Fabricating Evidence in Support of the Aryan Invasion / Migration Theory

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Abstract: While we are often told that the Aryan invasion /migration theory (AI/MT) is no longer a theory but a firmly established fact, making counter views a 'waste of time,' it is surprising that prominent scholars presenting evidence for the theory have so often had recourse to unethical scholarship. This paper presents cases involving (1) invention of nonexistent texts; (2) deliberate mistranslation of texts; (3) distortion of archaeological evidence; (4) invention of nonexistent archaeological evidence; (5) basic methodological flaws such as circular reasoning; (6) recycling long-discarded theories, such as racial ones; (7) misquoting, blanking out or demonization of scholars opposing the Aryan paradigm. This collection highlights how 'eminent' historians and linguists, apart from miscellaneous other writers, have indulged in such scholarly malpractices, some of which qualify as fabrication.

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We have often heard of late that the Aryan invasion / migration theory (henceforth AI/MT) is no longer a theory but a firmly established fact, not only in the Indian subcontinent but in large parts of Eurasia, making counterviews a 'waste of time.'[1] More patient scholars have pointed out that a 'final solution' to the Aryan issue will have to satisfy not just linguists, but also archaeologists, anthropologists, geneticists, and experts in ancient texts, cultures and mythologies. This final solution will have to achieve this feat not just in south Asia, but also in Iran, central Asia, the Middle East

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[1] Elst, *Still No Trace of an Aryan Invasion,* p. 177.

and Europe. We are still far from such a situation: it remains easy to point to divergent theories (among mainstream scholars alone) on the location of the so-called Indo-European homeland, the chronology of the Proto-Indo-European language that supposedly emerged from that homeland, and on interpretations of literary, archaeological or cultural material. All of that is natural enough in view of the complexity of the disciplines involved, and it is no surprise that we should also find dissenters in every discipline and every part of the world. To name a few who have criticized the 'standard model' to a lesser or greater degree, let us mention, among others, archaeologists Jim Shaffer[2] (from the U.S.), Robin Coningham and Ruth Young[3] (U.K.), Jean-Paul Demoule,[4] Henri-Paul Francfort[5] (both from France), Marcel Otte[6] (Belgium), Peter G. Johansen[7] (Canada), Dilip K. Chakrabarti,[8] S.R. Rao,[9] S.P. Gupta,[10] B.B. Lal,[11] V.N. Misra,[12] R.S. Bisht,[13] M.K. Dhavalikar[14] (all from India); anthropologist Edmund Leach[15] (U.K.); bioanthropologists Kenneth Kennedy[16] (U.S.), Subhash Walimbe[17] (India); linguists Mario Alinei,[18] Angela Marcantonio[19] (both from

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[2] Shaffer, 'The Indo-Aryan Invasions: Cultural Myth and Archaeological Reality'; Shaffer and Lichtenstein, 'South Asian Archaeology: Late Prehistoric Cultural Continuity or Discontinuity.'

[3] Coningham and Young, *The Archaeology of South Asia*, pp. 85, 265.

[4] Demoule, *Mais où sont donc passés les Indo-Européens?*; 'The canonical Indo-European model and its underlying assumptions'; 'L'idée d'une racine commune résulte d'un mythe identitaire du XIXᵉ siècle'; 'Les Indo-Européens: un mythe scientifique?'

[5] Francfort, 'The Archaeology of Protohistoric Central Asia and the Problems of Identifying Indo-European and Uralic-Speaking Populations'; 'La civilisation de l'Oxus et les Indo-Iraniens et Indo-Aryens.'

[6] Otte, 'Indo-Europeans Arrived in Europe with Modern Man.'

[7] Johansen, 'Recasting the Foundations: New Approaches to Regional Understandings of South Asian Archaeology and the Problem of Culture History.'

[8] Chakrabarti, 'The Aryan Hypothesis in Indian Archaeology'; *Colonial Indology: Sociopolitics of the Ancient Indian Past*; *The Battle for Ancient India: An Essay in the Sociopolitics of Indian Archaeology*.

[9] Rao, *Dawn and Devolution of the Indus Civilization*.

[10] Gupta, *The Indus–Sarasvatī Civilization: Origins, Problems and Issues*.

[11] Lal, *The Homeland of the Aryans: Evidence of Rigvedic Flora and Fauna*; *The Rigvedic People: 'Invaders'?/'Immigrants'? or Indigenous? Evidence of Archaeology and Literature*.

[12] Misra, 'Indus Civilization and the Rgvedic Sarasvati.'

[13] Bisht, 'Harappans and the Rigveda: Points of Convergence.'

[14] Dhavalikar, 'Archaeology of the Aryans'; *The Aryans: Myth and Archaeology*.

[15] Leach, 'Aryan Invasions over the Millennia.'

[16] Kennedy, 'Skulls, Aryans and Flowing Drains'; 'Have Aryans been identified in the prehistoric skeletal record from South Asia?'

[17] Walimbe, 'Population Movements in the Indian Subcontinent during the Protohistoric Period: Physical Anthropological Assessment'; 'Human Skeletal Biology.'

[18] Alinei, 'The Paleolithic Continuity Paradigm on Indo-European Origins: An Introduction in Progress'; 'Towards an Invasionless Model of Indoeuropean Origins: The Continuity Theory.'

[19] Marcantonio, 'Introduction'; Marcantonio and Brady, 'Verner's Law and the Indo-European theory.'

Italy), Xavierio Ballester[20] (Spain); and numerous geneticists.[21] A few independent Western scholars with sound academic backgrounds deserve mention for the range and quality of their work, such as Koenraad Elst[22] (Belgium) or Nicholas Kazanas[23] (Greece).

There is a second reason why a final resolution of the Aryan issue will remain elusive for some time: the shortcuts that many scholars have taken, ranging from unwitting flaws of logic and method to unethical scholarship bordering at times on outright fabrication of evidence. Given the intensity with which the issue has been discussed, such practices, or malpractices, have perhaps been far more common in the Aryan issue than in any other concerned with the past of humanity.

This paper will not discuss AI/MT *per se*, the lines of argument or evidence in favour of it or against it;[24] instead, it presents incontrovertible evidence for (1) the invention of nonexistent texts; (2) deliberate mistranslations of texts; (3) the invention of nonexistent archaeological evidence; (4) distortion of archaeological evidence; (5) basic methodological flaws such as circular reasoning, oversimplification, etc.; (6) the recycling of long-discarded theories such as racial ones; (7) the misquoting, blanking out or demonizing of scholars opposing the Aryan paradigm.

Inventing Textual Evidence

For nearly two centuries, in search of conclusive evidence for the Aryans' supposed long march or trot from central Asia across the Khyber Pass into the vast plains of the Indus and its mighty tributaries, scholars have ransacked early Indian texts, especially the Vedas, said to have been composed by those Aryans soon after their arrival in the subcontinent.[25] Finding the Vedic hymns particularly recalcitrant to yield the desired testimony, they have often imposed their interpretations on them. The nineteenth-century torturing of the Rigveda to make it yield dark-skinned and 'noseless' or stub-

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[20] Ballester, 'Linguistic Equilibrium in the Palaeolithic: the Case of Indo-European'; 'The Neolithic Discontinuity Paradigm for the Origin of European Languages.'

[21] For references, see Danino, 'Genetics and the Aryan Issue'; 'Aryans and the Indus Civilization: Archaeological, Skeletal, and Molecular Evidence.'

