into the details of the story of Ilā and Budha and the alternate change of her sex we note sites of some early happenings around the Meru or the Pamir region. The forest where Umā and Śiva were dallying when Sudyumna (the male Ilā) entered must have been situated somewhere near Meru. The *Matsyapurāṇa* calls it Śaravaṇa<sup>23</sup> while according to Vāyupurāka<sup>24</sup> its name was Umāvana. It assumes chronological significance when we

recall that Umā was the first consort of Śiva and, as the story goes, she had demolished herself during the sacrifice of her father Daksha.<sup>25</sup> In the next incarnation she was born as Pārvatī as the daughter of Parvatarāja Himavanta. Thus the story of Ilā must be the earlier episode when the Kailāsa on Himalayas became the abode of Śiva. The tradition relates that Meru was the first mountain to emerge and the Himalayas came later in the process. The historical tradition also relates that the kingdom of Ilā, known as Ilāvṛitavarsha, was situated on the Meru, i.e. Pamir; later called Kamboja by Pāṇini. It is important to note that the *Rāmāyaṇa* of Vālmīki knows Ilā as the king of Bāhlikā (Bāhliśvara and Bāhlikeśa), Balkha or Bactria.<sup>26</sup>

We know from the *Viṣṇupurāṇa*<sup>27</sup> about the nine *varshas* of Jambudvīpa with Ilāvṛitavarsha (on Meru or Pamir) in the centre. At present it is not possible to clearly demarcate the boundaries of these nine *varshas*, because the regions since then have undergone a number of political changes; but at the same time it is not difficult to roughly estimate their locality from the sequence given above.

It is also of no use to go into the names of the mountains and sub-mountains given in the *Purāṇas* because it is not possible to exactly locate them, but the names of at least two rivers are interesting. The west going river issuing from Meru (Pamir) was Chakshu (or Vakshu) that passes through Ketumālarvarsha to meet the (north) sea.<sup>28</sup> This is well identified with the river Oxus or Amu Darya. The river issued from Meru going northwards is named Bhadrā that passes through northern mountains and the Uttara-Kuruvarsha region to meet the North Sea.<sup>29</sup> This may possibly be identified with the Syr Darya. At present both the rivers fall in the Aral Sea.

It is also of little use here to relate the history of Ilā and her son Pūruvā and the following kings such as Āyu, Nhusha, Yayāti, Puru and his five brothers because it is well known and also is not of much relevance for our discussion here.

### A TRADE ROUTE THAT CONNECTED INDIA WITH EUROPE

In later historical period some Indian and Greek literary sources speak of a northern trade route called Uttara-Patha that connected eastern coast of India to Europe through Gandhāra and Bactria. This breaks the image of India projected by Western historians that India was a secluded region cut off from rest of the world.

### THE NORTHERN ROUTE

Agrawala, on the evidence of Pāṇini (V.1.77) notes "The Uttarapatha may be identified with the ancient highway from east India to Gandhāra and

thence towards farther west. The entire Grand Trunk Road within India and as far as the Oxus, was well known to the Greeks as 'Northern Route', a literal rendering of Uttarapatha.

Its Oxo-Caspian portion from India to the West by the Oxus and the Caspian is mentioned by Strabo (II. 73; XI. 509) and Pliny (Tarn, *The Greeks in Bactria and India*, p. 488, Appendix 14). 'Strabo, speaking of the Oxus, states (XI. 509) that it formed a link in an important chain along which Indian goods were carried to Europe by way of the Caspian and the Black Seas. He cites as one of his authorities Patrocles, who was an admiral in the service of Antiochus I, and thus makes it clear that the route was a popular one early in the 3rd century BC.' (*Cambridge History of India*, Vol. I, p. 433). Strabo also wrote that 'The Oxus is sufficiently navigable for the Indian trade to be carried across to it and to be easily beyond as far as the Black Sea by way of rivers.' (Tarn, op. cit., p. 489).<sup>30</sup>

This literary evidence of regular contact of Indians with the Oxus region and beyond up to Europe combined with the evidence of Puru/Kuru history in the region is helpful in interpreting the archaeological data provided by excavators and interpreters.

#### DĀSAS, DASYUS AND PAṆIS

In later Sanskrit literature Dāsas and Dasyus have different connotation but in the *R̥gveda* they are normally depicted as a people mentioned with the Aryas. It is prayed that Indra should equally punish both of these.<sup>31</sup> Our Western scholars, who initiated Vedic studies, have depicted them as black skinned aborigines as opposed to the fair complexioned Aryas.<sup>32</sup> They are said to be *anās* (noseless?) and *mṛidhra-vāch* (one who uses contemptuous or hostile speech). Dāsas and Dasyus are nowhere specifically called *śiśnadevāi*. Since the history of Ilā dynasty covers a broader geographical region let us quote here Zimmer and Meyer, and Hillebrandt as noted by the authors of the *Vedic Index*. It says that

Dāsa originally meant 'enemy' in general, later developing in Iran into the name of the Dahae of the Caspian steppes, and in India into a designation of the aborigines. On the other hand Hillebrandt argues that, as the Dāsas and the Paṇis are mentioned together, they must be deemed to be closely related tribes, identifying the Paṇis with the Parnians and the Dāsas of the *R̥gveda* with the Dahae.

This interpretation, when viewed in the light of the *R̥gvedic* dialogue between Saramā and Paṇis, widens the geographical horizon of the events and shifts us to the north of the Caspian Sea. It is noteworthy that the ṛṣis of

this hymn are 'Asura group of Paṇis' (पणि-असुर समूह) which is unusual. Some scholars have questioned this practice of Asuras being ṛṣis of a Vedic hymn.<sup>33</sup> I believe the venue of the dialogue was that region. There are reasons to believe the Dahae of Caspian steppe being the Ṛgvedic Dāsas because only in this light we can interpret the 'Sapta Puraî Śāradīya'<sup>34</sup> (as seven winter cities) fit for use in cold regions. These cities had 'ramparts' (*dehyaî*=smeared or plastered)<sup>35</sup> also. These features appear to be confirmed by archaeological remains as well. Very strong towns (like those made of iron) of the Dasyūs (*dasyūnpura āyasī*) are well known.<sup>36</sup>

### THE ARCHAEOLOGICAL EVIDENCE OF VEDIC CULTURE IN CENTRAL ASIA

Archaeologists have unearthed several sites in Central Asia to the north as well as to the south of the Caspian sea that reveal several features of Vedic culture (they call it Indo-'Aryan' and Indo-Iranian). These archaeological evidences have been interpreted in favour of Indo-European or Proto-Indo-European movements and presented as advancing towards India with their Vedic culture and that the early hymns of the *Ṛgveda* were composed in these areas. Now we can utilize the formation to confirm the history of Ilā and her descendents outlined above. This history explains the presence of the Vedic people in these regions. These archaeological sites are mostly cemeteries. It will be interesting to recall a passage from *Atharvaveda* for four types of funerals.

#### FOUR TYPES OF FUNERALS IN THE ATHARVAVEDA

The *Atharvaveda* gives following four types of funerals for the dead forefathers (*pityis*) who are called to receive *havi*.

ये निखाता ये परोप्ता ये दग्धा ये चोद्धिताः।

सर्वास्तानग्ने अवह पितध्न हविषे अत्तवे॥ अथर्व० काण्ड 181 सूक्त 21 मंत्र 34

Here *nikhātā* means those bodies that are buried under the earth, *paroptā* is used for the bodies immersed in the water, *dagdḥā* is for cremation and *uddhitā* means to leave the dead body for natural consumption. Here all the four categories of the forefathers are called to come and accept the *havi*. In archaeological excavations mostly the first category are met with. The *Ṛgveda* alludes to the burial after death and raising earth (or making *stūpa*) over it.<sup>37</sup> In many cases ashes are also associated with burials. Several objects are buried with the bodily remains or ashes. In India *stūpas* over the relics of the Buddha are well known.

Stūpas on the pit burials in the north Caspian region are called *kurgan*. Bryant notes

The Kurgan (Pit Grave) culture in the Pontic Caspian steppe (3500- 2800 BCE) evolved into the Hut Grave culture (2800-2000 BCE), which in turn was succeeded by the Timber Grave (Srubnaya) culture (2000-800 BCE) and the related Andronovo culture (1800-900 BCE), which covered an enormous area from south of the Urals, across Kazakhstan, and into southern Siberia.<sup>38</sup>

The most important feature of some of these burials is horse-drawn chariots. It is stated that in the early Andronovo burial site of Sintashta in the Kazakh steppes of the southern Urals ‘a chariot with spoked wheels’ was found which is dated to about 1700-1500 BCE.

“Anthony notes that horses were often sacrificed in the mortuary rites of the Sintashta culture, which he attempts to correlate with a hymn from the *R̥gveda* wherein a horse is offered to the gods. He specially draws attention to one burial that contained the corpse of a decapitated victim whose head had been replaced by that of a horse.<sup>39</sup>

In this he finds a parallel in the story of Dadhīchi (*R̥gveda* I. 116.12 and 84.13) in which Indra taught Madhuvidyā to Dadhīci and asked him not to teach any body otherwise his head will be cut off. But Aśvins replaced his head by that of a horse and compelled him to teach that science. On knowing this Indra beheaded Dadhīchi but in turn the Aśvins replaced his own head. Ed. Bryant’s comment is interesting when he says

Although, the context of this myth has nothing to do with burials or funeral rites, the attempt to correlate this story with the contents of a solitary grave does give some indication of the paucity of evidence available to archaeologists in the quest for the Indo-Aryans.

He is true to some extent but European scholars are apt to such parallelisms. However, horse sacrifice is not unknown to Indian literature but it is curious that in the Sintashta culture it is associated with the human sacrifice.

Some of these archaeological remains tend to show Vedic affiliations as gleaned by the original excavators and/or interpreters. There is nothing new here except that context has changed with the assumption of the presence of Vedic people in these regions and we do not perceive these people as the Indo-Europeans who migrated with their culture to India.

The Beshkent and Vakhsh cultures, mainly known from their cemeteries, are situated in southern Tajikistan. Litvinsky and others have called it Indo- Iranian. The Beshkent cemeteries have ritual hearths (*yajña-kunḍas*) built in the graves and the *swastikas* were used to mark the site. In the Vakhsh cemeteries funeral pyres were lit around the grave of a leader.

A scholar notes "The sacred fires of India hold the key ... the existence of round and square hearths/altars in ancient India ... is identical with the phenomenon we find at the sites in the West Pamirs." Edwin Bryant cannot be supported when he comments, "...the Indian hearths being referred to are the *gārhapatya* and *dakṣiṇa* fires, which are performed in sacrificial contexts that have nothing to do with burials."<sup>40</sup> It was Pūruṛavas who made three divisions of Agni, viz. *gārhapatya*, *āhavanīya* and *dakṣiṇa*.<sup>41</sup> The *R̥gveda* refers to oblations offered to Agni on funeral pyre.<sup>42</sup> Agni Jātavedas also is associated to the funeral rites.<sup>43</sup>

Some scholars see "a fusion of cultures between southern sedentary agriculturists from Bactria and Indo-Iranian steppe pastoralists from an Androvovo proto-type." Edwin Bryant informs "The original excavator of the site, Mandel'shtam, and more recent scholars such as Klejn have considered these graves to be of Indo-Aryans but unconnected to the Androvovo culture."<sup>44</sup>

The discovery of a pestle and mortar with a spout were found in the royal cemetery of Marlik in northern Iran has been interpreted as a *Śiva-līṅga* by Kurochkin. But it has been contested by the Europeanists on the plea that the *Śivalīṅgam* is "a pre-Indo-Aryan icon from India, which would have no connection with any hypothetical Indo-Aryans in northern Iran".<sup>45</sup> This is an 'age old' myth created by the Europeanists that *Śiva-līṅgam* is a 'pre-Indo-Aryan' having no archaeological or literary support. A terracotta *līṅga-cum-yoni* is reported from Kalibangan (Mature Hrappan)<sup>46</sup> and one whole chapter of *Yajurveda* is devoted to Śiva.<sup>47</sup> We may ignore such cursory remarks based on age old assumptions.

The other issue is about hand-made versus wheel-made pottery. Bryant notes

Those who do find reason to connect the trajectories of pottery with that of Indo-Aryans need to address one line of argument that will disqualify the Indo-Aryans from having any connection with wheel-made pottery at all. Wilhelm Rau has compiled the Vedic references to pottery from the oldest strands of the Black- Yajurveda and found that although the potter's wheel was known, it was hand made pottery that was prescribed for ritual sphere... Should this assumption be correct, 'we can pin down the transition from hand-made to wheel-made pottery, as far as the Aryans are concerned, (down) to the earliest phases of Vedic times?'<sup>48</sup>

All this exercise of Rau 'of compiling the Vedic references to pottery' and to use it as unfailing missile to 'disqualify the Indo-Aryans from having any connection with wheel-made pottery' misfires when we find that the relics of the Buddha were deposited in a wheel-made pot. Hand-made

pottery is used in rituals even today in India for that purpose only. Beautiful images of Durgā and other deities are made by hand and coloured to be immersed soon after the rites are over. Same is the case Vedic rituals where hand-made pottery has extremely short life. For cemeteries wheel-made pottery is not prohibited as we find in the famous Piprahva *stūpa* of the Buddha containing his relics in wheel-made pottery. Therefore there is nothing that prevents Indo-Aryans from associating them with wheel-made pottery.

The Kurgan Culture: Marijas Gimbutas, the greatest advocates of Kurgan culture of Uralic/ Volgan steppe region being homeland of the Indo-Europeans. Kurgan is a word used for barrow or *stūpa* in the Slavic. According to Marijas the Kurgan people were mounted warriors who first domesticated and used horse for martial purpose. They also knew about the wheeled chariot (*ratha*). She also perceives some gynocentric element in Kurgan culture. In the light of Ilā being the first dynast she may be right. The term *kurgan* itself reminds one of the Kuru people, the name that persisted in the memory for ancient graves. A parallel can be noticed in India also. *Stūpas* in the memory of the Buddha are well known. In the eastern Uttara Pradesh artificial *stūpas* are still raised in almost every village; not in memory of the Buddha but for local village deities. These are called 'thāna of Sammo-Māi' a transformation of the word 'samyak saṃBuddha'. Thus it is not entirely improbable if 'kurgan' be remnant of 'kuru-jan'. Incidentally there are two places named Kurgan on the map; one in Kazakhstan known as Taldy Kurgan and in the Russian Federation, called Kurgan. Here we are concerned with that in the Russian Federation.

Kurgan is a Pit Grave culture where horse and chariot (*ratha*) are special features. Besides Vedic and Purāṇik literature we have prehistoric paintings of spoke-wheel carts.

The Andronovo culture was scattered over a large area and pottery technique of which on many points 'are absolutely similar to those practised by the Vedic Aryans'. The other major distinction is the richness of the impressed decoration of the Andronovo pottery, whose geometrical designs include triangle, meander, *swastika*, lozenge and herringbone. Vedic pottery is supposed to be plain.<sup>49</sup> This again is a wishful supposition. There is no dearth of decorated pottery in Indus Valley Civilization which is now considered as coeval and identical with Vedic Civilization.<sup>50</sup>

The BMAC Culture: The plains of the river Oxus or Amu Darya, called Bactria and the adjoining oasis region on the mouth of Murghab River in the south Turkmania, called Margiana are jointly called 'Bactria and Margiana'.

Archaeological Complex (BMAC) on account of similarity of culture discovered during archaeological excavations. It was first excavated by V. Sarianidi and his colleagues. They consider the whole complex specifically Indo-Aryan. The ash pits found on raised platforms in a circular temple at the site called Dashley-3 is of special interest. At this site also was found a shrine inside the fortress with an altar near the wall which was suggested to be a ceremonial centre or temple. Similarly at the sites of Togolok-21 and Gonur-1 have been reported a variety of altars where at least in two of them are found on microscopic analysis signs of intoxicating herbs. Some stone pestles and grinding stones found on the sites also confirm the suggestion. At the Gonur site some vessels are reported to contain remains of herbs like cannabis, ephedrine and poppy as well as ceramic stands and sieves for filtration of pressed herbs. There were also noticed some fire altars or signs of fire on the walls of some rooms. These are interpreted in terms of Vedic sacrifices.

It has also been emphasized that the BMAC culture was an urban one with fortified towns with temple complexes. At the Gonur site the fortress occupies about twenty-two hectares while temple is in two hectares with up to about four metres thick walls. This really must have been an urban centre with some sort of political power with several characteristics special to the Vedic culture.

The Bactria Margiana Archaeological Complex culture is dated between 2100 BC and 1750 BC coeval with the Harappan Civilization. In geographical expansion it covers almost entire northern Afghanistan and parts of southern Turkmenistan. As we have noted above this region was under the influence of the Vedic Civilization since the very beginning there is no wonder if several Vedic traits are found there. No one can expect the whole complex to be identical with the Harappan in every respect. We must permit local variations in practices but the essence is Vedic. This is supported by the discovery of seals with religious motifs similar to those found in the Mitanni kingdom. For easy communication of the ideas we may also call the BMAC Indo-'Aryan' but during last two centuries this term has acquired some special connotation and is defamed. Asko Parpola's thesis of conflict of two cultures and the so-called Aryans having pushed the Dāsas into India who again attacked them and pushed further may be rejected in the light of above discussion.

#### NOTES AND REFERENCES

1. *Viṣṇupurāṇa*, 2. 2. 7, 13-14 and 24.
2. न द्व्यचः प्राच्यभरतेषु। IV. 2. 113.

3. V.S. Agrawala, *India as Known to Pāṇini*, revised and enlarged 1963, Varanasi, p. 9.
4. *Ibid.*, p. 59.
5. *Ibid.*, pp. 55-56.
6. See B.N. Mukherjee, *The Concept of India*, Calcutta, 1998, p. 18.
7. T.P. Verma, 'They Claim Indians, Not Invaders: Yavanas, Śaka-Pahlavas, Kushāṇas and Hūṇas', *Itihas Darpana* XIII (1): 2008, pp. 90-100.
8. Cf. *Viṣṇupurāṇa*, 2.1.22 where the *varsha* to the north of Śringavāna mountain (i.e. Meru or Pamir) was given to Kuru, the son of Āgnīdhra, grandson of Priyavrata and great grandson of Svāyambuva Manu.
9. See *Brahmapurāṇa*, 27.60-62b; *Matsyapurāṇa*, 114.53-54b, and *Vāmanapurāṇa*, 13. 54-55.
10. A.A. Macdonell and A.B. Keith, *Vedic Index*, I, p. 84.
11. *Ibid.*, p. 38.
12. V.S. Agrawala, *op. cit.*, pp. 49-50.
13. *Ṛgveda*, X. 17. 1-2 of which is Saranyū is the Devatā. The narration is found in H.H. Wilson's translation, edited by Ravi Prakasha 'Arya' and K.L. Joshi, Delhi, Vol. IV, p. 230.
14. The idea has been picked up from Edwin Bryant, p. 45.
15. Arnold J. Toynbee, *Mankind and Mother Earth*, New York, 1976, p. 22, quoted by B. Poddar's *Viśva kī Kāla-Yātra*, New Delhi, 2000, p. 208.
16. *Guide to Science*, Vol. 2; *The Biological Sciences* by Asimove, pp. 335-36, Penguin Books, 1979; quoted in B. Poddar's *Viśva kī Kāla-Yātra*, p. 202.
17. S.M. Mathur, *Physical Geology of India*, New Delhi, 2002, p. 16.
18. *Bhagavata Purāṇa*, 9.1.12 ff.
19. However, Manu begot nine sons besides Ilā whose names are: Ikshvāku, Nābhāga, Dhṛiṣṭa, Śaryāti, Narishyanta, Prāṁśu, Nābhāgodishṭa, Karusha and Prashdhra. See F.E. Pargiter, *Ancient Indian Historical Tradition*, 1922/1972, p. 84, fn, 2.
20. See Pargiter's *Table of Royal Genealogies* on pp. 144-45 to pp. 148-49.
21. हिमालयाभिधानोऽयं ख्यातो लोकेषु पावनः। अर्धयोजनविस्तारः पञ्चयोजनमायतः। परिमण्डलयोर्मध्ये मेरुरूत्तपर्वतः। ततः सर्वाः समुत्पन्ना वृत्त्यो द्विजसत्तमा। महाभारत ॥ quoted in *Vaidika Sampatti*, pp. 256-57.
22. अमरेन्द्रमया बुद्ध्या प्रजाः सृष्ट्यास्तथा प्रभो। एकरवर्णाः समाभाषा एकरूपाश्च सर्वशः॥ quoted in *Vaidika Sampatti*, p. 238.
23. *Matsya*, 11. 44-45.
24. *Vāyu*, 85. 27.
25. That the Dakshas were a northern people in Pāṇini's time, we have seen above in the description of Prof. V.S. Agrawala.
26. *Rāmāyaṇa*, VII. 87. 3 and 7.
27. *Viṣṇupurāṇa*, 2. 2. 16.
28. *Ibid.*, 2. 2. 37.
29. *Ibid.*, 2. 2. 38
30. V.S. Agrawala, *op. cit.*, p. 244.

31. *Ṛgveda* 34. 6; VI. 22. 10; 33.3; 50.6; VII. 83. 1; X. 38. 3; 69. 6, etc.
32. *Vedic Index*, I, pp. 356 ff.
33. See the article by Viśvanātha Vedalañkāra in *Vedavāñī*, Vol. IX, 1-2, Nov.-Dec. 1960, pp. 92-95.
34. *Ṛgveda* I. 131. 4; 174. 2; VI. 20. 10.
35. *Ṛgveda* VI. 47. 2.
36. *Ṛgveda* II. 20. 8.
37. *Ṛgveda*, X. 18. 10-13.
38. Edwin Bryant, *The Quest for the Origins of Vedic Culture*, Oxford, 2001, pp. 204-05.
39. *Ibid.*, p. 205.
40. *Ibid.*, p. 207.
41. *Viṣṇupurāṇa*, 4.6.78.
42. *Ṛgveda*, X. 14.13-15. Sūktas Nos. 15 and 16 also refer to Agni-saṃskāra to the dead.
43. *Ibid.*, X. 15. 12.
44. E. Bryant, *op. cit.*, p. 207.
45. *Ibid.*, p. 210.
46. B.B. Lal, *Sarasvatī Flows On: The Continuity of Indian Culture*, 2002, New Delhi, p. 118 and illustration No. 4.54.
47. *Yajurveda*, 16. 1-66.
48. *Ibid.*, p. 211.
49. *Ibid.*, p. 212.
50. See B.B. Lal's book *Sarasvatī Flows On: The Continuity of Indian Culture*, already referred. This work is as far the most authentic exposition on the subject. In the light of its findings most of books written by Western scholars at the close of the last century on the so-called 'Aryan' movements need revision.

# Mother Divinity: River Sarasvatī, Hindu Civilization Traditions and Metaphors Created by Ṛṣis and Artisans

S. Kalyanaraman

Hindu civilization has a unique metaphor: river as mother, river as divinity; Vedic river Sarasvatī as mother, as divinity. In many parts of India, the lingua franca phrase used for a river is: *nayi mā*, (mother river); in *Cāraṇa Sāhitya* (the songs of bards) of Rajasthan and northern India, the word used for a river is *ambā* (mother), evoking the Ṛgvedic phrase ‘ambitame’ (best of rivers). Ṛgveda also refers to river Sarasvatī in the following exquisite terms: *Sarasvatī saptathī sindhumātā* (Sarasvatī, the seventh, the mother river). The artisans of the civilization which was nurtured on the banks of the river depicted their life-activity of smithy through many metaphors derived from *mleccha* (meluhha) lingua franca in a linguistic area. A river is also depicted as a *kumbha* (sacred pot) as in *kumbhamela* held every 12 years in a confluence of Ganga, Yamuna and Sarasvatī rivers at Prayag.

A metaphor for Sarasvatī River is *kumbha*.



Fig. 1.

Fig. 1. Sarasvatī. The legend shown on Bhita sealing, together with a *ghaṭa*. Indian Museum, Calcutta, No. A. 11254-NS. 1958. The association of Sarasvatī with a *ghaṭa*, water-pot is significant and relates to river Sarasvatī.

An abiding tradition of Hindustan is the veneration of ancestors (*pitṛs*) by offering *pitṛ* and *māṭṛ-tarpaṇam* on newmoon days. Thus, on *Āṣāḍha amāvāsya* day over 5 lakh pilgrims visit Rama-Setu in the Hindumahāsāgara (Indian ocean) to offer *Setutirtham* and to offer the *tarpaṇam*

remembering and venerating the ancestors starting from Maryādā Puruṣottama Sri Rama with this *sankalpa*: *Sri rama rama rameti vyapohati na samśayah*. Just as Gaya on the banks of river Ganga is venerated as *pitr-gaya*; Pṛthūdaka (Pehoa) on the banks of river Sarasvatī is venerated as *mātr̥gaya*. Sri Balarama, the elder brother of Sri Krishna offers his homage at Pṛthūdaka during his *pariyātrā* from Dwaraka to Plakṣapraśravaṇa (the origin of river Sarasvatī in the Himalayan ranges at the foothills of Mt. Kailas, close to Manasarovar glaciers) – Rupin and Supin glaciers 20 km. north-west of Yamunotri.

The artisans of the civilization produced exquisite bronzes, apart from the well-known ‘dancing girl’ bronze sculpture.



Fig. 2.

Fig. 2. Bronze foot of a lady wearing a bronze anklet: Mohenjo-daro [After Fig. 5.11 in: D.P. Agrawal, 2000].

Fig. 3. The bronze statue of a woman wearing bangles and holding a small bowl in her right hand, Mohenjo-daro (DK 12728; Mackay, 1938: 274, pl. LXXIII, 9-11). The bronze statue was made using the lost-wax (cire perdue) technique which continues to be used even today in Swamimalai on the Kaveri River basin by Viśvakarma who make bronze



Fig. 3.

*mūrtis* – an extraordinary example of the continuity of metallurgical tradition which was evidenced in Sarasvatī Civilization. The statue evokes the later-day tradition of *pāvai-vilakku*, a lady carrying a lamp in her hand, as an offering to the supreme divine.

*Ṛgveda* Ṛṣi Ḡṛtsamada sees Sarasvatī in three forms: as a mother, as a river, and as a divinity, *ambitame*, *naditame*, *devitame*. The representation of female figure as a divinity continues in the days of Sarasvatī Civilization attested by many figurines and artefacts of the civilization.

The veneration of Sarasvatī as river and as *devi* occurs during *kumbhamela* which is held every 12 years at the confluence of Ganga-Yamuna-Sarasvatī at Prayagraj, Allahabad. This *mela* is the greatest pilgrimage on planet earth. The solar calendar of the month of *Māgha* (January-February), the newmoon day, and the planetary configurations when Jupiter is in Aries and both the Sun and the Moon are in Capricorn (*makara*) determine the days of sacred event. This *mela* is perhaps the world’s largest gathering of pilgrims with over 70 million

gathering here to take a dip in the sacred waters of the *Triveni sangamam* (confluence of three rivers). Sarasvatī *puja* is held twice a year, once on *Vaiśakha pūrṇima* day and again a day prior to *Vijayadaśami* day during *Navarātri*. The Kumbha has been mentioned as a holy place for the performance of rites for the ancestors (*Vāyu Purāṇa* II.15.47), a place on the bank of Sarasvatī, where a holy bath is believed to bestow the benefit of *yajna* (fire-sacrifice) performance, (*Naradīya Purāṇa* II. 65.100). For Ganga, the most important *sangamam* points are at Haridwar, Prayag and the Gangasagar (*Matsya Purāṇa* 105-154; *Padma Purāṇa* III.43.546-555; *Brahmāṇḍa Purāṇa*, 77. 3). The cultural memory of Vedic river Sarasvatī is so intense and abiding that this is carried forward in the Ganga River basin as people move into this basin as the gradual desiccation of river Sarasvatī occurs between 2500 to 1900 BCE. The metaphor of *kumbha* is from the cultural memory of *samudramanthanam*, the churning of the ocean for aquatic riches. This indeed is a metaphor for a maritime-riverine civilization of the *pitṛs* (ancestors) of many Bhāratiyas.

*Skanda Purāṇa* describes the course of the Sarasvatī River. Sarasvatī issues from the water-pot of Brahmā (1.ii.56.13; 3.ii.25.1-7, 10-16, hence called *Brahmaṇahsutā*: 3.ii.25.7) and flows on a downward course from Plakṣa (7.1.33.40-41) on the Himalayas. At Kedāra, she turns west (*paścimābhimukhī*) and conceals herself underground (7.i.35.25,26). Beyond Pāpabhūmi, she reaches Gandharvakūpa and flows further on a westward course (7.i.26,27). Traversing through Bhūtīśvara and Rudrakoṭi before reaching Śrikanṭha deśa (7.i.35,29-31; with its capital Sthāneśvara or Thanesar near Kurukṣetra), she reaches Kurukṣetra and flows on through Virāṭanagara, Gopīyanagari (near Virāṭanagara) and Devikṣetra, before reaching Paścima deśa (7.i.36.52). She then traverses the Kharjurīvana (where she is called Nandā), Mārkaṇḍāśrama, Arbudāraṇya, Vaṭavana, Vamśastamba, Kākatīrtha, Dhāreśvara, Puṇḍarīka, Mātrīrtha, Anaraka, Sangameśvara, Koṭīśvara and Siddheśvara. She joins the Paścima Sāgara. (7.i.35.32-51). She is called Prācī Sarasvatī (5.i.57.31), Sāvitrī and Vedamātā (5.iii.3.10). As Vedamāta, she is the very personification of the Vedic culture. She is *Brāhmī mūrtih*, the incarnation of Brahmā and hence, sacred (5.iii.9.47). (A.B.L. Awasthi, 1965, *Studies in Skanda Purāṇa*, Pt. I, Lucknow, Kailash Prakashan, pp. 153-154).

Presiding deity of Vidyā-mandira established by Bhoja, the ruler of Paramāra dyanasty of Dhārā, Mālawa (who reigned from AD 1018-10060. The king is said to have founded a Sanskrit College within the temple dedicated to Sarasvatī). Now displayed as Stuart Bridge Collection (No.84); British Museum (Fig. 4). Paramāra, AD 1034 with a late nāgari inscription.



Fig. 4.

She is standing in *tribhanga* pose, is bejewelled; has four arms; a garland is held in her left upper hand and a manuscript is held in her left lower hand. Five *jīnas* are carved seated on the upper part of the black slab; an apparent indication that the image depicts the Jaina divinity of learning. On the base are two female attendants and a squatting worshipper on either side; to the right, a male and to the left, a female, perhaps representing the donors. The base of the image has an inscription in *nāgari* mentioning that it was made by the sculptor Manthala in AD 1034. She is stated to be the protectress of the sixth Tīrthānkara Padmaprabha. The eight anklets worn on her two ankles are reminiscent of the anklets worn by the bronze image unearthed in Mohenjo-daro dated ca. 2750 BC.

### VĀK IS SARASVATĪ

*Gopatha Brāhmaṇa* (2.20) states that worship of Sarasvatī pleases Vāk, because Vāk is Sarasvatī: *atha yat Sarasvatīm yajati, vāg vai Sarasvatī vācam eva tena pṛīṇāti*. The very institution of the *yajña* itself which is identified with the divinities is also identified with Vāk [TB 1.3.4.5: *atho prajāpatāv eva yajñam pratiṣṭhāpayati prajāpatir hi vāk*; TB 16.5.16: *vāg vai sarasvatī vāg vairūpam vairūpam eva smai tayā yunakti*; Sāyaṇa's commentary: *Vāk śabdātīkā hi sarasvatī vairūpañca vāksamatutam*; Sarasvatī is speech in the form of sound (*śabda* or *dhvani*); the word 'rūpam' suggests a number of forms of speech; *vairūpam* is the object denoted by speech]. *Śatapatha Brāhmaṇa* states that Sarasvatī is speech and speech itself is sacrifice (*ŚB* 3.1.4.9,14). Sarasvān is identified with mind and Sarasvatī with Vāk. (*sārasvatau tvo tsau pṛvātām iti mano vai sarasvān vāk sarasvaty etau*: (*ŚB* 7.5.1.31; 11.2.4.9, 6.3). Sarasvatī is *pāvīravā* (*RV* 2.1.11; *AB* 3.37); this is interpreted as *śodhayitrī* or as purifying; or, as sound created by a spear or lance (*pāvīra*) or Indra's thunderbolt (*pāvīravi* = *āyudhavatī*). Sarasvatī's connection with the mind and the cow (beneficial yield) led her giving full inspiration (*dhī*) to compose hymns, and, consequently, she became the divinity of wisdom (J. Gonda, *Pūṣan and Sarasvatī*, p. 10; Book Review, *JRAS*, 1986, no. 1, pp. 120-21). In the *Brahmāṇḍa Purāṇa* (4.7.27), Sarasvatī is described as one of the nine *mātṛkas* accompanying Lalitā in her fight with Bhaṇḍāsura.

Fig. 5. Nausharo: female figurine. Period 1B, 2800-2600 BCE. 11.6 x 30.9 cm. (After Fig. 2.19, Kenoyer, 1998). Red paint showing *sindhur* at the parting of the hair; hair painted black; necklaces painted golden.



Fig. 5a.



Fig. 5b.



Fig. 5c.

A journalist was sent by Romila to ask Prof. B.B. Lal: "You have shown the *gudiya* painted to show *sindhur* at the parting of the hair. It appears that the *gudiya* are Hindutva forgeries." B.B. Lal replied: "The excavator was a French archaeologist, Jean Paul Jarrige. The workers who discovered the *gudiya* were Pakistani workers at Nausharo. I don't think they are Hindu. Accept the fact that the *gudiya* show the continuity of Bharatiya Samskruti for the last 4500 years."

Fig. 6. A figurine from Mehrgarh, ca. 3000 BC. (Musée Guimet, Paris).

Fig. 7. Mehrgarh figurine. <http://www.razarumi.com/documents-archive/story-of-a-painting-mehrgarh-indus-and-ghalib/> [Kabul Museum: Gallery B, #1](http://www.kabulmuseum.com/gallery/B_#1) [http://www.mythinglinks.org/eurasia\\_Afghanistan2.html](http://www.mythinglinks.org/eurasia_Afghanistan2.html). [http://upload.wikimedia.org/wikipedia/en/thumb/c/c4/Mehrgarh\\_figurine3000bce.jpg/180px-Mehrgarh\\_figurine3000bce.jpg](http://upload.wikimedia.org/wikipedia/en/thumb/c/c4/Mehrgarh_figurine3000bce.jpg/180px-Mehrgarh_figurine3000bce.jpg).

Fig. 8. River divinity from Begram. Ivory. 47 cm. tall. Kabul Museum. [http://www.mythinglinks.org/eurasia\\_Afghanistan2.html](http://www.mythinglinks.org/eurasia_Afghanistan2.html)



Fig. 6.

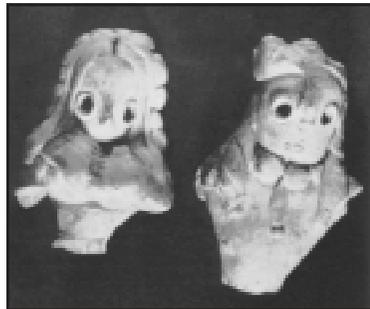


Fig. 7.



Fig. 8.

Fig. 9. Mother divinity. Zhob, Baluchistan.

Fig. 10. Mohenjo-daro. Divinity figurines. Mother divinity (fertility divinity), derived from the Indus Valley tradition, terracotta, Sar Dheri, Gandhara, 1st century BCE. <http://en.wikipedia.org/wiki/User:PHG>.

Fig. 11. Mother divinity figurines, right, from Mundigak, left, from Deh Morasi Ghundai, 3rd millennium BC (h. 5cm) <http://www.afghanan.net/afghanistan/prehistory.htm>.

Most of the raw materials used by the Harappan Civilization were available from not-too-distant sources: copper from Rajasthan, semiprecious stones from the region of the Narmada River and Badakhshan. Farther afield, gold may have come from the south of the peninsula; but as yet little research has been done on the nature of intra-Indian trade at this time. To the west of the Indus Plain, villages such as those revealed at Kulli and Nindowari continued to experience 'Indianization', though they retained their individuality, and may still have played a role in the diminishing overland trade. But the height of the civilization brings maritime commerce briefly into its own, as the fortified outpost at Sutkagen Dor on the Makran Coast shows. (Lothal in Saurashtra has frequently been cited as a port; but, since technical considerations precluded the large basin there [plate II.4, fig. 8] having served as a dock-yard, this identification lacks evidence.)

Fig. 12. Figurines from Kulli culture. [http://sambali.blogspot.com/2005\\_01\\_10\\_sambali\\_archive.html](http://sambali.blogspot.com/2005_01_10_sambali_archive.html). Were such votive figurines kept in shrines? D. Bharadwaj, 1998. 'Investigating the archaeology of female figurines in north-west India (up to 200 BC)', M.Phil. dissertation. University of Delhi, p.34. See also: 'Exploring the Archaeology of Hinduism', author(s): Nayanjot Lahiri and Elisabeth A. Bacus. Source: *World Archaeology*, Vol. 36, No. 3. *The Archaeology of Hinduism* (Sep., 2004), pp. 313-325. Published by: Taylor & Francis, Ltd. <http://www.jstor.org/stable/4128334>.



Fig. 9.



Fig. 10.

(Source: Schwartzberg Atlas, II.3) 'The cities of the Harappan Civilization' (Fig. 13) at this time represented the eastern limits of a Persian Gulf (Fig. 14) ecumene that also included southern Mesopotamia and Iran. But Indian bottoms reached the farther western shores only



Fig. 11a.



Fig. 11b.



Fig. 11c.



Fig. 11d.

irregularly, if at all; for at the close of the 3d millennium BC. Oman and Bahrein (the 'Dilmun' of the Sumerians), achieved their greatest development as emporia. A vessel setting sail from a port of the Harappan Civilization is likely to have gone no farther than one or the other of these centres, from which their cargoes were then trans-shipped. Seals from the Persian Gulf trading centres faithfully reflect this intermediary role, for their quite distinctive appearance is the result of a skilful blend of both Mesopotamian and South Asian elements.

The mechanics of trade within the ecumene are problematic. The overland aspect seems to have involved the transport of crude and semiprecious stones, carried perhaps in donkey caravans or, more simply, by porters. (Camel remains have been identified at Mohenjo-daro, but it is doubtful that this animal was yet domesticated.) The sketchy evidence for shipping shows only country craft. Whatever more seaworthy vessels there may have been would have been confined to coasting, for the sailor's challenge to the open seas in this region came some fifteen centuries later. The bulkier articles of trade were more profitably sent by sea than by land. The cities probably imported woolens in exchange for cotton by that route. Maritime contacts were short-lived, however; by the 19th century BC they came to a close as a result of dislocations in the west brought about by the movement of Indo-European speaking peoples from Central Asia (*Schwartzberg Atlas*, V., p. 158).

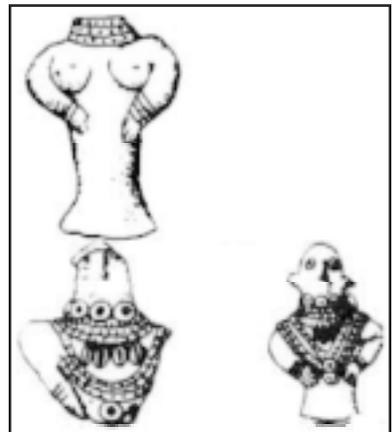


Fig. 12.

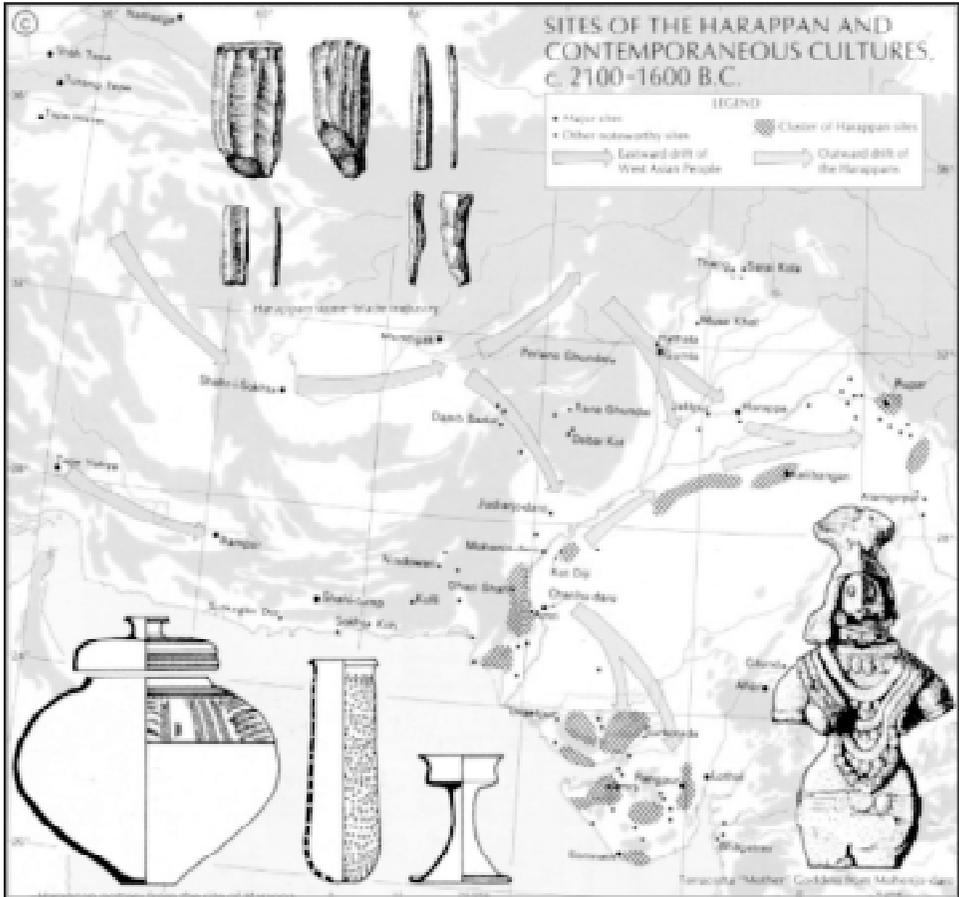


Fig. 13.

Culture de Nindowari. Cf: Les cités oubliées de l'Indus : Archeologie du Pakistan. Musée National des Arts Asiatiques - Guimet, 1988. pp. 91-92. Statuette masculine. h. 10 cm. 2300 - 2000 BC (see Fig. 17). Torse de statuette féminine h. 6,5 cm. 2300 - 2000 BC.

Fig. 15. Statuette féminine. h. 5,5 cm. 2300 - 2000 BC.

<http://www.aoarts.com/asia/indus/indus.html>.

Fig. 16. An Indus Valley clay figurine in the form of a female deity. Nindowari Item Code: x164 Description: An Indus Valley clay figurine in the form of a female deity. Origin: Kulli phase, ca. 2300-2000 BC. Nindowari culture. Dimensions: Height: 83 mm <http://www.bcgalleries.com.au/antiquities/viewItem/x164>.

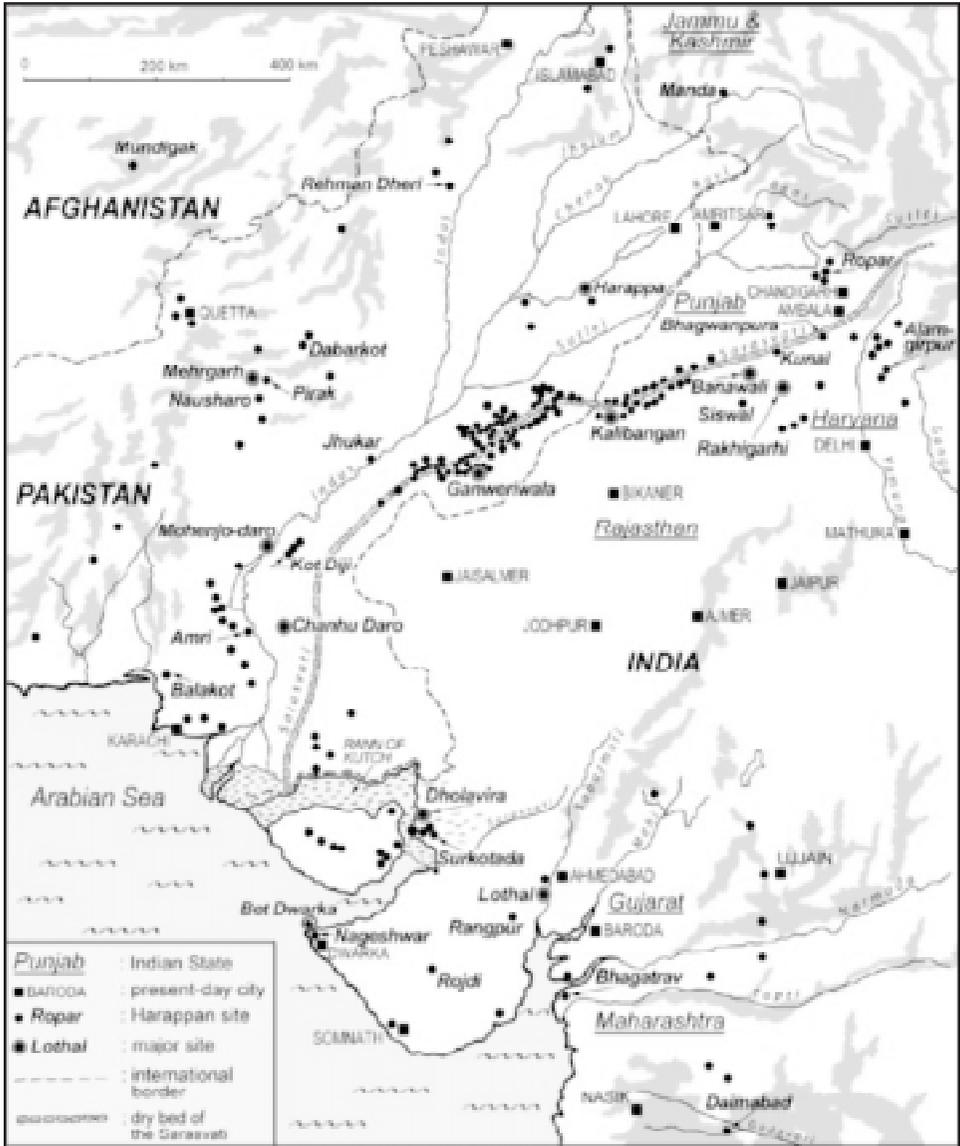


Fig. 14.

Jiroft object on the right shows a woman ligatured to a scorpion with dotted circles. Bicā ‘scorpion’ (A.) Rebus: *bali bica* ‘iron sand ore’ (Mu.).

Kudurru (boundary stone) marking of Nebuchadnezzar I (1126-1050 BCE), marking the king’s land grant to Ritti-Marduk for military service in the inscription (not shown) (Fig. 18). The symbols appear in six registers. The first register is the eight-pointed star of Ishtar, the crescent of Sin and

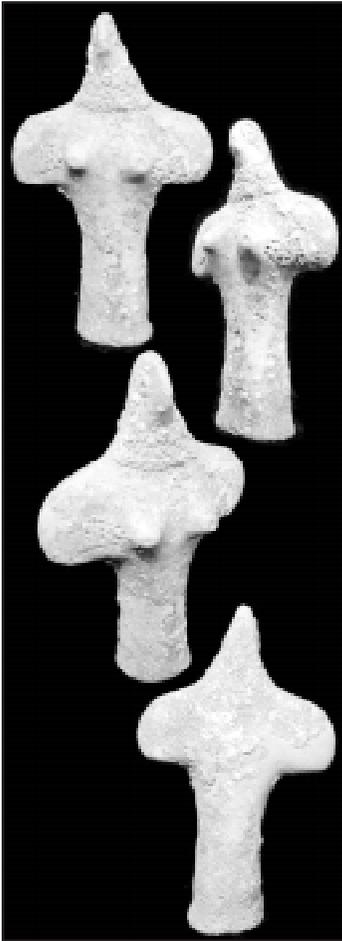


Fig. 15.

the sun-disk of Shamash. The second register represents the shrines of Anu, Enlil, and Ea. The third register consists of serpent daises upon which are the hoe of Marduk, the wedge of Nabu, and an unidentified symbol. The fourth register includes an eagle-headed scepter, a double-lion-headed mace, a horse's head on a double base with an arch, and a bird on a rod. The fifth register shows the Goddess Gula seated on a throne, with a dog (her symbol) lying beside her, and a scorpion-man, with the legs and feet of a bird, holding a bow and arrow. The last register includes double lightning forks supported by a bull (*adad*), a tortoise, a scorpion, and a lamp on a pedestal (the symbol of Nusku, the god of light). A snake twists along the side of the Kudurru. Ht. 56 cm. London, British Museum (After the notes in: Karen Rhea Nemet-Nejat, 1998, *Daily life in Ancient Mesopotamia*, London, Greenwood Press, p. 262). The 'star' sign denoted AN, sky god and also was the cuneiform sign to represent the word and syllable: AN. Many of these logographs are found among the Harappan glyphs. It is notable that the pictorial motifs are associated with weapons.



m0582At



m0582Bt



Fig. 16.

Many copper plate epigraphs of Sarasvatī Civilization also depict an archer.

Explaining the imaging of scorpion-man.

*Bica*-scorpion. Rebus: *bica* 'iron sand ore' (Mundari).

*kāmaṭhiyo* a bowman; an archer (Skt.lex.); *kāmṭhi*, *kāmaṭhum* [Skt. *kamaṭha* a tortoise, a bamboo] a bow (G.lex.) Rebus: *kamaṭa* = a

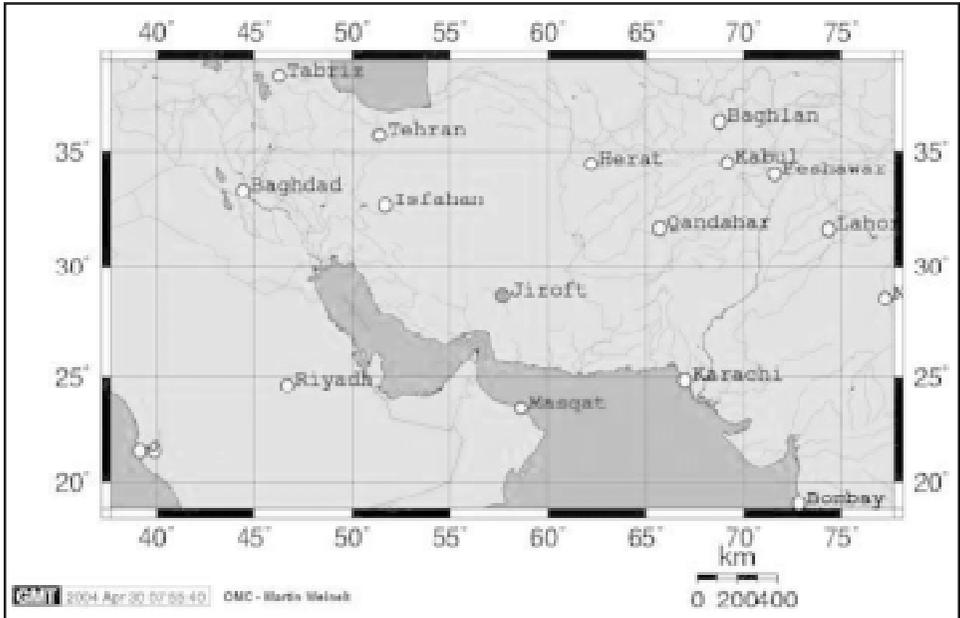


Fig. 17.



Fig. 18.

