## A Reply to Koenraad Elst

N Kazanas Sept. 2021.

1. Before I proceed with the actual reply, I must clarify my interest in the historical aspect of the Homeland of the Proto-Indo-European language and its speakers. For me it is a secondary and rather unimportant issue. The main issue is the antiquity of Sanskrit and of the hymns of the Rgveda. For me the RV in its present form must be assigned before the rise of the Mature Harappan Culture, say c2900 BCE. This happens to be near the date for the onset of the Kali-yuga, given by the tradition of the astronomers as 3100 BCE, which happens to be near the date of the beginning of the Mahābhārata epic, according to some astronomical references contained therein and calculated by some modern astronomers like Narahari Achar. But the main issue is the RV date which is, as I said, pre-Harappan since it knows nothing at all of that culture, known also as the Indus (and Sarasvati) Valley Civilisation.

It really does not matter a scrap whether the Homeland or Urheimat, as some prefer, was anywhere between the shores of the Baltic Sea and the Balkans or the Southern, Pontic Russia or the North-east Anatolia and Southern Caucasus. But the antiquity of Sanskrit and its older form Vedic, the probable date of the RV itself and the fact that, as archaeologists aver, from the beginnings of the Indus Valley Culture around 7000 BCE to 600 BCE there was no intrusion of another culture, I accept fully now that the Homeland was the wider Saptasindhu area, the Land of the Seven Rivers. This should include the Bactria area, since, as RV 6.61.9, 12 (an early hymn) says, the goddess Sarasvatī had spread the five tribes (Anu, Puru etc.) beyond the Seven sister-rivers. It is convenient that literary, linguistic, archaeological, palaeoastronomical and genetic evidences incline and agree with the establishment of the Homeland at this location.

I have published many articles in many Journals in the last 20 years, since my abandonment of the mainstream idea of the Aryan Immigration/Invasion Theory (AIT, hereafter). A large number of them were collected, revised and published in two volumes: Indo-Aryan Origins \& Other Vedic Issues, 2009, and Vedic \& Indo-European Studies, 2015, both by Aditya Prakashan. Both are difficult if the reader has not
some knowledge of Comparative Linguistics. Other papers are stranded in the Journals, mainly Indian, where they were first published. Some of them are also posted on the Indology page of OmilosMeleton.Gr, especially "Indigenism and the collapse of the Aryan Invasion Theory" and "Importance of the Rigveda".

Only unimportant papers (or talks) before 2014 were left out of these two volumes. All the issues mentioned above about the AIT, the date of the RV and the uniqueness of Sanskrit, were addressed in considerable detail in the essays in those two volumes. I can say with certainty that all the significant evidences, particularly the essential linguistic ones, are to be found in the 2015 volume which should have had the subtitle "the linguistic evidence for indigenism", where indigenism refers to the contention that the IAs (= Indo-Aryans) are most certainly indigenous by 2000 BCE, when the AIT has them enter the wider Saptasindhu area.
2. I am stressing this last point of significant and essential evidences in view of what Elst thought fit to deal with in his Still No Trace of an Aryan Invasion, 2018, Aryan Books International, wherein is his "A Reply to Nicholas Kazanas". I shall deal with this presently.

Why is Sanskrit and the RV important?
Sanskrit is the only IE (= Indoeuropean) language that has dhātus 'seedforms' from which develop nouns (masc, fem, neut) in many different declensions, also adjectives and adverbs and verbs in very many different conjugations, tenses and moods, desideratives and intensives (or repetitives). Also, it retains many more characteristics from the mother PIE than any other tongue of the family. As far as I am concerned, Sanskrit in a Proto-Vedic form that cannot be reconstructed is the PIE mother tongue. Evidences for my claims are mostly, though not exclusively, to be found in the 2015 publication. Some will re-appear in the subsequent pages.

The $R V$ is unique in that it is the ancient-most document of IE. This in itself is of no importance. But the hymns that comprise it manifest some of the finest poetry of the world. There is no poetic virtue in ancient or modern poetry that is not found in the hymns (see ch3 in Kazanas 2015 and references). Then we find a unitary supreme Source for all creation, all worlds and all phenomena, That One, which is neither masculine nor
feminine and which manifests in many deities, both masculine and feminine: and the poets know that polytheism is merely a manifestation. Of course, there is much repetition and this becomes tedious and heavy, if you don't fully understand the tropes and symbols and if you don't know how to chant the hymn, but try to read them all swiftly. Then, the RV contains the roots of all subsequent cultural developments in India.

Both the Sanskrit language and the RV bespeak of a civilization not of material artifacts and buildings but of spiritual value.
3. Now I turn to Elst's publication which contains his "Reply to Nicholas Kazanas" as ch7 (pp 79-96); he has other references to me in other places.

