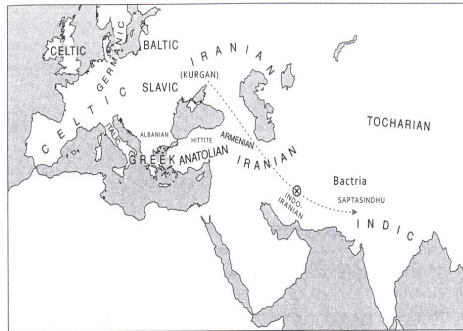


N. KAZANAS

## INDIGENISM AND THE COLLAPSE OF THE ARYAN-INVASION-THEORY



If only small numbers entered peacefully-  
How was Saptasindhu sanskritised?

### 1. Introductory

Here we see the IE (=Indo-European) languages or cultures in their historical habitats.

The better known ones are presented on this map (which is a modification of one in Ramat and Ramat 2006). And I stress that I don't mean races but languages and cultures. The Iranian culture, for example, was shared by diverse peoples while the Greek culture also comprised several peoples and dialects. There are in the East the Indic culture with its Vedic and then Sanskrit ; the old Persian or Iranian with its Avestan ; then Anatolian with many tongues, some related to Hittite and others to Greek ; Greek round the shores of the

Aegean; Italic mainly with its Latin tongue and Roman civilisation; Slavic with its many branches of Bulgarian, Russian, Polish and some others; the Celtic culture both in Gaul (=Old France) and Britain (=Wales and Ireland); then, in the North-West, Germanic with its Gothic (first, in the Balkans), Old High German and Old Norse; Baltic with its Lettish (or Latvian) and Lithuanian. There is also Albanian or Illyrian and Armenian and Tocharian.

The dotted line represents the alleged journey of the IAs (=Indo-Aryans).

The AIT (=Aryan Invasion/Immigration Theory) briefly states that the original homeland was somewhere in Europe: some favour the Germanic plains, others the South Russian or Pontic steppes, others the N-E Anatolian or South Caucasus region and so on. From that location spread groups of people in different directions to settle in the present habitats of the people speaking the various IE languages. One of them, the Indo-Iranians came into what is Persia today. Some stayed there becoming the Iranians (=Persians) while others moved south-eastwards into Saptasindhu, the Land of the Seven Rivers in N-W India and today's Pakistan. The older version says that these Indo-Aryans conquered those valleys c 1500-BCE driving the natives south and aryanised the area. The newer version says that they entered in small waves c 1700-1500 and gradually their superior culture spread in the whole area. Now, some non-indigenists are generous enough

to accept an earlier date of entry c 2000 BCE!

## 2. Archaeology and linguistics

But how was the aryanisation of such a large area possible? Why should the natives abandon their own languages and adopt the very difficult language of the Aryans. Vedic is an extremely complex language with singular, dual and plural for nouns and verbs; with 8 cases in each number for the nouns and many classes of nouns, masc. fem. and neuters. The verbs have present, past and future tenses, subjunctives and optatives and the past tense (aorist) alone is of 6 or 7 kinds! If there was no conquest and coercion why would the natives adopt such a difficult language? There were no schools, no mass media, no central government with a Ministry of Education. How do we resolve this paradox?

Then, we know the native Harappans had literacy as is shown by their seals but no literature! But the incoming Aryans had no writing as evidenced by the *Rgveda (RV)*. Thus we have a strange paradox. On the one hand a culture with literacy but no literature, other than the still undeciphered seals. And an oral culture without literacy but an enormous literature — the Veda-s. Both in the selfsame region and at about the self same period. How do we resolve this second paradox?

Moreover, archaeologists, expert in this area (Allchins, Kenoyer, Possehl, Shaffer and many others), emphasize the unbroken continuity of the native culture

from c 7000 to the last centuries BCE. There is no archaeological evidence of any entry before 600 BCE! American specialist on the ISC (=Indus-Sarasvati Culture) J.M. Kenoyer wrote: ‘There is no archaeological or biological evidence for invasions or mass migrations into the Indus Valley between the end of the Harappan phase, about 1900 BCE and the beginning of the Early Historical Period around 600 BCE’ (1998: 174). Even Agrawal, an avowed non-ingidenist admits there is no evidence of an entry and calls the IAs ‘elusive’ (2003).

All archaeologists, Western and Indian, agree that there is no evidence of any immigration.

Lord C. Renfrew wrote of the AIT (1989:182): ‘this comes rather from a historical assumption about the “coming” of the Indo-Europeans’ (my emphasis). Then Edmund Leach wrote (1990): ‘Because of their commitment to a unilateral segmented history of language development that needed to be mapped onto the ground, the philologists took it for granted that proto-Indo-Iranian was a language that has originated outside India or Iran . . . From this we derived the myth of the “Aryan invasion”.’ These are the two legs of clay upon which stands the AIT and its variants.

Nevertheless the AIT persists. Arguments supporting AIT

### **1. Linguistic**

(a) Iranian (Avestan) is older ; therefore IAs moved from Iran into Saptasindhu.

(b) Palatalisation : Latin *que*, Greek  $\kappa\alpha/\tau\epsilon$ , Vedic *ca* ; therefore Vedic is later.

(c) Vedic is a mixture of Munda and Dravidian with Indo-Aryan.

(d) Isoglosses (palatalisation ; V  $m\bar{a}$ =Gk  $m\bar{e}$  etc.) supposedly show that Vedic speakers entered Saptasindhu via southern Iran.

## 2. Horses and Chariots

(a) Not enough horse-remains at Harappan sites.

(b) Chariots in Andronovo c 1800, Egypt c 1300 ; therefore *RV* must be later, since Harappans had no chariots of the Andronovo or Egyptian type.

However, we should note well that the AIT was not conceived initially in linguistic terms. Very far from it. It started as a theoretical explanation of a sociological puzzle, namely the existence of the caste system in India. This sociological hypothesis preceded all linguistic considerations.

Before 1750, Frenchman father Catrou (and several others) proposed that Brahmins originated in Egypt, which had a strong priestly class. The Egyptian warriors conquered the people of Saptasindhu and became the Kṣattriya-s ; The Egyptian priests became the brahmins and so on.

Between 1800-1820 various English and French writers made similar suppositions. The 'Hindu conquest' was postulated as the cause of the caste-system. Invaders became superior castes ; the aboriginal natives became Śūdra-s and Pariah-s. Some writers favoured

an Egyptian, others a Mesopotamian conquest. (Wilks 1810; Campbell 1816; Ellis 1816; Langles 1821; Remusat 1822). The discussion of this hypothesis continued in the next twenty years. (Burnouf 1833; Stevenson 1839-1841; Elphinstone 1841; etc.).

Some wrote against the AIT (Langlois 1833; also Elphinstone). But then Max Müller supported the AIT and this turned the balance in favour of the AIT.

However, although the initial Invasion Theory was formed to explain the caste system, with Müller and others after him it acquired linguistic characteristics due to the researches into Indo-European philology.

### **3. Not a single linguistic argument lends the slightest support to the AIT**

Linguistic arguments and data do not provide dates of themselves. Dates come from archaeological or other historical evidence. Consequently they are of no help. But I say briefly this: Avestan, the old Iranian language is not older than Vedic, as we shall see further down. Palatalisation is a subject that needs fresh study in depth. The usual mainstream view may be utterly wrong. That Vedic had loans from other languages is very probable since all languages do this everywhere at all times. I showed back in 2002 that Saptasindhu fits best as the homeland from which all these isoglosses spread and developed. But I understand that a recent study by Talageri (2008) may show this more clearly. (Soon I will be publishing a long paper on 'Isoglosses' showing that the larger

Saptasindhu alone can be the place of dispersal of isoglosses). These aspects would need a whole lecture to themselves. So I leave them, repeating that linguistic data and arguments do not furnish absolute dates. I shall return further down.

#### 4. Horses and Chariots

Yes, the remains of domesticated horse at Harappan sites in the 3rd millennium are meagre, c 2600-2400. But the *RV* evidence shows only a small presence of horses: Evidence for horse-remains at various ISC sites is found at Malvan (Allchin & Joshi 1995, p. 95); at Kuntasi (Dhavalikar 1995, pp. 116-17); at Shikarpur (Thomas et al 1995; Kochhar 2000: 186, 192); also, of course, terracota figurines as in Rakhigarhi (Lal 2002, p. 73ff). Anyway, if the AIT is right and the IAs came c 1700-1500, then the horse-evidence should increase enormously after this date. So where we had evidence of, say, 10, now we should find 500 or 1000. This is not so at all. The horse remains continue to be just as meagre until the late centuries BCE. So this argument is a bit of a red herring, totally worthless.

The same is true of chariots. The word *rá-tha* does not denote a war-chariot like those of Andronovo, Egypt, Greece, and Rome. The word is from  $\sqrt{r}$  'go' giving primary *rá-tha* 'a goer, car, vehicle'. See similar formations with the suffix *-tha*: *ārtha* 'goal', *ukthā* 'saying', *gāthā* 'song', etc. The Ṛgvedic chariot did not come from abroad as some fanatic invasionists claim.

Chariots are said in the *RV* to be made of native timber : from the trees *khadira* and *simśapā* (III.53.19) and *kiṃśuká* and *Śalmali* (X.85.20). The last reference is the late 10th Maṇḍala but the first one is in an early Family Book, that of the Viśvāmitras. So right from the start, even according to the AIT scenario, even as the Aryans (allegedly) arrived, they fashioned cars from the wood of native trees ; they did not bring chariots from abroad !

Then unlike the narrow contraption of the, say, Egyptian chariot, the Ṛgvedic *ratha* is described as *pr̥thu* ‘broad’ I.123.1; *br̥hat* ‘tall and big’ VI.61.13 ; *variṣṭha* ‘widest’ VI.47.9. This is quite a difference. Thus it has space not for 1 only or 2 (i.e. the driver and the warrior with his spear and bow) but for 3 : it is said to be *trivandhura* (I.41.2 ; VII.71.4) and then to carry 8 *aṣṭāvandhura* (X.53.7) !

Evidence of actual cart-remains come from after 300 BCE (Bryant 2009: 20, with references) ; otherwise, we find toys from ISC sites or depictions on rock art with vehicles drawn by antelopes, oxen and rarely, horses (Lorblanchet 1992). So the chariot-argument too is something of a red herring.

And here we see the evidence for spoked wheels from a seal (analysis by Parpola 1969) and terracotta ones with spokes painted on. Similar ones with painted spokes have been found in the Carpathian region ; so the practice seems to have been quite widespread.





Spoked Wheel



Rakhigarhi: Terracotta wheel

Kalibangan: Terracotta wheel  
with painted spokes

In fact there is not one scrap of actual evidence, other than mechanical repetition of the theory, to support the AIT. Let us now look at the evidence for indigenism, i.e. the IAS were in India in the 4th millennium at the very latest.

### 5. Mainstream Chronologies founded on fictions

First, the composition date of the *RV*. The usual date given under the AIT is 1200-1000 according to Max Müller's scheme :

Max Müller's chronology :

Chandas (*RV*) 1200-1000 ; Mantra-s (*Atharva, Yajus*) 1000-800 ; Brāhmaṇa-s 800-600 ; Sūtra-s etc. down to 200 BCE. Identification of Kātyāyana (c 400 BCE) from a ghost story in *Kathāsaritsāgara* (c 1100 CE !).