[22] Elst, *Update on the Aryan Invasion Debate*; *Asterisk in Bharopiyasthan: Minor Writings on the Aryan Invasion Debate*; *Still No Trace of an Aryan Invasion.*

[23] Kazanas, *Indo-Aryan Origins and Other Vedic Issues*; *Vedic and Indo-European Studies.*

[24] For a detailed study, see Bryant, *The Quest for the Origins of Vedic Culture: The Indo-Aryan Migration Debate*; Danino, *The Dawn of Indian Civilization and the Elusive Aryans*; Elst and Kazanas in preceding footnotes.

[25] I use the word 'Aryan' here since proponents of AI/MT often use it without further explanation. A much better term would be 'speakers of Indo-Aryan languages.' I may add that I regard the whole concept of 'Aryans' as illegitimate and a survival of nineteenth-century racial theories. The Rigveda itself never refers to 'Aryans' as an identifiable ethnic clan or entity.

nosed Dasyus, hence an epic battle between a native 'black' race and a conquering fair-skinned 'Aryan' race, is notorious enough,[26] although these race-based perversions happily live on in some of our standard history books.[27]

More recently, Michael Witzel, a Sanskritist and philologist who has been a particularly vocal and active supporter of AI/MT, indulged in scholarly liberties in order to conjure up, in the Rigveda again, the coming of the Aryans through what is today Afghanistan—something the text is perfectly silent on. Witzel wrote of being 'struck by the number of vague reminiscences of foreign localities and tribes in the Rgveda,'[28] citing a few hymns in which, in his reading, some of the Vedic clans 'are aware that they have "come from afar" ... they have "crossed many rivers", and "have gone through narrow passages",' which once again indicates the mountainous terrain of Afghanistan.'[29] However, when we look at the first hymn in question (6.45.1), we find that Indra is thanked for having led two clans, the Turvashas and the Yadus, 'from afar'; apart from the existence of many more Vedic clans in the Rigveda, why should this 'afar' refer to Afghanistan more than, say, the Ganges plains or the Deccan, assuming this 'farness' is not simply a metaphor? All Vedicists worth their salt agree that the Vedic hymns make constant use of metaphors, symbols, riddles, puns, many of which remain obscure to the modern reader. Witzel's second quotation—'they have crossed many rivers'—is his own creation: no such passage occurs in the Rigveda; the two references provided by Witzel[30] are merely about gods 'halting the course' of a river so as to enable two heroes to cross it—in other words, a miraculous intervention to stop the flow of *one* river, which Witzel turns into 'many' by juxtaposing several such hymns. Finally, Witzel's 'have gone through narrow passages,' within quotation marks, is also no quotation at all; in a footnote, he amends it to 'we have come into a pathless country; the broad earth has become narrow ... we search for a way.'[31] How this could be applied

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[26] Bryant, *The Quest for the Origins of Vedic Culture: The Indo-Aryan Migration Debate*; Trautmann, *Aryans and British India*.

[27] E.g., Kosambi, *The Culture and Civilisation of Ancient India in Historical Outline*, p. 79; Sharma, *Ancient India*, p. 49; Jha, *Ancient India in Historical Outline*, p. 49; Mahajan, *Ancient India,* p. 10.

[28] Witzel, 'Rgvedic history: poets, chieftains and polities,' p. 320.

[29] Ibid., p. 322.

[30] Rigveda, 2.13.12 (Witzel erroneously has 2.12.13) and 4.19.6. The second passage also praises Indra for making 'rivers easy to cross,' but this is a generic statement, with no sense of 'many,' nor also any guarantee that this refers to physical rivers. (The crossing of rivers is an ancient Indian symbol for the crossing of life and its dangers or vicissitudes.)

[31] Rigveda, 6.47.20–21. To illustrate the 'fluidity' often encountered in translating Vedic hymns, and therefore the great difficulty in extracting from them any reliable 'historical' data, here are four other translations of 6.47.20: 'Gods, we have reached a country void of pasture; the land, though spacious, was too small to hold us. Brhaspati, provide in war for cattle; find a path, Indra, for this faithful singer' (Griffith). 'We have wandered, gods, into a desert where there is no track of cattle; the vast extant earth has become the protectress of murderers; direct us, Brihaspati, in our search for cattle; show the path, Indra, to your votary being astray' (Wilson). 'You gods! We have come to a pathless land. The earth,

to Witzel's 'mountainous terrain of Afghanistan' is anyone's guess; in fact, there is no hint of mountains at all in this verse, assuming that it is to be given a physical meaning—which is far from certain, for the search for a path is a recurrent theme in the Rigveda: wide, easy or thornless paths,[32] paths to the gods,[33] or the true path[34] that accords with *ritam* (the cosmic law or order, the truth). The poets often pray for protection 'from injury and narrowness,'[35] with the word for narrowness, *amhas*, being the same as in the above instances. Clearly, such hymns are apt to yield any geography—inner or outer—that the interpreter may wish for. In this case, the inner geography seems far more consistent with the totality of the hymns' imagery. To read into them narrow Afghan passes is simply to impose a preconceived and wholly arbitrary meaning on the Vedic hymns. That is not what impartial scholarship is expected to do.

Unable to proceed further, Witzel offered evidence from an 'admittedly much later' text, the *Baudhāyana Śrautasūtra,* a first-millennium BCE text on the rituals of the Krishna Yajurveda. Quoting a passage which, he said, had been 'overlooked, not having been translated yet,' he asserted that it spoke of the eastward migration of the Āyavas, a Vedic clan, into the region corresponding today to Uttar Pradesh and Bihar, while other clans 'stayed at home in the West.' One of the three territories 'in the West,' 'Gāndhāra' (hence 'Kandahar'), refers to a region of Afghanistan; another, 'Parśu,' either to another region of Afghanistan or to Iran. Witzel found here a 'direct statement' of the 'immigration of Indo-Aryans into South Asia.'[36]

But as Koenraad Elst first showed in 1999, this was a plain case of mistranslation, intentional or not; the other clans did not 'stay at home' in the West, but *migrated* westward, just as the first had migrated eastward. Comments Elst:

> Far from attesting an eastward movement into India, this text actually speaks of a westward movement towards Central Asia, coupled with a symmetrical eastward movement from India's demographic centre around the Saraswati basin into the Ganga basin. The fact that a world-class specialist [i.e., Witzel] had to content himself with a late text like the

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which is so wide, has become narrow. Brihaspati, look for the singer who is in search of cows, and you, Indra, find the way!' (Geldner, translated from the German). 'O gods, we have reached a tract of land without good pastures for our cattle; the earth, though (otherwise, usually) broad, has become narrow' (Gonda, first half of the mantra). 'We have come here to a field without pasturage, o gods. Though it was wide, the land has become narrow. O Bṛhaspati, o Indra, be on the lookout for a path for the singer who is in this state on his quest for cattle' (Jamison & Brereton).

[32] E.g., Rigveda, 1.41.4. 1.106.5, 5.80.2, 6.44.18, 7.35.15, 7.62.6, 9.97.16, 10.63.7.

[33] Ibid., 3.54.5, 10.2.3, 10.51.5.

[34] Ibid., 1.136.2, 3.12.7, 5.80.4, 7.44.5.

[35] Ibid., 10.25.8 (translation from Gonda, *Vedic Literature (Samhitās and Brāhmanas)*, p. 157).

[36] Witzel, 'Rgvedic history: poets, chieftains and polities', pp. 320–321.