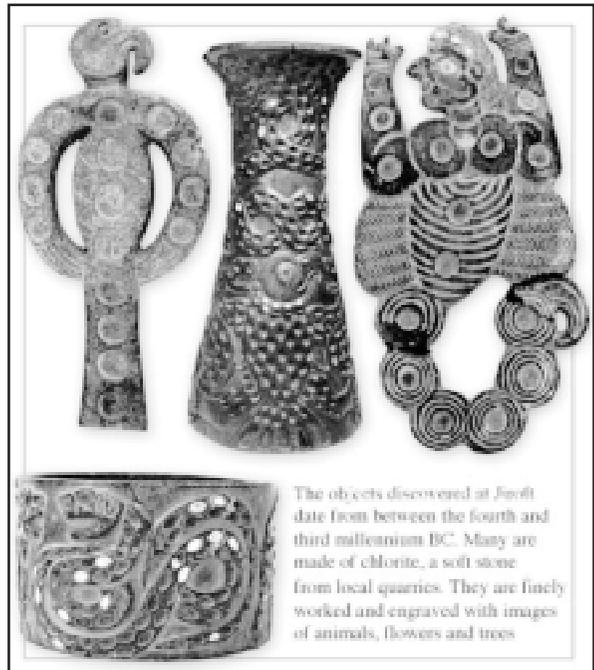


Fig. 19.

portable furnace for melting precious metals (Te.); *kamaṭhāyo* = a learned carpenter or mason, working on scientific principles (G.); *kammaṭṭiḍu* = a goldsmith, a silversmith (Te.); *kampaṭṭam* = mint (Ta.); *baṭa* = paddy bird (Telugu); *baṭa* 'quail' (Santali). Rebus: *baṭa* 'furnace' *baṭhi* = smelting furnace (Hindi Santali); *bhrāṣṭra* id (Sanskrit); *kuṭi* 'tree'; *kuṭhāra* (Skt.); *kuṭhi* = the pubes (lower down than paṇḍe) (Santali.lex.) *bicā* 'scorpion' (A.)

Fig. 20. Cylinder-seal impression from Ur showing a squatting female. L. Legrain, 1936, Ur excavations, Vol. 3, *Archaic Seal Impressions*.

Fig. 21. Terracotta vase painted with a frieze of humpbacked bulls and vegetal motifs. From Harappa, Indus Valley, Nindowari culture, 2300-2000 BC. In good condition with a minor repair and a small chip. H:12cm. Diameter: 14cm. <http://www.trocadero.com/xanthos/items/690183item690183store.html#item>.

In these images, the bull is *bail*, *baṭivarda* (Skt.); rebus: *bali*, *bali*, *bica* 'iron sand ore'. The ficus leaves are 'loa' (Santali); rebus: *loha* 'metal'.

Pleiades are *Saptamātruka* (seven mothers) in the Hindu tradition.

*Bahulā* 'pleiades' (Skt.); *bagalā* 'name of a certain female divinity' (Te.). Rebus: *bagarao* 'adj. mixture of different varieties' (Mu.); *bagadaḥvum* 'to be adulterated' (G.) [alloy?]; *bangala* 'chafing dish, a goldsmith's portable furnace' (Te.).

The six or seven ladies on an Indus seal. A seal from Mohenjo-daro, excavation number DK 6847, now in the National Museum of Pakistan, Karachi. Copyrighted photo by the Department of Archaeology and Museums, Government of Pakistan (Figs. 22, 23).

A seal from Mohenjo-daro, excavation number HR 4161, now in the National Museum of India, New Delhi (Fig. 23).

On one side of this moulded tablet found at Harappa, a woman is shown holding back two jackals (tigers?) (Fig. 24).



Fig. 20.



Fig. 21.



Fig. 22.



Fig. 23.



Fig. 24.

m0308AC Pict-105: Person grappling with two tigers standing on either side of him and rearing on their hindlegs. ✠ ✧ ׀ ׀ 2075 [The third sign from left may be a stylized ‘standard device’?] (Fig. 25).

In the mid 1980s CE, Ruth Hestrin, a curator at the Israel Museum, Jerusalem, pointed out, after examining a ceremonial vase excavated in Lachish, that in Israelite iconography *both the tree and the downward-pointing triangle* are not just symbols of, *but are literally interchangeable with, the Divinity Asherah*. Many Israelite artefacts show either a tree or a downward-pointing triangle with two lions (or other animals) on either side. These were understood by the Israelites as being the Divinity Asherah (‘the Lion Lady’) accompanied by her animals.

[http://medusacoils.blogspot.com/2007\\_04\\_01\\_archive.html](http://medusacoils.blogspot.com/2007_04_01_archive.html) (Fig. 26).



Fig. 25.

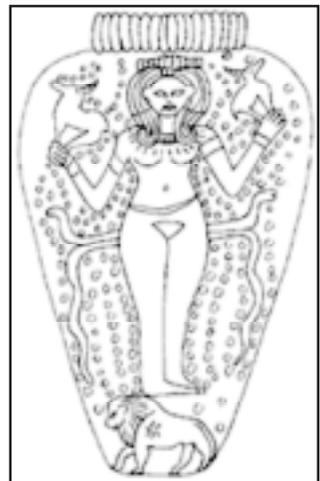


Fig. 26.

A ligatured tiger (ligaturing a woman to a tiger) is a 'rosetta stone' which unravels a Sarasvatī hieroglyph which can be explained in relation to a smithy.

Fig. 27. A terracotta object combining human and animal features was discovered at Harappa. <http://www.harappa.com/indus/88.html>.

This slide shows a seated left is a seated animal figurine with female head. Kenoyer comments:

The manner of sitting suggests that this may be a feline, and a hole in the base indicates that it would have been raised on a stick as a standard or puppet. The head is identical to those seen on female figurines with a fan shaped headdress and two cup shaped side pieces. The choker with pendant beads is also common on female figurines.

Material: terra cotta. Dimensions: 7.1 cm height, 4.8 cm length, 3.5 cm width Harappa, 2384 Harappa Museum, HM 2082 Vats 1940: 300, pl. LXXVII, 67.

Tiger glyph is ligatured to a woman's body and also to the face of an eagle (Fig. 29). Both ligatured glyphs are hieroglyphs of *mleccha*. Both constitute 'rosetta stones' of *mleccha* to help decipher the Indus script composed of Sarasvatī hieroglyphs. Kola, kolum 'jackal' (G.); *vikalpa* glyphs: *kola* 'woman' (Nahali); *kolā* 'flying fish' (Ta.). Rebus: *kolla* 'furnace' (Te.); *kola* 'pancaloha or alloy of five metals' (Tamil); *kolame*, *kolme* 'smithy' (Ka.).

When a smith, Viśvakarma has to be denoted, the glyph is tiger turning its head backwards. The rebus word is: *krammara* 'turn one's head back' (Telugu); rebus: *kamar* 'smith' (Santali); *karmāra* (Vedic). Thus, the message conveyed by the glyph is: *kol* 'pancaloha, alloy of five metals'; *kamar* 'smith' (Santali); that is, *pañcaloha kammara* meaning: 'metal-alloy-smith'.

Fig. 28. Inscribed objects from Harappa 2000-2001 (Jonathan Mark Kenoyer and Richard H. Meadow). Slide 185; Molded terracotta tablet



Fig. 27.



Fig. 28.



Fig. 29.

(H2001-5075/2922-01) with a narrative scene of a man in a tree with a tiger looking back over its shoulder.



m0310AC

UAK

1355 *krammara* = to turn, return (Telugu);

*krammarilu*, *krammarillu*, *krammarabaḍu* = to turn, return, to go back; *krammaru* = again; *krammarincu* = to turn or send back (Telugu); *kramaṇa* = act of walking or going (Gujarati); *karma* = step, series (AV); *kramēṇa* by degrees (Ramayana); *kama* = step, way (Pali); foot, series (Pkt.); *-krem in oi-n-krem* and *ū-krem* = upper and lower teeth (Wg.); *krem* = the back (Khotanese) (CDIAL 2776); *parikamā* = behind the shoulder (Ash.) (CDIAL 7799); *kamak* = back (Sang.); *com* = back of an animal (Shgh.); *kama* = neck (Yghn.) (CDIAL 14356).

Another rebus word is: *pasra* 'smithy'. *Pasra* = a smithy, a place where a blacksmith works; to do a blacksmith's work; *kamar pasrat hene sen akantalea* = our man has gone to the smithy; *pasrao lagao* (or *ehop*) *akata* = he (the blacksmith) has started his work (Santali); *pasra* (Mundari) (Santali.lex.Bodding); *pasra*, *pasāra* (Sad.; or. *pasrā*, a blacksmith's implements) = a blacksmith's forge; the place where a brazier (*ṭeṭera*, *malara*) makes his bowls, armlets; *ne pāl ṭapuakana pasarate idime* = this ploughshare is blunt, take it to the smithy; the set of a blacksmith working in his forge; *pasrao* = of the blacksmith's work in the forge; *panasra* = the length of a blacksmith's work in the forge; *pasraili* = rice beer offered for sale; *pasra mered*, *pasāra mered* = syn. of *koṭe mered* = forged iron, in contrast to *dul mered*, cast iron (Mundari.lex.)

*Pañjāva*, *pañjāvā* = brick kiln (P.); *pāñjā* kiln (B.); *pajāvo* (G.) (CDIAL 7686); *payān* = potter's kiln (B.) (CDIAL 8023); *pajāvo* = a kiln; cf. *pacāvavum*, to digest in the stomach (G.lex.); *pācarai* = *pāṭi vīṭu*, i.e. town house or army house (*Puranā*.)

Thus, when a group of animals is represented as a composite pictorial motifs, the intention is to depict a smithy, while individual animals relate to specific property items of the smithy: furnace types, minerals, metals or alloys.

A smithy or a kiln could also be depicted by the following glyphs and read rebus: The ligature on the Nal pot ca. 2800 BCE (Baluchistan: first settlement in southeastern Baluchistan was in the 4th millennium BCE) is extraordinary: an eagle's head is ligatured to the body of a tiger. In BMAC area, the 'eagle' is a recurrent motif on seals. Ute Franke-Vogt:

Different pottery styles link this area also to central and northern Balochistan, and after about 2900/2800 BCE to southern Sindh where, at this time, the Indus Civilization took shape. The Nal pottery with its particular geometric and figurative patterns painted in blue, yellow, red and turquoise after firing is among the earliest and most dominant styles in the south.



Fig. 30.

Another metaphor for depicting a blacksmith is: *kaulo mengro* 'blacksmith' (Gypsy) pictured in aglyptic ligature: alligator + fish (*mangar* + *kola*) (Fig. 30).

*Pajhar* = the Indian tawny, the Indian black eagle, the Indian crested hawk; eagle, *buru pajhar*, the hill-eagle, *aquila imperialis*; *hako saṭi pajhar* = a fish-eating eagle (also called *dak pajhar*); *huru pajhar* = the imperial eagle (Santali .lex.); *panji-il* = a certain feather in each wing of a vulture (Mundari .lex.). [See the hieroglyph of an eagle ligatured to a tiger on a Nal pot. *Kol* is *pañcaloha*, alloy of five metals (Tamil); *kollan* 'smith' (Tamil); rebus *kol* 'tiger' (Santali)].

*Pajhar* = to sprout from a root; *pagra* = a cutting of sugarcane used for planting (Santali .lex.).



Fig. 31a.

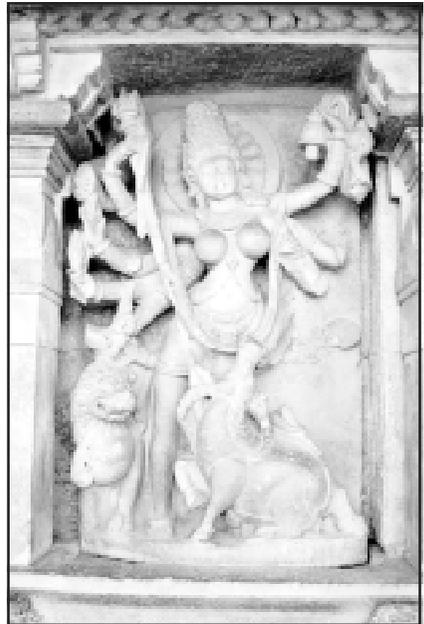


Fig. 31b.

The early metaphors relating woman (*kola*) to a furnace (*kolla*) or tiger (*kola*) to a smithy (*pasra*) results in a remarkable word kole.l which means “temple in Kota village”(Kota ); *kwalal* = Kota smithy (To.); kole.l = smithy (Kota). The smiths, the artisans, of the viśvakarma tradition have identified a smithy as a temple. This may explain why the early *mūrtis* of Durga, the mother divinity, gets depicted with many metallic weapons (from the smithy).

Fig. 31. Divinity Durga killing the buffalo demon, Mahiṣa (Mahiṣasuramardini), Pala period, 12th century, Bangladesh or India, Argillite (1993.7). The objects in her left hands are a shield, bow, bell, mirror, and noose. Durga has just severed the buffalo’s head with her many weapons.

Mahishasuramardini at Aihole. [http://www.metmuseum.org/toah/hi/hi\\_rehi.htm](http://www.metmuseum.org/toah/hi/hi_rehi.htm) <http://www.flickr.com/photos/avrajyoti/785947828/in/set-72157600580484458/>

Durga carries the following weapons on many sculptures:

*cakra* (disc), *pāśa* (noose), *ankuśa*, bow, arrow, *mūśala* (club), *śakti* (spear), axe, *khetaka*, *vajra*, staff or sceptre (*yakṣam*), *bhusundī* (missile), *mudgara*. Her hands may also carry a flag, a lotus, a plough, a mirror, a *kamaṇḍalu* (water-pot), honey-cup, rosary (*akṣamālā*).

When depicted with only two hands, one of the hands may hold a *śūla* or *pāśa* weapon.

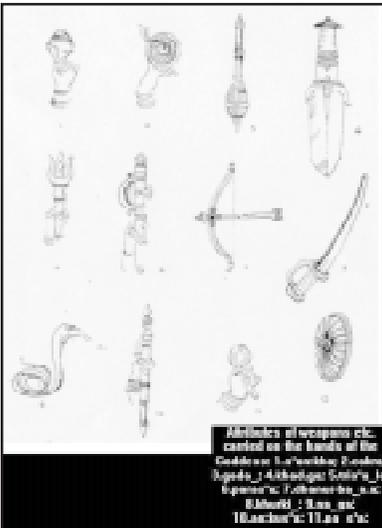


Plate X [c]. Liṅgam in situ in Trench Ai (MS Vats, 1940, *Excavations at Harappa*, Vol. II, Calcutta) (Fig. 32).

Śiva liṅga found at Harappa is shaped like the summit of Mt. Kailas (Fig. 33).

Śankha, *turbinella pyrum* a signature tune of Hindu Civilization; a species which occurs only in Hindumahāsāgar coastline.

Śankha wide bangle in a woman's burial

Śankha kṛśāna (*R̥gveda*, *Atharvaveda*) – śankha (bowman), śankha (cutter).

A continuing, 8500 year-old industry.

At Tiruchendur (Kiz̄akkurai, Gulf of Mannar), WB Handicrafts Dev. Corp'n. has an office; annual turnover of śankha obtained: Rs. 50 crores.

Fig. 35. Burial ornaments made of shell and stone disc beads, and *turbinella pyrum* (sacred conch, śankha) bangle, Tomb MR3T.21, Mehrgarh, Period 1A, ca. 6500 BCE. The nearest source for this shell is Makran coast near Karachi, 500 km. South [After Fig. 2.10 in Kenoyer, 1998].

Fig. 36. *Turbinella pyrum* shell bangle manufacturing process [a to f]: preliminary chipping and removal of internal *columella*; [g to k]: sawing shell circlets; [l to n]: finishing the shell blank; [o]: final incising [After Fig. 5.23 in Kenoyer, 1998].

Yībhīh kṛśānam asane duvasyathām javam yābhir yūnām arvanam āvatam madhupriyam bharathā yat suraḍbhyaś tābhirū ṣu ūtibhir āśvanā gatam (RV 1.112.21). With those aids by which you defended Kṛśānu in battle, with which you succoured the horse of the young Purukutsa in speed, and by which you deliver the pleasant honey to the bees; with them, Aśvins, come willingly hither. [Kṛśānu are somapālas, vendors or providers of Soma; *hastā-suhastā- Kṛśānavah, te vah somakrayaṇah* (*Taittirīya Samhitā* 1.2.7); Kṛśānu = agni; Purukutsa was the son of Mandhātā and husband of Narmadā, the river; the text has only 'of the young', Purukutsa is added].



Fig. 32.



Fig. 33.



Fig. 34.

*śankhah kṛśānah* = pearl shell won from the ocean and worn as an amulet (AV 4.10.1). It is amazing that the *śankha*-cutters are the *Soma*-buyers as noted by *Taittirīya S.* – the sea-faring merchants of Meluhha.

Fig. 34. A skilled sawyer and shells ready for sawing, Calcutta.

The continuing traditions of *śankha*, veneration of female divinity and use of the same word, *kole.l* for a smithy and also a temple, may perhaps explain the sculptural depiction of *mūrtis* with many metallic weapons coming out of a smithy. The weapons themselves assume divine dimensions in an *āyudhapuruṣa* in Hindu traditions. Durga as *Mahiṣāsramardini* gets depicted with multiple arms carrying many

metallic weapons from the smithy, the temple: *kole.l*

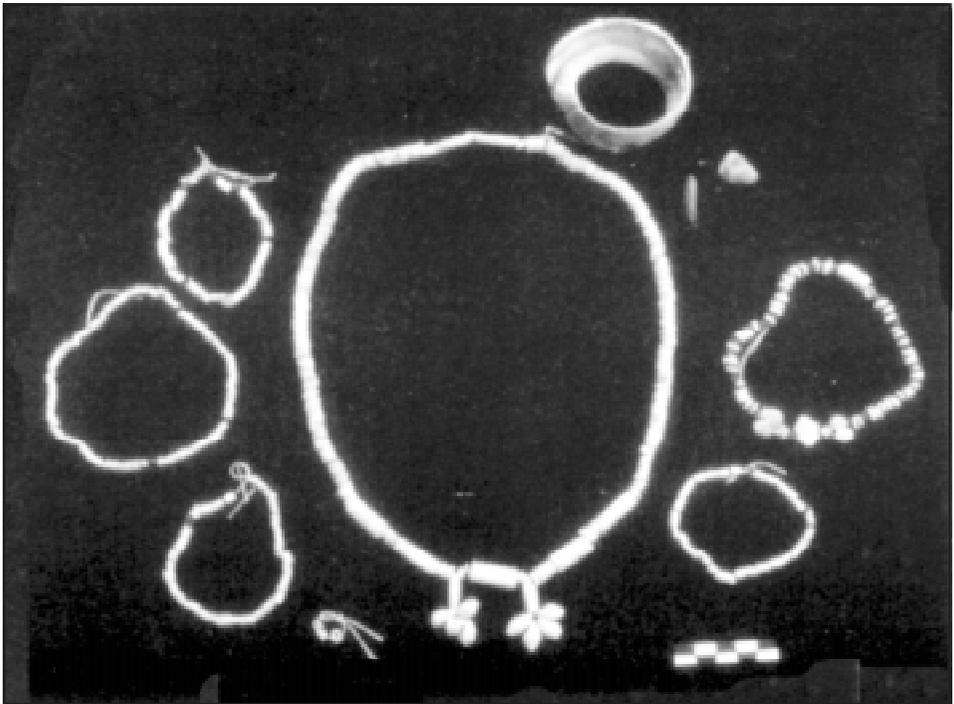


Fig. 35.

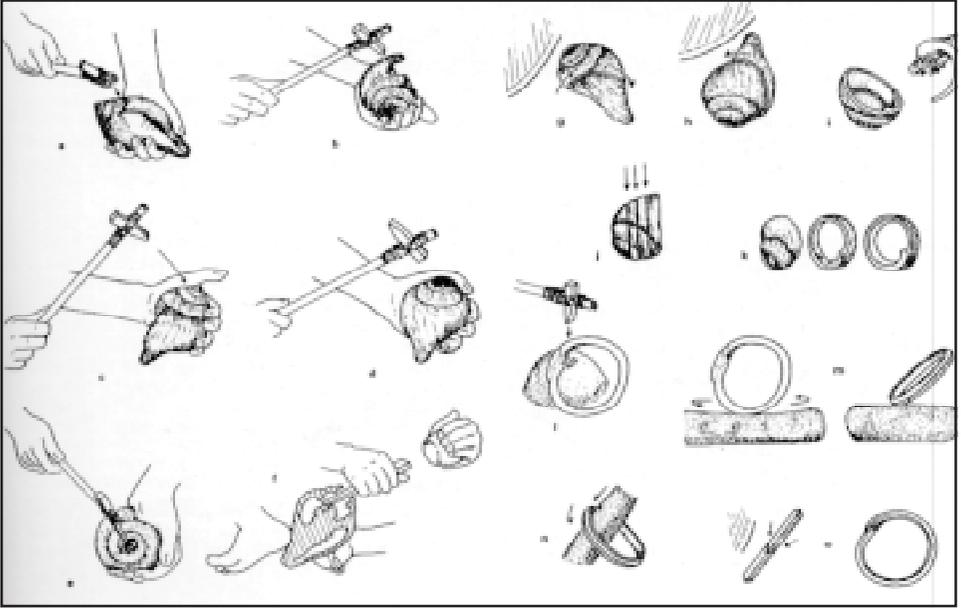


Fig. 36.

So is *svastika* a hieroglyph. It denotes *jasta*, *sattva* 'zinc' in the metallurgical tradition. It becomes an auspicious glyph related to a temple, smithy, kole.l (Kota language). *Svastika* glyphs are found in over 50 epigraphs of the civilization. *Svastika* is a Hindu Civilization metaphor of a metal which adds lustre to copper and makes it glittering brass, almost like gold. It is a metaphor of the cyclical motion of *kāla*, the *mahākāla*, the ceaseless apparent rotation of planets around the sun as the centre of the universe, in a cosmic dance, in a holding together, *dhāraṇa*, that is *dharmā*, the cosmic order.

So it is that *śrivatsa* ligatured glyph becomes a metaphor for smithy, temple; so does a *stūpa* become a metaphor for *dhātugarbha*, temple remembering, paying homage to and venerating the ancestors, the *pitṛs*.  
<http://Sarasvati97.blogspot.com/2008/06/mohenjodaro-mound-of-dead-stupa-as.html> Mohenjodaro, mound of the dead; stupa as temple.  
<http://www.scribd.com/doc/3475044/mohenjodaro>.

## Appendix

# Hindu Civilization as Linguistic Area: Critique of Anthony's 2007 Book

Eurasian steppes as the crucible of civilization? Re-invent Indo-European. Study *mleccha vācas*. Study Indian linguistic area.

— Book Review: Anthony's major study published in 2007, *The Horse, the Wheel, and Language: How Bronze-Age Riders from the Eurasian Steppes Shaped the Modern World*, Princeton University Press.

(a) Since it is the latest major study released in 2007, in the genre of 'Aryan Invasion/Migration Theories' though it presents the grasslands between Ukraine and Kazakhstan as the earliest crucible of civilization and (b) since it is so thoroughly documented, it deserves to be read and understood by researchers interested in the study of origins of civilization in Europe and Asia.

The book is a tour de force, very comprehensive in its search for roots of Proto-Indo-Europeans using the wheel, the horse and related language terms as the basis for the search.

It is rarely that a book with pretensions to unravel the roots of Indo-European languages based on a study of two phenomena – the horse and the wheel – can provoke a fresh look at language studies. Anthony's is such a book merely because it is so well-researched and so well-documented. Surely, a class act to be emulated as new studies of the Indian linguistic area evolve.

I read through, in one setting, the 553-page book by David W. Anthony which claims to document how bronze-age riders from the Eurasian steppes shaped the modern world. I couldn't put it down, so fascinating was the tale, which is sure to grip the imagination of any researcher engaged in the

study of civilization. I am thankful to Shri Rajiv Malhotra who pointed me to this work and the importance of *purvapaksha* (the other point of view) presentation in the quest for researches on 'Vedic River Sarasvati and Hindu Civilization' which is the theme of a Conference to be held in India International Centre between Oct. 24 to 26, 2008).

Rajiv Malhotra (personal communication) makes the following excellent points:

A key point of his (Anthony's) work is that civilization's origins at a high stage of advancement are said to mature many millennia BEFORE the Vedic era. Notice that vedas are towards the END of the period he examines and not the beginning. He (Anthony) relies upon non-Indic evidences only to establish most of the story and THEN vedas, aryan and so forth enter the picture. This is a new approach from eurocentrics. Earlier they wanted to claim vedas. Now they are making vedas less relevant to the issue of origins by claiming that origins happened many millennia earlier anyway. By the time he treats vedas in his book the die has been cast.

Many leaps of faith occur in Anthony's book linking archaeological artefacts to language but the presentation of the archaeological evidence is very well analysed and documented, leaving one with a feeling of chasing an illusion.

The new point of view he presents is that invention of chariots of the spoked wheel in particular – and domestication of horses impacted the spread of language. He also notes that poetry was the only medium helping this spread of Proto-Indo-European through what he calls 'elite recruitment'. The suggestion is that apart from assuming a dominant position for their language to be picked up, the recruited 'elite' offered the local population chances to participate in their language culture. He also presents genetic analyses to suggest that domestication of all horses in the world may have come from different wild mothers, but sharing a single father.

The work is a veritable collage of the researches of historical linguists of European languages and archaeologists of Europe and the Middle East, while presenting the intricate details of the genealogy of history of Proto-Indo-European language. The announcement of the publication reads modestly as follows:

Roughly half the world's population speaks languages derived from a shared linguistic source known as Proto-Indo-European. But who were the early speakers of this ancient mother tongue, and how did they manage to spread it around the globe? Until now their identity has remained a tantalizing mystery to linguists, archaeologists, and even Nazis seeking the roots of the Aryan race. The Horse, the Wheel, and Language lifts the veil that has long shrouded these original Indo-

European speakers, and reveals how their domestication of horses and use of the wheel spread language and transformed civilization. Linking prehistoric archaeological remains with the development of language, David Anthony identifies the prehistoric peoples of central Eurasia's steppe grasslands as the original speakers of Proto-Indo-European, and shows how their innovative use of the ox wagon, horseback riding, and the warrior's chariot turned the Eurasian steppes into a thriving transcontinental corridor of communication, commerce, and cultural exchange. He explains how they spread their traditions and gave rise to important advances in copper mining, warfare, and patron-client political institutions, thereby ushering in an era of vibrant social change. Anthony also describes his fascinating discovery of how the wear from bits on ancient horse teeth reveals the origins of horseback riding.

Modest claims disappear when the announcement of Princeton University Press goes on to make a summary claim:

*The Horse, the Wheel, and Language* solves a puzzle that has vexed scholars for two centuries – the source of the Indo-European languages and English – and recovers a magnificent and influential civilization from the past.

This is echoed by another scholar who also looks for the *urheimat* away from India:

The BMAC pottery is the source of the ceramics of the Gāndhāra Grave culture of Swat, which is the first culture of northern Pakistan to have the domesticated horse. This suggests that Proto-Indo-Aryan speakers had become the elite layer of the BMAC culture in southern Central Asia before spreading to the Indian subcontinent. [A. Parpola, 2005, 'The Nāsatyas, the Chariot and Proto-Aryan Religion', *Journal of Indological Studies*, Nos. 16 and 17 (2004-2005) <http://www.helsinki.fi/aparpola/jis16-17.pdf>].

Here is an instance of jumping from an artefact of pottery to language and unevicenced claim of 'elite' layer of BMAC.

Some statements which are conjectures are made to appear like facts: "We also think that horseback riding began in the steppes long before chariots were invented, in spite of the fact that chariotry preceded cavalry in the warfare of the organized states and kingdoms of the ancient world." (David W. Anthony, 2007, *The Horse, the Wheel, and Language*, Princeton Univ. Press, p. 19). This echoes the views held by Gimbutas school, but the evidence for these views has not been presented. According to Robert Drews, the first representation of a horse rider occurs on a Sumerian tablet from ca. 2000 BCE. (Robert Drews, 2004, *Early riders: the beginnings of mounted warfare in Asia and Europe*, Routledge). Clearly, Anthony's claim about horseback riding on European steppes is based on the slender evidence of tooth wear

observed in one horse skull. (Horse tooth scarred by bridle dated to 4300 BCE cited in David Anthony, Dimitri Y. Telegin and Dorcas Brown: 'The Origin of Horseback Riding', *Scientific American* 12/1991).

Reconstructing some words of Proto-Indo-European (PIE) speakers, who were farmers and stockbreeders, Anthony identifies words for bull, cow, ox, ram, ewe, pig and piglet noting that their possessions were categories as movables and immovables, the root for movable wealth being \*peku – the ancestor of such English words as pecuniary. A word for wheel sounded something like 'roteh' and the word for axle 'aks'. Of course, Anthony notes that the origins of Proto-Indo-European was 'politicized almost from the beginning'. Anthony narrates events which built up the economic and, later, military power of PIE speakers following the domestication of horse ca. 2800 BCE followed by movements of mobile herders.

Anthony embarks on a grand enterprise seeking to identify the first Indo-European speakers and their first linguistic homeland in the steppes of Eurasia (what is now southern Ukraine and Russia) with the Yamnaya (between Dnieper and Volga) around 3500 BCE. He is skeptical of Jared Diamond's thesis that early Europe had much diffusion of innovation in the East-West direction. A review of his book in the *New York Times* stated, "Anthony is not the first scholar to make the case that Proto-Indo-European came from this region, but given the immense array of evidence he presents, he may be the last one who has to." Aside: Is this the final nail in the PIE coffin?

"The recovery of even fragments of the Proto-Indo-European language is a remarkable accomplishment," pleads Anthony, "considering that it was spoken by non-literate people many thousands of years ago and never was written down." Granting that there is no direct evidence, a "\*" is placed before the word assigned to Proto-Indo-European speakers. Aside: why brush aside the voluminous texts available in the Vedic tradition? The texts won't go away by ignoring them or failure to analyse the messages communicated through this cultural continuum of Vedic tradition, a tradition unparalleled in civilization history for the impact it has had on every walk of life, particularly in all parts of India.

Anthony also provides in his integrated narrative, a wide interdisciplinary canvas to marshal the evidence; he provides references from Albion's Seed, Y: the descent of Man, evolution of lactose tolerance, phylogenetics of domesticated cattle, apart from a dense reportage of archaeological discoveries of many sites on Pontic Steppe pots, cemeteries, seed-husks – and spreading of the Indo-European speakers in all directions for about 1500 years since 3500 BCE. The impressive nature of the narrative is that obscure jargon is avoided and arguments presented in fluent prose.

If there are omissions in such a comprehensive work of Anthony, they relate to the failure to critically examine the intellectual bases for divergence of languages from a shared source, Proto-Indo-European. Such an examination should have involved the comparison of known languages, apparent similarities and resemblances of cultural indicators of Homeric epics or the Vedas, symbols of power and shared military values. Anthony also fails to explain why the quintessential attributes of PIE also occur in far-off regions: cattle breeding, sheep rearing, wheeled transport, weaponry and ornaments in 'elite' burials of the Middle East. The poetry of the Vedas in a category called *chandasa* and *saama gaana*, is NOT even discussed by Anthony. If poetry was so powerful, what greater evidence to evaluate than the *R̥gveda* and related *mantra* chant which has been handed down from generation to generation all over India?

If the horse-drawn chariot was invented in early 2nd millennium BCE, how is the rapid diffusion into Shang China, Mycenaean (Greece) and Egypt to be explained? If this was technological cross-fertilisation, why should language alone be presented as derived from a single root? Is PIE a 'dead language' as Anthony avers or a grand reconstruct of modern philology?

Most linguists believe that Anatolian branched off from PIE because it has unique features of grammar 2 genders not 3, 2 tenses not 6, 2 numbers not 3 (singular, plural, dual) – not found in other PIE languages. If PIE was Anatolian, how come PIE evolved extra tenses, gender and number? Could it simply be that Anatolian language branch changed itself by simplifying the grammar or because of association with Semitic languages with only two tenses and two genders? Doesn't language evolution love simplicity and move in the direction of simplification? Why does Anthony omit a study of Vedic grammar of the *Saptasindhu* region and Sarasvati River basin – and see how the complexities of *ārya vācas* as distinct from *mleccha vācas* (cf. *Manu Samhita*), got simplified in neighbouring languages? Maybe, this is an area for research in evolution of languages that scholars should take up afresh.

It is surprising that Anthony provides such a low chronology for PIE 4th millennium BCE. It is about the same time when the Tower of Babel was supposed to have occurred and later use of Biblical categories of Japhet, etc. used by William Jones to explain language evolution.

There are some scholars who claim that a few similarities between Sumerian and PIE could be due to contact, though Anthony had noted in his earlier work that Indo-European was not documented in the earliest Mesopotamian record. (David W. Anthony, 1991: 'The Archaeology of Indo-European Origins', *Journal of Indo-European Studies*, Fall 1991, p. 197). Some examples of similarities are noted: Sumerian *tur* (yard), PIE *\*dhwer*; Sumerian *ngud/gud/gu* (bull), English *cow*; Sanskrit *go*. Maybe, Anthony should have

delved deeper into such semantic indicators which explain evolution of language by contact.

Discovery of skulls and bones of sacrificed horses are explained as burial customs which are seen to resemble a later people who called themselves 'Aryans'. Is the evidence strong and conclusive enough to suggest that this was the form of 'horse sacrifice' mentioned, say, in the *R̥gveda*? Wasn't the term 'aryan' in its early usage simply a term denoting 'character' and not a term denoting category of people? Maybe, it was a term denoting levels of language proficiency of the same people, *dasyus*: one group spoke ungrammatical *mleccha* and the other grammatically correct *ārya vācas* (good speech).

Anthony seems to suggest, based on gut feelings and based on finds of chariots in graves of the steppes, a revision of the history of the wheel from a pastoral setting rather than from the more urban society of the Middle East? "Scholarly caution tells me the matter is not resolved," said Dr. Anthony earlier in 1994. "But my gut feeling is, there's a good chance the chariot was invented first in the north." (Feb. 22, 1994, John Noble Wilford's article, 'Remaking the wheel: evolution of the chariot', *New York Times*). The same article quotes Dr. James Muhly that chariotry may well have developed before the dispersal of original Indo-European speakers. The 'gut feeling' of Anthony and the relative chronology hypothesis of Muhly have to be tested further by evidence from many archaeological sites of Sarasvati Civilization.

The word used for horse in *R̥gveda* is *aśva* (or Indo-Iranian *ashva*). Could this be the root for the 4th millennium Sumerian word *si-si* and Hebrew *sUs*? This leads to the question of the relative chronology of *R̥gveda*, which clearly evolved on the banks of River Sarasvati (or the *Saptasindhu* region). Given that horse and wheeled cart are part of PIE vocabulary, why couldn't this basin have been the PIE urheimat having realized the use of the domesticated horse as a puller of the chariot? Could the idea of domestication come from this *Saptasindhu* region into the steppes because the region had already domesticated oxen and donkeys? (See <http://www.scribd.com/doc/2262092/domesticationofdonkey1> Harvard Donkey Trial and domestication of donkey, horse). Horses (or, perhaps onagers) were known in India as evidenced by the rock paintings in Bhimbhetka, Bhopal (unauthenticated dating of ca. 30000 years old). Domesticated horses have been found at Rana Ghundai (Punjab-Baluchistan) dated to ca 3,600 BCE (Harry H. Hicks & Robert N. Anderson: 'Analysis of an Indo-European Vedic Aran Head, 4th Millennium BC', *Journal of Indo-European Studies*, Fall 1990, pp. 425-446, specifically p. 437). There is also strong evidence to suggest that horse was NOT an 'Aryan' import from outside India because there

are words for the horse in other Indian languages: Old Tamil *ivuLi* (wild horse); Brahui (*h*)*ullii* (horse) *kutirai* (domesticated horse); Nihali *māv* (horse); Sino-Vietnames *mā* (horse). Gondi *gārdi* (horse) compares with Sanskrit *gardabha* (from *gard-* 'to shout'). *Ṛgveda* refers to a horse having 34 ribs (*Ṛgveda* 1.162.18) while *equus caballus* has 36 ribs. Was this horse with 34 ribs a genetically inherited trait or a unique breed of horses? The question remains to be explored further.

An alternative approach to the study of formation and evolution of languages of Eurasia is presented in the South Asian context by Emeneau. (M.B. Emeneau, 1956, 'India as a linguistic area', Lg 32, pp. 3-16; 1974, Indian linguistic area revisited, *Indian Journal of Dravidian Linguistics* 3, pp. 92-134). He postulates a linguistic area in India where many languages absorbed features from one another and made them their own. Such a model of cultural assimilation may be an alternative to the illusory chase for a single-point origin of languages as evidenced by the still ongoing search for *urheimat*. An Indian Lexicon has been constructed with presents over 8000 semantic clusters of the linguistic area pointing to the cultural substratum, which yielded many common roots for many words ranging from agriculture or medicinal plants to metallurgy, from parts of the body to profound thoughts related to the divine and cosmos. <http://www.scribd.com/doc/2232617/lexicon>. B.B. Lal presents evidence for the homeland of Aryans in *Saptasindhu* region. (B.B. Lal, 2005, *The homeland of the Aryans: evidence of Rigvedic flora and fauna and archaeology*, Delhi, Aryan Books International). The absence of any memory of these *Ṛgvedic* people of the life in pastoral steppes is an intriguing fact that has to be explained by any researcher engaged in the study of evolution of languages and cultures.

Colin Masica elucidates the research problem further. (Colin P. Masica, 1976, *Defining a linguistic area: south asia*, Univ. of Chicago Press).

It is one of the quirks of the development of languages that when two dialects are in close proximity they tend to diverge until they become mutually unintelligible languages, whereas two mutually unintelligible languages in close proximity tend to inter-act upon the other and consequently converge and become more similar. Masica defines (p.3) a linguistic area as a zone within which the process of convergence are seen to operate with special strength and urgency, presumably because of particularly favourable conditions. (Book review by K.R. Norman, 1979, *Modern Asian Studies*, Vol. 13, No. 2, 1979, p. 336).

The possible readings of Sarasvati hieroglyphs both pictorial motifs and signs used on epigraphs inscribed on materials such as seals, sealings, copper tablets, metallic weapons – as related to about 1000 metallurgy terms of minerals, metals, alloys, furnaces which are not of IE origin – point to an

area of research related to the evolution of technology terms as the innovations unravel. Same is the case with the presence of over 80% agricultural terms in Indian linguistic area which cannot be explained as borrowings or as derived from PIE. (Franklin C. Southworth, 2005, *Linguistic archaeology of South Asia*, Routledge-Curzon; Franklin C. Southworth, 1988, 'Ancient economic plants of South Asia: linguistic archaeology and early agriculture', pp. 649-68 in *Languages and Cultures: studies in honor of Edgar C. Polome*, ed. M.A. Jazayery and W. Winter, Mouton de Gruyter).

The most significant lapse in Anthony's magnum opus is the absence of an answer to the points which had been raised earlier in 2002 by Philip Kohl. Let me cite from this seminal monograph of Kohl:

...Just as a cart does not resemble a horse, the migrations of the third and second millennia BCE pastoralists who were still involved with agriculture did not resemble the migrations of mounted nomads in later centuries. The former were markedly slower and more gradual, and land suitable for cultivation interested the migrators no less than new pastures did (Khazanov, 1994, *Nomads and the outside world*, 2nd edn., Madison, Wisconsin, The Univ. of Wisconsin Press, p. 94). The theory of a movement of mounted nomads from the east relies heavily on evidence of Copper Age horse domestication from the Sredny Stog site of Dereivka (D. Ya. Telegin, 1986, *Dereivka: a settlement and cemetery of Copper age horse-keepers on the middle Dniepr*, Oxford, BAR International Series 287), particularly the demonstration of bit wear on the famous 'ritual' stallion skull found at the site (D.W. Anthony and D. Brown, 1991; 'The origins of horseback riding', *Antiquity* 65: 22-38; D.W. Anthony, 1996, 'Bridling horse power: the domestication of the horse', in S.L. Olsen (ed.), *Horses through time*, Dublin, Roberts Rinehart Publishers for Carnegie Museum of Natural History, pp. 57-82). The calibrated C14 date taken from this skull has shown it to date at least 1000 years later in the Bronze Age (M. Levine, 1999, 'Origins of horse husbandry', in M. Levine Rassamakin, A. Kislenko and N. Tatarintseva (eds.), *Late prehistoric exploitation of Eurasian steppe*, Cambridge, McDonald Institute Monographs, p. 14, Table 2.1), and there is indisputable evidence now for the mixing of materials from later levels at the site, leading Levine (1999: 15-19) to refer to the entire evidence for Copper Age horse domestication at Dereivka as a myth; other skeptics (e.g., A. Hausler, 1994; 'Archaeologische Zeugnisse für Pferd und Wagen in Ost- und Mitteleuropa', in Hansel, B and S. Zimmer (eds.), *Die Indogeramanen und das Pferd. Festschr, Bernfried Schlerath*, Budapest, Archaeolingua, pp. 217-25, 1995; 'Die Entstehung des Aneolithikums und die nordpontischen Steppenulturen: Bemerkungen zu einer neuen Hypothese', *Germania* 73: 41-68) had come to this conclusion even prior to these new radiocarbon determinations, dismissing the evidence for a Chalcolithic horse cult at Dereivka or at Khvalynsk. The archaeological

evidence cited to support an east-west movement of peoples, such as the distribution of the abstract and animal-headed stone scepters, is much more reasonably interpreted as indicating the existence of a prestige-goods exchange network than such a migration. If one is going to explain the collapse of the Varna-related cultures as due to an invasion from the east, one also has the problem of circumventing the giant Tripolye-culture sites which are beginning to develop at the time of this supposed east-west migration (M.Y. Videjko, 1996, 'Grossiedlungen der Tripole Kultur in der Ukraine', *EurAnt* 1: 73). The environmental crisis model has the virtue of proceeding in the right direction: the observed sequential archaeological collapse from the south-west to the north-east corresponds to different latitudinal zones being affected at different times due to this progressive onset of more arid conditions and changes in sea-level (Philip L. Kohl, 2002, 'Archaeological Transformations: crossing the pastoral/agricultural bridge', in *Iranica Antiqua*, Vol. XXXVII, 2002).

Philip Kohl summarises his hypothesis:

The concept of an archaeological culture, however problematic in itself, is based on detecting similarities in material remains that are relatively restricted in time and space. What happens when a people moves or changes fundamentally its way of life, switching from an agriculturally based to a pastorally based economy or the reverse? The same people or their direct descendants now exhibit a different archaeological culture.

He proceeds to evaluate the settlement or peopling of the lowland plains of Margiana and Bactria at the end of the 3rd millennium BC.

The settling of the plains of Margiana and Bactria during Late Bronze times was undoubtedly a very complex process that contained several components including strong influences from the long-established settlements of southern Turkmenistan immediately to the west and from other early sites to the south in Baluchistan that already had public architecture and other material culture similarities with the later remains of Margiana and Bactria. Andronovo-related nomadic cattle herders who gradually entered the plains of southern Central Asia and became more intensive irrigation agriculturists, adopting the material culture of their more 'civilized' sedentary neighbors .... Western scholars have observed similarities with other areas and in other materials, including earlier stone and metal seals and public architecture, from sites located to the south in eastern Iran, Afghanistan, and Pakistani Baluchistan to suggest southern roots for the BMAC from these regions, if not also from the Indus Valley itself.

One environment crisis model to be deliberated upon in the October 2008 conference relates to the secular desiccation of Vedic River Sarasvati

and the settlements on this river basin as the epicentre of the most extensive maritime/riverine civilization of its times.

This brings the inquiry closer to the basin of the Vedic River Sarasvati.

Anthony devotes only a few pages to the study of the language of *Rgveda* and the anecdotal, sporadic geographical and linguistic area evidences provided therein. He notes:

The language of the *Rig Veda* contains many traces of its syncretic origins. The deity name *Indra* and the drug-deity name *Soma*, the two central elements of the religion of the *Rig Veda*, were non-Indo-Iranian words borrowed in the contact zone (Indra) He was associated more than any other deity with *Soma*, a stimulant drug (perhaps derived from *Ephedra*) probably borrowed from the BMAC religion. (*ibid.*, p. 454).

Anthony fails to divulge the nature of this BMAC religion. In this instance, Anthony has already concluded without evaluating language evidence that *soma* was a drug. He also later in his book assumes an elite incursion of Aryans from Iran noting that the Indo-Iranian *haoma* is itself borrowed from an earlier formation of the word. Why couldn't *haoma* be a derivative of an earlier *sauma*?

The speakers of common Indo-Iranian were in touch with and borrowed terms from *the same foreign language group* that later was the source from which Old Indic speakers borrowed even more terms. This discovery carries significant implications for the geographic locations of common Indo-Iranian and formative Old Indic they must have been able to interact with the same foreign-language group. Among the fifty-five terms borrowed into common Indo-Iranian were the words for bread (*\*nagna-*), ploughshare (*sphara*), canal (*\*iavias*), brick (*\*istia-*), camel (*\*Hustra-*), ass (*\*khara-*), sacrificing priest (*\*ucig-*), soma (*\*ancu-*), and Indra (*\*indra-*). The BMAC fortresses and cities are an excellent source for the vocabulary related to irrigation agriculture, bricks, camels, and donkeys; and the phonology of the religious terms is the same, so probably came from the same source.

There is a leap of faith involved in this argument that only BMAC fortresses and cities provide the source for the selected terms, without evaluating the evidences of fortifications and organized cultivation in Sarasvati Civilization linguistic area in sites such as Kalibangan, Dholavira and Bhirrana. In fact, Anthony does not even discuss the finds of spoked-wheel representations on terracotta found in Bhirrana which is a site evidencing continuous settlement from 5th millennium BCE through all phases of the civilization on the Vedic River Sarasvati basin. (See Michel Danino, 2006, *The horse and the Aryan debate*; this briefly links to the evidences related to horse and spoked wheel particularly in Lothal and Bhirrana).

It is possible that one such language was *mleccha* mentioned in Manu, Veda Vyāsa and by Vātsyāyana. (1) Manu notes (10.45):

*mukhabāhurūpajjānām yā loko jātayo bahih  
mlecchavācaś cāryavācas te sarve dasyuvah smṛtāh*

The key phrase is: *te sarve dasyuvah smṛtāh*, that both the *mleccha* and *arya* speakers are *dasyu*. *Mleccha* spoke ungrammatical *bhāṣā*; *arya* spoke literary *bhāṣā*. Both are earlier versions of Pali, Prakrit, Sanskrit, Tamil, Munda indeed the dialects of the Indian linguistic area.

The reference to *mleccha vācas* is in the following śloka in *Mahabharata* Adi Parva, Jatugriha Parva CXLV CXLIX:

*kin cicca vidureṇokto mlechchha vācāsi pāṇḍava.  
tvayā tattathetyuktametadviśvāsakāraṇam .. 6*

Vatsyayana in *Vidyāsamuddeśa* lists ‘*mlecchita vikalpa*’ among three language-related arts out of 64 arts: the language-related arts listed are: *akṣara muṣṭika kathana*, *deśa bhāṣā jnāna*, *mlecchita vikalpa* (that is, communicating through wrist-finger gestures, knowledge of dialects and writing system of *mleccha* (or, alternative representation in writing of spoken words).

Sememes: *sarasvati*; the need for re-inventing IE linguistics.

One example can be cited. The IE linguistic myth of \*selos- > *saras* gets exposed by the following sememes evidenced in the linguistic area of Bharatam. When a root *sr* ‘to flow, to spring up’ is so widely attested over an extensive linguistic area (and the *ralayorabhedah* or *r-l* transform common in the Ganga basin from ancient times), there is no need to posit a hypothetical \*selos as an evidence of the mythical word in IE.

Some sememes of Bharatiya linguistic area: ‘to flow, to spring up’

DEDR 2366 *Ta*. calacala onom. expr. of purling as of water; cala-cal-enal onom. expr. of rustling as of dried leaves, sounding as of drizzling rain; calacala (-pp-, -tt-) to rustle, be talking incessantly. See Turner, *CDIAL*, no. 5002, \*chala-, e.g. H. chalchal to move with a rustling sound, make a rippling sound, etc.

DEDR 2367 *Ka*. calame, calime, calume, calme, cilume an orifice, a bore, small pit, hole dug in the dry bed of a river or a dried-up tank, spring of water or a fountain head. *Br*. kal place where water collects, water-hold (or < H. khal creek, inlet, canal, river, trench; cf. MBE 1961b, pp. 377-8).

DEDR 2384 *Ta*. callu (calli-) to sprinkle water. *Ka*. callu, cel, cellu, celāku to scatter, pour out, shed, spill; callisu, cellisu to cause to scatter, etc.; calaku, cala’ku, cala’gu to let go from the hand, discharge, throw away; jellane with a violent gush (of water); *Kuwi* (S.) jallinai to scatter; (Isr.) jal- (-it-) to throw out liquids.

CDIAL 5155 jala-n. 'water' MBh. [Pa. Pk. *jala* n. 'water'; K. *zal* 'urine'; S. *jaru* m. 'water', L. (Ju.)

CDIAL 5165 \*jalya 'collection of water'. [jala] Pa. *jalla* n. 'moisture, wet dirt, sweat', *jallika* f. 'drop (of sweat), dirt'; H. *jalla* m. 'mass of water, reservoir'.

Munda prefix *sɾ-* + *dak* 'water', cf. KEWA

The root: *sɾ* Dhātup. xxii , 37 ; xxv , 17, {sarati} 'to flow, to spring up'

These examples have to be examined by the IE linguists before theorizing on IE origins or \*selos- > saras hypothesis. 8000 such semantic clusters of the Indian linguistic area exist – simply, IE is not the be-all and end-all to explain Indian linguistic area with a large percentage of agricultural terms and smithy terms which have no IE equivalents.

The preoccupation with steppes and European archaeological/ language evidences blinds Anthony and he fails to take an unbiased look at the evidence from about 2,600 archaeological sites on the Sarasvati River Basin (however, perfunctory the evidence in the absence of detailed archaeological explorations and investigations). Anthony should at least have paid attention to the language evidence presented related to the linguistic area of India. The pre-judgement has already occurred as is evidenced by statements such as the following:

The people of the *Rig Veda* did not live in brick houses and had no cities, although their enemies, the Dasyus, did live in walled strongholds. Almost all important deities were masculine. The only important female deity was Dawn, and she was less powerful than Indra, Varuna, Mithra, Agni, or the Divine Twins. Funerals included both cremation (as in Federovo graves) and inhumation (as in Andronovo and Tuzabagyab graves). Steppe cultures are an acceptable source for all these details of belief and practice, whereas the culture of the BMAC, with its female deity in a flounced skirt, brick fortresses and irrigation agriculture, clearly is not. (p. 456).

Anthony does not notice the importance given to Sarasvati or Aditi. In one rica, Ṛṣi Gṛtsamada refers to Sarasvati in three forms: as mother, as river and as devi *ambitame, naditame, devitame sarasvati*. Nor does he analyse the possibility that the belief and practice evidenced in the *Ṛgveda* could have been evolved indigenously in *Saptasindhu* region and, in particular, on the basin of Vedic Sarasvati River.

Why should there always be an external influence in such belief or practice? Such generalizations and sweeping conclusions renders Anthony's work less credible in so far as the explanation for the spread of PIE into so-called Indo-Aryan languages is concerned. Surely, a lot more language studies are called for to identify the source languages of the *Ṛgveda*. They

could be seen to be the language words which explain the Sarasvati hieroglyphs in relation to smithy/mint which resulted in extensive trade contacts using seals and sealings to transport mine-, mineral-, metal-, alloy-products in a riverine/maritime civilization area extending from the foothills of the Himalayas to Tigris-Euphrates doab across the Gulf of Kutch, Gulf of Khambat and Persian Gulf. See the 15 ebooks at <http://sites.google.com/site/kalyan97>. It is simply possible, as argued in these texts by comparing the *R̥gveda* verse for verse with *Avestan*, that *Avesta* is later than *R̥gveda* in chronology and that *R̥gveda* as it has come down with astonishing fidelity should have taken several centuries to reach the stage of poetic expression of unsurpassed excellence. Why not a hypothesis alternative to single-source PIE such as the Proto-Vedic Continuity Theory? The casual coverage of this extensive civilization area (denoted by the India linguistic area) in Anthony's otherwise magnificent work is a provocation to Hindu Civilization scholars to do their research work and match up to Anthony's hypotheses, however tenuous they are and however flimsy the evidence which is sought to be relied upon for arriving at sweeping conclusions about movements of ancient people across Eurasia.

