

# What is the Aryan Migration Theory?

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**Note:** The webpage is read best by taking a print out

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## A. Introduction and Scope

Subsequent to the discovery in the late 18th century that most languages of Europe, India, Iran and Caucasus had striking similarities, a genetic link between them was actively sought by a host of philologists, Orientalists, Indologists and specialists in several other academic and non-academic disciplines. In the following century, language trees were constructed to show the purported genetic relationships-kinship between various members of this newly constructed 'Indo-European' (or variously called 'Aryan' and 'Indo-German') family of languages. India and Western Europe formed the eastern and western extremities of the continuum/spectrum of this proposed language family.

The equation 'language = races/people' was the underlying assumption that was used to reason that the speakers of these widely spread languages might have descended in whole or in part from an original set of people, who spoke the original 'Indo-European' (henceforth IE) language, before their dispersal from their 'homeland' leading to the fragmentation and diversification of the original tongue into various IE languages. There was (and is) no unanimity on the geographical location of the original homeland of these 'proto' Indo-Europeans. But, most of the suggestions by Europeans placed this homeland in various parts of Europe, and a few in western Central Asia, which was close to Europe. This was partly due to certain philological and logical reasons, and partly because of allegiance to ideologies and notions like white-supremacism, European imperialism and colonialism, the notion of 'White Man's Burden', Judeo-Christian biases and European ethnocentrism of these scholars, German Nationalism [Chakrabarti 1999:10-11; Kennedy 2000:80-84; Halbfass 1988:138-139; Poliakov 1974; Rajaram:1995] and so on - a phenomenon whose details are beyond the scope of the present essay.

A branch of the IE peoples, speaking the 'Indo-Aryan (IA) Languages' (from which medieval and modern Indian languages are derived) are said to have transferred their languages to the aboriginal, non IA speakers of India. So far, the following scenarios have used till date to explain the supposed arrival of IE speakers and/or languages into India around the middle of the 2nd millennium BCE:

1. The Aryan Invasion Theory (AIT)
2. The Aryan Migration Theory (AMT)

3. Pure Acculturation Models: There is a school of thought that [Kenoyer 1998; Shaffer 1986:230 and 1999] this process of language transfer took place entirely by acculturation, and no migrations of Aryan speakers were involved [1]

4. Complex/Composite Models - various combinations of the first three models. In this web-page, we deal with the AMT cum acculturation model in somewhat detail, focusing on the role of migrations in such a model (see below).

This web-page intends to introduce the readers to the basics of the Aryan Migration Theory (AMT). It must be noted that AMT is often used in conjunction with acculturation and other complex models to explain 'Aryanization' of much of South Asia. Details on evidence for and against the AMT, the relationship of the AMT to AIT and other related viewpoints and models (eg. acculturation models); as well as the ideological implications/affinities of AMT would be dealt with in separate web-pages. For a consideration of some of the issues not dealt with here in much detail, the reader may also refer to the forthcoming book by Edwin Bryant [2001]. Elst [1999] and Danino [2000] have described and have critiqued a wide gamut of evidence related to AIT, and much of their discussion is applicable to corresponding issues in AMT as well. A brief summary of the relevant arguments is also contained in a recent article by the Greek Sanskritist Nicholas Kazanas [1999]. Following a somewhat different perspective, the communist historian R. S. Sharma [1999] offers a multi-faceted argument in favor of AMT, which is somewhat lacking in its awareness of the latest archaeological data.

## **B. From Aryan Invasions to Migrations**

When the link between the various languages of the Indo-European family was first discovered, it was automatically assumed that languages are primarily spread by a group of intruding invaders. Since the homeland of the IE languages was already placed outside India, it was proposed that a group of IA speaking invaders (who were ultimately derived from proto-IE speakers) had invaded India sometime in the middle of the 2nd millennium B.C. and had imposed their language on the 'Dravidian' or other non-Aryan aboriginal inhabitants of India by force. With archaeology in its infancy, the proof for these invasions was discovered in the Rigveda. Uncritical, erroneous and tendentious interpretations of the text were relied upon to conclude that European looking Aryans had subdued dark, short, snub nosed non-IE speaking natives of India militarily and had imposed the IE languages on them[2].

As more and more historic and pre-historic sites came to be subjected to archaeology, it was naturally expected that traces of such destructive invasions of the Aryans would be unearthed in plenty. Then, in the 1920's [Possehl 1999:38-154; Kenoyer 1998:20-25], the ruins of a hitherto unknown civilization were identified/found spread across the Indus Valley in what is now Sindh and lower Punjab. The Bronze Age culture, somewhat contemporaneous with the great Bronze Age cultures of Egypt and Mesopotamia, was named 'Indus Valley Civilization (IVC)' because most of the sites were located in the area drained by the Indus and its tributaries. It is also called 'Harappan culture' because it is a convention in archaeology to name excavated cultures after its first site that is excavated. After British India's independence in 1947 and the birth of Pakistan, archaeologists in independent India found several hundred sites along the dried bed of the Ghaggar (ancient Sarasvati river) and Chitang (ancient Drshadvati), in

Yamuna in its higher reaches. Currently, the IVC area is said to have more than 2000 sites associated with Harappan culture, although not even 2% of them have been excavated completely. The excavated sites however are distributed over the entire area of IVC and may be taken as representative of the IVC per se.

When the IVC was first discovered, the AIT was simply imposed on the new discoveries. Thus, IVC was now taken as that Indian, non-Aryan civilization which was destroyed by the invading, nomadic Aryans. By tendentious logic and without any proof, the IVC was equated with Dravidian culture [3] (where Dravidian as an over-arching category had been invented in the 19th century to include speakers of Tamil, Telugu, Malayalam, Kannada, Tulu, Kodagu, Malto and other languages of peninsular India). However, the discovery of the IVC did lead to an inversion of one of the older paradigms. In the earlier versions of AIT, it was assumed that the ancient, aboriginal inhabitants of India were a primitive people with a low level of culture and that the superior Aryans made them civilized. This perception of 'aboriginal Indians' did not seem to match the sophistication seen in the urban planning and organization of the Harappan cities that were excavated. So, the nomadic Aryan invaders were now deemed as destroyers of the great Dravidian culture of the IVC, heralding a dark age of cultural stagnation for several centuries before the rise of the sixteen Mahajanapadas and numerous other Janapadas.

Naturally then, as the IVC sites were further excavated, tell tale signs of the destructive fury of the Aryan invaders were sought. Ratnagar [2000:30-31], has neatly summarized the kind of tell-tale evidence generally encountered when sites destroyed by violent incursions (leading to a hurried departure of its inhabitants) are excavated by archaeologists:

- a) burnt buildings with their fixtures and appointments during use still in place, though charred or broken. Items that were to be baked may remain stacked near a kiln that was never lit, as at Ugarit (Drower 1968). The tip of a spearhead may be found embedded in a piece of wood (Shahr-i Sokhta). A child's scarred skeleton may be found clutching some object and lying under fallen roof logs (Shahr-i Sokhta, Tosi 1983:88).
- b) jars set in floors can be seen to have broken there, so that they can be reconstructed from their pieces. The sherds on the floor of a hurriedly abandoned room will tend to give the parts of entire pots that were in use in that structure (Godin Tepe, Weiss and Young 1975)
- c) walls with signs of recent repair or plaster
- d) craft items left half finished at the place of manufacture as at Ugarit (Drower 1968)
- e) valuables or culturally significant items, of no use to the destroyers or to subsequent squatters, used in ways never intended. After destroying Ugarit its pillagers used some clay tables inscribed with religious texts to support shanty walls (ibid). At Dholavira, a vandalized stone statue came to support a wall.
- f) valuables or culturally significant items like a religious emblems or statuary or rulers' inscriptions smashed or defaced
- g) the dead hurriedly buried in non-customary spots or ways
- h) safely or secretly deposited wealth items left behind in the rush to flee the enemy. That these were secreted wealth and not votive offerings or ritual building foundation placements will be indicated by disturbed floor paving.
- i) W. Adams (1968) points out that evidence of burning is not by itself proof of attack or invasion. Residents may burn down houses because of vermin or disease. But in a kind of classic instance of attack, at Tepe Hissar in north-eastern Iran (a settlement which will be of relevance to our argument) we find several signs, such as burned and charred walls, recently renewed

number of flint arrowheads in the vicinity of the building, metal weapons, and crushed skeletal remains. There were also spills of charred wheat and a storage room with fifteen large pots crushed by roof collapse (Schmidt 1937:155-171). This burnt building at Hissar presents an archaeological situation in total contrast to the evacuated palace at Tell Brak. Most situations, however, fall somewhere between these extremes.

There is however another possibility that the Aryans were yet invaders but that they did not cause destruction to the IVC cities because the IVC inhabitants fled the approaching invaders. Ratnagar [2000:31-32] again summarizes the archaeological record of such quick abandonment that took place without violence or destruction:

- a) grain remaining in storage jars or silos
- b) charcoal remaining in fireplaces
- c) half-finished craft work, associated tools and raw materials remaining in workshop areas
- d) pottery (broken or intact) recovered in individual households representing the entire range required for domestic use
- e) clean-swept house floors and courtyards
- f) the figurine or emblem of a family deity in its place in the home
- g) thick (say 30 cm) layers of roof collapse on disused floors showing that roofs were not salvaged and subsequently fell in (Schlanger and Wilshusen 1993:92-3)
- h) buried wealth left unretrieved (?)
- i) usable items left behind, these being obviously not part of the day-to-day refuse of a family.