Baudhayana Shrauta Sutra, and that he has to twist its meaning this much in order to get an invasionist story out of it, suggests that harvesting invasionist information in the oldest literature is very difficult indeed.[37]

Witzel attempted at first to put the blame on editorial errors; however, it turned out that two earlier papers by him had contained the same mistranslation.[38] Elst's own translation was confirmed by a survey of several published translations of the *Baudhāyana Śrautasūtra* into English, German and Dutch[39] (making nonsense of Witzel's statement that the text had 'not been translated yet'), and later by the doyen of Indian archaeology, B.B. Lal.[40] Witzel eventually only admitted having 'unfortunately misplaced a parenthesis,'[41] and tried to confuse his readers by insisting that the text did show an eastward movement of Vedic clans. Indeed it did, as do several others (such as *Śatapatha Brāhmaṇa*'s oft-quoted legend of Videgha Māthava), but this eastward penetration into the Gangetic plains from the subcontinent's Northwest has, strictly speaking, nothing to do with an immigration from outside India.

This may appear to be making too much of what is after all a translation error. But coming on top of several other such forced interpretations (the above 'crossing of many rivers,' the imaginary 'mountainous terrain of Afghanistan'), it illustrates the danger of uncritically accepting scholarly 'authority': Witzel is as '*struck by the number* of vague reminiscences of foreign localities and tribes in the Rgveda,' but fails in the end to supply a single clear passage from the hymns to that effect.

The worst part was that Witzel's mistranslation was soon relayed by other 'authorities' as 'convincing proof of migration'; this last phrase is by the late historian R.S. Sharma.[42] Sharma was fond of sprinkling his discussions with adverbs like 'perhaps', 'possibly' and 'most probably' before reaching iron-clad conclusions on the 'advent of the Aryans'; he also did not mind misquoting scholars to make them say the very opposite of what they meant,[43] as I once demonstrated in a paper.[44] In a widely

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[37] Elst, *Update on the Aryan Invasion Debate*, p. 165.

[38] The complete details of this mistranslation and its comparison with several published translations can be found in Agarwal, 'On Perceiving Aryan Migrations in Vedic Ritual Texts'; Agarwal, 'Is there Vedic Evidence for the Indo-Aryan Immigration to India?'

[39] See previous footnote for references.

[40] Lal, *The Homeland of the Aryans,* pp. 86 ff.

[41] Witzel, 'Autochthonous Aryans? The Evidence from Old Indian and Iranian Texts,' §9, footnote 46.

[42] Sharma, *Advent of the Aryans in India*, p. 87.

[43] Sharma, 'Was the Harappan Culture Vedic?'

[44] Danino, 'Flogging a Dead Horse: A rejoinder to R.S. Sharma.' As an instance of unethical scholarship, it is worth mentioning that I submitted this paper soon after Sharma's own appeared in 2004 in a column titled 'Debate'; my paper, which used some sarcasm but was rigorous in its discussion, was kept on hold for close to two years, despite repeated inquiries. Eventually I had to publish it in another journal. Such

circulated lecture of 1999, the historian Romila Thapar also quoted Witzel's mistranslation, adding, 'In fact, *when one looks for them*, there are evidence[s] of migration.'[45] A more correct statement would have been, 'When one compels the texts to yield them,' for Thapar does not cite in her lecture (or elsewhere) a single such piece of clear 'evidence.' Unbiased Vedicists, such as Jan Gonda, have, instead, readily admitted that the Aryan advance into India 'is not reflected in the [Rig-Vedic] hymns.'[46] Or, more recently, Karen Thomson: '... there is nothing in any of the 1,028 poems that make up the collection to suggest that their authors were incomers to the area that they describe in their poems. Rather the opposite.'[47]

Such uncritical recycling of misinterpretations or misinformation betrays poor scholarship, at best, and fabrication at worst.

Let us turn to a 1963 essay by the Sanskritist and linguist Thomas Burrow, in which he traced the words *arma* and *armaka* in early Sanskrit literature, showing that in many texts they refer to 'ruins' (and, suffixed to place-names, 'ruined site').[48] Burrow surmised that these ruined places referred to abandoned Harappan cities, which is plausible (especially as some are specifically located in the Sarasvatī region). However, all those references, without exception, occur in the late Vedic literature (mostly *Brāhmaṇas* and *Śrautasūtras,* datable to the early first millennium BCE); when he turns to the Rigveda itself, which is where we should expect to find the most references to those ruined sites (since, according to AI/MT, the incoming Aryans would have passed many ruined Late Harappan settlements), Burrow finds a single occurrence of *armaka,* in an obscure context, and builds on it a conviction that 'it was in fact the Aryans who were responsible for the overthrow of the Indus civilisation'[49]—a view categorically rejected by archaeologists in recent decades.[50] Burrow's translation of the Rigvedic hymn in question (1.133.3) runs, 'Strike down, O Maghavan, the host of these sorceresses, in the ruined city of Vailasthānaka, in the ruined city Mahāvailastha.' Whether the word *armaka* means 'ruined city' in this hymn is less than clear: it is enough to look at widely diverging translations to see how the translators disagree on the word's precise meaning, rendering it as 'ruin' (in the singular), 'heap of ruins,'

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malpractices are sadly common in the scholarly world; the very scholars who are heard praising 'dissent' and 'debate' are often those who abuse their academic positions to disallow dissent and stifle debate.

[45] Thapar, 'The Aryan Question Revisited' (emphasis added).

[46] Gonda, *Vedic Literature (Samhitās and Brāhmanas)*, p. 23.

[47] Thomson, 'A Still Undeciphered Text: How the scientific approach to the Rigveda would open up Indo-European Studies,' p. 38.

[48] Burrow, 'On the Significance of the Term *arma-, armaka-* in Early Sanskrit Literature.'

[49] Ibid., p. 166.

[50] See the following two sections; also Danino, *The Dawn of Indian Civilization and the Elusive Aryans,* Ch. 10.

'narrow pit,' 'lurking place,' 'rubbish,' or 'mudflat.'[51] To erect so much on such a dubious reading is no sound method. Yet that is the method Witzel (with the linguist and Sanskritist Stephanie Jamison) followed, in a paper of 1992, to extract historical data from the same single occurrence of *armaka*: 'The RV [Rigveda], which no longer knows of the Indus cities but only mentions ruins (*armaka*, *[mahā]vailasthāna*), thus could have been composed during the long period between 1990 and 1100 BCE.'[52] (Other scholars, such as Asko Parpola,[53] have repeated the same argument.) Thomson, too, finds this 'a fragile piece of evidence on which to base the most important of the scholarly views currently agreed upon by Indo-Europeanists, that is, that the poems postdate the disintegration of the Indus cities.'[54]

We will see further below, while discussing the horse issue, that Thomson points to more forced translations. Such is also the case with the Vedic 'chariots,' often labelled 'war chariots' and invoked as proof of the Aryan advent in the subcontinent (e.g., by Parpola, in Thomson's case study). Thomson concludes, 'The *rátha*s are imaginary, heavenly vehicles, drawn by imaginary, heavenly *áśva*s. Parpola's specific translation "war-chariot" for *rátha* is misleading. In none of these passages is the *rátha* a vehicle of war.'[55]