Müller's *History of Ancient Sanskrit Literature* (1859: pp. 214-7) gives the chronological scheme that is repeated almost verbatim in all modern text-books (e.g. Burrow 1973:43). This was based on a ghost-story in *Kathāsaritsāgara* (c 1100 CE) which mentions Kātyāyana, identified with Sūtra-writer Kātyāyana ! It is shaped also according to bishop Ussher's chronology, based on Old Testament: the creation of the world occurred at 4004 BCE ! So all pre-Christian events had to fit in that span of time.

This, then, is the basis for the mainstream chronology of ancient Sanskrit Literature. It is not based on linguistic evidence, as is generally and vaguely claimed, but on a ghost-story composed 2500 years after the alleged Aryan invasion and on a Christian myth — in other words, on two pieces of fiction ! The linguistic and all other details connected with this subject were worked out gradually in the course of

years to be in harmony with this chronological skeleton, suggested by the ghost story ! What is more, the whole IE linguistic superstructure with its 'laws' of phonetic changes and its reconstructions was built upon these fictions !

Of course, this chronology came under criticism at the time (by Goldstucker, Whitney and others) and even Müller admitted thirty years later that nobody could really determine the dates of the Vedic hymns which could be 1500, 2000 or even 5000 BCE. But his earlier dates stuck and are being taught in the Universities today. And so M.B. Emeneau wrote in mid-20th century :

At some time in the second millennium BC. . . a band or bands of speakers of an Indo-European language, later to be called Sanskrit, entered India over the north west passes. This is our linguistic doctrine which has been held now for more than a century and a half. There seems to be no reason to distrust the arguments for it, in spite of the traditional Hindu ignorance of any such invasion. (M.B. Emeneau 1954 : emphasis added).

#### **6. Linguistic arrogance was belied by Archaeology**

Only twelve years after Emeneau's statement G. Dales showed that there had been no invasion, no fighting, no destruction (1966: 92-99) and therefore Emeneau's arrogant assurance was sheer ignorance. But like Emeneau, most mainstream indologists ignored (and

continue to ignore) data, luminous and clear like springtime mornings, that showed a very different situation. So they persisted in their theory of invasion. T. Burrow wrote in 1975, nine whole years after Dales ‘The Aryan invasion of India is recorded in no written document and it cannot yet be traced archaeologically but it is nevertheless established as a historical fact on the basis of comparative philology’ (1975:21). Several scholars continued to write of the ‘invasion’ and only then the ‘invasion’ became ‘immigration’ then ‘peaceful immigration in small waves’.

However, for thirty years now archaeologists continue to stress the unbroken continuity of the material culture in Saptasindhu down to c 600 BCE.

#### **6a. Twelve Harappan common features absent in the *Rgveda***

The *RV* itself provides ample evidence that the hymns were composed before the Harappan urbanized culture starting c 3000. Harappan features absent in the *RV*.

(a) *iṣṭaka* ‘bricks’ Harappan building material; (b) significant urbanisation; (*pur*, *sabhā*, *samrāt*) red indians; (c) fixed altars or hearths; (d) ruins of abandoned towns; (*RV* I.133: *armaka*); (e) *karpāsa* ‘cotton’; (f) *rajata* ‘silver’; (g) *vr̥hi* ‘rice’ (*odana*; *purolās*, *apūpa*); (h) *godhūma* ‘earth’s exhalation’ = wheat; (i) literacy (*lekha(-na)*, *lipi* — not before Sūtra-texts); (j) perforated jars; (k) iconography (statuary, relief, painting). (l) seals. All present in post-*Rgvedic*

texts (Brāhmaṇa-s, Sūtra-s, etc.).

The Harappan or Indus-Sarasvatī Culture has certain characteristics which help to define its uniqueness. A number of these features are absent from the *RV* and this absence indicates that the *RV* is pre-Harappan. Arguments *e silentio* are not decisive since absence of evidence is not always evidence of real absence. But in this case the features are far too many. (Some of these were noted by Sethna, 1992). The probability increases as the number of absent items increases and when this number becomes 8, 9, 10 then we must acknowledge certainty.

(a) *iṣṭakā* ‘brick’. The *RV* mentions as building materials metal, stone, mud and wood but not ‘brick’, which was the basic material in Harappan constructions. This is found in post-Ṛgvedic texts. The word *iṣṭaka* is not in the *RV*. Archaeologists write of the early Harappan or Ravi phase (3300-2800): ‘These early settlers built huts made of wood with wattle-and-daub’ (K. Kenoyer and R. H. Meadow 2007:125). This is the common habitation in the whole of the *RV*. Brick-walls came later, as Kenoyer pointed out much earlier: ‘these appear after this early phase, i.e. after 2800’ (Kenoyer 1997/2000:56). The dates 3300-2800 BCE are different from those given by S.P. Gupta who places this early phase c 3700 and before and calls it Hakra-Ravi (2007:223).

(b) Urbanization is wholly absent in the *RV*. There

certainly was ‘nomad pastoralism’ as mainstreamers emphasize repeatedly but there were also agricultural settlements (a fact which mainstreamers underplay or do not mention). The hymn to Kṣetrapati ‘Lord of the Field/Soil’ (IV.57) alone should suffice but also the girl Apālā refers to her father’s *urvarā* ‘fertile field’ (VIII.91.5); then there are many cultivation implements *khanitra* ‘shovel’, *lāṅgala/sīra* ‘plough’, *ṣṛṇi* ‘sickle’, etc. Moreover, there is weaving with loom, shuttle, warp and woof (*RV* I.134.4 ; I.3.6 ; etc., etc.) and metallurgy with smithies of sorts (IV.2.17 ; V.9.5 ; etc.). Such activities imply settlement.

Some scholars thought the Ṛgvedic and Harappan cultures converge (Gupta 2005, Bisht 1999, Lal 1998, Singh 1995). As evidence is cited the word *pur-* which denotes ‘city, citadel, fort, town’ since its Greek and Baltic cognates ‘polis’ and ‘pil(i)s’ do. This is a very general misconception. In the *RV pur* never means anything other than an occult, magical, esoteric defence or stronghold which is not created nor ever destroyed by humans. The ISC cities had regular blocks, large buildings, also domestic and urban water-supply (McIntosh 2001: 100-101 ; Gupta : 2007 235). The *RV* knows nothing of all these. There are references to *oka*, *gr̥ha*, *dama* , *dhāma*, etc, all of which can denote any type of ‘home/house’ (made of wood and mud), or the thousand-pillared mansion of kings Mitra and Varuṇa in the sky (II.41.5 ; V.62.6 : probably suggested by sunrays streaming down through clouds ; for not even

ISC cities had such mansions!). These most certainly do not indicate any urbanization : neither brick, nor stone-walls are mentioned, nor other features found in the ISC towns.

Such Ṛgvedic settlements are pre-urban as known in the mature Harappan. ‘These are found spreading from Taxila in the northwest through the eastern foothills of Baluchistan through Rajasthan and Haryana via Punjab, Sindh and Kachch. All this presupposes the existence of a very strong internal network which was fully operational by 3000 BC’ (Gupta 2007: 214).

The words for ‘council’ *sabhā* and *samiti* are also cited by some scholars but, surely, any community can have a council of elders without urbanization. Allusions in the *RV* to chiefs/kings *rājā* and overlords/emperors *samrāṭ* also do not show urbanization since such offices can just as easily exist in rural communities. (The Red Indians in North America, nomadic and rural tribes, had local chiefs and overlords). Pathways and/or roads (*path-*) also have been mentioned as crossing or branching out, but these too can be just as easily seen in a rural context. (For all these claims see Singh 1995 ; Bisht 1999 and Lal 2002, 2005).

(c) Fixed altars or hearths are unknown in the *RV* but common in the ISC cities. The Ṛgvedic altar is a shallow bed dug in the ground and covered with grass (e.g. *RV* V.11.2, VII.43.2-3 ; Parpola 1988 : 225).

Fixed brick-altars are very common in post-Ṛgvedic texts.

(d) Many cities were abandoned and fell to ruination after 1900 BC when the Harappans began to move eastward because of the drying up of the Sarasvatī and of the more general desiccation due to tectonic disturbances and climatic changes. The *RV* knows nothing of such ruins even though, according to the AIT, the IAs moved through these regions c 1700-1500 (in small waves, settled there, in the midst of deserts, and wrote the hymns which praise the mighty Sarasvatī !). Some attempts have been made to read hymn I.133 with its *arma-ka* (=of unknown meaning, perhaps ‘vortex’) as a description of a ruined city (e.g. Burrow 1963, Rao 1991:32) but, in fact, the hymn mentions no ruined buildings, no fallen walls and no materials such as wood, stone or bricks ! It is a ghostly scene of frightful desolation, peopled only with unfriendly she-fiends and demons (*yātumati*, *piśāci* and *rakṣas*). In sharp contrast the Old English poem *The Ruin* contains such persuasive details of the ancient remains (from Roman times ?) that some scholars think it refers to the town of Bath (Mitchell & Robinson 1996:252-5).

(e) No cotton *karpāsa* appears in the *RV* although this plant was extensively cultivated in the ISC and the fabric was exported as far as Egypt in the middle of the 3rd millennium while the Mesopotamians adopted



the name as *kapazum* (? from *prākṛta kapāsa*). The *RV* has ‘skin’ *eta* (I.166.10 ; *ajina* in *AV* V.21.7 etc.), ‘wool’ *avi* (*RV* IX.78.1) and *śāmulya* (X.85.29) and numerous terms for clothing and weaving but no mention of cotton. Be it noted that *karpāsa* is the only word for cotton in Sanskrit. It is found first in the Sūtra texts, in Gautama’s (I.18) and in Baudhāyana’s (XVI.13.10) *Dharmasūtra*. Now, although cotton seeds were found at Mehrgarh period II, c 5000, none were found in subsequent periods. Cotton cultivation appears only in the Mature ISC, after 2500. Thus the Sūtra texts can be placed at this period at the earliest, i.e. c 2600.

(f) Silver *rajata* also makes no appearance in the *RV* though gold and copper are well attested and silver is plentiful in the ISC. The word *rajata* occurs in *RV* VIII. 25.22 and it denotes a steed or a chariot ‘shining white’. Only in later texts it is used singly (*AV* V.28.1) or with *hiranya* to denote ‘silver’ or ‘white gold’ = ‘silver’ (see *Vedic Index* 2: 196-7 and Lubotsky 2: 1169).

(g) Rice *vr̥hi* too is absent from the *RV* although it appears in various sites of the ISC from at least 2300 (and in the Ganges Valley from the 6th millennium).<sup>1</sup> The *RV* knows only *yava* ‘barley’. Rice becomes important in post-Ṛgvedic ritual and the more general diet. Some writers argue that the *Ṛgveda* has food-preparations of rice like *apūpa*, *puroḷāś* and *odana* (Talageri 2000: 126-7). This is possible, of course. All

three are in post-Ṛgvedic tradition said to be rice-preparations (though *apūpa* is given as flour-cake in most texts and ‘wheat’ in Lexica). But *odana* is primarily a water or fluid preparation (*ud-*) and *odatī* ‘refreshing, dewy’ is an epithet of Uṣas, the Dawn-goddess. The words *odana* and *odatī* appear only in the books of late *RV*. Since *vrihi* ‘rice’ does not appear in *RV* (but does appear in *AV*) and Ṛgvedic *yava* is from the earliest tradition accepted as ‘barley’, I take it that the Ṛgvedic people had barley and not rice — nor wheat.

