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Central Asian Roots and Acculturation in South Asia:
Linguistic and Archaelogical Evidens from Western Central Asia, the Hindukush and Northwestern South Asia for Early Indo-Aryan Language and Religion

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Abstract [*]

The roots of the oldest text of India, the Ṛgveda, have been discussed ever since a close linguistic relationship between the north Indian and European languages was discovered at the beginning of the 19th century. This connection goes back to their common ancestor, the prehistoric Proto-Indo-European (PIE) language. The closely related Old Iranian and Old Indo-Aryan (Vedic) languages, likewise, can be traced back to an Indo-Iranian (IIr) ancestor, one of the several branches of PIE. Generally, the homeland of IIr speech has been located to the north of Iran and Northwest India, somewhere between the Southern Urals and the Hindukush. People speaking Old Indo-Aryan (OIA) are supposed to have passed through these wide steppe and desert belts before crossing the Hindukush and entering Gandhāra and the Panjab, (viz., in the case of Old Iranian, before entering Iran proper).

However, recently discovered evidence indicates a substantial body of loan words from Central Asia that have been preserved independently from each other both in the oldest Indian and Iranian texts. They reflect the non-Indo-European, pre-Indo-Iranian language(s) spoken in the areas bordering N. Iran and N. Afghanistan, i.e. the *Bactria-Margiana Archaeological Complex*. These loans include numerous words from agriculture, village and town life, flora and fauna, ritual and religion. They were taken over and then exported to Iran and N. India by the speakers of the various Old Iranian and Old Indo-Aryan languages. Importantly, some of them also appear in Eastern Central Asia, in Tocharian, as well as in a western off-shoot of OIA, the Mitanni Indo-Aryan of Syria/Iraq, around 1400 BCE, and in the language of the contemporary Kassites in Mesopotamia. All these loans represent a series of intrusions by Indo-Iranian speakers into the world of the great Mesopotamian, Bactro-Margiana, and Indus civilizations as well as their individual, local acculturation.

These loan words and their inherent concepts, as well as the earlier ones from the Ural area, the steppes and the high mountains of Central Asia are studied in this paper. They provide decisive information about the track of the speakers of Indo-Iranian and pre-OIA before they entered the mountains of the Hindukush and descended into the plains of the Indian subcontinent. There, they first appear in Gandhāra and in the Panjab proper, the OIA homeland as reflected by the majority of Ṛgvedic hymns. In the last section, IA acculturation in the Ṛgvedic northwest as well as later Vedic developments in Kurukṣetra and Uttar Pradesh are studied.

§ 1.1. Introduction : Prehistoric Western Central Asia

Over the past few decades archaeologists have discovered an increasing number of sites of the great Oxus Civilization, perhaps better known nowadays as the Bactria-Margiana Archaeological Complex (BMAC), as well as its Neolithic and Chalcolithic predecessors.[1] While they have filled in a large gap between the great civilizations of Mesopotamia and the Indus, so far no written documents have been found, with the exception of the seal from Anau reported by F. Hiebert.[2] However, little to nothing is known about the language(s) spoken in the areas east of Mesopotamia (Hurrite, Akkadian, Sumerian, Elamite)[3], and those west of the Indus area. The language(s) of the Indus civilization also are by and large unknown, that is if we neglect the materials that can be distilled from the materials contained in the earliest texts in Indo-Aryan, the Vedas,[4] but which have unfortunately been overlooked for that purpose. Nevertheless, these serve as a guide of what language(s) may have been present in the subcontinent in c. 2000 BCE.[5]

The picture can be enlarged and projected back in time by using the oldest Iranian counterparts of the Vedas, the Avestan texts of the Zoroastrians, as well as the Old Persian inscriptions. Since Old Iranian and Old Indo-Aryan (Vedic) are so closely related, items common to both languages can be used to reconstruct the common-Proto-language, Indo-Iranian.

Otherwise, we have virtually no evidence for the areas between the great civilizations and those north of Greater Iran as they are too distant from the Near Eastern, Indian, and Chinese cultures to have been discussed or described in details in their texts.[6] However, the seal recently discovered at Anau should alert us to the *possibility* that early writing might be

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[1] Sarianidi 1992, 1998a, 1998b Dani 1992, Francfort 1989, 1990, 1994, 1998, 1999, 2001, Hiebert 1988, 1992, 2001.

[2] Hiebert 2002, Colarusso 2002, however, see Mair 2001. A few Elamite seals have been found in S. Turkmenistan.

[3] Languages known from barely more than the names given to their speakers in Mesopotamian sources, such as those of the Guti and Lullubi at c. 2250 BCE, are neglected here. For the contemporary situation on the Iranian plateau, see Vallat 1980, 1985, 1993, Steinkeller 1982, 1989, Blažek 1999. For (possible) connections between Elamite and Vedic names see Blažek 2002.

[4] For such (loan) words see Witzel 1999 a,b.

[5] For a discussion see Witzel 1999 a, b, 2001b, and forthc. a.

[6] For some such data see, however, §2, where the linguistic boundaries of W. Central Asia are discussed.

found in the area after all.[7] In the meantime all that we can establish for the languages used in the western Central Asian area comes from early Near Eastern and Indian (and also Old Iranian) sources. There are some references in the Sumerian and Akkadian documents of the 3rd to 1st mill. BCE, but they deal just with the border areas of Mesopotamia[8] and furnish only some vague references such as that to Aratta, probably Arachosia.[9] Similarly, we have only a few vague reminiscences in the earliest Indian texts (Rgveda) composed in the Greater Panjab (c. 1200 BCE-1000 BCE)[10] which seem to refer back to the area along the Volga (*Rasā*) and secondly, to the people along the River *Sindes* (Tacitus' name for the Merw or Tedzhen river): the *Dasa* or O.P. *Daha* (whom the Greeks called *Da[h]ai*), the *Arii*, and the **Parna* (Ved. *Pani*, cf. Ptolemy, Geogr. 6.10.2 *Parnoi, Daai/Parni, Dacae;* otherwise *Dahae*). Pinault (2003) connects *Pani/*Parna,* as loan word from the west, with Common Toch. **paniya* 'that which belongs to wealthy people" > Toch. B *peñiyo,* A *pañi* "splendor" and takes the Gr. form *Parn-oi* as reflecting a local variant of Ved. Pani with "intrusive" *-r-* (cf. Kuiper 1991:70-81), however see below §5. (Blažek (2002: 219-226) compares Vedic *dasyu* with Elamite *taššu-p* "people", **taššu **"man"; note Romani *das* "non-Gipsy" < RV *dāsa*).

In addition, after the sparse attestation found in the old Iranian and the much later Middle Iranian sources[11] most of these areas became Turkish speaking after about 1400 years ago; this has obliterated much if not most of the older Iranian and IIr. record, frequently even that of topographical names.[12]

Even in this unfortunate situation, we can retrieve, based on the records of neighboring Indo-Iranian peoples and on old loan words, an increasing amount of details of the pre-IIr./Iranian languages of the area, notably that of the BMAC (c. 2400-1600 BCE)[13]

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[7] See, however, V. Mair 2001; yet note Proto-Elamite seals close by, at Tepe Hissar, as well as at Shahdad, Shahr-i Sokhta, etc., and recent finds to the west of Tehran at Tepe Uzbeki.

[8] Such as the Guti and the Lullubi; similarly, the texts of the Hittite and Urartu realms for the boundary areas of Anatolia, NW Iran.

[9] *Lapis lazuli* is found in the nearby Chagai Hills (just south of Arachosia/Aratta) and in Badakhshan. Note Steinkeller 1982: 250 with details about a green variety, "carnelian with green spots," possibly turquoise, from Marhaši. However, the blue Badakhshan variety is more famous, until today. For Aratta see Steinkeller 1982, Vasil'kov and Gurov 1995, Gamkrelidze and Ivanov 1989: 36, Witzel 1995a: 320-2, Blažek 2002b: 215-218.

[10] The lowest date depends on the date of iron, c. 1000 BCE; see Possehl and Gullapalli 1999. For present purposes, "Greater Panjab" indicates the area from Gandhāra (Peshawar) and Swat in the west to Delhi and the Upper Doāb in the east, from the lower Pamir/Himalayan ranges in the north to the borders of Sindh and the Bolan in the south; however, the clear center of the Rgvedic area is western and eastern Panjab/Haryana.

[11] A few texts in Bactrian, Khorezmian, and Parthian as well as (frequently mythical) data in Pahlavi, and in the Graeco-Roman sources.

[12] We may note the proliferation of Central Asian place names ending in Turk. *-su, -kul, -kum,* etc. See the paper by P. Golden in Mair (forthc.) for information concerning the rise and the spread of the Turks. Needless to say we do not have adequate etymological dictionaries of Turkmen, Uzbek, or even for the Ir. languages (with the exception of one for older Turkic by G. Clauson, the dated one of P. Horn for Persian, and G. Morgenstierne for Pashto, H. Bailey for Khotanese Saka).

[13] Based on new carbon dates, see Francfort and Kuz'mina 1998: 468; 2400-1500 BCE (post-urban: 1800-1500 BCE) in Francfort 2001: 152. "Greater Afghanistan" signifies the territory covered by this country and some adjacent surrounding areas.

and of Greater Afghanistan. However, it is precisely these Indo-Iranian sources that have largely been neglected so far.[14]

For some years (1995-2002) I have drawn attention, mostly in brief and passing fashion, to a common body of words in Old Indian and Old Iranian texts that do not seem to be of Proto-Indo-Iranian (thus, Proto-Indo-European) origin. These words represent the non-IIr. languages spoken in Iran and in the northwestern part of the Indian subcontinent at the time these texts were composed, that is late in the second and early on in the first millennium BCE. As such, they are invaluable materials for the study of the language(s) preceding the introduction of Indo-Aryan (Vedic) and Old Iranian (O.Persian, Avestan). More importantly, both hieratic texts share a common substratum that can only be that of S. Central Asia. As will be seen below, it cannot come from elsewhere as both Vedic and Old Iranian individually imported it into their particular habitat, the Greater Panjab and Iran/Afghanistan.