In this perspective, the work in civilization studies has just begun. Anthony has lit the lamp. It is now the responsibility of students of Hindu Civilization to propose how Sarasvati's children shaped the cultural continuum in Hindusthan and influenced through contacts, the cultures of Eurasia. A good evidence for such contacts is the find of two pure tin ingots with Sarasvati hieroglyphs in a ship-wreck in Haifa, Israel.

### NEED FOR SEMANTIC STUDIES

Indo-European linguistics has to re-examine its premises of phonetics resulting in unutterable \* hypothetical phonemes and start afresh with studying the semantics of Indian linguistic area before rushing to posit invasion/migration scenarios from a non-existent urheimat and a non-existent proto-IE before organized farming and use of alloys began. IE linguistics may wax eloquent about European languages but should stop theorizing about the formation and evolution of Indian languages from an unauthenticated IE premised principally on phonetic methods. Semantics grounded on the cultural foundations, can better explain dialect transformations in a linguistic area as was shown in the root of the linguistic area: *sr̥* 'to flow, water' (Skt. Munda).

There is such enormous attested, authenticated evidence available in the literary texts and epigraphs of the Indian linguistic area that it is necessary to re-study this area without any pre-conceived biases leading to a wild-goose chase searching for IE roots for e.g., for every Prakrit, Pali, Nahali or Tamil sememe of Hindusthana.

## Sarasvati Civilization: Past, Present and Future

Gauri Mahulikar

River Sarasvati is considered as the backbone of not only the Vedic civilization; but also of the epic as well as the modern Hindu Civilization. India's culture and civilization, both flourished along the banks of Sarasvati. This is authenticated by the Vedic texts and later supplemented by the epics and the *puranas*. *Rgveda* (RV) glorifies this river in three entire hymns (RV.VI.61, VII.95,96). Besides this, the name Sarasvati occurs in the RV 72 times.

Sarasvati is lauded in the superlatives as the best river, best mother and best goddess (RV.II.41.16). She is one of the seven rivers; the other six being, Shutudri, Vipas, Parusni, Asikni, Vitasta and Sindhu. Two of these, Sarasvati and Vipas subsequently dried up, possibly during Manu's *pralaya* and became insignificant and as a result, the *sapta-sindhavah*, by the loss of two rivers, came to be called Punjab, land of five rivers ( N.N Godbole, p. 12). The Sindhu was also a mighty and torrential stream. She stood for action, work velocity and trade whereas the Sarasvati was the emblem of and stood for mental, moral and spiritual culture of the Aryans. While Sindhu represented the material and agricultural prosperity, Sarasvati was reputed for quiet and peaceful spirituality (Godbole, p. 13). Many smaller tributaries are said to pour water in her streams. The *Yajurveda* (YV. 34.11) mentions five such rivers. These are Drsadvati, a rocky stream (*drsad* in Sanskrit means stones/rocks), Sutudri (modern Sutlej), Chandrabhaga (modern Chenab), Vipat (modern Vyas Beas) and Iravati (modern Ravi). In the hymn to the rivers (RV. X.75), Sarasvati is placed between Yamuna and Shutudri. This is the location of river Ghaggar or Sarsuti in the geography of modern India

([http:// wikipedia.org](http://wikipedia.org)). She is called *sindhumata*, mother of rivers/streams. From the mountain Himalayas, she flowed to the western regions, fertilizing the land on both her banks, nourishing the people and spreading Hindu Civilization. Over 1200 of the 1600 archaeological sites of the civilization (viz: Ropar, Dholvira, Rakhigarh, Banwali, Lothal, Bet Dwaraka, etc.) unearthed during last 70 years have been found on the Sarasvati River basin (Kalyanaraman, 1999, p. 9). Although the Harappan Civilization is ascribed to the Indus (Sindhu), most of its sites lie along the now dried Sarasvati. It is therefore more appropriate to call the Harappan Civilization as the Sarasvati-Sindhu Civilization. (N.S. Rajaram, 1994, p. 87).

India with her multi-lingual, multi-racial and multi-religious faiths, was always considered as a colourful mosaic of diverse tastes and views; yet the perennial stream of Sarasvati bound all the differences together and flowed on and on. In order to understand the history of the Rigvedic age, we must study the ebb, the flow and the ecology associated with this mighty river. This ecological data tells that the Harappans were a part of the Vedic Civilization and that they fell victim to a sudden calamity which forced them to take shelter in other parts of ancient India. This calamity was not floods. Floods, no doubt, bring death, but they also sustain life, they are devastating, but cannot be the cause of abandonment. On the contrary, the flood-prone areas are the most densely populated areas in the world. In India, for example, river Brahmaputra causes destruction every year, and yet its banks are densely populated. River Kosi in Bihar, gets devastating floods every year; yet is most populous. On the other hand, loss of water can cause massive disruptions and mass migrations. There are three main causes of dessication of a river: 1) Tectonic changes, uplifting the terrain. 2) Sudden increase in the mass of water of the tributary river, which may be due to melting of huge glacier and 3) Impediments in the stream of a river. This could be a natural calamity or man-made hindrances. In the case of Sarasvati, the abrupt climatic changes caused the desiccation of Sarasvati. It is learnt that in 2450 BC the Himalayan ranges were shaken by grave earthquake, which totally destroyed the famous city Kalibagan, situated on the bank of Sarasvati. This is an archaeological truth, proved and accepted by many scholars. Because of this quake, the eastern stream of Sarasvati got disrupted and the river got merged in Drsadvati flowing towards its south. The main water source of the Himalayan glacier was then cut off by 95%. The quake lifted the river bed westwards, whereby the water source from river Sutudri also got separated. Sarasvati then flowed only when it rained and virtually became dried pond all through the year. Gradually, due to variation in atmospheric conditions, Sarasvati dried up. Kuruksetra, once

upon a time regarded as heaven, (*Mbh.* III.83.4) lost its glory and was transformed into a gory battlefield. Remote sensing system and radar images of Haryana, Punjab, Rajasthan, Gujarat and some part of Pakistan have proved that there are palaeo-channels in the dried bed of Sarasvati flowing through those regions. Another strong proof is the chemical analysis of underground water in these areas. This analysis showed tremendous similarities between the chemicals found in the Himalayan rivers and the sample water taken from the palaeo-channels. The researchers did radio carbon testing and proved that the sample water is thousands of years old and has very less tritium in it.

Nevertheless, it is interesting to see how this river nourished the people on her banks during the Vedic times. She is often referred to as nourishing five people, *panca jata vardhayanti* (*RV.* VI.21.2). Historically and sociologically the names of these five people are important. They are: Bharatas, Kurus, Purus, Matsyas, and Panchalas. According to others they are the five sons of King Yayati viz., Anu, Puru, Yadu, Druhyu and Turvasu (Khan, 1978, pp. 17, 18). Sayana, the commentator of the *RV* says, they are Brahmana, Ksatriya, Vaisya, Sudra and Nisada. In short, they were various inhabitants at Sarasvati, some from royal families, some from very ordinary descent, who stayed there and contributed to Indian culture and civilization in their own manner. Some of these were big empires. Bharatas, for example, were a warrior class, descendents of Visvamitra and worshippers of Indra. Sarasvati became Bharati because of Bharatas. Divodas and Sudas were glorious kings of this clan. Sage Vasistha vividly describes the battle between the Bharatas and a federation of ten kings (*RV.* VII.18, 33, 83).

Kurus ruled over the north-east part of India. Kuruksetra is the land inhabited by Kurus. Kurusravana was their glorious king, who had patronized Kavasa Ailusa, the seer of *RV.* X.30-34 hymns as his family priest. Being a son of a maid, he was considered unfit to perform sacrifice and was abandoned by Angirasas on the banks of Sarasvati in a thirsty condition. Kavasa recited a hymn to Apam Napat (*RV.* X.30). Sarasvati was pleased and rushed towards him (*Aitareya Br.* 2.19). Thus not only kings, but even the Sudras were benefited and obliged by Sarasvati. Sociologically, it is noteworthy that in ancient Sarasvati Civilization people lived in harmony. One of the descendents of Kavasa consecrated Janamejaya Parikṣita (*Ait. Br.* 8.21).

Purus were associated more with Parusni and referred to along with Yadus, Druhyus and Turvasus, the sons of Yayati, who joined hands with some non-Aryan kings against Bharata Sudas, king of north Panchala region. In this battle Sudas, with the help of his priest, Vasistha, sought favour

from Indra and Varuna and became victorious. This westward conquest, in a way, refutes the Aryan invasion theory, which speaks of Aryans coming from west to east. Of course this is not the place to discuss the issue of Invasion theory, what is important is that different tribes and types of people helped the enrichment of Sarasvati Civilization.

Among the intellectual contributors are the Vedic seers, specially Vasistha, who has praised Sarasvati in two full hymns in his 7th *mandala*. Sage Grtsamada too, seeks her blessings in the form of reputation and good progeny. Significantly Sarasvati is connected with fertility. She is asked to place embryo and invoked for safe pregnancy (RV.X.184.2). The Persian counterpart of Sarasvati, known as Aredvi Sura Anahita is invoked by Zoroastrian women even today for safe delivery (*Aban Yasht* 5.87).

Sarasvati, mother of life sustaining water, *Sindhumata* continued to bestow life and treasures to Sarasvatas, the people on her bank for thousands of years; but after the desiccation of the river which extended over a period of 400 years, between 1900-1500 BC, people started migrating eastward, northward and southward. The gradual disappearance of this river led to mass migrations to various parts of the country, giving rise to smaller denominations and back-grounds. Subsequent historical occurrences and onslaughts resulted into further fragmentation of the community.

The epic *Mahabharata* describes Sarasvati as a holy and best river, the foremost of all the rivers and meeting the ocean (*Anusasana* 134.15). *Salya parva* mentions Balarama's pilgrimage along the banks of Sarasvati, from Dwaraka to Mathura. Balarama started his pilgrimage from Prabhasa pattana (Modern Somnath). Following the course of Sarasvati, he then went to a place called Chandodbhava Tirtha, where the river reappeared. Thereafter he went to various *tirthas* and came to Dvaitavana where he saw the river taking eastward course. Then he went to Naimisa and then to places on the east bank of the river. After visiting few more places, he finally reached Plaksa Prasravana. During the epic time Sarasvati had already started waning, and Balarama describes her as appearing and disappearing at places, its flow being interrupted by the encroaching desert.

The late Dr. Wakankar conducted a tour along the course of the river as described in the Vedas, Puranas and epics. A 3530 km survey from Adi Badri (in Haryana) to Somnath was started in 1985, marking 150 sites along the route. Apart from the circumstantial evidences, the scientific method of multi-spectral scanner (MSS) was widely used to endorse his findings. The interpretation of LANDSAT imagery of the western part of Jaisalmer district revealed buried courses of the river running from NE to SW. This course is found to have links with the dry bed of Ghaggar River. In spite of very low

rainfall in Jaisalmer, and extreme conditions of the desert, groundwater is available at depth of 50-60 metres along the course of the defunct river and a few dug wells do not dry up throughout the year (*Current Science*, Vol. 72, p. 60). It is found where the river bed is traced, supports vegetation even during summer. It is thought that these courses of river in the area still maintain their head water connection and could form potential groundwater sanctuaries for exploitation. Two scientists from BARC (Rao and Kulkarni) working in isotope division have conducted an environmental study in collaboration with the Groundwater Department, Rajasthan and arrived at above conclusions.

Sarasvati Shodh Prakalpa is established now inspired by the untiring efforts of indologists, archaeologists, scientists, historians and geologists. There are three main stages of this project.

- (1) Reactivating and linking the ancient channel of Sarasvati, from Adi Badri to Pehoa (Prthudaka Tirtha in the Mahabharata). It is a channel of 100 km, north of Kuruksetra, in Yamunanagar district. This is financed by the world bank.
- (2) Pouring water from Sutudri (Sutlej) through huge pipes into this new channel. An anonymous donor has come forward to finance this stage of the project.
- (3) Reactivating the 1600 km hidden stream of Sarasvati from west Garhwal to Somnath in Gujarat, through application of remote sensing techniques. A team of researchers from BARC is engaged in chemical analysis of groundwater in this area. When complete, this project is supposed to benefit two crore people from north-western India. Rajasthan alone would then be getting sufficient drinking water through one lakh bore-wells, permanently dug up in the arid area. In addition green forest project can be undertaken and oil-seeds like olive, almonds, and safflower can be grown instead of wheat, rice and sugarcane that require surface water to grow. Solar energy will be used wherever necessary. This entire project is very ambitious.

Some highlights of Sarasvati Shodh Prakalpa:

In the history of human civilization this is a unique project.

Reactivating the river, by searching the palaeo-channels by satellite photographs.

Scarcity of drinking water in the NW India, specially the arid region of Rajasthan would come to an end.

Seemingly impossible task made possible by Indian scientists and technologists, which is a matter of pride for every Indian.

Reactivating the mighty river flowing since 5000 years, itself is a cultural heritage for every Hindu.

Many Internationally renowned institutes like BARC, ISRO, NASA, ASI, Geological Society of India, Central Water Commission, Central Arid Zone Research Institute have joined hands in this BHAG (big, hoary, audacious goal).

Indira Gandhi Nahar Pariyojana (IGNP), a large irrigation and drinking water project, a small part of this huge project is already catering to five districts in western Rajasthan since 1982.

Once again our motherland would be 'Sujala' and 'Suphala'

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## Vedic Rites Flourished on the Banks of Sarasvati

A.K. Sharma

The once mighty and sacred river Sarasvati, the fountain head of Hindu civilization, which remained unseen on the surface for nearly two thousand five hundred years due to the upliftment of the Himalayan region during pleistocene and subsequently due to the rise of Siwalik hills that led to Sarasvati's drainage being cut off<sup>1</sup> coupled with massive deforestation, change of climate and advancement of Thar Desert, is, as per latest scientific studies, reviving, or rather resurfacing on its old course. According to Dr. J.P. Mittal, Director of Atomic Research unit at Bhabha Atomic Research centre, Mumbai,<sup>2</sup> ancient river Sarasvati is still flowing beneath 30 m. depth in Rajasthan as indicated by Satellite imagery.

A.K. Gupta (*et. al.*)<sup>3</sup> state that clear signature of palaeo-channels on the Satellite imagery in the form of a strong and powerful continuous drainage system in the north-west and occurrence of archaeological sites of pre-Harappan, Harappan and post-Harappan age, beyond doubt indicate the existence of a mighty Palaeo-drainage system of Vedic Sarasvati River in this region. The major (western most) channel of river Sarasvati remained more or less constant and unchanged and is considered to be the actual Rig Vedic Sarasvati River. The description and magnanimity of these channels also matches with the river Sarasvati described in the Vedic literature. From the prominence and the width of the palaeo-channels on the Satellite data, supported with data from archaeological finds, age and quality of ground water, sediment type, etc., it is confirmed that river Sarasvati had its major course through present day river Ghaggar. Sarasvati River never silted its course drastically and continuously from east to west as suggested by some

of the earlier workers (Bakliwal and Grover, 1988)<sup>4</sup>. Rise in Himalayas/Siwaliks and consequent displacement in the Siwaliks and its foot hills region (in the form of Yamuna and Satlej tear faults) are the main cause for drainage desiccation and disappearance of river Sarasvati.

In a persons like three events, birth, marriage and death are most important. In Hindu religion there are elaborate norms for these events based on Vedic rites. Here I am going to discuss about the last one for which concrete evidences indicate the vedic practices on the bank of Sarasvati at the Harappan sites of Kalibangan in Rajasthan.

Excavation of Harappan cemetery at Kalibangan,<sup>5</sup> in many respects, is of great significance. Apart from the known mode of disposal of the dead it has revealed two hitherto unknown methods in Harappan context. Demographic survey<sup>6,7</sup> of the cemetery areas has also given the approximate number of different types of burials. Osteo-archaeological study of the skeletal remains, though only of one season, has thrown light on the pathological aspects of the Harappans buried there. As the entire field note was prepared when the burials were lying in situ after exposing them, it was not possible to take measurements of the skull, though in situ measurements of other parts of the body could be taken. In the absence of measurements of the skull, it is not possible to say anything about the racial composition of those who were buried. We will have to wait for the reports from the Anthropological Survey of India. But taking into account the maximum in situ length of the skeletons (of course including all possible errors due to cracks and minor displacements) and the in situ maximum length of the right humerus, the average height of adult males as per Pearson's formula varies from 1.75 in to 1.55 in whereas those of females from 1.45 in to 1.55 m. This clearly indicates that they were people of good height. It appears the life expectancy did not exceed beyond fifty-five to sixty years as majority met death during their middle ages. But this has to be seen from the point of view that a good number of them were abnormal cases.

So far as grave furniture are concerned, leaving pottery, other antiquities were only few. They mostly consisted of ornaments like beads, bangles and rings. Only in one case of a female burial a copper mirror was found. The number of pots interned varies from three to 70 so far as extended burials containing human skeletal remains are concerned. In almost all the cases the number never exceeded beyond 20 except in case of the old chieftain who was given a ceremonial burial inside a mud-brick chamber or *Bhumigriha*. In his case 70 pots, many of them painted ones were interned and the body was laid over dishes or plates. In the burial of all types painted pots were rare. So far as the type of pots were concerned 'Lota' shaped

vase, always more than one, lids and bowls were a must, followed by jars, glasses and dish or cup-on-stand. Drinks loving guys, always males, were offered wine cups, in one case beautifully painted ones. Total absence of any wine cups in female burials indicates that social norms did not permit woman to enjoy intoxicating drinks as is the custom even these days in orthodox Indian families.

Wearing of shell or conch bangles by ladies is a very ancient Indian tradition and this has been amply proved through skeletal remains where the bangles have been generally found in the wrist region. Even today, the 'Lambadi' women profusely display such bangles in their arms and hands. For every married Hindu Bengali woman, wearing of conch bangles is a must as an auspicious sign. Total absence of any weapon of attack and defense from the burials at Kalibangan, signifies that the Harappans were a peace-loving people as they were leading a life of prosperity through ample agricultural product, plenty of trade in and outside the country. They had a well organized society, where rule and norms were strictly enforced by the intelligent governing body.

Existence of elaborate ritualistic pot burials of different types indicates that they had much respect for the departed ones in whose remembrance and honour, periodic rituals were performed with meticulous precision. At Kalibangan, disturbance of the earlier graves by later ones is of rare occurrence, as was the case at Lothal where a very limited area was available for burial ground, whereas at Kalibangan plenty of open and levelled ground in the desired direction on the left bank of Sarasvati, was available to be used as cemetery. Whatever disturbance caused to earlier grave was inadvertently and unknowingly and not due to paucity of virgin area. As the cemetery was of on the flood plain of the river, naturally flood waters levelled up the markings of the graves, generally in the form of tumulus and after deposition of fresh silt over them, they were not visible after few seasons, except those where some sort of more durable markings were placed. As the cemetery are was at a safe visible distance from the habitation, they could keep a watch 20 over grave-robbers (in search of precious material), if there were any. But evidence show that these days graves were not robbed as none of the pits them show any sign of robbers trench.

In case of extended human internments, how is it that in almost all were cases they appear to be burials of abnormal cases, i.e. of persons who died were unnatural death or of those who had one or the other pathological abnormality.<sup>8</sup> Skeleton No. 3, child was suffering from hydrocephally Trephination marks and the burning marks on the squamous temporal above the right acoustic meatus indicate that some primitive surgical

operation was performed. The child did not survive after the operation. The evidence of trephination for medical purpose at Kalibangan is the earliest instance of a surgical operation in the world going back to the middle of third millennium BC. Burning marks were observed in case of skeleton Nos 5 and thirteen which appear to be cases of fire accident. Skeleton No. 6 was a case of a murdered man who was attacked with a copper axe. Left femur and tibia had sharp vertical cut marks on the inner side of the knee at the medical condoylar regions. The cuts were 3.0 is a cm deep and nearly 9.5 cm long. The wound did not show any sign of healing and indicating that the man did not survive the attack. Skeleton No. 8 was a case of a crippled man whose left hand bones were twisted due to deformity. Left radius and ulna were shorter by 2.8 cm and 3.6 cm respectively as compared to their had a right counterpart. In case of left foot bones, though all the metatarsal bones by the were present, phalanges were represented only by rudimentary bones. Skeleton No. 9 was a paralytic case. The body was dumped in the grave pit upside down with the head towards south as against the normal direction of north. Burial No. 12 which yielded three skulls along with fragmentary bones and one earthen relic casket containing molar of a child, was a case of burials of persons who probably died in an accident. Burial Nos. 4 and 12 were disturbed by other burial pits.

Now the question arises as to what happened to persons dying natural as death who obviously form the majority in any society? How their bodies were disposed of after death. If we look into the demographic survey of burials in the cemetery area at Kalibangan the number of extended type burials, most certainly containing skeletal remains, are far less as compared to the size and span of Harappan habitation at Kalibangan. In the cemetery, the area of extended burials and circular or oval pot burials are different. The pot burial area lies to the north of the extended burial area where as cases the large rectangular or oblong pits devoid of any skeletal remains, generally, down were found in the extended burial area. In all eighty-eight extended burials could be noticed, generally these burials were found in groups. In all sixteen groups of burials were plotted. Each group contained six to ten extended burials and at least one large rectangular pit. It appears that different groups were meant for different families. The area of each group was almost of the used same size. The large pits were left open which got filled up in course of time as is evidenced from the occurrence of thin and thick bands of clay and sand inside the pit, in the form of laminations. These pits contained only large lesser number of pots. It appears that these pits were meant for depositing the earthen pots after performing some sort of ritual connected with the disposal of the dead. Fourteen such pits were counted.<sup>9</sup>

The excavations at Kalibangan have revealed at least eleven to twelve phases of Harappan occupational levels. If each occupational level is accounted for nearly thirty years, then it could be said that the Harappan occupation at Kalibangan survived for nearly 350 years. This is corroborated by the 14c date (4040 + 105 and 3,165 + 110)<sup>10</sup> As per latest dates with MASCA corrections 13 the mature phase of Harappan culture at Kalibangan is c. 2600 to c. 1900 BC. Even if we take a modest view of five deaths as per annum in such a big settlement, it comes to nearly 1750 deaths in the span of nearly 350 years of Harappan occupation at Kalibangan. But hardly 100 extended burials are likely to be encountered in the cemetery located. The question arises whether there were more than one burial grounds which we have not been able to locate. Suppose this could be a possibility at Kalibangan then what about other Harappan sites. So far, none of the excavated Harappan sites have yielded more than one cemetery of the Harappan or period. Did the Harappans practice some other mode or modes of disposal of the dead, apart from the known practices of burial? In the absence of any other factor or evidence, the presence of a large number of circular or oval pot burials leads us to believe that the Harappans practised other mode or modes of disposal of the dead ones also. The other modes may be cremation and/or throwing the body in the waters of Sarasvati. Absence of any skeletal material or any trace of ash in the pot burials indicates that probably after disposing of the body only pots were interned in these pits.

It appears the practice of extended burial was adopted for unnatural cases, i.e. persons dying in accidents, murders and those who were looked down by the society as cursed ones on account of their deformities like case of crippled man, paralytic man, disabled man, etc. and for some important persons in the society. But, for the important persons in place of a simple oblong pits, special graves like the brick line one at Kalibangan, a wooden coffin at Harappa<sup>11</sup> in cemetery R.37, made of rose wood and deodar<sup>12</sup> were used. Persons disposed of otherwise who were definitely in greater numbers, cremation appears to be the likely mode of disposal for a larger section of the society and it is for this reason that we get, in all the Harappan sites, lesser number of extended human burials containing skeletal remains as compared to the size of the site and its population. Charred patches of earth and tiny fragments of charred bones, which remained exposed to the atmosphere, are hardly likely to survive after centuries.

If we look into the literary evidence we come across in *Atharvaveda Samhita*<sup>13</sup> a reference to a burial where the trunk of a tree was used as coffin. In chapter XVIII 2.25 it is stated "may the tree not oppress them, nor the great Goddess Earth". This is probably a reference to 'a coffin burial'.

Burials in different forms were known in India from very early times as mentioned in *Atharvaveda* 5.30.14 (*manu bhumigraho bhuvat*) and 18.2.34-

ये निखाता ये परोप्ता ये दग्धा ये चूतिः।

सर्वस्तिनग्न आ वह पितृह्विजे अत्तवे॥

O Agni ! bring all those *pitrs* here in order that they may partake of the offering, those (*pitrs* whose bodies) were buried or cast aside (*paroptah*) or burnt with fire (Agni - *dagdha*) or deposited above (on trees or in caves) *uddhitah*.

In *R̥gveda* (VII 89. 1) the sage prays 'O Varuna ! may I not go the Earth House'.

In the *R̥gveda Samhita* and *Atharvaveda Samhita* we find mention to a house of earth (*bhumigriha*) for burial. Burial No. 29 at Kalibangan, where the body and pots were laid inside the sun-dried brick chamber is an example of this of *Bhumigriha*.

Amongst Hindus, where due to some reason or the other the entire body could not be consigned to the flames, there is practice of *Mukhagni*, i.e. putting fire in the mouth and then disposing of the unburnt body by throwing it into the river. This process leaves burning marks on teeth, and at restricted places of mandible and maxilla. Burial No. 32 at Kalibangan is one of such cases.

Harappans were very meticulous about the location of the cemetery area. At Kalibangan it is located on the south-west of the habitation area, on the left bank of Sarasvati, far away from the living quarters and farthest from the sacred, religious spot at KLB-3, where large number of fire places were located.<sup>14</sup> It is an open ground where the sun shines directly on it, and it slopes towards the north. The water flowing from the river and the wind blowing from north-east passes through the cemetery only after they had crossed the religious and habitational areas. Being an arid land there is high percentage of salt in the soil which gets deposited in the form of white patches over the ground.

*Satapatha Brahmana*<sup>15</sup> prescribes a four corner mound facing south-east, ground inclined to the north, out of sight of the village, in a peaceful spot amid beautiful surroundings or on barren ground. In *History of Dharmasastra*, Kane describes, "the site of cremation should be surrounded by a thicket of trees, but it should be so open that the sun shines directly on it at mid-day. It should be saltish land or land sloping to the north or it may be all level ground."

All this I have mentioned not because I wish to state that the Harappan way of disposal of the dead was guided by the norms laid down in the above mentioned texts, which many scholars still believe to be of late

creations, but to point out that traditions die hard and in India oral traditional had been traditions, that passed on from generations to generations, from remote past. While analyzing the results of the excavations we should not be guided only by the theories propounded by earlier scholars but must keep our minds open to various oral traditions, ancient texts and present day practices in the society. With the advancement of research many theories which were taken for granted have proved wrong.

Classic examples of how misinterpretations of field data and morphometric data can lead to incorrect conclusions have been shown by Kennedy.<sup>16</sup> (1982). So-called massacres at Mohenjo-daro – Chatterjee and Kumar<sup>17</sup> (1973) ascribe certain incomplete and distorted burials found in the ruins to the aggressive acts of invading Aryans, a view proposed earlier by Wheeler (1952).<sup>18</sup> Dale<sup>19</sup> (1964) argues on archaeological grounds that actual dates for the Harappan Civilization and the arrival of Aryans cannot be established. He goes on to note that armed invasion is not indicated by the presence of extensive destructive levels at the site, that there is no evidence that the skeletons belong to a single period of time and therefore no proof of a single tragedy, and that only two of the skeletons bear evidence that a massacre had occurred at their place of deposition. Finally, weapons and armour are not associated with any of the skeletons.

Another classic example is Guhas<sup>20</sup> (1935) attempt to account for the low incidence of mesocrany and brachycrany in Harappan cranial series by hypothesizing the intrusion of foreign racial elements. Although there has been an awareness for some three quarters of a century that changes in cranial form are reflective of environmental shifts of which nutritional stresses are perhaps most important in affecting growth (Boas, 1912),<sup>21</sup> the use of the cranial index as a guide to population identity continues to be used by some writers up to the present time. One is also aware that brachycranialization had continued as an evolutionary trend in world populations during the past 10,000 years. Brachycrany which is evidence in low frequency in cranial specimens from Harappa and Lothal cannot be cited as a hall mark of racial identity for segments of those populations once one understands the demographic distribution of meso and brachycrany beyond the Himalayas.

Cappieri (1970)<sup>22</sup> writes:-

1. There is no evidence of brachycephalic populations in the period covered by my study (the Harappan period) which might have influenced the local fundamental dolichocephally, and
2. There is no element proving migration of population from one region to another in the period mentioned. I calculated for the 11

essential characters 469 differences of mean between each local series of crania and all the others, mutually and inversely. Most difference - 83.4 - were 'not significant' and such a high value proves the genetic and somatic homogeneity of all these (specimens) as a simple population.

Recognition of the evolutionary fact of brachycranialization bears upon the question of the biological identity of the ancient Harappans who, it so now appears from multivariable analysis, were a relatively homogenous a population (Dutta, 1972)<sup>23</sup>. The so-called foreign elements are better attributed to immigration of rural peoples or, possible nomadic groups coming in from outlying Harappan townships, hamlets and grazing areas. One recognizes a biological continuum of many of their morphometric variables in the modern populations of Punjab and Sind. Harappans were a relatively stable population inhabiting the northern and north-western sectors of the Subcontinent for several millennia prior to their climatic movement of urbanization and commercial influence.

Allchin (1982)<sup>24</sup> rightly says, "The Indian civilization arose on, Indian soil as an organic process it was not primarily superimposed from outside, even if external stimuli may have contributed." According to the latest researches by Alan R. Templeton, professor of biology in Arts and Sciences at Washington University, genetically, race does not exist in humans. After analyzing DNA from global human populations that reveal the patterns of human evolution over the past one million years, he has shown that while there is plenty of genetic variation in humans, most of the variation is individual variation. In his paper titled "Human Races: A Genetic and Evolutionary perspective"<sup>25</sup> he says that while between population variation exists, it is either too small which is a quantitative variation, or it is not the right qualitative type of variation – it does not mark historical sublineage of humanity. Using the latest molecular biology techniques, Templeton has analyzed millions of genetic sequences found in three distinct types of human DNA and concludes that, in the scientific sense the world is colour-blind. Race is a real cultural, political, and economic concept in society but it is not a biological concept. His results showed that 85 per cent of genetic variation in the human DNA was due to individual variation. A mere 15 per cent could be traced to what could be interpreted as 'racial' differences. The 15 per cent is well below the threshold that is used to recognize race in other species.

Before the discovery of bones of *Equus caballus* Linn, i.e. true horse at Surkotada (a Harappan site in Kutch), and later on at Kalibangan, all earlier scholars – both archaeologists and zoologists have firmly believed

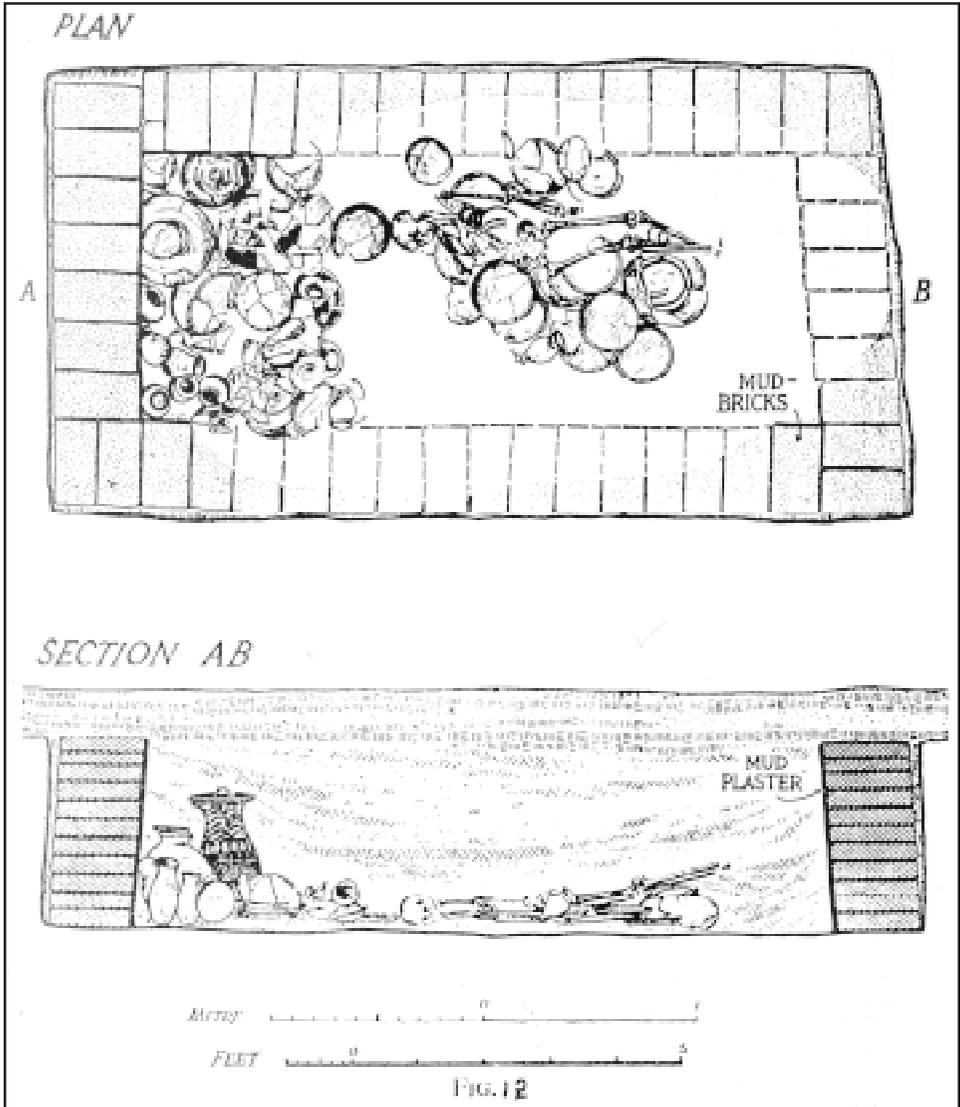


Fig. 1.

that true horse was not known to Harappans and it was introduced in India by so-called Aryans who invaded India and over powered Harappans. But even after half a century of this theory, the discovery of horse bones has conclusively proved that the earlier findings and results were totally erroneous.<sup>26</sup> So in case of disposal of dead by Harappans there is no harm in accepting the facts, as in the cemetery area at Kalibangan charred patches of earth, clear evidences of burning,<sup>27</sup> were noticed but unfortunately ignored.

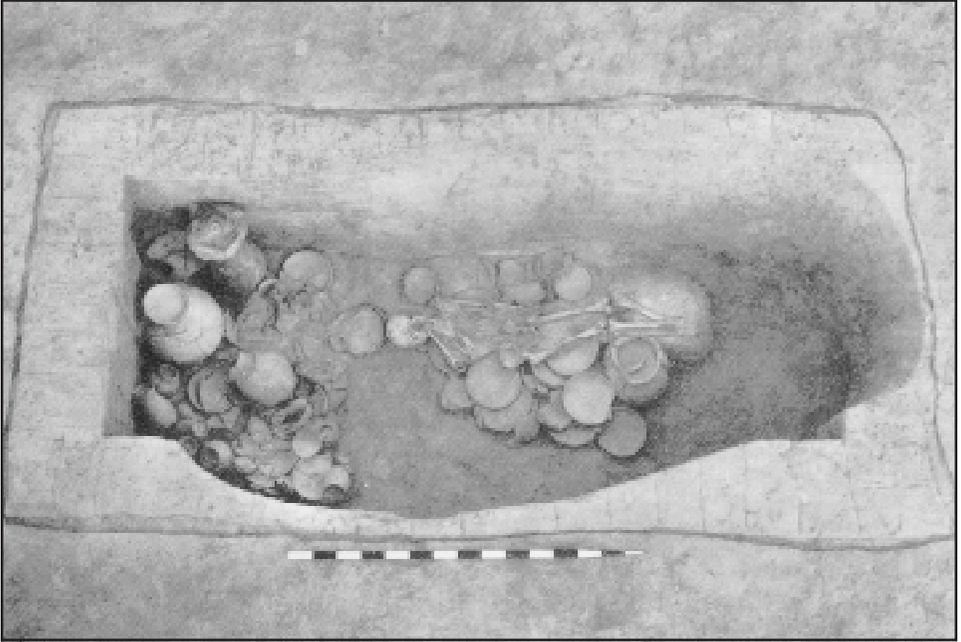


Fig. 2.

In order to have better and fuller knowledge regarding disposal of the dead during Harappan times and related social customs, it would be worthwhile to locate the cemetery area in some important Harappan site, like Dholavira, meticulously map the whole area and expose a fairly large number of burials. Detailed study of skeletal remains apart from telling about the morphological composition of the society, would be useful for making palaeopathological studies.

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# GVC to IVC to SVC (Ganges Valley Civilization to Indus Valley Civilization to Sarasvati Valley Civilization)

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**Introduction:** India was known as the land of sacred rivers flowing and its ancient civilizations were on the banks of such sacred rivers continuing with the life of Indians since time immemorial. Thus, the Ganges Valley Civilization (GVC) had been the ancient one. Indians have been so fascinated that they depicted Ganges in the art figuratively, which has been interpreted geographically by V.S. Agrawala,<sup>1</sup> as such sculpture depicts visual representation of Madhyadesha! In fact, the European intelligentsia was searching for the human origins on the banks of the Ganges only.<sup>2</sup> The name 'Ganga' has been so famous that it is found in the names of rivers in China and SEA countries also.

It was Jean Sylvain Bailly (1744-1844)<sup>3</sup>, who shifted the origin of human race from Greenland to New Zenyla to Ganges Valley, according to his astronomical calculations. He also explained that arts and sciences were developed only there. Here, actually, the concept of origin of human race located at the Arctic region was changed to Ganges Valley. Voltaire<sup>4</sup> also accepted such origins. Drawing attention to the books of John Zephaniah Holwell and Alexander Dow, he concurred with him that all of their arts, including astronomy, astrology, the concepts of birth and death etc., were derived from the Ganges Valley. Later Pierre de Sonnerat<sup>5</sup> concluded that it was India that gave the legal system to the humanity and therefore, origin of humanity. To Guillaume-Thomas-Francois Raynal,<sup>6</sup> India, not the Middle East, was the earliest inhabited part of the globe and the Indians were 'the

first who received the rudiments of science and the polish of civilization'. Immanuel Kant, Johann Gottfried Herder and others too had such views.

However, they continued to attribute such wisdom, knowledge etc, to a particular group of Indians, Brahmins,<sup>7</sup> which resulted in anti-Brahmin tendencies later. Moreover, the pro-Hindu support of the European intelligentsia had turned into anti-Hindu, as when the question of faith came into play. To quote, P.J. Marshall, "Joseph Priestley (1733-1804),<sup>8</sup> the greatest scientist of the late eighteenth century, came to the defence of Moses, as Newton had done at the beginning of the century." So also Isaac Newton<sup>9</sup> and the host of European scientists started turning against India.<sup>10</sup> Thomas R. Trautmann<sup>11</sup> has also pointed out such defences of Moses of Newton and Jacob Bryant.

Martin Priestman<sup>12</sup> delving upon the subject matter later, recorded as follows:

The brief Remarks of Dupuis were published as a pendant to Priestley's more ambitious. 'A Comparison of the Institutions of Moses with those of the Hindoos and other ancient Nations' (1799). Drawing largely on Sir William Jone's Asiatic Studies (particularly, Institutes of Hindu Law, or the Ordinances of Manu and Dissertations and Miscellaneous Pieces relating to the History and Antiquities, the Arts, Sciences and literature of Asia), Priestley demonstrates impressive if nearly acquired mastery of the rapidly expanding field of Orientalist knowledge which, if not carefully patrolled, might leads to all kinds of marginalization of Christianity by comparison to other cultures and belief systems. This danger is represented by another Frenchman, Langles, who sees 'the religion of the Hindoos' as the source for 'those of the Egyptians and Jews who have done nothing but ape the latter, of the Chinese, of the Greeks, of the Romans, and even of the Christians'. The five books of Hindu Vedas are the prototype of 'the five books of Moses, who... only copied Egyptians works, originally from India'. Furthermore, Langles accepts a non-Mosaic chronology where by 'many thousands of years before' the Egyptians, or Jews 'formed themselves in societies, or ever thought of forming a religion, the civilized Indians adored the supreme Being, eternal, almighty and all-wise, divided into three persons, (*Works*, XVII, pp. 139-42, 324).

As for as the chronology of India is concerned, Martin has recorded very clearly:

On the chronological question, Priestley again invokes the authority of Newton as well as detailing Jone's determining efforts to reduce enormous time of Hindu mythical history to proper Mosaic proportions.

Thus, the Indian chronology was the worst affected, because of their racial superiority, professional prejudice and Christian bias. Thus, the historical research on India was turned into religious one and all ganged up against India and the historical meddling started. Thus, the *Romantic atheism* had turned into *Romantic anti-Indian history*. Politically, at another side, that had led to the creation of race hypotheses and theories. The more they tried to equate themselves with the Brahmins,<sup>13</sup> the more anti-Brahmin tendencies developed turned into anti-Brahmin hatred and hostilities.<sup>14</sup> Incidentally, very often, they used to delve upon the Brahmins in their discussion,<sup>15</sup> of their Indo-European interpretations. Even Chinese stick was used to beat India<sup>16</sup> irrespective of the subject dealt with.

After the discovery of Indus Valley Civilization (IVC), the attention of the scholars turned towards IVC. As Indians were divided, the sacred land divided and the rivers got separated with the new boundaries drawn, the civilization itself was divided and separated. However, divided people continued to read the combined history for some time. But the Mohammedan fundamentalism worked differently and *5000 years history of Pakistan: An archaeological outline* was written by Mortimer Wheeler (1890-1976)<sup>17</sup> in 1950. Now, Pakistanis started asserting that IVC has been their civilization and India cannot claim any right over it. In fact, it objected to the starting of Indian history from IVC in the schools and college text books. Though, historically, it is incorrect to divide any one civilization into two, it has happened. Historians, archaeologists, excavators, IVC experts and others have been in the bliss of stupor acting according to such myth created. Everybody knows Pakistan of 1947 had two parts – East Pakistan and West Pakistan. Then, naturally, all Pakistanis would be reading the same history starting with IVC, just like Indians. But, what would have happened after East Pakistan becoming Bangladesh in 1971? Naturally, when Pakistan asserts that Indian cannot start her history with IVC, so also, Bangladesh! But, the historians, archaeologists and others have never bothered about it.

**Himalayan Valley Civilization:** In fact, all the rivers – Ganges, Sindhu, Sarasvati, Brahmaputra and others originate from the Himalayas and flow down to the valleys reaching the oceanic and sea waters of the east and west. Thus, it is evident that the ancient Indians could have conceived, perceived and established a ‘Himalayan Valley Civilization’. As geology works and geography changes because of the plate-tectonic processes and ecological imbalances, the changing directions of the flowing rivers, disappearance of rivers, encroachment of sandy tracks of the rivers by the people with the expansion of population and urbanization, many changes have been taking place even today in India, particularly connected with

the places, which have history more than 5000 years. Therefore, it might not be an imagination to conceive that initially, there had been a single great river flowing and then with the rise of Himalayas, the river got divided in the sense, waters flowing in different directions, thus flowing in different routes altogether. In due course of time, they were identified separately with the names assigned to them by the people of the culture, tradition, heritage and civilization. In whatever way, at present scholars interpret, the fact remains that the antiquity of all these civilizations goes back to c. 9000 to 6000 BCE based on the archaeological dating. The Brahmaputra Valley Civilization has not been studied properly and it could be much earlier than others also.

**The Antiquity of Ganges Valley Civilization (GVC):** Interestingly, rice, the staple food of India has been found in the later levels of IVC dated to 2000-1500 BCE, whereas, in the Ganges Valley, it is found at the levels dated to c. 6000-5000 BCE. The Lothal evidences have already been dated to c. 2300 BCE. This clearly points to the fact that the rice based culture could have spread only from the Ganges Valley Civilization (hereinafter mentioned as GVC) to the IVC and not the other way. Incidentally, it has to be noted that the European intelligentsia, when tried to locate the oldest civilization on the earth for the purpose of origin of human race, they could find Chinese and Hindus<sup>18</sup> having civilizations continuously since time immemorial. However, they decided to follow the Indian pattern, when they attempted to come out of the Judea-Christian model. So the praise of Indian/Hindu civilization increased with the production of articles, papers and books. Leon Poliakov<sup>19</sup> and P.J. Marshall<sup>20</sup> give many references in this regard.

However, the orthodoxy and dominant group did not want to give credit to India and thus, the reversal started taking place, i.e., discredit, denigrate and disparage anything that was India. This trend could be seen in the writings of the Jesuits, John Bentley, Vincent Smith and others. Therefore, this has to be noted by the Indian scholars of all fields. If new evidence throws light for such, it can be accepted, but just for religious dogma, theological fundamentalism and pursued ideology, if historical facts are changed or made upside down or reversed periodically, it cannot be accepted. The shifting of support from GVC to IVC had been only due to the fact that it was near to the other middle-eastern civilizations suitable to their assumed Mosaic chronology. Moreover, after partition, the scholars played havoc purposely, as could be seen in their altered affiliation. When Ganges has been predominating and dominating all psycho-somatic processes of Indians, how is that they never thought of such civilization?

As H.D. Sankalia<sup>21</sup> points out in the densely populated areas and towns, the archaeologists could not carry out horizontal excavations to get complete details about the human activities and their deposits. Pointing out that there is no evidence to prove that Chandragupta Maurya, Asoka and other ever walked on the roads of their cities, he urged that excavations had to be carried on at the sites connected with *Ramayana*. But now in India, if anything said about Vedas, *Itihasas* and *Puranas*, immediately, it is dubbed as communalism and ignored accordingly. Even the important findings of S.R. Rao in the case of Dwaraka,<sup>22</sup> B.B. Lal in the case of *Itihasas*<sup>23</sup> have been neglected and ignored by the Indian historians.

Recently Dorian Q. Fuller<sup>24</sup> has made an inter-disciplinary study of the agricultural origins and frontiers based comparative method. He used the accumulation of recent data from archaeobotany, archaeozoology and Neolithic excavations from across South Asia warrants a new overview of early agriculture in India (the westerners mention as the subcontinent, with truncated map). Reviewing the evidence for origins and dispersals of important crops and livestock from South-west Asia into South Asia, evidence for indigenous plant and animal domestication in India is presented. The important feature has been a review of evidence for probable indigenous agricultural developments in Gujarat, the Middle Ganges, eastern India, and southern India. The study of interaction between early farmers and hunter-gatherers based on the current evidence suggests that the Neolithic trajectories in different parts of South Asia differ from each other. Indigenous centres of plant domestication in India also differ from the often discussed trajectory of South-west Asia, while suggesting some similarities with agricultural origins in Africa and Eastern-north America as well as secondary agricultural developments on the peripheries of Eurasia. As discussed above, the antiquity of rice in the GVC makes the picture clear about India.

The French Institute of Pondicherry has engaged in the study of Palaeoenvironments in south India in Biological, Geological and Historical perspective.<sup>25</sup> Their palaeo-reconstruction of Niligiri hills gives a scale for the stratigraphic study and dating, and the gap around 3000 BCE is assumed to be corresponding with a flood. Interestingly and significantly, that gap coincides with 3102 BCE, the date corresponding to the starting of Kali Era, which has been discussed and debated by many European scientists, mathematicians and astronomers.<sup>26</sup>

**Dating problem of the Civilizations:** Maxmuller's dating of Indian scripture<sup>27</sup> has been very funny by assigning 200 years to Sutra period, Mantra period and so on. William Jones<sup>28</sup> has done in his own way. The

missionaries did their maximum in reducing the Indian chronology to fit within the biblical chronology.<sup>29</sup> Though IVC evidences go back to c. 9000 BCE based on Mehrgarh excavations, the dispute about the association, correlation and corroboration of Vedic literary evidences with IVC is still unsettled, as it is linked with the decipherment of Indus script. But, now as the archaeological evidences of GVC with usage of domesticated rice and other cereals take the antiquity to c. 6500 to 6000 BCE/ c. 8500 to 8000 Yr. BP, the Vedic literary evidences can easily be associated, correlated and corroborated and moreover such sites have been on the banks of Ganges only. The Iron usage of the same region also places its antiquity before c. 1800 BCE.<sup>30</sup>

**Pre-Mauryan archaeological evidences:** The mounting archaeological evidences recovered during the last sixty years have not been incorporated into the Indian academia, particularly in History text books. Incidentally, the new sites are dated to pre-Mauryan, because of the stratigraphical alignment. Some examples are given:

**Lauriya golden woman figure (c. 8th-7th cent. BCE):** According to the indologists, the earliest Gangetic valley evidence, a golden tablet depicting a naked woman standing on her legs in symmetrical rigidity, with exaggerated hips and sexual organs, heavy and clumsy ornaments and in a rigidly angular composition. It was reportedly dug out of a tomb near Lauriya identified by Bloch,<sup>31</sup> who ascribed it to 8th or 7th century BCE.

**Piprahwa golden woman figure (c. 450 BCE):** A small gold tablet similar to the above found as a part of the relics from the ruins of Piprahwa Stupa.<sup>32</sup> Incidentally, the Piprahwa findings have been involved with forgeries and manipulations.

Manipulations of Piprahwa Findings<sup>33</sup>: Dr. W.C. Peppe's discovery<sup>34</sup> of Lomas Rishi cave/stupa with Buddha's relic casket near Nepal border in 1898 created a great sensation among the British. About the dating of the monument, there was controversy among them. Fergusson<sup>35</sup> dated to c. 250 BCE. Vincent Smith<sup>36</sup> wanted to give round numbers of '450 BCE' for good reasons. Fergusson noted that the Sudama or Nyagrodha cave is the oldest architectural example in India dated to 250 BCE, whereas, Smith asserted that, "The earliest building to which an approximate date could be assigned is the stupa at Piprahwa on the Nepal frontier, explored by Mr. Peppe in 1898. Very strong reasons exist for assigning this building to 450 BC."

These are old examples and the recent ones are discussed as follows:

**Sisupalgarh excavations at Orissa (pre-Mauryan):** Incidentally, the Sisupalgarh excavations take the stone monuments to a pre-Mauryan period. Researchers<sup>37</sup> involved in excavation at the ancient city of Sisupalgarh on

the outskirts of Bhubaneswar have come across a number of artefacts and structures that throw light on the existence of a flourishing urban life during the prehistoric period. The geophysical research showed large-scale patterns of subsurface architecture such as streets, which were visible linking the gateways in the interior of the site, and a large ancient perimeter area around the pillar zone (18 in number, see photos below).

**Dating problem:** According to Mohanty, an archaeologist, it seemed to be a large city, which could have been governed under one ruler, with the ancient population inhabiting the place was estimated to be 25,000 and the civilization could have lasted for more than 1,000 years between 3rd BC and 3rd AD.<sup>38</sup> But, it is evident that calculation error could be there, as 'between 3rd BC and 3rd AD' (600 years), the civilization could not have existed 'more than 1,000 years'. In other words, 'the more than 1,000 years' old civilization could exist 400 years before that period, i.e., around 700 BCE. As stone monuments are dated on comparative dating method, they always put within the Mauryan period.

Researchers working on the place adjacent to a 'majestic gate' excavated by Prof B.B. Lal<sup>39</sup> in 1950, found house foundations of laterite block architecture and the habitation areas also contained very large quantities of household pottery such as bowls and jars along with other household artefacts such as iron nails and terracotta ornaments including bangles, finger rings, pendants and ear spoons.<sup>40</sup>

Pointing out that the latest debris deposits and pillars indicated that it was meant for public use, Monica Smith, anthropologist said the ancient artisans at Sisupalgarh were manufacturing potteries massively and those were in rapid use, adding that the people, animals and trash were closely integrated in the crowded space of the city and they might have practised the same wasteful consumption which is witnessed in the modern day cities.