(h) Wheat was cultivated in the Saptasindhu (abundant wheat remains in Punjab) long before the alleged IA entry c 1700. But the word *godhūma* ‘earth’s exhalation’ is not in the *RV*. Only *yava* ‘barley’.

(i) Literacy is not known in the *RV*. Some scholars think it was known and cite *RV* X.71.4 or *AV* XIX.72 (e.g. Kak: 2003, Frawley 1991).

*RV* X 71.4a says: *utá tvaḥ pásyān ná dadarśa vācam, utá tvaḥ sṛṇvān ná śṛṇoti enām* ‘seeing indeed (*paśyam*) one sees not Vāk [and] hearing indeed one hears her not’. Vāk is the mighty goddess of Speech (or Language) through which all things excellent and pure were manifested (*nīhitam-āviḥ*, stanza 1). What st 4a-b says is that some people see and hear but, in fact they don’t know Vāk (a) and the goddess reveals herself to those [she chooses] as a well-dressed, loving wife to her husband (b). There is not a single hint in

all eleven stanzas that there is writing. Here we have a poetic image : the personification of Vāk as a wife ; hence the visual aspect. In fact st 11 says that some sing (*gā-*) the psalms and prosper and some brahmins utter (*vad-*) knowledge and thus deal out (*vi-mā-*) the measures/ regulations of sacrifice ; there is no suggestion of writing : it is all oral. Vāk means ‘speech, utterance’, never writing.

D. Frawley thought that a passage in *AV* XIX.72 may refer to writing : ‘From whichever receptacle *kośāt* we have taken the Veda, into that we put it down’. Books in ancient India consisted in collections of palm-leaves or strips of birch-bark and were kept in boxes (1991: 249). Whether this is enough to establish knowledge of writing is doubtful. The word *veda* is ‘knowledge’ generally and not necessarily one of the three Veda-s which in any case were transmitted orally. The word *kośa* could refer to some (metaphorical) nonmaterial storing-place, e.g. memory, lower mind (*manas*) higher mind (*cetas*, *bodha*, both in *AV*) etc. In any case, there is no other passage even remotely hinting at writing.

Words like *likh-*, *lekha(-na)* and mainly *lipi* (Pāṇini III.2.21) denoting ‘writing’ are not in use before the Sūtra texts. The vast corpus of Brāhmaṇa, Āraṇyaka and Upaniṣad texts have not a single hint about writing and so create an enormous gap between the *AV* and the Sūtra period. Someone would have made a reference to

writing somewhere in all these texts ! So, writing was known in the ISC and the Sūtra-s but not in the *RV*.

True, *Aitareya Āraṇyaka* V.3.3 has both *ul-likhya* and *ava-likhya* and at first sight one might think these are references to writing particularly as they occur in a context about study (Deshpande 1966). But this very context, in fact, disallows the meaning ‘writing’. For the text says ‘the student should not study/learn (*adhīyāta*) . . . after “writing” (*ul-likhya*)’ ; if the student does not learn in conjunction with writing, then when would he do so? Moreover, the wider context stresses memorizing from the Guru’s utterances ; again, if there was writing, it would have been mentioned and memorization would not have been stressed. So here the verbs mean ‘scratch’. The student should not scratch himself ! (See Falk 1992 with full references). So, in fact, there are no allusions (*likh-*, *lip-*, ) with the meaning ‘writing’ before the Sūtra-texts.

(j) No mention of iconography, relief, statues, paintings. The *RV* has no allusions to artistic iconography — paintings, relief representations, statue(-tte)s, all so common in the ISC. (The *RV* IV.24.10 asks ‘Who will buy this my Indra’ and this is thought by some to refer to a statuette, but this could be a transfer of favour and it is the only reference in the whole *RV* without the use of any word for statue or icon).

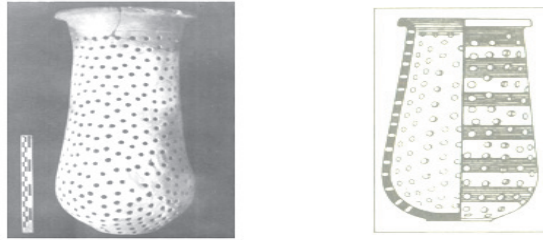
(k) We must also take into account that many

iconographic motifs, Harappan artefacts, decorations or seals, show affinity with elements found in post-Ṛgvedic texts. Thus P.K. Agrawala (2005) draws attention to round-bottomed perforated pots from Harappan sites and a vessel (*kumbha*) with nine holes (*nava-vitr̥ṇṇa*) or 100 holes (*śatavitr̥ṇṇa*) mentioned in *Śatapatha Brahmana*. V.5.4.27 and *śatavitr̥ṇṇa kumbhī* ‘a pitcher with 100 perforations’ in XII.7.2.13. These and other similar descriptions echo the *White Yajurveda* (*Vājasaneyī Saṃhitā*) verse 19: 87 ‘a pitcher with 100 streams’. Such vessels were used for ritual sprinkling. A second parallel is furnished by the two-horned bovine-like animal, duplicated and facing itself, on a Mohenjodaro seal with long necks and the pipal tree growing out of their juncture. This corresponds (writes Agrawala) to the two-headed cattle *dvāyā* in *AV* V.19.7. Agrawala mentions other parallels of a two-headed tiger and a two-headed bird (2005: 10-13). Thus it is indeed the later Vedic texts that have parallels with the Harappan arts and crafts, not the *RV*.

(1) Finally, there is not the slightest indication in the of the presence of seals, so common in the ISC. We started with bricks and finish with seals, two of the commonest features of the ISC, both absent from the *RV*

Thus the *RV* must be pre-Harappan!

## Specimen of a seal

Iconography; dvāyā in *Atharvaveda* 5.19.7 ?Pot with 100 perforations: *Śatapatha Br* 12.7.2.13.**6b. All these features present in post Ṛgvedic texts**

Now all the fore-mentioned features are found in post Ṛgvedic texts — the Saṃhita-s, the Brāhmaṇa-s and fully in the Sūtra literature. For instance, brick altars are mentioned in *Śatapatha Brāhmaṇa* VII.1.1. 37, or X.2.3.1 etc. Rice *vr̥hi* is found in *AV* VI.140.2 ; VII.1.20 ; etc. Cotton *karpāsa* appears first in Gautama's (I.18) and in Baudhāyana's (XIV.13.10) *Dharmasūtra*. The fact of the convergence of the post-Ṛgvedic texts and the Harappan culture was noted long

ago by archaeologists. B. and R. Allchin stated unequivocally that these features are of the kind 'described in detail in the later Vedic literature' (1982: 203).

If we had a case of two or three items we could bypass them saying indeed that absence of evidence is no evidence of absence ; but the items are many and the absence of the building material *iṣṭaka* in the *RV* (against the presence of wood, stone, mud and metal) seems to me quite decisive. It is like writing a large volume of poems or a novel in the years, say, 2000-2013 and not mentioning mobile phones, TV, the effects of the 2008 economic crisis, pollution, terrorism, the European Union, tourism, jets, ferryboats and digital technology.

So the *RV* must belong to a period before the Mature Harappan, c 3000-2800.

### 7. Some Brāhmaṇa-s comment on Ṛgvedic hymns

For example, the *Aitareya Br.* VII.13.33 narrates extensively the story of Śunaḥśepa, alluded to briefly in *RV* I.24.12-13 and V.2.7, while the *Śatapatha Br.* XI.5.1 comments on the Pururavas and Urvaśī love story given elliptically in dialogue form in *RV* X.95. Another point to note, some legends in the *RV* remain unexplained. For instance, who was Bhūjyu whom the Aśvins saved from a tempest (I.116.3-4 ; etc.) and how did he find himself in that predicament? The later texts say nothing more. Or, take the birth of Indra ; was he an unwelcome child to Aditi and did he commit

parricide (IV.18.1ff; etc.)? Again, the Brāhmaṇa-s tell us nothing. Obviously such exegetical texts would not have been composed until the understanding regarding the older texts had lapsed : this implies many centuries.

What is the date of the Brāhmaṇa-s? Well, S. Kak ascribes the *Śatapatha* to the early third millennium (1997, 1994) saying that the Pleiades/Kṛttikas not swerving from the East, as is stated in this Brāhmaṇa (II.1.2.3), could only occur c 2950 BCE. Narahari Achar (Prof. Astrophysics, Memphis, USA) using computer and planetarium apparatus arrived at a date c 3000 pointing out that S.B. Dikshit had arrived at similar conclusions 100 years earlier but was ignored by Western scholars (1999) : these scholars really had no knowledge of astronomy. B.B. Lal too thought that 'astronomical calculations (*Aitareya Br.*) would place the *RV* in the fourth millennium' but did not then adopt such a date only because he could not judge the evidence (1997: 286).

So we could again place the *RV* easily before 3000.

### 8. Consider now some facts concerning the *Bṛhadāraṇyaka Upaniṣad*

Traditional Upaniṣadic teaching :

*aupaniṣadam puruṣam pṛcchāmi* 'I ask about the Upaniṣadic Person' (III.9.26).

Lists of 60 teachers (x 15 years=900).

Upaniṣad's date in AIT c 550+ =1450 BCE



*RV* date 1200 : *AV* date 1000 (in AIT).

*ātman-brahman* doctrine unknown in *RV*!

Names of early teachers unknown in *RV* and *AV*.

The *Bṛhadāraṇyaka Upaniṣad* has three *vamśa-s*, i.e. list of teachers, each comprising 65-70 names. The first 4 or 5 are names of gods in the normal Indic way which ascribes the beginning of every human activity to some deity. Let us take the mainstream date of early sixth century for this text (say 550) according to the AIT premises and let us take 60 teachers giving to each one an average of 15 years, though 20 and 30 would be more realistic. This exercise has now been tilted very heavily in favour of the AIT and mainstream views because, in truth, in this text we read ‘I ask about that Upaniṣadic Person (III.9.26)’ which indicates that there was a traditional Upaniṣadic teaching about Puruṣa as a spiritual being (=Self) and this aspect we meet in the *Atharvaveda*. However, let us bypass this point. These calculations ( $60 \times 15 = 900$  plus 550) give us a date c 1450 for the inception of the doctrines in this Upaniṣad. The chief doctrine is that the self of man (*ātman*) is the same in all beings and the same as the Self of the universe (*Brahman* ‘Mystic Spirit’ or ‘Absolute’). We should also bear in mind that the teachers’ names are quite different from those of the seers of the *RV* hymns as given by the native tradition. Following others, M. Witzel thinks these lists ‘rest on typically weak foundations’ (2001, §19) but this is a

typically weak subterfuge because the results of calculating the number of years prove how unrealistic the AIT chronologies are ! Let us see, then.