If the Aryans had indeed invaded the IVC, bringing an end to this great bronze-age civilization, we would have seen one or more of the above scenarios attested in the archaeological record. Strangely however, this was not the case. Rather, the excavated sites presented a picture of gradual abandonment in general. There were distinct signs of a cultural decay, a collapse of urban society probably accompanied by periods of internal strife, a breakdown of social and political systems. This evidence of a collapse of the IVC due to causes other than any large scale invasions from the north west has been studied in detail by Ratnagar [2000], and others and would be summarized by me elsewhere. The net conclusion from the archaeological record of the demise of IVC can be stated in the following words of Kenoyer [1998]

Contrary to the common notion that Indo-Aryan speaking peoples invaded the subcontinent and obliterated the culture of the Indus people; we now believe that there was no outright invasion; the decline of the Indus cities was the result of many complex factors. [pg. 19]

...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 B.C. and the beginning of the Early Historic Period around 600 B.C. [pg. 174]

Likewise, Romila Thapar, an eminent Marxist historian of India also states [2000:82]:

There is virtually no evidence of the invasion and the conquest of northwestern India by a dominant culture coming from across the border. Most sites register a gradual change of archaeological cultures. Where there is evidence of destruction and burning it could as easily have been a local activity and is not indicative of a large-scale invasion. The border lands of the northwest were in communication with Iran and Central Asia even before the Harappa culture with evidence of the passage of goods and ideas across the region. This situation continued into later times and if seen in this light when the intermittent arrival of groups of Indo-European speakers in the

little problem. It is equally possible that in some cases local languages became Indo-Europeanized through contact.

It must be emphasized that elsewhere, for instance in Aegean and the Near East [Drews 1988], the violent destruction and succession of older Bronze Age cultures by invading IE speakers is clearly attested in an archaeological record of the type that has been described by Ratnagar [4] above.

It is pertinent to note here that the use of iron played an important role in the older versions of the Aryan Invasion Theory. It was proposed that the Aryans invaded India with their superior and stronger iron weapons and were therefore able to overpower the inhabitants of the Indus Valley Culture and the Neolithic tribals of the Ganga basin further east. Moreover, the invading Aryans were said to have used iron axes for clearing the dense forests of the Ganga basin, promoting agriculture with the accompaniment of the 'Aryanization' of the region. Such reconstructions of the Indian past were based partly on fantasy, partly on an uncritical reading of the Rigveda, and finally, on certain reprehensible ideologies as mentioned above. Such simplistic invasionist scenarios have now been rejected by the archaeologists as well as Indologists. Erdosy [1995:83-84] summarizes the argument:

The traditional view, that iron was brought into the subcontinent by invading 'Aryans' (Banerjee 1965), is wrong on two counts: there is no evidence of any knowledge of iron in the earliest Vedic texts (Pleiner 1971), where *ayas* stands either for copper or for metals in general, and the idea that the Aryans of the Rigveda were invaders has become just as questionable. Wheeler's assertion that iron only spread to India with the eastward extension of Achaemenid rule (Wheeler 1962) is even more untenable in the face of radiocarbon dates from early iron-bearing levels. The alternative thesis (Chakrabarti 1977), that iron smelting was developed in the subcontinent, rests on two principal arguments. First, iron ore is found across the length and the breadth of India, outside alluvial plains, in quantities that were certainly viable for exploitation by the primitive methods observable even in this century (Ball 1881; Elwin 1942). Ample opportunities thus existed for experimentation, although given the complexity of iron smelting this is not a conclusive point. The second argument, that the earliest evidence for iron comes from the peninsula and not from the northwest, is much more persuasive, even if better examples than quoted by Chakrabarti can be adduced in support of it. Briefly, while the dating of Phase II of Nagda (the earliest iron bearing level) depends on ceramic analogies, and the stratigraphy of Ahar (another site which is claimed to have produced evidence for iron) is hopelessly muddled, the testimony of radiocarbon dates is instructive. Iron Age levels have yielded dates of 2970 ± 105 bp (TF-570) 1255, 1240, 1221 cal. BC and 2820 ± 100 bp (TF-573) 993 cal. BC from Hallur, and 2905 ± 105 bp (TF-326) 1096 cal. BC and 3130 ± 105 bp (TF-324) 1420 cal. BC from Eran. They are not only earlier than any date from the Ganga valley (which dates fall between 2700-2500 bp) but are also earlier than the dates from Pirak in the northwest, with the exception of an anomalous reading of 2970 ± 140 (Ly-1643) 1255, 1240, 1221 cal. BC. Since the process of diffusion from the west should produce rather the opposite pattern, a strong case can be made for an indigenous origin of iron smelting, although it could do with further support given the complexity of this industrial process which by common consent renders multiple centers of innovation unlikely.

Thus, another bedrock of the Aryan Invasion Theory has thus been knocked off, leading the field open to other scenarios like the Aryan Migration Theory. The use of iron technology is now sometimes used to explain the later spread of 'Aryanism' in the Ganga plains by the Aryan Migrants, as we shall see below.

IVC area are still cited to suggest that at least parts of that culture were overwhelmed by barbarians coming from the northwest. Communist Historian D. N. Jha [1998:40] for instance, summarizes:

At several places in north Baluchistan thick layers of burning have been taken to imply the violent destruction of whole settlements by fire. .... Indirect evidence of the displacement of Harappans by peoples from the west is available from several places. To the south-west of the citadel at Harappa, for example, a cemetery, known as Cemetery H, has come to light. It is believed to have belonged to an alien people who destroyed the older Harappa. At Chanhudaro also evidence of the superimposition of barbarian life is available.

Mercifully, these few incidents have not been used to resuscitate the full blown AIT. Thus, Jha [1998:40] concludes:

Interestingly, even the Rigveda, the earliest text of the Aryans contains references to the destruction of cities of the non-Aryans. .... All this may imply that the 'invaders' were the horse riding barbarians of the Indo-Aryan linguistic stock who may have come from Iran through the hills. But neither the archaeological nor the linguistic evidence proves convincingly that there was a mass-scale confrontation between the Harappans and the Aryans who came to India, most probably in several waves.

The reason for the above conclusion is that the archaeological (and not genetic and anthropological) record is overwhelmingly opposed to the invasion scenarios. The decline of the IVC is now attributed to a combination of a host of factors: desiccation of the Sarasvati river, shifting of river courses, flooding in the lower reaches of Indus, environmental degradation caused by over-exploitation of natural resources (forests, grazing land), climatic changes (decline in rainfall), cultural decay, decline in the metal trade with Mesopotamia, internal social and political strife, epidemics, an over-expansion of the geographical area covered by the IVC and even a prolonged drought lasting over three centuries.

I must caution the reader that all this does not imply that AIT is dead. Quite to the contrary, it has been used in recent times and is still being used by mainstream Indologists and scholars belonging to other disciplines to explain various facets of Indian civilization, culture, religion and history. For the laity then, the AIT is obviously the gospel truth.

### **C. The Mythical Massacre at Mohenjodaro**

Sir Mortimer Wheeler made an attempt in the 1940's to re-interpret some archaeological data as a proof of the Aryan Invasion scenarios. He [1947:81] identified mound AB at Harappa as a citadel. Linking it with the intrusive/foreign elements at Cemetery H burials [ibid:82], and following the Marxist scholar Vere Gordon Childe, Wheeler concluded that he had at last found proof that the bellicose Aryans had indeed invaded IVC, extinguishing that Bronze Age culture violently.

The Aryan invasion of the Land of the Seven Rivers, the Punjab and its environs, constantly assumes the form of an onslaught upon the walled cities of the aborigines. For the cities, the term used in the Rigveda is pur, meaning a 'rampart', 'fort' or 'stronghold' .... Indra, the Aryan god, is puramdar, 'fort destroyer'.... In brief, 'he rends forts as age consumes a garment'. Where are or were these citadels? It has in the past been supposed that they were mythical, or were merely places of refuge against attack, ramparts of hardened earth with palisades and a ditch'. The recent excavations of Harappa may have thought to have changed the picture. Here, we have a highly evolved civilization of essentially non-Aryan type, now known to have dominated the river-system of north-western India at a time

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. It may be no mere chance that at a late period of Mohenjodaro men, women and children appear to have been massacred there. On circumstantial evidence, **Indra stands accused.** (emphasis added).

The rash pronouncement by Wheeler came in for a lot of adverse comment. Archaeologist B. B. Lal [1954/55:151] examined the matter closely. He concluded that according to Wheeler himself, the Harappans and the Cemetery H people (viz. the invaded and the invaders) had never come into contact with each other. There was a clear-cut chronological break between the Cemetery H culture and the culture represented by the Citadel.

Another archaeologist George V. Dales [1961-62] forcefully argued for caution in interpreting the presence of skeletons as a proof of invasions:

...we cannot even establish a definite correlation between the end of the Indus civilization and the Aryan invasion. But even if we could, what is the material evidence to substantiate the supposed invasion and massacre? Where are the burned fortresses, the arrowheads, weapons, pieces of armor, the smashed chariots and bodies of the invaders and defenders? Despite extensive excavations at the largest Harappan sites, there is not a single bit of evidence that can be brought forth as unconditional proof of an armed conquest and the destruction on the supposed scale of Aryan invasion. It is interesting that Sir John Marshall himself, the Director of the Mohenjo-daro excavations that first revealed the "massacre" remains separated the end of the Indus civilization from the time of the Aryan invasion by two centuries. He attributed the slayings to bandits from the hills of west of the Indus, who carried out sporadic raids on an already tired, decaying, and defenseless civilization.

Dales pointed out that the stratigraphic context of these skeletons had not been recorded properly and so it was impossible to verify if they really belonged to the period of the Indus civilization. He also highlighted the fact that these skeletons did not constitute an orderly burial, and were in fact found in the Lower town - probably the residential district, and not in the fortified citadel where one could have reasonably expected the final defense against the so called invaders.

Therefore, Dales concluded:

The contemporaneity of the skeletal remains is anything but certain. Whereas a couple of them definitely seem to represent a slaughter, in situ, the bulk of the bones were found in contexts suggesting burials of sloppiest and most irreverent nature. There is no destruction level covering the latest period of the city, no sign of extensive burning, no bodies of warriors clad in armor and surrounded by weapons of war. The citadel, the only fortified part of the city, yielded no evidence of a final defence.

.....**Indra and the barbarian hordes are exonerated.** (emphasis added)

Subsequently, Kennedy pointed out that skulls of two of the victims did carry marks of injury. However, it was clear that they had survived the attack by several months [1982:291]. Finally, in his study of the word 'pur' in the Rigveda, German Indologist Wilhelm Rau [1976] pointed out that the typical plan of Harappan cities was square in shape, the Rigvedic pur of the 'Dasas' was a circular structure with numerous concentric walls. Moreover, while the Harappan cities employed baked bricks on a large scale, the Rigvedic pur was a temporary structure made of palisades, mud, stones etc. Indra was indeed exonerated finally of the massacre at Mohenjodaro.