The pillars have been evidently unfinished or roughly made with provision for holding roof and superstructure. The monolithic structure shown on RHS has also been unfinished suggesting that work undertaken might have been left. In any case, the pre-Mauryan stone-art and work clears the myth that such stone art originated or developed only after Asoka, that too copied from Achaemenian or using their workers.

**The transition from wood to stone in Indian art and architecture:** The myth has been created that the existence of pre-Mauryan art mainly practised in wood and partly in sundried brick, clay, ivory, metal and mineral stone, and this art could hardly conceive life and things in proportions and large dimensions.<sup>41</sup> Such myth has been mystified with another myth<sup>42</sup>:

On the other hand the wealth of human figures in post-Maurya art is to be explained by the assumption of the existence of an art in pre-Maurya India in which men and women must have played an important role, and which was un-Aryan in ethnic character and ideology. The human figure which came later on to be the main exponent of Indian art of the classical and early medieval periods. Considered from this point of view, appears to be the gift of un-Aryan southerners of India.

This has been completely racial interpretation bringing such bias even in the interpretation of archaeological evidences, which is intriguing. It was Fergusson,<sup>43</sup> who created the myth that

India owes the introduction of the use of stone for architectural purposes to the great Asoka, who reigned from about BC 265 to 228... Indians employed wood and that only,<sup>44</sup> in the construction of their ornamental buildings before Asoka!

This has been questioned seriously by Vedaprakash<sup>45</sup> and exposed the baseless hypothesis planted by Fergusson, as it makes Chandragupta Maurya, an illiterate and wooden-dwellers, whereas, his great son, Asoka the Great, a rock-dweller!

**Chandraketugarh, Piyali, 24 Parganas (pre-Mauryan):** Excavation of a new site on the banks of Piyali river in south 24 Parganas district (situated 38 km north-east of Kolkata), West Bengal unearthed evidence of human habitation 'dating back to the 3rd century BCE and before'.<sup>46</sup> Gautam Sengupta, the West Bengal Archaeology and Museums Department director reported that they discovered the site recently and came across some terracotta articles, copper coins, stone beads and other artefacts and the new site is on the banks of Piyali, which is again a part of the river system of Vidyadhari, on the banks of which Chandraketugarh was discovered in the early years of last century and Chandraketugarh's history dates back to almost 3rd century BC, 'even before the Maurya dynasty came up'. The archaeological significance of the Chandraketugarh area came to light in the early years of the last century when road-building activities exposed a brick structure and artefacts. The new site at Tilpi could be linked to Chandraketugarh, 'the pre-Mauryan site'. But the state archaeology department is worried that relic hunters are already removing artefacts from there and smuggling them abroad. This is an important strategy adopted by the vested groups that smuggle out 'only pre-Mauryan artefacts'. How then, the research carried out by the art-historians or any historian would be complete without study of such artefacts? Ironically, they not only do not mention such illegal activities, but also conclude many things in their researches and books as final!

**The pre-Mauryan Lion head:** ASI mechanic Siddheshwar Prasad accidentally came across the stone lion head on the dry river bed on February 18th, 2008, when he went to the Collectorate Ghat for a wash. He told TOI<sup>47</sup> that when he saw this huge antique (around 50 kg), he carried it to the ASI's Anta Ghat-based office, there archaeologists were baffled by the discovery of a 'pre-Mauryan period' lion head made of stone from the dry bed of the Ganga. This was made possible as the river has changed its course in recent years exposing its dry bed. According to an expert, "the one-and-half-foot stone artifact is similar to those of Greek sculpture". P.K. Mishra, Superintending archaeologist (Patna Circle), ASI, admitted that the lion head, in all likelihood, "could symbolize the Mauryan royal palace structure" adding that "its hairstyle, eyes and moustache were similar to Greco art". He also informed that a team of archaeologists led by him would visit the site to explore the area and find out whether more such antiquities were buried there. If required, they would make a preliminary excavation at the dry river bed to find out more details. However, the comments of the expert and the Superintendent archaeologist, ASI have been typical, as they are dating the finding based on style and comparative method, instead of any independent dating method. Having decided that it is pre-Mauryan, why it should be similar to Greco art? In fact, the other way is also possible. Thus, it is evident that there has been a mental block in the minds of researchers, archaeologists and historians in India and elsewhere.

**Even Ivory statuette dated after Mauryan!:** The dating of Indian artefact after c. 300 BCE has been consciously working without any rationale, but purely based on mythi-story floated by the Indologists. To cite another example, the material evidence – the so-called Sri or Lakshmi, the ivory Indian statuette recovered from Pompeii. The scholars<sup>48</sup> vaguely note that "it might be dated somewhere between the end of the first century BC and the start of the first century AD". However, the simple facade from where this was found has been dated to the Samnite era (3rd-2nd cent. BC). And what about the artistic standards of the statuette? To quote<sup>49</sup>, "On the whole, the statuette provides evidence of remarkable workmanship, for the graceful movements and the calm expression of her face." Thus, the bias of dating anything Indian after c. 300 BCE is evident and it is nothing but a myth without any basis. Therefore, such myth in history cannot be accepted. The statuette could be dated to pre-Mauryan period, i.e., before 300 BCE.

As they themselves repeatedly recorded that in the pre-Mauryan period only wood, ivory, brick, clay, etc. were used, but not stone, the dating of ivory-statuette to the pre-Mauryan period is the most appropriate. Though, such mythi-story in history is not accepted, i.e., the pre-condition that after

Asoka stone should have been used, before Asoka no stone should be used, the contradiction in their dating method is pointed out.

Interestingly, the woman depicted has been adorned with many ornaments – headgear, a drop on the forehead, earrings, necklaces with pendant, waist-grid, hands and legs covered with bangles. Not only the woman, but also the two attending ladies, on both sides carrying perfumes or soap, wear similar ornaments. So all women were treated with equal. Did any woman wear all such ornaments before 300 BCE? This implies that before 300 BCE, the women of India were wearing all such ornaments and such technology was there for the manufacture. Coming to the ivory carving, it had gone from India to Italy, i.e., the Italians wanted it from India, as such artefacts must have been popular even in those days. Therefore, this again proves the wrong dating of material evidences without any logical correspondence between the material evidence and cultural evidence.

**Rice cultivation and its spread:** Scholars<sup>50</sup> so far had been interpreting that the rice cultivation associated with BRW ware technique had spread from Lothal to other parts of north-India.

S.R. Rao points out that in Surkotada, charred lumps of carbonized seeds were found in an earthen pot and they were identified with *genus Setaria* (millet) similar to *Setaria viridis* or *S. Verticillata*. Wild grasses of *Andropogon*, *Brachiria*, *Peenicum*, *Echinochoa* etc., were reported from late levels. Among seeds, the *Scirpus* (glumeless nuts) and *Amaranthus* sp. are noteworthy. Rangpur<sup>51</sup> and Lothal<sup>52</sup> have yielded evidence of rice and *bajra*. Thus, he concludes<sup>53</sup> that, “the earliest occurrence of rice in India is at Rangapur and Lothal in the mature Harappan levels and obviously, horse and rice must have been known to the Harappans as early as 2200 BC.”

Up to the 1950s, the oldest excavation of rice was found at Hasthinapur (U.P.) dated between 1000 and 750 BCE (Ghose *et. al.* 1960). The often cited Chalcolithic sample of rice dated to 4500 BCE. A 1980 report on excavation made in Koldihwa at Mahagasra (U.P.) pushed the date back to 6570-4530 BCE. The rice grains appeared to be of a cultivated type (see Chang, 1989).<sup>54</sup> Kharailal Mehra and others working on the Ganges Valley Civilization show that antiquity of rice could go to c. 5000 BCE based on the samples found there. According to Rakesh Tiwari,<sup>55</sup> the samples found on the Ganges Valley at Lathuradeva in Sant Kabir Nagar go to c. 6000-5000 BCE, adding that the dates 6th and 5th cent. millennium BCE are also the earliest indication of human activity in the Sarayapur area of mid-Ganga Valley. Thus, the antiquity of GVC going before IVC has been very significant.

**Interpretation, correlation and corroboration of Vedic and IVC:** The expert scholars, professional archaeologists and eminent historians differ and appear to differ on the question of interpreting, correlating and

corroborating the evidences of IVC with that of Vedic and vice versa.<sup>56</sup> Now, they know very well that the spread of such culture and civilization is not restricted to the Indus Valley, but beyond.<sup>57</sup> The Indus-like cultural artefacts found at the sites of east of Indus river, particular on the disappeared and underground Sarasvati River<sup>58</sup> and even extended up to Ganges alter the picture of the extent of such civilization. The people with identical material culture living far and wide point to the contemporaneity or displaced condition. As the interpretation, many times depends upon secondary dating methods, racial, linguistic and other biased thinking make scholars to take different stands. Even after noting the continuation of food and farming pattern in India, it is ironical that they should interpret differently, because of changed conditions<sup>59</sup> after 10,000 to 5000 Yr. BP.<sup>60</sup>

The disappearance of Sarasvati is linked with the Sindhu and Ganges river system, as it was flowing and as well as and connected with those systems. The change of direction of flowing rivers, appearance and disappearance in their flowing paths and directions during the course of period of time has been in accordance with the plate tectonic movements.

If the literary evidence of Balarama' pilgrimage on the banks of Sarasvati up to Mathura is taken as evidence, then, Sarasvati must be flowing around c. 3100 BCE and thus it must have disappeared thereafter. Such event must have been due to a severe tectonic movement associated with submergence of land-mass at the mouth of the rivers, i.e., Rann of Kachchh. Incidentally, the Dwarka and Khumbat excavations that give new evidences have been exactly in that area.

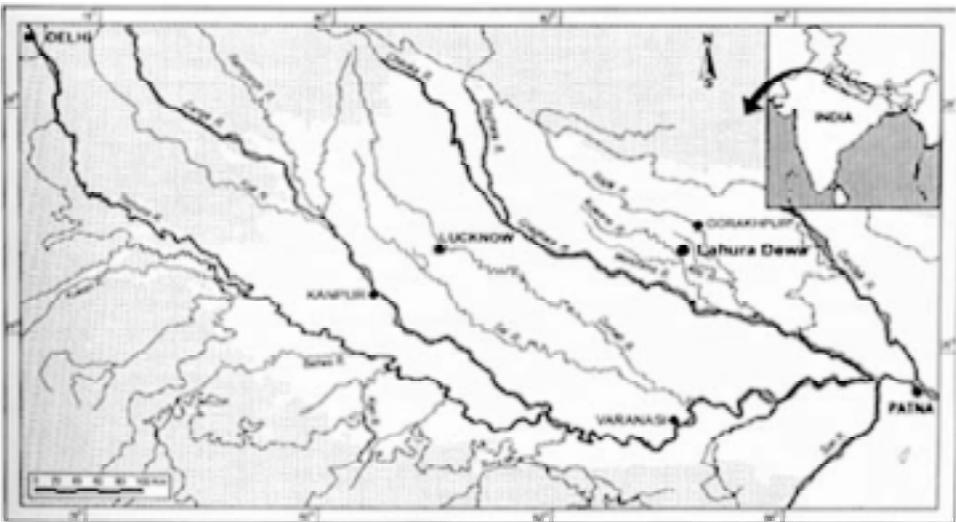


Fig. 11.

The above figure is from Valdiya<sup>61</sup> and the below from Rakesh Tewari and others.<sup>62</sup>

**Dating of the Coins:** The dating of the Indian coins<sup>63</sup> has been made on comparative or relative method, mainly comparing with the Brahmi script reportedly used by Asoka. Thus, the dating of the coins would be within the 'sheet anchor chronology'. However, applying the stratigraphical principles of archaeology, when punch-marked coins were found, they were dated to 9th century BCE. For example, when G.R. Sharma<sup>64</sup> conducted excavations at Kausambhi during 1957-59, he could discover punch-marked coins at the second cultural period marked to 885-605 BCE. In fact, Altekar<sup>65</sup> dated to c. 2500 BCE, refuting Elliot<sup>66</sup> and Bhandarkar.<sup>67</sup> A.L. Basham, C.L. Fabri<sup>68</sup> and others have pointed out as to how the IVC symbols continued in punch-marked coins. K.D. Sethna, Vedaprakash, A. Sundara and others have shown as to how the IVC art-form continued to Mauryan Empire through the intervening civilization. Thus, A. Sundara assigns Asoka to c. 1200-1000 BCE based on archaeological evidences and K.D. Sethna to c. 750 BCE. The archaeological dating of Asoka to 13th-8th centuries reinforce the identification of two Asokas by the scholars.<sup>69</sup> Therefore, scholars could consider the possibility to bridge the gap between the IVC and Mauryan periods, so that the Indian historical processes could be explained satisfying all the existing evidences of archaeology, numismatics, epigraphy etc., at one side and literary evidences – *Vedas, Itihasas, Puranas* at the other side.

**Buddha going before Buddhism:** Just like Jesus going before Christ or vice versa,<sup>70</sup> in the case of dealing with the saviour-myths, there have been references found that Buddha going before Buddhism and vice-versa. This exactly answers the lacuna of Indian lotus appearing in the Egyptian sculptures.<sup>71</sup> Another evidence has been that a Buddha sculpture found in the Luxor temple, Egypt.

It is shown on LHS. This has copied from the video CD sold by TABA Group of Companies, Egypt to the visiting tourists.<sup>72</sup> This clearly proves that either the date of the Egyptian temple should be before Buddhist period or the Egyptian sculptures might be contemporised with the Buddhist period. In any case, the vast gap of thousands of years cannot be explained by the presence of the sculpture. As the fact being that Buddhism was there and the archaeological evidences might not be dated differently, as such datings pose questions that are not answered by the historians.

In fact, baffled by the Buddhist strong presence in the Middle-east up to Egypt, the Indologists tried to play down the evidences found there. They indulged in petty hypotheses that Buddha image was derived from

the Greeks and so on.<sup>73</sup> Ananda K. Coomaraswamy, Radha Kumud Mookerji<sup>74</sup> and others<sup>75</sup> had refuted their biased writings. Here, there is no question of nationalist interpretation or otherwise, but the scientific method of dating of stone sculptures and the technology behind it. Thus, coming to the Indian Lotus, if the Egyptians copied the image from Indians, then, their chronology cannot go before Indians. However, as the Indian history starts with Mauryan period, i.e., c. 300 BCE, whereas, the Egyptian history starts by c. 3000 BCE, the lacuna has to be explained, as otherwise, the Newton's finding that<sup>76</sup>, "the 300 years expanded chronology of the Greeks and 3000 years of that of the Egyptians," may have to be accepted.

**Lomas Rishi Cave (dated to c. 450 BCE):** The Loma Rishi cave has been the centre of controversy even today,<sup>77</sup> whether Indian scholars, historians and archaeologists want it or not. The photos taken by Thomas Fraser Peppé are depicted below<sup>78</sup>: The British Library gives the note as follows:

Photograph of the sculptured doorway of the Lomas Rishi cave in the Barabar Hills, Gaya. Caves in the twin Hills of Barabar and Nagarjuni date back to the 3rd century BC, Maurya period and represent some of the earliest example of rock-cut architecture in India. The Lomas Rishi Cave was carved out a huge rounded granite rock and has an arch-like shape façade imitating the contemporary timber architecture. The internal surface is highly polished. The sculptured doorway imitates wooden architecture. A frieze of elephants proceeding towards stupa emblems is sculpted along the curved architrave.

So, it is not known how the dating of Vincent Smith of 450 BCE is forgotten or ignored cutting down is chronology. The wooden-imitation myth is woven in the description. It is evident that the forged Asokan inscription is taken into account to comment that the cave is dated to Asokan period and this is totally unacceptable. It is ironical that Indians are made to forget what happened in 1898. When the announcements were made about the Peppé's accidental finding, a German archaeologist named Dr. Alois Anton Führer, who had visited the Piprahwa dig, was found to have falsified evidence at another excavation site only a few miles away in Nepal. It was then found that Führer had a history of archaeological fraud and he was dismissed (discussed below). The scandal cast a cloud over the Piprahwa discoveries which have never been lifted. Moreover, they do not give the full description of the site, other monuments found there etc., which are discussed here in the context.

The assertion of Vincent Smith<sup>79</sup> is reproduced here for analysis, as it involves a crucial dating in Indian history:

The earliest Indian building.	<p>The earliest Indian building to which an approximate date can be assigned is the <i>stupa</i> at Piprahwa on the Nepal frontier, explored by Mr. W. C. Peppé in 1898. Very strong reasons exist for assigning this building to 450 B.C. in round numbers, shortly after the decease of Gautama Sakyamuni, commonly known as Buddha. The edifice, which was almost perfect when opened, is a solid cupola, or domed mass, of brickwork, 116 feet in diameter at the base, and about 22 feet high, built round and on a massive stone coffer in which relics of the body of Buddha were enshrined by his tribesmen, the Sākyas<sup>1</sup>. The bricks are huge slabs set in mud mortar, of which the largest measure 16 × 11 × 3 inches. Such a structure is obviously a development of the earthen tumulus, kiln-baked brick slabs being substituted for earth in order to ensure permanency.</p>
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It is very evident that the British have wrongly dated the Indian stone monuments purposely to reduce chronology. In their overenthusiastic attempts, the putting everything after 'Asoka' has been clear. Thus, the dating of 'Asoka' has been crucial one in Indian history, as the script is linked with and so also Indian 'history'.

**The Sheet Anchor of Indian History and Chronology:** The Max Mueller's 'sheet anchor' date of 327-326 BCE had been consistently working in the minds of every European writer. Jas Burgess wrote:

We possess scarcely a landmark in history previous to the invasion of India by Alexander the Great in the fourth century BC, nor do we know of an architectural monument earlier date.<sup>80</sup>

Vincent Arthur Smith recognizes and places the so-called 'the earliest Indian building' around 450 BCE in round figures, for which, he has 'very good reasons':

The earliest Indian building to which an approximate date can be assigned is the stupa at Piprahwa on the Nepalese frontier, explored by Mr. W.C. Peppe in 1898. Very strong reasons exist for assigning this building to 450 BC in round numbers, shortly after the decease of the Gautama Sakyamuni, commonly known as Buddha.<sup>81</sup>

Immediately, he explains exposing his psyche:

Although the art of constructing substantial edifices of brick masonry was well understood in Northern India four or five centuries before Christ, and must have been introduced perhaps from Babylon, as a much earlier date, there is good reason of believing that the ornamental buildings of ancient India were mainly constructed of timber. Brick

foundations and substructures were probably common; but the whole history of Indian architecture proves that the superstructures of the early buildings possessing architectural features must have been, as a rule, executed in wood, like the modern Burmese palaces. The Piprahwa is a monument of engineering rather than of architectural skill.<sup>82</sup>

Then, he deals with 'the history of India' as follows:

It is possible that when the really ancient sites of India, such as Taxila and Vaisali, shall be explored, remains of buildings assignable to the fourth, fifth and sixth found, are likely to consist of stupas and the plinths or substructures of wooden superstructures which have long since disappeared. But, the results of exploration of these ancient sites, so far, have been disappointing; and in our state of ignorance a great gap, to which no material remains can be assigned, exists between the date of Piprahwa stupa and that of Asoka Maurya, two centuries and half later. In fact, the history of Indian art may be said to begin in the reign of Asoka (272-231 BCE) and all the known remains assignable to the period are probably later than 260 BC.<sup>83</sup>

His anxiety that, "remains of buildings assignable to the fourth, fifth and sixth found, are likely to consist of stupas and the plinths or substructures of wooden superstructures which have long since disappeared" proves the contradiction. When 150-180 years, could not be reconciled, why they should have indulged in playing with the 1400 years of gap (between IVC and Mauryans)? The assertion that, "in our state of ignorance a great gap, to which no material remains can be assigned", also proves the dilemma in meddling with chronology. It is not that material evidences are not available, but the dating of material evidence with the assumed history only poses problems of contradictions of 'gaps'. If they decided already that, "In fact, the history of Indian art may be said to begin in the reign of Asoka (272-231 BCE) and all the known remains assignable to the period are probably later than 260 BC", then, there is no meaning in conducting any historical research. Here, the lacuna, discrepancy and incongruity of the Indologists has been very visible, as could be noted easily, as they themselves had been in such awkward condition. The dating of Asoka has been thus, artificial, as the dating of monuments expose such exigency. The complete bias against India, supporting for Greeks has also been superficial, as they always recorded that India derived everything from the Greeks, if not from the Persians, Assyrians, Babylonians or Chinese. As now, there have been pre-Mauryan evidences, as pointed out, they have to be taken into consideration.

In fact, the place has other monuments also, as depicted below, but they are not discussed.

The Barabar caves are some 35 km north of Gaya, in the state of Bihar.

The whale-backed quartzite gneiss hill stands in wild and rugged country and the inscriptions reveal that, on instructions from Asoka (264-225 BC), four chambers were excavated, cut and chiselled to a high polish by the stone masons, as retreats for ascetics who belonged to a sect related to Jainism. That polish still remains, 2,300 years later. Percy Brown pointed out that the extraordinary caves, particularly the Lomas Rishi and the Sudama, are exact copies of ordinary beehive huts built with bamboo, wood, and thatch. The barrel-vaulted chamber inside the Sudama is 10 m long, 6 m wide, and 3.5 m high which through a doorway leads to a circular cell of 6 m in diameter. The most impressive craftsmanship is seen on the facade of the Lomas Rishi which replicates the horseshoe-shaped gable end of a wooden structure with two lunettes which have very fine carvings of lattice-work and rows of elephants paying homage to Buddhist *stupas*. Excavation is incomplete as there was a possibility of the cave collapsing. There is also a Shiva temple on the nearby Siddheshwar peak.

The note that the Buddhist Asoka ordered the cave to be built for the Jains makes clear that this Asoka is different from the Asoka of Mauryas.

The availability of *Shivalings*, Ganesh Idol and other broken sculptures are intriguing. It can be argued that Asoka had been so egalitarian that he ordered for cutting caves for Jains and perhaps for Hindus also naming them as Lomas Rishi, Sudhama and so on. But, he had been a staunch converted Buddhist and there had been another Asoka, as recorded by Kalhana, who was a Jain. Kalhana records that that Asoka constructed many *stupas/viharas* for Jains. Again, scholars opined that the so-called Asokan inscriptions did not belong to one Asoka, but two. However, Vincent Smith impressed upon and clubbed all into one.

Note the broken condition of Ganesh Idol and another broken sculpture left with legs and thus, the entire body was broken and taken away.

The above photo shows a *Shiva-linga* carved in the rock boulder available there itself. However, the Indologists neither mentioned them in their records nor discussed about them.

**Asoka, Buddha and connected issues and the Piprahwa forgery:** As the dating of Lomas-Rishi cave, Buddha, Asoka and his inscriptions play crucial role in Indian chronology, some events taken place around such dating methodology has to be studied here in the context. Alois Anton Fuhrer, an ASI official Assistant Editor of *Epigraphica Indica* working in the NE frontier was brought to Uttar Pradesh. In January 1898, the William

Claxton Peppe a British landowner excavated a large brick mound on his property to discover a huge stone coffer containing four soapstone urns filled with ashes and bone, along with hundreds of gems, gold stars and other objects. W.C. Peppe informed A.A. Fuhrer about his discovery. Fuhrer took the Urns and the jewels possessed by W.C. Peppe. Later, Asokan inscriptions were found on the Urns. Later either, he himself engraved it or made it through somebody as per his directions. He was also dealing with spurious Buddhist relics and selling to the Buddhist monks having contacts with U. Ma, Buddhist monk.

A.A. Fuhrer in 1896, he discovered Lumbini, the birth place of Buddha with Asokan inscriptions on pillar in the Nepalese Terai and the discovery was reported in December 1896. He sent the details with impressions of the inscriptions to Buhler. Buhler<sup>84</sup> in February 1897 published it in the *JRAS* (GB & I) under the caption 'The Discovery of Buddha's Birthplace'. However, he recorded his doubts as follows:

While Hiuen Tsiang says that the pillar at Lumbini garden was broken into two pieces, Fuhrer says the ruins were intact.

Hiuen Tsiang does not mention any inscription, whereas Fuhrer claims a Asokan inscription on it.

Fuhrer reports that the Asokan inscription was found 10 feet below the ground. When he saw the pillar on December 1, 1896, he could note a pilgrim's record made in AD 800. So Buhler doubts that it is impossible to believe that 10 feet of debris could have accumulated in the 64 years between the Hiuen Tsiang's visit and the incision of the oldest pilgrim's record at the top Pillar.

He also hopes the mutilated lines of Nigliva inscription might be restored.

**Johan Georg Buhler (1837-1898), connived with Fuhrer:** J.G. Buhler contributed many articles in research journals and particularly *Epigraphica Indica*. Therefore, taking cognizance of his observation, the British scholars started probing the activities of Fuhrer. An enquiry Committee formed found out that Fuhrer copied text from a report prepared by Georg Buhler on Sanchi inscriptions, transposed both texts and inscriptions, almost verbatim, into the report on his own excavations carried out at a completely different site. Knowing the plagiarism, Buhler warned him. There had been correspondence between the two in this regard.

Edward J. Thomas<sup>85</sup> provides more details:

"Dr. Fuhrer, who found the pillar (Nigali Sagar tank, near Nigliva village, Basti District, Nepal), claimed to have discovered the great *stupa* itself

close by and gave an elaborate description of it. But unfortunately for himself he next discovered the still more important Padaria pillar, and the further investigation of this led to the revelation of the fictions in his account.<sup>86</sup>

It is only necessary to quote V.A. Smith's statement that, 'every word is false' and the inscriptions that produced by Fuhrer were 'impudent forgeris'. Smith came to the conclusion that "the pillar had been moved about eight or thirteen miles from its original position either at Sisania or Palta devi."<sup>87</sup> However, the forged inscriptions are appearing majestically in *Corpus Inscriptionum Indicarum – Inscriptions of Asoka*, published in 1922 by E. Hultzsch as 'Asokan inscriptions', without making any whisper about the forgeries.

**Mysterious Disappearance or Suicide of Georg Buhler:** In a recent Conference held at Harehouse, Yorkshire under the auspices of the Royal Asiatic Society on July 8, 2006, Andrew Huxley argued about the mysterious disappearance and probable suicide of the great Indologist, Georg Buhler, as he was involved in the activities of Fuhrer and his unwitting implication in his forgery of Piprahwa Urn Inscription.<sup>88</sup> According to another version, he was reportedly drowned in an accident falling from a boat. In fact, the year of disappearance is 1898, the year in which the forged inscription on Urn found, Fuhrer discovered and dismissed from his service for the forgery. It is really surprising that a scholar like Buhler would simply vanish in the air, that too, in the same year in which his colleague was punished for his forgery.

**Withdrawal of Fuhrer's Monograph but not the forged Asokan inscriptions:** After the Vincent Smith's declaration of forgeries of inscriptions by Fuhrer, his discoveries publicized in his *Monograph on Buddha Sakyamuni's birth-place in the Nepali's Tarai* at Allahabad in 1897. However, the Nigali inscriptions are appearing in the official in *Corpus Inscriptionum Indicarum – Inscriptions of Asoka*,<sup>89</sup> *Epigraphica Indica* and widely discussed and made 'history of India'.

**The collusion of British rulers, officials and historians:** The Pirahwa cave buildings or Barabar caves created a sensation among the British rulers and scholars. They contain the following:

1. Lomas Rishi cave with the sculptured doorway of a row of elephants, on which a ventilator type carvings, etc. A sunshade is there above supported with lintels. The semi-circular three-stripped sun-shade has a Kumbha on it at the centre.
2. Karna Chaupar has an inscription reportedly that of Asoka. The second is Sudama or Nyagrodha cave of dimensions 10 x 6 x 3.5 m implying

a very big hall with doorway leading to a circular cell of 6 m diameter. It has an Asokan inscription.

3. Shiva temple on the nearby Siddheswar peak. Broken Ganesha stature and other sculptures are found on the top of Siddheswar peak. A *Shivalinga* carved in boulder is also found.
4. Three rock-cut sanctuaries at Nagarjuna hill just one km north-east of Barabar containing inscriptions of Dasaratha. They called as Gopika-Milk-mad, Vhiyaka and Vadadhika caves.

Percy Brown mentions about Lomas Rishi and Sudama caves. Fergusson details all. But, they did not mention about the broken sculptures and *linga*. As the interior walls were chiselled nicely and polished, the purpose of usage was debated differently. Vincent Smith (1848-1920) gave a round figure of c. 450 BCE for goods reasons to the earliest Indian building.

Thus, his only anxiety is that no date should go beyond c. 500 BCE, that too Indian art should not go beyond Asoka, as otherwise, the gap between Piprahwa *stupa* and Asoka could not be explained. Interestingly, Edward J. Thomas<sup>90</sup> was also worried about this gap of 250 years.

Another misconception was to assume that if the inscription is not a forgery, it must be contemporary with the death of Buddha...In fact the only reason for putting it two centuries earlier was the hope of identifying with the share of the relics received by the Sakyas.

So he wanted the dating should go with the findings of Fuhrer, particularly with the comfortable reading of the Asokan inscription written on the casket, than anything else, in spite of the fact that the inscription itself is forged or not. Evidently annoyed by the forgery problem, he busted out through Oldenberg:

‘When Asoka himself appears as witness,’ says Oldenberg, ‘will anyone doubt that here (Piprahwa) in truth and reality lay the realm of the Sakyas?’ Asoka’s inscription is only the testimony that he believed what he went to see, the site of an event that had happened two centuries before, and he believed equally in Konagamana.

Compare this with Rhys Davids’:

And we are fairly entitled to ask: ‘If this stupa and these remains are not what they purport to be, then, what are they?’

Tussle between Thomas Watters and Vincent Smith on the location of Lumbini: According to Vincent A. Smith, “Mr. Watters writes in a specific skeptical spirit, and apparently feels doubts as to the reality of the Sakya principality in the Tarai”. The editors of Watters’ book (On Yuan Chwang’s

Travels in India 629-645 AD), T.W. Rhys Davids, S.W. Bushell and Smith had suppressed the Watters' manuscript. Doubting Rhy Davids, Watters had published his writings in *The China Review*, Vols. 18-20, 1890-92. Fearing controversy, the editors unwittingly mentioned in the preface to the book, "We have thought it best to leave Mr Watters's Ms. Untouched, and to print the work as it stands". This clearly shows that the editors have edited the text much against the wishes of Watters.

Thus, it is evident that they wanted to exonerate Fuhrer and his Company to save their skin, as otherwise, it would expose more of their manipulations. Here, the main point to be noted is that they did not want to date any monument of India before Asoka and this attitude itself is culpable leading to other frauds.

**The manipulations of Dr. Alois Anton Fuhrer,<sup>91</sup> Assistant Editor of Epigraphica Indica:** About A.A. Fuhrer's activities, T.A. Pelps notes:

In his official Progress Report as Archaeological Surveyor in that year, Fuhrer copied large slabs of text from a report by Buhler on Sanchi inscriptions, transposing both texts and inscriptions, almost verbatim, into the report on his own excavations at a completely different site. Astonishingly, this wholesale and extensive plagiarism appears to have passed completely unnoticed during this period (including, apparently, by Buhler himself, with whom Fuhrer was soon afterwards in correspondence). He also - and more ominously, perhaps, in the light of later events - fraudulently incised a Brahmin inscription on to a stone statue in the Lucknow Museum at this time, an event which also unnoticed.

The other disturbing details are:

Fuhrer had been conducting a steady trade in bogus relics of Buddha with a Burmese monk, U Ma.

Among these phoney items - and a year prior to the Piprahwa finds - Fuhrer had sent U Ma a soapstone relic-casket, supposedly containing Buddha-relics of the Sakyas of Kapilavastu, together with bogus Asokan inscriptions, these deceptions thus duplicating, at an earlier date, every important detail of the supposed Piprahwa finds.<sup>92</sup>

He was also found to have falsely laid claim to the discovery of 17 inscribed 'Sakya heroes' which were alleged inscribed upon these caskets.<sup>93</sup>

Pepper<sup>94</sup> noted that the so-called 2500 years old bone relics "might have been picked up few days ago'. A molar tooth found among these items (retained by Pepper) has recently found to be that of a pig.<sup>95</sup>

When Pepper returned to London, the London Buddhist Society wanted to clarify about his findings. Though, he agreed, he did not answer

the questions proposed. The Society declared the matter to be kept in abeyance in consequence; but Peppe died six years latter, leaving all such questions unanswered.<sup>96</sup>

Realizing the gravity of the situation, the Government appointed an enquiry committee and it was found that Fruhrer made the Asokan inscriptions written on the casket that contained the Buddhist relics planted. Therefore, Dr. Alois Anton Fuhrer, Editor of *Epigraphica Indica* was dismissed from the service in 1898 for his forgery of creating Buddhist Urns and inscription on them. The Secretary to the Lieutenant-Governor of the North-Western Provinces in his letter to the Central Government noted:

His Honour fears that it must be admitted that no statement made by Dr. Fuhrer on archaeological subjects, at all events, can be accepted until independently verified

But, everything has been accepted as history and historians and history reading Indians do not know that such forgery and dismissal of Fuhrer and disappearance/suicide of Buhler are there behind such Indian history.

**Conclusion:** Analysing the material evidences, particularly, the stone monuments, it is evident that the Indologists have wrongly dated the stone monuments, which are now proved based on the stratigraphical studies in correlating and corroborating with the historical events.

The pre-Buddhist Jaina monuments have been totally ignored, as if they were not available, but the Jaina sculptures clearly point to wrong dating of stone sculptures. Edward Thomas<sup>97</sup> pointed out that the Indologists knew the Jaina Asoka and in fact, there was confusion that they were thinking Mahavira and Buddha were one and the same. To deny the antiquity of Jaina faith, the Western scholars confused that Buddhism could have emanated from Jainism or both Jainism and Buddhism were one and the same and so on. Colebrooke<sup>98</sup> was virtually convinced that Buddhism was an emanation from anterior Jainism, summarising his conclusions to the following effect:

It is certainly probable, as remarked by Dr. Hamilton and Major Delamaine that Gautama of the Jains and of the Bauddhas is the same personage; and this leads to further surmise, that both sects are branches of one stock. According to the Jainas, only one of Mahavira's eleven disciples left spiritual successors; that is the entire succession of Jaina priests is derived from one individual, Sudharma-swami. Two only out of eleven survived Mahavira, viz., Indrabhuti and Sudharma: the first, identical with Gautama-swami, has no spiritual successors in the Jaina sect. The proper inference seems to be, that the followers of this surviving disciples are not of the sect of Jina, rather than that there have been none...

I take Parswanatha<sup>99</sup> to have been the founder of the sect of Jainas, which was confirmed and thoroughly established by Mahavira and his disciple Sudharma... A schism, however, seems to have taken place, after Mahavira, whose elder disciple, Indrabhuti, also named Gautama-swami, was by some of his followers raised to the rank of a deified saint, under the synonymous designation of Buddha (for Jina and Buddha bear the same meaning, according to both Buddhists and Jainas).

That the date of Parsvanatha, the 23rd Tirthankara given as c. 872-772 BCE shows that there is something wrong with the dating of Asokan inscriptions, because, this makes everything before Asokan prehistoric, i.e., non-historic. The dating of monuments neat to Asokan inscription to pre-Mauryan period clearly shows that Asokan inscriptions have been dated to a reduced chronology. Asoka of Kashmir, who was a Jain, was completely ignored. The Piprahwa forgeries and manipulations clearly expose the unhistorical activities of the British and other involved European Indologists (as discussed above).

The recent dating of archaeological evidences – the domesticated rice on the banks of Ganges to c. 6500-6000 BCE and the usage of iron to c.1800 BCE prove the antiquity of Ganges Valley civilization. The mounting pre-Mauryan evidences as discussed above point to the fact, that there was not vacuum before Asoka, but there was history that was ignored by the Indologists. As such evidences are found on the banks of Ganges River, the GVC could be considered as an active and continuing civilization.

As every subject is updated with the recent findings, the Indian history should also be updated with the recent findings and the wrong conclusions made earlier by the Colonial and other motivated hypotheses and theories should be discarded. Spending crores of Rupees, getting new evidences, presenting papers, publishing books, but keeping the history curriculum to the stagnant, outdated and unscientific status does not help the growth of subject. In filling the historical gap between IVC and Mauryan period, the GVC would play a crucial role as discussed above.

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# Indus-Sarasvati Civilization: In Search of the Truth

Bhu Dev Sharma

## ABSTRACT

There is need to strengthen the researches and discussion on Indus Valley Civilization. The controversial theory of 'Aryan Invasion Theory' needs to be analyzed in the light of what is advanced under 'Out of India Theory' (OIT).

The paper, after setting the problem and issues, takes up for discussion and refutation the three main points that proponents of AIT consider crucial for their stand. Then pointing out two major weaknesses in AIT, the paper presents several points that support that the 'Indus-Sarasvati Civilization' has been an indigenous Indian/Vedic civilization.

## INTRODUCTION

Indus-Sarasvati Civilization mostly referred as 'Indus Valley Civilization' (IVC) is one of the major and active areas of research on world civilizations and history. Understanding the large number of seals, deciphering the script having over 400 characters, dating the large number of varied artefacts found spread over vast area lying in Afghanistan, India and Pakistan to greater accuracy present a great challenge. Though about India glorious past, in my opinion, academically speaking it is a subject of finding truth about world heritage.

With prolonged invasions, hostile occupations, religious torments, and later British colonization, Indian history has been the handiwork of motivated historians. At the hands of such historians, history became the

worst victim, full of many incongruencies. With its many old records destroyed and lost, what survived were those that could be taken as religious books, myths and stories. But these have facts of history – social history – hidden in them. A literature, after all, is mirror of its society. After independence ‘wounded India’ got its Ancient and Medieval history written by a class of historians, trained by British school of thought, largely deficient in Sanskrit, the language in which India spoke through its pristine ages of freedom. Ideologies colour perceptions. India lost initial zeal to know itself and is perhaps still groping in some darkness.

Original research in the area needs several kinds of expertise, namely, archaeology, history, linguistics, Vedic studies, etc. I got involved in the debate on IVC and got fascinated by its importance around 1990s. I had occasions of reading/listening to various expert opinions. It was in 1996, that by dint of good fortune, I became the organizer of the first conference ever held in USA on this topic. This was an international conference held in Atlanta, USA with the main theme, ‘*Revisiting Indus-Sarasvati Age and Ancient India*’. However, I am no expert in the field. The subject continued to attract scholars in subsequent International conferences organized by me under the auspices of WAVES in Los Angeles (CA-1998), Hoboken (NJ-2000), Dartmouth (Mass-2002), and Washington (DC-2004). I also ended up editing proceedings of the first three of these conferences, which contain papers of a number of prominent scholars, including B.B. Lal, Jim Shaffer, Subhash Kak, Koenraad Elst, Hans Henrich Hock, Edwin Bryant, Shiva Bajpayi, S. Kalyanaraman, to name a few.

After setting the problem for discussion, the paper takes up for discussion and refutation the three main points that proponents of AIT consider crucial for their stand. Then pointing out two major weaknesses in AIT, the paper presents several points that support that Indus-Sarasvati Civilization has been an indigenous Indian/Vedic civilization.

### IVC IS AIT OR OIT? THE BACKGROUND

Though the ruins at the Harrappa site were identified by British engineers in 1842, and Alexander Cunningham published the first Harappan Seal in 1872-75, the best known archaeological sites of the Indus-Sarasvati civilization are Mohenjo-daro and Harrappa. Excavation work at Mohenjo-daro was done from 1922 to 1931 and 1935 to 1936. Excavation at Harrappa took place from 1920 to 1921 and 1933 to 1934.

The Aryan Invasion Theory (AIT) was put forth then stating that there existed a highly developed civilization that was destroyed by invading Aryans who entered India from 2600 to 1900 BC, occupied the vast land,

pushing the original inhabitants, Dravids, to south of India. The words 'Arya' and 'Dravid', were picked up from Indian sources, totally out of context.

Over 2500 other sites of this civilization have been discovered later in the wider region, after the theory of AIT was put forth. Satellite pictures of the region are also available. AIT has been challenged by a whole group of scholars based on researches, evidence and facts that appeared later. The alternate theory in short is sometimes referred as 'Out of India Theory' (OIT), that formulates that IVC was indigenously Indian/Vedic and from here it expanded to some other parts of the world.

The current position is that the AIT persists (even at the official level in India), while the its challenge by OIT is rather formidable.

The idea of the Aryan invasion, according to those who challenge it, was not merely a matter of misguided research, but was a conspiracy formulated on April 10, 1866 in London at a secret meeting held in the Royal Asiatic Society. The theory of the Aryan invasion of India was cooked-up there so that Indians could accept British rule just as they accepted earlier rulers all along from outside. That this was a political move is also supported from the fact that it was enthusiastically included in syllabi of all schools and colleges.

In line of the above argument, AIT had threefold colonial purposes. To make it appear that Indian culture and philosophy was not indigenous but that which originated in Europe; to justify colonial rule and to prepare a basis for Christian expansion in India. This, by the way, was also the purpose of the study of Sanskrit, such as at Oxford University in England, as indicated by Colonel Boden who sponsored the programme. He stated that they should "promote Sanskrit learning among the English, so as 'to enable his countrymen to proceed in the conversion of the natives of India to the Christian religion'. A new discipline, 'Indology', was concocted, whose experts and authorities could be Europeans of colonial design.

Not being a fact, through the theory the British succeeded in sowing the seeds of racial division in Indian society. It may be mentioned that applying racial notions in the society has been a European construct. It also continues officially even today, while the idea of racial division is not to be found in Indian thoughts and practices. Incidentally, this race idea continues to be exploited by the politicians and Christian converts in India for their gains.

#### ON GOING WORK

Today world scholars from Europe, USA, Japan and other places are engaged in bringing out the truth of Indus-Sarasvati Civilization, that is buried for

nearly 7000 years. Indian and Pakistani scholars joined this fray mostly after independence. It may be pointed out here that dating Vedas has presented formidable difficulties to the westerners. Max Muller, the well known Indologist and translator of Eastern texts, who never wrote anything in Sanskrit, was also a great proponent of speculating on the dates of the compilations of the Vedas. He had originally estimated that the *Rig-Veda* had been written around 1000 BC. However, when he could not defend himself in arriving at that date, he later wrote in his book, *Physical Religion* (p. 91, 1891), "Whether the Vedic hymns were composed 1000, 1500 or 2000 BCE, no power on earth will ever determine." The fact is that the colonial scholars of the time believed in the Christian chronology, that the world was created at 9: 00 a.m. on October 23, 4004 BC and the great flood occurred in 2500 BC. Thus, accepting the Christian time frame, all dates were speculative on a wrong scale

There are a variety of opinions and number of open areas for research on Indus-Sarasvati Civilization. The traditional view of Aryan invasion put forth has been seriously challenged. Edwin Bryant and Laurie Patton have edited a collection of papers, *The Indo-Aryan Controversy: Evidence and Inference in Indian History*. Both the editors are personally known to me. They put together divergent viewpoints, ranging from total confirmation of the Aryan Invasion Theory (AIT) and its total rejection in favour of 'Out of India Theory (OIT)'. There are a number of other publications by B.B. Lal, S. Kalyanaraman, Koenraad Elst and others.

### THREE MAIN POINTS OF AIT/AMT PROPONENTS

Three main points on which proponents of AIT/AMT continue to hold ground are (Refer – UCLA Professor Vinay Lal: Indus Valley Civilization, <http://www.sscnet.ucla.edu/southasia/History/Ancient/Indus2.html>):

The Indus Valley people do not appear to have been in possession of the horse: there is no osteological evidence of horse remains in the Indian sub-continent before 2,000 BCE, when the Aryans first came to India, and on Harrappan seals and terracotta figures, horses do not appear.

Neither Harappa nor Mohenjo-daro show any evidence of fire altars, and consequently one can reasonably conjecture that the various rituals around the fire which are so critical in Hinduism were introduced later by the Aryans.

In most respects, the Indus Valley Civilization appears to have been urban, defying both the predominant idea of India as an eternally and essentially agricultural civilization, as well as the notion that the

change from 'rural' to 'urban' represents something of a logical progression. The Indus Valley people had a merchant class that, evidence suggests, engaged in extensive trading.

One can see that these are just conjectures, not so critical for the theory either way. These can be disputed logically and can be dismissed to a good extent, as is outlined below:

B.B. Lal (1998) mentions finds of true horse in Surkotada, Rupnagar, Klibagan, Lothal, Mohenjo-daro and terracotta images of the horse from Mohenjo-daro and Naushero. Many bones of the related half-ass have also been found, and one should not discount the possibility that in some contexts, the term *ashva* could refer to either species. Koenraad Elst has argued that absence of horse, even if taken to be true

is not absolutely damaging ... as reputedly Aryan sites are likewise poor in horses. ... it also is the case for Hastinapura, a city dated by archaeologists at ca. 8th century BC, when part of the India was definitely Aryan. ... So, the argument from near-silence regarding horse bones need not prove absence of Aryans, nor fatal to OIT.

Further Swami B.V. Giri, in his well written article tells that

Excavations by Dr. S.R. Rao have discovered the remains of a horse from both the Late Harrapan Period and the Early Harrapan Period (dated before the supposed Invasion by the Aryans), and a clay model of a horse in Mohenjo-daro. Since Dr. Rao's discoveries other archaeologists have uncovered numerous horse bones of both domesticated and combat types.

Talking of fire-alter – *yajna-vedis*, according to Swami B.V. Giri, "the remains of *yajna-vedhis* (fire altars) were uncovered in Harrapa by B.B. Lal of the Archaeological Survey of India, in his excavations at the third millennium site of Kalibangan."

It seems, Professor Vinay Lal is unaware of the facts brought out in of some post-1980 studies. For example **Jarrige, J.-F. (1986): "Excavations at Mehrgarh-Nausharo" (Pakistan Archaeology 10(22): 63-131)** indicates that food production was largely indigenous to the Indus Valley. It is known that the people of Mehrgarh used domesticated wheat and barley, and the major cultivated cereal crop was naked six-row barley, a crop derived from two-row barley (see Shaffer and Liechtenstein, 1995, 1999). Archaeologist Jim G. Shaffer (1999: 245) writes that the Mehrgarh site "demonstrates that food production was an indigenous South Asian phenomenon" and that the data support interpretation of "the prehistoric urbanization and complex

social organization in South Asia as based on indigenous, but not isolated, cultural developments.”

Quoting from Wikipedia, we can say,

Indus civilization agriculture must have been highly productive; after all, it was capable of generating surpluses sufficient to support tens of thousands of urban residents who were not primarily engaged in agriculture. It relied on the considerable technological achievements of the pre-Harappan culture, including the plough. Still, very little is known about the farmers who supported the cities or their agricultural methods. Some of them undoubtedly made use of the fertile alluvial soil left by rivers after the flood season, but this simple method of agriculture is not thought to be productive enough to support cities. There is no evidence of irrigation, but such evidence could have been obliterated by repeated, catastrophic floods.

It can, therefore, be easily seen that AIT or AMT are sufficiently contradicted and weakened on these three points.

#### MAIN WEAKNESS OF AIT/AMT

Two strong points that counter the AIT or 'Aryan Migration Theory'(AMT) are:

1. The failure to point out the original homeland of Aryans, from where they are billed to have come to Indus Civilization areas. The proposed sites are suggested throughout the Indo-European world many thousands of miles apart.
2. The date of migration/invasion, that varies by centuries and in some cases by millennia.

#### POINTS IN SUPPORT BY IVS BEING INDIGENOUS INDIAN/VEDIC

- (a) Name Brahminabad: In 1856, British engineers John and William Brunton were supervising the East Indian Railway Company line connecting Karachi and Lahore. John wrote "I was much exercised in my mind how we were to get ballast for the line of the railway." They were told of an ancient ruined city near the lines, called 'Brahminabad'. The place had the traditional name 'Brahminabad'. Does a non-Vedic tradition has Brahmins? (Refer Robert Davreau 1976. 'Indus Valley', in *Reader's Digest: World's Last Mysteries*). This local traditional evidence supports that IVS was a Vedic Civilization.
- (b) Cultural Continuity: Many crafts "such as shell working, ceramics, and agate and glazed steatite bead making" were used in the making of necklaces, bangles, and other ornaments from all phases of

Harappan sites and some of these crafts are still practiced in the subcontinent today (Jonathan Kenoyer, Mark 1997. 'Trade and Technology of the Indus Valley: New Insights from Harappa, Pakistan'. *World Archaeology* 29 (2: "High-Definition Archaeology: Threads Through the Past"): 262–280.) Some make-up and toiletry items (a special kind of combs (*kakai*), the use of collyrium and a special three-in-one toiletry gadget) that were found in Harappan contexts still have similar counterparts in modern India. Terracotta female figurines were found (ca. 2800-2600 BCE) which had red colour applied to the 'manga' (line of partition of the hair), a tradition which is still seen in India.

- (c) Their Domesticated animals: They domesticated animals like cattle, bears, wild pigs, dogs, water buffalo, elephants, monkeys, dromedary, chickens, goats, cats, and sheep.
- (d) Some significant Indus tablets: There are seals that have Vedic signs and motifs in particular *Swastika*, and the Bull.
- (e) Touchstone: A touchstone bearing gold streaks has been found in Banawali, which must have been used for testing the purity of gold. This technique is still used in most parts of India.
- (f) Social: If IVS was a Dravidian Civilization and Aryans by invasion or migration pushed it to south, The Dravidians after moving to other parts must have created the same kind of civilization in their new settlement areas. But there is no trace of a similar civilization found.

## CONCLUSION

Sarasvati is a major river mentioned at least sixty times in Vedas. It is now a dry river, but it once flowed all the way from the Himalayas to the ocean across the desert of Rajasthan. The latest satellite data combined with field archaeological studies have shown that the Rig Vedic Sarasvati had stopped being a perennial river long before 3000 BC.

Kenneth Kennedy of Cornell University has recently proved that there was no significant influx of people into India during 4500 to 800 BC.

While the debate takes its time to die down with some diehards of AIT, OIT sincere researchers have a bigger task chalked out for them. This, from my point of view, is to find more about science and mathematics of IVC, without which such a great civilization just could not have existed on the earth.

*Satyam-eva Jayate* (Truth alone prevails)

# Sarasvati and Her Vedic Symbolism

Sampada Savardekar

## INTRODUCTION

The most unfortunate thing, in the educational scenario, next only to the lack of education, is the fact that, the knowledge of Indian history present in the history books today is far from true. The upcoming younger generation is not well informed or rather, misinformed about their culture and heritage; and thus they can hardly be expected to grow into proud Indians. We are what our culture makes of us, and we are necessarily the result of the culture and heritage and its influence that flows in our genes. The only outer impact or influence that can change and alter our feelings and understanding is the influence of our education, and most significantly: early education. The tragedy is that most people, intellectuals and educationists, are probably either not aware of the damage being caused by incorrect and inappropriate textbooks on formative minds; or they are conveniently ignoring the fact for a range of reasons. The latter is more likely to be true.

There are two sections in this paper:

Part 1 - We shall look briefly into what was the reason behind the invention of the so-called invasion theory.

Part 2 - In the second, however, I would like to concentrate not so much on the historical, scientific and archaeological data which tears the invasion theory into bits; but rather glance at another interesting yet significant aspect of this whole matter: the Sarasvati River herself, and her Vedic symbolism.

### 1. THE EARLY VISITORS

We note with pride that the early travellers to India spoke very highly of India, her culture and her people. There are several records of their words showering praises on India. I would like to quote a few:

All Indians are free, and none of them is a slave. ...Indians neither invade other peoples, nor do other peoples invade India.... They fare happily, because of their simplicity and their frugality. ...Since they esteem beauty, they practise everything that can beautify their appearance. Further, they respect alike virtue and truth....<sup>1</sup>

Others like Mountstuart Elphinstone, the first Governor of the Bombay presidency in 1841, wrote in *History of India*:

No set of people among the Hindus are so depraved as the dregs of our great towns.... The Hindus are mild and gentle people....