The Upaniṣadic doctrine of the identity of the individual self and the universal self, in the formulations *ayam ātmā brahma*, *ahaṃ brahmāsmi* ‘the Self is the Absolute’ and ‘I am the Absolute’, should be known, then, c 1500 or 1300 or 1200, when, according to the AIT, the *RV* was composed. Yet, quite surprisingly, this doctrine is totally unknown in the *RV* in these terms (although enunciated differently) and begins hesitantly to appear in the *AV* (e.g. X.2.32-3 ; XI.4.23 ; etc.). Consequently, the *AV* should be placed at least c 1600 and the *RV* c 1800, always following the AIT assumptions. But the *RV* is composed, even according to Witzel (2005: 90), in Saptasindhu, yet the IAs do not appear in this area before, at the very earliest, 1700, and the *RV* gets composed after several centuries !

This is one of the comical paradoxes that the mainstream chronology refuses obdurately to resolve. Yet, on the grounds given in §§6-7 above, we saw that the *RV* should be assigned to the 4th millennium. Now subtracting two hundred years for the *AV* hymns and the start of the Upaniṣadic doctrine and a further 900 or 1000 years (for the teachers) we should place the early Upaniṣad-s at the start of the period of the Mature Harappan, i.e. 2500 (with the *ātma-brahman* doctrine having come down orally) and the Sūtra texts

immediately after. These dates satisfy yet another requirement. The word for cotton *karpāsa* is first used in the Sūtra texts as we saw in §12, e above and the cultivation of the plant (although seeds of it were found in much earlier periods) gets well established c 2500. All these dates are, of course, approximate.

Palaeoastronomy : In 1969 S. Raghavan calculated that many astronomical references in *Mahābhārata* (*MBh*) converge in year 3067. This date 3067 was confirmed with computer and planetarium by astrophysicist Narahari Achar (2003 and 2012). The *MBh* completed just before CE. But inception of epic songs at 3067. The *RV* is linguistically very much older. However this early date is disputed by another scientist, R. Iyengar (2005), who prefers a date c 1700 BCE.

9. Astrophysicist Achar pursued his **palaeoastronomical research** into the *Mahābhārata* epic also, examining astronomical references in Books 3, 5 and 18. His sky map showed that all these converge in the year 3067. (Achar 2003 ; see also paper One). Achar acknowledged that, in 1969, S. Raghavan had arrived at the same date. Now, it is obvious that the *MBh* had acquired many accretions over many centuries and that it was streamlined stylistically perhaps first in the 2nd millennium and finally at about the start of the Common Era. It is obvious that it contains much late material like II.28.48-9, which mentions Rome and Antiochia (*romā* and *antakhī*) : this could not be earlier

than 300 BCE since Antioch was founded in 301. On the other hand, the frequent use of the bow and, moreso, the use by Bhīma of a (tree trunk as a) club show much more primitive conditions.

Thus the war evidently took place in 3067 and the core of the *MBh* in poems and songs was laid down in that year. This and the native traditional view that the Kali-yuga came at 3102 are both correct, according to Achar. He pointed out that the Kali-yuga had no full force until the death of Kṛṣṇa which occurred 35 years after 3067, at 3032 (private communication June 2006); but immorality had set in already, as is shown by the unjust behaviour of the Kaurava-s and some reprehensible acts during the war itself. Surely no bards (compilers or redactors) in the 3rd cent CE or the 3rd cent. BCE could possibly know the star and planet positions relative to the *nakṣatra-s* or the zodiac signs of the year 3067. The astronomical references examined by Achar (and Raghavan) are so numerous that chance coincidence has to be discarded (Achar 2003). However, that the war took place in 3137 and bards began to sing of these events two generations later should not be precluded. Personally, I still tend towards the traditional view of the War taking place in 3137. The Megasthenes report (from c 300 BCE) of the ancient kings from 6000+, surviving in Arrian and other classical writers, supports these long periods of the past (paper One in Kazanas 2009). Then, deterioration in behaviour would have started in the *sandhyā*

transitional period before the onset of the Kali-yuga — when also the Kṣatriya-s passed away. Here a question remains : how did the astronomers (and Āryabhaṭa especially) determine the date for Kali-yuga as 3102 ? Is there an answer ?

#### 10. River Sarasvatī

*RV* II.41.16 *nadītamā, ambitamā, devitamā* — ‘best river, best mother, best goddess’.

VI.52.6 *pīnvamānā sīndhubhiḥ* — swollen by three or more rivers.

VII.95.2 It flows clear *girībhyaḥ ā samudrāt* ‘from the mountains to the ocean’.

(Here *samudrā* not confluence, terminal lake, gathering place of water on the Himalayas).

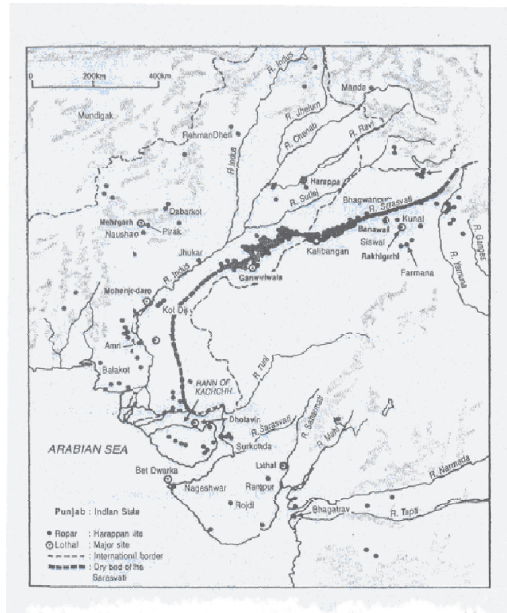
VII.96.2 The Pūrus inhabit its two bushy banks.

X.64.9 calls Sarasvatī and Sarayu and Indus ‘great and nourishing’.

X.177 hymn prays to Sarasvatī for continuation of sustenance and good fortune.

(a) Sarasvatī’s course : Sharma et al in *Purātattva* 2006 present photographs of the Sarasvatī (-Hakra) down to the sea. Francfort (1992), Possehl (1998), Bridget Allchin (1999), Lal (2002) give 3600 and before! Also Danino 2010. Note that the *nadīstuti sūkta* of the *RV* (X.75) places Sarasvatī between the Yamunā

and Sutlej (= Śatadru), just as the satellite photos do.



The course of Sarasvatī as photographed by satellite, from Sanyal 2012.

(b) Etymology: *sáras-vatī* ‘she who has swirls/ponds, currents’. This comes from the root  $\sqrt{sr}$  *gatau* : flowing, leaping, rushing.

(cf L *sal*, Gk *hial-*, Toch *sal* ‘leap’) :

> *sará*, *sáras*, *sara-nyū*, *sarít*, *sāra* etc.

Avestan *Hara<sup>x</sup>vaiti* a river in S.E. Iran.

*hara<sup>x</sup>-* only occurrence : isolated.

*vairi-* ‘lake’ in Avestan.

The Sarasvatī river furnishes useful literary and archaeological evidence for dating the *RV*. It is a mighty river extolled in all Books of the *RV* except the

fourth. It is *nadītamā*, *ambitamā*, *devitamā* ‘best river, best mother, best goddess’ (II.41.16) ; it is swollen and fed by three or more rivers *pinvamānā sindhubhiḥ* (VI.52.6) ; it is endless, swift moving, roaring, most dear among her sister rivers ; together with her divine aspect, it nourishes the Indo-Aryan tribes (VI.61.8-13). In VII.95.2 the river is said to flow pure in her course ‘from the mountains to the ocean’ *giribhyaḥ ā samudrāt*. Then VII.96.2 and X.177 pray to the river-goddess for continued sustenance and good fortune while X.64.9 calls upon her (and Sārayu and Indus) as ‘great’ and ‘nourishing’. Clearly then, we have here, even in the late Book 10, a great river flowing from the Himalayas to the ocean in the south, fed and swollen by other rivers and sustaining the tribes of the IAs on its banks — not a river known in the past or in some other region, or a river now considerably shrunk (Witzel 2001).<sup>2</sup>

Some scholars claim that here *samudra* does not mean ‘ocean’ but confluence and especially the place where a tributary flowed into the Indus (e.g. Klaus 1989 and Witzel 2001). The last point can be discarded since there is not the slightest hint elsewhere that the Sarasvatī flowed into the Indus — *in which case the Indus and not Sarasvatī would have been lauded as the best river* (II.41.16). We can also aver with full certitude (as the *Vedic Index* does under *samudra*) that the Ṛgvedic people knew the ocean (see paper Five, Kazanas 2009 ; also Prabhakar 1994). The meaning

‘terminal lake(s)’ adopted by Witzel is entirely fanciful. In his Dictionary M. Mayrhofer gives for *samudra* only ‘confluence’ and ‘ocean/sea’ (1996 *EWA*). And the Vedic poet would certainly have used (not *ā samudrāt* but) *ā sarobhyaḥ* ‘to the terminal lakes’ maintaining his - ◡ - - cadence. This phrase would then have indicated clearly the alleged fanciful etymological connection of the name Sarasvatī ‘she who has (terminal) lakes’. The name means rather ‘she who has swirls and currents’, since the primary sense of  $\sqrt{sr}$  (*>saras*) is ‘movement’ (*gatau*) or ‘flowing, leaping, rushing’.

Please, consider also that the Vedic -s- is inherited from PIE, according to all IEnists, whereas Avestan -h- is a devolved, not PIE, sound. Vedic  $\sqrt{sr}$  has many primary and secondary cognates like *sara*, *sarit* etc. Now Avestan has no cognates for  $\sqrt{sr}$  and its products, and the Avestan noun for lake is *vairi-*, while *vār-* is ‘rain(-water)’ = S *vāri(?)*. The stem *hara-* (cognate with Vedic *saras*) occurs only in the river name Hara<sup>x</sup>vaiti. Consequently, it is the Iranians that moved away from the Indo-Aryans as, indeed, is shown by their memory of having lived in a location they called *Haptaḥṇḍu* = Saptasindhu. The root *sr* has cognates in other IE branches, Gk *hial-*, Latin *sal-*, Toch *sal-*, etc. as is shown by Rix 1998. Now, it would be ludicrous to claim that the IAs left the common Indo-Iranian habitat, as per the AIT, moved into Saptasindhu and turning the Hara<sup>x</sup>vaiti name into Sarasvatī gave it to a river there to remember their past while they proceeded



to generate the root *sr* and its derivatives to accord with other IE languages. Occam's razor, which here is conveniently ignored by AIT adherents, commands the opposite : that the Iranians moved away, lost the roots? and the name Sarasvatī in its devolved form Hara<sup>x</sup>vaiti was given to a river in their new habitat. This should be enough to question if not refute various IEnists' claims that Avestan retains older forms of nouns and verbs and that therefore the Indo-Aryans were with the Iranians in Iran in the common Indo-Iranian period — before moving to Saptasindhu. One should also note that these linguists rely entirely on linguistic facts amenable to a reverse interpretation and ignore other aspects — literary, mythological, archaeological and genetic.

The river Sarasvatī in Saptasindhu is thought to have dried up almost completely by 1900 (Allchins 1997: 117 ; Rao 1991: 77-79). In previous years it had lost tributaries to the Indus in the West and the Ganges in the East. Is there any evidence that it flowed down to the Indian (or Arabian) ocean at any earlier period ?