The skeletons are no longer taken as a proof of the AIT. Rather, they are interpreted in a different manner [Ratnagar 2000:42]:

skeletons just because the Aryan connexion (sic) is dubious. The fact that they do not amount to a massacre does not rule out conflict, strife, or raids on the city in the last days of its occupation.

Very unfortunately, Wheeler did not relinquish his allegiance to AIT even in his last work published in 1968 [Kazanas 2000:35]. And in fact, many academicians continue to cling to this theory to this day.

## D. Varieties of AMT

The various versions of the AMT all seek to explain the central dogma of introduction of the Indo-Aryan branch of the Indo-European languages from Central Asia into hitherto 'non-Aryan' India around the middle of the 2nd millennium BCE. Talageri [2000:335-397] has explained the various versions of AIT. Since the AMT paradigms are rather new, we do not encounter such a bewildering variety as has been noted by him in case of AIT. Below, I attempt a simple classification of the various AMT models encountered by me:

" **Large Scale Migration Model**: Some academicians (Eg. Victor Mair - see below) appear to hold that the IE speakers migrated to India in very large numbers so as to alter the genetic make up or phenotype of the Indian population to a significant extent. Incidentally, the older versions of AIT also advocated that 'waves after waves of Aryans invaded India'. Marxist historian R. S. Sharma [1999:50-52] also opines:

In several ancient societies the victorious were culturally conquered by vanquished, but the Indo-Aryan immigrants seem to have been numerous and strong enough to continue and disseminate much of their culture.

Most scholars currently hold that the migrants were very few in number. Hence, let us consider only the diversity in the latter view.

" **Second Colonization Model**: There is also a view that by the time the Aryans arrived in the IVC area, the original inhabitants had already fled the region (to Peninsular India?) as a result of which it had become depopulated. Apparently then, the old IVC area then came to be dominated demographically by these migrants without much violence. This model might be close to being a pure migration model. For instance, Dandekar [1997b: 322-323] speculates[5]

It may be incidentally mentioned that some modern historians have attributed the decline of the Indus culture to economic causes, such as non-clearing of wilderness and lack of food surplus and metals. However, the view which is now generally accepted is that the people of the Indus Civilization had fled away, before the advent of the Aryans, mainly on account of some natural calamity. The deserted settlements in the region, which had presumably come to be regarded as evil and inauspicious, were subsequently burnt down by the Aryans themselves. But the Rigvedic hymns suggest that Vedic Aryans, under the leader of purandara Indra, human hero who later became god, must have been responsible for the destruction of the fortified settlements of the Harappan people while that civilization had already begun to decay. In any case, one thing is certain, namely that the invasion or the migration of the Aryans was by no means on a massive scale.

" **Sustained Migration Model**: Others advocate that the initial migrants came in several small waves and while they were themselves small in number altogether, they continued their migrations beyond the Saptasindhu region into the Gangetic plains. During these migrations, the Aryans fought amongst themselves as well as with the original inhabitants of India. This model comes closest to AIT and is subscribed to mainly by the Marxist historians of India like D. N. Jha (see below). German Indologists Hermann

to uphold such a scenario. Curiously, iron technology plays a crucial role in at least some descriptions of this model - not for invasions and weapons but for clearing forest growth for settlement by Aryans. In the words of Rajesh Kochar [2000]:

The compilation of the Rgveda had taken up after c. 1700 BC in Afghanistan by a section of the Indo-Iranians, designated the Rgvedic people or the Indo-Aryans. After 1400 BC, when the late Harappan cultures were in decline, the Rgvedic people entered the Punjab plain and eventually spread further eastwards up to the Yaga doab. In about 900 BC, the compilation of Rgveda was finally closed and the Bharata battle fought. Armed with the newly acquired iron technology, the Aryans moved east of the Ganga. The migration was not in a single procession but in phases. The first entrants were the Mahabharata people, the Puru-Bharatas, who settled close to the Yamuna. [pg. 92]

The clearing of the Ganga Plain forests had to await the development of the iron technology. The technique would have been to first burn down the jungles and then remove the stumps with axes. The Mahabharata itself provides an example of such a clearing, when the Khandava forest was burnt down to found Indraprastha. Another example is provided by Satapatha Brahmana (1.4.1.10-16), according to which Mathava, the king of Videgha (Videha), starting from Sarasvati "followed Agni [fire] as it went burning along this earth towards the east". [pg. 90]

" **Migration cum Acculturation Models:** Most 'migrationist' Indologists and archaeologists (eg. Allchin, Erdosy, Witzel etc. - see below) seem to hold that the migrants lost their racial identity very soon amongst the larger native population of India as soon as they reached the Saptasindhu region, but somehow their language, culture and religion went on propagating till it became dominant in most of the Indian subcontinent. These migrants could have come at various times, and some of them could in fact have been 'pre-Vedic'. Such migration models are therefore combined with various acculturation or elite dominance models to explain the later spread of 'Aryanism' over large parts of India.

Let us consider the last model, as explained by Frank Raymond Allchin [1995]. First, Allchin rejects [ibid:41-42] the pure-acculturation model of archaeologist Jim Shaffer:

We cannot agree with the school of thought which maintains that 'introduction of the Indo-Aryan language family to South Asia was not dependent upon population movement (Shaffer 1986,230); we hold the view that the initial introduction of any ancient language to a new area can only have been a result of the movement of speakers of that language into that area. This in no way disregards the probability that thereafter, increasingly as time went by, the further spread of the languages took place, along with processes of bilingualism and language replacement, meaning that the proportion of original speakers would decline while that of acquired speakers would continue to rise.

Allchin proposes a flexible hypothetical model allowing for multiple, multi-stage and several kinds of movements of people which, eventually lead to the predominance of the Indo-Aryan languages in South Asia [ibid: 47-52]:

First Stage (2200-2000 BCE?): According to him, sometime around 2500 BCE, the Indo-Iranian nomads split up into Iranian and the Indian speaking tribal groups, with the latter moving southwards into the Iranian plateau, and spread west towards the Caucasus and East towards Afghanistan and thence into the Indus plains via the Bolan Pass. Allchin tries to link this first stage, i.e., the appearance of Indo-Aryans in the Indian subcontinent, with newly excavated sites like cemeteries south of Mehrgarh and nearby Sibri, the Quetta grave cache and other assemblages in Baluchistan. The material culture deducible from these graves appears to have been imported from

postulated as the possible reasons for the SE migration of these nomads and the signs of destruction of some sites in Baluchistan are attributed to these first Indo-Aryans. However, the nomads are not held accountable for the demise of the IVC, which is attributed to other factors. The decaying IVC is held to have a power vacuum, which was then filled with these incoming Indo-Aryans.

Second Stage (2000-1700 BCE): The arrivals of the first stage are called 'pre-Vedic Aryans' by Allchin, following Asko Parpola, since the characteristics of the Vedic lifestyle/material culture like fire altars are not visible in Baluchistan. In contrast, such structures have been unearthed at Kalibangan. Secondly, some foreign intrusion is seen in the Cemetery H culture and signs of a violent end are found, to some extent, at Mohenjodaro in this period. Simultaneously, a 'Jhukar phase' follows Harappan occupation at Chanhu-daro and Amri in the lower Indus. All this is taken to mean the following by Allchin [ibid:49]

Taken together, these sites may be interpreted as representing a major stage in the spread of the early Indo-Aryan speaking tribes, leading to their achieving hegemony over some sections of the existing Indus population and to the beginning of the process of acculturation.....During this time, many of the distinctive traits of material culture which pointed to the foreign origin of the makers of the Mehrgarh cemeteries disappear. It may be expected that the process of bilingualism which preceded language replacement began to operate in a limited way. By the end of stage 2 the Indo-Aryan speakers would have been substantially different from their ancestors who some centuries earlier had arrived on the frontiers of the Indus valley.

Thus, after these first two stages of rather violent migrations into the Indus valley and northern Rajasthan, further 'Aryanization' of North India now proceeds via acculturation in stage three (1700-1200 BCE). Finally, in stage four extending from 1200 BCE to 800 BCE, there is an emergence of an 'Aryan' consciousness accompanied by an expansion of the 'Aryan' culture and the assimilation of diverse ethnic groups into an poly-ethnic 'Aryan' society. This last stage is said to be contemporaneous with the Purusha Sukta (Rigveda X.90) wherein all the four castes are mentioned, and paves the way for the rise of second urbanization and empire formation in the Ganga basin. Recently, Raymond and Bridget Allchin have reiterated their belief in the above model, but also state [1997:222] that these migrations are 'scarcely attested in the archaeological record'.

As stated above, we shall treat the acculturation models/stages in greater detail in other webpages.

## **E. The First Aryan 'Migrants': Victorious Marchers or Lost Tribes?**

Witzel considers Bactria as the 'staging area' [Witzel 1997:xvii, note. 54, also 1995:113, fn.73] and in a similar vein, Dandekar [1997a] considers Balkh (adjacent to Bactria) as the place from where the Aryan migrants marched gloriously to the Saptasindhu region. Dandekar [1997a:23] describes this event rather romantically:

The second important period in the age of the Rgveda was marked by the migration and victorious onward march of the Vedic Aryans from the region round about Balkh, where they had lived for a pretty long time, towards Saptasindhu or the land of the seven rivers (roughly the northwestern portion of the Indo-Pakistan subcontinent) and their subsequent colonization in Saptasindhu and beyond.

The north-west region of the Indian subcontinent plays a pivotal role in all the theories concerning Indo-Aryans, because it lies directly between Bactria-

the staging area, and north India, where the Aryans migrants eventually imposed their language, and to a great extent, their culture over the native, non-Aryan inhabitants. Witzel [1997:xvi] explains:

North-West India was a large "colonial" area, where the Indo-Iranian or early Vedic immigrant clans and tribes (including their poets) were struggling with each other and with more numerous local populations of non-Aryan descent which belonged to the post-Indus civilizations (c. 1900 B.C. and later).