Such substrate words are quite common in languages that have occupied the territory of an earlier people speaking a different language.[15] In English, for example, such common words as *sheep* (Dutch *schaap,* German *Schaf)* belong to the Neolithic substratum[16] of the North Sea coast of Northern Germany and Denmark, the homeland of Anglo-Saxon.

§ 1.2. Sources

In order to evaluate the scarce materials at our disposal properly, a brief look at our sources is in order.[17] The Vedas were composed (roughly, between 1500-500 BCE) in parts of present day Afghanistan, northern Pakistan, and northern India. The oldest text at our disposal is the Ṛgveda (RV); its is composed in archaic Indo-Aryan (Vedic Sanskrit). It is followed by a number of other Vedic texts, usually listed as Saṃhitās, Brāhmaṇas, Āraṇyakas, and Upaniṣads. Linguistically, however, we have to distinguish five distinct levels: Ṛgveda, other Saṃhitās (Mantra language), Yajurveda Saṃhitā prose, Brāhmaṇas (incl. Āraṇyakas and Upaniṣads), and the late Vedic Sūtras (Witzel 1987, 1997a)[18]

The language of the RV is an archaic form of Indo-European. Its 1,028 hymns are addressed to the gods and most of them are used in ritual. They were orally composed and strictly preserved by exact repetition through rote learning, until today. It must be underlined that the Vedic texts are "tape recordings"[19] of this archaic period. Not one word, not a syllable, not even a tonal accent were allowed to be changed.[20] The oral texts are therefore better than any manuscript, and as good as any well-preserved contemporary inscription. We can therefore rely on the Vedic texts as *contemporary* sources for names of

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[14] For initial suggestions see Witzel 1995a, 1999a,b; see below n. 158, 195, 264.

[15] Exceptions are the territories of Australia, Polynesia, and the Americas when first settled.

[16] Cf. Huld 1990, Polomé 1986, 1990, Vennemann 1994, 1998.

[17] For the sparse Mesopotamian sources, see below (Steinkeller, Vallat).

[18] For abbreviations of the names of texts see attached list.

[19] The middle/late Vedic redaction of the texts has influenced only a very small, well-known number of cases, such as the development *Cuv > Cv.*

[20] They even preserve very *special* cases of sentence intonation, see Klein 1997, Witzel 2001a.

persons, places, and rivers (Witzel 1999c), and for loan words[21] from contemporary local languages.[22]

The Ṛgveda was composed in the Greater Panjab[23] and is to be dated before the introduction of iron in the northwestern subcontinent around 1000 BCE (Possehl and Gullapalli 1999). Later texts cover all of northern India up to Bengal and southwards towards the Vindhya hills.

Some 4% of the words in the Ṛgvedic hymns that are composed in an archaic, poetic, hieratic form of Vedic, clearly are of non-IE, non-Indo-Aryan origin. In other words, they stem from pre-IA substrate(s).[24]

The situation is similar but not quite as beneficial as far as the Old Iranian texts are concerned. Only about a quarter of the original Avesta has been preserved. The oldest parts are Zarathustra's RV-like poems, his 5 long Gaϑās (Yasna 28-53), and his(?) contemporaneous ritual text embedded among the Gaϑās, the Yasna Haptaŋhaⁱti, a collection of Mantras used for fire worship. The rest of the Avestan texts is post-Zoroastrian and composed in Young Avestan language. However, the initial oral tradition of the Avesta has been converted in Sasanide times (c. 400 CE) into a written tradition whose surviving earliest manuscripts are not older than a thousand years and have been corrupted by centuries of decline during the early Islamic period of Iran.[25] Nevertheless, the philologically restored Avestan texts offer some data from Greater Afghanistan as Zarathustra's homeland was probably situated in northwestern Afghanistan (near the Kashaf River)[26] and much of the later Avesta was composed or redacted in southern Afghanistan (Sistan, Arachosia). However, in spite of being geographically closer to the Mesopotamian cultures with datable historical information, the Avestan texts are even less amenable to absolute dating than the Vedic ones. Mesopotamia (or early China) simply do not figure in all these texts.

The older Avestan texts (Gaϑās/Yasna Haptaŋhāiti) point to a copper/bronze age culture quite similar to that of the RV. The younger texts might overlap with the expansion eastwards of the Median realm (c. 700-550 BCE).[27] The few Old Persian inscriptions that

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[21] Summary and discussion for RV words by Kuiper 1991; for post-RV texts, see Witzel 1999a,b.

[22] The Vedas are followed by the ancient Tamil "Sangam" (*Caṅkam*) texts from the beginning of our era, all virtually unexplored for substrates and adstrates. On the Iranian side, there are sources such as the Pahlavi and early New Persian texts (Šah Nameh, etc.), all beyond the scope of the present paper. For place names, see Eilers 1982, 1987, Savina 1964, Schmitt 1995. Such investigations, however, are largely lacking for Afghanistan (note, however, Gryunberg 1980, Pakhalina 1976, Rozenfel'd 1953 for the northeast). For the toponymy of present day Iran, see the useful web site at Tokyo Gaikokugo Daigaku:
http://www.aa.tufs.ac.jp/~kkami/AbadIranE.html.

[23] See Witzel 1997a, 2001a: roughly, from Eastern Afghanistan, Gandhara, Panjab up to Delhi and even up to the Ganges (twice mentioned); and from the Pamirs/Himalayas southwards to the Bolan area.

[24] See Kuiper 1991, Witzel 1999a,b. This situation is remarkable: if one were to apply it to a Near Eastern context, it would mean that an ancient Jerusalem temple ritual might contain Philistine, Lebanese, Akkadian, Egyptian, or other "heathen" words. The Indian situation also differs remarkably from that of the Hittite empire, where the preceding non-IE language, Hattic, was actually used as the ritual language.

[25] Modern recitation depends on these written texts and cannot be used in the same way as Vedic recitation.

[26] Humbach et al., 1991.

[27] Discussion by Skjærvø 1995. However, the YAvest. local name of Bactria (*Baxδi*) is attested earlier, in the Atharvaveda, see Witzel 1980. Current estimates for Zoroaster range from the 14th to the 7th c. BCE. However, an early date is indicated by the name of Ahuramazda: O.Avest. *mazdā ahura* (or *ahura mazdā*), Y.Avest. *ahura mazdā*,

have survived date from 519 BCE onwards. However, other than is the case with old Indian texts,[28] the "foreign" words in the Old Iranian texts have not been evaluated so far. Researchers apparently were of the opinion that only a few could be found; the matter simply has been neglected (see n. 14, 158, 195, 264).

§ 1.3. Loan words and substrate languages

At this stage, a few words about linguistic substrates are in order. "Words from substrate languages" are defined here as all those words in early Vedic and O.Ir. that do not conform to Indo-European/Indo-Iranian word structure (including sounds, root structure and word formation) and have no clear IE/IIr. etymology.[29]

We have to distinguish various types of loans (Anttila 1989: 154 sqq). Some are due to cultural and economic contacts, such as the modern *guru* or *karma* (from India), or the slightly older *coffee* (from Arabia), *cocoa, chocolate* (from Meso-America), or *tea* (French *thé, etc.*) whose origin can be traced to S. Chinese (Amoy *t'e*), while the Russian, Indian and Japanese *chai/cha,* Nep. *chiya* are from a N. Chin. dialect. The Indian word has thus come overland and not by sea. The example would also be instructive if we did *not* know the history of transmission: linguists would be able to pinpoint the origin of the loan in two areas of E.Asia. Similar examples will be found below for Central Asian words. This kind of introduction of loan words is from an "adjoining" language, an *adstrate*. Examples abound in multi-lingual societies (India) or of societies in close contact (ancient and modern W. Europe, with cases such as *street* < Latin *(via) strata, Kaiser* < *Caesar, castle* < *castellum, cellar* < *cellarium, cella;* etc.).

Loans stemming from previously existing languages, upon introduction of a new, dominant language, are different (Anttila 1989: 171 sq.). The new language may function as *superstrate*, properly used and understood only by a minority at first (such as Latin in Celtic France), but it then spreads by assimilating an often large number of local words from the previous language, the *substrate* (note the Celtic place names in England, below).

Sometimes the superstrate does not become dominant (as Norman French failed to do in England); in this case we may still expect a large number of words from the superstrate in the persisting local language (French *beauté* > *beauty, ancêtre* ~ *ancestor,* where the English form reveals the older French one, with *-st-*).

Even if the source of the loan remains unknown, many loan words from "foreign" (substrate/adstrate) languages can be easily detected by linguistic means, and even if they belong to a long disappeared language. The reason is that all languages follow certain patterns, allowing only certain sounds or groups of sounds while others that are difficult to pronounce must be substituted by local ones. A typical example from English is that, until fairly recently, German and Yiddish words beginning with the sound *sh-* (*schnitzel, strudel,* to *shlep*) would have been impossible as English allowed only *s-*, as in *snit, strut, slip*). By now, these sounds

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and in Old Persian (519 BCE) already one word, $A^{[h]}uramazda$. For the transfer of Zoroastrianism into Persis (the modern province of Fars, i.e. southwestern Iran) see K. Hoffmann 1992.

[28] Note the ongoing debate, since the mid-19th century, especially S. Lévy, Przyluski, Kuiper, and the relevant summaries in Mayrhofer, *KEWA* and *EWA;* last update in Witzel 1999a,b.

[29] Lubotsky (2001) adds also some less indicative features: limited geographical distribution, specific semantics, i.e. a category which is particularly liable to borrowing.

have been accepted and are pronounced correctly. Similarly, even today words beginning in *ng-, mf-* etc. are not allowed (though by now a few African names have been locally adopted, such as *Mfume*).[30]

Words with such uncharacteristic sounds or sound clusters therefore indicate a certain cultural influence, even if the native speaker (or a latter day scholar) may not know where these words had come from originally.