G. Possehl examined (1998) all the palaeo-environmental and geological data relevant to the Sarasvatī river and concluded that the river could have flowed down to the ocean only before 3200 at the very latest and, more probably, before 3800 ! He re-stated his finds in his study of 2002 (pp. 8-9). Brigid Allchin has been quite as certain of a date 3600-3800 in her survey of 1999. So is B.B. Lal (2002). Then there are

the satellite photos mentioned above in §10.a and below.

All this helps us place the passages ascribing the grandeur of river Sarasvatī at a date before 3200 at least. (For more recent scientific investigations through satellite showing the course of the old Sarasvatī reaching the ocean see Sharma J.R. et al 2006).

### 11. More linguistics

(a) Vedic is older than Avestan (see Kazanas 2012). In Avestan *-a* > *ə/e/i/o* (*nar-əm* against V *nar-am*); voiced aspirates like *dh* > *d*, (*dā* against V *dhā*); original \*s > h (*haoma* against *soma* and *ahura* against *asura* ‘lord’)

*r* > *ar/ər* (as in *arsti-* against *r̥ṣṭi* ‘spear’);

Periphrastic perfect : acc. fem. ptcpl + *ah-* (‘to be’)

V acc. fem. + *kr*, (*AV*); then in Brāhmaṇa-s as- and *bhū-*.

(b) Isoglosses are better accommodated by Out of India Movements Palatalisation is one that groups Vedic, Avestan, Slavic and Baltic and separates them from other IE branches. The augmented Aorist separates Vedic (*a-*) and Greek (*-e*) from the others.

Celtic, Germanic, Slavic etc. have only unaugmented aorist. Vedic has both —

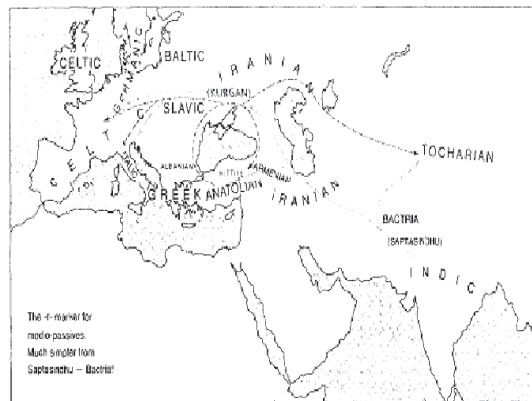
(Greek has generally augmented and certain unaugmented forms of the aorist). *ádḥāt* and *dhāt* !

(Arm has generally augmented aorist)

Then Vedic has negative, prohibitory *ma* (e.g. *mā pibet* ‘one should not drink’), as Greek has *mē*,

Armenian *mi* and Tocharian *ma*; but all others have *na/ni/no* (which Vedic has also as in *na pibati* ‘one does not drink’).

One of the most baffling isoglosses is one shared by Tocharian in the east, Hittite and Phrygian (in Anatolia, i.e. modern Turkey) in the centre, Italic in the south and Celtic in the west. This is the marker *-r-* found in the medio-passive aspects of verbs in these branches (and to a minor extent in Sanskrit — e.g. *dadhi-ré/dadh-ré* ‘they have placed’).



It would have been impossible for the speakers of Tocharian, Hittite, Phrygian (near Greek, Albanian and Anatolian), Italic and Celtic to have coexisted in close contiguity and apart from the others at the centre which was the Kurgan culture so as to have developed this *-r-* isogloss. South is the Black Sea. East is the Caspian

and, in any case, then the Italic and Celtic speakers would have to move westwards again ! Similarly if the location was west, the Tocharians would have to double back across the central Kurgan region. If the place was north, then the Hittites and Phrygians would have to double back southward across the central region. But if they all moved northwest from Saptasindhu, then the Tocharians would move north and the others westward. No problem.

These above linguistic facts show that Vedic is anterior; moreover, if we consider that Vedic has a much more obvious system of *dhātu-s* (like  $\sqrt{sr}$ , *bhū*, *dhā*, etc.) giving verbs and nouns, primary and secondary derivatives. But the periphrastic perfect is conclusive. Avestan has only the acc. fem. with perfect auxiliary of *ah-*. Sanskrit has this auxiliary *as-* in the perfect but this is a later format (as is also the common *bhū-*) of Brāhmaṇa times. In Vedic texts there is first in the *AV* the perfect of *kr̥* (*cakāra*) as auxiliary. If the IAs had left Iran they would have with them *as-* first and then *kr̥-*, not the reverse. This shows that Avestan left when *kr̥-* passed in relative desuetude and *as* came into use. (For further the details see Kazanas 2012).

But, moreover, the Italian iranianist G. Gnoli showed in clear terms (1980) that the data in the old and younger Avesta indicate a movement of the Iranians westward and northward — not southeasterly. And, of course the Indo-Aryans have no memory at all of a movement towards and into Saptasindhu.

## 12. Vedic and Mesopotamian religions

In a 2003 publication Dr S. Levitt (of New York), who is by no means an indigenist, examined the development of the 'early Indic tradition' and the development of religion in ancient Mesopotamia.

After comparing several elements in the Vedic and Mesopotamian religions, Levitt concluded: 'We can date the early Indic tradition on the basis of comparable points in ancient Mesopotamia. By this, the *Rgveda* would date back to the beginning of the third millennium BC, with some of the earliest hymns perhaps even dating to the end of the fourth millennium BC' (2003: 356).

Then again in 2005: He agrees with Kazanas that 'the early Vedic tradition [should be] dated earlier than is generally done by Western scholars' (p. 25).

However, unaware of Levitt's paper, I myself made at about that time a very detailed comparative study of Vedic and Mesopotamian religious (mythological) motifs, published in *Migration and Diffusion* vol. 24, 2005.<sup>3</sup> In this I showed that since more than twenty motifs in the Vedic texts had close parallels in other IE branches (e.g. the horse mythology, the skyboat of the Sungod, the Flood, the elixir from heaven, the creation of cosmic parts from the dismemberment of a divine being, etc.) and were therefore of Proto-Indo-European provenance, they could not have been borrowed by the Vedics from the Mesopotamians as is usually alleged (McEvelley 2002; Dalley 1998) but must be inherited

and therefore older than the Mesopotamian (Sumerian, Babylonian, etc.) parallels. Since the Mesopotamian culture (starting with old Sumerian) surfaces c 3000, the Vedic motifs must be earlier. Most of these have no parallels in Ugarite, Hebrew and other intermediate Near-Eastern cultures.

Thus again we arrive at a date before 3000 for the bulk of the *RV*.

### 13. Mathematics and genetics

A. One modern authority, A. Seidenberg, American mathematician and historian of science, has written :

It is very difficult to derive ‘the Vedic ritual application of the theorem [of Pythagoras] from Babylonia. (The reverse process is easy). The application involves geometric algebra and there is no evidence of geometric algebra from Babylonia. And the geometry of Babylonia is already secondary, whereas in India it is primary. Hence we do not hesitate to place the Vedic altar rituals, or, more exactly, rituals exactly like them, far back of 1700 BCE. . . . The elements of ancient geometry found in Egypt and Babylonia stem from a ritual system of the kind observed in the *Sulvasutra-s* (Seidenberg 1962: 515).’

Seidenberg reiterated his finds in another paper in 1978.

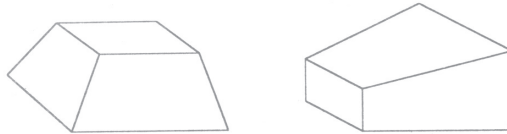
Note that the Mesopotamian ziggurats (=temples with steps) and the Egyptian mastamba-tombs and the step-pyramid of Djoser, all in the 3rd millennium BCE,

are based on trapezoid figures which are found in the *Sulbasūtra-s* and those figures are at the basis of Vedic altar brick-constructions like the *śmaśāna-cit*. (Rajaram & Frawley 1997:162).

Trapezoid figures found in the *śulbas*  
and in Egypt and Mesopotamia



(Rajaram & Frawley 1997:162)



The Egyptian *mastaba* (left) and the Vedic *śmaśāna-cit* altar  
(Rajaram & Frawley 1997:162)

Thus latest date for *Śulbasūtra-s* must be c 2600 BCE.

**B.** (i) *Anthropological studies* show a possible break of continuity in the cranoskeletal features of the ISC inhabitants at c 6000-4500 (Kazanas 2009: 16). See also Kennedy 1995 (101ff).

(ii) Genetic Studies : Cavalli-Sforza et al (2003) ; Oppenheimer (2003) ; Sahoo et all (2006) ; Danino M. (2006) ; Sharma S. 2009 ; Underhill 2010.

All agree now that there was no significant inflow of genes into India after 10000 BCE !

The data undermine ‘any theory of a “male in-

vasion” of India’ (Oppenheimer 2003: 152) ; they ‘argue against any major influx from regions north and west of India’ (Sahoo 2006: 843). Again Underhill et al: ‘the virtual absence of M458 Chromosomes outside Europe speaks against substantial partilinear gene flow . . . to India, at least since the mid-Holocene’ (2010:479).

#### **14. More Genetics**

Since, according to the preceding discussion we must now assign the (bulk of the) *RV* to c 3200 at the latest and since the *RV* by general consent was composed around the Sarasvatī, then it follows that the IAs were ensconced in Saptasindhu by 3200 and that the ISC was a material manifestation of the early oral Vedic tradition expressed in the *RV*. This issue was treated by me extensively in preceding papers and no more need be said now. I should only add that, in fact, more and more scholars in the West have re-examined the issue and rejected wholly or in part the mainstream view advocating instead a movement Out of India into Europe. (Schildmann 1998 ; Klostermaier 1998, 2000 ; Friedrich 2004 ; Hasenpflug 2006).

To all this I should add the increasing evidence from Genetics which declares that no substantial flow of genes occurred from Europe or the northwestern adjacent areas into India before 600 BCE. On the contrary, recent genetic studies show an outflow from India into countries west, north and Europe (Sahoo et al 2006 ; Oppenheimer 2003). M. Danino has made a useful overview of the evidence produced by studies



over the last ten years in his paper 'Genetics and the Aryan Debate', published in *Purātattva* (2006b). All this is confirmed by Underhill *et al* (2010). Thus the Indo-Aryans are now shown to be indigenous to Sapta-sindhu and there is nothing to undermine my contention that the *RV* in its bulk is pre-Harappan. What I am arguing for primarily and most emphatically is the proposition that, since the only biological change is in the skeletal record of the area and occurs c 6000- 4500 (kazanas 2009: 16 with references), if the Indo-Aryans made an entry it would have happened at that period ; but by 1700 BCE they certainly were indigenous. Genetic evidence, however, suggests strongly now an Out-of-India scenario.

Cavalli-Sforza and his team state that 'Indian tribal and caste populations derive largely from the same genetic heritage of Pleistocene [=10000 to 3 mya] southern and western Asians and *have received limited gene flow from external regions since the Holocene* [=c 10000 to present]. The phylogeography [=neighbouring branches] of the primal mtDNA and Y-chromosome founders suggest that these southern Asian Pleistocene coastal settlers from Africa would have provided the inocula for the subsequent differentiation of the distinctive eastern and western Eurasian gene pools' (emphasis and square brackets added ; Cavalli-Sforza 2003).