As regards, finally, the chariots' 'spoked wheels,' again a favourite piece of 'evidence' in the AI/MT camp, Thomson (who, let me clarify, takes no sides on the AI/MT debate, as her sole concern is to extract from the Vedic text its real, unforced meaning), reviewing Stephanie Jamison's and Joel Brereton's new translation of the Rigveda into English[56] (doubtless a monumental achievement), notes that the phrase 'spoked wheels' was 'introduced twenty-two times ... as a new interpretation of the word *aratí*. This epithet of the fire god was previously understood to mean "servant" or

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[51] It is always a sobering exercise to compare translations: 'Do thou, O Maghavan, beat off these sorceresses' daring strength. Cast them within the narrow pit, within the deep and narrow pit' (Griffith). 'Strike down, You rich in gifts, the army of those sorceresses, in the field of corpses, on the heap of ruins, in the great field of corpses, on the heap of ruins!' (Geldner, translated from the German). 'O Liberal One, strike and kill the troop of those demonesses, on the place of the slaughter, on the ruin, on the great place of the slaughter, on the ruin!' (Renou, translated from the French). 'Dash, O beneficent one, the whole crew of these witches in the lurking place, on the rubbish ...' (Gonda). 'Bounteous one, smash down the troop of these witches at the mudflat (called) Place of Hostility—at the mudflat (called) Place of Great Hostility' (Jamison and Brereton).

[52] Witzel and Jamison, 'Vedic Hinduism,' p. 2. Note that the Rigveda's supposed ignorance of cities, which Witzel often mentions, is little more than another arbitrary choice or imposed reading. Quite a few scholars have disagreed with this view: Wilson, Goldstücker, Muir, Hopkins, Bhagwan Singh, R.S. Bisht, to name a few.

[53] Parpola, *Deciphering the Indus Script,* pp. 4–5.

[54] Thomson, 'A Still Undeciphered Text: How the scientific approach to the Rigveda would open up Indo-European Studies,' p. 28.

[55] Ibid., pp. 34–35.

[56] Jamison and Brereton, *The Rigveda: The Earliest Religious Poetry of India.*

"messenger". ... Given the current frantic search for evidence of "spoked wheels" in the remains of the Indus Valley Civilization, the translation could even be considered irresponsible.'[57]

It would be sadly easy to supply more cases of misreadings of the hymns, but the above should suffice. Writing in the 1910s, Sri Aurobindo had already noted the utter unreliability of Vedic scholarship (whether Indian or European, I should add):

> The scholar in dealing with his text is obliged to substitute for interpretation a process almost of fabrication. We feel that he is not so much revealing the sense as hammering and forging rebellious material into some sort of shape and consistency.[58]

Distortion of Archaeological Evidence

Proponents of AI/MT hoped that archaeology would, at least, provide the evidence that the texts had failed to. As a result, as north India's various regional cultures of the second millennium BCE (around the supposed time of the 'Aryan advent') became better understood, we witnessed a 'gold rush' of sorts, with scholars scrambling to identify one or another of those cultures as the work of the invading or immigrating Aryans. No rigorous criteria were defined to establish either such an authorship or solid evidence of intrusiveness, which conventional archaeology can, with some care, detect. On the first point, scholars brushed aside early cautions, such as that voiced by the French archaeologist Jean-Marie Casal, who had excavated at Amri (in Sindh) and Pirak (Baluchistan), among other sites, and who wrote in 1969:

> Up to now, Aryans have eluded every archaeological definition. There is so far no type of artifacts or ceramics that causes their discoverer to declare, 'The Aryans came here. Here is a typically Aryan sword or goblet!'[59]

And yet, limiting myself to seven of the most significant Late Harappan and post-Harappan cultures (Gandhara, Pirak, Jhukar, Cemetery H, Ochre-Coloured Pottery or OCP, Copper hoard, and Painted Grey Ware or PGW), I showed elsewhere[60] the absolute inconsistency of various scholars' 'identifications' of incoming Aryans with those regional cultures: some scholars want one of those cultures to be 'Aryan,' others two or three, yet others nearly all of them—our Aryans are anywhere and everywhere. These identifications are all the more invalid as the regional cultures in question are

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[57] Thomson, 'Speak for itself,' p. 4.

[58] Aurobindo, *The Secret of the Veda,* pp. 4–5.

[59] Casal, *La Civilisation de l'Indus et ses énigmes*, p. 205.

[60] Danino, 'Methodological Issues in the Indo-European Debate'; *The Dawn of Indian Civilization and the Elusive Aryans,* Ch. 11.

very different from each other; it is ridiculous to propose that Aryans created, say, the Pirak culture, went on to author the Cemetery H culture, before moving on to PGW culture—yet that is precisely what some scholars propose or imply. In their haste to trace the Aryans on the ground, they also blissfully overlook well-established archaeological criteria of intrusiveness. As the French archaeologist Jean-Paul Demoule, facing a very similar situation in Europe's context, wrote,

> In order to prove a migration archaeologically, it is necessary to trace, step by step, the diffusion of a complete material culture—pottery forms and decoration, tools and weapons, architecture, funerary practices, etc.—from a specific region.[61]

Never has such a chain of evidence for diffusion been produced in the context of second-millennium BCE northwest India. That, however, has not deterred proponents of AI/MT from brandishing archaeological 'evidence' for the said theory. In reality, unbiased archaeologists have long argued that such identifications are illegitimate and a distortion of archaeological evidence; let us hear Henri-Paul Francfort, a vastly experienced French archaeologist who excavated Shortugai and other sites in central Asia:

> In the Indian subcontinent, the archaeological assemblages considered to reflect the coming of the Aryans by various authors (PGW, Gandhara Grave, Cemetery H, Jhukar, OCP, Pirak etc.) do not provide any stable or consistent picture.[62]

The issue actually runs deep, touching on the difficult and complex problem of correlating a particular material culture, brought to light by archaeology, with an ethnic or linguistic group (such as the Aryans have been assumed to be). There are many pitfalls on the way, summarized here by Robin Coningham:

> These interpretations suggest the simple equation that 'material culture = people = language' ... Processual and post-processual developments in archaeological theory have surely enabled us to abandon such crude equations and to acknowledge that the dynamics of material culture, ethnicity and language are far more complex.[63]

More recently, Conningham (with Ruth Young), explicitly criticized the hasty applications of the above equation that litter the pro-AI/MT literature:

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[61] Demoule, 'The canonical Indo-European model and its underlying assumptions,' p. 166.

[62] Francfort, 'The Archaeology of Protohistoric Central Asia,' p. 154. (The abbreviations are Francfort's own.)

[63] Coningham, 'Deciphering the Indus Script', p. 91.