North-West India comprises, to a large extent, the Saptasindhu region. The Long AMT model explains the spread of the Aryan 'migrants' from this region across north India in the following manner [Jha 1998:44-45] :-

The early Aryan settlers were engaged in taking possession of the Land of the Seven Rivers (saptasindhu) represented by the Indus and its principal tributaries. This often lead to conflict between the various Aryan tribes. .... The chief opponents of the Aryans were however the indigenous inhabitants of non-Aryan origin. Many passages show a general feeling of hostility toward the people known as Panis. Described as wealthy, they refused to patronize the Vedic priests or perform Vedic rituals, and stole cattle from the Aryans. More hated than the Panis were the Dasas and the Dasyus. The Dasas have been equated with the tribal people called the Dahaes, mentioned in the ancient Iranian literature, and are sometimes considered a branch of the early Aryans. Divodasa, a chief of the Bharata clan, is said to have defeated the non-Aryan Sambara. The suffix dasa in the name of the chief of the Bharata clan indicates his Aryan antecedents. In the Rigveda, instances of the slaughter of the Dasyus (dasyu-hatya) outnumber references to conflicts with the Dasas, thus giving the impression that the Rigvedic Aryans were not as hostile to them. Dasyu corresponds to dahyu in the ancient Iranian language. It has therefore been suggested that conflicts between the Rigvedic tribes and the Dasyus were those between two main branches of the Indo-Iranian/Indo-Aryan peoples who came to India in successive waves. The Dasas and Dasyus were most likely people who originally belonged to the Aryan speaking stock and in course of their migration into the subcontinent they acquired cultural traits very different from those of the Rigvedic people. Not surprisingly, the Rigveda describes them as 'black-skinned', 'malignant', and 'nonsacrificing' (sic) and speaking a language totally different from that of the Aryans.

More recently however, Witzel seems to have abandoned such models of dramatic and glorious Aryan migrations in favor of scenarios involving vagrant pastoral tribes. He says, in a message dated 13 April 2001 on the Indology list[6] :

Ehret's "elite kit" and a post-Indus, opportunistic shift to more pastoralism will work best here. No big wave of "invaders" is necessary then, just some Afghani tribesmen who chose to stay in their winter quarters in the Indus, instead of going back to the Afghani highlands (as they did in Avestan times and as they still do.)

The lost tribe is then said to have unfurled a long, unstoppable, irreversible and mighty cascade of events that eventually lead to the Aryanization of almost the entire area of modern Pakistan, Bangladesh, much of India north of the provinces Karnataka/Andhra Pradesh and parts of Nepal. Witzel states (ibid):

Such a group could set off a wave of change, with adaptation (and further change!) of the dominant elite kit, all across the Panjab and beyond...(See forthcoming EJVS 7-3).

At present, almost 85% of the 1.35 billion inhabitants of the Indian subcontinent speak Indo-Aryan languages. Such a monumental change effected by a single tribe (or a few tribes) over an area of more than 3 million sq. km. might be unparalleled in human history elsewhere, especially when all this was caused without any large scale use of force, and has not left any archaeological, literary or anthropological evidence. In short, this

flutter of a butterfly wing unleashes a chain of events eventually leading to a tidal wave.

Scholarly opinion is also divided on the question of the exact time of the arrival of the Aryans, although the consensus is that they came sometime in the 2nd millennium BCE. In recent years, the time period of these migrations (assuming that there was more than one) has been expanded to cover several centuries. Kulke and Rothermund [1997:32] exemplify this recent tendency:

The arrival of a new population in South Asia which were the speakers of Indo-European languages therefore can be dated quite safely in the first half of the second millennium around 2000 to 1400 BC. The terminal points in time of these movements were, on one hand, the 'intrusive traits' in Late Harappan strata which indicate a close relationship with the Central Asian and Iranian Bronze Age culture of the Namazga V period and, on the other hand, the Rigveda as the oldest Vedic text in India which clearly reveals a semi-nomadic 'post-urban' civilization. Linguistically and culturally the Rigveda is linked with the fourteenth century evidence from West Asia. ....

The 'intrusive traits' mentioned above are signs of a violent intrusion in the Baluchistan area (mentioned above by me), new burial rites, horse bones and the discovery of some artifacts (buried treasures) that bear a clear affinity to similar artifacts in Central Asia and Iran. These traits are found in the late strata of 'Cemetery H' of Harappa and at chronologically similar strata of other sites like Mehrgarh and Nausharo in Baluchistan.

## **F. The Aryans Migrate Further**

As noted above, some Indologists believe that the 'Aryans' continued their migration beyond the Saptasindhu region into the Ganga valley eastward. A typical exposition of this viewpoint might be stated in the story like words of Jha [1998:52-53]

During the later Vedic period the Aryans shifted their scene of activity from Panjab to nearly the whole of the present-day western Uttar Pradesh covered by the Ganga-Yamuna doab. The Bharata and Purus, the two important tribes, came together and formed the Kuru people. From the fringes of the doab they moved to its upper portion called Kurukshetra or the land of the Kurus. Later they coalesced with the Panchalas. Together with the Kurus they occupied Delhi, and the upper and middle parts of the Ganga-Yamuna divide and established their capital at Hastinapur (Meerut-district).

Towards the end of the later Vedic period Vedic people moved further east to Koshala in eastern Uttar Pradesh and Videha in north Bihar. In course of this eastward movement they encountered copper using groups who used a distinctive pottery called the Ochre Coloured Pottery, as well as people associated by archaeologists with the use of the Black-and-Red Ware. They now seem to have forgotten their old home in Panjab. References to it in the later Vedic texts are rare; the few that exist describe it as an impure land where the Vedic sacrifices were not performed.

According to one view, the main line of Aryan thrust eastward was along the Himalayan foothills, north of the Ganga. But expansion in the area south of this river cannot be precluded. Initially the land was cleared by means of fire. In a famous passage of the Shatapatha Brahmana we are told that Agni moved eastward, burning the earth until he reached the river Sadanira, the modern Gandak. There he stopped. In his wake came the chieftain Videha Mathava, who caused the fire god to cross over the river. Thus the land of Videha was Aryanized; and it took its name from its colonizer. The legend

burning, leading to the founding of new settlements by migrating warrior-peasants. Burning may have been supplemented by the use of the iron-axe for cutting the forests in some areas. This metal is referred to in literature as shyama ayas (dark or black metal) and has also been found at excavated sites like Atrajikhera and Jakhera in western Uttar Pradesh and adjoining regions. The number of iron agricultural tools and implements is less than that of weapons. On this basis the importance of iron technology in facilitating the clearance of land altogether has been denied by some scholars who see no relationship between technological development and social change.

Thus, Jha ascribes the colonization of Videha to Aryan Migrants by referring Shatapatha Brahmana 1.4.1.14-17. R. S. Sharma [1996:42-43] also interprets this passage as a reference to the migration of Aryan Brahmins and Kshatriyas. In fact, he attempts to identify these migrants with the users of the Painted Grey Ware (PGW), black slipped ware and even with the earliest Northern Black Polished Ware (NBPW) from the Kuru-Panchala land or western U.P. and its neighborhood [ibid, 59]. Among archaeologists, the Allchins [1997:232-233] also take this passage to mean the actual migration of people from the Sarasvati valley to the Gandak basin in Videha.

It must be noted however, that this passage of Shatapatha Brahmana is rejected as a proof of the eastward migrations of Aryans by many - from the perspective of archaeology or of textual studies. As an example of former, we may mention Erdosy [1985:90] who points that excavations at Chirand have shown that the region of Videha supported permanent settlements even in Neolithic times. As an example of the latter, we could mention Witzel [1995:86, fn.3; also pg.92] who takes this passage to mean that the Sruta cult alone was spread to Videha by, and not that there was there was a large migration of Vedic Aryans from the Sarasvati basin in the west to the Videha region.

While the role of iron in Aryan invasions has now been discounted, it is nevertheless used in this AMT model to explain the further expansion of Aryans from the Saptasindhu region into the Ganga valley. Kochar [7] for instance, states [2000:219]:

Though the Aryans had entered India in the Copper Age itself, they remained confined to the region west of the Yamuna-Ganga doab. It is only when they were fully armed with the iron technology and probably needed more land for an expanding population that they entered the Ganga Plain, cleared the forests and took to large-scale farming, trade and manufacturing.

Earlier, Thapar [1984:68] has expressed similar views. However, it is relevant to point out here that whether we subscribe to migrations or to invasions, the very role of iron in clearing the forests of the Ganga plain is now questioned by archaeologists. Erdosy states [1995:84] that iron was used very sparingly in the Ganga valley, and that too mainly for the manufacture of weaponry, till as late as the 6th century BC. In a recent evaluation of issues related to the use of iron in ancient India, Possehl and Gullapalli [1999:164] also seem to side with the opinion of Lal [1986] and Chakrabarti [1985:76] that iron implements did not play any significant role in the clearing of forests in the Ganga valley.

## **G. Physical Appearance of the Aryan 'Migrants'**

Invasions are more violent, tumultuous and catastrophic than migrations, and invaders often traverse larger distances in a shorter time than slow moving migrants. Moreover, invaders are more likely to maintain their 'genetic purity' till they reach their final destination, compared to slower moving migrants.

In the 19th century, German (and other) romantics, white-supremacists, numerous Indologists and a host of other scholars and non-scholars pictured the Aryan invaders as blue eyed, virile, masculine, well built, noble, blond savages who were often endowed with much more intelligence, energy and innovativeness compared to the dark, dull-witted and primitive natives inhabiting the Indian Subcontinent. The notions of these 'genetically pure' blond and blue eyed Nordics swooping down on and overpowering dark Indians is somewhat incompatible with the migration scenarios. The slowly advancing migrants are expected to lose these recessive genetic traits (i.e., blond hair and blue eyes) while migrating (and stopping many a time en route) and become somewhat similar in physical appearance to modern day Afghans just before they enter the Indian subcontinent from Afghanistan.

Witzel [1997:xxii, note 54] clarifies this point:

If they had resided and intermarried with the local population of the northern borderlands of Iran (the so called Bactro-Margiana Archaeological complex) for some centuries, the immigrating Indo-Aryan clans and tribes may originally have looked like Bactrians, Afghans or Kashmiris, and must have been racially submerged quickly in the population of the Punjab, just like later immigrants whose staging area was in Bactria as well: the Saka, Kusana, Huns, etc.

D. N. Jha, a Marxist historian also states [1998:49]:

It is likely that the early Aryans had some consciousness of their distinctive physical appearance. They were generally fair, the indigenous people dark in complexion. The colour of the skin may have been an important mark of their identity.