Another geneticist, S. Oppenheimer, offers independent confirmation (2003) that there was no Aryan

entry, either male or female ; he focuses on the M17, or so-called 'Caucasoid' (=Aryan !), genetic marker : 'South Asia is logically the ultimate origin of M17 and his ancestors ; and sure enough we find highest rates and greatest diversity of the M17 line in Pakistan, India and eastern Iran, and low rates in the Caucasus. M17 is not only more diverse in South Asia than in Central Asia but diversity characterizes its presence in isolated tribal groups in the south, thus undermining any theory of M17 as a marker of a "male Aryan invasion" of India' (2003: 152: my emphasis). He adds that this M17 marker travelled from India or Pakistan (Saptasindhu) through Kashmir, Central Asia, Russia and then Europe after 40000 BP (p. 154). Thus migration is from east westward.

Another study (Sahoo, Endicott, Kivisild, Kashyap 2006) concludes : 'The Y-chromosomal data consistently suggest a largely South Asian origin of Indian caste communities and therefore argue against any major influx, from regions north and west of India' (p. 843) ; then again : 'It is not necessary, based on the current evidence, to look beyond South Asia for the origins of the paternal heritage of the majority of Indians at the time of the onset of settled agriculture. . . . our findings do support a local origin of haplogroups F\* and H' (p. 847).

Yet another later study by Sharma S. et al establishes again the Indo-Aryan indigenism : 'The Indian

origin of paternal haplogroup R1a1 substantiates the autochthonous origin of Brahmins and the caste system' (2009). This is confirmed by P. Underhill's studies in 2009 and 2010 (see below §16,V). The indications now are that there will be no reversal. If there was a migration, this was most probably out of Saptasindhu and the adjacent region. It is significant that non-indigenists no longer refer to genetic studies !

#### **15. Archaeological and Literary evidences**

Sir E. Leach (1990), Provost of King's College (Cambridge, UK).

Because of their commitment to a unilateral segmented history of language development that needed to be mapped onto the ground, the philologists took it for granted that proto-Indo-Iranian was a language that has originated outside India or Iran . . . From this we derived the myth of the 'Aryan invasion.'

After the discovery of the I-S Culture, 'Indo-European scholars should have scrapped all their historical reconstructions and started again from scratch. But this is not what happened. Vested interests and academic posts were involved' (1990).

This is still true. But the new genetic evidence will soon perhaps force linguists to reconsider their theories.

And we must not forget that there may well have been an IE continuum from the Steppe to Saptasindhu

and the IAs did not move from their location. It is worth noting that S. Zimmer admitted (2002) that (although himself a mainstream non-indigenist) he could not be certain of the exact location of the PIE homeland since the facts are so obscure in those far-off times. More recently, H.P. Francfort, the eminent excavator of Shortughai, expert on Central Asia Oxus area (or BMAC) and NW India, critiqued V. Sarianidi, E. Kuzmina and J. Mallory and their theories about [proto-] Indo-Iranian movements through the Oxus region (2005: 262-8) ; further on (p. 283 ff) he pointed out that the pantheon in the Oxus iconography has a dominant goddess and so does not tally with Iranian and Indo-Aryan religions : on the whole he is most reluctant to accept Indo-Iranians (or Aryans) passing through that area c 1800-1400 BCE. So even some mainstreamers have now serious doubts about the alleged Aryan immigration/invasion.

Indian (proto-)history must be restored and revalued in a correct time-frame. It is sad, indeed, as Frawley wrote (2002 *The Hindu* June, 18th), ‘to note how intellectuals in India are quick to denigrate the extent and antiquity of their history’.

The new picture may well come to be as follows : In one of the older hymns of the *RV*, addressed to the goddess and the river Sarasvatī, it is said : ‘She, the holy follower of Universal Order, [Sarasvatī,] has spread us all [the five tribes of the Vedic people (stanza 12)] beyond enmities, beyond the other [seven] sister-rivers, as the sun spreads out the days’ (VI.

61.9) :<sup>4</sup> *sā no vísvā áti dvīṣaḥ svásr̥ anyā ṛtāvārī, átann áheva sūryaḥ.*

Our ancestors have always made sacrifices 'here',  
i.e. in Saptasindhu. VII.76.4 Vasiṣṭhas *RV* IV.1.13 8.  
IV.2.16 Aṅgirases

*RV* V.10.6 *asmākasā ca surāyo vísvā āśās tarīṣāṇi*  
'Let our sages pervade all regions.'

VII.6.3 Agni turned the unholy Dasyus from the  
east to the west *pūras-cakāra āparam!*

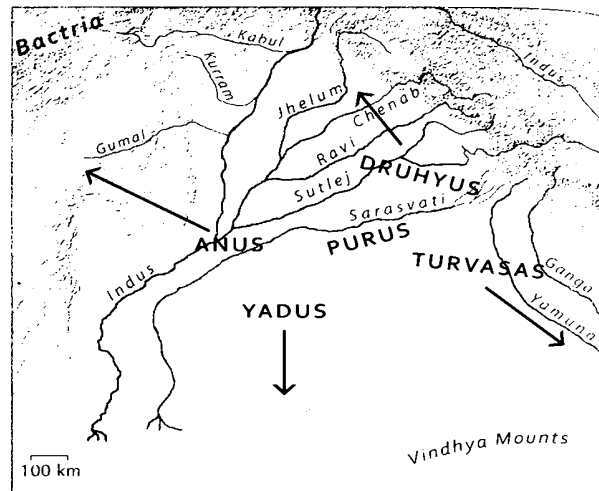
VII.18.6 ' . . . spread far over the earth.'

X.65.11 Spread far the Aryan laws.

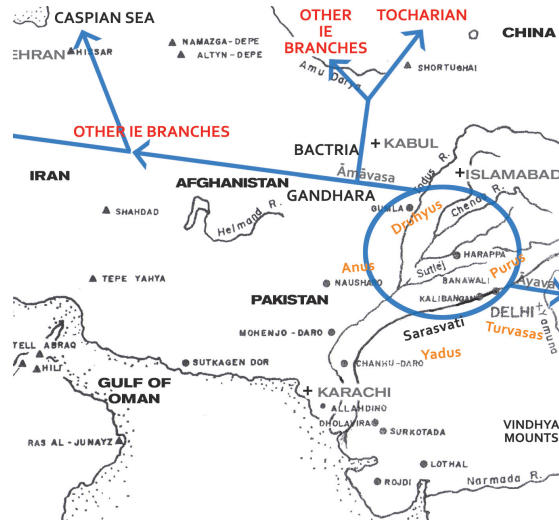
Then, Baudhāyana's *Śrautasūtra* XVIII.44 :

Eastern migration Āyava ; Western one Āmavasa  
i.e.

Gāndhāris, Parśus (=Persians) & Arāṭta-s  
(Ararat/Urartu?).



Map (S24) shows the new situation



Map above shows distant sites with Harappan artefacts ▲ (after Lal 2009: 77); the 'seven rivers' and Sarasvatī; larger Saptasindhu and five Vedic tribes with Purus, etc.; expansion by Āyu eastward and by Amavasu West and North (to Tocharian speakers) from Bactria. Isoglosses accommodated also.

A post Ṛgvedic text, the *Baudhāyana Śrauta-sūtra* mentions explicitly two movements from the central region of Saptasindhu :

*prān āyuh pravavrāja ; tasyaite kurupañcalāḥ  
kāśi-videhā ity etad āyavaṃ pravvrājam ; pratyān  
amāvasus, tasyaite gāndhārayas parśavo 'rāttā  
ityetad amāvasavam.*

Āyu migrated eastward ; his [descendants] are the Kuru-Pañcala-s and the Kāśi-Videha-s : this is the

Āyava migration. Amāvasu [migrated] westward ; his [descendants] are the Gāndhāris, the Parśus and the Arāṭṭas : this is the Amāvasa migration. (Bau Śrau 18.44.).

The Kuru-Pañcala-s and Kāśi-Videha-s are people (and regions) east of Sarasvatī in the basins of Yamunā and Gaṅgā. The Gāndhāris are obviously west of the Indus, and the Parśus are the Persians (=Iranians) while the Arāṭṭa-s must be even further west. Now, the Mesopotamian text *Emmerkar and the Lord of Aratta* (Kramer 1952) refers to Aratta as North-West of Uruk. So Arāṭṭa here cannot be the region in Punjab as Frawley thought (2001: 224, 226) and as I concurred (Kazanas 2009: 234). On the basis of the Mesopotamian text and Baudhāyana's text, B.B. Lal's suggestion of mount Ararat (Lal 2009: 134) seems now probable ; but I would add the region Urartu, southwest of Armenia. So Anatolians probably belong to the Amavasa emigration of the Indo-Aryans.

**16.** All this may well sound fanciful or even prejudiced, fabricated by an Indiophile with an agenda. So let us consider some facts taken from historical times.

(i) Indian Buddhists (with Sanskrit) began to emigrate certainly in the 1st cent BCE from India northwestward into Central Asia ; such emigration increased in numbers in subsequent centuries (Bryant 2001:139 ; Klostermeier 2002, passim).

(ii) It is an indisputable and well-known fact that

the Gypsies, found in European countries from the Balkans to Britain, emigrated from India in the early centuries CE (Fraser 1995).

(iii) In at least two studies, Heinrich Hock, a world-renowned linguistic comparativist, points out that, apart from other emigrations, speakers of the dialect Niya Prākṛt moved in early medieval times northward into Khotan and further east ; then the dialect of Dumaki moved out of NW India into South Central Asia ; also the Parya moved via Afghanistan into what is now Uzbekistan (Hock 1993, 1996).

(iv) The Yezidi are a tiny religious group of about 150000 adherents among the Kurds of northern Iraq, eastern Turkey and Armenia. Their religion seems to have a pagan basis with overlays of Zoroastrian, Christian and Islamic elements. They have a tradition that they came to the Middle East from India about 4000 years ago ! Their language *Kurdī* (= Kurdish), like many others of the Middle East and Central Asia, derive from ancient Iranian (= Avestan) which had close affinities with Vedic. Like Hindus, the Yezidis believe in *avatar-s* and in reincarnation, they pray facing the sun at dawn and dusk and have endogamous castes. Their temples have conical spires like Hindu ones. A central figure in their religion is the 'Peacock Angel' (Tawuse Melek) ; but the peacock is not found naturally in the Yezidi areas while it is native to India. (See Reshid 2005).

(v) A study by P. Underhill, one of the foremost



geneticists, shows that the gene R1a1a is common in North India and among Europeans like the Czechs, Poles and Lithuanians. The oldest strain of this gene mutation was concentrated in Gujarat, Sindh and West Rajasthan. This together with the M458 mutation is estimated to have travelled northwestward out of India at the latest 8000 years ago. (See Underhill 2010).

Thus it is quite acceptable that Vedic tribes moved away from Saptasindhu to Bactria and thence to other areas where IE languages have been found.

17. Here I should emphasize that Vedic as we have it in the *RV* and other early Vedic texts cannot be regarded as the Proto-Indo-European language from which sprung the other IE branches. It is abundantly obvious that Vedic itself is a derivative language in the process of undergoing changes. A few examples should suffice.

(a) The masculine nominative dual has both, e.g. *áśvinā* and *áśvinau* two *aśvin-s* (= horse-deities) but only the second remains in the later language.

The masc nom plural has both, e.g. *devāsas* and *devās* 'gods' but only the second remains in the later language. (Also for the feminine nom. pl.)