### THE REAL 'INVADERS'

The real invaders were, in fact, the British who came to plunder and colonise India. From the very beginning, the connection between India and Britain was based on greed and oppression. They were not interested in her heritage and culture; but did not fail to notice it. Their greed knew no bounds upon discovering the incredible wealth of India; and a plan was created to rob her of her riches.

They were quite aware that it was not easy to conquer India and her peoples, without creating a division among its peoples. For, as long as India stood as one solid rock, one undivided entity to defend herself; it would not be possible for any alien power to penetrate her. Lord Macaulay quickly saw, where the attack was needed, and he suggested that English education be implemented in India to help them dominate her.

And this they did successfully. They devised a plan to rob her of her own self-esteem by penetrating deep into her system of Education, corrupting it by the incorrect and baseless assumption of the so-called Aryan Invasion. Unfortunately, this trick worked remarkably in their favour, as in a matter of a few years, many intellectuals, and educationists also began to accept this. The British argument was simple:

You Indians have been dominated by an alien (Aryan) culture for so many centuries. We are just another wave of ruling aliens, and in fact, have come for your upliftment. If you could absorb the Aryans, who were themselves barbaric; then why not us, who are so much more sophisticated and cultured than yourselves?

An alarming example of this logic can be seen in the speech by Stanley Baldwin, in British House of Commons in 1929.

Ages and ages ago there sat, side by side, the ancestors of the English, Rajputs and Brahmins. Now, after ages, the two branches to the great

Aryan ancestry have again been brought together by Providence.... By establishing British rule in India, God said to the British, 'I have again brought you and the Indians together after a long separation, not in order that you should lord over them, or that you should exploit them, but in order that you should recognize your kinship with them.... It is your duty to raise them to their own level as quickly as possible, and work together, brothers as you are, for the evolution of humanity....'<sup>2</sup>

A very convenient way indeed of terming colonisation as God's will!

### ARYA/DRAVIDA CONFLICT

'Arya' and 'Dravida' were initially words, which never had any racial connotation. Arya purely meant one of moral and inner quality. Dravida came on the purely geographical basis. It had no connection in the Veda with race. The invasion theory, basically, was successful in creating a gap, a misunderstanding between the north and south Indians, who considered themselves Dravidians and thought they were being polluted by the barbaric Aryans. Even today, we hear that the Dravidians (South Indians) being told to resist the domination of the so-called Indo-Aryans or (North Indians), who wish to pervert their culture. This is the result either of the scheming minds of politicians, or of the incorrect but effective history lessons that they have been taught since childhood.

Many hymns were very conveniently accorded a racial twist by some recent scholars. They alluded to certain hymns, which described wars between the Arya and the Dasyus (dark aborigines) and here it was also noted that the Aryas were continuously storming their cities. But Sri Aurobindo clearly states that these conflicts were nothing but battles between the forces of light and darkness.

These Vritras, Panis, Atris, Rakshasas, ...are not Dravidian kings and gods, as the modern mind with its exaggerated historic sense would like them to be; they represent a more antique idea better suited to the religious and ethical preoccupations of our forefathers. They represent the struggle between the powers of the higher Good and the lower desire, ...<sup>3</sup>

In recent days, a Canadian archaeologist, George Erdosy, repeats what Sri Aurobindo had said decades earlier.

Even apparently clear indication of historical struggles between dark aborigines and Arya conquerors turn out to be misleading.... It is a cosmic struggle which is described in detailed (Vedic) accounts that are consistent with one another.<sup>4</sup>

### WHO IS THE JUDGE?

We have seen the opinions of some of the Western scholars, and their claim upon the Aryan Invasion theory as true. But I ask each and every Indian: Who is more fit to judge the history of India, her people, and her culture? Those who wished to loot and plunder her, or those great and illumined minds who guided her towards her destiny?

On the one hand, we are faced with people like Mr. Richard temple, Stanley Baldwin, and Lord Macaulay who would have us believe that India needed to civilize herself with their guidance; on the other hand we have great thinkers and philosophers like Swami Vivekananda, Swami Dayananda Sarasvati and Sri Aurobindo. Here are some of their inspiring and potent words:

Swami Vivekananda, in a lecture in USA:

And what your European Pandits say about the Aryans swooping down from some foreign land snatching away the land of aborigines and settling in India by exterminating them, is all pure nonsense, foolish talk. Strange that our Indian scholars too say 'Amen' to them. And all these monstrous lies are being taught to our boys!<sup>5</sup>

A systematic refutation of the Aryan invasion was forwarded by Sri Aurobindo after his close study of the Vedas in the early 1900s. He calls it 'a modern legend and not ancient history'.<sup>6</sup> He categorically refuted the fact that there was any significant proof in the Vedas to justify an Aryan invasion, and this he did several decades before the scientific defense was found. Along with this refutation, he also cast new light upon the interpretation of the Vedic verses. His study of the Veda proved to reaffirm the subtle, yogic experiences he had already had during the period of his intense *sadhana*. He says,

In India we have fallen during the last few centuries into a fixed habit of unquestioning deference to authority.... We are ready to accept all European theories, the theory of an 'Aryan' colonisation of a Dravidian India, the theory of Nature-worship ... of the Vedic Rishis... as if these hazardous speculations were on a par in authority and certainty with the law of gravitation and the theory of evolution.<sup>7</sup>

Interestingly, we must also add that when Dr. Ambedkar who himself fought for equal rights of the lower caste and untouchables, approached the Vedas for an independent study, also agreed that the whole concept of the Aryans coming from outside of India and ruling over the present Dravidians, was false and baseless.

The theory of invasion is an invention....The theory is based upon nothing but pleasing assumptions, and inferences based on such assumptions. The theory is a perversion of scientific investigation. It is not allowed to evolve out of facts. On the contrary, the theory is preconceived and facts are selected to prove it. It falls on the ground at every point.<sup>8</sup>

## 2. A NEW APPROACH

The entire basis of the repudiation of the invasion theory is the fact of the discovery of the dry bed of the Sarasvati River, which flowed thousands of years ago. The Satellite images and other scientific data, have contributed to the solid justification of the fact that the so-called invaders (Aryans), lived on the banks of this mighty Sarasvati and this is where a wonderful and many-faceted culture developed. Yet, I would like to propose that we look upon the mighty Sarasvati, with much more reverence than as a scientific location where a wonderful culture was born.

I would like to present before you, the symbolic connotation attributed to the river Sarasvati in the Vedas, in the light of the interpretation of the 20th century visionary: Sri Aurobindo.

When handling this subject of the symbolism, we are immediately faced with the question: "Do the Vedas have a symbolic or hidden meaning at all?" Now, this is a question that urgently needs to be answered in the affirmative. However, in order to assimilate this hidden meaning, and experience its truth, one must first realise that the poets of the Vedic times, the *ṛṣis*, had a completely different mentality than ours. An effort to understand their symbolism merely with a mental approach would be in vain. For, every field of activity has its own limitations, its laws, its 'dharma'. So also: science. If a scientist were trying to prove to us the existence of various planets in the Milky Way; he would definitely ask us to view the sky through the telescope. It is only through the help of that instrument that he can prove his point to us. But if I refuse to look into it, and insist that he should prove it to me in another manner visible to my naked eye, it is simply impossible. Even the scientist has to work within the *dharma* of his science.

In the *Gita*, when Arjuna wished to see the 'Visvarupa' of Sri Krishna, he humbly inquired whether it could be possible,

"Manyase yadi tachhakyam mayā drastumiti prabho" [11.4];<sup>9</sup>

To which Lord Krishna clearly says,

"Na tu mām śakyase draṣṭumanenaiva svacaḡṣuṣā  
Divyam dadāmi te caḡṣuh...."<sup>10</sup>

Just as the 'Divine Rūpa' could not be seen by the human eye, but only with the 'Divya Cakṣu'; so also, one cannot absorb or comprehend the subtle Truth behind the Vedic hymns without a psychological approach.

Who were these people who gave birth to our rich ancient heritage, who were they to whom we claim we owe our rich culture, tradition and spirituality? Could they really be nomadic tribes, or a semi-barbaric uncultured race, who could give birth to a culture as rich as the Vedic culture? Even a thought like this is preposterous.

They were *ṛṣis*, *munis*, who had acquired great power and strength owing to their intense *tapasyā*. We refer to them as 'ṛṣayah mantradṛṣṭārah'. They were seers. They saw the Truth. Based on this 'seeing', the Indian philosophy is referred to as 'darśana', which in itself is significant. Owing to the power of askesis, they saw very plainly what an ordinary person could not have seen or experienced. But the most important thing was to maintain and safeguard the sanctity of the knowledge. It was for the purpose of maintaining this sanctity, that the knowledge was coded into a language, which could be understood only by one who was himself an 'adhikārī'. Therefore is it said, "...niṣyā vacānsi nivacanā kavaye...". This was a typical feature of the Vedic literature. The deeper truth of the words is revealed only to the seer, and for the rest, it appeared to be mere physical rituals. The sacred knowledge, once fallen into the hands of the wrong people could cause calamity and havoc, and even a regression for humanity, hence the precaution.

### VEDIC SYMBOLISM

It is necessary to understand the Vedas for what they are, in their real meaning and depth, in their symbolic sense, and not as European scholars would have us understand them mentally. "What they (European scholars) sought for in the Veda was the early history of India, its society, institutions, customs, a civilisation a picture of the times."<sup>11</sup> This verily, was the error. The Vedas are a storehouse of knowledge and wisdom, they reflect the inner experiences of the *ṛṣis*, they are not meant to be the data collections describing material things and events. The right interpretation cannot be reached at with an incorrect approach.

It is indeed very hard to escape the inevitable necessity to accept a symbolic meaning for the very common words in the Vedas, such as 'agni', 'aśva', 'go', 'ghṛta', etc., because without doing so, the verses simply do not hold together.

'Usha' or dawn has always been described as 'gomati', 'asvavati'. If we insist on the literal meaning only, one wonders why the dawn is referred

to as having cows and horses. The words do not hold together to give out any comprehensive sense. It must be noted that the word 'go' also means 'light' in Vedic Sanskrit, and the word means 'asva' means 'energy'. Other interpreters have accorded to words changeable meanings and do not stick to one particular meaning. But Sri Aurobindo says, that if we were to consider the symbolic meaning each time, all verses hold together and reveal their hidden meaning. Thus, *usha* as 'gomati' even physically would mean, 'bringing the rays of light' and this is an image of the dawn of illumination in the human mind. And 'asvavati' comes from 'asva' meaning energy. Light and energy are two companion ideas that always go together, signifying mental illumination and vital energy.

Also, most often, the *ṛṣis* are shown as aspiring three things, namely, the sun, the cows and the waters. We wonder why the *ṛṣis* would pray to have more and more cows. The answer to this is the unfolding of a symbolic meaning of the words, which is:

The Sun – Truth consciousness

The Cows – inner Illumination

The Waters – Divine consciousness

Thus, their prayer for acquiring 'go' is not directed towards cows, but inner illumination, which is justifiably what the *ṛṣis* aspire for.

Again we have another verse:

"Eva hyasya sūnṛtā, virapṣī... gomati... mahī...,  
Pakvā śākhā na dāṣuṣe."<sup>12</sup> (1.8.8)

"Thus Mahi for Indra full of rays, overflowing in her abundance, in her nature a happy truth, becomes as if a ripe branch for the giver of the sacrifice."

Here, a simile is presented. As trees like mangoes, etc., with their flowers and fruits are beneficial, similarly the Vedas revealed by the God are givers of great knowledge. Only great seers can reveal this truth to others. This significantly shows the revealing character of the Vedas. But the translation of Gomati as (giver of cows/Indra) does not make sense in this context as has been earlier translated and interpreted by some.

Sri Aurobindo presents many more similar illustrations in his book *The Secret of the Veda*.

Sri Aurobindo did not arbitrarily accord random symbolism to words. He proceeded in a systematic manner by basing himself on the very language of the Veda, inquired into whether the words themselves indicated toward some psychological meaning beyond the material sense alone. He insisted on according to the terms an unwavering meaning for they have come down

as the diction of the seers based firmly on philological justification to begin with, befitting the context, and later relating it to psychological functions of Gods. If this leads us to clearer understanding of the verses, and all hold together as one great doctrine, then the method proves successful, and the undeniable sanctity and uniqueness of the Veda is unveiled.

Following the thread of his psychological theory, he says,

Thus there emerged in my mind, revealing itself as it were out of the ancient verses, a Veda which was throughout the Scripture of a great and antique religion already equipped with a profound psychological discipline, a Scripture not confused in thought or primitive in its substance, not a medley of heterogeneous or barbarous elements, but one, complete and self-conscious in its purpose and in its purport, veiled indeed by the cover, sometimes thick, sometimes transparent, of another and material sense, but never losing sight even for a single moment of its high spiritual aim and tendency.<sup>13</sup>

Most Western interpretations have erred by the fact of looking at only the ordinary meaning of the word, unaware of the roots of the word, not going to the depths of its nuances, thus yielding a most inefficient and insufficient interpretation.

For example, there are numerous references to oceans and waters in the Vedas. Let us consider an example:

Samudrād ūrmirmadhumān udārad, upāmsunā sam amṛtatvam ānat;  
Ghṛtasya nāma guhyam yad asti, jihvā devānām amṛtasya nābhih.<sup>14</sup>

... A honeyed wave climbs up from the ocean and by means of this mounting wave which is the Soma (amsu) one attains entirely to immortality; that wave or that Soma is the secret name of the clarity (ghrtasya, the symbol of the clarified butter); it is the tongue of the gods; it is the nodus (nabhi) of immortality.

[In this verse especially, it is clear that the sea, the honey, the Soma, the clarified butter are psychological symbols. They could not have been written in a purely physical sense of the terms. The seer could not possibly have meant that a wave of wine rose from the waters of the sea or the rivers, and this wine is a secret name for the clarified butter. The symbolism would probably point to the honeyed wave of *ananda*, (delight of existence), arising from the subconscious depth in us; and that we can arrive at immortality by this *ananda*. It is this *ananda* that is the secret reality behind outer actions of the mind in its shining clarities.]

The Vedas speak of two seas. Water for them is essentially a flood of consciousness, and the Ocean is seen in the image of infinite and eternal existence.

To further justify this interpretation, we can refer to verse 4.58.5; wherein Rishi Vamadeva clearly refers to the sea as 'hṛdyāt samudrāt' out of which arise 'ghṛtasya dhārāh'.

### SARASVATI

Now, we come to Sarasvati herself. Let us try to view another aspect of this goddess in the light of Sri Aurobindo's symbolic interpretation. Sri Aurobindo categorically states, "The symbolism of the Veda betrays itself to the greatest clearness in the figure of the goddess Sarasvati....She is, plainly and clearly, the goddess of the Word, the goddess of a divine inspiration...."<sup>15</sup>

The association of a river with poetical inspiration is also found in Greek mythology, in the form of the river Hippocrene, the fountain of the horse. This stream had sprung from the hoof of the divine horse, Pegasus. The stroke of the hoof on the rock releasing waters of inspiration is a psychological symbol. The symbolism of Sarasvati can be understood in a somewhat similar fashion.

"Pāvakā nah sarasvatī, vājebhir vājinivatī; Yajñām vaṣṭu dhiyāvasuh.  
Codayitrī sunrtānām, cetantī sumatīnām; Yajñām dadhe sarasvatī.  
Maho arṇah sarasvatī, pra cetayati ketunā; Dhiyo viśvā vi rājatī."<sup>16</sup>

Word to word symbolic meaning follows:

Pāvakā	-	purifying
nah	-	our
sarasvatī	-	Sarasvati
vājebhir	-	with all the plenitudes of her forms of plenty
vājinivatī	-	rich in substance
Yajñām	-	sacrifice
vaṣṭu	-	may desire
dhiyāvasuh	-	by the thought
Codayitrī	-	the impeller
sunrtānām	-	of happy truths
cetantī	-	the awakener in consciousness
sumatīnām	-	to right mentalisings
yajñām	-	sacrifice
dadhe	-	upholds
sarasvatī	-	Sarasvati
Maho arṇah	-	great...flood (the vast movement of the ṛtam)
cetayati	-	awakens in consciousness
ketunā	-	by the perception

Dhiyo	–	the thought
viśvā	–	all
vi rājati	–	illuminates entirely

In the light of these word meanings, the complete translation would be thus in Sri Aurobindo's own words:

"May purifying Sarasvati with all the plenitude of her forms of plenty, rich in substance by the thought, desire our sacrifice."

"She, the impeller to happy truths, the awakener in unconsciousness to right mentalisings, Sarasvati, upholds the sacrifice."

"Sarasvati by the perception awakens in consciousness the great flood (the vast movement of the *ṛitam*) and illuminates entirely all the thoughts."<sup>17</sup>

"For these are the three Ṛiks devoted to Sarasvati, the divine Word, who represents the stream of inspiration that descends from the Truth-consciousness, and thus limpidly runs their sense."

Another interesting aspect would be to draw our attention to the initial naming of the rivers. A question arises: who has named the ancient rivers? The names have come down to us through scriptures and other literature; so it is fair enough to suppose that it was the *ṛṣis* who addressed particular rivers and mountains by particular names. Why a particular name for a particular river? Can't Gangā be called Narmadā, or Yamunā be called Vipāśā? Here, knowing the *ṛṣis* who have a unique faculty of inner perception, we can expect that they would have appropriately named the rivers in the light of what they represent and their inner relevance.

The word 'Sarasvati' itself in Sanskrit, means, 'one of flowing movement'. Considering that the waters symbolised floods of higher consciousness, to the Vedic Aryan this Sarasvati represented the flood of Truth-Consciousness (*ṛtam*), she was the embodiment of Divine Inspiration. It is again extremely significant to note that the Vedic Sanskriti, replete with culture and spirituality, developed on the banks of this very river, which was the Mother herself. She could very well have been their Inspiration for the Vedic compositions.

They also regarded her as their Mother, which is very clear in:

"Ambitame nadītame devitame Sarasvati  
Apraśastā iva smasi praśastimamba naskridhi..."<sup>18</sup>

"Best of mothers, best of rivers, best of goddesses..."

Sarasvati is also spoken of as the secret self of Indra in the Vedas. This would certainly not make sense if we were to suppose Sarasvati to merely be a physical river and nothing more. Indra himself is much more than simply the God of the sky. He represents the illumined mind, and if we

consider Sarasvati to be the inspiration flowing from the higher plane into the mind; the concept makes perfect sense.

If this theory of the Aryan invasion were true, do we realise what it implies? It implies that the Vedas were composed by the nomadic tribes or semi-barbarians who came from the northern regions and settled in India. But, it is clear to us that the Vedas have to be the compositions of people who belong to this soil. P.T. Srinivasa Iyengar affirms,

A careful study of the Vedas... reveals the fact that Vedic culture is so redolent of the Indian soil and of the Indian atmosphere that the idea of the non-Indian origin of that culture is absurd.<sup>19</sup>

### CONCLUSION

The purpose of this paper is not to debate upon the validity of traditional commentaries. This symbolic interpretation presented by Sri Aurobindo has been proposed in this paper as an alternative viewpoint, which is certainly worth considering. In the light of this new interpretation, many more doors open up in front of us. His writing was always based on his own experiences in the course of his *sadhana*.

Obviously, we are not refuting that Sarasvati was the name of a river, in the ancient times, which later was buried into the ground due to several reasons. What I would like to add to this is that, it is not only a name of this river by coincidence. The river herself has a significance, a symbolism, which has been revealed in the Vedas. If we were to consider it, understand it and experience it, then, the regard we have for our heritage and for the *ṛṣis* who built and maintained the heritage, would rise to much greater heights. And very justifiably so.

The *ṛṣis* arranged the substance of their thought in a system of parallelism by which the same deities were at once internal and external Powers of universal Nature, and they managed its expression through a system of double values by which the same language served for their worship in both aspects. But the psychological sense predominates and is more pervading, close-knit and coherent than the physical.<sup>20</sup>

Today, the scientific proof has changed the opinion of Westerners too.

The belief in an Aryan 'race' had become accepted by philologists who knew nothing of science, what these men have written on the subject has been cast by historians into the limbo of discarded and discredited theories.<sup>21</sup>

As proud Indians, we do not now need to rely upon Western scholarship to agree and give the green signal that the invasion is a myth. It

is for us to defend our land, to stand up for our scriptures and argue our own case. The least we can do is to support the experts who are engaged in this research to unveil the hidden truths of our scriptures, 'the Secret of the Veda'.

### NOTES AND REFERENCES

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## Democratic Assemblies in the Vedic Era

Shashi Tiwari

The Vedic era encompasses the Āryāvarta Civilization which has been lost almost 5000 years back, but the solidarity of its cultural traits have formed an undercurrent of unbroken chain right up to the present age. We find from the Vedas that the Āryan society during the early Vedic period was theoretically organised on the basis of political institutions and was governed almost by the king or the elected leader. The characteristic features of the Vedic polity have been concentrated on its three important institutions, viz. the kingship, the king's entourage and the popular assemblies. The popular assemblies and institutions of earlier Vedic period are known by the names, such as—*Sabhā*, *Samiti*, *Vidatha* and *Pariṣad*. The political life and activities of the state are expressed through them. This paper attempts to analyse the nature, origin, constitution and functions of the Vedic popular assemblies, especially the *Samiti* and the *Sabhā* to determine the democratic elements in governance of the Vedic times.

Regarding the political organizations of the Vedic age, we find from the Vedas that the family (*Gṛha* or *Kula*) was the ultimate basis of the Vedic state. A number of families, connected with ties of kinship, formed the *Grāma* (village). An aggregate of villages made up the *Viś* (district or clan) and a group of *Viś* composed the *Jana* (tribe). The tribe was under the rule of its chief or king (*Rājan*), who was often hereditary, as would appear from several lines of succession mentioned in the *R̥gveda*. Occasionally the *Rājan* was elected by the *Viś*, but it is not clear whether the choice was limited to members of the ruling family or was extended to other noble families. The king ensured the protection of his people and in return they rendered him obedience or gave voluntary gifts. The king dispensed justice and performed sacrifices for all types of prosperity of the state. The *Purohita*, the *Senānī* and

the *Grāmanī* were the most important members of the royal entourage. The king was by no means an autocrat, probably his powers were limited and functions were checked by certain institutions and assemblies.

The earliest work of the Āryans, the *Ṛgveda* mentions that the king or the emperor used to attend *Sabhā*,<sup>1</sup> *Vidatha*<sup>2</sup> and *Samiti*.<sup>3</sup> In the *Atharvaveda* the terms *Sabhā* and *Samiti* are used to explicate two different concepts. It is clear that the words are used to refer to two different types of organizations.<sup>4</sup> In another verse of the *Ṛgveda*, Soma is said to confer a son who is *Sādanya*, *Vidathya* and *Sabheya*,<sup>5</sup> from which it follows that *Sabhā* is in some respects different from *Vidatha*. Evidently, therefore, all the three names express three distinct form of institutions during the Vedic era. Amongst them *Vidatha*, frequently mentioned in the Vedic texts and mainly confined to the *Ṛgveda*, is a word of obscure sense. *Sabhā* and *Samiti* are mentioned respectively only 8 and 9 times in the *Ṛgveda* and 17 and 13 times in the *Atharvaveda*, whereas *Vidatha* is mentioned 122 times in the *Ṛgveda* and 22 times in the *Atharvaveda*. From the relative references in the Vedic literature we may say that *Vidatha* was more important in the early Vedic period whereas *Sabhā* and *Samiti* became so in the later Vedic age.

The term *Vidatha* has been interpreted by many scholars differently.<sup>6</sup> Prof. Ghoshal, while referring to different explanations of the scholars, concludes that "in view of these differences it seems impossible to predicate any certain attribute of the Vedic *Vidatha*." V.P. Verma thinks that "the *Vidatha* seems to be a spontaneous and occasional assemblage rather than a regular and formal one like the other two." This term seems to denote a council or folk-assembly mostly related to religious activities, sacrifices or knowledge-sessions. R.S. Sharma has justly pointed out that, "it was attended by men and women, performing all kinds of functions-economic, military, religious and social. How far the *Vidatha* served as an instrument of government is difficult to determine".<sup>7</sup> So in the absence of any distinctive political characteristic of the Vedic institution called the *Vidatha*, here only the words *Sabhā* and *Samiti* are taken under consideration.

The *Sabhā* and *Samiti* are examined by R.K. Mookerji as "the original and earliest institutions of Indian polity".<sup>8</sup> They prove the existence of democratic elements in Vedic era, as A.C. Das opines that,

"a people with democratic instincts like the Vedic Āryans, quite alert to and mindful of their own tribal interests could not but frequently meet in the assemblies to discuss village and public affairs and express their opinions freely on matters that concerned them most intimately."<sup>9</sup>

Of these two again *Sabhā* is of greater antiquity because often later *Samiti* is used sometimes in connection with *Sabhā*.<sup>10</sup> In the *Atharvaveda* both

of these are noted as two daughters of Prajāpati and this shows their equal importance.<sup>11</sup> The verse says, “*Sabhā* and *Samiti* are daughters of Prajāpati. They have coordination. May they protect the nation. They guide the people. May I speak in the assemblies gently.” Both the words occur several times in different Vedic texts. Hillebrandt holds the view that both are indistinguishable and meant the one and the same thing.<sup>12</sup> Keith thinks both are much the same.<sup>13</sup> But Vedic evidences show their difference.

### NATURE AND FUNCTIONS OF THE *SAMITI*

The word *Samiti* (Sam+iti) literally means ‘meeting together’ or ‘an assembly, which is attended by all persons.

On the basis of certain Vedic references the scholars have presented their opinions on the subject differently. According to Rahul Samkṛityayana *Samiti* was the name of the national assembly or parliament in the Ṛigvedic period.<sup>14</sup> K.P. Jayaswal thinks that the *Samiti* was the national assembly of the whole people or *Viśaḥ*, electing and re-electing the *Rājan* or the king. Its most important function was to elect the king. Thus it was a sovereign body from the constitutional point of view.<sup>15</sup> A.C. Das opines that the *Samitis* were held on special and important occasions in the capital towns and attended by all the people or their representatives living in the town as well as the interior villages.<sup>16</sup> ‘The *Samiti*’, according to N.C. Bandyopadhyaya was ‘a gathering of the whole folk of the community’, ‘the assembly of the *Rāṣṭra*.’<sup>17</sup> ‘Though the *Samiti*’ says A.S. Altekar, “sometimes meant a social gathering, it usually stood for a political assembly of the central government”. He admits that we are completely in dark as to the constitution of this important body.<sup>18</sup> V.M. Apte states that the *Sabhā* and the *Samiti* in the *Ṛgveda* are different to distinguish, the *Samiti* may provisionally be said to have been “an august assembly of larger group of people for the discharge of tribal (i.e. political) business and was presided over by the king”.<sup>19</sup> P.V. Kane after discussing on the *Samiti* concludes

‘it is impossible to say how the *Sabhā* or *Samiti* was constituted in the Vedic period. All that we can say is that it was an assembly of people to which the king, learned men and others went. It is extremely doubtful whether it was an elective body. Probably it was an ad hoc assembly of such people as cared to be present.’<sup>20</sup>

U.N. Ghosal rejects the idea of Jayaswal, Altekar, etc. and concludes that “the *Samiti* was the folk-assembly par excellence of the Vedic Āryans and occupied such a position of sufficient importance to make it the king’s most valuable asset”.<sup>21</sup> So a fresh review based on the study of Vedic texts is required on this subject.

The *Samiti* was assembly of the whole people (*Viśaḥ*), attended by the *Rājan* or king. A verse clearly says “May all the people wish these for their king.”<sup>22</sup> *Atharvaveda* mentions that the *Samiti* was of great importance for which the prayer was pronounced to the effect that the stability of the king would depend on *Samiti*.<sup>23</sup> There are clear signs that concord between the king and assembly were essential for his prosperity.<sup>24</sup> The *Atharvaveda* says that it was the *Viśaḥ* who accepted one into kingship.<sup>25</sup> This passage refers not to the election of the king by the clan, but to his acceptance by the subjects. The *R̥gveda* points out that a true king has to attend the *Samiti*.<sup>26</sup> It may be assumed that if he did not attend it, he would be considered ‘untrue’. It was a practice that kings or nobles should assemble in the assembly.<sup>27</sup>

Later Vedic references prove that the *Samiti* acted as a national academic assembly also. The *Chāndogya* and *Bṛhadāraṇyaka Upaniṣads* relate the visit of Śvetaketu to the assembly called *Samiti* of the Pāñcāla country where the King Pravāhaṇa Jaivāli asked him five philosophic questions which the former could not answer and then he had to go away with the remark of Jaivali “How could anybody who did not know these things say that he had been educated?”<sup>28</sup> While the king’s presence in the *Samiti* is noteworthy here, it is also noticeable that for the *Samiti* another word *Pariṣad* is used simultaneously.

In the ‘*Samijñāna-sūkta*’ of the *R̥gveda* the word *Samiti* literally means ‘union or meeting’, where it is used with *Mantraḥ*, *Manaḥ* and *Chittam*.<sup>29</sup> Here the prayer is for common meeting (*Samiti*), common thought (*Mantra*), common mind (*Mana*) and common realization (*Citta*), etc. So it prays that the deliberation of the *Samiti* should be harmonious and the mind of its members well-disposed towards one another and its conclusions unanimous. In another verse of the *R̥gveda* again the word *Samiti* is found with the words *Citta* (mind) and *Vrata* (action)<sup>30</sup> and perhaps denotes the sense of peace and smoothness of mind and action during association. Thus it is reasonable to predict that in the *R̥gveda* the term *Samiti* is related to a ‘meeting’ or a ‘meeting place’ for discussions. Later in the *Atharvaveda* there are few verses, showing the deliberative functions of the *Samiti* and the *Sabhā*. The seer prays to both *Sabhā* and *Samiti* for their concurrent aid and wishes that he may speak what is pleasant among those who have come together, that all the *Sabhāsads* may be ‘of like speech’ with him and give up their splendour and discernment (*Vijñāna*) to himself and that he may be the possessor of fortune (*Bhagin*) of the whole gathering (*Samśad*).<sup>31</sup> Another passage also describes about the importance of sweet speech in the *Samitis*.<sup>32</sup> It shows that in the *Samiti* during deliberations, speakers were anxious to make speeches. A Vedic text quoted in the *Pāraskara Gr̥hyasūtra* also states

that the speaker wanted to prove himself 'brilliant, not to be contradicted' in the *Samiti*.<sup>33</sup> The persons were desirous of victory over the discussion, is hinted in another prayer of the *Atharvaveda*.<sup>34</sup> A reference in the *Atharvaveda* seems to indicate that only that person was considered successful who has won over the *Samiti* or who is approved by it.<sup>35</sup> However, we have no adequate evidence as regards the subject of deliberations in the *Samiti*, it may be assumed simply that general deliberations on policy of all kinds used to take place there. Even the gods had a *Samiti*, hence called *Devatātā*.<sup>36</sup>

Thus three points are quite clear. Firstly, the *Samiti* was a meeting place for all the people. It was a popular assembly which could be attended by all *Viśah*, irrespective of class, rank and wealth. It was an assembly to which the king, learned men and others went. Secondly, king's presence in the *Samiti* was almost compulsory. It was in his favour to get support and protection of this assembly. Sometimes it seems to be a constitutional check upon the king. Probably he was invited to attend it as its head to preside over its deliberations. The *Pāraskara Gṛhyasūtra* indicates that the *Parīṣad* had its *Īśāna*, i.e. president.<sup>37</sup> But the *Parīṣad* is identical with the *Samiti* and it was the king as *Īśāna* is not proved from any reliable reference found in the Vedas. Although his presence in the *Samiti* is recorded several times, but the question of his election by the people in the *Samiti* is extremely doubtful. Thirdly, all sorts of general deliberations were the main functions of the *Samiti*. In the Vedic age the *Samiti* is considered as ancient and eternal as a daughter of Prajāpati, the creator. Its continuous existence is seen from the *Ṛgveda* to the later Upaniṣadic literature and thus proves its democratic character and functions in a sort of republican state of the Vedic era. Jayaswal's finding that the *Samiti* disappeared before the time of the *Jatakas* (600 BC)<sup>38</sup> points out that with the rise of imperial epoch its existence was not required.

### NATURE AND FUNCTIONS OF THE *SABHĀ*

There was another important constitutional organism in the Vedic times known as *Sabhā*. Its exact character is not certain from the Vedic references. It is described as a sister of the *Samiti* and a daughter of Prajāpāti, the creator in the *Atharvaveda*. It is undoubtedly related to the *Samiti*, but its relationship with it is not known from the Vedas. It was considered almost as important as the *Samiti* and was attended by the king and nobles. Certainly *Sabhā* is the name of an 'assembly' as well as of the 'hall' where people met in assembly in the Vedic era.

Let us now examine the views of the different scholars regarding the Vedic *Sabhā*. According to Rahul Samkriyayana the term *Sabhā* is used in

the *R̥gveda* in a wider sense as not only political assembly of village, nation and people, but also gambling halls and some other gatherings.<sup>39</sup> Jayaswal agrees that the expression *Sabhā* is used in several senses in the Vedic literature, but in constitutional sense, probably it was a standing and stationary body of selected men working under the authority of the *Samiti*. According to him the *Sabhā*, a body of elders with its president called *Sabhāpati*, acted as a national judicature like the modern criminal courts.<sup>40</sup> A.C. Das states on the subject that every important village, had a permanent institution of its own, which was known by the name *Sabhā*. The *Sabhā* had a house or hall of its own, where the elders and all respectable persons, whether young or old, regularly met not only to talk on important village topics, like cows and probably cultivation, rain or crops, but also to while away their idle time in dice-playing. The *Sabhā* thus assumed the character of an assembly as well as a club.<sup>41</sup> According to N.C. Bandyopadhyaya *Sabhā* which may be designated as 'the political council' had little connection with the village, but it was a central aristocratic gathering associated with the king. He also thinks that the *Sabhā* acted as a judicial assembly, the members acted as assessors and it was presided over in a later age by the king himself.<sup>42</sup> Louis Renou also states that *Sabhā* seems to be an assembly of limited size, partly judicial in nature.<sup>43</sup> A.S. Altekar admits that the *Sabhā*, as a separate body, was 'primarily the village social club'. He speaks of the high status of the members of this body and says that "sometimes it was associated with the king and was more a political than a social gathering". Lie concludes that, "the *Sabhā* was usually the village-assembly, meeting for social as well as political purposes."<sup>44</sup> V.M. Apte also states that "The *Sabhā*, a more select body was less popular and political in character than the *Samiti*."<sup>45</sup> Zimmer tries to identify *Sabhā* with the village on the evidence of the *Vajasaneyi Samhitā* (3.45). He thinks that *Sabhā* was the meeting place of the village-council, presided over by the *Grāmaṇī*.<sup>46</sup> According to Ludwig the *Sabhā* was an assembly not of all the people, but of the Brāhmins and *Maghavans* or rich patrons.<sup>47</sup> In P.V. Kane's opinion *Sabhā* was in some respects different from *Vidatha* but the words *Sabhā* and *Samiti* are applied to the same assembly.<sup>48</sup> After examining several views U.N. Ghosal is convinced that the *Sabhā* was the parallel assembly which enjoyed equal prestige.<sup>49</sup>

After quoting the views of the scholars related to the nature and functioning of the Vedic *Sabhā* it seems desirable to discuss the Vedic references for reaching any conclusion. An Atharvavedic hymn describes the importance of the *Sabhā*.<sup>50</sup> Here the king has wished protection or aid from the *Sabhā* also. Prayer for co-operation in the *Sabhā* shows that discord in the *Sabhā* assembly was as much disliked and dreaded as in the *Samiti*.

The *Sabhā* is called by the name 'Nariṣṭā'. With reference to this name, the speaker desires that "all those who sit assembled in the *Sabhā*, utter speech in harmony with me". This peculiar word 'Nariṣṭā' has been explained differently. It has been translated as 'mirth' by Bloomfield and as 'sport' by Whitney and Lanman.<sup>51</sup> But Sāyaṇa has described the term as a 'resolution' of many 'that cannot be broken or violated. Hence from the inviolability the name is derived'.<sup>52</sup> It means to say that free discussion was held in the *Sabhā* and a resolution of the *Sabhā* was considered binding on all and was inviolable. Thus *Sabhā* seems to have acquired, a democratic function.

Etymologically *Sabhā* means 'a body of men shining together'.<sup>53</sup> *Sabhāsād* and *Sabhācara*<sup>54</sup> were those persons, entitled to a seat therein and were able to attend it. They, therefore were considered lustrous and famous. The *Sabhā* had its president also known as *Sabhāpati*. Respect was not only due to him but also to the entire *Sabhā*.<sup>55</sup> Probably elders in the body were holding this post.<sup>56</sup> 'Sabheya' adjective applied to a Brahmin (*Vipra*) supports the view that 'being worthy of assembly' was a distinction.<sup>57</sup> The birth of a Sabheya son was earnestly desired by fathers.<sup>58</sup> The *Atharvaveda* states that all the members of the assembly must comply with the rules and regulations, only then assembly would be safe.<sup>59</sup> Similarly wealth (*Rayi*), which is *Sabhāvān*, i.e. 'fit for the assembly' is praised.<sup>60</sup> The high social status of the members of the *Sabhā* is proved by the verse in which the seer says to Indra that he would go to the *Sabhā* pleasing like the moon.<sup>61</sup> Thus from these evidences it may be assumed that the *Sabhā* was an assembly of the highest dignitaries or wealthy persons also. The *Ṛgveda* gives a word '*Sabhāsāha*',<sup>62</sup> describing a friend who has come back successful from the *Sabhā*. It shows how the Vedic people were eager to gain eminence in the assembly, obviously not for their skill in playing dice, but for their ability in debate or their rich patronage. Presumably it was an assembly not of all the people, but only of the respectable, cultural and rich section of it. It was a place to gain eminence and fame. There is no doubt that in the Vedic period it was also a simple village assembly, where all important transactions of the public life were carried out, such as general conversation, debates, social intercourse and gambling.

Thus on the basis of Vedic evidences, we are able to study the political life and activities of the earlier Vedic days to some extent. The existence of the *Samiti* and *Sabhā* expresses democratic element in the Vedic political thought, because both these popular assemblies enjoyed the right of debate and discussion. Generally they were open to a large group, but the *Samiti* was chiefly attended by *Viśaḥ* and the *Sabhā* mainly by *Vipra* and *Maghavans*. Both were graced by the presence of the king, headman or nobles. Their

protection and aid were desired by all. They were the symbol of dignity, discipline and freedom of expression for the Vedic Āryans. However their exact constitutional composition is not clearly described in the Vedas, we may conclude with the remark that they were the popular democratic assemblies of the Vedic era.

### NOTES AND REFERENCES

1. *Candro yāti sabhām upa/ RV 8.4.9.*
2. *Vidathyo na samrāt/ RV 4.21.2.*
3. *Rājā na satyaḥ samitīriyānaḥ/ RV 9.92.0.*
4. *AV 7.12.1.*
5. *RV 1.91.20.*
6. R.S. Sharma, *Political Ideas and Institutions in Ancient India*, Delhi, 1959, pp. 63-80; K.P. Jayaswal, *Hindu polity*, Bangalore, 1943, p. 20; U.N. Ghoshal, *Studies in Indian History and Culture*, New Delhi, 1965, pp. 351-52; H.P. Chakraborti, *Vedic India, Political and Legal Institutions in Vedic Literature*, Calcutta, 1981, pp. 146-60; V.P. Verma, *Studies in Hindu Political Thought and its Metaphysical Foundations*, Delhi, 1974, 11, p. 580.
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8. R.K. Mookerji, *Hindu Civilization*, Ch. V.
9. A.C. Das, *Rgvedic Culture*, Delhi, 1979, p. 324.
10. *AV 7.12.1, 8.10.5-6, 12.1.56, 15.9.2-3.*
11. *AV 7.12.1.*
12. Hillebrandt, *Vedische Mythologie*, Vol. III, pp. 123-25.
13. Keith, *Vedic Index*, Vol. II, p. 430.
14. R. Samkriyayana, *Rgvedic Ārya* (in Hindi), Delhi, 1957, p. 140.
15. K.R. Jayaswal, *Hindu Polity*, pp. 12-13.
16. A.C. Das, *Rgvedic Culture*, p. 328.
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20. P.V. Kane, *History of Dharmasastra*, Vol. III, p. 92.
21. U.N. Ghoshal, *Studies in Indian History and Culture*, Delhi, 1965, p. 250.
22. *Viśastvā sarvā vāñchantu/ RV 10.173.1; AV 6.87.1.*
23. *Dhruvāya te samitīḥ kalptāmiha/ AV 6.88.3.*
24. Keith, *Vedic Index*, Vol. II, 431.
25. *Toām Viśo Vṛṇtām rājyāya/ AV 3.4.2.*
26. *RV 9.92.6.*
27. *Yatrouṣadhīḥ samagmataḥ rājānaḥ samitāvījyat/ RV 10.97.6.*
28. *Chān. Upa. 5.3; Bṛha. Upa. 6.2.*  
(*Pañcālānām Samitimeyāya, Pañcālānām pariśada-mājagāma.*)
29. *Samāno mantraḥ samitīḥ samānī samānam maṇaḥ saha cittameṣām/ RV 10.191.3.*

30. *Ā Vāścittamā vo Vratamā vo'ham samitim dade/ RV 10.166.4.*
31. *AV 7.12.1-3, 15.9.2-3.*
32. *Ye saṁgrāmāḥ samitayasteṣu cāru vademe te/ AV 12.1.56.*
33. *Pāraskara Gṛhyasūtra, 3.13.4.; Jayaswal, Hindu Polity, p.13.*
34. *AV 2.27.*
35. *Nāsmāi Samitiḥ kalpate/ AV 5.19.15.*
36. *RV 195.8; RV. 7.43.3- Devatātā-God's assembly' according to Griffith.*
37. *Pāraskara Gṛhyasūtra, 3.13.4.*
38. *Jayaswal, Hindu Polity, p. 16; Keith, Vedic Index, II, p. 431.*
39. *R. Samkṛityayana, Ṛgvedic Ārya, p. 139.*
40. *K.P. Jayaswal, Hindu Polity, pp.18-19.*
41. *A.C. Das, Ṛgvedic Culture, pp. 32-33; RV 6.28.6, 8.4.9, 10.34.6.*
42. *N.C. Bandyopadhyaya, Development of Hindu Polity and Political Theories, Calcutta, 1938, pp. 112-14.*
43. *L. Renou, The Civilization of Ancient India, 1959, p. 97.*
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46. *Zimmer, Altindisches Leben, Berlin, 1879, p. 174.*
47. *Ludwig, Translation of the Ṛigveda, III, pp. 253-56.*
48. *P.V. Kane, History of Dharmasastra, Vol. III, p. 92.*
49. *U.N. Ghosal, Studies in Indian History and Culture, Delhi, 1965, p. 250.*
50. *Sabhā ca mā samitiścāvātām  
prajāpaterduhitarao saṁvidāne/  
Yenā saṁgacchā upa mā sa sikṣā-  
ccāru vadāni pitarah saṁgatesu  
Vidma te sabhe nāma nariṣṭā nāma vā asi  
Ye te ke ca sabhāsadaste me santu savācasah// AV 7.12.1-2; 15,9,2-3.*
51. *Bloomfield, Atharvaveda (SBI, 42), p. 138; Whitney and Lanman, HOS, Vol. 18, p. 391.*
52. *Nariṣṭā ahimsitā parairanabhibhāvā....bahavaḥ saṁbhūya yadyekam vākyaṁ  
vadeyustadhi na parairatilangham/ Atah anatilaṅghyavākyaṁvād narṣṭeti nāma  
sabhāyā yujyate/ AV, Sayaṇa 7.12.2.*
53. *Saha dharmeṇa sadbhīrō bhātiti sabhā/ Pāraskara Gṛhyasūtra, 3.13.1.*
54. *AV 17.13.2; VS. 30.6; AV 19.55.5.*
55. *Namaḥ sabhābhyaḥ sabhāpatibhyaśca/ YV 16.24.*
56. *Jayaswal, Hindu Polity, p. 18.*
57. *Sabheyo viprah bharate matī dhanā/ RV 2.24.13; 1.91.20.*
58. *RV 7.5.18.*
59. *Sabhyāḥ sabhām me pāhi ye ca sabhyāḥ sabhāsadaḥ/ AV 19.55.5.*
60. *RV 4.2.5.*
61. *RV 8.4.9.*
62. *Sarve nandanti yaśasāgatena sabhāsāhena sakhyaḥ sakhāyaḥ/ RV 10.71.10, 6.28.6.  
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## The Incredible River, Sarasvati – A Journey from Myth to Reality

Rajesh Purohit

The journey from myth to the destination of reality with the object to unravel the truth about an incredible river that has metamorphosed into a myth in the Indian psyche, a river that has produced a mighty civilization spreading over almost 11,00,000 sq. km., the river on the bank of which the epic, literatures and philosophies were conceived and the river where an unending tradition have been practised for more than five thousand years, is not only thrilling but an enlightening one. This incredible river is none other than the mighty Sarasvati which has been eulogized in *R̥gveda* as *Ambitame*, *Naditame* *Devitame* *Sarasvati* – *Ambitame*, the best among the mothers; *Naditame*, the best among the rivers; and *Devitame*, the best among the goddesses.

The amazing early Indian civilization flourished on the bank of the incredible river Sarasvati and Indus in the first phase and then subsequently shifted to the *doab* of Yamuna and the Ganges.

The saga of Indian culture has been unfolded through scientific archaeological excavations on the banks of lost bed of Sarasvati, Drishadvati, Indus, Sutlej, Ghaggar, Yamuna and Ganga. The explorations and excavations in the post-independence era have revealed astounding evidences pertaining to the river Sarasvati and its tributaries. Rakhigarhi (Hissar, Haryana) on Drishadvati, Bhirrana, Kunal and Banawali (Fatehabad, Haryana) on the ancient Sarasvati or Ghaggar reveal adequate evidences pertaining to pre, mature and post-Harrapan Civilization from (4000 BC to 1700 BC). The data also indicates how the birth of a civilization took place in the newly discovered sites on the bank of Sarasvati in Haryana

rather than the Harappa and Mohenjo-daro whose dates are comparatively much late than Bhirdana, and Kunal. It also shows that how slowly the civilization was reaching to its highest water mark and eventually declining due to desiccation of the river and ushering into a new civilization called Indo-Gangetic Civilization on the banks of Indus, Yamuna and Gangetic Valley. The findings of Bhagawanpura at Kurukshetra are important because it is one of the rarest sites that yielded late Harappan antiquities along with Painted Grey Ware culture, indicating the emergence of PGW in the late Harappan time. This phenomenon can also be interpreted environmentally as how with the passage of time with the decline of major sources of glacier waters, the river either lost its course or was captured by later river systems such as Indus, Sutlej and Yamuna. Newer civilization emerged and flourished on these banks the Ganga and Yamuna (erstwhile Chambal) which is a tributary of the Ganga, captured the Sarasvati source at Paontasaheb (the site is known as a Sikh shrine in Himachal Pradesh). Owing to river capturing, Sarasvati was deprived of the perennial source of molten glaciers from the Himalayas. As the river started drying-up, people slowly started migrating into eastwards towards the Ganga-Yamuna *doab* or westward towards Indus and Sutlej.

The modern search for Sarasvati on the ground level started in 1893 by C.F. Oldham an engineer when he was riding his horse along the dry bed of a seasonal Rajasthani river called the Ghaggar. He was of the opinion that the bulk of the water of ancient Sarasvati was contributed by Sutlej which latter changed its course and became a tributary of the Indus. Most geo scientist believe that neo tectonism and river capturing or piracy caused the eastward diversion of the water of the Sarasvati and westward drifting of Sutlej to become a tributary of Indus. This has been substantiated by archaeological findings in the region of Indus and Yamuna during the so-called Mature Harappan period in the Indus and its tributaries and later during the Harappan and PGW periods at the recently excavated sites such as Saloni and Daksha Khera on Yamuna.

The Landsat imageries, Satellite images of the palaeochannels, geological and sediment logical data and groundwater surveys and the presence of thousands of archaeological sites yielding human antiquity for more than five thousand years have significantly contributed many facts about the existence of a mighty river which for a considerable time, considered as a mythical river.

The Satellite data precisely on the toposheets of Haryana, Rajasthan and Gujarat along the track of the lost Sarasvati vindicates many archaeological sites of historical and cultural importance showing the

signature of river Sarasvati and Drishadvati right from Siwaliks to Bhatner desert and further joining at the confluence on the Arabian Sea in Gujarat.

- The excavation at Bhirdana on the bank of Sarasvati in Fatehabad district has brought sensational results as the antiquity of the sites dates back to 4565 BC which suggests the civilization on the bank of Sarasvati is considerably older than the Harappa and Mohenjo-daro (c. 2200 BC) pottery.
- Some semi-precious stones.
- Structures made of Sun-dried bricks.
- The excavators have also discovered a 2.4-metre-wide wall considered to be the fortification wall of the township on the excavation site.
- Clinching evidence of the township was that the earth outside the wall comprised of virgin soil while the one inside the fortification wall had all the evidence of structures.

The excavation at Kunal in Fatehabad district has revealed that the antiquity of the civilization in this region that dates back to 3200 BC. The site has yielded pit-dwelling settlement, pottery resembling that of the Baluchistan region, bead manufacturing centre, two royal silver crowns of Harappan period and many more.

- Neolithic tendency.
- Pit-dwelling.
- Pre-Harappa.
- Mature Harappa
- Circa 3200 BC.
- Unique objects of Regalia.
- Steatite button seals show its ancestry to Rehman-Dheri, Baluchistan—two deers on (Obv.) geometric design on (Rev.) c. 4000 BC.
- Small gold beads.
- Oval-shaped ovens.
- Largest living pit with a floor made of fine clay and cow dung.
- Copper furnace with smelting material.
- Steatite button seals shows its ancestry to Rehman-Dheri, Baluchistan – two deer on (ob)geometric design (Rev) c. 4000 BC.
- Copper ingot and slag.
- Double-tanged arrow head, rods, rings, bangles, bone points, blades.
- Beads—terracotta, steatite, agate, lapislazuli, carnelian, faience.

- Terracotta balls, net sinkers, animal figurines, wheels toy cart frames, shell bangles.
- Grey ware with geometric design, natural motif and graffiti affinity with Gomal Valley in Baluchistan.
- Largest living pit with a floor made of fine clay and cow dung.
- Kunal–fresh running water aquatic molasses oyster.

Banawali yet another site on the bank of Sarasvati in the same district has unearthed antiquities pertaining to the early Indus and matured Indus Civilization which includes antiquities of typical Harappan settlement of grid pattern, wells, terracotta plough, micro weights and many more.

- Banawali is a pre-Harappan and Harappan site.
- Evidence of **ploughed fields** has been found.
- Large quantity of **barley and evidence of growing of sesame and mustard.**
- The use of **wooden plough to plough** the fields.
- A **fortified town (2500-1700 BC).**
- Banawali – The name Banawali etymologically means series of forests or rows of Ban or forest. Interestingly **among the faunal evidence a complete skeleton of a baby elephant suggesting a forest area.**
- **Kurukshetra was known as Kurujangal.**
- Technology of copper smelting.
- Ornaments, beads of gold, semi-precious stones, terracotta and steatite and bangles of clay, shell, faience and copper.
- While the pre-Harappan culture was still young, a new set of people occupied Banawali.
- They soon built a well planned and fortified township in the *classical chessboard pattern.*
- The broad arterial streets, running from north to south, have been found straight and uninterrupted, whereas those, running from east to west, were usually narrow and staggered.

Balu (Kaithal), a pre-Indus-Sarasvati site on the bank of river *Apaya* or *Apaga*, a tributary of Sarasvati. References are made to *yajnas* performed by King Citra on the banks of the river *Apaya*, a branch of the Chitang River.

- *Apaga* or *Apaya* a Rigvedic river.
- Pre-Harappan–Grey, Red, Buff, Black and Red Ware–Storage jar, pot, etc. Terracotta bangles and structure in mud bricks.