Victor Mair, a doyen of Indo-European studies, is not content with these partial European looks of migrating Aryans, and he suggests that they even had light eyes, skin and hair [Mair 1998:14-15]:-

"There may be instances in world history where a dominant or highly influential elite who were few in number were nonetheless able to impose their language on a subject population. (I suspect that could have happened where the conquered population was also small in number and ravaged by war, disease, and the like. But then, would they have survived at all?). North India, Pakistan and Afghanistan 3500 years ago have been suggested as examples of such a scenario, with a relatively small number of Aryan warriors supposedly being able to impose Indic languages upon the native population. In light of the above discussion, I find this to be an unconvincing explanation of how IE languages entered the subcontinent. The fact that a significant portion of the population in these countries possesses blue eyes, fair skin, and brown or even blond hair (where the environment makes these traits which are more suited to northern latitudes disadvantageous from the standpoint of survival) would seem to indicate that sizeable numbers of IE speakers actually did intrude upon the subcontinent and have left not only their linguistic but their genetic imprint upon it as well.

Needless to say, Mair[8] has really erred in stating that a significant proportion of Indians and Pakistanis have Nordic physical appearance. Mair also apparently rejects the elite domination model, and it is unclear whether he is advocating the AIT or the AMT. He does seem to link the elite domination model with 'Aryan warriors' but then speaks of the intrusion of large numbers of IE speakers as the alternate acceptable scenario.

## H. Language Transfer/Replacement in South Asia

The exact mechanism by which the Indo-Aryan languages came to prevail in much of South Asia remains a vexed problem to this day due to lack of any hard evidence that would help in reaching a decision. Renfrew and Bahn

different geographical areas of the world

A specific language can come to be spoken in a given territory by one of the four processes: by initial colonization; by divergence, where the dialects of speech communities remote from each other become more and more different, finally forming new languages, as in the case of the various descendants of Latin (including French, Spanish, Portuguese, Italian, etc.); by convergence, where contemporaneous languages influence one another through the borrowing of words, phrases, and grammatical forms; and by language replacement, where one language in the territory comes to replace another.

Language replacement can occur in several ways:

1. by the formation of a trading language or lingua franca, which gradually becomes dominant in a wide region;
2. by elite dominance, whereby a small number of incomers secure power and impose their language on the majority;
3. by a technological innovation so significant that the incoming group can grow in numbers more effectively. The best example is farming dispersal

Since the Aryan migrants were nomads, not large-scale traders unlike the inhabitants of sea-faring IVC, we should expect the migrants would have adopted the language of the IVC inhabitants. For some mysterious reasons, this did not happen. Instead, the reverse scenario occurred. Hence, we can safely reject Renfrew's first mechanism of language transfer in explaining the spread of Indo-Aryan languages over much of non-Aryan South Asia.

The third mechanism can also be rejected because the Aryan subjugation of the natives of India actually entailed a reversal to a more primitive way of life. This is because the subjugated non-Aryan natives of India were inheritors of an advanced, literate, urban culture whereas the migrating Aryans were nomadic/pastoral with a very inferior material culture. Even the metallurgical skills of the Aryans were inferior to those of Harappans [Jha 1998:45]:

As might be expected of a people without cities, the early Aryans did not have an advanced technology even though their use of horses and chariots, and possibly of some better arms of bronze did give them an edge over their opponents. Their knowledge of metals seems to have been limited. The Rigveda mentions only one metal called *ayas* (copper/bronze). In view of the widespread use of bronze in Iran around the middle of the second millennium BC, the word has been taken to mean bronze. Yet bronze objects assignable to the period of Rigveda have not hitherto been found in any significant quantity at the sites excavated in the Land of the Seven Rivers. The evidence for the use of bronze on any considerable scale being slight, there is no archaeological basis for the view that the early Aryan bronze-smiths were highly skilled or produced tools and weapons superior to those of the Harappans. Nor did the Rigvedic people possess any knowledge of iron.

To explain this apparent anomaly, it is sometimes proposed that when the Aryans came, the Harappans had already undergone cultural decay to such an extent that they adopted the language and numerous aspects of the culture of their new Aryan masters easily. However, Indologists and archaeologists are now more amenable to the 'intrusive traits' of Aryan migrants found at Late Harappan level in the archaeological record and propose that the Indo-Aryan speakers came before Harappan civilization decayed away.

As a result, we are left with the Elite Dominance Model to explain how the Indo-Aryan languages were spread by a few Aryan migrants over most of South Asia. This is not a comfortable choice, because the Elite Dominance Model is more compatible with the AIT scenarios, rather than with AMT models. Renfrew has discussed this model in detail [1988:131-134] and states clearly that it entails military superiority of the invading group. He considers various possibilities within this model to explain the spread of IA

Therefore, it is a bit odd that this model has been used by Indologists to explain the spread of IA languages by 'immigrants'.

**Elite Dominance Model- Chariots and Horses:** Erdosy [1995:90-91] quotes archaeologist Colin Renfrew in discussing the application of the Elite Dominance Model to the IVC area:

According to the Elite Dominance model (Renfrew 1987), the invading or the migrating Aryans comprised of a tripartite social division - corresponding to the 3 higher castes of Brahmin, Kshatriya/Rajanya and Vaishya. These comprised the conquering or the dominating elite, which was superimposed on the native population, resulting in the addition of the 'non-Aryan' sudra varna to the 3 castes.

A minor variant of this model due to D. D. Kosambi, the doyen of Marxist historiography in India (and an upholder of AIT) has also been cited by Erdosy [ibid:91, fn. 16]

Alternately, Kosambi (1950) proposed that the Brahmanas were rather indigenous ritual specialists who were co-opted by the conquering elite composed of Kshatriyas, Vaishyas and the now defunct sacrificial priests who died out along with their complex rituals.

The domination over and subjugation of the Harappans by migrating Aryans is then said to have been aided by the latter possessing spoke wheeled, light chariots and horses - articles of immense military importance which, the Harappans supposedly did not have. Witzel [1997:xxii, note 54] summarizes this explanation, illustrating it with the example of the Norman invasion of England in 1066 AD and the arrival (in reality invasions) of Sakas, Hunas and Kushanas into N. W. India:-

The immigrating group(s) may have been relatively small one(s), such as Normans who came to England in 1066 and who nearly turned England into French speaking country- while they originally had been Scandinavians, speaking N. Germanic. This may supply a model for the Indo-Aryan immigration as well.....However, the introduction of the horse and especially of the horse-drawn chariot was a powerful weapon in the hands of the Indo-Aryans. It must have helped to secure military and political dominance even if some of the local elite were indeed quick to introduce the new cattle-based economy and the weapon, the horse drawn chariot, - just as the Near Eastern peoples did on a much larger and planned scale. If they had resided and intermarried with the local population of the northern borderlands of Iran (the so called Bactro-Margiana Archaeological complex) for some centuries, the immigrating Indo-Aryan clans and tribes may originally have looked like Bactrians, Afghanis or Kashmiris, and must have been racially submerged quickly in the population of the Punjab, just like later immigrants whose staging area was in Bactria as well: the Saka, Kusana, Huns, etc.....

Elsewhere, Witzel [1995:114] elaborates on the role played by the chariot ('Vedic tank') and the horse in enabling the Aryans secure elite domination over the descendants of Harappans:

The first appearance of thundering chariots must have stricken the local population with a terror, similar to that experienced by the Aztecs and Incas upon the arrival of the iron-clad, horse riding Spaniards.

He elaborates further [ibid, fn. 74]

Something of this fear of the horse and of the thundering chariot, the "tank" of the 2nd millennium B.C. is transparent in the famous horse 'Dadhikra' of the Puru king Trasadasya ("Tremble enemy" in RV 4.38.8) .....The first appearance of thundering chariots must have stricken the local population with terror similar to that experienced by the Aztecs and the Incas upon the arrival of the iron-clad, horse riding Spaniards.

In such a scenario, it was possible that the locals were quick to adopt the use of the horse and the chariot and thus outsmart the Aryan migrants. However, while doing so, the locals also supposedly 'appropriated' the Indo-Aryan

1995:109]:-

Not only the language, but also the culture of the newly arrived elite was appropriated, including the 'Vedic Tank' the horse drawn chariot.

The crucial and definitive role played by horses and chariots in over-awing the non-Aryan natives and then transforming them to acculturated Aryans was explained by Michael Witzel in his inimitable vivid style on 13 February 2000 on the Indology list, while addressing the present author and a few others[9] :

I invite Messrs. Wani, Subrahmanya, Agarwal, et al., to stand still and hold their position in front of quickly approaching (modern) horse race 'chariots', or in front of a line of police on horseback (even without Lathi charge), and then report back to the list ... if they are able to do so after this little experiment.

Ratnagar [1999:232] also refers to the terror striking capacity of a swift horse driven chariot and subscribes to the romantic notion that the pastoral Aryan elite rode gloriously into the Saptasindhu region on their chariots, acquiring the servitude of the non-Aryan populace as a result.

Writing in the Indology list on 3 December 2000, Lars Martin Fosse, a Norwegian Indologist also elaborated on how the 'migrating' Aryans came to dominate the aboriginal Indians, using examples from Europe [10] :

An aside concerning marriage and the spreading of genes: in archaic (and not so archaic) societies, men did not have sex only with their wives (sic). There was also the reward of the warrior: rape and capture of slave girls, not to mention regular concubines and servant girls. So even if an Aryan warrior brought his wife (or wives) to India, he may as well have shared out his sperm generously among the local women. Please remember that the model for a migrating Aryan tribe is more like a migrating Germanic or Celtic tribe: which included women, children, pigs, cows etc. etc. It was a society on the move, not a regular army like the Roman legions or the Greek phalanx, or for that matter the Muslim central asian armies that overran India in the Middle Ages. Read Caesars De bello gallico (first book) for a vivid impression on how such a migration worked. (Germanic and Celtic women often worked as "supporters" during a battle, standing "ring-side" and urging their men on. And well they might, because if the men lost, they ended up as slaves.)