Why on earth a "Reply"? I never wrote or raised any questions to him. In fact when in April 2021 I wrote to him about his book, I never got a reply beyond, after several weeks, a crippled "I am too busy to reply".

And first, let me say that he is a most admirable scholar, a polyglot of very wide reading. But his most admirable and distinguishing feature is that he, before me, went against the grain of mainstream theories pertaining to the origins and dates of the Old Indic or Vedic Culture. This must have been more difficult for him than me, since it posed grave impediments for an academic career in the West - something that never bothered me.

Be that as it may, I thank him heartily once more for the correct things he says in several places. There is no point in dealing with this aspect. Nor will I examine at any length his book, which is a collection of talks and publications at different periods between 2007 and 2017. I shall merely note that there is much perspicuity and abundance of crossconnections with all sorts of unexpected matters: see ch. 29 with Chinese! But there is no real original research in any of the subjects he examines. He just passes judgment on them. I confess I learned from Elst's writings that Frenchman Voltaire ( $18^{\text {th }}$ cent.) felt convinced that everything in the West came from "the banks of the Ganges" (astronomy, metempsychosis etc.); but as very little of the Vedic lore and IE relations was then available, it is not of much value. Earlier, in the Florentine Renaissance Marsilio Ficino paid tribute to the Brahmins and much earlier the Greeks in Hellenistic times managed to send to India
and the East just about every Greek sage except Socrates and Aristotle (Diogenes Laertius, mainly, but there were other writers also).

A whole century would pass before the IE inter-relations became a subject of study and controversy with much material used by both sides - the pro AIT and the indigenists
4. Elst seems to lean towards some PIE reconstructive aspects which to me are pure fantasies despite his view that reconstruction "is guided by reason" (Elst p89).

Reason may well guide many enterprises linguistic, commercial, religious or scientific. But you will reach correct conclusions only if your starting point and axioms are correct. If you say $1+1=3$ then all your subsequent processes, however strictly logical, will lead to terribly wrong conclusions. And *gwh, which he cites (p88), proves my view since it is unpronounceable. So why belabour this point?

But before proceeding with this, I must focus briefly on his rather cavalier dismissal of the Baudhāyana evidence of the two migrations: one east within India and one, the Amavasu, westwards out of India. "The attested emigration from India by Amavasu's descendants need not be part of the expansion of the IE languages..." he writes (p 88). Yes, it need not; but we do have an Out-of-India emigration that could well signal the expansion of the `IE languages. It is a useful evidence ignored or mistranslated to fit other theories! (See Appendix A for details). After all no other IE culture mentions an emigration outwards. Most of them say in some of their legends that they had come from elsewhere!

A more curious aspect is his adoption of the mainstream theory that (Greek) /e/ and /o/ are original PIE and became /a/ in Vedic. He argues against my theses that Vedic /a/ is (mostly) original and cites Greek okto 'eight' as more probable than Vedic asța: otherwise the situation would create "more problems than it solves".

First I would emphasise that I never wrote anywhere that Vedic /a/ is original in every instance (even if it could be), because I simply do not know what the original Protovedic was nor can reconstruct it from existing IE tongues - but I consider it already much removed from the PIE. Then, I adduced much evidence of $\mathbf{a}>\mathbf{e} / \mathbf{o}$ in the Gypsy language (from SS Misra 1999, ch5 in The Date of the Rgveda...). But also much
evidence from other languages (e.g. English home < OE hām etc.). Consider also the Old Afro-Asiatic akalum 'food' appearing in Akkadian as aklum and Hebrew okel (where a>o! p. 240 and 328 in Woodard, 2004) ; arsatum Akkadian "earth" > erśatum >erśetum and *śa'num > *se'num > śēnum "sandal" etc (p 232, Woodard, wherein many more examples).

How much more evidence must be adduced to show that /a/ can and does become /e/ or /o/ and that Greek e/o need not be original?

Most mainstream notions for reconstruction have as an axiom a kind of social-democratic idea that all IE languages have more or less equal value for comparative and reconstructive purposes and that Hittite, because it has earliest written records with Mycenae (c1600-1500 BCE), should be regarded as closer to PIE. This, of course, is wholly wrong.
5. A closely related aspect is that of palatalization. The kentum linguistic /k/ and other velars became Vedic palatals /c/etc. Elst cites Chinese Peking > Beijing ( $\mathbf{k}>\mathbf{j}$ ).

It is quite possible that this happened in several cases in Vedic as with Vedic așṭa and Gk oktō. But is this absolutely certain? Which cases are really certain? Nobody really knows.

It is just as probable that the opposite happened in just as many if not more cases. In Modern Greek, yes, there is palatalization going on, on the islands of Crete and Cyprus. But the opposite is also true! The verb s-chi-zō "rip, tear up'( pronounced as in 'rat's-hole' or less-hope) became on those islands shizō (English sh=Vedic ś) but on mainland skizo!