- Harappan–Perforated jar, dish on stand, goblet, beaker-decorated with *pipal* leaves, intersecting circles, etc., Terracotta, triangular terracotta cakes, animal figurines, toy carts, wheel, bull, disc, bone points, stone pestle, steatite disc beads, faience bangles, copper objects.
- Evidence of orientation of streets and Fort of Harappan period.
- 10 m wide platform made of large bricks.
- Late Harappan–Dish on stand, storage jar kiln, ovens, mud walls, mud bricks structure.

Bhagwanpura (Kurukshetra), a unique site showing the interlocking phase of Indus and Painted Grey Ware culture identified as the culture of Mahabharata period on the right bank of river Sarasvati.

- On the bank of Sarasvati.
- Harappa and PGW.
- Glass.
- Daulatpur–Inscription on a clay tablet bearing name *Sthaneswarasya*.
- Sthaneswar, capital of Harsha.
- Shakti peetha Savitri Sthanu.
- Pehwa-Prachi–Eastern Saraswati.

Daulatpur (Kurukshetra), a site yielding the antiquity from late Indus to medieval period. The most interesting finding is an inscription inscribed *Sthaneswarasya* dated back to 6th or 7th century BCE.

Mirzapur (Kurukshetra) another Late Indus site along with the historical deposits from Kushana and medieval period.

Raja Karna ka Qila (Kurukshetra), yields antiquity from the Northern Black Polished Ware to medieval times, c. 800 BC to AD 1600.

Thanesar (Kurukshetra), the ancient capital of Harsha Vardhana of the Pushyabhutis excavation unearths antiquity uninterruptedly from the pre-Kushana to late medieval period.

- Harsha ka Tila.
- Capital of Harsha.
- Bana Bhatta–*Harsha charita*.
- 2000 years antiquity.
- Daulatpur.
- *Sthaneswarasya*.
- City on the bank of Sarasvati.
- Savitri and Sthanu.
- Huien Tsang tsang' Record.

The scientific excavations of these sites on the bank of Sarasvati have revealed the story of Kurukshetra from 4000 BC to contemporary times without any significant gap.

The search for Sarasvati eventually delivered not only an incredible heritage but also the wealth of groundwater in the form of palaeochannels, the precious among the human needs especially in the drought prone and arid zones like Rajasthan, Haryana and Gujarat. The existences of palaeochannels and groundwater resources within a depth of 30 to 60 metres below. There is a possibility of constructing one million sustainable tube wells in the central Sarasvati River basin alone to augment the water resources of the region.

Extreme in the western Rajasthan desert, in Pakistan side of Thar Desert not far from the border with India in the area lying between Fort Abbas and Dilawar Fort, sensational occurrence of huge quantity of fresh ground water was found almost in a volume of about 10 km. It has occurred along the course of ancient river bed of Sarasvati or Ghaggar. This discovery could virtually transform the lives of thousands of locals in Pakistan who were experiencing harsh water shortages. Similar kind of augmentation of groundwater has been done in India by ONGC at Jaisalmer that which ultimately met the thirst of millions.

Satellite images in possession of the ISRO and ONGC have confirmed that the major course of a river, the Sarasvati, ran through the present-day Ghaggar River, which passes through parts of the states of Haryana, Rajasthan and Gujarat including the channel that enters parts of Jaisalmer in Rajasthan and adjoining regions in Pakistan before discharging into the Rann of Kachchh.

The Sensational archaeological finding of an ancient river bed on the north of Kurukshetra has been discovered by the author after a meticulous study of palaeochannels of Haryana. The river bed has been found adjacent to an archaeological site known as Bhore Saidan, 13 km from Kurukshetra on Pehowa Road. It has proved what G.E. Pilgrim had presumed long time back. G.E. Pilgrim had published a landmark paper drawing attention to an alluvial deposit of great antiquity found stretching all the way from the Himalayan foothills to the Sindh gulf. Pilgrim imagined the deposit to have been laid by a primitive river that he named as Siwalik River which is none other than Sarasvati.

The cynosure of all eyes is on a huge river bed of river Sarasvati. It has been confirmed from the palaeochannel that a buried channel is there beneath Bhore Saidana. A large number of images of the palaeochannels, buried rivers, old alluvial soils have been mapped on toposheets from the

Satellite which also shows distinct channels below the archaeological sites of Haryana. For the first time in the history a buried river bed containing huge amount of sand with mica, monazite, etc. have been found at a depth of about 30 feet in a rain gully of the archaeological mound. The river bed has seven layers alternatively carrying sand and an alluvial clay deposits.

Water carrying ore particles from an aquifer underneath the soil of a palaeochannel were revealed from Kalayat has further substantiated the findings of the river bed by the author. The oil giant ONGC is out to explore the course of the mythological Sarasvati River at Kalayat, in Kaithal and Kurukshetra districts, after an artesian well with particles of and mica was discovered in January during the excavation of a sacred pond at Kalayat in Haryana along the river track of lost and buried Sarasvati.

Now the point of contention clear we should cross our fingers to explore more data and give a second thought before we call Sarasvati a mythical river. The revival of the Sarasvati River will benefit the country both in terms of augmentation of ground-water from the palaeochannel of Sarasvati in the area where water has been a crisis and secondly the Sarasvati project will enable the scholars to re-examine the mysteries Aryan invasion, mythical Sarasvati River, and the date of event of Mahabharata.

The journey in the quest of Sarasvati from myth to reality has not completed with the discovery of latest findings, rather it is the stepping stone to perform the unique journey for unearthing data with regard to the origin of the river, locating the complete track and route of Sarasvati and the reasons that led to the dedication of the river.

# Search for Himalayan Antecedents of the River Sarasvati

C.R.B. Lalit

## INTRODUCTION

The mystery of the origin of the river Sarasvati has baffled historians and the geologists alike. Recorded history finds no mention of the river. The living Hindu tradition has further compounded the confusion because it recognizes more than half a dozen Sarasvatis throughout the length and breadth of the country—one in Badri Kedar, one in Kashmir, one in Himachal, one in Haryana, some in the eastern parts, some in the west and some in the south including a Shani Sarasvati. Similar confusion prevailed about the route it flowed through. The Vedic texts sang hymns in praise of a rich Sarasvati Valley civilization transcending down from the Himalayas to the Arabian Sea and that too at two different locations one at the Rann of Kachchh, after the level of Rann increased, the river crossed the Rann to join Arabian Sea at the Gulf of Khambat. The *Puranas* tracked down from the Himalayas to the confluence of the Ganga and Yamuna where it is still perceived as flowing though invisible. This is true because the Sarasvati waters flow along with the Yamuna. Therefore, though invisible it joins the confluence at Prayag.

The *Puranas* helped archaeologists and modern day historians in tracing its course through Punjab, Haryana, Rajasthan and Gujrat with the help of precision equipments, deep drilling machines and archaeological sites attributed to its banks, but the *Puranas* also created misapprehensions by saying:

*Plaksh vrikshat sambhuta sarichhreshtha Sanatani*

*(Lomharshan Rishi)*

and

*Tasmin plakshe sthithan drishtva Markandeyo Mahamuni  
Pranipatyā tadamurdhna tushtvath Sarasvatim*

(*Vaman Purana*)

Concluding that Sarasvati is seen at the roots of a *plakshas* tree. Impressed by this declaration of the scriptures, we like in all other matters – stopped our search at Adi Badri located at the boundary of Himachal Pradesh (Sirmaur) and Haryana (Bilaspur). We did not go into the fact of various tectonic upheavels the Himalayas have seen down the millennia since the Vedic period. Geological changes have metamorphosed the Himalayan topography beyond Adi Badri to such an extent that it becomes unbelievable that a river could cut through a cordon of mountain ranges spread horizontally over the area beyond Adi Badri. Even when some historians thought of Sarasvati as a glacier originated river system, they looked for an easy solution in Tons (Puranic Tamsa of Tapti) and concluded that Sarasvati originated from Rupin and Shupin streams which actually form the river Tamsa at their confluence at Naitwar in Utrakhnad. They found themselves misled by the overhanging glaciers at the source of Rupin khad. But daughters of Surya, the Sun God, the Yamuna and Tamsa or Tapti have a separate puranic existence and have no truck with Sarasvati although they joined Sarasvati to lose their own identity in the Shivalik foot hills of Kiarda doon, i.e., the modern day Paonta Valley of Sirmaur. Needless to mention that Sarasvati has been a mightier river than the Yamuna which had an independent drainage system of its own. This writer has tried to trace out a the Sarasvati River system in the Himalayas beyond Adi Badri. We have a river as big as the Yamuna discharge of which matches that of the Yamuna when it meets the later near Rampurghat opposite Bhagani in Paonta area. Its name Gira known to the locals for centuries is just a synonym of Sarasvati. Modern day geologists have recorded it as Giriganga adding a legend of a Sadhu who had brought water from Haridwar with him which fell down from his Kamandalu at Kupad Tiba forming boundary of Jubbal and Chopal tehsils in Shimla district. This legend though an aberration caught the fancy of the people as adding Ganga to any stream's name brings it honour. But honour Gira already had attached to it because the people in this Himalayan region used to immerse the *pushpas* (*assthis*) of their dead at Giriganga *tirtha* about 8 kilometres from Kharapathar where Gira flows towards the north. Kupad peak is in the interior of Churdhar peak (12500 ft) and it is still indisputed that Churdhar remains clad with heavy sheet of snow for 5-6 months in the year. Sufficient to believe that this area had been part of the glaciated Himalayas. When today glaciers are receding by

kilometres in a decade, they must have shrunk by a few dozens of miles during centuries and millennia after the invent of fire. Himalayas were covered under heavy snow and the Sapadlaksha or Shivaliks were dotted with lakes throughout the area extending from Hindukush to Meghalaya and even beyond. The Gira or Sarasvati which originated from Kupda Tiba (Kupda or Kupad means a snowwhite layer of a Himalayan herb, signifying heaps of white snow capping the peak of Kupad in the Kanchwa mountain range. Gira is joined by Baggi thach Nala at Gumma and by Narkanda Saraal Nala at Chhaila and a dozens of hill torrents cascading down the 12500 ft high Churdhar peak bisecting the Shivaliks and the Himalayas which still remains laden with thousands of tones of snow from September-October to May-June every year. Gira is joined by another major tributary, the Ashvini River originating from Kufri mountain range near Shimla.

In this search for the Himalayan antecedents of the Sarasvati effort has been made to look beyond Adi Badri by this writer hailing from Pauria (85000 ft asl) beyond Churdhar peak, a plutonic rock mount which remained covered with 15-20 feet of accumulated snow during winter months till about 40 years back which quantity has been considerably reduced now, this only to prove how much snows the area might have been receiving and freezing into glaciers thousands of years back. Historians and geologists must take up the task of probing the areas beyond Adi Badri for mopping up scientific corroborative evidence with a view to finding a final solution to the riddle of the missing Sarasvati

### HISTORICAL BACKGROUND

All *Puranas* are unanimous that Rishi Vyasa was born as a result of love affair between Maharshi Parashar and Satyavati who used to ferry pilgrims across Yamuna on their way to Hardwar at Satighat which has been identified with Paonta Sahib (Sirmaur), Maharishi Vyasa who got the Vedas and the *Puranas* scripted down by Lord Ganesha was born without compromising with the celebacy status of Satyavati, on the bank of Yamuna River and his birth place can be identified with Kotdi Vyas which is now on the right bank of Bata river about 8 kilometres away from where river Yamuna has changed its course.

Here, it may be pertinent to mention that the present course of the river is narrower than the bed of the Bata River, i.e. the course which it used to take during the Pauranic period. Rishi Vyasa got his education under his Guru Maharshi Patanjali whose *Ashram* can be identified with Patanjali Mahadev, a Shivalingam which was situated on a Toba type ridge about 2-25 feet above the place where it has been placed now. This was done in

view of approachability of the place after consulting the local temple committee and the priests when we were preparing to construct a temple at the site. I happened to be Sub Divisional Collector of Paonta Sahib during that period. From thousand of years *Shivaratri* festival was being organized at the spot by the local population, but there was no trace of any ancient *Shivalinga* there. I encouraged excavation of the areas around and the villagers chanced upon a stone *Shivlingam* about 6-7 feet in height lying obliquely on the ridge just above the *mela* ground at village Patlien, i.e. Patanjali *Ashram*. This place is about 2 kilometres away from the present confluence of the Yamuna and the Bata, which is entered in geological records as a *nala* while the bed of Bata River is broader than that of the Yamuna. This, coupled with the local belief that Yamuna used to flow by the side of Kotri Vyas about 8 kilometres down stream from Paonta and by the side of Shivpur about 8 kilometres upstream from Paonta Sahib the place which was known as Satighat before it got christened as Paonta Sahib consequent upon His Holiness Guru Gobind Singh's visit to this place.

Both these places, i.e. Patanjali *Ashram* and Kotri Vyas, the *Ashram* of Rishi Vyasa or his birthplace are situated on the course of Yamuna taking the Bata route towards Nahan from Paonta Sahib and not the present route of the Yamuna, which takes it down to Hathnikund. This verifies that the Yamuna during Mahabharata age was flowing via Adi Badri. We found a cleavage quite wide to fit into the scheme of things near village Kolar that suggests that this could have been the confluence of Gira and Yamuna from where the Sarasvati flowed towards Adi Badri from the eastern side of Katasan Mata mandir. The Yamuna reached this place through the course of the Bata River and the Sarasvati from Jalmusa side, i.e. downhill from Dadahu Renuka. Sarasvati formed a big lake at Renuka and cascaded down from Panjhal to Jalmusa, which is almost opposite to present town of Dadahu. The term Panjhal in Sirmauri dialect as spoken in the hilly areas means waterfall which suggests that it was a sort of big waterfall throwing down the river waters at Jalmusa. At Dadahu where Renuka lake is situated on the right bank of the river Giriganga or Gira, the confluence of Gira with Jalal Nala also suggests that the bed of Jalal is wider than the bed of the river Giri when it takes eastward turn.

Now of course a dam has been constructed at the site but the old bed of river Jalal is indicative of the fact that river Gira used to follow this course in remote past or at least that the present course of the river does not match its majesty beyond the confluence or at least beyond the present Jataun dam.

The geologists are of the view that this course of the river is of a very recent origin and consequently there is lot of landslide movement along

this course causing constant problem in clearance of road between Sataun and Renuka as the road has been constructed on the right bank of the Gira River. Towards the north eastern side of the present Renuka lake there is a natural course of a brooklet, which must have been irrigating paddy fields known in Sirmauri Pahari dialect as *kiars* and this area, is known as Khalakiar village today. The paddy fields are about a kilometre higher in elevation than the present bed of the Gira or Sarasvati River. There were watermills on this brooklet traces of which are still discernible but these are much above the course of the river and of the Renuka lake and there is no plausible explanation as to why *kiars* or irrigated peddy fields should be located at a place where there is no source of water. Geologists are of the opinion that there was some river flowing through these uplifted areas in hoary past. Certainly when the Dadahu geological fault occurred, the stream which was joining Gira from the eastern side also changed its course and now meets the river at another place down below. This could be the *khala* or brooklet coming from Sataun side and joining the Sarasvati exactly at the site where we have the present Renuka lake. There are evidences on the ground that earlier the lake was also at a much higher elevation than where it stands today.

Jamu Koti the *Ashram* of Maharshi Jamdagni was probably located at the bank of the river Sarasvati or by the side of the water level of the lake, which it formed there. I climbed right up the hill up to the *Ashram* and the abode of Maharshi Jamdagni where Lord Parshurama was born and has his temple, the Palaki or palanquin of which arrives at the Renuka lake on the occasion of *Devathan Ekadashi* in the month of Kartik every year to comply with the tradition of Parshurama meeting his mother once a year ever since his departure from Renuka to Mahendra Parvat in Kerala. I also visited the temple of Lord Parshurama in Kerala where the legend of Lord Parshurama paying annual visit to his mothers place is also current, although physically no insignia of him comes to the Himalayas.

Another connecting legend is that of Lord Ganesha who sat with Maharshi Vyasa to take the latters dictation of the Hindu scriptures, the four Vedas and the eighteen *Puranas* without break. I found from the earlier records that the village of present Dadahu stood entered in State's revenue books as Ganeshpur. The fact of the town being called Dadahu is that during the Muslim regime in India when a contingent of travellers was travelling through this area they exclaimed *Deed o Hu*, i.e. what an excellent spectacle and from Dadahu got its present name. For us whether Ganeshpur or Dadahu it makes no much difference but the eastward turn of the river Gira has created a lot of confusion. If Gira is made to take the straight route from Dadahu, it joins either river Markanda or one of the small streams,

which take us to Adi Badri down which point there is no difference of opinion amongst Sarasvati researchers. This Ganeshpur is also on the bank of Gira or Sarasvati. Sarasvati takes a sharp left turn at this place whereas on the basis of rock formations in the hills it should have flown straight, but geological fault might have occurred causing yet another debacle for the Sarasvati. As historians suggest during the tenth century AD the Gira went into rage, which caused the breaking of the Renuka lake on the eastern side causing gushing floods down the present course of the river through Sataun which created floods of such great magnitude that Sirmaur Nagar which was the capital of the Chakravarti Raja of Sirmaur got completely destroyed. Legend has it that this flood, which washed away the Sirmauri Tal and the capital city of Sirmaur, was a result of curse of a *Natini* who was crossing the Tal and the river on a rope tied between village Poka to the left bank of Gira and of Sirmaur Nagar. Vyasa village was also destroyed along with Sirmaur Nagar. The curse of the *Natini* or dancing girl fell upon Sirmaur because the rope over which she was advancing from Toka side to Poka over Sirmaur Nagar where the Royal family, guests and public were watching her special feat, one of the ministers of the Raja cut off the rope because the Raja had promised to give the *Natini* half of his kingdom on successful completion of the feat. Falling down she proclaimed:

*Aar poka, par toka – bich dube simouri loka*

Meaning that the habitat of sirmour which is situate between poka on one side and toka on the other shall drown too in the floods.

May be an earthquake shook the area during that period which caused blockage Gira waters at Dadahu site and when the lake formed there could not withstand the pressure of the hill torrent, the eastern side of it gave way causing the Sirmaur Nagar catastrophe. This earthquake might have thrown up the ridge between Dadahu and Jalmusa blocking the waters of the river Gira or Sarasvati from that side and causing gushing floods down the newly formed course. The river then joined its earlier tributary Yamuna near Rampurghat opposite Bhagani and lost its identity too by becoming tributary of the Yamuna. Yamuna also might have changed its course only due to this tectonic upheaval, which not only saw the extinction of the mighty Sarasvati system, but also wiped out the grandeur of a mighty empire, i.e. Suryavanshi Sirmaur of its founders, the Vermans. Incidentally the name Sirmaur, literally meaning the most important one, must have been acquired by this empire after the *Ashwamedha Yajna* performed by its King Silvarman in the 3rd century circa. Sarasvati and Sirmaur Nagar, therefore lost their grandeur at the same time. The Raja of Sirmaur shifted his capital to Rajpura, then to Kalsi and finally to Nahan in due course of

time and the ruling dynasty also underwent a change. Sarasvati shifted its course from Adi Badri side to Yamuna Nagar side via Yamuna and the plains of Kurukshetra became a *tirtha* where we perform *pind dan* now without flowing waters of a river. The place known as Prithudak or Pihova in Kurukshetra gets completely dry and bereft of a drop of water during the month of Pausa or December when most Hindus make *pind dan* offerings to their ancestors apart from the *Pitri Paksha* which normally falls during September-October. Of course during the *Pitri Paksha*, the river Sarasvati can be seen at Pihova and at many other places in Haryana and Punjab. Pauranic legend says that Lord Brahma who is claimed to have been born at Brahmayomi tirtha here, under whom Sarasvati took lessons in scriptures and music got once overwhelmed with lust and tried to attack his disciple who was an unparalleled beauty. She fled away and ran so fast that at some places she could be seen and at some other places she became invisible and that is why the river Sarasvati is visible only in patches today. Because of this unholy crime committed by the Guru Brahma, his fifth head was chopped off by Lord Shiva and to get rid of the sin of *Brahm Hatya*, Lord Shiva took bath in Pap Mochan Tirtha which also is very close to Adi Badri in Bilaspur district of Haryana and later Lord Krishna also took his ablutions there along with the Pandavas for getting rid of the sin of killing lakhs of soldiers in the Mahabharata war at Kurukshetra. This water tank at Pap Mochan is visited by lakhs of pilgrims every year to this day.

#### RIVER SARASVATI: GEOLOGICAL ROUTE FROM HIMALAYAN GLACIER

The Vedic Sarasvati, the mighty Sarasvati, the Sarasvati which saw the development of the most ancient civilization on the planet earth bloom into the richest treasure house of knowledge was flowing through the fields of the Thar Desert after irrigating vast tracts of fertile lands in Punjab, Haryana, Rajasthan and Gujrat of today before meeting the Arabian Sea.

The river did disappear from the map of India as if it had never flown through the present sand dunes of the Thar Desert. The rediscovery of the river could not have been possible had the modern tools not been available to the archaeologists who have struggled hard to find out the course of the river as an effort of their unflinching faith and resolute resolve. Their search brings them up to Adi Badri in the Shivalik foothills of the Sirmaur district of Himachal Pradesh where the present *Ashram* of the *Sadhuis* is located at Adi Badri and the temple of Sarasvati known to the locals as Mantra mandir overlooks Adi Badri from over a huge rock. This temple is situated in the boundary of Himachal Pradesh. Tradition has it that the *Panchjanya Shankh*,

(conchshell) blown by Lord Krishna during the Mahabharata war every day before the start of the war and the close of it, is still preserved in the temple at Adi Badri. The historians and the researchers may have their limitations because they find a vertical precept ice hanging over the Adi Badri spring source leaving them clueless and helpless. But Sarasvati could not have been born there without a glacier fed system of number of rivers.

Valdiya has attempted a map of the Vedic Sarasvati based upon the premise that the river originates in Himalayan hills. It will not be out of place to mention here that during the hoary past, i.e., the Vedic age, the Himalayan glaciers must definitely have been closing below Churdhar a mountain peak which although in the Shivalik or Sapadlaksha range is rising about 3647 metres above sea level, i.e. about 12500 feet. Churdhar constitutes boundary between the present Sirmaur and Shimla districts through which the river Sarasvati flowed before entering the plains Gira, the local name of Sarasvati is nothing but a synonym of Sarasvati the goddess of *vaani*.

In local folk lore, 'Jhuri', they say

*Ori au Shalve pori au Gira: Mere tau shunela qultu siya,  
chanalu ri kakri da deo chira, chanalu ri kakri da na*

The missing link between river Gira now known as Giriganga and river Markanda is the wide cleavage between two mountains which forms the valley of Paonta Sahib from Paonta to Kolar through which Yamuna was flowing during the Vedic period to join Gira or Sarasvati in the south western slope of Nahar when Sarasvati was irrigating the entire Haryana and Punjab plains and was passing through the Thar Desert to drain its waters in Arabian Sea whether at Kutch or at ...

The most important *tirtha* on the bank of river Sarasvati is Pehova which gave the Hindus a guarantee of salvation of their ancestors. This place is very close to Kurukshetra, rather a part of it. The *Vaman Purana* says,

*Tasmin plakṣe sthitan dṛṣṭva Mārkaṇḍeḃo Mahāmuniḃ  
pranipatyā tadamurdhana tushthoath Sarasvatim*

It spells out connection of the Sarasvati with Rishi Markandeya who performed penances on the banks of Markandeya River which means that even during the Pauranic period Markanda and Sarasvati had separate identity though Markandeya was one of the tributaries of this mighty river.

The Indian Civilisation owes its cultural development to the Vedic period although the landmass that comprises India, Pakistan, Afghanistan and Tibet had been witness to the growth of a composite culture across the Himalayas. The pastoral tribes who inhabited this region moved up and

down in the same fashion on the Gaddis, Kinnauras and the Gujjar tribes of Himachal Pradesh do today. Their large flocks of sheep and goat took them during summer season to the Himalayan hinterlands in search of cooler climate, rain free environment and above all high protein rich *neeru* grass and during winters, the flocks moved down towards the terrain region on the Sapadlaksha valleys which are today called the Shivalik hills and doons. This civilization enriched itself with experiences in the Himalayan region on its southern slopes where there was enough fodder for their animal wealth and the hospitable climate was neither too hot nor too cold and because of this they named it *su-varga* or the area of the best category because neither the trans-Himalayan areas nor the Shivalik and Doon were as comfortable as the grassy slopes of the Himalayas with rich foliage, caves, herbs, forest fruits, etc. The plain doons made them uncomfortable because of the problem of visibility and consequent fear of loss of direction and then the ferocious insects and wild animals which could pounce upon the animals and human beings from any direction without adequate notice. But as they acclimatized themselves there because of better possibilities of development of dwelling clusters, they named this area as the Prithvi. Still they abhorred to transgress into the hot plains, which were full of snakes, mosquitoes and other dangerous creatures and lacked sources of water and they called this area as the Patala. Even in the recent past when the Raja of Sirmour was getting the Paonta doon cleared of forests and asked his own countrymen, the hill folks of Sirmour to take into possession as much of the Paonta doon plains as they could and offered them free-ownership, they declined on the pretext that the hot climate of the plains was not congenial to their health and that they were more happy with the small holdings they had in the hills of Shillai, Renuka and Pachhad. Ultimately, the Raja invited people from the Punjab to cultivate the fertile lands of Paonta and passed on the ownership of these lands to them. The scenario must have been worse during the Vedic age when the dependence for wearing apparel was on wool shorn from the sheep because cloth or silk had not been invented and living in plains without a covering was nothing but a nightmare.

The river systems provided safe passage to the flocks of sheep and goats between the snows clad mountains and the doon areas down below. The hill slopes in between the drainage system of the river Sindhu in the west and the Yamuna in the east converged to their confluence in the Shivalik foothills at Satrana nearby present Kurukshetra where they would converge from all sides along the river banks make festivities their during the climatically best period of winters in these low-lying areas and proceed upwards during Uttarayan, i.e. after the sacred bath (*snana*) on the occasion

of *Magh Sankranti*. By the time of the Pauranic age the shepherds turned agriculturists, acquired other possessions apart from the flesh on hoofs and developed their settlements in the Himalayan and later in the doons and plains, but then they needed a more regulated system to sustain their families, belongings and landed properties which made them organize themselves as Ganas and later as Rajyas. But this all is just a prelude to the top in hand. Sarasvati River was important in this scheme of things as it was central to the whole drainage system. The Ganga was not in existence till the *Ramayana* period when Bhagirath one of the ancestors of Lord Rama brought this river to the plains of India. It acquired more importance only after the Yamuna changed its course during Bhagiratha's time because of tectonic upheavals which separated these two systems or may be even the Shatadru parted its ways with Sarasvati during the same period, but Sarasvati as a river still remained in existence. It cannot be surmised that the river Sarasvati was not in existence at Kurukshetra area when the war was fought because multitudes of warriors numbering in lakhs and lakhs converged at the sacred battlefield of Kurukshetra and remained there for at least 20 days or may be one month. Without a flowing water system of magnitude such a large force could not have survived lest the area would turn into a stinking garbage bin. Although the Sarasvati was not flowing into the Rann of Kachchh at the time of this mighty war, but it was in existence and drained itself into the Ganga-Yamuna confluence at the Prayaga. Yet another tectonic upheaval and the Sarasvati River system got further destroyed when it took left turn from Dadahu, and so did its tributaries which also took refuge in Yamuna.

The Tons or Tamsa was already meeting Yamuna which is amply evidenced by references in the *Ramayana* at Dakpathar near Kalasi. It was in position there even at the dawn of the Pauranic age as the *Puranas* describe the *Varaha avtara* of Vishnu at the confluence of Yamuna and Tamsa and the Varaha Kshetra is still in existence as an important pilgrimage centre where pilgrims take bath in seven sacred tanks situated in the Naghetadhar area of Sirmour. I cannot, therefore agree with the thesis that Rupin rivulet which meets Tamsa River at Naitwar in Uttrakhand can be the original source of Sarasvati as Tamsa gets born as river as a result of meeting of Rupin and Shupin brooklets at Naitwar. Tamsa is known for its black waters, bankless gorges with precipitous rise and its passage through the kingdom of Pauranic Shani and Yama, the sons of Surya from Chhaya, his second wife whom Sangya, his first wife, created through black magic. Sarasvati therefore can never be identified with Tamsa originating from Naitwar area. Gira is nothing but another and more ancient name of Sarasvati whether

river or goddess. Pravara originates from Chandernahan lake in Uttrakhand and meets Tamsa which was also known as Tapti, the sister of Yamuna, about 40 kilometres down stream of Naitwar at Tiuni at the present. Its water discharge at this confluence is as big as that of the Tamsa. But in mythology the Tamsa is known as Nagakanya or river with negativity while Pravara or Pabbar is known as Devakanya or river with positivity and when such two rivers meet the name is either changed or the Devakanya gets precedence. Same thing happens to Ganga and Yamuna at Prayage where the Devkanya Ganga retains its name and Nagkanya Yamuna loses its identity in favour of Ganga. Had Pravara, therefore been meeting Tamsa in the hoary past when names were ascribed to the rivers, the decision would have gone in favour of Pravara. Therefore during Vedic or Pauranic times Pravara was not a tributary to Tamsa is a valid surmise. Pravara was either a member of the Sarasvati system or it was the mainstream from Chandernahan or sacred bath tank of the Moon God. Presently there are two streams one originating from the Kuppar peak on the boundary of Jubbal and Chopal, now in Shimla district, both were part of Sirmaur State in the past and the other one originating from Hatu peak near Baggi in Kumarsain area of Shimla district and this area also was a part of Sirmaur State till a few centuries back. Sirmaur is important because the Adi Badri area up to which scientific studies have already traced the river Sarasvati was part of Sirmaur as the State had its boundaries beyond Saharanpur in Uttar Pradesh and Shahbad Markanda in Haryana till the 16th/17th century AD. Sirmaur name was given to the kingdom of the Varman kings who were linear descendents of Lord Surya's Yama lineage, whose capital was the old *nagar* of Sirmaur near Kalsi where one of their kings Silavarman had performed *Ashvamedha yajna* (horse sacrifice ritual). The Suryavanshis used to call themselves *Ashvoas* being the carriers of the chariot of the Sun god's race and when they extended their boundaries as a result of victories over their neighbouring States, they performed the *Ashvamedha*. The Chandravanshis also used to celebrate their victories over the neighbouring kings but they did never call their *yajna* as *Ashvamedha*, but they named it as *Rajsuya yajna*. Rightly interpreted the *Ashvamedha* should mean display of *medhashakti* or superior mind power of the *Ashvoas*, the descendents of Surya as Yama was. This area was known as Jaunsar or the *samrajya* of Yama or the kingdom of Yama, the younger brother of Shani and of Yamuna after which daughter of Surya the river Yamuna got its name. The Yama's branch of Suryavanshi was obliterated from Sirmaur at the close of the first century when Sirmaur Nagar near Sirmauri Tal was washed away by the Great Flood cause by the shifting of its course by Gira River or the Sarasvati.

This flood inundated the Sirmauri Tal with such a great thud that the capital city of Sirmaur which was situated on all sides of the Tal between Poka and Toka villages and might have extended up to the right bank of river Yamuna across which for reasons of safety, the *Ashvamedha yajna* was organized, the remains of which have been excavated by archaeologists in the year 1952. The notice board at this site reads as under:

These ancient remains identified as three places out of four Asvamedha or horse sacrifices performed by Silavarman (circa 3rd AD) the burnt bricks are remains brought to light by Archaeological excavation 1952-54 (AD).

Nearby at Kalsi we also find the Kalsi Rock Edict of Ashoka the Great written in Brahmi script, which is one of the fourteenth such rock edicts, discovered so far – 12 in India and 2 in modern Pakistan. This edict is of great importance for the area because Ashoka had got inscribed all his edicts at prominent places in the country which means that the geographical and historical importance of Kalsi, the capital town of Sirmaur was recognized by Ashoka even before Christ. May be the kingdom of the successors of Yama had a glorious empire even at that time. Unfortunately we have not been able to throw much light on this empire. This might have happened because the Varmans saw truth in the curse of the *Natini* and left Sirmaur Nagar for good. Frightened by the curse, they even left the Sirmaur kingdom and fled northwards ultimately finding refuge at Bharmaur where also they invited 84 Sidhas to bless them at their new kingdom. They also got constructed temples of Lord Ganesha, Lakshna Devi, Brahmani, and of course their *kuladevta* Yama whose temple is grand in its grandeur. The Vermans later shifted to Chamba. They are known for their philanthropy for the Brahmins and the Saints. The curse of Sirmaur fell more on river Sarasvati because the Vermans could still carve out a flourishing empire in Chamba, but the river Sarasvati is still struggling for its existential recognition.

The Chandra pillar situated at Mehrauli, according to historians has been flown down the river Yamuna from some place near Sadhaura in Haryana, which was a part of the mighty Suryavanshi empire of Sirmaur. This speaks high of the importance of Sirmaur and Sarasvati. Further research in respect of original location of this pillar and the dynasty to which it can be attributed will set things right in historical perspective because the pillar should have been erected as a landmark of victory by some emperor on the bank of Sarasvati River although it will be preposterous to put up such a claim till further research finds some testimony. The modern most city of Independent India, Chandigarh, has also come up on the bank of Vedic period flow of river Sarasvati.

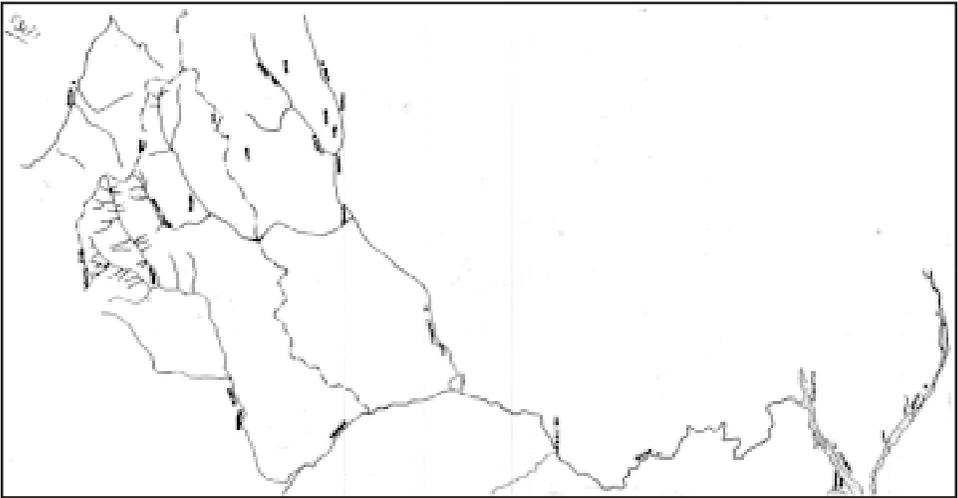
On the bank of river Markanda which could be the puranic course of Sarasvati down Dadahu, geologists have found remains of various species of animals like serigaptus, dynasaur, tall elephant and the like at Saketi near Kala Amb which throws invitation to geologists and historians alike for further probe into these skeleton fossilized at the spot and nearby areas. We also have the fort of Maharaja Virat near Kala Amb. According to *Mahabharata*, Virat was the neighbour of the Kuruvanshis, i.e. the Kauravas and the Pandavas whose cows were stolen by men of Duryodhana and who married his daughter Uttara to Abhimanyu, the son of Arjuna. The Pandavas spent part of their exile in his kingdom and the place where they lived in cognito has been identified with Masli in Rohru area of Shimla district where a temple dedicated to the five Pandavas is also in existence. Raja Virat had his summer capital at Sunpur/Virat near Hatkoti quite close to Sarasvati Nagat about 100 kilometres from Shimla where 15 ft bronze statue of Mahishasurmardini Durga stands consecrated in a 7th century temple author of which seems to be the same artisans who created the several statues at Bharmaur in Chamba. The statue is probably the largest of its kind in recorded history of post-Guptan period. Another very important post-Guptan temple of the Devi dating back to 6th century has been located at Mangarh in Pachhad area of Sirmaur through which the Gira or Sarasvati River flows. This is the oldest living temple in Himachal Pradesh because the contemporary temples at Sirmauri Tal have been destroyed by floods of the Gira-river.

The *Vaman Purana* says that the eastward flow of Sarasvati bestows the benefits if bathing in the Ganga, southward flow of Yamuna, westward flow of Narmada and northward flow of the river Sindhu. Now, we have to locate such a river which has its flowing drain in all these directions and it the river Gira of Himachal Pradesh which has such a distinction and this fact makes its identification with Sarasvati easier. This becomes more than clear when we has a closer look at the Vedic and Pauranic course of river Gira.

This elucidated the connection between Sarasvati and Markandeya during the Pauranic period when it used to take southwestern course at Dadahu before the lake did burst towards the eastern bank causing disruption in Gira's linkage with Adi Badri. Location of Dadahu (old name Ganeshpur) on the bank of Gira or Sarasvati is also of paramount importance to the identification of Gira with Sertaswati as Sarasvati and Ganesha are both gods of wisdom. This coupled with the association of Ganesha with Maharshi Vyasa for taking dictation of the Vedas and *Puranas* also brings this whole area in focus.

Valdiya's map of Vedic Sarasvati is much closer to the present theory of identification of Gira with river Sarasvati as Gauhra diversion towards the natural course of flow of Gira took it straight to the plains of Chandigarh where Shatadru (Sutlej) met the river before Yamuna could join it somewhere in Haryana/Punjab.

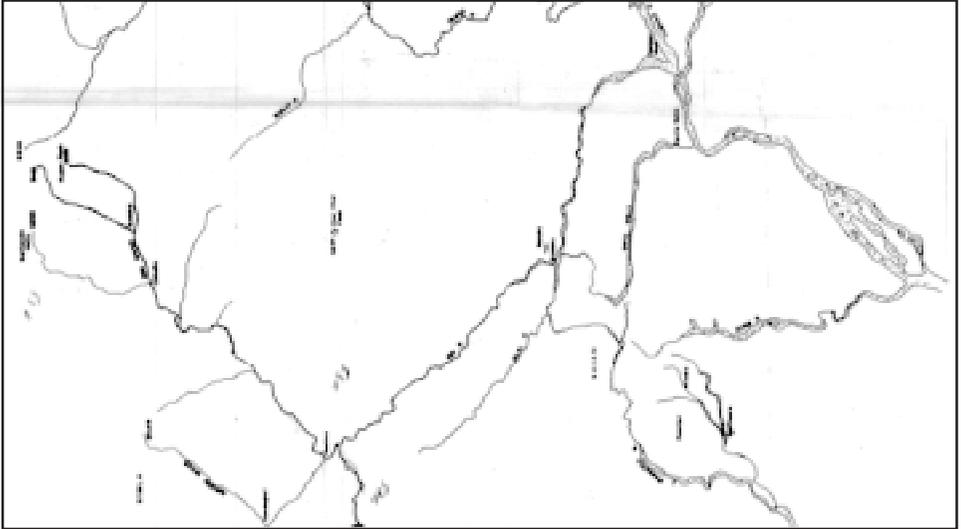
For the resurrection of the Sarasvati there is no other plausible source but the Gira River originating from Kuppar Tibba at the source of which at about 3-4 kilometres downstream from the top of the mountain where the river Gira or Sarasvati sprouts out, there is an ancient temple which is also a sacred *tirtha* where people immerse the *pushpas* or the burnt bones of their dead kins and also perform *pind dan* ritual.



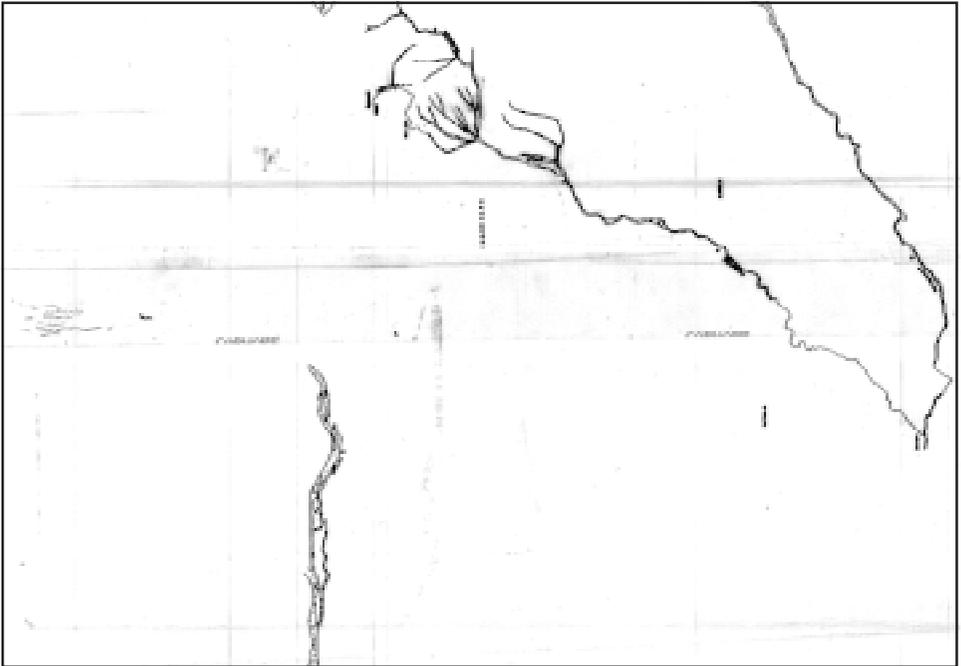
Map 1.

The Map no. 1 shows the origin of the river systems of Gira, Pabar and Tamsa. Gira, if it flowed on its natural incline westward as it does up to Gauhra, it would have met the Ghagar at Kalka or even at Kasauli which should have been the course of the river during the Vedic period. From Gauhra it takes left turn in a very abrupt manner because of geological fault, which cannot be explained, in ordinary parlance.

Again we find (Map no. 3) that the river makes an awkward entry towards the right side, i.e. the western direction at Dadahu, but then returns to the confluence and takes another abrupt turn eastward. Had it flown westward it would either have joined the Markanda near Nahan or one of the two rivulets which make a confluence at Sadhaura and join Markanda down the valley. In fact, Markanda is known to have been one of its tributories. Historians have lost track of two important tributories to of



Map 2.



Map 3.

Yamuna which used to join this river from the eastern side, i.e. on the left bank. These can probably be the Asan River which makes confluence with Yamuna near Paonta and the Somb River which now joins it from the right side. This could have been the river Drishavati of olden times that use to flow westward to join the Sarasvati but now flows eastward to meet the Yamuna.

# A Search for Lost Cities, a Lost Civilization and a Lost River

A Letter to the Prime Minister of India

Jagmohan

APRIL 20, 2006

Dear Dr. Manmohan Singhji,

On account of your heavy pre-occupation with the Budget Session of Parliament, President Bush's visit, 'Nuclear Deal' etc., I did not think it proper to trouble you about a matter that has been agitating my mind for quite some time.

The matter pertains to a special project, which I had conceived when I was working as Culture and Tourism Minister. The project, I thought, would have enlarged the dimensions of tourism, provided new insight into the origin of our civilization, created a worldwide interest in our antiquities and attracted a number of scholars and archaeologists to study the unexplored layers of our past. Epoch-making discoveries, as they occurred at the time of excavations at Mohenjo-daro and Harappa in 1922, could not be ruled out.

But, unfortunately, the project has since been given up. Bias has prevented even attempts to understand either its true motivation or its vast potential for economic and cultural development. Through this letter, I am approaching you with the request to intervene and ensure that the project is viewed in right perspective and revived.

I give below a brief backdrop of the project, the core issues with which it dealt and the course that it intended to follow.

### NAME

From the point of view of culture, the project was named as *A Search For Lost Cities, A Lost Civilisation and A Lost River*, and from the point of view of Tourism it was titled as *Travels Around Lost Cities, A Lost Civilisation and A Lost River*. The river involved in the project was Sarasvati<sup>1</sup> and the civilization was the one which is known as Harappan<sup>2</sup> /Indus-Sarasvati and the cities were those that once existed in the basin of the said river. *Loosely, this project also came to be known as Sarasvati Heritage project.*

### OBJECTIVES

There were five major objectives which the project sought to achieve. The first objective was to undertake extensive excavations of the Harappan settlements in the basin of now dried-up Sarasvati, as shown in Photograph I, and build elegant archaeological museums at the sites, wherein articles of significance, found as a result of excavations, could be kept. The second objective was to set up small tourist-centres nearby, with beautiful parks and 'sound and light shows' around them. The third objective was to establish, as adjuncts to the archaeological museums, documentation-cum-multi-disciplinary<sup>3</sup> research units with attached pavilions, showing 5000 years' march of Indian Civilization through large panel-photographs, three dimensional models, etc. The fourth objective was to make the newly created complex attractive for residents of the neighbouring towns and villages and provide them facilities for recreation and week-end outings. And the fifth objective was to open at each of the aforesaid centres, a small window to the visitors to have a glimpse of the 'wonder that was India'.

### ILLUSTRATION

By way of an illustration, I may invite attention to the case of one of the most ancient and important Harappan settlements, Dholavira,<sup>4</sup> where substantial work, under the aforesaid project, had been completed before I left office. The area of excavations, shown in Photograph II, has been enlarged and its special features highlighted. Photograph III provides an idea of type of the buildings that have been put up near the excavated site to serve as archaeological museum and documentation-cum-multi-disciplinary research unit. The tourist-centre has also been shown in the said photograph. Photograph IV depicts the overall conceptual plan of the complex that has been developed.

### SPECIAL SIGNIFICANCE

The special significance of the project lay in the attempt to provide clear answers to some of the crucial questions concerning India's history and her culture and civilization. These questions were:

- (i) Was there an Aryan invasion of or migration to India from Central Asia or Europe around 1500 BC?
- (ii) What was the nature of the Harappan Civilization and how did it originate or disappear?
- (iii) Were the Harappan people and Vedic people one and the same, and did they create a wholly indigenous civilization?
- (iv) Did river Sarasvati exist? If it did, would it not be worthwhile to delineate its dried-up course, excavate settlements that once existed on its banks, explore their features and acquire deeper knowledge about the origin of Indian civilization?

To facilitate easy understanding, I would deal with these questions, one by one.

#### WAS THERE AN ARYAN INVASION?

It has been widely propagated by the Western scholars and their Indian disciples that between 1500 to 1000 BC, there was an invasion of India by light-skinned nomadic tribes, named Aryans, and it was this invasion that gave birth to the Vedic Civilization of India. The invaders destroyed the human settlements that existed earlier. After the discovery of Harappa and Mohenjo-daro, 1921-22, these settlements, which were urban in character, came to be called Harappan and the civilization associated with them the Harappan Civilization. After further excavation at Harappa in 1946, Mortimer Wheeler declared:

Here we have a highly evolved civilization of essentially non-Aryan type, now known to have employed massive fortifications, and known also to have dominated the river-system of north-western India at a time not distant from the likely period of the earlier Aryan invasions of that region. What destroyed this firmly-settled civilization? Climatic, economic, political deterioration may have weakened it, but its ultimate extinction is more likely to have been completed by deliberate and large-scale destruction.

But this hypothesis about the Aryan invasion has really no legs to stand upon. Swami Vivekanand has rightly underlined: "There is not one word in our scripture, not one, to prove that the Aryans ever came from anywhere

outside India.” Likewise, Dr. B.R.Ambedkar has pointed out: “The theory of Aryan invasion is an invention. It is a perversion of scientific investigation, it is not allowed to evolve out of facts. It falls to the ground at every point.” Prof. G.F. Dales, a well-known archaeologist of Berkeley University, has also exposed the fatal flaws of this theory.

On the other hand, the equation between the Harappan Civilization and Aryan Vedic Civilization is more pronounced. The study of Colin Renfrew, a noted archaeologist at the Cambridge University, not only debunks the theory propounded by Mortimer Wheeler but also points its finger towards the similarities between the Aryan Vedic Civilization and Harappan Civilization. He has observed:

When Wheeler speaks of ‘the Aryan invasion of the Land of the Seven Rivers, the Punjab’, he has no warranty at all. If one checks the dozen references in the *Rgveda* to the Seven Rivers, there is nothing in any of them that implies invasion....Despite Wheeler’s comments, it is difficult to see what is particularly non-Aryan about the Indus Valley Civilization.

Nor can the theory of invasion/migration provide answers to a number of pertinent questions, such as these:

- (a) Is it believable that the ‘Aryans’ who otherwise showed strong attachment to lands, mountains, rivers and forests would not carry with them the memories of any landmark of their previous homeland and nurse no nostalgia about their past?
- (b) How is it that the invaders brought with them no item of previous use—pottery, utensils, tools, weapons of war and chase, objects of worship, art etc.—and also left no trace of mass killings of the natives or a large-scale destruction of fortifications or habitation which should have resulted from invasions?
- (c) Is it conceivable that the people belonging to the Harappan Civilization, who had created an advanced urban society, with a developed writing system, would be without any literature, while the invaders, admittedly unlettered, would leave behind profound literary material in abundance in the form of Vedas and Upanishads etc.?
- (d) Is it not clear that the Rig-Vedic expressions like ‘sabha’, ‘samiti’, ‘samrat’, ‘rajan’, ‘rajaka’, which indicate the existence of organised assemblies and rulers of different ranks, are relevant not to the nomadic invaders, but to the advanced urban society of the Vedic Aryans who were indigenous inhabitants of Harappan settlements.

- (e) Do not the botanical studies of flora and fauna, mentioned in the *R̥gveda*, show that such a flora and fauna could exist only in the tropical climate of north-west India and not in the cold climate of Central Asia?
- (f) Have not the bones of the horse of domesticated variety been found in the recent excavation at Kalibangan, Ropar, Malvan, etc., and has not the domestic nature of Surkotada horse been confirmed by Sandon Bokonyi, an internationally renowned authority on the palaeontology of the horse.
- (g) Was not the evolution of chariot more likely in the flat lands of north India rather than in the uneven terrain of the Central Asia, particularly when we have now found several examples of terracotta wheels with spokes, painted or in bas relief at sites like Rakhigarhi and Banwali?

In absence of any worthwhile answers to the above questions, the hollowness of the invasion theory stands thoroughly exposed. Equally untenable is the theory of the migration with which some scholars have tried to replace the invasion theory, having found it impossible to stick to their earlier stand. In fact, the proponents of this theory, driven by bias, have been abandoning old arguments and advancing new ones, whenever fresh evidence cropped up consequent to ongoing excavation and research.

The last nail in the coffin of invasion/migration theory has been hammered by the recent genetic studies. These studies have been conducted by the scientists in Calcutta in collaboration with the scientists of other countries. The scientists have analysed the Y-Chromo-somas of 936 men and 77 castes. They have referred to the work of the International Research Teams who have found that the earliest modern human arrived in India from Africa, trudging along the Indian Ocean coast about 60,000 years ago. In conclusion, they have said: "Our findings suggest that most modern Indians have genetic affinities to the earlier settlers and subsequent migrants and not to Central Asians or 'Aryans', as they are called."

#### NATURE OF HARAPPAN/SARASVATI-INDUS CIVILIZATION

When, in 1922, discovery of Harappan Civilization was made, only two major settlements—Mohenjo-daro and Harappa—had been excavated and that, too, partially. On the basis of these partial excavations, views were formulated about the origin of this advanced urban civilization. It was given out that its roots lay in Mesopotamia. Mortimer Wheeler asserted: "The idea of the city as a way of life came to India from Mesopotamia." But the subsequent identifications and excavations of more Harappan sites have

shown that these views and assertions were made without adequate evidence. No consideration was shown to a number of stark facts. Neither at Harappa nor at Mohenjo-daro, there was any sign of 'ziggurat temple' or dynasty or royal grave or any other item of monarchic rule. The lay-outs of these two cities and other features differed from those of Mesopotamia cities. The trade connections, undoubtedly, existed between the two regions during the reign of Sargon of Akkad (2380 BC), as is proved by the existence seals of Mohenjo-daro type in Ur. But the 'cultural contact situation' has to be distinguished from 'cultural origin situation'. Clearly, Mortimer Wheeler and the like failed to make this distinction and were hasty in drawing conclusions.