A natural question is: Did the Aryan migrants construct their horse-powered chariots ('Vedic Tanks') to the east of the Khyber Pass, i.e., in the Saptasindhu region and after migrating from Bactria slowly; or did they hurtle across the Hindu Kush mountain range/Khyber Pass gloriously, suddenly and dramatically in their chariots, from Bactria to Saptasindhu region? The former possibility seems to have been negated, in the light of the imagery presented by Witzel et al - 'police on horseback', 'thundering chariots' etc. Moreover, if the Aryan migrants had slowly trickled into the Saptasindhu and had used the local wood for their chariots, the non-Aryan natives would not have been alarmed or scared so much at the functioning of vehicles fashioned in front of their own eyes or upon seeing the neighing horses. Thus, Witzel seems to have the second scenario in mind - that of horse driven chariots of migrating Aryans traversing mountain ranges and descending dramatically into the terror struck non-Aryan natives of the Saptasindhu. The imagery of the migration of the first Aryans presented by Witzel is more akin to a roaring helicopter descending on the tribals of Papua, who have never seen one before.

As the possibility of the 'thundering chariots' proposed by Witzel was questioned by some on the Internet, Witzel has come up with another speculation in a post dated 10 April 2001 on the Indology list [11] according to which the chariots might have been transported across the Khyber on the 'rathavahana' - a cart for carrying the disassembled chariots over longer

Lars Fosse is of course entirely right about the rathavaahana vehicle transporting the light (c. 30 kg) and vulnerable ratha. A ratha is used in sport and battle on even ground, not for long distance travel (and certainly that not across the Khyber, as some always facetiously maintain to 'disprove' any sort of movement into the subcontinent of Indo-Aryan speaking tribes).

Of course then, we will have to assume that the migrating Aryans first transported their chariots (= ratha) across the Khyber on the 'rathavaahanas'. Once in the Saptasindhu, these chariots were yoked to their neighing horses, and then driven to a thundering din. The native non-Aryans got scared at the sight of these 'Vedic tanks' and readily accepted the culture, language and religion of the migrants. But even then, how did these Vedic tanks or the rathavaahanas cross the seven mighty rivers of the Saptasindhu region?

What was it about these Aryan tribesmen and their culture that Aryanism came to predominate, just like fission of a few molecules leads to an unstoppable nuclear explosion? Witzel draws an analogy from Japan, where a few 'aggressive horsemen' from Northern China were able to influence the Japanese culture dramatically. Writing in the IndicTraditions List on 11 December 2000, he states [12] :

The stone age, but already pottery using Jomon culture was supplanted by the HORSE riders' Yayoi (roughly 3rd century BC - 3rd century CE) and subsequent Kofun (grave mound, Kurgan type) 'people'/culture. No horse in Japan before that time. ...and a new language. Of Altaic type, -- while the clearly visible substrate in Japanese has Austric (Austronesian/Austroasiatic....) roots (often similar to Indian substrate words) ...

But, no one in Japan (or in Europe!) complains that their "ancestors" (1500-2000 years ago!!) are a mixed lot: the very talent potters of the Jomon period were superceded by aggressive horse riders - as seen in the Haniwa type clay figures of armor clad warriors found at grave sites - who came, along with their mythology and language, out of Korea and Manchuria, (the 'N. Korean' Koguryo language has close affinities to Japanese)...

In sum, you have an "Aryan-like scenario", with horse riding Altaic (N. "Korean", Koguryo) speaking REAL invaders/immigrants that set off a process of Yayoization all over the country, an "Aryanization" so to speak, of the society resulting in a mixed population, language, mythology etc. etc.

The scenario is exactly as the one of S. Asia: a long unbroken local tradition of local cultures (potter, agriculture) etc. with continuous settlement by a local type people, before and after Yayoi/'Indo-Aryan' type influence...

Witzel has recently professed his acceptance of the acculturation model of Erhet [1988] to explain the spread of IA languages in South Asia after the 'lost tribe' found its way into the Saptasindhu region. Writing in the Indology list on 23 July 2000, he states:

As I have written here before, you only need one tribe out of Afghanistan who took the wrong turn and stayed in the Panjab instead of returning to the Afghani summer pastures, -- and you start Ch. Ehret's scenario of billiard-ball like innovation and cultural change, which spreads successfully, so that no member of the end of the chain must have any (genetic or other direct) connection with those that started it.

I shall discuss this model elsewhere in detail. Nevertheless, I would like to emphasize that in Witzel's 'Lost Tribe Model' (as I would like to name it), the role of the chariots and horses in promoting Aryan values via elite domination followed by acculturation becomes very dubious. Did these tribes bring their horse chariots to the Indus plains every winter, taking them back with them? If yes, how could the familiar sight of thundering 'Vedic Tanks' and neighing horses strike terror in the hearts of the non-Aryan natives of the Saptasindhu region? Moreover, what did these pastoral nomads use horse drawn chariots for? Certainly not for herding their sheep and cows, as had been suggested by

The reader will note that all these elite dominance models involving 'Vedic Tanks' and 'aggressive horsemen' are just versions of AIT. It is therefore intellectually dishonest to adopt the politically more correct terminology of 'migrations' for the IA speaking invaders described by these models. In fact, such models are quite fanciful and romantic in nature (if true migrations are assumed) and all the analogies drawn from other parts of the world to validate the spread of IA languages in India in a similar manner are in fact clear cut cases of invasions. I shall explain this point in detail elsewhere.

## I. Material Culture of the Aryan Migrants

Elizarenkova [1995:5-6], an eminent Russian Indologist specializing in Vedic studies, speculates that the nomadic/pastoral lifestyle of the incoming Aryan necessitated a Spartan material culture:-

The Aryans did not know strongly built dwellings planned for a long or even for constant life. They lived rather on wheels, moving from one place to another surrounded by their herds, then in a settled way on one and the same place. The carriage was more important, than the house not only because they spent in it as much time or even more, than in a "stationary" house, but because the carriage itself was regarded as a "small" house, "small" homeland, where all was intimately connected with man, and all was for the whole span of one's life: constant was the ever-moving carriage, variable was the immovable house. They lived in a carriage according to tradition, habit, desire, but in a house - depending on circumstances, needs, to secure future life in a carriage for oneself. It was not the house and the settled way of life that were determinative, but the traveling and its possibilities. A day of travel was followed by a day of rest (yogakhema-), and for the night the carriages were so arranged that they made a circular fortification ("Wagenburg", as W. Rau calls this arrangement) inside of which the cattle were placed. All the possessions and all the things necessary for life were kept in each case in carriages or near them, and therefore neither possessions, nor these things could be rich and various. People had at their disposal only things that were of first necessity.

The Aryans did halt temporarily at various places before moving further eastwards, but even such short breaks in their journey did not entail an enhancement in the level of their material culture [ibid: 6-7]:-

But even when the Vedic Aryans had to stop for a longer time (to fill their food supplies by means of agriculture), this stop was temporary and lasted no longer than half a year, from sowing to cutting crop (yava-), and therefore the very form of settled life implied its temporary character, which also limited the increase of the material worked. Nevertheless, it was just during these short days that a social group of people, forming a kind of community the members of which were relatives united by a common cause and common fate, acquired its special and economic projection in the form of settlement - grama- "a village", that is strictly speaking "aggregate of people living in a village", and earlier "a crowd", "mass", "heap" with the idea of gathering together; cp. Indo-European \*ger- "to get together", "join" (see Pokorny 1, 382-383). Settlements of this kind required innovations in the type of dwelling itself- from shed-awnings above the carriages and mates around them up to the independent from the "carriage-type" dwellings more often of a rectangular, rarer of a circular form with a wooden supporting pillar in the middle of the habitation, dug into the earth deeply enough and bearing on itself a bamboo overhead cover with a kind of walls made by stretched mats of reed and fastened with ropes, with a door, but without windows. Premises for meetings were built more or less similar to human habitations as well as objects of economic purpose, for instance,

## J. The Vedic Night

Although archaeological evidence has been cited to prove the advent of Aryans into India, the subsequent period of acculturation, or further eastward migrations is marked by a stark paucity of material remains. Elizarenkova sums up this observation, and follows Wilhelm Rau in explaining why the archaeological record of this period is so scanty:

One is struck first of all by the fact that in contradistinction to the majority of the great ancient cultures (such as in Egypt, Mesopotamia, Asia minor, Ancient Balkans, the Aegean and Hellenic world, Italy, China etc.) which relatively well preserve traces of "material" life, the Vedic culture is rather mute from the archaeological viewpoint, even more so mute that one of the best authorities (= Wilhelm Rau) in this field seriously puts the question: "Is the Vedic archaeology possible?" There is a striking contrast between the muteness of the Vedic archaeology and the "eloquence" of archaeological testimonies of a much earlier urban civilization of the Indus valley. After the decay of this civilization, approximately in the middle of the XVIII century B.C., there was an epoch called the "Vedic night" which had lasted almost 1200 years up to the time of Buddha. This night had been illuminated by such flashes of creative spirit and marked by such prominent achievements of religious speculations and poetry, that nobody could doubt the greatness of the Vedic culture. But the creators of this culture seem not to have left any traces on earth. [pg. 2]

The scarcity of material culture of the Vedic tribes is evident, though Vedic archaeology is still "not impossible". But to make this phantom acquire a real shape, it is necessary to know where one has to look for its 'flesh', and what it might be like....Rau stresses that the Vedic archaeology should not have any hopes to find Vedic dwellings made of stone or of bricks and that the graves and altars found in a certain chronological layer can be identified as Vedic only a happy exception. Dwellings of Vedic Aryans were kind of huts made of wood (First of all bamboo), thatch, skins of beasts, that is of materials of very short duration. Carriages that were playing such a prominent part in the life of Vedic Aryans were also made of wood, and only war chariots had metallic ornaments and rims of the wheels. But metallic things (at least those made of gold, silver and copper) were usually smelted anew. Vedic graves are not known as a rule, if not to take into consideration some rare and ambiguous cases. Therefore, archaeologists have to limit the Vedic heritage with rather a few things: pits of bearing posts and pits for baking of pots, cavities for smelting of copper and forms for moulding, clay crocks and imprints of tracts of cattle on clay in places where it was kept in enclosures; small things made of stone, baked clay, and partly also of metal could remain in principle as well. [pg. 3-4]

Ratnagar [1999] also concludes that Aryan migrations are not attested in the archaeological record. She attributes this to her hypothesis that chariot driving Aryan warrior aristocrats migrated in small numbers in periodic movements (involving fission and fusion, and also encompassing non IA-speaking members) over several generations and transferred their language to the non-IA speaking Indians via elite dominance, starting occasional domino effects before the cultures of the two categories of people fused.