A different example. Nouns in -ya became on Cyprus with -kya eg. piperyá/piperkyá, louvyá/louvkyá (capsicum and a kind of beans). Here again we see development into kentum(there are several more types of kentum appearances) .

Now Crete and Cyprus were conquered by Italic and Gallic princes and, naturally, absorbed their linguistic habits. Hence the palatalization which is a common feature in both tongues. Bu not so mainland Greece especially the mountainous regions. The people there retained their kentum accent. And since television has become common household item and education is prescribed by the Ministry of Education in Athens,
the palatalized accent is gradually giving way to the mainland, official Kentum pronunciation. But on Cyprus the piperya Satem pronunciation will remain because it is so on mainland Greece!

Only when we have recorded historical events and language documentation can we draw correct conclusions and make predictions that are correct on the basis of our pet linguistic theories. Otherwise, as the American scholar Th. Sowel has said in the context of his economic and sociological concerns, our pet theories provide only "an expensive isolation from reality".

I am not dismissing the possibility of kentum sounds turning into palatals. What I am saying is that the other change, from satem to kentum, is just as possible and I have just provided evidence for this. And let us take the very words for 'hundred'. The Greek hekaton seems to me highly problematic. How is the initial syllable to be explained in a reasonable manner? Could not the heavy breathing, the aspiration, in he- be a leftover from a palatal śa- which then turned into the Gk -katon and the other IE Stems? Of course it could.
6. Elst displays, as we all do, the scholar's trait of examining all possible sides of an argument to an extent that sometimes seems ridiculous. I mention two points only.

On p91 he raises the linguistics of Joanna Nichols which I used (and so did Talageri, in his 2008 publication, he informs us). Just before, he mentions me reprovingly in that I dismissingly mentioned Talageri's study of 2008 of which I had heard but had not read. I had heard from Elst himself at a conference in the USA (he was carrying a copy with him). I had not read it because in the Introduction Talageri embarks on an insulting attack against N . Kazanas. Not even Witzel ever used such insulting terms against me. But, in any case, I had by then been convinced that Talageri knew no Sanskrit, and so I would not be interested in his treatment of a subject that requires knowledge of Sanskrit. So that is that.

Elst informs us that Simon Zolst in his study (2009) had critised Nichols' thesis that the PIE most probably was Bactria, which is very close to Saptasindhu. But a few sentences afterwards he dismisses Zolst's conclusion. In fact, I still agree with Nichols.

On p61 a much more important argument and its evidence is watered down by a reference to another writer. I argued repeatedly that there are more than 10 at least seminal items, mentioned in post-rigvedic texts,like the urban setting (i.e .large buildings with brick ișṭakā) of the Harappans, which are not mentioned in the RV, like karpāsa 'cotton', vrīhi 'rice' and godhūma 'wheat' against yava 'barley', which is mentioned repeatedly and rajata 'silver', against hiraṇya 'gold', which again is frequently mentioned. But in his obsession to be fair, Elst brings in Talageri who opines that the non-urban setting can be harmonized with the border region of the Harappan area.

I am surprised that Elst can't see how irrational Talageri's opinion on this is. Consider for a moment. Is it likely that the Rigvedics who now supposedly lived on the border area did not know of those large urban communities and towns, 10's and 100's of them, along the rivers, especially the Sarasvatī? How can they praise the Sarasvatī river as nourishing all these people of the five Tribes (RV 6.61.8-13; 7.96.2; 8.21.17-18; 10.64.9) but not know the towns in which they lived? After all RV 8.21.17-18 mentions that king Citra and many lesser chiefs/kings live along the Sarasvatī banks. Then, is it likely that they knew yava but not godhūma? This would imply that godhūma was cultivated in or near the towns but not by the borders! And they knew gold but not silver? Surely, this is utterly unreasonable. For details of the items, see Appendix B.)
7. I end this Reply with my surprise that Elst made no use of the extensive evidence I procured in favor of the priority of the RV against the Avesta. To be fair, he does mention the paper "Vedic \& Avestan" and its theme that Vedic is much older than Avestan; but this is supported by shiploads of linguistic and literary evidences. Furthermore, the evidence shows beyond any doubt that the Avesta corresponds more or less with the later hymns of the RV only. 120 items (words like takman 'fever' and collocations like sóma... sukrátuḥ found in the Avesta appear in late hymns or in post-rigvedic texts like Atharvaveda or Brāhmaṇas only.

If and when in rare cases this issue is examined by AIT adherents it is swiftly swept under the carpet. The same holds for the point of the RV not knowing anything of the urban mode of life of the Harappan culture or of its remains \& cultivation of wheat godhūma and rice vrīhi.