This is especially true when we have to deal with toponyms and hydronyms that have come down to us from prehistory. It is well known that place names, especially names of (larger) rivers, are very conservative. Even today they may reflect languages spoken many thousands of years ago. For example, we have the Rhine (Lat. loan word Rhenus < Celtic *Renos* < IE *reinos*), Danube (Lat. *Danubius* ~ N. Iran. *Dana-*), Don, Gr. *Tanais* (from pre-W. Circassian *t'ana/t'ane* "Don", J. Colarusso, pers. comm.), Tigris (Latin, Greek < O.P. *Tigra*, cf. O.P. *tigra* "quick"; Arab. *[Nahr al] Dijlat*, both < Akkad. *(I)di-iq-lat* / Sumerian *Idigna*, all from a pre-Sumer. substrate!), Euphrates (cf. Arab. *[Nahr al] Furat*) which has been taken over from Greek < O.P. *[h]Ufratu* (close to *[h]u-fratar* "good brother)", Sum. *Buranuna* / Akkad. *Purattum* / Elam. *ú-ip-ra-tu-iš*, all from a pre-Sum. substrate more than 5,000 years ago.

The early river names of most of Europe belong to one and the same old system.[31] A different prehistoric system is found in Greece and the Aegean area, with the typical pre-Greek *-s(s)-, -nt-, -mn-* suffixes. This phenomenon has been extensively discussed for much of the 20th century.[32] The detailed investigation of both regions mentioned just now can serve as a guide -- and as warning post -- for the following deliberations.

It is important to keep in mind that names taken from a previous language (or from an adstrate) have more often than not lost their original meaning. If the source language is little known or unknown we can only analyze and compare the outward form of the names involved. This includes the sound system as well as typical suffixes and prefixes that frequently indicate the type of name, such as "river, place, mountain, plain" or that describe the item in question, such as "quick/slow, white/black" (river), "high/low" (place). However, these names have often been adjusted or re-interpreted by later languages, frequently by popular etymology (see above, *Tigris* as *tigra* "quick"). As may be seen in the discussion of the pre-Hellenic and Old European place/river names, these conditions may lead to many pitfalls. Some may appear in this exploratory paper as well.

The particular situation of Central Asia may be approached by a comparison with that of place names in England. We know that the early form of English, an Old Saxon dialect (a part of the Germanic branch of IE) has overlaid, in the middle of the first mill. CE, the Celtic (and Latin) languages of Britain. Both Celtic and Latin have left a number of loan words in Old English as substrate words, such as London < Celtic *Lugodunum* "town of the god Lug," *-chester* < Latin *-castrum* "fortified settlement". Later on, English saw the superimposed

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[30] Not all loans are as easily discernible as the Amerindian loan words *tipi, squaw, papoose, Manitou*, etc.; note however, the more difficult words *moose* < *moosu*, chipmunk < *sitomu*, or woodchuck (*Marmota monax*) from Algonkian *otchek, ochig, odjik* "fisher, weasel"; nevertheless, the English folk etymology gives the word away (Witzel 1997b).

[31] Explained, since H. Krahe, as an "old European" layer of IE (summary by W. P. Schmid 1995); this layer of river names has several elements that seem to differ from, and to predate PIE; note also that many Germanic words or names in the North Sea/Baltic area belong to a pre-IE substrate, see Polomé 1990, Huld 1990.

[32] Summary by Th. Lindner 1995.

(superstrate) influences of the Viking language (N. Germanic, with words such as *egg, they, she, he*, place names in *-vik, -ay*), then of Norman French with a large number of loans (*beauty, ancestor, -ville*, etc.), and finally an equally huge amount of learned, newly formed Graeco-Latin words, as well as various minor adstrate influences from the neighboring languages such as Dutch (words such as *dike, boss, mate*, etc.). Most interestingly for our purpose, Old Saxon and Germanic in general can be shown to have a large percentage of non-IE substrate words (such as *sheep, eel, roe, boar, lentil, land, delve, prick*) derived from a long-lost prehistoric Northern European language.[33]

      The situation in the Greater Panjab (the area of the earliest Vedic texts) and in Greater Iran (the area of the Avestan and O.P. texts) is quite similar. A brief, simplified summary would look like this.

GREATER PANJAB	GREATER IRAN

English loan words

Urdu/Perso-Arabic superstr. loans
influx of learned (Sanskrit) words

(development to New Indo-Aryan)	(development to modern Iranian)
influx of learned (Sanskrit) words (dev. of various Prākrts)	Arabic superstrate loans (dev. to Middle Iranian)
Old Greek loan words Old Persian/Iranian loan words	some Old Greek loans Old Persian /Later Avestan
(development from Vedic to MIA)	
Later (Ṛg)Vedic / OIA dialects Dravidian adstrate <----immigrant Old Indo-Aryan	Old Avestan Old Iranian superstrate <-----immigrant OIA in Iran *Sarasvatī, Sarayu, etc.) Central Asian substrate
Harappan language (see below)	Indo-Iranian in C. Asia, south of Uralic, Ket (Yen.)
unknown local language(s)	<------Indo-European

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[33] Cf. Hamp 1998: 328, Huld 1990, Vennemann 2001.

§ 2. Triangulating the Central Asian Area

As has been indicated earlier, we know even less of C. Asia than about the substrate situation of Iran and Northern India since we do not have any old Central Asian written or other traditional records, such as the orally transmitted Avestan texts. In addition, in most of these areas, people have been speaking Turkic languages for the past 1000-1500 years, which has obliterated much of the older Iranian, IIr. and pre- IIr. local record. Yet, even there we can make out, based on the written records of neighboring peoples and on old loan words, some details of the pre-IIr./Iranian languages of the area, notably of the BMAC (Oxus civilization) region.

As western Central Asia and the lands south of it were later on occupied by speakers of the various Indo-Iranian languages such as Saka, Avestan, Median, Old Persian, Nuristani, Vedic, etc., many of which have left us texts, it is best to begin with this language family. The original speakers of Proto-Indo-Iranian (PIIr., sometimes also called Aryan) have been located in various areas, such as the southern Urals and northern Kazakhstan, the Ukraine and the Caucasus area, or in recent Indian revisionist writing, even in Northern India.

However the combined data of the reconstructed PIIr. language allow us to pinpoint the general area where the still united Indo-Iranian proto-language was spoken. PIIr. data reflecting material culture, when compared with archaeological data, can be used to determine a time frame and a date *ad quem* (see § 7). All of this points to a copper/bronze age civilization, using the horse-drawn spoked wheel chariot for war and sport, a mainly cattle-based tribal economy, three social classes, and a common ritual and a religion stressing both nature worship as well as deities of social obligation.[34] The large amount of PIIr. data permits us to find loan words from IIr. languages and accompanying cultural contacts with neighboring languages and language families.

These are those of the Uralic (Finno-Ugrian) and Yeneseian (Ket) languages to the north, the two Caucasian language families to the west, Altaic and Sino-Tibetan as well as early on (though attested only much later) an Indo-European language, Tocharian, to the east, and finally the various Indo-Iranian languages themselves in their post-immigration homelands, in Greater Iran and in the Greater Panjab, to the South.[35]

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[34] Some of these deities may be reflected in the BMAC, see Witzel 2000a, forthc. b, and below cf. n. 150-154 for the same origin of some of the IIr. deities.

[35] Occasionally the Mesopotamian sources can provide some data such as on Aratta, see Steinkeller (1982), and in great detail Vasil'kov and Gurov (1995) who discuss Dravidian possibilities. Chinese sources are geographically too distant for most of the time before Zhang Qian (2nd cent BCE), though some loans from IE into Sinitic can be discerned, see below, n. 61.

Map 1. Languages and peoples, c. 2000-500 BCE

(Map adapted from *Bactria*, ed. G. Ligabue and S. Salvatori, Venezia 1988)

2.1. The Northern Border

§ 2.1.1. Uralic, Finno-Ugrian, and Yeneseian

Starting in the extreme north, it is very important to note that early IIr. loan words are preserved in Uralic and more specifically, its branch, the Proto-Finno-Ugric (PFU) languages. They establish the existence and spread of P-IIr. in the areas bordering the PFU homeland[36] in the East European and Siberian woodlands and, thus, also the relative age of the speakers of IIr. This evaluation is based on the exact form of IIr. that the various loan words preserved in Proto-Uralic and its somewhat later western branch, Proto-Finno-Ugrian, have retained: in other words, these loans form virtual "archaeological" layers of a contact situation that persisted for several millennia.

Koivulehto (2001: 236-238) adduces 11 loans from PIE into Proto-Uralic (PU) and PFU, such as PIE *wed-er/en- "water" (cf. Rédei 1986: 43) > Finn. vesi/ved-, PSamoyed *wit; PIE *wosa "bought object, merchandise, ware" (Hitt. waš "to buy", Ved. Skt. vas-ná "price") > Cheremis uža "price", Finn. *wos-ta > osta "to buy"; PIE *g'halgho- "long thin pole" > PFU *śalka, Finn. salko, Mordvin salgo. The rest of the words are, surprisingly, verbs: to fear, to plait/spin, shall/must, to walk/wander, to exchange/sell, to wash, to bore, to lead/draw (PIE *wedh "to lead, marry" > PFU *wetä, Finn. vetä, Hung. vezet). To be noted is the preponderance of words relating to exchange, commerce and cultural borrowing. Koivulehto adds 15 words that have come from PIE into western FU languages, among which PIE pork'o-s (see below), and 5 that are not attested in northwestern IE languages.