## K. Religion of the Migrants

The religious beliefs of the Aryan migrants are contained in the Rigveda, and in the later Samhitas and need not be discussed here. Dandekar [1997a:34] opines the new surroundings did have a profound effect on the original

here:-

The concept of Indravarunau is however of far greater consequence. The dominant religious cult of the Proto-Aryan period was the Varuna-cult. The last years of the Proto-Aryan period witnessed the migration of the Proto-Aryans towards Iran on the one hand and towards Saptasindhu or the land of Seven rivers on the other. The migration towards Saptasindhu meant for these people, whom we may now call Vedic Aryans, a drastic change in their way of life and thought, particularly after their fairly long sojourn in the region of Balkh. It was now a life of fateful confrontation with the Vrtras-human foes and environmental impediments- and of consequent warlike adventures. This new life of conquest and colonization called for a new religion and a new god. The cosmic religion of the world sovereign Asura Varuna could no longer adequately meet the exigencies of the new age. The Vedic Aryans naturally craved for a heroic god who could bless and promote their onward march towards the Saptasindhu and beyond. So was Vrtraha Indra 'born' in the Vedic pantheon. Consequently, there developed in Vedic religion two major sects, presumably rivaling each other, namely, the more ancient sect centering round Asura Varuna and the newly evolved one centering around Asura Varuna. A headlong conflict between these two sects could have adversely affected the solidarity of the Vedic community. The impending schism within the Vedic Aryandom had to be avoided at all costs. This was achieved by the evolutionary Vedic mythology through the conception of the dual divinity Indravarunau.

## L. Evidence for the AMT - A Summary

This section will merely list the evidence adduced by various scholars as a proof for the AMT. The details and validity of the same will be discussed in other webpages

1. *Direct Literary Evidence*: There is no direct evidence in the vast corpus of Vedic literature for the migration of Aryans from Central Asia/Afghanistan into the Indian Subcontinent. However, Witzel [1989:235; 1995a: 320-321,339-340; 1997:xxiii, fn.60] claims that a late Vedic text namely Baudhayana Srautasutra 18.44 contains the most pregnant memory of these migrations. Communist historians Romila Thapar [1999] and R. S. Sharma [1999: 87, 89, 99] have accepted this claim uncritically although it has been the subject of a fierce controversy. I have summarized this controversy elsewhere [Agarwal 2000].
2. *Indirect Literary Evidence*: This is summarized by Witzel [1995a] etc. and is mostly deductive in nature.
3. *Linguistic Evidence*: This is summarized by numerous authors like Witzel [1995:101-109; 1999], Deshpande [1995] etc.
4. *Archaeological Evidence*: We have already mentioned that some 'intrusive traits' attested in the archaeological record that are sometimes taken as an archaeological proof for the migration of the Indo-Aryans into India. The evidence has been summarized recently by the Parpola [1994:142-159; 1995] and Astrophysicist Rajesh Kochar [2000:180-207]. It is important to point out that this evidence is however rejected by archaeologists like Chakrabarti [1999:201] and Indo-Europeanists like Mallory [1998:192] as well, although for different reasons.
5. *Genetic Evidence*: Sometimes, genetic differences between the 'upper caste' and 'lower caste' Hindus are used to postulate their different geographical origins, with the former declared as descendants of Central Asians who migrated to India. Such evidence is often subject to divergent, even mutually contradictory conclusions.
6. *Logical Arguments*: Here, as an example, we can recall Allchin's rejection

There are several other kinds of evidence are adduced to prove that the IA languages entered India from Central Asia, but these are not specific to migration scenarios and hence are left out here. Again, readers are advised to refer Bryant [2001], Sharma [1999] and Elst [1999] for divergent perspectives for the time being. There are some relevant articles in the volume [13] edited by Johannes Bronkhorst and Madhav M. Deshpande [1999]. To conclude, it must be emphasized here that correct understanding and interpretation of the archaeological traces left by supposed pre-historic migrations still eludes us, and there are several complex issues involved in this area including competing scenarios of diffusion and trade [Burmeister 2000].

## Notes

[1] Archaeologists like Jim Shaffer and D. A. Lichtenstein [1999] completely reject the notion of transfer of IA languages into South Asia as a result of migrations and invasions, and speak in terms of cultural shifts and diffusion of cultural traits. They do however, acknowledge a population shift from the IVC area to East Punjab and Gujarat [1999:256]:

That the archaeological record and significant oral and literature traditions of South Asia are now converging has significant implications for regional cultural history. A few scholars have proposed that there is nothing in the "literature" firmly placing the Indo-Aryans, the generally perceived founders of the modern South Asian cultural traditions(s), outside of South Asia, and now the archaeological record is confirming this.... Within the context of cultural continuity described here, an archaeologically significant indigenously significant discontinuity was a regional population shift from the Indus valley, in the west, to locations east and southeast, a phenomenon also recorded in ancient oral traditions. As data accumulate to support cultural continuity in South Asian prehistoric and historic periods, a considerable restructuring of existing interpretative paradigms must take place. We reject most strongly the simplistic historical interpretations, which date back to the eighteenth century, that continue to be imposed in South Asian culture history. These still prevailing interpretations are significantly diminished by European ethnocentrism, colonialism, racism, and antisemitism. Surely, as South Asia studies approaches the twenty-first century, it is time to describe emerging data objectively rather than perpetuate interpretations without regard to the data archaeologists have worked so hard to reveal.

[2] See Hock [1999:149-156] and Vaidya Ramagopal Shastri's monograph *Veda mein Arya dasa yuddha sambandhi paschatya mata ka khandana* (Ramalal Kapoor Trust; Sonapat, Haryana). See also the following on-line article by Koenraad Elst on the literary evidence for <http://members.nbci.com/koenraadelst/articles/vedicevidence.html>

[3] Recently however, Michael Witzel has proposed that the Saptasindhu region was most probably inhabited by the 'para-Mundas', an Austro-Asiatic speaking group. He points out that the Dravidian loan words are extremely rare in the earlier strata of the Rigveda, and start appearing only in the middle and late levels of the text. See his online article named 'Substrate Languages in Old Indo-Aryan' available on-line in 4 parts at <http://northshore.shore.net/%7Eindia/ejvs/issues.html>

[4] Professor Shireen Ratnagar is a Professor of Ancient Indian History and Archaeology at the Centre for Historical Research in New Delhi's Jawaharlal Nehru University (JNU). The JNU is considered a bastion of Marxist thought in India.

[5] R. N. Dandekar is the famous compiler of the multi-volume 'Vedic Bibliography'. He has served on the editorial board of the Indo-Iranian Journal (Netherlands) for several years.

[6] Available at URL <http://listserv.liv.ac.uk/cgi-shl/WA.EXE?A2=ind0104&L=indology&D=1&O=A&P=19960>

[7] An on-line review of Rajesh Kochar's book by Koenraad Elst is available at following URL: <http://members.nbci.com/koenraadelst/articles/kochhar.html>

Another review by K. Chandra Hari is available on-line at the URL: [http://sarasvati.simplenet.com/book\\_review1.htm](http://sarasvati.simplenet.com/book_review1.htm)

[8] A laudatory overview of the conference, where these remarks were made by Victor Mair, is available in a webpage (<http://www.people.fas.harvard.edu/~witzel/mt26i.html>) maintained by Michael Witzel

[9] Available at the URL <http://listserv.liv.ac.uk/cgi-shl/WA.EXE?A2=ind0002&L=indology&D=1&O=A&P=16129>

[10] Available at the URL <http://listserv.liv.ac.uk/cgi-shl/WA.EXE?A2=ind0012&L=indology&D=1&O=A&P=4854>

[11] Available at the URL <http://listserv.liv.ac.uk/cgi-shl/WA.EXE?A2=ind0104&L=indology&D=1&O=A&P=12411>

[12] See message number 2735 dated 11 December 2000 at the Indic Traditions Discussion list at the URL <http://groups.yahoo.com/group/indictraditions/>

[13] An on-line review of this volume by Koenraad Elst is available at the following URL: <http://members.nbci.com/koenraadelst/articles/hock.html>

## References:

Adams, W. Y.; 1968; 'Invasion, Diffusion, Evolution?'; in *Antiquity*, XLII: 194-215

Agarwal, Vishal; 2000; *The Aryan Migration Theory - Fabricating Literary Evidence*. Available on-line at [http://www.voi.org/vishal\\_agarwal/AMT.html](http://www.voi.org/vishal_agarwal/AMT.html)

Allchin, F. R.; 'Language, Culture and the Concept of Ethnicity'; in *The Archaeology of the Early Historic South Asia: The Emergence of Cities and States*, Allchin, F. R. et al. (ed.), pg. 41-53; Cambridge University Press; Cambridge; 1995

Allchin, Raymond and Allchin, Bridget; 1997; *Origins of a Civilization - The Prehistory and Early Archaeology of South Asia*; Viking; New Delhi

Bronkhorst, Johannes and Deshpande, Madhav M. (eds.); 1999; *Aryan and Non-Aryan in South Asia - Evidence, Interpretation and Ideology*; Harvard Oriental Series, Opera Minora Vol. 3; Harvard University; Cambridge

Bryant, Edwin (Ed.); *The Aryan Migration Debate- Quest for the Search of the Roots of the Vedic Civilization*; Oxford University Press; Cambridge; April 2001

Burmeister, Stefan; 2000; 'Archaeology and Migration'; in Current Anthropology, vol. 41.4; pg. 539-553

Chakrabarti, Dilip, K.; 1985; 'The Issue in the Indian Iron Age'. Pp. 74-88; in S. B. Deo and K. Paddayya (eds.), Recent Advances in Indian Archaeology; Deccan College Postgraduate and Research Institute; Poona

\_\_\_\_\_.;1999; India- An Archaeological History, Paleolithic Beginnings to Early Historic Foundations; Oxford University Press; New Delhi

Dales, George F.; 1961-62; 'The Mythical Massacre at Moheno-Daro'; in Journal of Oriental Research, 31:32-39; Madras

Dandekar, R. N.; 1997a; 'Reflections on Vedic Mythology' - Lecture delivered on the occasion of the re-conferment of the Doctorate (1938) by the Heidelberg University, on June 10, 1988; in Indological Miscellanea (Select Writings 5); Bhandarkar Oriental Research Institute; Pune