However, in my view the most important papers in my 2015 publication Vedic \& Indo-European Studies are, apart from "Vedic \& Avestan" the "Language, the cyclicity theory and the Sanskrit dhātus" which shows that language began as a fully-fledged tongue with complex grammar if we take at all seriously the evidence of Sanskrit (or Vedic), its dhātus and grammar; also the "Shamans, Religion, Soma \& the Rgveda" which shows that divinization/self-realisation in just as important for some at least Rigvedics as sacrificial ritual (Elst does advert to this theme), and "Tad Ekam: not female, not male" which shows that the RV knew of the One Absolute (and all deities being manifestations of that) and from that primordial Unity arose the multiplicity of the world (RV 3.54.8).

I suppose Elst did not refer to these since they did not bear directly to his theme of Aryan Immigration Theory vs Out of India Theory. But to my mind these are the more important aspects of the Vedic language and of the $R$ guveda itself. That the Indians were indigenous in the $3^{\text {rd }}, 4^{\text {th }}, 5^{\text {th }}$ and even $7^{\text {th }}$ millennium is of secondary importance.
8. There are two more baffling aspects I shall mention. One of them I sent to him but received not even an acknowledgement.

He sent a letter through some Hindu Group to many recipients including myself. In this he uses the Modern Sanskrit, as he called it, adjective Bhāropīyasthān in the sense of 'Indo-European'! He used the same in the title of a paper sent to "Academia" organization that makes available on its site in the Internet many and varied research papers by wellknown academics. ( $N o$, I have not sent a paper there nor do I read the papers Academia sends me fairly regularly.)

I pointed out to him that Sanskrit would have it as bhāratopīya- or at least bhārad-upīya-according to its sandhi rules.

As I suspected, some Sanskritists told me that this form is Modern Hindi but used quite extensively; some others had not met it.

But why would any Sanskritist use such a concoction?
The next point is about his statement in the Preface. He hopes that "a real book [will appear] delving into the linguistic aspects of the IndoEuropean Homeland Controversy". It is a very strange statement because he does not say what linguistic aspects remain to be resolved
and, in any case, he is a polyglot himself and could deal with them. But, though I seem to blow my own trumpet, I think that in my "Vedic \& IndoEuropean Studies" (2015) I touched on all linguistic aspects.
9. The real crucial point is the date of the RV. Once this is settled many other aspects will be settled also - some without much arguing.

I provided more than sufficient evidence for a date before 3000 BCE. The fact that it knows nothing of the Harappan Culture, as mentioned above and in numerous of my (and others') papers and in chapters 1-4 of my Vedic \& Indo-European..., can mean only that it is pre-Harappan. This is the only certain evidence for dating as we have the quite certain archaeological dates for the rise of the Harappan mature phase c2900. This gives us the solid base that is needed. Archaeology and related studies do provide dates. Linguistics cannot provide dates; it can provide only sequence of events. Secondary supporting evidence is the Sarasvati river which according to archaeologists again stopped flowing to the Ocean at about 3800 (Kazanas 2015:179 with references). Some RV hymns could not possible be praising that river as "best goddess, best mother, best river" if it was flowing only half-dried up halfway to the ocean then vanishing into the deseet.

So unless an acceptable reasonable explanation is given for the absence of elements of the Harappan mature phase (or the subsequent ruins and eastward migrations) in the RV and the praise of this mighty river, this Collection of hymns cannot be assigned at a date contemporaneous with, or later than, the Harappan Mature Culture.

All other writings are wholesome hogwash, or pure pedantry or deliberate ignorance and indolence or defending a position and reputation knowing it to be false.

## Appendix A

## The spread of Indoaryans beyond the Seven-river land

In one of the older hymns of the $R V$, addressed to the goddess and the river Sarasvatī it is said : 'She, the holy follower of Universal Order, [Sarasvatī,] has spread us all [the five tribes of the Vedic people (stanza 12)] beyond enmities, beyond the other [seven] sister-rivers,
as the sun spreads out the days' (VI. 61.9): sấ no viśvā áti dvíṣạ̣ svásṛ anyā rê̂́varī, átann áheva sû́ryaḥ. True, the verse does not say how far they are spread, but the days are spread by the sun without discernible limit, and the spreading goes beyond the river-network both eastward and westward. The hyperbolic simile merely stresses the point that they were spread quite far. This is a very clear and early reference to moving out of their homeland.


Why deny the significance of this reference?
Now, the map above shows the new situation with some Harappan distant sites (after Lal 2009: 77)along the Indus and Sarasvsti ; the 'seven rivers' - which are in fact more; larger Saptasindhu with Bactria and five Vedic tribes with Yadus, Anus etc. It shows also the expansion by Âyu eastward and by Amavasu West and North (to Tocharian speakers), as given by a post Rigvedic text, from Bactria. Isoglosses are also fully accommodated (Kazanas 2015, ch 5).