John Reader, a noted scholar of Anthropology and Geography, in his definitive work on cities, has shown that emergence of cities and civilization in six widely separated places around the world – Mesopotamia, India, Egypt, China, Central America and Peru – was spontaneous and none resulted from contact with one another. He has observed:

“The earliest cities of Mesopotamia and the Indus valley civilization in India date from around 6,000 years ago. Cities appeared in Egypt slightly later. The earliest Chinese city known so far (Her-li-t'ou, south of the Yellow River in central Honan province) dates from about 4,500 years ago, while those in Central and South America are a thousand years younger still. At each location the emergence of a city marked the beginnings of a distinct civilization; it was as though once a set of preconditions had been established, cities and civilization would inevitably follow”.

Now, that over 2000 Harappan sites have been identified and quite a few of them excavated, we are in a better position to pronounce upon the origin and character of the Harappan Civilization.

The Harappan sites identified so far could be divided into two broad groups; one is scattered in the Indus basin and the other in Sarasvati basin. Together, they reared the Harappan Civilization. More appropriately, this civilization should have been called Indus-Sarasvati Civilization because it was really a gift of two great rivers – the Indus and the Sarasvati, just as Mesopotamian Civilization was the gift of two rivers, the Tigris and the Euphrates.

In this regard, path-breaking work has been done by Dr. Rafique Mughal, former Director-General of Archaeology, Pakistan, who has discovered about 300 Harappan sites in Sarasvati/Hakra basin in Cholistan desert of the erstwhile state of Bahawalpur. This is what Mughal has himself recorded:

This survey of Cholistan has yielded a wealth of information on the cultural sequence in the central Indus Valley....Sites of various periods, and their concentration or distribution, provide a reliable basis for reconstructing various changes in the course of the Hakra River, often identified with the Sarasvati of the Vedic period....Archaeological evidence now available overwhelmingly affirms that the Hakra was a perennial river through all its course in Bahawalpur during the fourth millennium BC (Hakra Period) and the early third millennium BC. (Early Harappan Period).... About the end of the second, or not later than the beginning of the first millennium BC, the entire course of the Hakra seems to have dried up and a physical environment similar to that of present day in Cholistan set in. This forced the people to abandon most of the Hakra plain.

Recent excavations at Sothi, Lothal, Kalibagan, Dholavira, Banawali, Rakhigarhi, Surkotada, Kunal, etc. in India, in the basins of Sarasvati and its former tributaries; and also at Rehman Dheri, Kot Diji, Amri, Balakot, Mehrgarh, etc. in Pakistan, in the basins of the Indus, Sarasvati-Hakra and their tributaries, show that the civilization that developed in these basins was indigenous and it saw a gradual change from early phase to the mature phase. In the latter phase, commerce and trade developed as is evident from the discovery of weights, measures, seals, etc. and also of dockyard at Lothal.

The evolutionary trends can also be discerned at other sites. In Dholavira, for example, excavations have revealed, besides unique items, such as polished stone pillars and large ten-letter inscription of Indus script, seven distinct stages of development, covering pre-Mature Harappan, Mature Harappan and post-Mature Harappan periods. The indigenous nature of the civilization and continuity of its development is also proved by Kot Diji's excavations which show that the people in this fortified settlement were living in structures of stones and mud bricks for about 500 years before the Harappan period. The evidence of the formative period of the Harappan/Indus-Sarasvati Civilization is also available from the excavations at Balakot, Jalilpur Amri , Kalibangan, Banawali, Rakhigarhi, etc.

The excavation done by the French team, headed by Jean-Francois Jarrige, during the last 15 years or so, at Mehrgarh, Pakistan, are particularly significant. They have pin-pointed the beginning of civilization in India and shown that Indus-Sarasvati Civilization had no moorings in Mesopotamia or any civilization outside India. They have revealed the existence of farming communities dating back to 7000 BC.

"The horse and other animals, particularly cattle, were domesticated here from 6500 BC onwards. By 6000 BC, the settlement had a veritable

agriculture economy solidly established. Thereafter, there was a continuous sequence of cultures, spanning 4000 years, leading to mature urban civilization”.

This shows in no uncertain terms that the process of evolution was steady and development of culture was marked by continuity.

The conclusions of Jarrige are categorical:

“No element suggests the influence of technologically more advanced group on the first Neolithic population of Mehrgarh, neither in the craft sphere nor in agriculture....There has been a homogenous material change across the region, indigenously generated by a local process of neolithisation.”

It has been rightly observed: “The people in Mehrgarh tradition are the people of India today.” There are marked similarities between the social and religious practices of the Harappan people and the people of the present-day India. For example, the spiralled bangles of the type found around the figurine of the Harappan dancing girl could still be seen on the arms of women in Haryana, Rajasthan, Gujarat, etc. Again, as was the case with Harappan women, ‘sindoor’ is even now applied to the medial parting line of the hairs by married women of orthodox Hindu families. The Mohenjodaro seal, depicting a seated human figure in yogic posture, with a number of animals around, shows that the cult of Shaivism, which has a large following in modern India, originated in Harappan period. Likewise, the fire-rituals of that period are a forerunner to the present-day practice of performing *havan* in Hindu houses. Some other common features of the two periods are: the practice of worshipping trees, putting of *Svastika* symbol at the entrance of the houses; and the ways of greeting and doing ‘asans’.

It needs to be noted that when John Marshall and Mortimer Wheeler excavated these settlements, they could not go, owing to the existence of sub-soil waters, beyond the first level or two. With the deployment of pipe digging technology, the archaeologists who came to the scene at a later stage, could explore the lower levels, up to the bedrocks. They found that the growth of culture at the sites was linked by a continuous chain. There was an early phase followed by a maturer phase, from proto-urban to urban. What John Marshall and Mortimer Wheeler came in contact with was the later mature phase. Nevertheless, John Marshall got glimpses of evidence which led him to observe:

“The [Harappan] religion is so characteristically Indian as hardly to distinguish from still living Hinduism. One thing that stands out both at Mohenjodaro and Harappa is that the civilization hitherto revealed at

these two places is not an incipient civilization, but one already an age-old stereotyped on Indian soil, with many millennia of human endeavour behind it."

### DID SARASVATI EXIST?

There is ample evidence that supports the view that river Sarasvati once existed. This evidence could be divided into four distinct categories—literary, archaeological, geological and hydrological. Each category needs to be looked into first separately and then in conjunction with one another.

#### (I) LITERARY

The *R̥gveda* mentions Sarasvati, in reverential tone, about 50 times. It describes it as "the best mother, the best river, the best goddess". The famous Nadi-stuti hymn mentions a set of rivers, including Ganga, Yamuna, Sarasvati and Sutudori (Sutlej), and places Sarasvati between Yumna and Sutlej. Its origin is indicated in the hymn which says: "Purest among all rivers and vibrant, the Sarasvati moves on from the mountains to the ocean, manifesting immense riches of the world..." Another hymn indicates the might of Sarasvati: "This river has shattered the mountain peaks with her fast and powerful waves just as easily as one uproots the lotus-stems..." She is also called the seventh 'Indus Mother'.

The *Manu samhita*, one of the most ancient law books of the Hindus, also makes it clear that the Vedic culture originated in the Sarasvati region and centred around the river. It says: "The land created by the gods, which lies between the divine rivers Sarasvati and Drishadvati, the sages call the land of Brahmanas." The *R̥gveda* provides the corroborative evidence in the verse which reads: "O Agni, I have established you at the best place on the earth, in the dwelling of Ila, on this most auspicious of the days; may you shine brilliantly amongst the descendants of Manu, on the banks of the Drishadvati, Apaya and Sarasvati."

Another hymn implores Sarasvati to keep the misfortunes at bay: "When, on your banks, full of plants, the peoples dwell, luminous Sarasvati, may you awaken as our protectress."

The ancient literature speaks of Sarasvati not only when it was in glory but also when it began to decline. The *Mahabharata*, *Aitareya* and the *Satapatha Brahmana* refer to its disappearance in desert.

#### (II) ARCHAEOLOGICAL

As early as 1872, C.F. Oldham and R.D. Oldham undertook a detailed survey of the area where the river Sarasvati and its tributaries were said to be

flowing in earlier times. As a result of this survey, they located the course of Sarasvati and its tributaries. They came to the conclusion that Sarasvati was once fed by two great rivers—Satluj and Yumana—and it declined and disappeared consequent to westward movement of the former and eastward movement of the latter.

In 1940-41, Aurel Stein, explored a part of the dried-up course of Sarasvati in the erstwhile State of Bahawalpur, where it is known by the name of Hakra. He identified as many as 90 Harappan sites. In 1969, Herbert Wilhelmy, a reputed German geologist, surveyed the relevant areas and put forward the view that, consequent to geological changes, Yamuna changed course and took away the entire water of Sarasvati.

Subsequent explorations both in India and Pakistan, in the Indus and Sarasvati basins, led to, as indicated above in the section dealing with nature of Harappan/Indus-Sarasvati Civilization, the identification of over 2000 sites. The number of sites identified in the Sarasvati basin is about seven times more than the number identified in Indus basin, thereby implying that Sarasvati basin had a larger share in shaping this civilization. The total area covered by it was about 2.5 million sq.km. Roughly it extended to Ropar in the north; Dainabad on river Godavari in the south, Alamgirpur on river Hindon, near Delhi in the east; and Sutkagendor and Mirikalat on the Arabian sea in the west.

### (III) GEOLOGICAL

A group of scientists, led by V.M.K. Puri and B.C. Verma, have made a detailed study of the areas from which river Sarasvati could have possibly originated. They collected and analysed a lot of scientific data—geomorphological, glaciological, etc. They have significantly observed:

All evidence point to only one conclusion that the present day Tons was in fact the Vedic Sarasvati in its upper reaches. This river was in existence during upper Pleistocene period as it was fed by glaciers that had descended to much lower limits in Garhwal Himalaya than the present day level due to the influence of Pleistocene Ice Age.

### REFERRING TO THE COURSE OF SARASVATI, THESE SCIENTISTS ADDED

From Adi Badri region, the Palaeo-Sarasvati took the south-westerly course and reached Kurukshetra. From here it turned to slightly westerly direction and met the monsoon-fed Ghaggar which emerged from the hills near Shimla. Around 25 km south of Patiala, the Tibetan glacier fed perennial river Satluj, joined this course of the Sarasvati and made it the mightier of

the mightiest river with enormous quantity of water flowing through a very wide channel. It was certainly the case from 4000 BC through 2000 BC.

What made Sarasvati once a great river was its origin in Himalayan glaciers, and when it was joined by the river Sutlej from the north-west it became wider and more powerful, capable of 'shattering mountain peaks' and destroying big trees. Archaeological data and radio-carbon dates show that due to seismic upheavals in the region, both the Sutlej and Yamuna got delinked from Sarasvati. This, coupled with other changes mainly hydrological and environmental, resulted in the drying up<sup>5</sup> of the river by about 1900 BC.

A team of three scientists of the Central Arid Zone Research Institute, Jodhpur, an outfit of the Indian Council of Agriculture Research, carried out an extensive survey of the relevant area, using LANDSAT Imagery. In its report, the team said:

A major abandoned course of Sarasvati river has been discovered through the present extreme desert terrain of Jaisalmer....We suggest that the alluvium in the extreme western part of the desert was contributed by the Sarasvati River, and that the sub-surface water in the western part of the desert is mainly derived from precipitation flowing sub-terranously through the former course of Sarasvati.

Here, it may not be out of place to indicate that many other areas of the world have undergone similar ecological changes. For example, Fezzan region in South-western Libya, which was once littered with lakes and rivers, became a desert. David Mattingly, an archaeologist, and Kevin White, a geographer, have in their joint work shown that water exists even now in the subterranean aquifer. Presently, Fezzan supports a population of about 80,000 which is settled in a number of oases that depend upon water from beneath the sand. From the same source, Tripoli also gets about a million cubic metres of water daily through a network of underground pipes. Why could we in India not explore the former course of Sarasvati and assess the availability of water in the subterranean aquifer.

### HYDROLOGICAL

Using the technique of Remote Sensing, four eminent scientists—Yashpal, Baldev Sahai, R.K. Sood and D.P. Aggarwal—also conducted research on the subject. In their joint article, they wrote:

The river Sarasvati is said to have been a mightier river than even the Indus in the Vedic and Pre-Vedic times. Stein refers to the fact that in at least three passages in the R̥gveda, the oldest surviving record in any

Indo-European language, a river course has been mentioned which corresponds to the present Sarsuti (Sarasvati) and Ghaggar. Nadistuti, the famous hymn, describes the Sarasvati as flowing between the Yamuna in the east and Satodri (Satluj) in the west. Since none of the present rivers obviously fits in with this description, the appellation 'lost' Sarasvati has often been applied to this once mighty historical river....During the period 4-5 millennia BC, north-western Rajasthan was a much greener place with the Sarasvati flowing through it. Some of the present rivers joined to make Sarasvati a mighty river which probably discharge into the sea (Rann of Kutch) through the Nara, without joining the Indus.

After Pokharan Nuclear explosion on May 11, 1998, the Bhabha Atomic Research Centre conducted a number of tests to assess the impact of the explosion on the quality of water in the area around. These tests, *inter alia*, revealed that the water in the area was potable and about 8000 to 14000 years old. It came from the Himalayan glaciers and was being slowly recharged through aquifers from somewhere in the north, despite scanty rainfall. These revelations lend further support to the above views about the 'lost' Sarasvati.

Separately, as a part of multi-disciplinary study, the Central Ground Water Commission dug a number of wells on and along the dry bed. Out of 24 wells dug, 23 yielded potable water.

In face of the above cited literary, archaeological, geological and hydrological evidence, only a scholar with compulsive bias would say that Sarasvati River is a figment of imagination or identify it with a small and locked river, Helmand in Afghanistan, where there is no question of any

## RIVER FLOWING FROM MOUNTAIN TO SEA

### OVERALL PICTURE

If all that I have said above in connection with the basic issues concerning the origin and nature of Indian Civilization and its association with river Sarasvati, is viewed in entirety and subjected to an integrated look, the picture that would emerge is that the period, 6500 to 3100 BC, saw the growth of pre-Harappan/Indus-Sarasvati Civilization, corresponding broadly to the times when *Rgveda* was composed; that during the period, 3100 to 1900 BC, Mature Harappan/Indus-Sarasvati Civilization prevailed and these were the times when the hymns of four Vedas were composed; and that the period from 1900 to 1000 BC was the period of Late Harappan/Indus-Sarasvati Civilization which saw the decline and ultimate disappearance of the surface

water of the Sarasvati, forcing the people to move eastward towards the water-fed Gangetic plain and work out new subsistence strategies and develop new modes of agricultural pursuits, giving rise to a new pattern of life which we find reflected in the *Mahabharatta* and Puranic literature.

While the puzzles of archaeology and ancient Indian history cannot be resolved with certainty, particularly with regard to Harappa, wherein script has not so far been deciphered, it could be stated with a fair degree of accuracy that the Harappan/Indus-Sarasvati Civilization was born and brought up on the soil of India and its people and Vedic people were one and the same. This civilization started disappearing when the rivers-system underwent a fundamental change consequent to sedimentation and neo-tectonic movements whose signatures are wide-spread in the geological formations of the sub-Himalayan and Shiwalik regions of Himachal Pradesh, Uttar Pradesh, Uttaranchal and Haryana. The waters of Sutlej shifted to the Indus system and Yamuna changed its course to north-east. While Sarasvati practically dried up, Indus basin got additional water and saw frequent floods.

#### PRAMOUNT NEED

Nevertheless, a lot of additional work needs to be done to unravel a number of features of one of the most significant civilizations of the ancient world—a civilization that remained for centuries a nursery of a highly sophisticated urban culture. Hundreds of sites in the basin of now sub-merged Sarasvati, from Adi-Badri in Haryana to Dholavira in Gujarat, as shown in Photograph I, need to be excavated. *It was this paramount need which the special project intended, inter alia, to meet. To believe that there was a hidden agenda is wholly unwarranted. How could there be any such agenda when excavations were to be carried out in open and whatever was to be found was to be placed in the site-museum with complementary facilities for research and study of documents by all?*

In view of the considerations spelt out in this letter and also the huge benefits that would have accrued to Tourism sector, I would request that you may issue suitable instructions to all concerned to recommence the special project and spread its net still further. I have no doubt that the project, if implemented, in the spirit it was conceived, *would show new facets of India's past, new initiatives of her present and new visions for her future.*

#### NOTES AND REFERENCES

1. Over the years, the dried-up bed of the Sarasvati has been given different names in different regions. In a few districts of Haryana it is still called Sarasvati; in others, its palaeo-channel is known by local names Joia Nadi,

- Ranggoi, Bann, Nali or as Ghaggar—a name that is retained in northern Rajasthan. Near Suratgarh, it is identified with its tributary, Drishadvati. In Cholistan, Pakistan, it is named Hakra.
2. Harappa was one of the two prominent sites to be discovered first. Therefore, the settlement/civilization that came to be associated with was called Harappan. Since sites of this genre, excavated subsequently, were either in the basin of Indus or in the basin of Sarasvati, the expression Harappan settlement/civilization is now being increasingly substituted by Indus-Sarasvati settlement/civilization.
  3. The multi-disciplinary research included metallurgical, mineralogical, botanical, geological and sedimentological studies.
  4. The other such sites, along the Sarasvati route from Adi-Badri in Harayana to Dholavira in Gujarat, where work had been taken in hand, were: Adi-Badri, Kapalmochan, Kurukshetra-Thanesar, Banawali, Sirsa, Agroha, Kalayat-Kaithal, Rakhigarhi, Hanumangarh, Rangmahal-Badopal, Kalibangan, Baror, Dhola Vira, Juni Kuran and Narayan Sarovar.
  5. There is an alternative view, propounded by Dr. M.K. Dhavalikar and Dr. R.S. Bisht, which says that river Sarasvati was a river of lakes and it dried up due to general aridity that occurred all over the world between 2000 and 1800 BC.

## Sindhu-Sarasvati Traditions, Still Living with Us?

Adiga S. Sundara

I. In the middle 1960s, my field explorations in the upper Krishna Valley (Belgaum district) had resulted in the discovery of numerous, extensive habitation sites generally with immense material remains of protohistoric Chalcolithic culture, about 22, as e.g. Terdal, Kudachi, Satti, etc. located in the most fertile black cotton open fields under cultivation. I was told by local people that there were earthen mounds ashy in nature in most of those sites. But now they are all almost reduced to the ground level since people had been digging them for sticky and ashy earth for domestic purposes over years.

Subsequently one of my Ph.D. students, H.S. Kambley, explored this tract of land and identified a few more Chalcolithic sites of similar nature. One of them is Mangsuli. He was told by the local people that in the course of their ploughing the land, some bricks probably of a structure, were found. Kambley had a trial pit in it. Interestingly enough a thick circular lime floor of a house was also traced besides material remains of usual kinds such as pottery, etc.

In some of the sites are found scattered lumps of scoriaceous ash or remnant of an ash mound, also scoriaceous. Such ash mounds are found in the Krishna-Tungabhadra *doab* in many numbers since the time of Robert Bruce Foote in 1870s. In addition, the Savalda pottery with black paintings on the bright red surface of distinct types, in considerable quantity almost invariably is found. In addition to this there occurs for the first time Savalda pottery of grey ware fabric which as far as I know is not found in the other sites elsewhere. There is yet one more unusual feature in this pottery: simple straight lines in the sets, parallel or oblique, in brown or ivory black or dull

white. It may be noted here that the pottery of the Savalda kind and tradition red or grey, are known for the first time from these sites only in south India. Of course, in these sites the Neolithic grey ware pottery, often burnished and micaceous, plain and painted, is the most common along with microliths, parallel sided blades, semi fossilised animal bones, stone beads, etc. The material remains of these sorts are common in the habitation sites of the Neolithic culture in the Chalcolithic stage with remnants of ash mound in the middle and the lower Krishna particularly in the Krishna-Tungabhadra *doab*. But in none of these sites are found Savalda pottery.

II. Occasionally, in a very few sites are found bi-chrome painted pottery as at Terdal. The paintings are geometrical comprising designs in red with thin black lines bordering it. Potteries of this kind are found in small number in a few of the Harappan sites as at Mohenjo-daro, Birdhana, etc. and Bronze Age sites of Afgho-Baluchistan area. It is noteworthy in this context that the site at Birdhana is recently excavated that has revealed a cultural stage preceding the early Harappan, namely the Hakra phase, the earliest dated to circa 6000 BCE. And it is in this stage the bi-chrome pottery is found in considerable number. Now coming back to the Krishna Valley in no other sites from the Krishna to Kaveri excepting the upper Krishna bi-chrome pottery has been found so far.

III. Later, in my explorations in Naviltirth irrigational dam area (Saundatti talaka, Belgaum district) of rocky wasteland on the right bank of the river Malaprabha, is by chance found a thick flattish boulder with rounded edges and semicircular top naturally set up in the ground about 1 m high, 60 cm broad and 30 cm thick with curious engravings and hollow cup marks on one side. The engraving is a geometrical design comprising two independent endless three loop designs inserted into each other in the opposite direction. Consequently, it looks as though the engraving is an endless six loop design with semicircular top and bottom containing three loops each at the top and bottom. In between the lines are cup marks of slightly varying sizes and depth. Within a short distance from this near the riverside are sparsely found scattered on the surface apparently megalithic black and red ware and red ware potsherds. Some two kilometres away from here in Sindhogi near the bank of the river is found a megalithic burial site with passage chamber tombs in various states of dilapidation noticed by R.V. Joshi in the late 1940s.

IV. In the upper Tungabhadra Valley, are many ancient sites with material remains of the cultures: the Neolithic in the Chalcolithic stage, the Iron Age Megalithic and the Early Historical, infrequently the mediaeval (for instance Halluru ) and the megalithic burial sites nearby here and there. Excavations of the burials at Komaranahalli and Tadakanahalli, not far away

from Halluru and of the habitation site at the last overwhelmingly demonstrated that the Iron Age Megalithic culture is distinctly characterised with white painted black and red ware pottery.

In Anegondi Gangavati area (near Hampi), as is well known, are many sites with cave paintings a few of which containing some unusual geometrical designs as at Chikka Ramapura and Hire-Benkhal of the overlapping late Neolithic in the Chalcolithic and the early Iron Age Megalithic. The designs, rather sophisticated are two squares with loops at the corners each obliquely intersecting the other. A design of this type, but in single line, plain and simple, is found engraved occasionally on Harappan seals. In Venkatapura in one of the cave paintings are small designs looking like Harappan (Sindhu-Sarasvati) letters.

Now by way of review of the facts enumerated in some detail above, particularly noteworthy are the occasional occurrences of certain indubious Harappan cultural elements and of the white painted black and red ware pottery of the Harappan tradition. It is therefore necessary to elaborate the scope, the route, the period and the significance of the presence of these cultural items of importance in the upper Krishna Valley and further south. This is what has been attempted below.

The Savalda pottery was traced for the first time in the Tapi Valley at Savalda in late 1950s and later in many other sites in the same valley all by S. A. Sali. This distinct pottery therefore is named after the first type site. In 1959 was discovered by the Aurangabad circle, Archaeological Survey of India (ASI), an enormously extensive Chalcolithic site highly promising in Daimabad (Ahmednagar district, Maharashtra) located on the bank of the river of Pravara, a tributary to the river Godavari. Immediately after the discovery, the site was excavated under the direction of Sri M.N. Deshpande, in which I participated. A sequence of three successive cultures, namely, the Deccan Neolithic, the Malwa and the Jorwe without any gap in between, was established. In the late 1960s, Aurangabad circle of the ASI, under the direction of S.R. Rao, and slightly later of S.A. Sali, continued the excavations. This time a sequence of five successive Chalcolithic cultures was revealed. They are from the earliest (i.e. the lowest) the Savalda, the late Harappan, the Daimabad, the Malwa and the Jorwe. Besides, sometime after 1959 was discovered in the same site accidentally by the local people while digging a pit a cache of solid copper figures of buffalo, elephant, a man in a cart drawn by bulls and a rhinoceros. Two important discoveries therefore in the site are: the late Harappan as far south as the Godavari Valley and the copper figurines distinctly and closely similar in form, style and characteristics to the corresponding Harappan figures. Secondly, the discovery of the Savalda cultural phase is essentially noteworthy in the present context: the large extent of the Savalda culture from the Tapi to the upper Krishna via the Godavari is thus vindicated.

At Mohenjo-daro, many copper tablets, flat, rectangular and thin, with pictures on one side and in some, Harappan inscription on the other, it is too well known, were obtained from the excavations. Among these tablets, two have geometrical design of the same type, instead of pictures on one side and one line Harappan inscription on the other. The design is an endless four-knot. When this design is compared with the six-knot design from Naviltirth referred to above, it can be deduced that the latter is a variety of the former type. The four-knot design, by way of tradition, continues to be depicted through the historical period, the design may be engraved on individual rough stone slabs set up in front or on some architectural part of the temple or on stone slabs fixed at the entrance of a locality so on and so forth. For instance, two slabs set up apart in front of a Hanuman temple of the Keladi period (circa 1490-1763 CE.) in Holaluru near Shivamogga; the bottom side of the front beam of the *sabha mandapa* of the Nandi temple also of the Keladi period in Halenagara, with the design engraved or carved in low relief etc are but a few examples.

Evidently, all these abundantly indicate that the design is auspicious. By way of corroboration, in Gudnapur, at the periphery of the excavated early Kadamba palace site with Ravi Varma's, the early Kadamba king, pillar inscription, is an isolated boulder on which are a few geometrical designs with the Kannada alphabet, 'u' of the late mediaeval period. One of them is a four-knot design flanked by the designs of *sankha* and *chakra*. It may be recalled here that in the Vaishnava temples of the Vijayanagara period, in the *lalata bimba* depicted *sankha*, *tiru* (= sacred) *nama* (= mark) and *chakra* a symbol of Vishnu in the form of Venkatesha. Elsewhere, I have tried to demonstrate how *Sri vatsa* might have been evolved from the four-knot design of the Harappan design (of course, this was earlier hinted by Sivarama Murti) and the even *Devanagari Sri* from it. Obviously therefore, the design is conspicuously of religious significance and therefore auspicious. It may not be wrong if the Harappan design also is relatively presumed to be of religious significance and a genetic relationship between the two, may not be ruled out.

In some of the Harappan seals as mentioned above, are the engravings of two rectangles with loops at the corners obliquely intersecting with each other. In the rock shelter paintings at Hire-Benkal and at Chikka Rampura, are intimately similar designs but in double lines. Furthermore, there are two other sites: Gavali near Kundapura (Udupi district) and Sonda (Sirsi taluka, Uttara Kannada district) with strongly similar rock engravings stylistically of the overlapping Neolithic in the Chalcolithic and the Iron Age Megalithic, i.e. circa 1000 BCE. In the former the design comprises of two bulls facing each other and the *mandala* of the Chikka Rampura type is

depicted as attached to the legs of the bull on the right as if to indicate that it is standing on the *mandala*. And the horns of this bull are decoratively tied with flowing strips apparently of cloth. Obviously, the whole picture displays some religious ceremony in which the bulls are evidently worshipped. Of course there is a ritual known as *Vrishotsarga* connected with the ancestor worship and also to be performed for the prosperity and well-being of the society. It is interesting to note that not far away from the site of the engravings in Gavali is Kakkunje with an Iron Age Megalithic burial site with porthole Chambers. In Sonda, on a stone boulder is the depiction of two rows of three bulls each one behind the other but of varying proportion. Here also *mandala* of the type under discussion is added to the legs of the bulls of one row and a *mandala* of different type that is endless six-knot design different from the Naviltirth type attached to the legs of the bulls of the other row. Thus in the site are two *mandalas* of different types. Thus there appears to be *mandalas* of various types of ritualistic significance even in the protohistoric cultural stage. In the historical period *mandalas* increasingly of various types are drawn on the floor in connection with rituals of different kinds. And this practice continues till today. For instance, actually on the occasions of *upanayanam*, *vivaha*, *shantis* of Vedic tradition while performing *Naandi* even now the obliquely intersecting double squares with loops at the corner, is drawn and worshipped.

Another important feature to be noted with regard to the Chalcolithic sites in the upper Krishna Valley, is the occurrence of black on red painted pottery in considerable quantities. In particular at Terdal (Belgaum district), are found bi-chrome potteries which paintings in red and white. The design comprise black lines on the border and red filling. This tradition was prevalent in some of the Harappan sites especially at recently excavated Birdhana (Fatehbad district, Haryana) and in a few sites with the Bronze Age cultural remains and at Mohenjo-daro, etc. This is a tradition distinct of the Chalcolithic cultures of the Sindhu-Sarasvati Civilization, though not very common. Further, In a few of the sites of the upper Krishna Valley are found painted pottery in large quantities as e.g. at Terdal, but few and far between in the sites of the middle and lower Krishna Valley probably owing to the impact of the civilization infiltrating as far south as the Godavari Valley.

How do these distinct symbols of the Sindhu-Sarasvati Civilization find their way in the late stage into the western part of the lower Deccan? especially Karnataka? Did they originate independently without any extraneous cultural impact in different regions at different times? This does not seem to be the case. The designs are not simple and of utilitarian character. They are rather of specialised concepts. As known up to now

such designs are found in the Sindhu-Sarasvati cultural domain and in the rock art of the late Neolithic in the Chalcolithic and the the Iron Age Megalithic cultures of the lower western Deccan and the Sahyadri ghat-coastal region. As discussed by me elsewhere the complicated six-knot design created with two endless three-knot designs from Naviltirth belongs to the Iron Age Megalithic cultural stage. On the other hand the obliquely intersecting double squares with the loops at the corners found in the rock painting in Chikka Ramapura is obviously of the overlapping phase of the Neolithic-Chalcolithic and the Iron Age Megalithic. That is to say these designs of the places are more or less contemporaneous. Are there therefore any evidences to establish a relationship between this cultural phase with the Harappan?

In Gujarat region, one of the pottery fabrics of the Sindhu-Sarasvati culture is white painted black and red ware pottery. A distinctive cultural phase predominantly containing this pottery is unambiguously identified at Lothal known for its dockyard the world over. This pottery is found along with the late Harappan and other regional pottery fabrics in many of the sites in the Tapi Valley; in a Chalcolithic burial of the Jorwe period (circa 1500-1200 BCE at Tekwada opposite to Bahal ancient site having the remains of the of the Jorwe Chalcolithic, the Mauryan, the early historical and the late mediaeval on the bank of the Girna River, a tributary to the Tapi: in the upper Godavari Valley as at Inamgaon; Theur, near Pune and the upper Bhima as at Chandoli and in the Krishna - Tungabhadra *doab* at Tekkalakota, all in more or less Chalcolithic context. Tekkalakota is only hundred plus kilometres to the north-east of Halluru. In Tadakanahalli, Komaranahalli and nearby Halluru of the upper Tungabhadra known for the white painted black and red ware pottery in plenty. In fact this pottery as the dominant ware of the culture, is found in the Iron Age Megalithic culture datable to circa 1300-1000 BCE on average. Elsewhere I have made a detailed study of this pottery from Halluru region in comparison with the corresponding pottery from the Sindhu-Sarasvati culture in Gujarat and the Banas copper age culture in Rajasthan. The pottery from the former is intimately more akin to that from Gujarat region, in types and fabrics.

All these unmistakably indicate cultural movements with their traditions from the Sindhu-Sarasvati cultural area of the Gujarat region towards the upper Krishna and the Tungabhadra. This must have taken place in the wake of the decline of the urban economy of the Sindhu-Sarasvati into the rural from around 1700 BCE. This was the period when the river Sarasvati had almost dried up owing to the geological upheaval. Consequently, the user of white painted black and red ware pottery from the Harappan region moved southwards in search of fertile land and

resources necessary for their livelihood, crafts and prosperity. The sites having the pottery in question now known in the region between the Gujarat and the north Karnataka of the upper Krishna Valley substantially indicate the route followed by them. The route does not seem to be new for the people of the Sindhu-Sarasvati zone. For, already in the late Harappan context the people had been moving through the Tapi and as far south as the Godavari. For, in Daimabad of the Godavari Valley there is a clear-cut late Harappan cultural phase datable to 2000-1800 BCE. Besides, the authors of the Savalda pottery culture had also been moving either way from Tapi to Krishna preceding the late Harappans. Thus the route from Gujarat to the western Karnataka of the upper Krishna Valley had been a familiar track intimately very well known over centuries for the contemporary peoples of two successive cultures different from one another, namely, the Savalda and the late Harappan. The users of the white painted black and red ware pottery could easily follow this route known very well since long. These movements therefore overwhelmingly imply the diffusion and the survival of the traditions of these communities even in the upper Krishna Valley. Of the many traditions that may have survived undergoing modifications, only a few are now known in the field explorations. There may be a few more that are yet to be identified.

Furthermore, the diffusion and the survival of some of these traditions could be traced further southwards. The white painted black and red ware pottery is found at Benakanhalli (Honnali tk. Davanagere district), Heggadehalli (Kodagu district) both in Karnataka, and at a site (North, Kerala). Similarly the endless four-knot design as mentioned above is found at the entrance of the villages in Hirekoppa, Somenakoppa (Hirekerur-Sagara area) near Hallur; in a temple each in Holaluru and Halenagara; on a boulder in Gudnapur; on the *adhishthana* of the Amritheshvara temple of the Hoysala period in Amritapura (Tarikere taluka, Chik-mangaluru district) all of the Sahyadri region and at Gavali of the adjoining coastal belt. During my explorations in the latter part of May, '08, in the Virajpet area, Kodagu district, in a megalithic site with menhirs, there is a roughly dressed granite pillar like slab on which is an engraving of the endless four-knot design.

In the adjacent Tamilnad district, the white painted pottery black and red ware pottery is found at Perumbair, T. Kallupatti and at Adichannalur. Especially in the last site the pottery is in abundance. I have examined the pottery from these sites excepting Perumbair. The pottery in types and fabrics are closely analogous to the pottery from Halluru. There appears to be some worth mentioning geographical coincidence in the distribution pattern of the white painted black red ware pottery and the endless four-knot design. If there is any cultural relationship between the two, then the

users of the former are the carriers of the latter tradition from the Harappan region in course of time to the south during the Chalcolithic-Iron Age Megalithic cultural stages. However, in Tamilnad so far, the geometrical designs of the types under discussion have not been reported. There is therefore a need to trace them out if there be any in the region.

By way of corroboration, there is one more point of cultural significance to be noted. The white painted black and red ware pottery generally has graffiti marks from the Harappan times to the Iron Age Megalithic. It becomes the most significant in brief to recall that in the preceding Neolithic and Neolithic in the Chalcolithic stage cultural context in the Deccan and south India, no graffiti marks are found on the pottery. However, post-firing and graffiti of Harappan letters on the pottery is found in Daimabad. There is therefore no other go but to say that it is the white painted black and red ware pottery people carrying the tradition of making post-firing graffiti on the pottery. In view of all these it would not be surprising to find a Neolithic tool with a line of writing on it that is argued to be a Harappan inscription by eminent experts, in Shambiyani Kandiyur. The excavations by the Department of Archaeology and Museums that followed the discovery in the site has revealed the earliest of cultural stages as the Iron Age Megalithic. Probably therefore the Neolithic tool with the inscription found on the surface is a survival from the preceding Neolithic culture nearby that is yet to be traced. Now the excavated pottery of the culture is under study.

It may also be noted that there are a few more instances of the Harappan cultural symbols surviving through the ages as, e.g. the *swastika* found on many of the Harappan seals an auspicious symbol that is continued to be used in the religious traditions of the Buddhist, the Jaina, the Shaiva and the Vaishnava through the ages and even today. In the recent excavations at Rakhi garhi, on the exterior surface of a potsherd from the early Harappan horizon is a large plus sign with the trident tips. This is a very common symbol associated with *yantras* of the historical times.

Certain other Harappan traditions relating to the material life also such as the architectural tradition continued for a long time through the early historical period. The construction technique of the brick walls of Harappan buildings that is laying alternately courses of headers and stretchers designated as English bond by Western archaeologists could be recognized most commonly in the brick buildings of the early historical times particularly in the Deccan and south India. It should be particularly noted here that no buildings constructed in this fashion of the period between the end of the physical form of the civilization around 1500 BCE and the beginning of the early historical period from about third century BCE, have been traced.

How is this tradition continued to be surviving strongly and actively is a matter for the investigation.

Before some observations are made, certain limitations in the material evidences dealt with herein should be pointed out for further investigations:

1. As far as I know, the four-knot design of the type found on the copper tablets from Mohenjo-daro, is found only in that site so far. Similarly, the obliquely intersecting two squares with loops at the corners are occasionally found on a few seals.
2. The white painted black and red ware pottery in the non-Harappan Chalcolithic sites, found mostly as burial furniture. In Tekkalakota of the Krishna-Tungabhadra *doab*, though white painted black and red ware pottery have been found in the burials, it is not found in the habitational cultural deposit.
3. But not far away from Tekkalakota, in Halluru of the upper Tungabhadra this pottery is found in abundance in the Iron Age Megalithic habitation deposit. In the present state of research it is difficult to explain for its scarcity in the immediately preceding cultural stage and its abundance in the succeeding cultural stage. However, the distribution pattern and proportion of the pottery in the present state of our knowledge may indicate another route followed by the users of the white painted black and grey ware from the Gujarat region i.e. possibly the Sahyadri belt-the coastal land-the adjacent eastern up-ghat region.

### SOME OBSERVATIONS

In India, there is a strong tradition of *mandalas* connected with various rituals and *yantras* and *mantras* in the historical period both for the good and the bad for individuals and society. Relating to these there are many literary works also. In view of the elaboration, this tradition evidently must have come down from the Sindhu-Sarasvati Civilization strongly and wildly, and been growing through the ages. Here, it may also be noted such distinct *mandalas* have not been noticed so far in the contemporary non-Harappan and post-Harappan Neolithic and Chalcolithic cultures. It looks as though therefore that it is a distinct tradition of the Sindhu-Sarasvati Civilization. Therefore it goes without saying for understanding the antiquity and the various implications acquired through the ages of these *mandalas* it is very essential to study meticulously the Sindhu-Sarasvati Civilization in all its dimensions. Conversely, for understanding ritualistic implications of many of the Sindhu-Sarasvati traditions it is necessary to trace the corresponding traditions of the historical times backwards.

# Legacy of Sarasvati-Sindhu Civilization

Ravindra Ramdas and Arun Nigudkar

## OBJECTIVE

The disappearance of the river Sarasvati has scientific reasoning based on archaeological findings and geological causes, however the scope & attention of this paper shall remain on the impact this once mighty river has had on mankind.

This paper focuses on

1. Sarasvati , the Holy River
2. Sarasvati-Indus Civilization
3. Sarasvati-Indus Civilization and Kashmir
4. The Vedas, *Puranas*, *Ramayana* and *Mahabharata*
5. The vanishing act and its impact on the legacy

## THE HOLY RIVER

“Ambitame, Naditame, Devitame Sarasvati. Aparasta Smasi Prashastim Amba Naskridhi.”

Sarasvati you are the best of mothers, best of rivers, best of the divine goddesses and though we are insignificant grant us distinction. May the divine waters that flow down the slopes of hills on grounds high or low, nourish us, keep us healthy free from disease and cause us no harm.

RV. VII-36-6

These are the Vedic prayers invoking Sarasvati by the sages who lived on her banks thanking her for blessing them and all of mankind.

The Nadi Sukta, i.e. 10.75 refers to rivers Ganga in the east to Sindhu (Indus) along with its right bank tributaries Sutlej, Ravi, Chenab, Vitasta, Arjikiya, Sohan, etc.

Sarasvati is mentioned here to be between Yamuna and Sutlej (B.B. Lal – *The Sarasvati Flows On*, p. 4). *R̥gveda* also tells us where the Sarasvati originated and its end (verses 7.95.1 & 7.95.2). Sarasvati is mentioned here a mighty river (Michel Danino) that provided to King Nahusa milk, honey and *ghee*, i.e. brought immense prosperity as she flowed from Himalayas to the Arabian Sea.

Sarasvati thus is regarded as a river deity.

### THE SARASVATI-INDUS CIVILIZATION

The *R̥gveda* has references that infer a hugely flourished civilization on its banks. The references of King Nahusa and the land of milk and *ghee* indicate to the prosperity of the way of life here (B.B. Lal. *op. cit.*, pp. 1, 4).

This way of living here spread across the Indian sub-continent over a span of 4000 years (Organizer – Geological dating – V.M.K. Puri and B.C. Verma). The spread and reach of this civilization that had its roots on the banks of Sarasvati is common to the Indus Valley (Dr. R.S. Bist) civilization unearthed. The river Sarasvati is believed to be older than any other major river in the Indian sub-continent. Thus the civilization that originated on its banks spread across the Indian sub-continent find traces in the archaeological findings of Mohenjo-daro and Harappa, revealing a hugely prosperous and culturally rich multivariate civilization.

Civilizations on the banks of Sindhu-Sarasvati (Mohenjo-daro and Harappa) and other sites. Lothal, Kalibangan, Banawali, Dholavira, Rupar, Rakhigari, Sothi or the Ganga had a common culture as is seen in the similarity in the design of cities. The roads as planned, the common baths, the dwellings and from whom the social life can be inferred. The submerged cities discovered in the 1980s on the coasts of western India show a similar social pattern ( Balakot-Lothal-Dwaraka ) over a period of 7000 years till the river disappeared in 1900 BC. The spread of this common civilization in modern day geographical boundaries is a territory of nearly 4000 km span stretching from Afghanistan in the West to Bengal in the east, from the Godavari plains in the south Maharashtra to Jammu and Kashmir in the north.

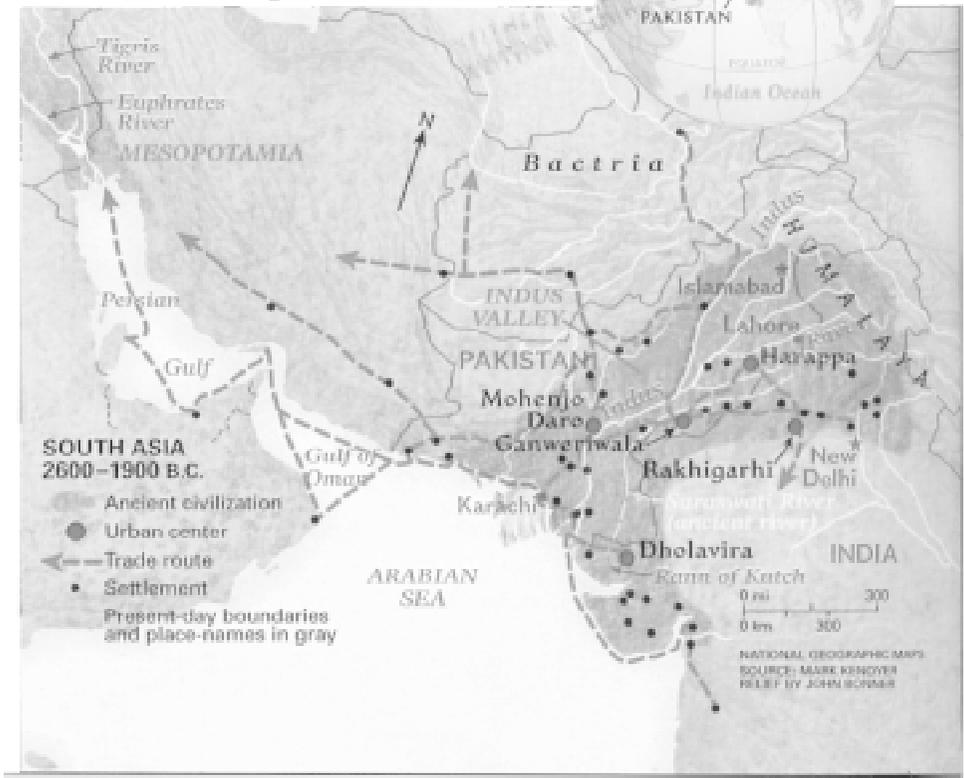
It was the worship of similar gods or goddesses.

“Namstey Sharade devi, Kashmir pura vasini”

Sarasvati being revered as a goddess is seen earlier. Another name for her is Sharada, meaning the goddess of learning whose abode is the region of Kashmir. Though in any other province prosperity and learning are talked

## Legacy of Sarasvati- Sindhu Civilisation

The map showing the outline of the territory and impact



Map 1.

about separately where the Goddess Laxmi governs absolute wealth while Sarasvati stands for learning. This demarcation is not so distinct in the area of Kashmir where Vak-Vani, i.e. learning and Laxmi are synonyms. Wealth and prosperity is denoted by the word 'Sri' and where it resides is the capital of Kashmir and hence the place was called 'Srinagar'.

There is one theory that believes that Aryans were the natives of this land (Kashmir-Gandhar, Sindhu-Sarasvati) staying in this country for over 5000 years and more having a similar culture to the one we practice even now after all these years.

*Rajatarangini* of Kalhana which is regarded as the first written record of history mentions Gonand 1st who ruled Kashmir and was a contemporary of Pandavas. Many kings of the Pandava dynasty are listed by Kalhan's *Rajatarangini* such as Luv, Kush, Khagendra, Surendra, Godhar, Suvarna, Janak, Sachindra. (Appendix – *Rajatarangini*, pp. 708. 9-17). Raja Ramdeo of the Pandava dynasty built the Martanda temple in 2900 BC. *Nilamata Purana* still earlier refers to many verses on Sarasvati River.

This river is referred to by many names in Kashmir region, namely, Bhavani, Sudha, Gunadayini and Sharada (Sanjay Godbole, Kashmir Sentinel, Dec. 2007). The Sharada mandir is built near a confluence of two rivers Suddha and Sarasvati. The Sharada *peeth* which is also here is believed to be one of the earliest known universities or centres of learning has derived its name from this river. Sharada *peeth* or Suddha *peeth* as it is known brings out a strange relevance that of Suddha which is the other name for Sindhu. This by transference does convey that the river Sindhu (Indus) and Sarasvati (Dr. R.S. Bisht, pp. 24-25) are the same or have common origins. Kashmir also derives its name from the land of the Rishi Kashyap and Shardi is a place in Nila Valley where the *Nilamata Purana* was composed. *Nilamata Purana* carries references of Shandilya Rishi, Parvati and Balaram. These names known throughout India are still in vogue in Kashmir and have their roots there.

#### THE VEDAS, PURANAS, THE RAMAYANA AND THE MAHABHARATA

The *R̥gveda* often refers to a mighty river Sarasvati and it is in Vedic literature that we read about its disappearance. This when taken in conjunction with scientific proofs, indicates that the *R̥gveda* itself dates back to much earlier times.

The Indus is one of the most dramatic rivers in the world in both historical and geographical terms. It rises in the forbidden land of Tibet, from a spring called 'mouth of a lion' in the first part of its course; it rushes down between the greatest mountain ranges in the world, the Himalayas and the Karakoram. For hundreds of years monks and missionaries and merchants have travelled along its gorges. The man who determined to find the source of both the Brahmaputra and the Indus was Sven Hedin the great Swedish explorer. He had already discovered the headwaters of the Brahmaputra some sixty miles to the east, when looking now for the Singi Kabab, the mouth of the lion, he reached Lake Manasarovar in the summer

of 1907. It is also traditionally the source of the other three rivers of northern India. The four rivers are pictured as running out of it to the four points of the compass through the mouths of sacred animals: the Brahmaputra flows eastward from the mouth of the Horse, the Karnali a major tributaries of the (Ganges) south from the Peacock's mouth, the Sutlej west from the Elephant's mouth, and the Indus north from the Lion's mouth.

Although the Singi Kabab is some thirty miles from the Lake Manasarovar, the ancient tradition has proved to be not so very far wrong after all. The lake is sacred and symbolic, and it would be fitting that the great river should start from it, so in a symbolic way it does. If none of the four rivers flow out of Lake Manasarovar itself, all of them rise within a short distance and run at first roughly speaking, to the four points of the compass.

It is noted in the *Srimad Bhagavad* that the *Mahabharata* was composed on the banks of this holy river by Maharshi Vyas. Krishna's route from the Dwaraka to Indraprastha for the Rajasuya Yagna (10, 71- 21- 2). Balaram's pilgrimage from Dwaraka through Somnath and Mathura along the banks of river Sarasvati offering homage to his ancestors refers to Pritudakam, Bindusara, Tritakupa, Sudarshana, Bramhatirtha, Chakratirtha and Prachi Sarasvati are the places touched in the route.

The recent Satellite pictures clearly show the path of flow of the ancient river Sarasvati. Archeological and Geological research points out that the Sarasvati flowed almost parallel to the Indus and dried up during 1900 BC.

The river Sarasvati should be of special interest to us because Vedic records quote legends and anecdotes. Those that are intertwined in the river's brief existence from its journey down the Himalayas and over the plains to the Sindhu Sagar (Arabian sea), anecdotes and references in *Rgveda*, *Yajurveda*, *Atharvaveda*, *Brahman Literature*, *Manusmriti*, *Mahabharata* and the *Puranas*.

#### THE VANISHING ACT AND ITS IMPACT ON THE LEGACY

The tectonic movement that caused the Aravali to rise and shift the course of this river finally resulting in its demise had a huge impact on the civilizations existing and the ones to come.

To list out the contribution of the river Sarasvati in brief to the Indian Civilization

- The civilization that existed developed on its banks as is seen from the findings of the pottery at Kalibangan. Art and craft

- developed on its banks and the first instances of jewellery in its various patterns was discovered (B.B. Lal, *The Sarasvati Flows On*).
- A drainage system that interconnected houses and fields so also seen in the common baths was found in the excavations. (A.V. Sankaran, *Current Sci.* Vol . 77, No. 80 25 Oct. 1999).
  - Pottery (Rakhigarhi) and farming as a trade and craft developed on its banks as is seen from the wheat fields of Kalibangan. The use of bullock carts in farming and material movement is also noted.
  - The form of holy worship through the use of ‘altars’ found at Banawali.
  - The system of writing on *mudrankas* that started about 3500 BC.
  - ‘Nadi Stuti’ defines the use of milk, honey and water in its use in daily life if taken in its literary sense.
  - Sanskrit as a language developed on the banks of the river Sarasvati. This language through trade and wars spread to the neighbouring kingdoms of modern day Afghanistan, Bactria Kashmir, Punjab, U.P., Bihar and countries like Turkey, Syria Iran and even in the South. Its influence can be seen in the existing languages that are spoken in the south.
  - The spoken language was Sanskrit while the written script Bramhi. The Bramhi script has similarity with the Tamil Munda and nearly 5000 odd words are Sanskrit based (Dr. S. Kalyanaraman).
  - In a nutshell on its banks the river Sarasvati cradled and lay foundations to the arts, crafts, culture and trade that are seen in all parts of the country and traces found elsewhere in the world.

These inferences have historical and archaeological support. The existence of the River though a cause for debate was never in doubt. Usage of modern science has enabled the mapping of the course of the river through Archaeo-Astronomy, Remote Sensing and Satellite pictures.

ISRO has the capability to do this and carry it further like they have in the past.

To conclude the legacy of the river Sarasvati is huge in its scope and would like to end this with a poem by Allama Iqbal

“Yunan-E-Misra-Ruma sub mit gaye jahan se  
Ab tak magar hai baaki namo nishan humaara  
Kuch baat hai ki hasti mitati nahi humari  
Sadiyo raha hai dushman daur-i-zaman humara”

The ancient civilizations of Greece, Egypt and Rome have come to an end, but we (of the Indo-Sarasvati) are still around here. There must be something special in us that allow our survival and growth through the various onslaughts of the invaders. Doubtless it comes from the liberal character of Indian Civilization which allows cross-cultural assimilation and that had its foundations on the banks of the mighty holy River. This is the legacy that lives on.