The remaining 26 words are from the stages of (P)IIr. and (P)Ir. In 1986, Rédei had mentioned only a few loans that might be attributed to the Proto-IE period, such as PFU *mete "honey" < PIE *medhu (cf. Koivulehto 2001: 247) or PFU wete 'water < PIE *wed-or-.[37] Harmatta (1992) has mistakenly subdivided the IIr. loans into 17 stages[38] which must be collapsed into just a few linguistically attested stages.

About half of the loans discussed by Koivulehto (2001) and even more of them in Rédei (1986) come from the Proto-IIr. (or pre-Proto-IIr.) period during which PIE *k^W, k^Wh, g^W, g^Wh became *k, kh, g, gh; thus, FU *warkas(e) "wolf", P-Samoyed *wɔrkɔ "bear" < PIIr. *vrka-s < PIE *wḷk^Wo-s, etc. Another early, pre-Proto-IIr. loan is *ket^{s}tro "spindle" > Finn. kehrä, keträ, Mordvin št'eṣe, kšt'ir (Koivulehto 2001: 249), with the retention of PIE -e- and -tst-.

Later on, *P-IIr. *k', k'h, g', g'h developed to IIr. c', c'h, j', j'h as seen in FU, F-Volg. *porc'as, porśas "piglet" (Koivulehto 2001: 242 derives this from PIE, but runs into problems

[36] See the brief summary by Kuz'mina (2001: 291) and other relevant papers in the same volume (Carpelan et al. 2001).

[37] Rédei has the following oldest loans: *miye "to give, sell", *muśke "to wash", *nime "name" (which may rather be Nostratic, cf. Jpn. na-, etc.), *sene "sinew", *toye "to bring", *waśke "metal", *wete "water".

[38] Harmatta's (1992: 360-367) specific levels of IIr. are as erroneous as the dates ascribed to them; however, all of this was taken over, with some modification, by S. S. Misra (1992, 1999) to establish that Vedic Sanskrit was spoken around 5000 BCE in the neighborhood of the Finno-Ugrians and that the various IE languages are derived from this hypothetical Central Asian Skt. and from a still earlier Panjab-based Sanskrit; for a discussion see Witzel 2001a, cf. Hock 1999. - For further details on Uralic and IIr. see Joki 1973, Rédei 1986, 1988, Katz 1985, 2001, Koivulehto 2001.

with W. FU derivatives); still later, IIr. c' > ś: FU *śata "100" (Koivulehto 2001: 248), FU *śaka, śawa "goat" (Rédei 1986: 59), FU *reśmä < *rac'mí.[39]

Finally, some forms in FU point to Iranian developments: FU *pakas(e) "god" < IIr. *bhaga-s, IIr. "share, [God] Bhaga" > common Iranian (Median, Scythian, Sogdian) "god, Lord, Mr." > PSlav. *bogᵘ "god".[40]

It is important to underline that the bulk of the data comes from the PIIr. period and this allows us to posit speakers of PIIr. at the northern fringes of the steppes, just south of the *taiga* belt, -- in other words, the linguistic and cultural ancestors of the later Vedic and Iranian tribes were the southern neighbors of the Uralic tribes (cf. below, §7).

§ 2.1.2. Another northern neighbor is the isolated Siberian Ket language that is still spoken on the middle Yenesei river.[41] It belongs to a group of related languages (Arin, Kott, Assan, Yugh, Pumpokol) that have now largely disappeared. Their toponymy shows that they must have covered a much larger territory, from the lower Yenesei to Tuva, and from the Middle (and to a lesser degree, west of the Upper) Irtysh almost to the Angara, in short, roughly the territory between the Irtysh and the Yenesei-Angara rivers (Vaijda 1998: 10, Blažek 1998: 27). Their hydronyms are typified in Ket *se's* "river", as well as in names ending in -ces, -tet, -set, -šet; -ul; note also Yen. *xurɪ "water", Kott kem, Pump. tōm "river".

Like Uralic, the Ket (Yeneseian) languages have a number of old loan words: Kott art'a "true, veritable" < IIr. *r̥ta, Ved. r̥ta, OAvest. ərəta, O.P. [ərta], Median arta, YAvest. arəta, Mitanni (and Greek historians) with the spelling arta-; Kott c'ak "force", Kott c'aga "strong" < IIr. c'ak > Ved. śak "to be able; force," perhaps also Ket ku'š, Yug ku's, Kott husa, Arin kuš, Pumpokol kut "cow" < Pre-PIIr. *gᵂaus, PIIr. gaus, Iran. gauš and Tocharian A ko, B keu, but note, rather, an origin of the Yen. words in P.Yen. *ku's "horse".[42]

§ 2.1.3. Some words may shed more light on the old (west) Central Asian language(s) of the area that are now lost. IE *medhu "honey, mead"[43] has already been mentioned. It appears as

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[39] See Rédei 1986; Koivulehto 2001: 250 reconstructs an unattested (pre)IIr. source *rec'mo/a (Ved. raśmi-). However, while the early vocalism may be in order, early PIIr. would still have had *rek'mi-. There are indeed problematic representations of certain vowels in Uralic when compared with their successive sources in (P)IIr. or older (pre-IIr.): old IE, Pre-PIIr. -o- + PIIr. -ä- in F-Volg. = IIr. *porc'os, or Common/Late PIIr. (k' > c') in F-Volg. *oraśe < IIr. *varāj'ha < PIIr. *wæroj'ho, and in later IIr. forms (c' > ś, j' > j), as in F-Volg. *waśara < IIr. vaj'ra < PIE *h2weg'-ro, or Koivulehto's "preserved IE e" in a form taken from early PIr. (FU *serä "old" < PIr. *dzero ~ Ved. jarant). The FU representation is often due to the necessities of the FU sound system, FU vowel harmony, and certain substitutions (e > i, o > u), as seen in F-Volg. *reśmä < *ræc'mí. Cf. also Rédei 1986: 33 sqq. for similar substitutions of Iran. vowels in Permian (Votyak) loans, such as a > o, u; a > u, etc. -- Harmatta's FU and IIr./Ir. forms (1992) are not reliable.

[40] This word, via normal Slavic sound shifts, derives from N. Iran. (Scythian), i.e. baga- "god"; likewise many of the Ukrainian/S. Russian river names (Don, Donets, Dnyeper, Dnyestr, etc. < danu "water"). Only in some areas of Iranian, the IIr. word *bhaga "(God) Share" has developed the meaning "god, lord". The word thus is derived from Old Iranian, not directly from IE. PFU *pakas(e) "luck" > Mordvin. pavas "luck" shows the older meaning, from IE *bhagos > PIIr. bhagas "share", see above.

[41] For a detailed discussion see several articles in the journal Mother Tongue IV, Boston 1998: 4-32.

[42] Yugh ku's, Kott huš, Arin kus, qus, Assan huš < Proto-Yen. *ku's "horse" (Blažek 1998: 27); see n. 66.

[43] Cf. Lubotsky 1998: 379, Koivulehto 2001; on the eastwards spread of the honey bee, Carpelan and Parpola 2001.

Ved. *madhu* "sweet, honey, mead", Avest. *maδu* (cf. Bur. *mel* "wine, from grapes"), Sogd. *mδw, mδw* "wine" , Toch, B. *mot* "brandy", Toch. B *mit* "honey" < *m'ət* < IE *medhu*, Gr. *méthu* "wine", etc. and it has been widely borrowed by neighboring languages, both northwards into Uralic *mese, mete*: Finn. *mete*, Hung. *méz* "honey", as well as eastwards into Proto-Turk. *mïr*, Chin. *mi* < *mjit/mit,*[44] Sino-Kor. *mil*, Jpn. *mitsu* < *mit(u)*. Its Iranian form, Iran. *maδu* > Turk., and Mong. *bal*, Korean *bel (beol)* "bee" (cf. Jpn. *hachi*; note Arab. *madī?*); finally also into Toch. B, in its specialized meaning *mot* "intoxicating drink".

However, there is also another source of the word for "honey, mead", which must be different from the C. Asian source, **med(h)-*, discussed so far: Gr. *mélit-*, Hitt. *milit*, Lat. *mel, mell-*, Gothic *miliϑ* point to a more western source, **melit*, perhaps in the Balkans/Anatolia. Note that the early reconstructions of Nostratic[45] list both forms under *majλʌ > Ural. *majδ'ʌ*, Drav. *matt, mitt* (*DEDR* 4662 *mattu*), Altaic */m/ala, bala.*[46]

All of this points to an early northern boundary of IIr., coinciding more or less with the heavily wooded *taiga* belt of Russia and Siberia.[47]

The old Central Asian word for "lion", **sengha/singha* has a similar spread and variation (cf. Behr n.d., Blažek, n.d.): Ved. *siṃha* "lion" < *sinj'ha* < *sing'ha*. However this differs, even within Indo-Iranian, from the Proto-Iran. form *sarg* that has resulted in Khot. *sarau*, Khoresm. *sary*, Sogd. *šryw/šrw*, Parth. *šarg/šgr*, Pahlavi *šgr, šyr*, N.Persian *šēr* (Horn 1893, no. 803); cf. also Elamite-O.P. *Šargu-data* (*Šá-ir-ku-da-da*, etc.). Blažek also derives Ved. *śṛgala* "jackal" from an IIr. form *śṛghu* (Pāli *sigala*, Kashmiri *śal*, Nirlami *šakál*, Nuristani *syōl* "wolf", (Prasun) *sil, ṣeli*; cf. Bur. *hal* "fox").

Perhaps some Dravidian words belong here as well (Blažek, n.d.): *ci(v)vaṇki* DEDR 2579 < *ciṟu(C)t-ai* as in Telugu *ciṟu puli (puli* "tiger"), Tulu *cirtepili* "leopard", Tamil *ciṟuttai* "panther".

However, one will have to compare Tib. *seṅge*, W. Tib. *seṅge, siṅge*, Zhaṅ Zhuṅ *saṅgo*, Lepcha *sung-gi* (Behr, n.d. 15); Chin. *suan-ni* < Middle Chin. *swan-ŋɛj* < O.Chin.