The existence of a group of people called Indo-Europeans or Vedic Aryans has achieved the status of received wisdom—it has been repeated so often that it is now accepted fact, despite there being no satisfactory archaeological evidence whatsoever to support the presence of an incoming group of such numbers as historical and archaeological explanations require.[64]

Inventing Archaeological Evidence

The story behind Mortimer Wheeler's dramatic tale of a 'mythical massacre' at Mohenjo-daro has been told often enough.[65] It is a sterling illustration of overinterpretation turning to invention: Wheeler turned a few groups of skeletons, totalling thirty-three of them, found in various streets and houses, into positive proof of the Aryan destruction of the great city. In view of the massive rejection of Wheeler's hypothesis by archaeologists as well as bioanthropologists (G.F. Dales, K.A.R. Kennedy among the first[66]), one would have thought it buried for good. Yet, a couple of decades later, Shereen Ratnagar, a scholar of archaeology, chose to revive Mohenjo-daro's 'controversial' skeletons, and is struck by an 'impression ... of *intense enmity and hatred*.' Ratnagar acknowledged the work of Dales and Kennedy, but 'would urge that we do not throw out the political significance of these skeletons just because the Aryan connexion is dubious'[67]—a most strange statement: the connexion between the skeletons and the sacking of the city by Aryans (Wheeler's thesis) is 'dubious'—unbiased scholars would have used the word 'disproved'—yet we should read some 'political significance' in those remains. What significance? Ratnagar, finding none in the Indus valley itself, turned to the Mesopotamian civilization and to some of its tablets that mourn the destruction of cities, an odd transposition from one civilization to a completely different one thousands of kilometres away. Further, Ratnagar admitted being 'tempted' to interpret a few damaged stone statues at Mohenjo-daro and Dholavira as 'portraits of a royal lineage' that were 'vandalized' in the course of a 'rebellion or a major dynastic upheaval, during which the royal portraits were viciously demolished.'[68] Whether any of the few stone statues found damaged were 'vandalized' is an open question; they may have just as well suffered in the collapse of the buildings that housed them or through natural erosion or degradation (since we do not know how

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[64] Coningham and Young, *The Archaeology of South Asia*, p. 85.

[65] Dales, 'The Mythical Massacre at Mohenjo-daro'; Lal, *The Earliest Civilization of South Asia,* p. 258; Walimbe, 'Human Skeletal Biology,' pp. 338–339; Agarwal, 'What is the Aryan Migration Theory?'; Danino, *The Dawn of Indian Civilization and the Elusive Aryans,* Ch. 10.

[66] For Dales, see previous footnote; Kennedy, 'Skulls, Aryans and Flowing Drains,' p. 291; Kennedy, 'Trauma and Disease in the Ancient Harappans,' p. 429.

[67] Ratnagar, *The End of the Great Harappan Tradition,* pp. 41–42.

[68] Ibid., p. 41.

long they were exposed to the elements before disappearing under wind- or water-borne silt). Nor is it certain that they portrayed any 'royal lineage'; that is just one interpretation among others. And if some statues did, why, then, was Mohenjo-daro's famous figurine of a so-called 'priest-king' found with its face virtually intact? All this awful scenario of enmity, hatred, rebellion, vandalization, etc., is built on the flimsiest of evidence.[69] Even worse is the dramatization of the medievalist historian Irfan Habib, who finds it 'painful, but unavoidable, to reflect on the fate of the people of the Indus civilization at its end. As the towns were abandoned or fell to hostile elements … large numbers might have been seized and enslaved.'[70] Even with the auxiliary 'might,' such wild plays of imagination resting on nonexistent (albeit 'painful') evidence should have no room in sound scholarship.

A similar situation arises from a discussion on mysterious layers of ash that were unearthed over decades at a number of Harappan sites: Rana Ghundai, Nal, Dabarkot, (all three in Baluchistan), Gumla (North-West Frontier Province), Kot Diji (Sindh), and, more recently, Karanpura (Rajasthan). Some of this was noticed long ago, since Stuart Piggott mentions the conflagrations in his classic 1950 study on Indian prehistory.[71] Now, would they not be final evidence, at least, of the brutal end of the Indus civilization? That is, expectedly, what some scholars plumped for, most of whom we have already met. Thus the historian D.N. Jha in 1998:

> A major blow to the Harappan civilization, according to a *dominant* view, was given by a group of 'barbarians' who began to migrate into India a little before the middle of the second millennium BC. At several places in north Baluchistan thick layers of burning *have been taken to imply* the violent destruction of whole settlements by fire.[72]

Four years later, this was the cue for two more AI/MT proponents. In a book on ancient India regarded as a standard reference, Romila Thapar wrote, 'Some [Harappan] settlements in the north-west and Punjab might have been subjected to raids and skirmishes, *such as are described in the Rig-Veda*, or for which there appears to be occasional evidence at some sites, for example Kot Diji.'[73] Thapar thus seeks to equate 'skirmishes' supposedly described in the Rigveda (she does not give us a reference) with archaeological evidence of destruction by fire. Irfan Habib is more precise:

> Gumla [and] Rana Ghundai were destroyed *with such violence* as to leave traces in the archaeological record. Similar traces of *arson* are found also at

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[69] In her latest work, *Harappan Archaeology,* Ch. 10, Ratnagar appears to have softened, or at least nuanced, her earlier stand.

[70] Habib, *The Indus Civilization*, p. 65.

[71] Piggott, *Prehistoric India to 1000 B.C.,* p. 215.

[72] Jha, *Ancient India in Historical Outline*, p. 40 (emphasis added).

[73] Thapar, *The Penguin History of Early India*, p. 88 (emphasis added).

... Nal and the Indus border settlement of Dabar-kot. The inference, then, seems irresistible: that there were *invasions from the west* which overwhelmed, first, the Helmand cities, then, the late Kot-Diji culture and, finally, the Indus civilization.[74]

All this sounds quite dramatic again—except that it is untenable. The first lesson in archaeological excavation is to note the stratigraphy, the succession of layers corresponding to different levels, and therefore periods, of occupation; without a site's proper stratigraphy, most of the information extracted is useless. As 'eminent historians,' as they are often designated, Jha, Thapar and Habib are expected to know this. Yet they do not seem to have realized that while some of the sites they referred to had a complex or disturbed stratigraphy, wherever it was clear (especially at Gumla, Kot Diji and Karanpura), the ash layer was found *below* the Mature Harappan level, at the transition from the Early (pre-urban) to the Mature (urban) phase. This transition is dated to the century between 2700 and 2600 BCE. If, therefore, those ash layers testify to 'raids and skirmishes, *such as are described in the Rig-Veda*,' as Thapar tells us, it means that the Vedic hymns were composed *before* the Mature Phase, i.e. earlier than 2600 BCE, a whole millennium before the arrival of the Aryans according to AI/MT!

The above historians have simply been a little too keen to produce evidence for man-made destruction at the *end* of the Mature phase, when the Harappan cities disintegrated (which was about 1900 BCE), as they would like them to have met with a violent end. Such evidence does not exist; they had to invent it.

We need not go here into a discussion of the reason behind these ash layers; Gregory L. Possehl, who offers such a discussion, proposes that these burnings—not 'arson'—which took place before the construction of urban sites at the same spots, were an 'act of renewal,'[75] as though wiping the slate clean for the new urban phase. This may or may not be the last word on these enigmatic finds, but they have nothing to do with 'invasions from the west' in the second millennium BCE.

The Horse Issue

This is also not the place to discuss the presence or absence of the horse in the Harappan civilization and later periods of Indian protohistory; I did so elsewhere.[76] My arguments, in summary, have been the following: (1) Horse remains from the Neolithic to the Mature Harappan period (2600–1900 BCE) have been identified in the subcontinent by

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[74] Habib, *The Indus Civilization*, p. 64 (emphasis added).

[75] Possehl, 'Sociocultural Complexity Without the State: The Indus Civilization,' p. 272.