A post-Rgvedic text, the Baudhâyana Śrauta-sūtra, mentions explicitly two movements from the central region of Saptasindhu :

Prân âyuḥ pravavrâja ; tasyaite kurupañcalâh kâśi-videhâ ity etad âyavam pravrâjam ; pratyañ amâvasus, tasyaite gândhârayas parśavo 'râttâ ityetad âmâvasavam. ‘Âyu migrated eastward ; his [descendants] are the Kuru-Pañcalas and the Kâśi-Videhas: this is the Âyava migration. Amâvasu [migrated] westward ; his [descendants] are the Gândhâris, the Parśus and the Arâttas : this is the Amâvasa migration' (Bau Śrau 18.44).

Elst was the first to detect Witchel's (deliberate?) mistranslation of the passage.

The Kuru-Pañcalas and Kâśi-Videhas are people (and regions) east of Sarasvatï in the basins of Yamunâ and Gangâ. The Gândhâris are obviously west of the Indus, and the Parśus are the Persians (=Iranians) while the Arâttas must be even further west. Now, the Mesopotamian text Emmerkar and the Lord of Aratta (Kramer 1952) refers to Aratta as North-West of Uruk. So Arâtta here cannot be the region in Punjab as Frawley thought (2001: 224, 226) and as I concurred (Kazanas 2009: 234). On the basis of the Mesopotamian text and Baudhâyana's text, B.B. Lal's suggestion of mount Ararat (Lal 2009: 134) seems now more probable ; but I would add the region Urartu, southwest of Armenia. So Anatolians probably belong to the Âmavasa emigration of the Indo-Aryans. And Anatolians or Hittites have none of the eight IE words that denote basic interfamilial relations - husband, wife, father, mother, son, daughter, brother, sister. They obviously were band(s) of warriors arriving there without families.


Why deny or belittle the significance of such evidence?
If we deny this, then why not deny others? Where is the limit? Moreover, no other IE branch, Greek, Italic, Germanic, Baltic etc, claims that it spread eastward or westward, the way the Vedic Culture does. They all either say they have come from elsewhere or
they meet old, native inhabitants (eg. Greek "palaiochthon"). So it is significant.

After all, we know that the Gypsies moved out of India and long before them, the names and gods of the Mittanis in the Near East (c. 1500 BCE) indicate Indo-Aryan presence there (Burrow 1973:27-30) and there are other references in the RV about travelling far - e.g. 5.10.6: asmákāsaś-ca suráyo viśvāấsâs tarịṣáni ‘let our sages cross/pervade all regions' (In the Oxford latest English translation, 2014, of the RV, Brereton \& Prof. (Mrs) Jamison give "patrons" for "sages", but why would patrons or instigators of sacrifice want to cross/pervade all regions? Surely they are comfortable and happy in their own homesteads?)

## Appendix B

Items not mentioned in the RV but mentioned in post-Rigvedic texts (Atharva-veda, Yajur-veda, Brāhmaṇas, Sūtras) and materially present in the Harappan or Indus-Sarasvati Culture. This evidence alone gives a fairly firm date for the Rgveda.

The $R V$ itself provides ample evidence that the hymns were composed before the Harappan urbanised culture starting c3000.

Harappan features absent in the RV.
a) iștakā 'bricks'
Harappan building material;
b) significant urbanisation; (pur, sabhā, samrāṭ)
g) vrīhi 'rice’ (odana; purolās, apūpa);
h) godhūma 'earth's exhalation' = wheat;
c) fixed altars or hearths;
i) literacy (lekha(-na), lipi - not before Sūtra-texts);
j) perforated jars;
k) iconography (statuary, relief, painting).
d) ruins of abandoned towns; (RV 1.133: armaka)
e) karpāsa 'cotton';
f) rajata 'silver';