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[44] Since Polianov (1916), see Lubotsky 1998: 379; see Carpelan and Parpola (2001: 115 sq.) for the eastward spread of beekeeping.

[45] Nostratic is the reconstructed source, at c. 10,000 BCE or earlier, of IE, Uralic, Altaic, Dravidian, Kartvelian (SW Caucasian: Georgian, etc.), and Afro-Asiatic (formerly, Hamito-Semitic), see Illich-Svitych 1976 : 38 sq.

[46] Note, even beyond this area, in Polynesia, though the area had no bees or honey before European colonialization: Samoan *meli*, Hawaiian *mele, meli*; *mele, melemele* "yellow", Maori *miere*; Rarotongan *meli* "honey", Mangareva *mere* "honey". (However, Tongan *melie* "sweetness, sweet, delicious" apparently stem from Proto-Pol. *malie* "pleasant" -- pers. communication by R. Clark, 4/4/2002). Much of this could be old, assuming an older S.E. Asian/Melanesian origin of the underlying concept: A variety of the bee, *Apis cerana* (or *Apis indica*) is found in India and S. Asia up to Java and Borneo, and stingless bees, *Melliponinae,* occur all over the southern hemisphere, including Australia, New Guinea, and Melanesia (Carpelan and Parpola 2001: 116), an area where the Proto-Polynesians have passed through. Thus, the Pol. words must not necessarily be an introduction by missionaries (from French *miel* "honey", though R. Clark tells me that there were early French speaking missionaries on the South Island of New Zealand). For, the word for is also seen in Haw. mythology: *mele-mele* "a star name": *Melemele* ("yellow star"?, MW)and *Polapola*, "the twin stars", the former male, the latter female. At any rate, this is already Proto-Nuclear Polynesian (Samoan, Futunan etc.) *melemele*; cf. also Haw. *Melemele* "a mythical land". -- Finally, for the spread of the word for "honey", note the role of *cire perdue* (also typical for the S.E. Asia) with the inherent use of bee's wax, see Andrew Sherratt, in V. Mair (forthc.)

[47] Note, again, A. Sherratt on the spread of bronze smelting and cire perdue casting along the *taiga* belt.

*^{a}so[n/r]-^{a}ŋe (Behr, n.d.: 10, *suân-ŋei Karlgren, Henning). However, Starostin (1989: 402) reconstructs *Cwân-ŋ(h)ể' and S.E. Jakhontov (in Blažek n.d.): Old Chin. *sŏr-ŋẽ';[48] for the Central Asian interchange of -n-/-r- see below §5.[49] Another word contains variations of O.Chin. *tsu[r/n]-ŋe (Behr, n.d.: 10 sq.). The common word, however, is mod. Chin. shi-zi, from "Arch. Chin." *,şi- (Karlgren, or < *s,ə'jə", *srij-, see Behr: 5, derived by Pulleyblank, via *s,jə'cə", from Toch. śecake); cf. also Jpn. *si- > shi(-shi).

Further west, Toch. A śiśäk, B śecake "lion" < śecáke < *śec-äke with the common, borrowed IIr. suffix -a-ka (Pinault 2002: 331; for other etymologies, see Behr n.d.: 17-20), and perhaps also Armen. inc, inj seem to go back to a S. and E. Central Asian variety of the word such as **si(n)c'-, which is close to pre-Ved. *sinj'ha. Behr (nd.: 20), too, thinks of an unknown Central Asian language as the ultimate source of the Toch. B and Chin. words.

Such forms are indeed found in N. Caucasian: PEC *c.ä:nq·V "lynx, panther" (PNEC *-oniq:qo- J. Colarusso, pers. comm.), Nakh *c.ǒq "snow leopard" > Chechen c.oq·, Avar-Andian *c.irq·q·V > Avar c.irq·q·, Akhvakh c.iq·q·o "lynx", Godoberi c.irq·q·u "snow leopard"; Dargwa: Akusha c.irq· "panther", Lak c.iniq·. Note again the interchange between forms with -r- and -n- that have not been explained previously (Blažek, n.d., also draws attention to Assyrian simkurru "a hunted mountain feline, gepard", and Elamite place names such as Šenkureh > mod. Senkereh, as well as Akkadian zirqatu "wild cat, lynx").

Similar to the case of "honey", the more western IE languages have taken their word for "lion" from a different source, which in this case is an entirely dissimilar Balkan or Mediterranean(?) one: Gr. lís, and leôn/le(w)on(t)- > Lat. leôn- (cf. Behr, n.d.: 16 on Toch. lu, genitive lw-es "beast").

It is imperative that more such data be identified and collected to arrive at a closer picture of the northern parts of W. Central Asia.[50]

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[48] See now Pulleyblank 1995; Lubotsky 1998: 379. For details of the Chinese attestations see Behr, n.d.: 5 sqq.; note that there is no early attestation of the lion in China, except for the recent finds of some small lion figures at Erlitou III-IV (late 3rd mill. BCE, Behr, n.d.: 3). -- There existed a sub-variety, the "Iranian maneless lion" (Masson 1992: 39; apparently different from the one seen in Persepolis sculptures; for this *panthera leo persica* see Behr n.d.: 3); another remnant population of the Asian lion is still found in India, in the hills of Girnar (W. Gujarat, cf. Behr : 2).

[49] For an inner-Chinese explanation of the r/n change in this word see Behr n.d.: 15; the rare and early suan-ni is glossed "shizi" in Guo Pu's commentary on the Mu Tianzi zhuan (3rd c. BCE), < O.Chin. *so[n,r]-ŋe, close to the Tibetan form. -- The word was reconstructed by Henning (see KEWA, s.v. siṃha) as **slengha; however, there must have been another form from another Central Asian dialect or language, based on **šer(gh), or now with Blažek (n.d.) Iran. *šargu/sargu < śorg(h)u < śṛg(h)u; cf. below §5, on the interchange of r/n. -- Not related is Turk. (etc.) arslan "lion," as is, incidentally, the often quoted Suahili simba < PBantu *-címbà "wild cat" (Behr, n.d. 14).

[50] Leaving aside the speculations of Harmatta (1992) and worse, Sergent (1997) on Dravidians in C. Asia, including Harmatta's unlikely Haftyar from Ir. haft < IIr. *sapta "seven" and Drav. (y)ar(u) "river"; however, -yar is a common N.P. suffix, see Horn 1893: 251. Or, Harmatta's Sumer. Aratta (= Shahr-i-Sokhta, Sistan) ~ Arava "Tamil man", Araviti "Tamil woman", Aratta "Tamil settlement" or "Tamil land", as well as his wide-ranging speculations on Kaššu, Kassites, Kashgar, and the Caspian Sea (1992: 370 sqq). See now Vasil'kov and Gurov 1995: 36, who derive the word Aratta from Drav. DEDR 372 er "mountain ebony, Bauhinia racemosa L." + DEDR 101 *aṭṭV "ravine", thus "ebony ravine".

§ 2.2. The Eastern Border : Eastern Central Asia

It is much more difficult to specify the linguistic eastern border of Western Central Asia. For the early periods around 2000 BCE and for more than a thousand years onwards, the situation in Eastern Central Asia (East Turkestan, roughly present Xinjiang) is as lacuneous as that in Western Central Asia. To some extent, place names that can fill in the gap in the evidence available so far. However, there exist only few studies of these names in western languages, the case of Tocharian excepted.

A first hint may be provided by the names from Sogdia, on the SE border of W. Central Asia. Apart from very scanty mentioning in O.P. inscriptions and Avestan texts, it is Herodotos and the Alexandrian historians who transmit our first notices: a few personal names and relatively more place names. However, most of them (such as *Mara-kanda*,[51] *Zari-aspa*) are already of clear O. Iranian etymology and hardly go beyond the eastern boundary line that is of interest here.

They can be supplemented by modern place names such those of the sole descendent of Sogdian, Yaghnobi (Zerafshan valley),[52] or by those from the Pamirs.[53] Gryunberg (1980: 168) gives a long list of relevant place names from Afghan Badaxšān[54] and specifies that these "substrate" names point to a widespread language, or at least to a certain toponymical area based on a Pamir language, probably Sogdian. Indeed, it must be noted that some of the names mentioned are clearly formed with typical later, E. Iranian suffixes (*-iw*, *-mand*, etc.), often the same (see Khromov 1960) as found in the successor to Sogdian, modern Yaghnobi.[55] It remains to be seen which real substrate names remain when the individual etyma used in the toponyms have been etymologized backwards to an early Iranian or otherwise, to an unknown local language.

Data[56] from the surviving E. and N. Iranian (Saka) languages could be added, including the only eastern descendent of Saka, Sariqoli, on present Chinese territory.[57]

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[51] E.Iran. *kanda* "town", cf. Paṇini's 4.1.103 *kanthika* "inhabitant" of Varṇu, mod. Bannu; see below n. 160, 161 for a list of Sogdian names; cf. Khromov 1960, 1980, Èdel'man 1980.

[52] Khromov 1960 specifies suffixes such as *-ef*, *-uf*, (< Sodg. *-uv*), *-ic* (< Sodg. *-yc*), *-kam* (*-kand*) < *kt* "town", *-yar* < *γr* "mountain", *-zoi* < *z'yh* "earth, land", *-rāt* < Sodg. *rwt* "river" - *rovut* (cf. Tajik *ravad*) "meadow".

[53] See Savina 1980: 140-155; Èdel'man 1975.

[54] With "substrate toponyms" such as *Karniw, Marc, Malmunj, Muzung, Reman, Raymand, Khewurz, Dawang* (river), *Šinj, Ådnyal, Zū, Elk, Šalil* etc. She specifies from the side valleys of the rivers Kufar (Darvaz) and Zardev (Sargulyam): *Roghūd, Wyaj, Rawinj, Ghezw, Raj, Purzarg, Našer, Imj, Kher; Yasic, Iwinak, Sucu, Yakhcew, Ezwan, Pijangiw, Bušt, Winj, Afrij, Korkhu, Baharak*, etc. Gryunberg concludes that in Yaftal, Rog, Darvaz, and Sargulyam there was a common toponymy; however, she also regards it possible that there were several successive levels that built up to the present substrate.