(b) For the neuter nom plural we find more commonly *priyā* than *priyāṇi* but the former disappears from post-Vedic.

(c) The feminine instrumental singular, say, *śucyā* has variants *śuci* and much commoner *śucī* both of which disappear in post-Vedic.

(d) In the *RV*, compounds with *nṛ-* are common and only one with *nára-*. Later *nṛ-* compounds cease while *nara-* ones increase.

(e) The verbal forms also show changes. E.g. for the 2nd or middle person singular *ihí* and *itát* 'go thou' but only *ihí* remained. Similarly in the plural of the two forms *itá* and *itána* only *ita* remained.

(f) The accent, indicated above for the *udā́tta*, ceases in post-Vedic.

The Vedic Language must have undergone many changes prior to the formation of the *RV* but, of course, we have no means of tracing such changes. Vedic must be much nearer to the Proto-Indo-European mother tongue than any other branch, but it must be treated as a daughter like the others, yet eldest and closest.

As T. Burrow, whose *The Sanskrit Language* is still the authority in its field, puts it : Vedic is a 'language which in most respects is more archaic and less altered from original Indo-European than any other member of the family' (1973:34).

18. The *RV*, finally, preserves for us, from that so ancient period, the idea of a Primal Unity that is the First Cause of the universe and all its phenomena : not only in the *Nā́sadiyasūkta* and the *Puruṣasūkta* (X.129 and 90) but also in I.164.6 ; III.55 refrain ; VI.75.19 ; VIII.58 ; X.114.5 and less obviously in others. This concept is absent from all other IE traditions (Hittite, Greek, Roman, etc.) and may well have been an essential constituent of PIE culture lost in the other

branches. Thus the Ṛgvedic IA culture (and perhaps PIE) consisted not so much of material artefacts but of inner knowledge and spiritual strength — *bráhma várma mamántaram* ‘the holy-power is my inner defence’ (*RV* VI.75.19).

Let us hope that the noxious AIT and all notions rooted in it will sooner rather than later end up in the only place they should be — the dustbin of History. Let us also hope that the *RV* will be re-examined not only for its historical information but its cultural ideas that will illuminate many other studies and disciplines in Ancient History, Anthropology, Civilization, Linguistics, Religion, Sociology, etc.

### Bibliography

- Achar B.N.N. (2012), ‘Chronology of Vedic Ṛṣi-s’ in *Vedic Venues*, vol. 1 (pp. 28-75).
- ., (2003), ‘Date of the Mahābhārata War . . .’ in *Quarterly Journal of the Mythic Society*, vol. XCIV and Issue Nos. 1-2.
- ., (2001), ‘Planetarium software and the date of the *Mahābhārata* war’ paper read in Montreal, sent to N. Kazanas privately.
- ., (1999), ‘On exploring the Vedic sky . . .’ *Electronic Journal of Vedic studies* 5-2, pp. 3-9.
- Agrawal A. (ed.) (2005), *In search of Vedic Harappan Relationship*, New Delhi, Aryan Books Intern.
- Agrawala P.K. (ed.), (2005), ‘Two Harappan Motifs & their Vedic Affinity’ in A. Agrawal pp. 10-13.
- Allchin B. & R. (1997), *Origins of Civilization*, Delhi, Viking Penguins.

- ., (1982), *The Rise of Civilization in India & Pakistan* Cambridge, CUP.
- Allchin F. & Joshi J. (eds.) (1995), *Excavations at Malvan*, Delhi, Archaeological Survey of India (Memoir No. 92).
- Bisht R.S. (eds.), (1999), 'Harappan and *R̥gveda*: Points of Convergence', G. Pande, ed. pp. 393-442.
- Bryant E. in A. Marcantonio (ed.) (2009), *The Indo-European Language Family: Questions about its Status*, Journal of IE Studies Monograph Series, 55, Institute for the Study of Man, Washington DC (ch. 4).
- ., (2002), 'Somewhere in Asia and no more', *JIES* 30 pp. 136-48.
- ., (2001), *The Quest of the Origins of Vedic Culture* Oxford, OUP.
- Burnouf E. (1833), 'Discours sur la Langue et la Littérature Sanscrite, Prononcé au Collège de France', *Journal Asiatique*, vol. 63 (2), pp. 251-72.
- Burrow T. (1975), 'The early Aryans' in (ed) Basham A. *A Cultural History of India*, Oxford, OUP.
- ., (1973), *The Sanskrit Language* (1955 rev. ed.) London, Faber.
- ., (1963), 'On the significance of the terms arma-, armaka-', *Journal of Indian History* vol. 41, pp. 159-68.
- Campbell A.D. (1816), *A Grammar of the Teloogoo Language, Commonly Termed the Gentoo, Peculiar to the Hindoos Inhabiting the North Eastern Provinces of the Indian Peninsula* Madras.
- Cardona G., (1970), Hoeningwald H. & Senn A. *Indoeuropean and Indoeuropeans*, Philadelphia, Univ. Pennsylvania Press.
- Catrou F. (1708), *Histoire Générale de l' Empire du Mogol depuis sa Fondation*, La Haye.
- Cavalli-Sforza et al (2003), 'The Genetic Heritage of the Earliest Settlers . . .', *American Journal of Human Genetics*, 72 pp. 313-32.

- Chakrabarti D.K. (1999), *India : An archaeological History* Cambridge, CUP.
- Dales G. (1966), 'The Decline of the Harappans', *Scientific American*, 241, pp. 92-99.
- Dalley, S. (ed.), (1998), *The Legacy of Mesopotamia*, Oxford, OUP.
- Danino M. (2010), *The Lost River : on the Trail of the Sarasvatī*, New Delhi, Penguins.
- ., (2006a), *L'Inde et l'invasion de nulle part . . .* Paris, Les Belles Lettres.
- ., (2006b) 'Genetics and the Aryan Debate' in *Purātattva*, vol. 36.
- Day J.V. (2001), *Indo-European Origins*, Washington, Institute for the study of Man.
- ., (1994), 'The concept of the Aryan race in the 19th-century scholarship', *Orpheus* 4, pp. 15-48.
- Deshpande M. (1966) 'Evidence of writing in the Vedic Age' in *Nagpur University Journal*, vol. 16 (2).
- Dhavalikar M.K. (1995), *Cultural Imperialism . . .* Delhi, Books & Books.
- Ellis F.W. (1816), 'Note to the Introduction' in Alexander D. Campbell, *A Grammar of the Teloogoo Language*, Madras, pp. 1-31.
- Elphinstone M. (1841), *The History of India*, vol. 1, London.
- Elst K. (1999), *Update on the Aryan Invasion Debate*, Delhi, Aditya Prakashan.
- Emenau M. (1954), 'Linguistic Prehistory of India', *Proceedings of the American Philological Society*, 98, pp. 282-92.
- Erdosy G. (ed.) (1995), *The Indo-Aryans of Ancient South Asia*, Berlin/NY, Guyter.
- ., (1994), 'The meaning of Ṛgvedic pur . . .' in J.M. Kenoyer (ed.) *From Sumer to Melucha*, Winsconsin, University of Winsconsin Press.
- EWA see Mayrhofer.

- Falk H. (1992), 'Nollikhya Nāvalikhya', *Indo-Iranian Journal*, vol. 35, no. 1, pp. 1-17.
- ., (1981), 'Vedische arma', *Zeitschrift der deutschen morgenländischen Gesellschaft*, 131 pp. 160-71.
- Fraser A. (1995), *The Gypsies*, Oxford, Blackwell.
- Francfort P.H. (2005), 'La Civilisation de l' Oxus et les Indo-Iraniens et Indo-Aryens en Asie Centrale', Fussman G., Kellens J., et al (below).
- ., (1992), 'Evidence for Harappan irrigation system' in *Eastern Anthropologist* vol. 45, pp. 87-103.
- Frawley D. (2001), *The Rigveda and the History of India*, Delhi, Aditya.
- ., (2002), 'Witzel's vanishing ocean . . .' [http:// voice of dharm.com/indology/ReplytoWitzel.html](http://voiceofdharm.com/indology/ReplytoWitzel.html)
- ., (1991), *Gods, Sages & Kings*, Passage Press, Salt Lake City.
- Frawley D. & Rajaram N. (1997), *Vedic Aryans & Origins of Civilization*, Delhi, Voice of India.
- Friedrich H. (2004), 'A Diffusionist's view on the concept of "Language Families"' *Migration & Diffusion* vol. 5, no. 19 July- September, pp. 6-14.
- ., (2003), 'Hebrew Ethnogenesis and Diffusion', *Migration & Diffusion* 4, 16 (Oct-Dec).
- Fussman G., Kellens J., Francfort H-P., Tremblay X. (2005), *Aryas, Aryens et Iraniens en Asie Centrale*, Paris, College de France, Publications de l' Institut de Civilisation Indienne.
- Gnoli G. (1980), *Zoroaster's Time and Homeland* Naples, Instituto Universitario Orientale (Series & Minores VII).
- Gupta S.P. (2007), 'City in Protohistoric India' in G. Pande (ed.) *Golden Chain of Civilizations . . .* PHISPC vol. 1, pt. 4, pp. 209-355, Delhi, Centre for Studies in Civilization.
- ., (2005), 'The Saraswati and the Homeland of Early Ṛgvedic Ṛṣi-s' in A. Agrawal, ed. pp. 55-73.

- Hasenpflug R. (2006), *The Inscriptions of the Indus Civilization*, Books on Demand, Ciando.
- Hock H.H. (1993), 'Subversion or Convergence? . . .', *Studies in Linguistic Sciences* vol. 23, 2 pp. 73-115.
- ., (1999), 'Out of India? The Linguistic Evidence' in J. Bronkhorst & M. Deshpande (eds.) *Aryan and Non-Aryan*, South Asia, Camb Mass, HOS, pp. 1-18.
- ., (1996), 'Pre-R̥gvedic convergence . . .' in (ed.) Jan E.M. Houben, *Ideology and Status of Sanskrit* pp. 17-58, Leiden, Brill.
- Iyengar R.N. (2005), 'Historicity of Celestial Observations of Mahābhārata' in S. Kamath (ed.) *The Date of the Mahābhārata War Based on Astronomical Data*, pp. 150-86. Bangalore, Mythic Society.
- Kak S. (2003), How Old Is Indian Writing? <<http://subhash-kak.sulekha.com/blog/post/2003/12/how-old-is-indian-writin.htm>>
- ., (1997), 'Archaeoastronomy & Literature', October issue of *Current Science*.
- ., (1994), *The Astronomical Code of the Rigveda* (revised ed. 2000), Delhi, Manoharlal.
- Kazanas N. (in press) (2013) 'Isoglosses : What they (don't) show us' in *Vedic Venues* vol. 2.
- ., (2012), 'Vedic and Avestan' in *Vedic Venues*, vol. 1, (pp. 183-229).
- ., (2009), *Indo-Aryan Origins and other Vedic Issues*, Delhi, Aditya Prakashan.
- ., (2007a), 'Vedic, Mesopotamian and Egyptian Religio-philosophical Thought' in *Golden Chain of Civilizations*, PHISPC, Delhi & Simla.
- ., (2007b) 'Coherence & Preservation in Sanskrit', *Research Bulletin of the Vishveshvarand Vedic Research Institute*, vol. 5.