All present in post-rigvedic texts (AV, YV, Brāhmaṇas, Sūtras

Details regarding the Harappan features which are absent in the RV. The Harappan or Indus-Sarasvati Culture has certain characteristics which help to define its uniqueness. A number of these features are absent from the $R V$ and this absence indicates that the $R V$ is preHarappan. Arguments $e$ silentio are not decisive since absence of evidence is not always evidence of real absence. But in this case the features are far too many. (Some of these were noted by Sethna, 1992.)
a) No iștakā 'brick'. The RV mentions as building materials metal, stone, mud and wood but not 'brick', which was the basic material in Harappan constructions. This is found in post-Rigvedic texts: the word isțak $\bar{a}$ is not in the $R V$. Archaeologists write of the early Harappan or Ravi phase (ie 3300-2800): "These early settlers built huts made of wood with wattle-and-daub" (K. Kenoyer and R. H. Meadow 2007:125). This is the common habitation in the whole of the $R V$. Brick-walls came later, as Kenoyer pointed out much earlier: these appear after this early phase, i.e. after 2800 (Kenoyer 1997/2000:56). The dates 3300-2800 BCE are different from those given by S. P. Gupta who places this early phase c 3700 and before and calls it Hakra-Ravi (2007:223).
b) Urbanization is wholly absent in the $R V$. There certainly was "nomad pastoralism" as mainstreamers emphasize repeatedly but there were also agricultural settlements (a fact which mainstreamers underplay or do not mention). The hymn to Kṣetrapati 'Lord of the Field/Soil' (4.57) alone should suffice but also the girl Apālā refers to her father's urvarā 'fertile field' (8.91.5); then there are many cultivation implements khanitra 'shovel', lāṅgala/sīra 'plough', srṇī ‘sickle', etc. Moreover, there is weaving with loom, shuttle, warp and woof (RV 1.134.4; 1.3.6; etc, etc) and metallurgy with smithies of sorts (4.2.17; 5.9.5; etc). Such activities imply settlement.

Some scholars thought the Rigvedic and Harappan cultures converge (Gupta 2005, Bisht 1999, Lal 1998, Singh 1995). As evidence is cited the word pur- which denotes 'city, citadel, fort, town' since its Greek and Baltic cognates 'polis' and 'pil(i)s' do. This is a very general misconception. In the RV pur never means anything other than an occult, magical, esoteric defence or stronghold which is not created nor ever destroyed by humans (Kazanas 2009, ch 4). The ISC cities had regular blocks, large buildings, also domestic and urban water-supply (McIntosh 2001: 100-101; Gupta: 2007:235): the RV knows nothing of all these. There are references to oka, grha, dama, dhāma etc, all of which
can denote any type of 'home/house' (made of wood and mud). Nor were buildings like the thousand-pillared mansion of kings Mitra and Varuna in the sky (2.41.5; 5.62.6: probably suggested by sunrays streaming down through clouds; for not even ISC cities had such mansions!). These descriptions most certainly do not indicate any urbanization: neither brick- nor stone-walls are mentioned in any hymn nor other features found in the ISC towns.

Rigvedic settlements are pre-urban - not at all urbanized communities as known in the Mature Harappan described as follows: "These are found spreading from Taxila in the northwest through the eastern foothills of Baluchistan through Rajasthan and Haryana via Punjab, Sindh and Kachch. All this presupposes the existence of a very strong internal network which was fully operational by 3000 BC" (Gupta 2007: 214).