[76] Danino, 'The Horse and the Aryan Debate'; Agarwal, 'What is the Aryan Migration Theory?'; a more detailed analysis of the issue is in Danino, *The Dawn of Indian Civilization and the Elusive Aryans,* Ch. 13.

experienced experts at a dozen sites or so. (2) Such remains continued to be identified during the Late Harappan (1900–1300 BCE) and early historical periods, with no more than a slight gradual increase, and with few depictions of the animal prior to the Mauryan age; there was no 'quantum leap' in either bone remains or in depictions after 1500 BCE, when the Aryans are supposed to have streamed into the subcontinent. (3) While the Rigveda does mention the animal often (and the bull much more often), it does not follow that Vedic society was full of horses; moreover, the Sanskrit word *aśva* for the horse, like *go* for the cow (but also light, or a beam of light), clearly has a metaphorical meaning in a number of hymns, especially speed and energy, which has been ignored by invasionist scholars. This last point was independently made by Sri Aurobindo in the 1910s,[77] and more recently by Karen Thomson, who demonstrated that a number of scholars (Macdonell and Keith, Doniger, Witzel, Jamison and Brereton ...) choose to read 'horse,' 'steed' or 'mare' in what are generic words with a broad range of meanings: 'There are many fewer horses in the text of the *Rigveda* than there are in the translations. Indeed, when the word *áśva* is present it often appears simply to describe something that moves swiftly.[78])

Why drag this old issue into the present discussion? While a few pro-AI/MT scholars led a high-profile media campaign in 2000 against what they perceived to be faked evidence for a depiction of the horse on Indus seals,[79] it turns out that they, or the pro-AI/MT camp in general, have been less than honest while debating the horse issue. Let me illustrate:

(1) They rejected *en bloc* all identifications of horse remains datable to the Mature Harappan phase or earlier, even though those were certified by experienced experts. Their argument was that either the sites' stratigraphies were unreliable, or the remains were those of the wild ass, not the true horse, since bones from these two animals are not always easy to tell apart. This 'haughty dismissal' by scholars with no archaeozoological competence simply betrayed preconceived opinions.

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[77] Aurobindo, *The Secret of the Veda*, pp. 44, 123–24.

[78] Thomson, 'A Still Undeciphered Text: How the scientific approach to the Rigveda would open up Indo-European Studies,' p. 36.

[79] The original articles, Witzel and Farmer, 'Horseplay in Harappa,' followed by Thapar, 'Hindutva and history,' gave rise in a subsequent issue of the magazine *Frontline* (24 November 2000) to a response by the impugned scholar, N.S. Rajaram, followed by more articles by Parpola, Mahadevan, Witzel and Farmer. As I wrote at the time, I did not believe that Rajaram's error, based on successive bad photocopies of a poor-quality original supplemented by too much imagination, was a deliberate fraud; but it offered a golden opportunity to the AI/MT camp, which they did not let pass. (Needless to add that my own response to the *Frontline* articles was not published.)

(2) Yet several of the said sites did have a secure stratigraphy, and the experts involved were often able to tell the two animals' remains apart, listing either one or the other, *or both*, as present in faunal assemblages.

(3) Crucially, coming to the post-1500 BCE period, when they expect Aryans on the landscape, pro-AI/MT scholars no longer disputed either the identification of horse remains or the sites' stratigraphies! Not only that, they did not seem to realize that most of the post-1500 BCE remains had been certified by the very same experts whose findings they contested in the Mature Harappan period or earlier: those experts were apparently incompetent then, but now turned out to be quite competent!

(4) Sándor Bökönyi, an international authority on the prehistoric horse, certified remains of the true horse at the Mature Harappan site of Surkotada in Gujarat.[80] Richard Meadow (with Ajita Patel) assiduously challenged him for this[81]—but not his Indian colleagues; it was enough to sweepingly dismiss their findings. Meadow and Patel admitted in the end that the identification of Surkotada's remains 'may be a matter of emphasis and opinion.'[82] (Bökönyi passed away before he could give his final response.)

(5) Meadow's and Patel's admittedly inconclusive paper was however put to good use by a few historians (e.g., Romila Thapar[83]), who dishonestly cited it as the last word on the nonexistence of the horse in the Harappan civilization.

Such double standards are unacceptable, yet have dominated the sub-theme of the horse in the Aryan debate.[84]

Let us close our equine excursion with the curious case of two horse skeletons found at a cemetery at Katelai, a site in northern Pakistan's Swat valley which is part of the cultural complex known as the Gandhara Grave Culture (GGC), initially dated to a period between 1700 and 200 BCE. This is a region which immigrating Aryans would have necessarily crossed, and the above dates encompass their assumed arrival. It is no wonder, therefore, to find the respected Indo-Europeanist J.P. Mallory (among many other scholars) referring to these 'two horse burials as well as horse-trappings from the Gandhara Grave culture'; besides, the location 'makes an excellent fit with the geographical scene depicted in the hymns of the *Rig Veda* and it does so at the expected

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[80] Bökönyi, 'Horse Remains from the Prehistoric Site of Surkotada, Kutch, Late 3rd Millennium B.C.'

[81] Meadow and Patel, 'A Comment on "Horse Remains from Surkotada" by Sándor Bökönyi.'

[82] Ibid., p. 314.

[83] Thapar, *The Penguin History of Early India,* p. 85. (Thapar writes, 'The claim that horse bones occur at Surkotada, and at a few other sites at earlier levels, has met with doubt, the bones being identified as those of the ass and the onager'—identified by whom? Not by the archaeozoologists who were called to identify those sites' faunal remains, and who, on the contrary, certified them to belong to the true horse.)

[84] All references concerning the horse issue can be found in the three write-ups in footnote 76 above.

time.'[85] So have we not, finally, found the long-sought-for evidence? Other scholars echoed Mallory: Elena E. Kuz'mina noted how 'only in the post Harappan period in India was horse breeding and the horse cult documented by ritual horse burials or their images in Swat (Katelai) ...'[86] Suraj Bhan spoke of 'horse burial associated with humans at Katelai ... [a] *characteristic* feature'[87] of the GGC; Upinder Singh noted how 'the site of Katelai yielded two burials of horses *along with their masters*.'[88]

The evidence does seem foolproof—and yet it does not exist. There are no 'horse burials' whatsoever at Katelai, much less ritual ones. No horses were buried 'with their masters.' The two 'horse burials' were actually plain horse skeletons, with no associated grave goods; they were found in *upper* layers of the Katelai cemetery and had no apparent connection with its human graves.[89] Finally, these upper layers are datable to the first half of the first millennium BCE, at least five centuries after the Aryans' supposed arrival in the region—they can have nothing to do with it.

What of Mallory's 'horse trappings'? To the best of my knowledge, they also do not exist; rather, *one* iron horse bit was found at the GGC site of Timargarha; however, it too belongs to a late period, the 'eighth-seventh centuries B.C.'[90]

It is sobering to find so many learned scholars building castles on the shifting sands of misinterpreted, overinterpreted or invented evidence.

Ethics and Archaeogenetics

We are told, too, that the study of ancient as well as modern human DNA has opened a 'new science of the human past'[91] that will soon rewrite all human history. Quite possibly, although how soon and how completely is anyone's guess. Despite brilliant beginnings[92] and rapid technological developments, archaeogenetics, as the discipline is now often called, is still in its infancy. Its answers often conceal deep methodological issues (and pitfalls), which often elude professionals in the field, as they deal with the perennial problem of trying to match an ethnic group (now identified through a set of

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[85] Mallory, *In Search of the Indo-Europeans,* p. 47.

[86] Kuz'mina, *The Origin of the Indo-Iranians*, p 114.

[87] Bhan, 'North Indian Protohistory and Vedic Aryans,' p. 175 (emphasis added).