- ., (2003), 'Final Reply', *Journal of IE Studies* vol. 31, 1&2, pp. 187-240.
- ., (2002), 'Indigenous Indo-Aryans & the *Ṛgveda*', *Journal of IE Studies* vol. 30, pp. 275-334.
- ., (1999), 'The *Ṛgveda* and Indoeuropeans', *ABORI* 80, pp. 15-42.
- Kennedy K. (1995), 'Have Aryans been Identified . . .?', G. Eadosy (ed.) *The Indo-Aryans of Ancient South Asia*, Berlin, de Gruyter, pp. 99-107.
- Kenoyer J.M. (1998), *Ancient Cities of the Indus Valley Civilization*, Karachi Oxford, OUP.
- ., (1997/2000) 'The Ravi Phase : A new cultural manifestation at Harappa' in *South Asian Archaeology*, Rome, pp. 55-76.
- Kenoyer J.M. and Meadow R.H. (2007), 'The Early Indus Script at Harappa', E. Olijdam & R.H. Spoor (eds.) *Inter-cultural Relations between South & Southwest Asia*, BAR International Series.
- Klaus K. 'Samudrá im Vedá': (1989), Deutscher Orientalistentag 1985, Würzburg, XIII, E von Schuler (ed.) *Ausgewählte Vorträge*, Wiesbaden pp. 364-71.
- Klostermaier K. (2000), *Hinduism* Oxford, Oneworld Books.
- ., (1998), 'Questioning the Aryan Invasion Theory . . .', *Iskcon Communications Journal* 6:1 pp. 5-16. Re-published in *International Quarterly of Indian Philosophy* June (2001), pp. 63-78.
- ., (2002), *Buddhism* Oxford, Oneworld Publications.
- Kramer S.N. (1952), *Enmerkar & the Lord of Aratta*, Philadelphia, Univ. of Pennsylvania.
- Lal B.B. (2009), *How deep are the roots of India Civilisation*, Aryan Books International, Delhi.
- ., (2005), *The Homeland of the Aryans*, New Delhi, Aryan Books International.



- ., (2002), *The Sarasvatī Flows On*, Delhi, Aryan Books International.
- ., (1998), *India 1947-1997: New Light on the Indus Civilization*, Delhi, Aryan Books International.
- Lal B.B. & Gupta S.P. (eds.), (1984), *Frontiers of the Indus Civilization* Delhi, Indian Archaeological Society.
- Langlès L.M. (1821), *Monuments Anciens et Modernes de l'Hindoustan, Décrits Sous le Double Rapport Archaeologique et Pittoresque, et Précédés d' une Notice Géographique, d' une Notice Historique*, 2 vols., Paris.
- Langlois A. (1833), Manava Dharma Sastra in *Journal Asiatique*, vol. 69 pp. 142-55.
- Leach E. (1990), 'Aryan Invasions over four millennia' in E. Ohnuki-Tierney (ed.), *Culture Through Time*, Stanford, Stanford University Press, pp. 227-45.
- Levitt S.H. (2003), 'The Dating of the Indian Tradition', *Anthropos* vol. 98, pp. 341-59.
- Lorblanchet M. (1992/2001), *Rock Art in the Old World*, New Delhi, Indhira Gandhi National Center for the Arts, Aryan Books International.
- Lubotsky A. (1997), *A Ṛgvedic Word Concordance*, New Haven, American Oriental Society.
- Mayrhofer M. (1996), *Etymologisches Wörterbuches des Altindischen*, Heidelberg, Carl Winter.
- ., (1956), *KEWA (Kurtzgefasstes . . .)*, Heidelberg, Carl Winter.
- McEvelley Th. (2002), *The Shape of Ancient Thought*, New York, Allworth Press.
- McIntosh J.R. (2001), *A Peaceful Realm*, Boulder (Colorado), Westview.
- Misra S.S. (1992), *The Aryan Problem: A Linguistic Approach*, Delhi, M. Manoharlal.
- Mitchel B. & Robinson F. (1996), *A Guide to Old English*, Oxford, Blackwell.

- Müller M. (1859/1968), *The History of Ancient Sanskrit Literature*, Varanasi, Chowkamba, Sanskrit Series.
- Nichols J. (1997-98), 'The Epicentre of the IE linguistic spread' and 'The Eurasian spread zone . . .' in R. Blench & M. Spriggs (eds.) *Archaeology & Language*, vol. 1, pp. 122-48, pp. 220-66, NY/London Routledge.
- Oppenheimer S. (2003), *The Real Eve : Modern Man's Journey out of Africa*, NY, Carroll & Graf.
- Parpola A. et al (1988), *The Coming of the Aryans to Iran and India*, Helsinki, Studia Orientalia.
- ., (1969), *Decipherment of Proto-Dravidian Inscriptions*, Copenhagen, Scandinavian Institute of Asian Studies.
- Piggott S. Wagon, (1992), *Chariot and Carriage*, London, Thames & Hudson.
- Possehl G.L.(2002/3), *The Indus Civilization Roman & Littlefield* (Non-NBN) ; New Delhi, Vistaar Publications.
- ., (1998), 'Did the Sarasvatī ever flow to the Sea?', G.S. Phillips et al (eds). *Arabia & its Neighbours* (in Honour of Beatrice de Cardi) Turnhout, Brepols, pp. 339-54.
- Prabhakar C.L. (1994), 'The Ancients' Approach to the Ocean', *Quarterly Journal of the Mythic Society* vol. 85, no. 2 pp. 30-45.
- Raghavan S. (1969), *The Date of the Mahābhārata War*, Srinivasanagar, Srirangam Printers.
- Ramat A. & Ramat P. (eds.) (1998), *The Indo-European Languages* (2006), NY/London, Routledge.
- Rao L.S. (2006), 'The Harappan spokedwheels . . . in *Purātattva* vol. 36, pp. 59-67.
- Rao S.R. (1991), *Dawn & Devolution of the Indus Civilization*, Delhi, Aditya Prakashan.
- Rémusat A.(1822), 'Monuments Anciens et Modernes de l' Hindoustan ; par L. Langlès', *Journal des Savans*, Avril, pp. 220-32.

- Renfrew C. (1989), *Archaeology & Language*, Hammondsworth, Penguins.
- Reshid T. (2005), 'Yezidism: Historical roots' in *International Journal of Kurdish Studies* cited in Sanyal 2012 (p. 68), below.
- Rix H. (1998), *Lexikon der indogermanischen verben . . .*, Wiesbaden, Reichert.
- Sahoo S. Singh A., Kivisild T . . . et al (2006), 'A Prehistory of Indian Y-chromosomes' in *Proceedings of the National Academy of Sciences (USA)*, vol. 103, no. 4, pp. 843-8.
- Sanyal S. (2012), *Land of the Seven Rivers: A Brief History of India's Geography*, New Delhi, Penguin-Viking.
- Schildmann K. (1998), *Indus/Burrows Cave USA-Deciphering Bonn, Studia Orientalia et Indo-Atlantica*, Fascicle 1.
- Seidenberg A. (1978), 'The Origin of Mathematics' in *Archive for History of Exact Sciences*, vol. 18, pp. 303-41.
- ., (1962), 'The Ritual Origin of Geometry', *Archive . . .* 1 pp. 488-527.
- Sethna D.K. (1992), *The Problem of Aryan Origins*, 2nd edn., Delhi, Aditya Prakashan.
- Shaffer J.G. & Lichtenstein D.A. (1999), 'Migration, philology & South Asian archaeology' in J. Bronkhorst & M. Deshpande (eds.) *Aryans and Non-Aryan in South Asia* Camb Mass, HOS.
- Sharma G.R. (1980), *History to Protohistory: Archaeology of the Vindhyas and the Ganga Valley*, Allahabad, Allahabad University.
- Sharma J.R., Gupta A.K., Bhadra B.K. (2006), 'Course of Vedic river Saraswati . . .' in *Purātattva* vol. 36, pp. 187-95.
- Sharma S. et al (2009), 'The Indian Origin of paternal haplogroup R1a1 . . .', the *Journal of Human Genetics*, January.
- Singh Bh. (1995) *The Vedic Harappans*, Delhi, Aditya Prakashan.
- Stevenson J. (1841-44), 'An Essay on the Language of the

- Aboriginal Hindus', *Journal of the Bombay Branch of the Royal Asiatic Society*, vol. 1, pp. 103-26.
- , (1839), 'On the Ante-Brahmanical Worship of the Hindus in the Dekhan', *Journal of the Royal Asiatic Society of Great Britain and Ireland*, vol. 5, pp. 189-97.
- Talageri S. (2008), *The Ṛgveda & the Avesta . . .*, New Delhi, Aditya (non vidi).
- , (2000) *The Rigveda*, New Delhi, Aditya Prakashan.
- Tewari R., Srivastava R.K., Singh K.K., Saraswat K.S. (2006), 'Further excavations at Lahuradeva, District Sant Kabir Nagar . . .', *Purātattva* vol. 36 pp. 68-75.
- Thomas P. et al (1995), 'Harappan subsistence patterns . . .' *Man & Environment (India)* 20. 2, pp. 33-41.
- Underhill P. Myers N. et al (2010), 'Separating the post-Glacial co-ancestry' in *European Journal of Human Genetics*, vol. 18, pp. 479-84.
- Vedic Index* 1995 (1912) by MacDonnell A. & Keith A., Delhi, M. Banarsidass.
- Wilks M. (1810), *Historical Sketches of the South of India*, vol. 1, London.
- Winternitz M. (1981), *History of Indian Literature* (trans. by V.S. Sarma) 3 vols., Delhi, Motilal Banarsidass.
- Witzel M. (2005), 'Central Asian Roots and Acculturation in South Asia' in Osada Tosiki ed *Linguistics, Archaeology and the Human Past*, Kyoto, Indus Project, Research Institute for Humanity and Nature.
- , (2001), 'Autochthonous Aryans', *Electronic Journal of Vedic Studies* 7-3, pp. 1-93.
- Zimmer S. (2000), 'The easy way to truth . . .', *JIES*, 30, pp. 192-201.

### Notes

1. Private communication from S.P. Gupta, Chairman of Indian Archaeological Society (June 2006). See also

Sharma 1980 for rice in the Ganges basin in the 5th millennium and R. Tewari et al in *Purātattva* 2006 (vol. 36: pp. 68-75) for rice, again in the Ganga basin, north-east, in the district Sant Kabir Nagar (UP) in 7th millennium. These locations are too far from *Vedic Saptasindhu* but it seems likely that by 3000 the composers of the *AV* had become acquainted with rice *vrihi* and later this grain was cultivated in the ISC too.

2. The mainstream view (Witzel's really) that the Vedic river is merely a memory of the Iranian Hara<sup>x</sup>vaiti which belongs to the common Indo-Iranian period, when the Irano-Aryans lived together in Iran before the IAs moved further southeast (according to the AIT), is no more than modern myth-making. Mainstreamers often invoke Occam's razor (i.e. that the simpler solution is more probable) but here they forget it and prefer their own complex scenario.
3. This was badly printed and the Sanskrit transliterations are unreadable ! A revised version was published in the *Adyar Library Bulletin* 2007. This is now paper Seven in Kazanas (2009).