The words for 'council' sabhā and samiti are also cited by some scholars but, surely, any community can have a council of elders without urbanization. Allusions in the $R V$ to chiefs/kings rājā and overlords/emperors samrāṭ also do not show urbanization since such offices can just as easily exist in rural communities. (The Red Indians in North America, nomadic and rural tribes, had local chiefs and overlords.) Pathways and/or roads (path-) also have been mentioned as crossing or branching out, but these too can be just as easily seen in a rural context. (For all such claims see Singh 1995; Bisht 1999 and Lal 2002, 2005.)
c) Fixed altars or hearths are unknown in the $R V$ but common in the ISC cities. The Rigvedic altar is a shallow bed dug in the ground and covered with grass (e.g. RV 5.11.2, 7.43.2-3; Parpola 1988: 225). Fixed brick-altars are very common in post-Rigvedic texts and descriptions of falcon-forms etc are given in the Brahmanas.
d) No ruins. Many cities were abandoned and fell to ruination after 1900 BC when the Harappans began to move eastward because of the drying up of the Sarasvatī and of the more general desiccation due to tectonic disturbances and climatic changes. The RV knows nothing of such ruins even though, according to the AIT, the IAs moved through these regions c 2000-1500 (in small waves, settled there, in the midst of deserts, and wrote the hymns which praise the mighty Sarasvati!). Some attempts have been made to read hymn 1.133 with its arma-ka (=of unknown meaning, perhaps 'vortex') as a description of a ruined city (e.g. Burrow 1963, Rao 1991:32) but, in fact, the hymn mentions no ruined buildings, no fallen walls and no materials such as wood, stone or bricks! It is a ghostly scene of frightful desolation, peopled only with
unfriendly she-fiends and demons (yātumati, piśāci and rakṣas). In sharp contrast the Old English poem The Ruin contains such persuasive details of the ancient remains (from Roman times?) that some scholars think it refers to the town of Bath (Mitchell \& Robinson 1996:252-5).
e) No cotton karpāsa appears in the $R V$ although this plant was extensively cultivated in the ISC and the fabric was exported as far as Egypt in the middle of the 3rd millennium while the Mesopotamians adopted the name as kapazum (? from prākṛta kapāsa). The $R V$ has 'skin' eta (1.166.10; ajina in AV 5.21.7 etc), 'wool' avi (RV 9.78.1) and śāmulya (10.85.29) and numerous terms for clothing and weaving but no mention of cotton. Be it noted that karpāsa is the only word for cotton in Sanskrit. It is found first in the sūtra texts, in Gautama's (1.18) and in Baudhāyana's (16.13.10) Dharmasūtra. Now, although cotton seeds were found at Mehrgarh period II, c5000, none were found in subsequent periods. Cotton cultivation appears only in the Mature ISC, after 2500. Thus the sūtra texts can be placed at about this period, , i.e. c 2600 at the earliest.
f) Silver rajata also makes no appearance in the $R V$ though gold and copper are well attested and silver is plentiful in the ISC. The word rajata occurs in $R V$ 8.25.22 and it denotes a steed or a chariot 'shining white'. Only in later texts is it used singly (AV 5.28.1) or with hiraṇya to denote 'silver' or 'white gold' = 'silver' (see Vedic Index 2: 196-7 and Lubotsky 2: 1169).
g) Rice vrīhi too is absent from the $R V$ although it appears in various sites of the ISC from at least 2300 (and in the Ganges Valley from the 6th millennium) ${ }^{1}$. The $R V$ knows only yava 'barley'. Rice becomes important in post-Rigvedic ritual and the more general diet. Some writers argue that the $R V$ has food-preparations of rice like apūpa, puroḷās and odana (Talageri 2000: 126-7). This is possible, of course. All three are in postrigvedic tradition said to be rice-preparations (though apūpa is given as flour-cake in most texts and 'wheat' in Lexica). But odana is primarily a water or fluid preparation (ud-) and odatī 'refreshing, dewy' is an epithet of Ușas, the Dawngoddess. The words odana and odatī appear only in the books of late $R V$. Since vrīhi 'rice' does not appear in $R V$ (but does appear in $A V$ ) and rigvedic yava is from the earliest tradition accepted as 'barley', I take it that the rigvedic people had barley and not rice - nor
wheat.
Note: Private communication from S.P. Gupta (RIP), Chairman of Indian Archaeological Society (June 2006). See also Sharma 1980 for rice in the Ganges basin in the 5th millennium and R. Tewari et al in Purātattva 2006 (vol 36: 68-75) for rice, again in the Ganga basin, north-east, in the district Sant Kabir Nagar (UP) in 7th millennium. These locations are too far from Vedic Saptasindhu but it seems likely that by 3000 the composers of the $A V$ had become acquainted with rice vrīhi and later this grain was cultivated in the ISC too.
h) Wheat was cultivated in the Saptasindhu (abundant wheat remains in Punjab) long before the alleged IA entry c2000. But the word godhūma 'earth's exhalation' is not in the RV. Only yava 'barley'. Rigvedic yava is from the earliest tradition accepted as 'barley'. It is highly unlikely that the Rigvedics knew barley but not wheat.
i) Literacy is not known in the $R V$. Some few scholars think it was known and cite RV 10.71.4 or AV 19.72 (e.g. Kak: 2003, Frawley 1991).

RV 71.4a says: utá tvaḥ páśyan ná dadarśa vắcam, utá tvaḥ sṛ̣ván ná śrnoti-enām 'seeing indeed (utá) one sees not Vāk [and] hearing indeed one hears her not'. Vāk is the mighty goddess of Speech (or Language) through which all things excellent and pure were manifested (níhitam-āvih, stanza 1). What st 4a-b says is that some people see and hear but, in fact they don't know Vāk (a) and the goddess reveals herself to those [she chooses] as a well-dressed, loving wife to her husband (b). There is not a single hint in all eleven stanzas that there is writing. In fact st 11 says that some sing ( $g \bar{a}-$ ) the psalms and prosper and some brahmins utter (vad-) knowledge and thus deal out (vi-mā-) the measures/regulations of sacrifice; there is no suggestion of writing: it is all oral. vāc means 'speech, utterance', never writing.
D. Frawley thought that a passage in AV 19.72 may refer to writing: 'From whichever receptacle kośāt we have taken the Veda, into that we put it down'. Books in ancient India consisted in collections of palmleaves or strips of birch-bark and were kept in boxes (1991249). Whether this is enough to establish knowledge of writing is doubtful. The word veda is 'knowledge' generally and not necessarily one of the three Vedas which in any case were transmitted orally. The word kośa could refer to some (metaphorical) non-material storing-place, e.g.
memory, lower mind (manas) higher mind (cetas, bodha, both in AV) etc. In any case, there is no other passage even remotely hinting at writing.