\_\_\_\_\_.; 1997b; 'Historiography of Ancient India' (ABORI 75, viii-xvi). 1994; in Indological Miscellanea (Select Writings 5); Bhandarkar Oriental Research Institute; Pune

Danino, Michel and Nahar, Sujata; 2000; The Invasion that Never Was, 2nd ed.; The Mother's Institute of Research; New Delhi

Deshpande, Madhav; 1995; 'Vedic Aryans, non-Vedic Aryans, and non-Aryans: Judging the Linguistic Evidence of the Veda'; in George Erdosy (ed.), The Indo-Aryans of Ancient South Asia: 67-84; Walter de Gruyter; Berlin

Drews, Robert; 1988; The Coming of the Greeks - Indo-European Conquests in the Aegean and the Near East; Princeton University Press; Princeton

Drower. M. S.; 1968; 'Ugarit'; in I. E. S. Edwards ed.; The Cambridge Ancient History; University Press; Cambridge

Elizarenkova, T. Y.; 1995; Words and Things in the Rigveda; BORI; Pune

Elst, Koenraad; 1999; Update on the Aryan Invasion Debate; Aditya Prakashan; New Delhi. Available on-line at <http://www.voi.org/books/ait>

Erdosy, George; 1995; 'The Prelude to urbanization: ethnicity and the rise of Late Vedic chiefdoms'; in The Archaeology of the Early Historic South Asia: The Emergence of Cities and States, Allchin, F. R. et al (eds.), pg. 75-98; Cambridge University Press; Cambridge; 1995

Erhet, Christopher; 1988; 'Language Change and the Material Correlates of Language and Ethnic Shift'; in Antiquity, vol. 62:564-574

Halbfass, Wilhem; 1988; India and Europe, An Essay in Understanding; State University of New York Press; Albany (New York)

Hock, H. H.; 1999; "Through a glass darkly: Modern "racial" interpretations"; in Madhav M. Deshpande and Johannes Bronkhorst (eds.), pp. 145-174, Aryan and Non-Aryan in South Asia - Evidence, Interpretation and Ideology; Harvard Oriental Series, Opera Minora Vol. 3; Harvard University; Cambridge

Jha, D. N.; 1998; Ancient India in Historical Outline; Manohar; Delhi

- Bhandarkar Oriental Research Institute, vol. LXXX:15-42; Poona
- Kenoyer; Jonathan Mark; 1998; *Ancient Cities of the Indus Valley Civilization*; Oxford University Press; Karachi
- Kennedy, Kenneth A. R.; 1982; 'Skulls, Aryans, and Flowing Drains'; in Gregory L. Possehl (ed.). *Harappan Civilization - A Contemporary Perspective*, pp. 289-295; Oxford and India Book House; Delhi
- \_\_\_\_\_.; 2000; *God-Apes and Fossil Men, Paleoanthropology of South Asia*; The University of Michigan Press; Ann Arbor
- Kochar, Rajesh; 2000; *The Vedic People - Their History and Geography*; Orient Longman; New Delhi
- Kosambi, D. D.; 1950; 'On the Origin of the Brahmin gotras'; in *Journal of the Bombay Branch of the Royal Asiatic Society* NS; 26:26-80
- Kulke, Hermann and Rothermund, Dietmar; 1997; *A History of India*; 3rd Ed.; Routledge; London and New York
- Lal, B. B.; 1954-55; 'Excavations at Hastinapur and other Explorations in the Upper Ganga and Sutlej Basins, 1950-52'; in *Ancient India*, no. 10-11
- Lal, M; 1986; 'Iron Tools, Forest Clearance and Urbanization in the Gangetic Plains'; *Man and Environment*, 10:83-90
- Mair, Victor; 1998; 'Priorities'; pg. 4-41 in *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, vol. I (ed. By Victor Mair); The Institute for the Study of Man, Washington D.C. (in collaboration with the University of Pennsylvania Museum Publications, Philadelphia); 1998 (*Journal of the Indo-European Studies Monograph No. 26*)
- Mallory, Robert; 1998; 'A European Perspective on Indo-Europeans in Asia'; pg. 175-201 in *The Bronze Age and Early Iron Age Peoples of Eastern Central Asia*, vol. I (ed. By Victor Mair); The Institute for the Study of Man, Washington D.C. (in collaboration with the University of Pennsylvania Museum Publications, Philadelphia); *Journal of the Indo-European Studies Monograph No. 26*
- Parpola, Asko; 1994; *Deciphering the Indus Script*; Cambridge University Press; Cambridge
- \_\_\_\_\_.; 1995; 'The Problem of the Aryans and the Soma: Textual-linguistic and Archaeological Evidence'; in Erdosy, George (ed.); *The Indo-Aryans of Ancient South Asia:353-381*; Walter de Gruyter; Berlin
- Poliakov, Leon. Translated into English by Edmund Howard; 1974; *The Aryan Myth - A History of Racist and Nationalist Ideas in Europe*; Basic Books; New York
- Possehl, Gregory L.; 1999; *Indus Age - The Beginnings*; University of Pennsylvania Press; Philadelphia
- Possehl, Gregory and Gullapalli, Praveena; 1999; 'The Early Iron Age in South Asia'; in Vincent C. Pigott (ed.). *The Archaeometallurgy of the Asian Old World*; University Museum Monograph, MASCA Research Papers in Science and Archaeology, Volume 16; Pgs. 153-175; The University Museum,

Rajaram, Navaratna Srinivasa; 1995; *The Aryan Invasion Theory and the Subversion of Scholarship*; Voice of India; New Delhi

Ratnagar, Shireen; 1999; 'Does Archaeology Hold the Answers'; pg. 207-238 in Madhav M. Deshpande and Johannes Bronkhorst (eds.); *Aryan and Non-Aryan in South Asia: Evidence, Interpretation and Ideology*; Harvard Oriental Series, *Hos Opera Minora* vol. 3; Cambridge

\_\_\_\_\_; 2000; *The End of the Great Harappan Tradition*; Manohar; New Delhi

Rau, Wilhelm; 1976; *The Meaning of Pur in Vedic Literature*; *Abhandlungen der Marburger Gelehrten Gesellschaft*; Munich

Renfrew, Colin; 1987; *Archaeology and Language - the Puzzle of Indo-European Origins*; Jonathan Cape; London. Republished by Cambridge University Press, New York, in 1988.

Renfrew Colin and Bahn, Paul; 1996; *Archaeology - Theories Methods and Practice*, 2nd ed.; Thames and Hudson; New York

Schlanger, S and Wilhusen, R.; 1993; 'Local Abandonments and Regional Conditions in the North Western Southwest'; in C. Cameron and S. Tomka (eds.); *Abandonment of Settlements and Regions*: 85-98; University Press; Cambridge

Schmidt, E. F.; 1937; *Excavations at Tepe Hissar Damghan*; University Museum; Philadelphia

Shaffer, J. G.; 1986; *Cultural Development in Eastern Punjab*; pp. 195-235 in *Studies in the Archaeology of India and Pakistan*, ed. by J. Jacobson; Oxford & IBH Publishing Co.; New Delhi

Shaffer, J. G. and Lichtenstein, D. A.; 1999; *Migration, Philology and South Asian Archaeology*; in Madhav M. Deshpande and Johannes Bronkhorst (eds.), pp. 239-260, *Aryan and Non-Aryan in South Asia - Evidence, Interpretation and Ideology*; Harvard Oriental Series, *Opera Minora* Vol. 3; Harvard University; Cambridge

Sharma, Ram Sharan; 1996; *The State and Varna Formation in the Mid-Ganga Plains - An Ethnoarchaeological View*; Manohar; New Delhi

\_\_\_\_\_; 1999; *Advent of the Aryans in India*; Manohar; New Delhi

Talageri, Shrikant; 2000; *The Rigveda - A Historical Analysis*; Aditya Prakashan; New Delhi. The book is available on-line at <http://voi.org/books/rig>

Thapar, Romila; 1984; *From Lineage to State: Social Formations in the Mid-First Millennium B.C. in the Ganga Valley*; Oxford University Press; Bombay

\_\_\_\_\_; 1999; *The Aryan Question Revisited*; Lecture Delivered on 11th October 1999 at the Academic Staff College, Jawaharlal Nehru University (New Delhi). The Transcript is available online at <http://members.tripod.com/ascjnu/aryan.html>

\_\_\_\_\_; 2000; 'Imagined Religious Communities? Ancient History and the

Oxford University Press; New Delhi

Weiss, H. and Young, T. C.; 1975; 'The Merchants of Susa'; in Iran, XIII: 1-17

Wheeler, R. E. M.; 1947; 'Harappa 1946: The Defences and Cemetery R37'; in Ancient India, 3:58-130

Witzel, Michael; 1989; 'Tracing the Vedic Dialects'; in Dialectes dans les literatures indo-aryennes; Publications de l'Institut de Civilisation Indienne, Serie in-8, Fascicule 55, ed. by C. Caillat; Diffusion de Boccard; Paris

\_\_\_\_\_.; 1995; 'Early Indian History: Linguistic and Textual Parameters'; in George Erdosy (ed.), The Indo-Aryans of Ancient South Asia: 85-125; Walter de Gruyter; Berlin

\_\_\_\_\_. 1995a; 'Rgvedic History: Poets, Chieftains and Politics'; in George Erdosy (ed.), The Indo-Aryans of Ancient South Asia:307-352; Walter de Gruyter, Berlin

\_\_\_\_\_.; 1999; 'Aryan and Non Aryan Names in Vedic India - Data for the Linguistic Situation, c. 1900 - 500 BC'; pg. 337-404 in Madhav M. Deshpande and Johannes Bronkhorst (eds.); Aryan and Non-Aryan in South Asia: Evidence, Interpretation and Ideology; Harvard Oriental Series, Hos Opera Minora vol. 3; Cambridge

Witzel, Michael; Lubotsky, A; M. S. Oort, M. S. (Eds.); 1997; F. B. J. Kuiper- Selected Writings on Indian Linguistics and Philology; Rodopi; Amsterdam/Atlanta (Note: The introduction to the text, which alone is cited in this webpage, has Witzel as the sole author).

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