[88] Singh, *History of Ancient and Early Medieval India*, p. 212 (emphasis added). I believe that Upinder Singh, a scrupulous historian and author, did not intend to invent evidence and must have recycled this 'fact' from some other author. Such 'recycling' of misinformation has been an all-too-common practice in the AI/MT literature.

[89] Azzaroli, 'Two Proto-historic Horse Skeletons from Swāt, Pakistan,' pp. 353-357.

[90] Dani, 'Gandhara Grave Complex in West Pakistan,' pp. 107, 109.

[91] Such is the subtitle of a recent book, Reich, *Who We Are and How We Got Here: Ancient DNA and the New Science of the Human Past.*

[92] Cavalli-Sforza, *Genes, Peoples and Languages*, was among the early attempts to retell the story of human evolution with the tools of genetics.

genetic markers constituting a 'haplogroup') with a language and a culture. It is always easy to forget, despite decades-old warnings,[93] that these three categories are largely independent: carriers of a particular marker need not have spoken a single language; conversely, one language may have been spread across several haplogroups; the same holds true of language vs. material cultures, and of genes vs. material culture. There are other issues, such as circular reasoning (the Indo-European concept and expansion is often accepted *a priori,* then confirmed); an almost exclusive focus on migrations as the main agent of history, disregarding alternatives such as long-term interactions and exchanges; and stubborn biases—e.g., in the case of India, the unidirectionality of migrations: into the subcontinent, never out of it, even though multiple instances of emigrations are historically attested.[94]

There is no doubt that these issues will sort themselves out in the long run. In the meantime, the field offers unscrupulous proponents of AI/MT a new opportunity for shortcuts.

An extreme case is the publication in 2018 of a sensational cover story in a leading English-language Indian magazine, authored by the magazine's managing editor.[95] The title screamed, '4500-year-old DNA from Rakhigarhi reveals evidence that will unsettle Hindutva nationalists.' From a single DNA sample taken from a single skeleton at the important Harappan site of Rakhigarhi (in Haryana), the journalist, Kai Friese, informed us that the specimen lacked a certain genetic marker (R1a1), which he said was 'often loosely called the "Aryan gene";' therefore Harappans could not have been Aryans, which in turned established the truth of AI/MT. The article was deeply flawed on several counts:

(1) The concept of an 'Aryan gene' ('often loosely called' by whom, except for the article's author?) is a scientific monstrosity that calls to mind the erstwhile 'Aryan race.' Any identification of its modern equivalent (the haplogroup R1a1) with an 'Aryan' identity will be equally illegitimate.

(2) The article was based on a study in progress, with no technical paper published, submitted, or even written as the time the article was written; this in itself reflects poor journalistic values.[96]

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[93] Boas, *Race, Language and Culture.* This 1940 work of U.S. anthropologist Franz Boas remains relevant in clearing the persisting confusion and conflation between those categories (today, we could substitute 'Genetics' for 'Race').

[94] For a fuller discussion, see Danino, 'Methodological Issues in the Indo-European Debate.'

[95] Friese, K. '4500-year-old DNA from Rakhigarhi reveals evidence that will unsettle Hindutva nationalists.'

[96] Some of the study's collaborators were quite unhappy with the *India Today* article, as they stated in a discussion meeting on 'Human Diversity and Ancestry in India' held in Bengaluru on 19-21 September 2018.

(3) A study based on single specimen cannot have any significance, especially when it has long been known that Harappan civilization was multiethnic (its geographical expanse alone would have ensured that, apart from several bioanthropological studies of Harappan skeletons).

(4) The only geneticist interviewed in the article admitted that the specimen's YDNA was incomplete, opening any conclusions on missing markers to challenge. Indeed, he admitted 'that the fact that haplogroup R1a did not show up in the Rakhigarhi sample could be attributed to the limited amount of genetic data retrieved.'

(5) The article's author, who posed as an expert on the Harappan civilization, was not even aware that a study of the stable-isotope composition of 44 teeth from at least 38 individuals at Harappa, and 33 teeth from 17 individuals at Farmana, just 90 kilometres away from Rakhigarhi, had shown those individuals to be 'composed almost entirely of first-generation immigrants'[97]: the individuals buried were not local residents.

In other words, the cover story, published with fanfare and instantly relayed by dozens of articles in the Indian and international press, blogs, Facebook posts and tweets, rested on the preliminary study of an admittedly incomplete DNA sample from a single Rakhigarhi specimen who may not have been a local resident at all! Of course, the article's objective was not to enrich our knowledge with a dispassionate study of the issues concerned, but to deal 'Hindutva' a mortal blow, since, according to the author, an indigenous origin of the Aryans is an essential component of 'Hindutva.' Amazingly, the article predicted a 'political backlash' would follow the study's revelations, as well as 'some exultation' among those for whom 'the fall of Delhi in the 2014 election is seen as a calamitous replay of that fabled "Vedic Aryan invasion".' The political backlash is still awaited (or did it come in the form of the 2019 elections?).

Journalism the world over has doubtless accustomed us to low standards of ethics, but this piece must have set a new scale. Was Friese taken to task for it? Instead, he was rewarded with the publication of a revised version of his article in a collection of papers by a few pro AI/MT scholars, two of whom we have coincidentally met above.[98]

There are dubious arguments and practices at the professional end of the scale, too.[99] David Reich, who has directed and co-authored a number of archaeogenetics studies in recent years, and recently authored an eminently readable book on the

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[97] Valentine *et al.*, 'Evidence for Patterns of Selective Urban Migration in the Greater Indus Valley (2600-1900 BC).'

[98] Friese, 'The Complications of Genetics.'

[99] Danino, 'Methodological Issues in the Indo-European Debate.'

subject,[100] curiously worries about 'Hindutva ideology' too, which he mentions side by side with Nazism's use of 'biologically based nationalism.' I should have thought that blame for Nazi-like abuses of the discipline should rather be laid at the door of anyone speaking of an 'Aryan gene.' Be that as it may, Reich implicitly admits a motivation to prove Hindutva wrong by establishing the genetic foundation for AI/MT. It is therefore no surprise to find him, while he attempts a synthesis of the South Asian genetic picture, taking a number of shortcuts:

(1) According to him, 'In the Rig Veda, the [Indo-Aryan] invaders had horses and chariots'—a fine example of circularity, since the said Rigveda, which Reich is unlikely to have studied, never mentions 'invaders' in the first place.

(2) Overnight (literally so, as he narrates in his book), Reich posited specific ancestral groups, such as 'Ancestral North Indians' (ANI) and 'Ancestral South Indians' (ASI), illegitimate categories that largely contain their own built-in conclusions[101] and suspiciously look like a reincarnation of the exploded Aryan and Dravidian 'races.'

(3) The most problematic of Reich's interpretations is perhaps his conclusion that the Indo-Europeans' 'major migration' into India was an all-male affair: 'males from populations with more power tend to pair with females from populations with less. ... This pattern is exactly what one would expect from an Indo-European-speaking people taking the reins of political and social power after four thousand years ago.'[102] So Reich's 'major' migration of a 'powerful' population is a proper invasion, after all; we are, once again, thrown back to the nineteenth century, when a 'powerful' Aryan race was seen crushing and conquering Indian natives.