Words like likh-, lekha(-na) and mainly lipi (Pāṇini 3.2.21) denoting 'writing' are not in use before the sūtra texts. The vast corpus of Brāhmaṇa, Araṇyaka and Upaniṣad texts have not a single hint about writing and so create an enormous gap between the $A V$ and the sūtra period. Someone would have made a reference to writing somewhere in all these texts! So, writing was known in the ISC and the sūtras but not in the $R V$.

True, Aitareya Āraṇyka 5.3.3 has both ul-likhya and ava-likhya and at first sight one might think these are references to writing particularly as they occur in a context about study (Deshpande 1966). But this very context, in fact, disallows the meaning "writing". For the text says "the student should not study/learn (adhīyïta) ... after "writing" (ul-likhya)"; if the student does not learn in conjunction with writing, then when would he do so? Moreover, the wider context stresses memorizing from the guru's utterances; again, if there was writing, it would have been mentioned and memorization would not have been stressed. So here the verbs mean 'scratch'. The student should scratch himself! (See Falk 1992 with full references). So, in fact, there are no allusions (likh-, lip-, ) with the meaning 'writing' before the Sūtra-texts.

## j) No mention of iconography, relief, statues, paintings.

The RV has no allusions to artistic iconography - paintings, relief representations, statue(-tte)s or seals, all so common in the ISC. (The $R V$ 4.24.10 asks "Who will buy this my Indra" and this is thought by some to refer to a statuette, but this could be a transfer of favour and it is the only reference in the whole $R V$ without the use of any word for statue or icon.)
k) No perforated vessels. We must also take into account that many iconographic motifs, Harappan artefacts, decorations or seals, show affinity with elements found in post-Rigvedic texts. Thus PK Agrawala (2005) draws attention to round-bottomed perforated pots from Harappan sites and a vessel (kumbha) with nine holes (navavitrṇ̣a) or 100 holes (śatavitrṇ̣a) mentioned in Śatapatha Br 5.5.4.27 and śatatrṇ̣nā kumbhī 'a pitcher with 100 perforations' in $12 \cdot 7 \cdot 2 \cdot 13$. These and other similar descriptions echo the White Yajurveda (Vājasaneyī Saṃhitā) verse 19: 87 'a pitcher with 100 streams'. Such vessels were used for ritual sprinkling. A second parallel is furnished by the two-
horned bovine-like animal, duplicated and facing itself, on a Mohenjodaro seal with long necks and the pipal tree growing out of their juncture. This corresponds (writes Agrawala) to the two-headed cattle $d v \bar{a} y \bar{a}$ in $A V$ 5.19.7. Agrawala mentions other parallels of a twoheaded tiger and a two-headed bird (2005: 10-13). Thus it is indeed the later Vedic texts that have parallels with the Harappan arts and crafts, not the $R V$.


Iconography; dvāyā in Atharvaveda 5.19.7 ?


Pot with 100 perforations: Śatapatha $\operatorname{Br}$ 12.7.2.13.

Now all the fore-mentioned features are found in post Rigvedic texts the Saṃhitās, the Brāhmaṇas and fully in the Sūtra literature. For
instance, brick altars are mentioned in Sंatapatha Brāhmaṇa 7.1.1.37, or 10.2.3.1 etc. Rice vrīhi is found in AV 6.140.2; 7.1.20; etc. Cotton karpāsa appears first in Gautama's (1.18) and in Baudhāyana's (14.13.10) Dharmasūtra. The fact of the convergence of the post-Rigvedic texts and the Harappan culture was noted long ago by archaeologists. B. and R. Allchin stated unequivocally that these features are of the kind "described in detail in the later Vedic literature" (1982: 203).
If we had a case of 2 or 3 items we could bypass them saying, indeed, that absence of evidence is no evidence of absence; but the items are many and the absence of the building material ișṭakā in the RV (against the presence of wood, stone, mud and metal) and of wheat against barley, seems to me quite decisive.

All those who assign Rigvedic hymns c 1200 or even 1500 BCE must offer a good logical explanation for this phenomenon, i.e. the absence in the RV of all these items so abundantly present in the Indus-Sarasvati Culture. For if we had today an analogous undated Collection of 1000 poems with no mention of nuclear stations, eolic and solar generators, colour TV, laptops, mobile phones, collapse of the Soviet Empire, the rise of China as a superpower, the TwinTower destruction of $11 / 9 / 2001$ or Talibans, pollution, married homosexual couples and single unmarried mothers getting state benefits (to mention but few events/features of modern life) we would scarcely assign it to 2010 or even 1990.

The real difficulty about this issue of the Date of the Rgeda is the certainty that millions of publications in many areas of scholarship (not just Indology) will be thrown into the dustbin of History and many renowned reputations will be banished into blackest oblivion.

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