[55] For the same area, L. Dodykhudoeva (2000) lists a number of interesting Tajik "substratum words" that have been taken from East Iranian languages. Some of them seem to have no clear Ir. etymology. Note that the "suffixes" in West Iranian (Persian) toponymy differ to a large degree, see Savina 1964.

[56] See also the discussion of many linguistic details of the Greater Pamir area in Èdel'man's (1968) discussion of Indo-Iranian linguistic geography.

[57] Still widespread in the hills and mountains south of Khotan. The western variety of N. Iranian is preserved in the north and south of the Caucasus range as Ossete, a descendant of Alan.

Further, the contribution of Burushaski and its earlier forms[58] as well as an unknown substrate present in the Pamir area (Berger 1960, Jettmar 1975: 190, Tikkanen 1988, Blažek 1998: 449 sq.), and in the IA language Khowar[59] as well as in the Hindukush (Èdel'man 1968: 58) should be compared.

A closer study of the local names in the (Gāndhārī) Niya Prakrit in S. Xinjiang[60] with personal names such as Ṣekrase, Bhimase, Bugosa, and of the substrates preserved in Tocharian,[61] with place names such as Yursa, Kuci, Hippuka,[62] would yield further information on the eastern neighbors of prehistoric Western Central Asia.

In fact, G. Pinault (2003) has recently pointed out that some words that have been identified as stemming from the general area of the BMAC (below, §3.2) are also found in Tocharian. Such words appearing in both Tocharian languages (A, B) must go back to early Common Tocharian. Like the BMAC loans in O.Iran. and Vedic, they do not have IE word structure and etymologies and also cannot have entered Tocharian at the later stage of contact with Iranian and MIA as they follow the general sound shifts from PIE to Tocharian ($*a > \alpha >$ Toch. B e, A a, $*\bar{a} > \mathring{a} >$ Toch. B o, A a). They include words such as išt(i) "clay, mud brick", anc'u "(rusty) brown", c'arwa, "hunting, living in/from the forest", pani "wealthy", aṇi "hip", athṛ "superior, overcoming force" (see §3.2, 3.4, 3.5, n. 146, 150, 150). Pinault sums up his new evidence as being very similar to the BMAC one: voiceless aspirate stops, syllabic liquids, several palatal stops and palatal clusters, even retroflexes (see, however, §5). This new evidence now provides the Eastern rim of influence of the BMAC language(s).

. As can be expected, Tocharian, which seems to have split off from PIE at an early stage (Hamp 1998), and moved into Eastern Central Asia at perhaps c. 2000 BCE, also shows contacts with Uralic (Ivanov 1985) and Altaic languages (Róna-Tas 1974, 1988, Reinhart 1990), especially early Turkic (Clauson 1975, Pinault 1998), and since Shang times with Sinitic (Pulleyblank 1966, Lin 1998)[63] as well as with Tibeto-Burmese (Sapir 1951, Blažek 1984).

All of this leads, however, much beyond the frame of the present study.[64] Nevertheless, it should be pointed out that there are additional, very early loans that can indicate a network of languages connecting western and eastern Central Asia. These include the words for "lion" and "honey" that have already been discussed (above §2.1). The substrate word **sengha/singha "lion" straddles the whole area, from Armenian and Iranian to Tibetan, Tocharian and Chinese, and so does **med(h)-/ melit- from Finno-Ugrian and PIE to Chinese and Japanese on the one hand and to Hittite and Latin on the other. In this connection it

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[58] Old Burushaski names in v. Hinüber 1995; comparison with Basque and Caucasian by Bengtson 1992, 1999, 2001, cf. Harmatta 1992, Tuite 1998 for a comparison of Bur. and Caucasian grammar and religion, Parkes 1987 for a comparison of Pyreneean, Caucasus, Pamir ethnology, with a binary system (male/fem. : pure/impure) of activities and correlated wild and domestic animals.

[59] See Kuiper 1962: 14, Witzel 1999a,b.

[60] See discussion by von Hinüber 1995: 663.

[61] For the contacts between Tocharian and Sinitic see Pulleyblank 1966, 1995, between Tocharian and Altaic, see Clauson 1972,1975, Róna-Tas 1974, cf. also Róna-Tas 1980.

[62] O. von Hinüber 1995: 662; cf. the place names in Pinault 1987, 1998.

[63] Candidates for late IE/Toch. loans into Chinese include such words as *lak "milk" (note the Himalayan NIA language Bangani with non-IA lɔktɔ "milk", and cf. below §7 for a possible arrival of the Proto-Bangani speakers from C. Asia); *mit "honey"; *khwin' "dog" (cf. TB *kwiy "dog/puppy").

[64] Early contacts of Sinitic with Tocharian and/or other IE, and those of Tocharian with Altaic are excluded here.

should be noted that one incentive for the eastwards spread of the word for bees and honey may have been that of the use of bee's wax in the early copper casting technology of *cire perdue* (see A. Sherratt, in V. Mair, forthc.) that spread along the *taiga* belt of S. Russia and S. Siberia (see n. 46-47).

Further, we have a great number of local words for the horse, which will originally have meant "wild horse" that was hunted and consumed by Neolithic people (e.g., at Botai in Kazakhstan, 3300-2700 BCE, Mallory 1998). Though this is not the place to begin a comprehensive study of all Eurasian words for the "horse" the following may be mentioned.

IE $h_1ek'wo$-s[65] :: FU *lox* :: Yeneseian (Ket) *ku's*[66] :: Turkic OT *(x)at* "(riding) horse" (Janhunen 1998: 415, note *yunt* "horse" Róna-Tas 1980: 378); however, the word is represented in a number of other language families: Caucas. *k'otu*,[67] Hittite *kur-ka* "foal" (*EWA* 373), Sumerian *anše kur* "mountain ass" (rather the *kur*-donkey?), Drav. *kutir(ai)*,[68] Munda (Koraput) *kurtag*,[69] Korku *gurgi* (= *kurki*), Sabara (Sora) *kurta*, Gadaba *kruta* < *ghurta*, Tib. *rta*, but Tsangla (in Bhutan) *kurta*,[70] Meithei (Manipuri) *sa-gol*,[71] Bur. *ha-yur*

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[65] Including Toch. A *yuk*, B *yakwe*, Hieroglyphic Luwian *á-zú-(wa/i)*, Cuneiform Luwian *azzu(wa)*, Lycian *esbe*, Hurrian *ešši*, *iššiya* < Mitanni IA, and other loans such as into Uralic; other reconstructed forms include: *$Heh_3k'ú$-/ *$H_2ek'u$-, *oH_2ku-, H_3eku-, $H_3eH_1k'u$-/$H_3H_1k'u$ (Blažek 1998). For the IE designations of the horse see Hänsel et al. 1995, Raulwing 2000; Blažek 1998: PIE *Hekwo-s* from Proto-Yen. *ik-ku's* "stallion", *kus* "horse > cow", that is close to the Neolithic (horse) hunters at Botai in Kazakhstan, 3300-2700 BCE; see now J. Colarusso, (pers. comm.) regards Yen. *ik-kûs*, *kus* as a borrowing from IE.

[66] Arin *kus*, *qus*, Assan, Kott *huš*, Yugh *ku's*, cf. Werner 1998: 20.

[67] Tuite 1998: 464, cf. Andij *k'otu* "horse" (Andic, belonging to the Avar-Andic branch of NE Cauc.). J. Colarusso (pers. comm.) adds, substantially: "The NEC forms for "horse" show, as is usual, a number of distinct roots (hachek = pharyngealization, C˙ = tensed and prolonged consonant, unaspirated if voiceless or strongly ejective if glottalized): Avar *c"u*, Andi *k'otu*, Akhvakh *urc"é*, Chamadal *urc"é*, Dargi *urci*, Lak *$c^{"0}u$-*, *c"u-*, *duc"-*, *šugu*, *c"a'tu*, *k'otu*, *$k^{0}atu$*; but Tabasaran *haywán*, Aghul *haywán*, Tsakhur *balkan*, Lezgin *p˙alk˙an*, Khinalug *ps-i/ps-o-i*, Udi *ek-*, *ekw-* (oblique stem). From which I would reconstruct the following: *c"u-*, with derived stems *d/rV-c"u-*, metathesized to *ur-c"u-*, with the odd *k'otu-*, *p˙alk˙an*, and *haywán*. These may have meant "mare, stallion", etc. The Udi clearly reflects some very old IE form. The Khinalug might reflect an Iranian loan (older than that for "colt"): *aspa-* > pre-Khinalug *apsa-* > *psa-* > ps-i-/ps-o-, or it may be just one more odd root. -- The Northwest Caucasian forms are all straightforward (W.Circass. /š`ə/ (retroflexed, aspirated), Ubykh /c"'a/ (laminal) "horse", /c"ədə/ "donkey", Abkhaz-Abaza /(a-) c"ɔ/ "horse" ). These are clearly cognate with the first NEC root, and point to a common NC **c"`u, The PNC form with an initial syllable, perhaps *hac"a (h = voiceless pharyngeal, c" = laminal), is the word for 'brother.' This form might even be *ay-c"'ha, with a frozen reciprocal prefix and the root for 'horse' used as a totemistic reference for 'brother'. Blažek has cited an Abkhaz form, /ac"a/, with the ubiquitous indefinite noun marker /a-/."