(4) Importantly, Reich's picture runs against the advances of archaeology and prehistory over the last half-century, not just in India but in other parts of the world: a recent article by Gideon Lewis-Kraus in *The New York Times Magazine*[103] explains how 'so much of Reich's work has conjured the notion of sweeping, wholesale replacements by one population of another,' while archaeologists and prehistorians find that such simplistic massive population events do not square up with the models their disciplines have painstakingly elaborated to account for the complexity of human prehistory.[104] Lewis-

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[100] Reich, *Who We Are and How We Got Here.*

[101] For a discussion of ANI and ASI concepts, see Danino, 'Genetics and the Aryan Issue,' p. 58.

[102] Reich, *Who We Are and How We Got Here.*

[103] Lewis-Kraus, 'Is Ancient DNA Research Revealing New Truths — or Falling Into Old Traps?'

[104] Linguists too, at times: 'The Australian linguist R.M.W. Dixon has given new life to the importance of linguistic convergence, first advocated by Trubetskoy. Dixon convincingly argues that migrations, which trigger linguistic (and cultural) divergence, are rare, the more normal situation being linguistic, and I

Kraus's article also raises a number of ethical issues, from the roping in of co-authors to the reviewing process of papers before publication; it is clear that the field is not quite as 'scientific' as it claims to be. Power games, after all, are not the exclusive province of our mighty Aryans.

Unethical Scholarship

Granted, any piece of archaeological or literary evidence may, and will, be the object of differing interpretations, sometimes widely differing ones. There can be no dispute about that: scholars should be free to put forth conjectures, provided the said conjectures are compatible with the basic data and not too fanciful. What we have seen in this essay is a different phenomenon: a number of players in the Aryan debate (I could have quoted many more) indulging in unjustified overinterpretation, invention of nonexistent evidence or data, among other scholarly malpractices.

Another unethical practice, which runs through or underlies much of the above, needs a special mention: that of demonization. Most of those proponents of the AI/MT paradigm quoted here have tried to mislead the wider public into believing that critics of that paradigm must be supporters of 'Hindutva'[105] (whatever they mean by that name, which more often than not looks like a convenient bogeyman). This is perhaps the ultimate fabrication: as I pointed out at the very beginning, the most cogent opponents of AI/MT have been respected mainstream Western academics. In any normal, healthy academic debate, our proponents should have offered detailed discussions of those objections to the Aryan paradigm. This has almost never happened: we rarely find the former even acknowledging the latter's existence, which ensures that the Indian public remains ignorant of Leach's or Kennedy's or Shaffer's or Demoule's work: a look at the bibliographies of essays by Romila Thapar,[106] Irfan Habib, R.S. Sharma or Shereen

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daresay cultural, convergence.' (Lamberg-Karlovsky, 'Archaeology and Language: The Indo-Iranians,' p. 74, internal references omitted.) Another linguist, Johanna Nichols, challenged the migrationist model of linguistic propagation: 'Almost all literature on language spreads assumes, at least implicitly, either demographic expansion or migration as basic mechanism, but in fact language shift is the most conservative assumption and should be the default assumption. There is no reason to believe that the mechanism of spread has any impact on the linguistic geography of the spread....' (Nichols, 'Modeling Ancient Population Structures and Movement in Linguistics,' p. 372.) Proponents of AI/MT have regrettably no use for such complex models, though they are likely to be much closer to the reality; they prefer simplistic linear migrations.

[105] Sometimes also 'Hindu right-wingers,' as in Joseph, 'How ancient DNA may rewrite prehistory in India.'

[106] In a recent essay (Thapar, 'Multiple Theories about the "Aryans",' p. 92), she does cite Edmund Leach in a footnote listing several authors on the Aryan myth, but, unsurprisingly, fails to inform her readers that his essay provided one of the most scathing criticisms of the whole Aryan paradigm, including the myth of an invasion of India and the illegitimacy of reading history into the Rigveda. (In fact, Leach takes Thapar to task at some point in his essay, p. 242.) Moreover, as she did in a few earlier writings too,

Ratnagar, etc., is enough to establish this stonewalling strategy. If at all such scholars have discussed the other camp's theses, they have always been careful to pick its weakest representatives, so as to turn them into objects of ridicule. Indeed, Indian critics of AI/MT have often been stigmatized and branded, sometimes viciously so.[107]

We find a parallel demonization strategy in the case of the Sarasvati river, which I have had occasion to flag.[108] The charge here is that scholars who defend the existence of the river in Vedic times and regard the Ghaggar-Hakra as its relic bed are guilty of 'chauvinism,' 'jingoism,' 'nationalism,' or of course are Hindutva supporters. This crude misrepresentation flies in the face of over a century and a half of scholarship: it was in 1855 that a French geographer established the river's identity with the Ghaggar-Hakra; generations of Sanskritists, geographers, archaeologists, all of them European initially, endorsed this identification.[109]

Such below-the-belt strategies will of course backfire in the longer term; in the short term, they have proved successful in stifling academic debate and creating a climate of scholarly intimidation for those who might have wished to swim against the tide. Indeed, the very concept of an 'Aryan debate' is somewhat misleading: there has been very little of it in the true sense of the term,[110] and far too much ideology and politics instead.

Thapar subtly correlates critics of AI/MT (once again stuck with the label of 'Hindutva,' p. 92) with Aryan supremacists, in a complete reversal of the historical evolution of the Aryan myth: in India, it is the AI/MT camp that has ensured the myth's survival, including the persistence of the perverse notion of an Aryan race vs. 'autochthonous' and Dravidian races.

[107] I choose not to build here a dismal list of such instances of branding; the curious reader will easily spot some of them through a few Internet searches; Elst's recent books also provide telling examples.

[108] E.g., Danino, 'The Sarasvati River: Issues and Debates.'

[109] Danino, *The Lost River,* Ch. 1.

[110] There are a few exceptions to this rule: Bryant, *The Quest for the Origins of Vedic Culture: The Indo-Aryan Migration Debate*; Bryant and Patton, eds, *The Indo-Aryan Controversy: Evidence and Inference in Indian History*; Trautmann, ed., *The Aryan Debate.* However, the last two edited volumes, though valuable and with excellent introductions, merely juxtaposed contributions from both camps and were not actual 'debates.'

Such a debate was organized in January 2002 by the Indian Council of Historical Research; invitations were sent (as the then Chairman announced at the inauguration) to scholars from various schools of thought; historians of the AI/MT camp were duly invited, but none even had the courtesy to acknowledge the invitation (except for R.S. Sharma, who excused himself on grounds of poor health); the conference proceedings were published: Tripathi, ed., *A Discourse on Indo-European Languages and Culture*.

Mention must however be made of a 'Discussion Meeting on Human Diversity and Ancestry in India,' organized by National Institute of Biomedical Genomics, Kalyani, and Jawaharlal Nehru Centre for Advanced Scientific Research, and held at Bengaluru, 19-21 September 2018; the biologist Partha Majumder and his collaborators took great care to invite a wide range of scholars, and presentations as well as discussions took place in a courteous atmosphere, despite inevitable disagreements; this was a

Eventually, the Aryan issue— more properly speaking, the question of the origins of Sanskrit, its speakers, Vedic texts and culture, and their relationship with other languages, speakers and cultures of India at the time—will be resolved not through debate, but by accumulating evidence from all the disciplines that impinge on the issue. Whatever the final answer will be (and it is unlikely to be a simple one), the unethical practices indulged in by a section of the pro-AI/MT camp will remain a blot on its scholarly image.

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shining exception to the rule, whose chief merit was to show that such debates among diverging schools of thought are not superhuman feats. Papers based on the workshop's proceedings are due to appear in the July 2019 issue of *Journal of Biosciences.*

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