# Civilization along the Sarasvati River – A Scientific Approach

A.R. Chaudhri

## ABSTRACT

Civilizations develop when natural environment is conducive for their growth. The vast alluvial plains of north-western India have been deposited by major rivers draining the region since time immemorial. After the Last Glacial event in India, the temperature gradually rose and there was abundant moisture and amicable climate which might have supported the development of Vedic Civilization in Indian subcontinent around 6th century BC. In the present day scenario, no perennial river except Yamuna traverses the state of Haryana. Signatures of the presence of palaeo-mega river channels have been identified at different places in Haryana. The dense mineral suite recovered from sediments coming out with water at Kalayat is characterised by the presence of minerals derived from Indus-Tsangpo Suture Zone (ITSZ) suggesting that a mighty trans-Himalayan glacier fed river flowed along the Vedic Sarasvati route in the state. A buried river bed with 2 km wide flood plain near Kurukshetra presents a mesmerising scenario that might have prevailed in the Quaternary time. Remote Sensing studies reveal that major drainage diversions were caused due to Quaternary tectonics in the Himalayan terrain. Interestingly, archaeological and mythological sites in Haryana line up along this Vedic palaeo-river path thereby presenting an exciting preposition – Is this a journey from myth to reality!!!!

## NORTHERN INDIAN CIVILIZATION – ARCHAEOLOGY, HISTORY, RELIGION AND BELIEF

Civilizations originate and develop in those parts of the continents where abundant supply of fresh water, fertile land and amicable climate are available. Communities indigenous to the Indian subcontinent and a host of foreigners including tourists, business men and invaders who lived and settled in the subcontinent are closely linked to the synthesis and formation of Indian civilization. The age of Indian civilization is a matter of conjecture as the Vedas, which constitute the oldest available literature are believed to be utterances of God as revealed to divine ascetics and transmitted by them, down the generations, in verbal form. Besides the Indian subcontinent, ancient Indian Hindu kingdoms flourished in Thailand, Malaysia, Indonesia and Vietnam. The British anglicized the original Sanskrit name of the nation *Bharat* as India due to its proximity to the Indus River.

In the northern part of the Indian subcontinent, the Indus Valley Civilization (c. 3000-1500 BCE, Mature period 2600-1900 BCE), abbreviated IVC, forms the dominant ancient civilization that flourished in the Indus River basin. The remnants of this civilization are found in the Sind, Punjab and Baluchistan provinces of Pakistan; in the states of Haryana, Gujarat and Rajasthan in India; and in Afghanistan, Turkmenistan and Iran. The mature phase of this civilization has been named as the Harappan Civilization after the Harappa City of Pakistan where it was first excavated. Excavation of IVC sites has been ongoing since 1920, with important breakthroughs occurring rather continuously.

The Harappan Civilization is sometimes referred to as the Indus Ghaggar-Hakra Civilization (Ching *et al.* 2006) or the Indus-Sarasvati Civilization based on the possible identification of the Ghaggar-Hakra River with the Sarasvati River. Gupta (1995) recorded that over 500 Harappan sites have been discovered along the dried up river beds of the Ghaggar-Hakra River system and its tributaries in sharp contrast to about 100 along the Indus and its tributaries (Mishra, 1992). This nomenclature is, however, debated on linguistic, geographical and political grounds. The Bronze age Harappan civilization is regarded as the oldest documented record of urban settlement in the Indian subcontinent with well established knowledge in weights and measures, written script, art and craft, metallurgy, dentistry and maritime trade.

Recently, however, marine scientists from NIO, Goa carried out deep water acoustic imaging near Dwarka, in Gulf of Cambay which indicated the presence of symmetrical man-made structures, resembling Harappan structures, and a palaeo-river running for about nine kilometres. Along the

bank of this river, numerous artefacts were discovered. Carbon 14 dating carried out on one of these artefacts – a block of wood bearing the signs of deep fissures – suggested its age to be around 7,595 BC. Palaeolithic sites dating back around 20,000 years have been found along the coast of Gujarat.

Vedas, the venerated Hindu texts, are replete with references of a major river which drained the northern part of the country. This mythical river, named as the 'Sarasvati River', is eugolised as the mother of all the seven rivers draining the region. The Sarasvati River is supposed to have originated in the glaciated region of the Himalaya and during its passage to the Arabian sea the river roared as it carried peaks of newly upheaved mountains as flowers in its flow. Along the path of the Sarasvati River flourished numerous agrarian civilizations, and hence the vedic couplet '*Ambitame, Devitame, Naditame Sarasvati*'. Thus, the largely agrarian Sarasvati River Civilization appears to predate the largely urbanized and mercantile Indus Valley Civilization.

The epic *Mahabharatha* has a description of Balaram, the elder brother of Lord Krishna travelling in a boat through Sarasvati River during a pilgrimage from Dwarka to Mathura. The battle of Mahabharata was fought in the fields of Kurukshetra which were dotted by hermitage sites of numerous renowned ascetics along the course of river Sarasvati. The present day Thanesar township, Asthipura, Sannhit Sarovar and the Brahma Sarovar at Kurukshetra; present day Jyotisar, which is the site of celestial song the *Bhagavad Gita*; Bhagwanpur, Daulatpur and the Sarasvati *Teerth* at Pehowa where people from northern India perform rituals for their deceased family members are believed to be the undisputed sites along the erstwhile Sarasvati River in the Kurukshetra District of Haryana.

#### SCIENTIFIC STUDIES ON SARASVATI RIVER

Oldham (1886) pioneered the study of presence of a mighty Himalayan river in northwestern alluvial plains which dessicated due to drainage readjustments. He inadvertently tried to link Hindu scriptures (Vedas) with geology. Subsequently, signatures of palaeo-drainage of rivers that drained the region have been worked out by numerous workers including Oldham (1893), Yash Pal *et al.* (1980), Valdiya (1996), Radhakrishna (1999), Thussu (1999), Valdiya (2002) and Gupta *et al.* (2004). Chaudhri (2007a, 2008a) recorded the tectonic signatures of Quaternary drainage readjustment which resulted in the transformation of major rivers into ephemeral streams in the northwestern Himalayan region. Along the palaeo-course of this river and its erstwhile tributaries, flourished numerous agrarian civilisations. In Haryana, about 103 Early Harappan (2500-2200 BC) archaeological sites

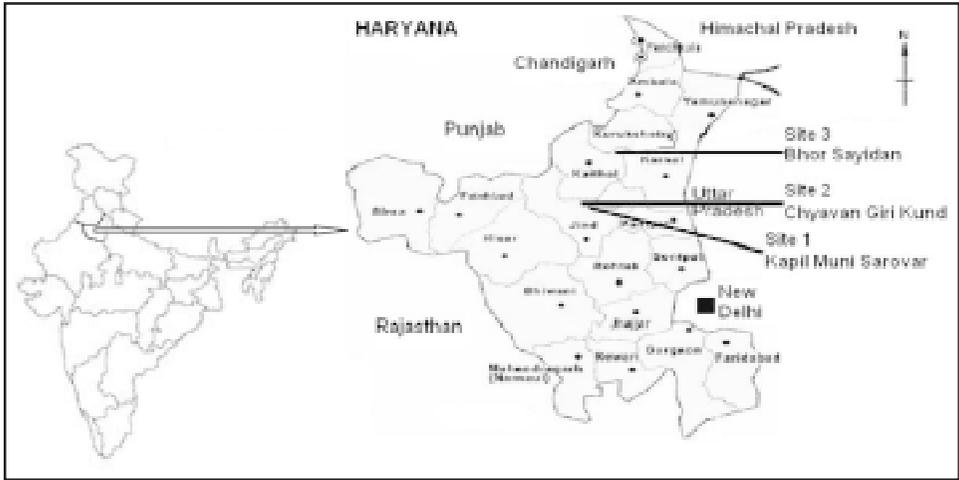


Fig. 1. Map of Haryana showing the location of sites where signatures of the presence of a mega-river have been identified.

(Sahai, 1999) related to Sarasvati River Civilization have been identified. These sites fall in Ambala, Kurukshetra, Jind, Sonapat, Rohtak, Bhiwani and Hisar districts (Kalyanaraman, 1999). Archaeological and scriptural studies which attempted to trace the path of this lost river have been carried out by Stein (1942), Wakankar (1987), Bhardwaj (1999), Chauhan (1999), Frawley (1999) and others.

The search for Sarasvati River got a fillip in 2004 when suddenly water started oozing out of Kapil Muni temple sarovar at Kalayat in Jind district of Haryana (Fig. 1).

Subsequently, water started pouring out of the Chyavan Giri Kund in Kalayat. Then a buried river bed was accidentally discovered near Kurukshetra. This created quite a stir in water scarce region of the state and the story was covered repeatedly by all national and vernacular dailies and national TV news channels (Chaudhri, 2008b). The author carried out a detailed geological analysis of these signatures of the presence of a mega-palaeo river in Haryana and the Himalayan region which are being presented in this paper.

### GEOLOGY OF HARYANA

The state of Haryana is spread over 44,212 sq. km (Fig. 2). The Frontal Siwalik Hill range comprising the Lower and Upper Siwalik formations (Mid. Miocene to Lr. Pleistocene) form the northern boundary of the state. The hills abut against the Ghaggar-Yamuna alluvial plains in Panchkula, Ambala



Fig. 2. Schematic geological map of Haryana showing the disposition of major drainage channels.

and Yamuna Nagar districts. The thrust junction between the two is termed as the Himalayan Frontal Thrust. The Siwalik hills have an altitude varying from 900 m to 1200 m and form the present day catchment of seasonal rivers which drain the state. These include the Ghaggar, the Tangri and the Markanda rivers. The alluvial plains are made up of inter-layered multi-cyclic sand, clay, silt and hard calcareous kankar deposits. These are divided in 2 parts – the higher one is called ‘Bangar’ and the lower ‘Khadar’. The southern districts of the state are contiguous with desert plains of Rajasthan and form semi-desert sandy plains in parts of Sirsa, Hisar, Mahendergarh, Fatehabad and Bhiwani districts. The Aravalli hills having a NNE-SSW

regional trend form the southernmost geographical feature in Mahendargrah and Bhiwani districts. The depth of alluvium is greatest in the vicinity of Himalayan foredeep region and gradually shallows towards the south wherein the Aravalli hills form a topographic high. Based on deep electrical soundings (Shukla, 1999), the inferred thickness of unconsolidated alluvium is estimated to be of the order of 703 m at Panchkula, 1838 m at Yamuna Nagar, 1655 m at Ismailabad, 1103 m at Kaithal, 689 m at Panipat and 736 m at Fatehbad. At many places in the southern districts basement rocks are exposed on the surface. Numerous basement faults and ridges make these plains tectonically active.

### DRAINAGE

Ghaggar is the major seasonal river in Haryana, which after originating near Sarahan in Himachal Pradesh, enters the state near Pinjore (Fig. 2). The path of the river closely follows the inter-state boundary between Haryana and Punjab and the river finally enters the state near Sirsa from where it moves on to Bikaner before disappearing in the deserts of Rajasthan. Tangri is a relatively small seasonal stream and is a tributary of the Markanda (Aruna) River which originates near Nahan (Lesser Himalaya) and enters Haryana near Ambala. Sarasvati stream is a small seasonal rivulet which originates near Machhrouli in Yamuna Nagar district and joins Ghaggar river near Sagra. Somb stream originates in the frontal Siwalik hills near Adi Badri and carries water during rainy season. River Yamuna is the only perennial river which after originating from Yamnотri glacier in Garhwal Himalayas, Utrakhnad, skirts the eastern boundary of the state with Uttar Pradesh from Hathnikund to Palla before entering Delhi. All these rivers have a southwesterly flow direction which is in sharp contrast to the southern rivers of the state, namely, the Sahibi, Indori, Dohan and Kasavati which flow from south to north, apparently due to change in topography.

### FIELD OBSERVATIONS AND METHODOLOGY

Remote Sensing studies of the Sarasvati River palaeodrainage have indicated presence of palaeochannels in Haryana. Unfortunately, there are no surface geological evidences to support this fact.

On the basis of sedimentological investigations carried out by the author, three significant signatures of the presence of palaeochannels are identified along the Vedic tract of the erstwhile Sarasvati River. The widely spaced signatures include water coming out of Kapil Muni temple sarovar and Chyavan Giri Kund at Kalayat in Jind district and presence of buried river bed at Bhor Sayidan in Pehowa district. Sedimentological investigations

including textural and dense mineral analysis of the sediments coming out with water have been carried out to ascertain their major depositional environment and provenance.

Dense mineral (Specific Gravity more than 2.89) assemblage is used for source rock identification; to work out the heavy mineral zones and dispersal pattern, correlation of unfossiliferous strata; to determine the vagaries of pre-erosional weathering and tectonic history of source terrain; to understand the diagenetic changes including role of intrastratal solution; and basin analysis (Chaudhri, 1971). Morton (1991) suggested that multiple source areas can be differentiated on the basis of heavy mineral assemblage.

Heavy mineral analysis of the 63-250  $\mu\text{m}$  size fraction of the sediments was carried out by heavy liquid separation technique (sodium polytungstate) to ascertain their source terrains and compare these with those of the Siwalik Group. A significant aspect of the study is to determine as to whether the fluvial channel(s) that deposited these sediments at Kalayat in Jind district of Haryana and other sites was a seasonal rivulet originating some where in the Siwalik hills with reworked Siwalik sediments or was it a major river originating in the glaciated Higher Himalayas and having some definite Higher Himalayan mineralogical inputs.

#### SITE 1: KAPIL MUNI TEMPLE SAROVAR, KALAYAT, DISTRICT JIND, HARYANA

The hermitage sites of ancient *rishis* and ascetics are usually situated close to some perennial source of water. Kalayat is one of the pilgrimage spots in traditional 48 *kos* Kurukshetra *Bhumi* and is dedicated to Saint Kapil, the author of Hindu Sankhya philosophy. A few kilometres from Kalayat lies the IVC site Balu. It is believed that the Sarasvati River used to flow through Kalayat (Chaudhri, 2007b). The Kapil Muni (6050 BC) temple located at Kalayat is in a brackish water zone where no natural surface flow of water is discernible. In the vicinity of the temple is an old *sarovar* which is ritually cleaned and filled by local religious organizations. In December 2005, during the cleansing process, shallow digging was carried out along the periphery of the brick walled nearly dry water body and water started oozing out. The water was clear, odourless and sweet to taste and had a lower TDS content in comparison to the local municipal supply water (Chaudhri, 2006). The presence of natural flow of sweet water created a stir in the water starved region (Chaudhri, 2007c). The gush of water, which was initially like an artesian flow, subsided after about a fortnight but the water still continues to flow. The sediments coming out with oozing water were collected in a sieve for textural and heavy mineral investigations.

Megascopically, the sediments are dark grey in colour and contain high percentage of muscovite flakes with golden ferruginous coating making them appear significantly different from the surrounding sediments. Textural studies reveal that the sediments are fine grained. Majority of the grains are angular to sub-angular in outline although a few sub-rounded and rounded grains are also present. The sediments coming out with water show a moderately well sorted nature. These characteristics of the sediments reflect the probable character of the aquifer sediments, the carrying capacity of the flow of water which brought them to the surface as also the mixing by sediments enroute the pathway of water from the underground source to its surface extrusion.

The heavy mineral suite recovered from the Kapil Muni temple sarovar comprises tourmaline, hornblende, kyanite, staurolite, epidote, zoisite, garnet, biotite, chlorite, corundum, rutile, titanite and brookite (Fig. 3).

The heavy mineral assemblage of the Siwalik Group has been investigated by Chaudhri (1972, 1975, 1984, 1991). The dense mineral suite

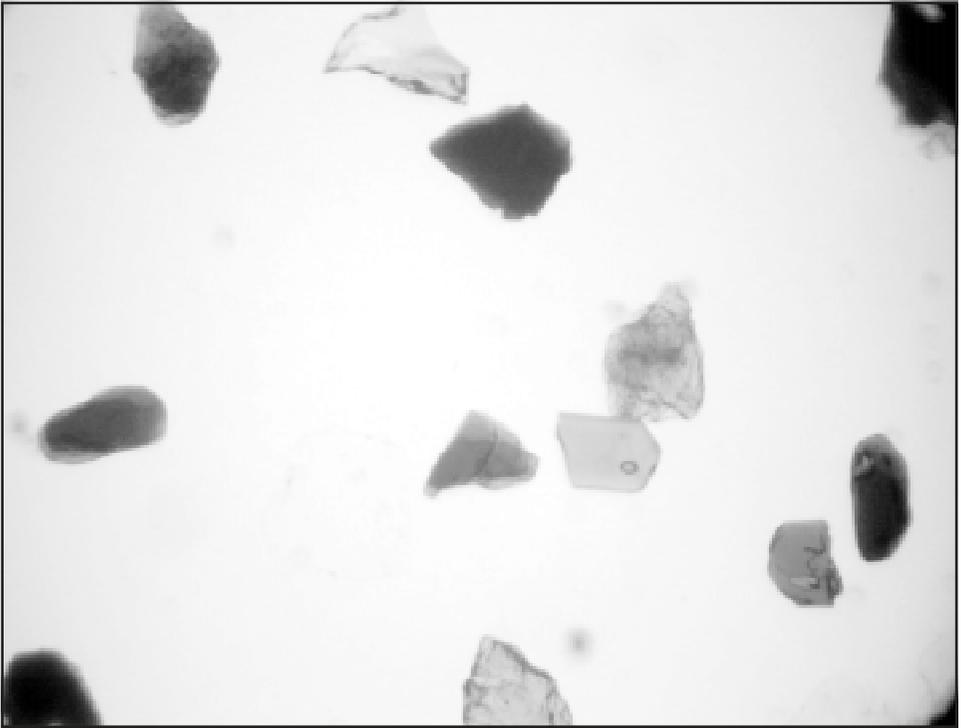


Fig. 3. Photomicrograph of angular fragments of dense minerals recovered from Kalayat.

comprises zircon, tourmaline, rutile, epidote, garnet, chlorite, biotite, staurolite, kyanite, sillimanite and rare to very rare andalusite, enstatite and hornblende. The opaque minerals include ilmenite, magnetite, hematite and limonite (Chaudhri, 2000).

The heavy mineral suite of Kapil Muni temple sarovar thus contains corundum, brookite and titanite in addition to the heavy minerals from the Siwalik Group of northwestern India.

The mineral assemblage garnet, hornblende, kyanite, staurolite, epidote, zoisite and biotite is indicative of derivation of the sediments from high grade metamorphic rocks. Rutile and brookite might have been derived from basic igneous rocks while titanite and part of hornblende appear to have been contributed by acid igneous rocks. Titanite is frequently associated with ultra high pressure (UHP) metamorphism (more than 6 GPa) in subduction zone plate setting in high-pressure granulite-facies terranes (Ye, 2002; Chopin, 2003) now exposed in the Indus-Tsangpo Suture Zone. Honneger *et al.* (1989) reported blueschists along the Indus Suture Zone in Ladakh as tectonic thrust slices, as isolated blocks within mélangé units and as pebbles within continental detrital series. The mineral assemblage in metabasic rocks are characterized by the presence of lawsonite-glaucophane/crossite-Na-pyroxene-chlorite-phengite-titanite albite

stilpnomelane. Parrish *et al.* (2006) evidenced peak UHP metamorphism along the northern margin of the Indian plate in Pakistan Himalayas at 46.4

0.1 Ma and retrogressive growth of titanite between 46.4 and ca. 44 Ma, indicating that the eclogites were exhumed to 35 km depth at or before 44 Ma. This is indicative of very rapid exhumation rates within the mantle of 30-80 mm/yr which are comparable to the then existing rapid plate velocities. Occurrence of corundum is spatially related to zones of metasomatic alterations in calcite and dolomite marbles and crystalline schists. In northwestern Himalayas, corundum has been reported from Early Palaeozoic, Pan-African (500–50 Ma) granites that intruded the Chail, Salkhala, Haimanta Formations in the Lesser Himalayas, Zanskar crystallines, and Lower Taglang La of Tso-Morari crystallines in the northwestern Himalayas (Islam *et al.* 1999).

The heavy mineral assemblage of the sediments coming out with water, thus, reveals that the sediments have a definite Higher Himalayan input. Since the water channel that brought these sediments must have crossed through the Siwalik sediments, mixing of sediments from the Higher Himalayas and the Lesser Himalayas is inevitable. Further, majority of the sediments have angular to sub-angular outlines. The dominant mechanism of fluvial transport of dense minerals having specific gravity more than

2.89 in water is by traction and rolling on the river bed. This process ensures maximum rounding of the grains consequent to the breaking up of their corners on account of friction and attrition in the first hundred kilometres of its fluvial transport. Rounding of the grains is more for the coarser fraction than that for the finer grades. Angular kyanite is characteristic of high current velocity depositional environment. The presence of a high percentage of angular fragments at Kalayat, about 280 km away (crow flight distance) from their perceived source rocks in Higher Himalayas, is anomalous in normal fluvial dynamics. This feature requires that the high density mineral grains are carried as suspension in the river for the major part of their travel from the point of entrainment in the flow in the Higher Himalayas to the point of their deposition at Kalayat in Haryana. This in turn would require the presence of highly agitated water. Agitation in water is related to the morphology of the river channel and quantity of water in it. Considering the dynamics of the present case, it appears that the water channel that carried these sediments was a massive river, with very high volume of agitated water. These characteristics of the river, incidentally and interestingly match very well with the Vedic description of the Sarasvati River, 'a river that roared as it carried peaks of mountain as flowers in its flow'. Further, the strategic location of the site, near the 6th century BC hermitage site of Kapil Muni whose *ashrams* were on the banks of Sarasvati River, further strengthens the possibility of the presence of Sarasvati River palaeochannel near Kalayat.

#### SITE 2: CHYAVAN GIRI KUND, KALAYAT, DISTRICT JIND, HARYANA

In August 2007 water started coming out of Chayavan Giri Kund, a hermitage of Chayavan *rishi* in Kalayat. The water which was pouring out at 4 locations in the *kund* was again sweet to taste. The rate of flow of water was around 25 litres per minute (Chaudhri, 2007d). The water was clear, non-turbid, odourless and very little sand was coming out with it. The sediments coming out with water were collected on – 80 mesh ASTM sieve.

Megascopically, the sediments are grey in colour and are visibly fine grained in comparison to the sediments from the Kapil Muni temple sarovar. The sand has moderate proportion of muscovite flakes. The golden coloured flakes are conspicuous by their absence.

Textural studies of the sediments reveal their fine sand size and moderately well sorted nature. The sand sized fraction was cleaned and heavy liquid separation technique was utilized for separating the dense minerals. The transparent heavy mineral suite recovered from the water



Fig. 4. Chyavan Giri Kund, the site is maintained by ASI. The brick temple is a protected archaeological monument.

coming out of the Chyavan Giri Kund comprises tourmaline, hornblende, kyanite, staurolite, epidote, zoisite, garnet, biotite, chlorite, corundum, rutile and titanite. This heavy mineral assemblage is nearly similar to the earlier assemblage recorded at Kapil Muni temple sarovar.

The phenomenon of water oozing out of Chyavan Giri Kund is interesting considering the general groundwater scenario in the region. The region falls in brackish water zone and potable water having acceptable taste is not available to the people of the region even up to a depth of 400 m. Beyond this level, the quality of water improves but still it does not reach the level of sweetness of the Chyavan Giri Kund water. Further, this phenomenon took place in August 2007 and incidentally there was no rainfall for the past 20-25 days in the region. This situation suggested the possibility that the deeper aquifer which was yielding water on account of the presence of some structural discordance in its path was getting recharged in the upstream recharge zone as significant rainfall was occurring in the Himalayan foothill region which forms the recharge zone of deeper aquifers in the region. The author is deeply involved in 'Sarasvati Project' which



Fig. 5. Water pouring out of Chyavan Giri Kund and sediments being collected in sieve.

aims at exploring the deep water aquifers associated with Sarasvati River Palaeochannels in the state of Haryana, Rajasthan and Gujarat. The water coming out of Chyavan Giri Kund reaffirmed the author's belief that deeper aquifers in the state of Haryana are getting recharged and the possibility of finding hitherto unexplored huge reserves of fresh water are immense.

### SITE 3: BHOR SAYIDAN, PEHOWA, DISTRICT KURUKSHETRA, HARYANA

About 13 kilometres west of Kurukshetra (Thanesar) towards Pehowa lies the Bhurisrava Tank. It is believed that at this place Arjun treacherously murdered Bhurisrava during the Mahabharat war. Bhurisrava was the son of Somadatta, king of Varanasi. The village is named Bhor after him. This small village is situated on an ancient mound. The houses are built of old large size bricks having a size of  $12 \frac{3}{4} \times 9 \frac{1}{2} \times 2$ ".

A buried river bed has been discovered in Bhor Sayidan village in Kurukshetra district (Fig. 6). The estimated width of this palaeo-river is

more than 2 km. The left bank of the erstwhile river is covered by 9 m thick layer of intercalated light chocolate brown sandy clays and mud. Twelve beds have been identified in the succession.

The site is probably linked to an earlier buried habitation as is evidenced by the presence of numerous painted greyware pottery fragments probably dating prior to 1375 BC. The palaeo-river berm is an ancient linear elevated ridge rising about 2 m to 3 m above the normal ground level in the area. An ancient mud-brick lined well is observed well preserved along the vertical cut section of the left bank of this palaeo-river at a depth of about 3 m from the berm level. It appears that in ancient time this well was constructed on the banks of this river by the people living in the now buried habitation.

The textural analysis of the sediments was carried out by sieve analysis. Sieving was carried out at quarter phi interval. The results indicate presence of fine to very fine grained, polymodal, moderately-to poorly-sorted sediment population. The sediment characteristics are typical for low energy river bank and levee deposits. Shape of the grains was determined by visual estimation technique. Majority of the grains exhibit sub-angular to sub-rounded outlines while significant percentage of angular grains have also been recorded.

The source rocks of the alluvial sediments which constitute the left bank of the erstwhile river were determined on the basis of their dense mineral suite. The non-opaque heavies from Bhor Sayidan comprise garnet, epidote, hornblende, kyanite, sillimanite, tourmaline, chlorite, cassiterite, biotite and muscovite. The heavy mineral assemblage of the sediments is nearly similar to those of the Siwalik sediments exposed in the frontal Siwalik hills. The Siwalik sediments were mainly derived from the tectonically active Himalayan land mass and represent products of incomplete mechanical fragmentation which were deposited after a short transport into the foreland basin (Chaudhri, 1991, 2000).

These fluvial sediments reflect the terminal waning phase of the erstwhile 2 km wide river in the vicinity of Bhor Sayidan as there is a distinct break in the lithologic succession with mud beds dominating over sand beds in the upper 5 m long. At a depth of 5 m from the surface, sand layers start dominating over the mud layers and gradually sand beds become dominant. Mud layers are reduced to thin intercalations and lenses. It appears that during the terminal phase there was gradual dessication of the river and the channel was subsequently periodically filled by muddy rainwater that might have travelled in the channel upon its conversion to a seasonal stream from an erstwhile mega-river. In the present day scenario, 2 km wide river beds are nowhere seen in the region except the remotely sensed inferred palaeochannels in Rajasthan and Rann sector of Gujarat.

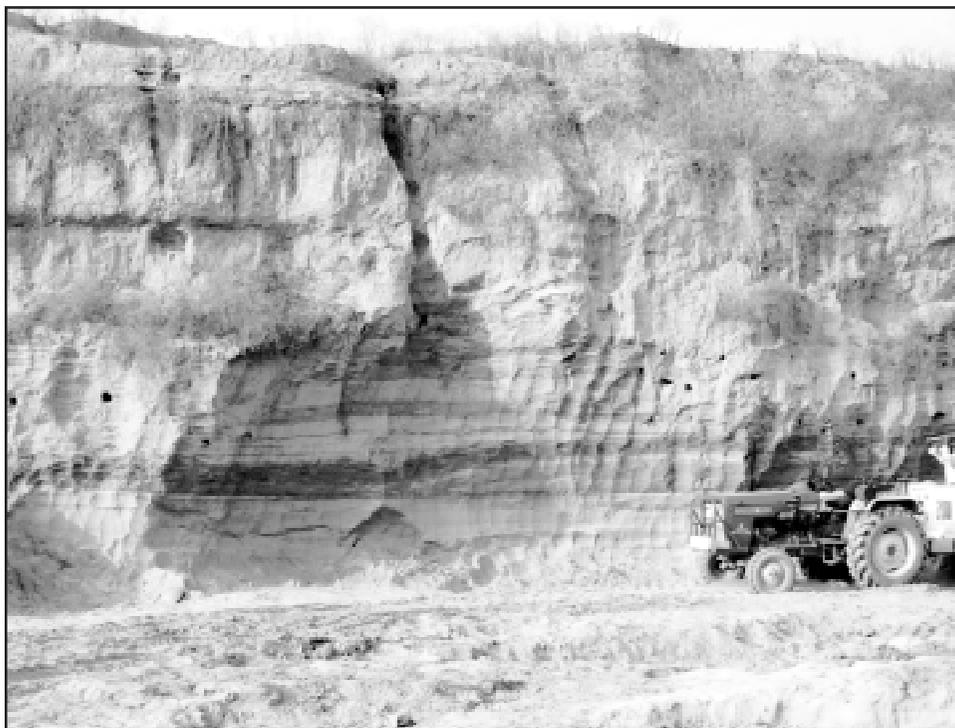


Fig. 6. Buried river bed at Bhor Sayidan near Kurukshetra. The estimated width of this river is over 2 km.

The wide flood plain of the palaeo-river, its sedimentological characteristics and its vedic location contribute in suggesting that the palaeochannel might be of a major palaeo-river, probably, the Sarasvati River. OSL dating of the sediments is in progress and it might contribute in a better understanding of the then prevalent scenario.

#### DISCUSSION AND CONCLUSIONS

Sarasvati River has been intricately woven into the psyche of every traditional Indian. Goddess Sarasvati, as per Indian mythology, bestows knowledge and wisdom on the seeker. Sarasvati River finds a prized superlative position in terms of its benefits to the then existing population in the sacred Hindu texts, the Vedas. As such, the river has been the cynosure of majority of the researchers and common people who try to unravel the mystery associated with this river and contribute their individual bit for the benefit of their fellow citizen.

In the Indian context, there are three major antecedent rivers existing in the present day scenario. These are the Indus, the Satluj and the

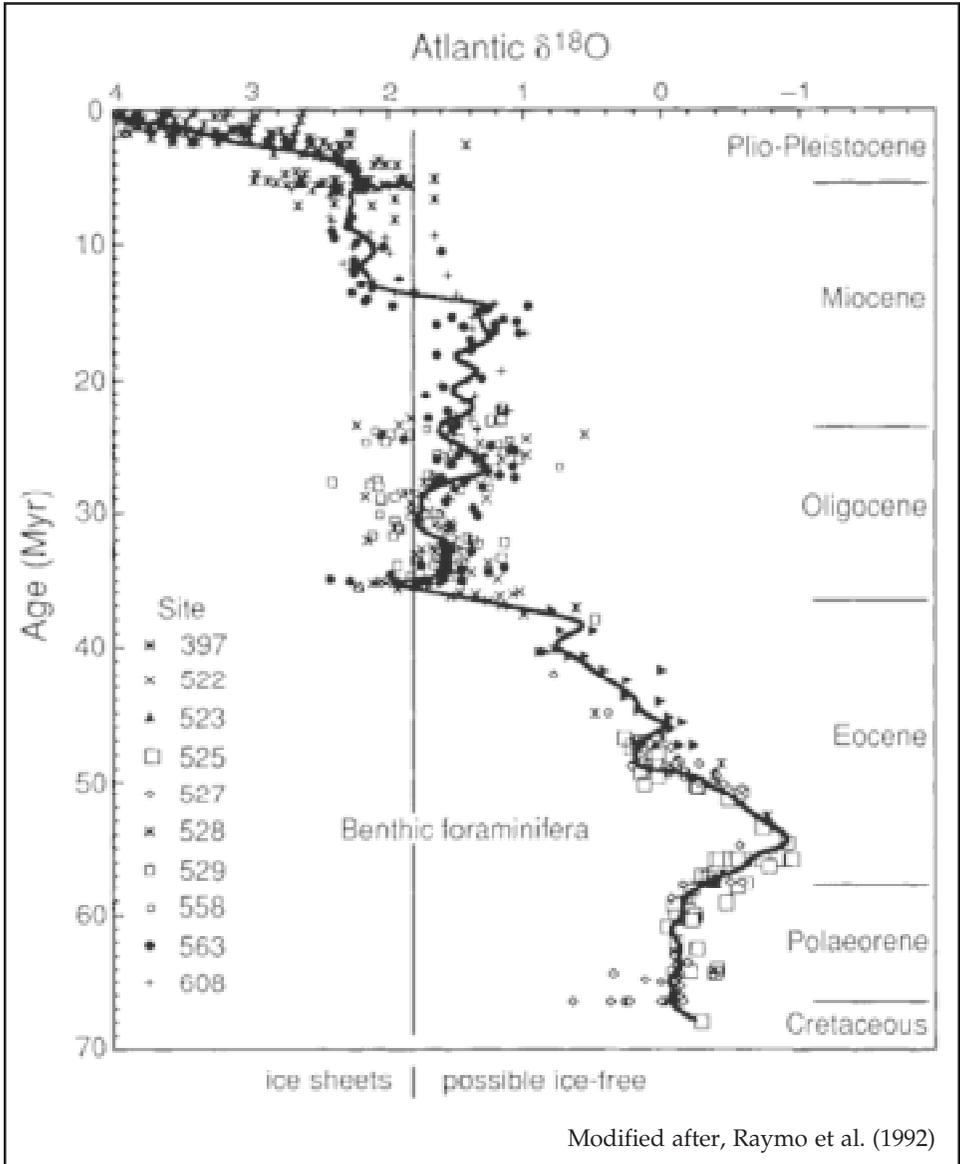


Fig. 7.  $\delta^{18}\text{O}$  record of calcite from deep sea sediment cores indicating onset of global cooling since Oligocene time.

Brahmaputra. All of these rivers have their origin in the vicinity of Mt. Kailash indicating thereby that this part of the Himalayan terrain was at a higher elevation than the rest of the intervening Himalayas since the time of India-Eurasia collision in the Miocene. These rivers, along with some

other significant channels might have started flowing southwards after the melting of glaciers. The first significant glaciation on global scale is supposed to have taken place about 34 Ma ago when Antarctica became glaciated for the first time (Deconto *et al.* 2003). Another major evidence of glaciations and hence the cooling of climate during Cenozoic comes from  $^{18}\text{O}$  record of calcite from deep sea sediment cores (Figure 7), which represents a detailed record of both temperature and glaciations during the Cenozoic era. During global glaciations the lighter isotope of oxygen ( $^{16}\text{O}$ ) is preferentially taken up into ice masses, which results in the concentration of heavier  $^{18}\text{O}$  isotope in ocean water. In addition to this, the  $^{18}\text{O}$  content of calcite is dependent on the temperature at which calcite forms, with cooler temperatures resulting in calcite that is depleted in  $^{18}\text{O}$  relative to calcite formed in warmer temperatures. These two fractionation effects produce a general trend of increasing  $^{18}\text{O}$  in calcite as global temperatures drop and glaciation ensues, and decreasing  $^{18}\text{O}$  in calcite as global temperatures rise and glaciers melt.

Thus, it is safe to assume that major trans-Himalayan drainage gradually established itself in the later part of the Cenozoic Era. Incidentally, it was during this time bracket that all the major regional structures of the Himalayas came into being as a consequence of thrust tectonics. The Main Central Thrust (MCT) was active from 26 Ma to 7 Ma (Hubbard and Harrison, 1989). White *et al.* (2002) worked out a major spatial change in the Himalayan orogenic wedge around 17 Ma which resulted in the southward migration of the active thrusting from the MCT and cessation of rapid exhumation of the metamorphic slab. The Main Boundary Thrust (MBT) was active around 10 Ma (Meigs *et al.* 1995). The Himalayan Frontal Thrust initiated at about 1.7 to 1.5 Ma (Valdiya, 2003) and is still active. During this tectonically active period in the history of Himalayas, new terrains in the Himalayan domain were repeatedly uplifted causing repetitive obstructions in the flow of the then established river system. Chaudhri (2005) documented the offset of rivers flowing in the vicinity of Chandigarh on account of active faulting in the region. Rivers in the Himalayan domain have enormous power and cut deep gorges in mountains in their effort to maintain their flow direction despite uplift of the terrain. However, some of the rivers, tend to take the available path of least resistance, and in the process, are captured by other rivers.

Studies to identify the existence of Sarasvati River have focused on either the habitations that were supposedly nurtured by this river and its tributaries or on remote sensing applications, geomorphological aspects and drainage investigations.

Majority of the workers have attempted to explain the dessication of Sarasvati River on the basis of change in surface morphology and consequent diversion/capture of the dominant water channel due to tectonic causes in the alluvial plains. Investigations carried out by the author reveal that the major drainage diversions occurred in the Himalayan terrain rather than in the alluvial plains. Remote Sensing analysis of drainage pattern of river Satluj reveals a significant drainage diversion near Shimla in Himachal Pradesh besides the diversion near Ropar (Yashpal *et al.* 1980). Ashni River and Giri River exhibit anomalous right angle turns on account of remobilization of the crust in the Lesser Himalaya due to renewed tectonic activity which resulted in the formation of an elongated wedge shaped upheaved landmass. The Himalayas attained their maximum elevation during the Late Quaternary uprising. Satellite images reveal that had this landmass not risen, the Giri and the Ashni River would have drained into the Ghaggar River. Massive palaeo-valleys of these rivers are quite evident on the imagery.

Human Civilization dates entirely in Holocene Epoch. Thus, since the Sarasvati River finds mention in the epics, then it is quite evident that this river system might be existing, at least in the Atlantic Chronozone (8 Ka to 5 Ka) which was the warmest and most moist period in the Holocene. The climate was at its optimum best and was most suited for growth of vegetation and consequently supported agrarian civilization. This chronozone corresponds to Pollen Zone VIIth. During this time there was widespread marine transgression and sea level was 3 m above the present level. Due to vast expanse of shallow sea, the sea waves were about 1 m high. These conditions in the Indian subcontinent would mean that a significant portion of Rann was submerged and the erstwhile Sarasvati River was draining into the sea somewhere along the now non-existent palaeo-coastline of the Arabian sea. The warm spell continued till 3500 BC and then gradual cooling and aridity set in. The period from 6,000 BC to 4,000 BC was the best for the development and fructification of Human Civilization. It appears that this was the time when Vedic Civilization prospered in the Indian subcontinent.

Investigations carried out at Kalayat in Haryana confirm the presence of a mighty palaeo-river which brought sediments from the Higher Himalayan peaks. A buried river bed about 2 km in width, near the Vedic location of the mythical Sarasvati River is a very significant evidence which supports the probable presence of erstwhile Sarasvati river channel near Kurukshetra. The sub-surface bore hole geology based on lithological succession reveals a predominance of sand layers after about 7 m to 9 m of

upper mud layer. The sand layers thicken out towards the depth with occasional *kankar* beds intervening with the sand-mud intercalated layers. This lithology supports the presence of a mega-river in its vicinity.

The present ground investigations alongwith Remote Sensing studies carried out by the author suggest that a major river system existed in the northwestern Ghaggar plains of Punjab, Haryana and Rajasthan. Satluj River probably joined this river system in the Himalayan terrain along with the Ashni and Giri rivers. The Yamuna, the Tons and the Bata rivers flowed through the Markanda River and joined the Ghaggar River system. All these rivers, together, probably constituted the erstwhile palaeo-mega river which has been termed in the Vedas as the Sarasvati River. The five rivers of Punjab, including the Satluj, probably drained into this river till about 5 m.a. Subsequently, due to massive tectonic activity which affected the Lesser Himalayas and the adjoining fluvial plains, river system got reorganized. Clift and Blusztajn (2005) on the basis of seismic reflection data obtained from drill core samples from the Arabian sea and Neodymium isotope data suggested that there was a shift in the source of Indus River sediments at 5 m.a. The major source of the detritus in the Indus before 5 m.a. was weathering products of rocks constituting the Indus Suture Zone and the rocks exposed north of it. Subsequently, the Indus River started receiving detritus from the southern part of the Himalayas. This feature suggests a rerouting of the Punjab rivers in such a manner that instead of flowing towards east, the rivers due to change in ground slope, started westward migration and joined the Indus River. Due to uplift of the wedge shaped landmass referred to above, the Ashni and Giri rivers started flowing westward along the newly created valley to join the Yamuna River which by then had breached the frontal Siwalik hills in the form of Yamuna Tear Fault, to pursue a course independent of the Markanda River. Beek *et al.* (2006) suggest the exhumation of Frontal Siwalik hills along the Himalayan Frontal Thrust around 2 m.a. Due to change in basement profile, a part of the erstwhile Markanda River channel inverted its flow direction and water started flowing in the newly created Bata stream in the direction of the Yamuna River. The Satluj River, also took a U-shaped bend near Ropar in Punjab, and pursued a course independent of the Ghaggar River. Thus, the Markanda and the Ghaggar rivers were reduced to the status of seasonal rivulets. Numerous evidences of the presence of huge amount of water in these channels in the form of vertical river cut cliff faces measuring about 50 m in height (Chaudhri, 2002), 2 m to 3 m high pillar like remnants of Pinjore sandstones and clays in ephemeral streams and huge thickness of fluvial gravels in the piedmont reach of the Ghaggar River, are available,

and these strongly suggest that it was a major river in the very near geologic past. The alluvial fans of these rivers extend for a distance of about 9 km to 18 km away from the hills towards the Punjab and Haryana alluvial plains again indicating their erstwhile magnitude.

Sarasvati River is not flowing today, but its buried channel exists. The palaeochannel of Sarasvati River holds the key for mitigation of water scarcity in the region. If the river was trans-Himalayan in character, as it appears to be, then possibilities of finding rich precious metal placer deposits are very bright. Search for the palaeochannels of Sarasvati River and associated deposits is a scientific pursuit, which has immense benefits. Establishment of Quaternary stratigraphy in the Indo-Gangetic alluvial plains and dating of sediments and water by appropriate techniques shall help in increasing the confidence limits of the present inferences.

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# Abstracts



# The Lost River Sarasvati: Geological Evidence\*

K.S. Valdiya

A major river known as the Sarasvati and formed by the confluence of the Shatadru (= Satluj) and the Yamuna (of the past) flowed through Haryana, southern Punjab, northwestern Rajasthan and eastern Sindh and emptied itself in the Gulf of Kachchh. This river was much revered by the Rigvedic scholars; and it nurtured the Harappan Civilization until it disappeared during the Late Holocene time 3000 to 4000 yr BP. The disappearance of the Sarasvati is a case of river piracy by branches of the Ganga and the Sindhu rivers.

Weaving together various threads of evidence adduced from archaeological, geomorphological and drainage-related studies, and gleaning relevant information from Satellite imageries, it is surmised that the Sarasvati River rose in the snowy realm of the Himadri in northwestern Uttarakhand, flowed south-west through one of the tributaries of the present-day Ghaggar River of the foothills and met the then south-east flowing Shatadru (Satluj) at Shatrana about 15 km south of Patiala. At the confluence, the channel was 6 to 8 km wide, pointing to a very high discharge of the Sarasvati. The Ghaggar River is known as the Hakra in its middle reaches and as the Nara in the lower reaches. Significantly, the groundwater recovered in the middle reaches from tubewells deeper than 60 m was found to be 22000 to 6000 years old, whereas in the shallow-well water carbon has

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been dated at 5000 to 1800 years. The age of the water increases downstream from Kishangarh. Since the tritium value is negligible, these waters do not represent the rainwater fed through contemporary recharge by rainwater. The deeper – and older – water must be attributed to the ancient river that flowed in the time earlier than 5000 yr BP.

Western Rajasthan was dotted with the settlements of the Stone Age people. Parts of Rajasthan, Gujarat and Sindh were inhabited by the people of the Harappan culture (7000 to 3300 yr BP). More than 2000 settlements, including those of the Harappan culture and the *ashrams* of sages of the Vedic time, lay on the banks of the river Sarasvati that discharged into the Gulf of Kachchh. The *Rgveda* describes Sarasvati River in glowing terms – “Breaking through the mountain barrier” this “swift-flowing tempestous river surpasses in majesty and might all rivers of the land”.

Tectonic uplift along the NE-SW trending fault-delimited blocks of the Aravali Range caused the deflection of the headwaters of the Yamuna and the Shatadru, leading to the disappearance of this mighty river. The eastern branch deviated southwards around 3,700 yr BP, flowed through the channel of a tributary of the Chambal – what is now the Yamuna – and joined the Ganga at Triveni or Allahabad. The consequent dwindling of the river discharge propelled the migration of the Late Harappan (3900-3300 yr BP) people upstream from the Ganganagar-Bahawalpur area to the upper reaches in the Siwalik. This is evident from a dramatic increase of the Late Harappan settlements in the Siwalik belt in southeastern Himachal Pradesh and the adjoining Haryana and Uttar Pradesh. As a matter of fact, this foothill region became populated for the first time.

Later, during the time of Gautam Buddha (who lived in the east about 2600 yr BP), the Shatadru River also betrayed the Sarasvati, as it abruptly swerved westward to join the Beas of the Sindhu system. Deprived of the waters of these two major rivers, the Sarasvati became a dry channel. The collapse of the Harappan Civilization seems to be wholly due to the disappearance of the Sarasvati and its associated rivers.

As tectonic activity continued to afflict the region, there were frequent disruptions, including changes in the river courses. However, some water of the Himalayan rivers continued to flow into the Hakra-Nara channel until about AD 1245 when there was a great migration of the desert people out of the region. The Satluj ceased to contribute water in AD 1593 when it changed its course finally. It was not only the Satluj that was moving westwards, but also all rivers of the Sindhu system, including the Sindhu itself, have shifted westwards. The Sindhu migrated 160 km westwards in the historical times.

# Sarasvati River – No More a Debatable Issue

Darshan Lal Jain

Sarasvati a majestic river, after originating in Himalaya flowed in almost south-westerly direction through present day Haryana, Punjab, Rajasthan and Gujarat prior to joining the Arabian Sea. Ancient Vedic culture flourished on its banks. Important towns like Kurukshetra, Pehowa, Shatrana, Sirsa, Kalibangan, Pilibangan, Suratgarh, Beriwal, etc. flourished on its banks. Ample references pertaining to this river are available in *Rgveda* as 'ambitame, devitame and naditame'. Our former President Dr. A.P.J. Abdul Kalam was very excited on seeing a photograph of the River with water and he endorsed his reaction in our visitors' book as 'Delighted to see the hard work in realizing reality from epic information. - A.P.J. Abdul Kalam'.

Adi Badri Terrace is a recent discovery in Adi Badri area, located just south of Siwalik hills, almost 30 km north of Jagadhri. Excavations were carried out by Archaeological Survey of India on western bank of Somb River. Angular shaped pebbles of high grade metamorphic rocks and quartzite embedded on the wall were observed in ABR-II excavation site. This alien lithology generated tremendous interest as this terrace is situated south of Siwalik hills in Haryana plains. According to Dr. V.M.K. Puri, ex-Director GSI, Vedic Sarasvati entered plains at Adi Badri area which can be called as Haridwar of Vedic Sarasvati.

Recently, subsurface water started oozing out within a pond of the famous Kapil Muni Ashram in Kalayat (Haryana). A multi-disciplinary scientific team studied the oozing water and the sand that accompanied it. Dr. A.R. Chaudhri of Kurukshetra University found a suite of angular heavy minerals having their source in higher Himalayan rocks. Dr. A.K. Gupta & Dr. B.K. Badra of ISRO identified fossil valleys of Vedic Sarasvati in the

area from the study of space imageries and concluded that this water was of aforesaid river. Sh Rajesh Purohit conducted geomorphologic studies and concluded that this water belonged to Vedic Sarasvati that has been described in *Rgveda* and other scriptures. Later on, he along with his team discovered the actual river bed near Jyotisar (Kurukshetra).

During the course of scientific studies carried out from space imageries, scientists from ISRO discovered a number of fossil valleys restricted to areas around Kurukshetra, Pehowa, etc. in upper central Haryana. They interpreted it as remnants of the meandering Vedic Sarasvati. Based on Satellite imagery, they have drawn out a map of Sarasvati River from Glacier to Rann of Kachchh.

Dr. M.R. Rao, GGM, ONGC along with his team, undertook drilling near Jaisalmer in Rajasthan and got a discharge of 76000 litres/hr. of water from one of the wells. Out of 24 wells, drinking water was obtained from 23 wells. Scientific tests on this subterranean water revealed that this water belonged to an old river that once existed here. This old river was none other than Vedic Sarasvati.

Besides the above geological and other scientific evidences, village-wise revenue record has been collected and compiled proving the flow of Sarasvati Nadi in continuity. Survey of India topo-sheets tally with these revenue records. Based on these revenue records, about 50 km of Sarasvati channel has already been cleared by digging by Haryana Irrigation Department.

The writer visited the archaeological sites at Kunal (District Fatehabad, Haryana) and amazingly found shells in the river bed. A friend of archaeology showed a conch recovered from Rakhigarhi (Dist. Jind, Haryana) excavation.

Folklore is an important factor to be considered for establishing a fact. *Shrimad Bhagavat* was penned by Maharishi Ved Vyas at Badrayan, i.e. Adi Badri. Every year more than 10 lakh pilgrims from north India visit Kapalmochan for bathing in crescent shaped Sarovar on Karthik poornima. 15 km downstream of Adi Badri lies the town of Vyaspur (presently Bilaspur), the adobe of Maharishi Ved Vyas. On the outskirts of the town *naga sadhus* used to bathe in Sarasvati Kund alongside a perennially flowing Sarasvati channel. Every evening *arti* is performed at Sarasvati Kund in Sarasvati Nagar (presently Mustfabad, Distt. Yamuna Nagar). You can see people of surrounding villages performing last rites (*asthi visarjan*) of their dead at 'Sangam' of Sarasvati and Somb Nadi at Adi Badri.

'Unfortunately in spite of the overwhelming ambience and public demand, the Govt. took no steps to revive the River. The matter was brought

before the Hon'ble High Court, Haryana-Punjab at Chandigarh through a Civil Writ Petition (CWP8561 of 1996) by Shri D.P. Dastoor an advocate of Pehowa (Kurukshetra), Hon'ble Justice Amarjeet Chaudhary passed the order:

“... we direct Deputy Commissioner Kurukshetra and the Municipal Committee Pehowa to remove all encroachments from the land entries of which are in favour of Sarasvati river...”

Unbelievably, all encroachments were removed voluntarily without any use of force. The monumental work of Govt. & Public co-operation at Pehowa has been beautifully documented by the District Administration in a souvenir (*samarika*).

Thus, all the evidences mentioned above point to only one conclusion that Vedic Sarasvati no longer remains a debatable issue.



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## BACKGROUND

In the search for clues to the peopling of India in ancient times, many theories have been put forward. During the British colonial regime, a theory called Aryan Invasion Theory was proposed to explain the roots of the Indo-European languages and common lexemes found among European and Indian languages. This theory was modified as Aryan Migration/Trickle-in Theories.

After India gained independence, and taking into account the archaeological discoveries reported particularly from Northwestern India and Pakistan, the reliability of this theory was questioned by many scholars and researchers. The problems related to the decipherment of the Indus Script have also resulted in many theories related to the formation and evolution of ancient languages of India. The discovery of the ancient courses of Vedic River Sarasvati and a large number of archaeological sites on this river basin in Northwestern India have led some to suggest that the civilization should be called Indus-Sarasvati Civilization. Relating archaeological discoveries and language studies (including the so-called Indus Script problem) is a challenge which calls for many multi-disciplinary researches to delineate the peopling of India and the roots of Hindu culture during ancient periods from ca. 4th millennium BCE.

The following is an indicative list of recent works on the subject which necessitate a restatement of the indigenous/autochthonous evolution of Hindu Civilization.

The Conference being held between Oct. 24 to 26 on Vedic River Sarasvati and Hindu Civilization is intended to focus on this research area to delineate the roots of Hindu culture and civilization. The discovery and rebirth of River Sarasvati result in a perspective to underscore the continuum evidenced by many cultural indicators such as the practice of wearing *sindhur* at the parting of the hair by married women, worship of *Shivalinga*, *pushkarinis*, veneration of *śankha* (turbinella pyrum) which is an 8500 year old continuing industry, metallurgical techniques of making

bronze statues and veneration of River Sarasvati as mother and as a divinity. Such indicators call for further researches to provide a fair account of socio-cultural history of India.

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