[68] Drav. (*DEDR* 1711 b) Tam. *kutirai*, Tel. *kudira*, *kudaramu*, Kota *kulyr*, Toda *kïϑïr*, Kodagu *kudïre* have been compared with Elam. *kuti* "to bear", *kutira* "bearer" (McAlpin 1981:147-8; Southworth 1979: 181). Note also Tirahi (Dardic) *kuzəra* (Harmatta 1992: 375, cf. *CDIAL* 3219?).

[69] Drav. (*DEDR* 1711) *kutirai* "horse" > Koraput Munda *kuXrtag*, see Zide & Zide 1976: 1331.

[70] Shafer 1954: 25 *ghurta*, contra J. Bloch's *ghutr-* (Bagchi 1929: 24).

[71] Berger 1959: 27, n. 36, p. 33 sqq. (Ling. Survey I, pt. II, p. 105).

< *sayúr,[72] Drav. *gur-,[73] Brahui (h)ullī, Khasi [u] kulai, Amwi kurwa', Indones. kudja; note also Late Vedic loan word ghoṭaka, (modern NIA ghoṛ-, etc.). The same word seems to have been introduced to S. and S.E. Asia along various routes (including those across the eastern Himalayas) after the domestication of the horse. As Berger (1959: 32) put it: "das weltweit verbreitetete *kur/kul". It seems to be reflected even in the relatively late German Gaul < Middle High German gūl "worthless horse; male animal, (e.g.) boar" which would derive from an isolated, hypothetical IE, or rather pre-Germanic *ghūl-. Taking into account also Yeneseian *ku's and Turkic *(x)at, may one posit an older Eurasian form **kuC : *kur/kul :: *ku' / * $h_1 k^W$- / *k'ot-u?

Finally there are further, isolated designations such as Munda sadom,[74] Eastern Himalayan (Dhimal) ōnyha, Lepcha on; Drav. *(h)ivuli,[75] Tib. rta,[76] Elam. lakpilan (Blažek 1999: 64).

On the other hand, there exists also another very wide-spread, in fact, common Eurasian, word for the horse: **mar-/mor-. To begin with the Central Asian nucleus of the term, we have Modern Mongolian morin, mörin < *morï, Tunguse murin (borrowed into Ghilyak as mur, murng), Korean mar, mal < mål), Japanese uma (mume) / Ryukyu nman < *uman, *mVrV, Chinese ma < *mraq (mra') < *mVra, (or *mwa, Benedict 1972: 189), Dun-Huang Tib. rmang, Burm. *mrang-h > myin-h, Kachin gù-mrà; Thai ma, note Drav. ma(v)[77], Nahalī mav. Janhunen (1998: 415) considers them to have been "introduced to East Asia from a single source,[78] possibly by "a single wave of cultural impact" -- perhaps all from a Proto-Altaic *mVrV, which proposition is dismissed by Janhunen (1998: 424).

We also have, at the other end of Eurasia, the isolated W. IE *mar-ko- "horse" (Pokorny 1959: 700) as in Celtic: Irish marc, Cymr. march, Gaulish marko-; Germanic: O.Norse marr, O.Engl. mearh, Engl. mare, O. High Germ. marah, fem. meriha, Mähre, cf. mar-shall. Due to their isolation, Janhunen (1998: 425 sq.) does not wants to connect western IE *mar(ko)- with the Central Asian *morï, and regards any similarity as accidental (likewise, Lubotsky 1998: 385).

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[72] Berger 1959: 27 n. 36.

[73] DEDR 1711(b): Tel. gurṟamu, Kolami gurram, Naikri ghurram, kuramam, kurrmam, Parji gurrol, Gondi gurram, Konḍa guṟam, Kuwi gūrumi, gurromi "horse"; (for Burrow on Tel. gurṟamu < Skt. ghoṭaka? see IJDL 1, 23-24).

[74] Pinnow 1959: 78 §70: "hardly to be connected with Khmer seh, Bahnar ÿšeh".

[75] Tam. ivuḷi and Brahui (h)ullī "horse" (< "half-ass, hemione/onager", Burrow 1972, McAlpin 1981: 147; DEDR 500), see now Blažek 1999: 64 for a possible connection with Semitic *ʔib(i)l- "camel"; -- other Drav. words include: DEDR 500 Tam. ivuḷi, Brah. (h)ullī, 1711 Tam. kutirai etc., DEDR 3963 Tam. pari "runner", 4780 Tam. ma "animal" (horse, elephant), Tel. mavu "horse".

[76] Tamang, Gurung ta, but cf. kurta(g) (above).

[77] DEDR 4780 Tam. ma "animal" (horse, elephant), Tel. mavu "horse', (cognates mean "deer" etc. in other Drav. languages!); if derived from *"horse", Drav. may have transferred the word to other large animals; cf. the (by now IA speaking) Nahali with mav "horse".

[78] Similarly, Benedict (1972: 189) thinks of a Central Asian form (**marən) as seen in Mong. mörin, which may also have resulted in Tib.-Burm. *mraṅ, sraṅ, from a bisyllabic word *m[]raṅ[]. -- Note that Mong. -in in mörin is unexplained from the point of view of Altaic.

However, this view may be too limited, as the Eurasian correspondences of **gul/kur* "horse" would appear to indicate. If we think, somewhat along the lines of J. Nichols (1997-98), of a widespread pre-proto-Germanic area that extended from N. Europe backwards to Northern Russia, before others (Balts, Slavs) moved in,[79] then the second Eurasian word for "horse", **mar/mor*, may have come that way to W. Europe. It may have designated the non-domesticated horse, just as **kur/gul*, while IE $h_1ek'wo$- may have referred to the domesticated one, taken from the adjective *Hōk'u-* "quick" (*EWA* I 179). It is well known that the homeland of *Equus caballus* is in the steppe areas of Eurasia, while pockets of the habitat of the wild horse were also found in the forest zone (Raulwing 2000). Genetic analysis[80] seems to point to various centers of origin of the domesticated horse within the steppe belt, just as the various reconstructed words that designate it. From these areas, the horse has been secondarily introduced into the Near East, South and South-East Asia (see Meadow 1998).

Finally, an important, perhaps much older cultural loan word is that for the "hammer." There are a number of similarities between the words for "stone, hammer, axe" in various neighboring languages. That one and the same word could have these meanings should point to the stone age, Neolithic level at the latest. "Altaic" *paluqa* "hammer" (Mayrhofer, *EWA* II, 214 s.v. *paraśu)*; Bur. *baluqá* "big hammer", *bulqá* "kleiner Hammer (zum Beschlagen der Pferde)", Yasin Bur. *baluqá* (Berger); IE *pelek'u-* "axe" > Greek *pélekus*, Ved. *paraśu-* (< IIr. *parac'u*, cf. *CDIAL* 7947 *parśu*), O.P. *paraϑu* < W.OIr. *parasu* < IIr. *parac'u*. However, there also is a variant PIran. *paratu* > Osset. *færæt*.[81]

The overlap between "stone" and "hammer" is also seen in the pan-Eurasian children's game of "stone, scissors, paper" (or, whatever our "scissors" and "paper" might have been in Neolithic times!). The Bur. children's game of "hammer, scissors, sword" has *baluqa* "hammer" which obviously is derived from "stone" (cf. Shina *bulká*). Such changes in meaning between "stone" and "hammer/weapon" can sometimes still be seen in older myths. For example, the Old Norse *Thor* still kills his enemies with a stone hammer, as does his mythological relative, the Vedic *Indra* (or the Slavic *Perun'*).

All these sporadically available terms and names indicate close contacts between the regions east and west of the Pamir-Tian Shan-Altai ranges, but do not allow us, at this stage, to draw up a history of their settlements.

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[79] This particular point is not invalidated by the critique given below of her original locus of IE in Bactria/Sogdia, or by the early criticism of this thesis by Mallory (1998).

[80] The domesticated horse seems to have several (steppe) maternal DNA lines, see *Science* 291, 2001, 474-477; *Science* 291, 2001, 412; cf. *Conservation Genetics* 1, 2000, 341-355.

[81] Loan word in PPerm., Votyak etc. *purt*, Tunguse *purta* "knife", see Rédei 1986: 76. Note that the often compared Akkadian *pilaqqu, pilakku* does not mean "axe" but "spindle, dagger." (*EWA*, s.v. *paraśu*). J. Colarusso (pers. comm.) points out that *paluqa* "may form part of a complex with a root *bel/*pel*, as in Russian *bol'šoi*, Greek Pelastike, Pelasgioi, perhaps also *peleús*/Peleus, Latin *(de)bilis*, Keltic Belgae, Welsh *balch*, and which may also occur in the wanderwort *pelewa* "strong man, hero," all related in some way to "might, power, big."

§ 2.3. The Western Border : Caucasus and NW. Iran

While we do not have old texts from the western borders of C. Asia, the older languages at its western rim that have not succumbed to the successive spread of IE, Iranian and still later, Turkic,[82] can supply some of the desired data.

First of all, IE or rather IIr. influence is seen in some of the Caucasus languages,[83] some of which may have retreated from the plains into the mountains, just as the N. Iranian (Saka) language Ossete did more than a thousand years ago. Such influence can be seen in Udi *ek'* "horse" < PIE or, pre-PIIr. $(h_1)ek'wo$-. From PIIr. *ac'wa* (or inherited from Proto-N. Caucasian *$*hi[n]c"y$ / *$*'ic"we$) derive Avar-Andian *$*'ic"^Wa$ > Andi *ica,* Avar *c"u,* Lak *c"Wu,* Akhvakh *ic"wa,* Chamalal *iša* "mare", Lezgin *šiw* "mare", and NW Caucasian: *$*c"^W\partial$ > Akhas *a-c"ɔ,* Kabardin *šə,* Ubych *c"'ə* (Blažek 1998), and Dagi *urci,* Khinalug *pši;* as for PNC *$*'ic"we$ cf. also Kartvelian: Georgian *acu'ca (acu,* to urge on horses), *ac"ua* "horse" (nursery word).[84] A clearly late loan from Old Iranian is Khinalug *spa* "colt" < N. Ir. (Scythian, Proto-Ossetic, or from NW. Ir./Median *aspa,* cf. also Avestan *aspa).* To an early level may belong Kabardian /$g^0wə$/ "bull ~ PIE *$*g^Wou$ "cow".[85]

However, the case is different when it comes to the designation of the old domesticated animal, the goat. Domestication has begun in the mountains of the fertile crescent (Zagros Mts.), from where it spread at the end of the Younger Dryas (c. 9,600 BCE). It is often assumed that IIr. *$*aj'a$ was loaned into Circassian *ac'a,* or that P-Iran. *$*aza$ > Kabardian *aza* "goat for breeding". However, the etymology of IIr. *aj'a* is not clear at all. Usually it is compared to Greek *haik'-s, haig'-,* itself without clear etymology.[86] It is better to compare it to

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[82] Cf. Nichols 1997, 1998.

[83] Note the materials supplied by J. Nichols 1997: 125-129, 143.

[84] Cf. the materials in Harmatta 1992: 369. See now additional discussion above, n. 67 (J. Colarussso).

[85] (J. Colarusso, pers. comm., adds: "The Kabardian /$g^0əwə$/ (W. Circass. /c'ə'/ "bull, ox") clearly is an IE borrowing, but not without ist mystery to its vowels.)" -- However, Chechen *gowr,* Ingush *gawr,* Nakh *govr* "horse" ~ IIr. *$*gaura,$* Ved. *gaura* "whitish-yellowish-reddish, wild ass, wild buffalo"; Iran. *$*gaura$ > N.Pers. *gōr* "wild ass"; cf. also Pashto *γγara* "wild ass" (Morgenstierne 1927, no. 337), which must be kept separately. A similar development might have occurred with IIr., Ved. *$*khara$ "donkey", Avest. *xara,* Pashto *xar* "donkey", NIA *khar* "donkey", *khōr* (etc.) "onager, wild half-ass", for which note Morgenstierne 1927: 97 with Pashto *xɔr* "muddy, turbid, dirty brown", etc. Cf. also Rau 1980/81.

[86] See *EWA* s.v. *aja* for correspondences. These forms are to be contrasted with cf. Nakh *gaza* "goat" (loans from IE into Nakh have *d > z),* Lak and Dragi *gada* "kid" (Nichols 1997: 129) and with dial. PIE *$*ghaid$- in Germanic, Engl. *goat,* etc. (below). -- Again, J. Colarusso (pers. comm.) adds: "The word for "billygoat" in W.Circass. is /ac"e/, Kabard. /aže/, Abkhaz-Abaza /abɔγY/, Ubykh /p'q'Yáya/. The Circ. word for "goat" generically is /pc"Yenə/, Kab. /bženə/, Abaza /ž,Yma/ (but Ubykh /st'á/ related to Circ. /t'a/ "two year old goat"), which suggests a link to Circ. /c"Yame/ (actually, the /a/ is predictable) "cattle" , perhaps PNWC *$*c"ima$ > *p-c"əma* > *$*p-c"^Y$ əna > *pc"Yane,* (where *$*/p-/$ is a grammmatical class marker). I don't see the usual links between IIr and any of the Caucasian material, except for my claimns in my "horse" paper. -- The NEC words for "goat" are again varied, but point to PNEC *$*c'e-r/n$-,* *$`(a)c"(a)$-,* *$`c"(a)$- > c"a- since /'/ is facultatively glottalized in NEC. The word for "kid" in NWC is varied, W.Circ. /c"Y ec'ə/ Kab. /k Yəc'/, (PCirc. *$*/k Yec'e/,$ Ub. /st'á-š0/, Abkhaz /a-ž,ɔs/. In NEC the forms /c'ik'/, /c"ik'/, /c"epuš/ occur (no metathesis, as is the case with some bisyllabic roots), suggesting links to

the range of old agricultural and pastoral words extending east and west from the Caucasus, as found in Macro-Caucasian. This by now firmly established language family (Bengtson 2001) includes the former language isolates Basque, North Caucasian (NE Caucasian = Nakh-Daghestanian;[87] NW Caucasian = Abkhas-Adygian), and Burushaski in northernmost Pakistan.

It is Macro-Caucasian that seems to have delivered to IE languages the word for the "goat". Apparently the word has been taken over several times, and in varying Macro-Caucasian dialect forms. Proto-North Caucasian has *'*ejZ'we* (Adyge *ac"a*, Dargwa/Akushi *'eža*,Chirag *'ac":a*, etc., Bengtson 2001), and Burushaski has *ac'ás*, both of which are closest to PIE *Hag'* (Indo-Iranian *aj'a*- Skt. *aja-*, Avestan *aza-*, Lithuanian *ožys*, Latvian *āzis*).

However, there are other, divergent IE forms that must be reconstructed for PIE or for the stage of IE immediately preceding the forms actually attested in its daughter languages. These reconstructed forms indicate typical dialect divergences in the source language(s) or the intermediary (now lost) languages that have transmitted these words into IE. There is PIE (or late Common IE) *Haig-* in Gr. *haig-, haiks;* PIE *ghaid-* in Germanic (Engl. *goat*) and in Italic (Latin *haedus*); PIE *kag'* in Slav. *koza;* and finally PIE: *sk'ag* in Indo-Iranian *sc'aga/sc'aga*- (Ved. *chaga-*, Ossete *sæg(æ)* "goat", with a further loan into Uralic: Mordwinian *śava, śeja*, see *EWA* I 558); this particular form is apparently related to Proto-North Caucasian *ZikV / *kiZV (Karata *c':ik'er* "kid", Lak *c'uku* "goat"), and to be connected further with Burushaski *cigír, chigír, c'hiír*, Basque *zik(h)iro* "castrated goat".

To the same substrate may belong Engl. *buck*, attested in Celtic and Germanic, in Avestan (*būza* "male goat") and in Proto-N. Caucasian PEC *b[a]c'V (Bengtson 2001): Lak *buxca* < *buc-xa?* "young he-goat", Rutul *bac'i* "small sheep", Khinalug *bac'iz* "kid", etc.; cf. also Nakh *b'ok'* "male goat" (Nichols 1997: 128) and Burushaski *buc*, which appear as a loans in the Sanskrit substrate word *bokka (Turner *CDIAL* 9312), Skt. *bukka* (Nepali *boko, etc.*).

A similar pattern can be discerned for the spread of the word for "wheat", first developed in the western Fertile Crescent about 10,000 BCE, from where it quickly spread north and west by population expansion, for example as seen in Macro-Caucasian (Basque *gari* "wheat", Bur. *gur*).[88] Its southward and eastward move was slower. It took 2,000 years to reach the Nile valley (O.Egypt. *xnd*). It is found in the Caucasus area as *gho-* and on the Iranian plateau[89] with a later, suffixed form *gant-um-*, and it is first seen in S. Asia in E. Baluchistan

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the roots *c'e-* or *'(a)c"(a)-*. No PNC form is recoverable. In Basque "z" is /s/, so Basque *zik(h)ir* is /sik`ir/. Even so, this resembles the NEC form.

[87] Subdivided into Avar-Andic, Tsezic, Lak-Dargwa, Lezgian.

[88] According to Bengtson (2001): Bur. (H,N,Y) *gur, gurgán* (H,N) "autumn wheat", Cauc.: Tindi *q':eru*, Archi *qoqol*, etc. < PEC *Gol'e, Basque *gari* "wheat" (combinatory form *gal-*). Here belong also J. Nichols' (1997-8) other words of culture such as *woino* "wine", etc. (Georgian *ɣwini* suggests that the culture word for "wine" started with a uvular, J. Colarusso, pers. comm.).

[89] For the beginnings of agriculture in Southern Turkmenistan (Kopet Dagh, Jeitun Culture, already with mud bricks, c. 6000 BCE), see Harris and Gosden 1996. They assume import of domesticated wheat, barley(?), sheep and probably goats from further west. However, the dates of Ak-Kupruk (N. Afghanistan, of seasonal pastoralists?) are very much under discussion (between 8000 and 1800 BCE!), see Dani 1992: 124-126, Harris 1996: 384.

(Mehrgarh) at c. 6500 BCE.[90] Its progress beyond the Indus valley was held up for some 3000 years (see n. 127; a detailed discussion of the word for "wheat" is given below, §3.3, 5).

It is also likely that several of the river and place names in S. Central Asia once belonged to the Macro-Caucasian language family, such as the *Sindes*, attested north of the Caucasus (R. Kuban/Hupanis; *Sindikē* area, see n. 180), *Sindes* in Turkmenistan (R. Tedzhen), E. Iran (Avest. *hǝndu*) and in the Indus valley: Bur. *Sinda* / Skt. *Sindhu* (see below, §4).[91] Tuite (1998: 449) has indeed given some ethnological and linguistic reasons for a possible gradual movement of speakers of Proto-Burushaski eastwards towards the Pamirs.[92] The NEC *šᵀor-, PEC *šVrV "water" is reminiscent of (Gr.) *Silis* "Syr Darya", Bur. *du-śór* "to melt" ~ -šor as a river name in the Murghab area of N. Afghanistan, and *ƛᵀenc'o- "river" of (Gr.) *Sind-es*, IIr. *Sindhu, and Bur. *sende.* I leave the decision to specialists of Macro-Caucasian.

Whether this (expected) scenario of a widespread Macro-Caucasian presence between the Caucasus and Pamir mountains in pre-IIr. times can be substantiated or not, the evidence

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[90] See Meadow in Harris 1996: 390-412. Note the import of domesticated wheat to Mehrgarh, c. 4500 BCE, as opposed to a supposed local domestication (see Meadow 1996: 395), which fits the linguistic pattern; cf. n. 127.

[91] The following list of NE Caucasian designations should be counterchecked against C. Asian Iranian and NW-Indian place names. They follow Colarusso (in Mair 1998), who based them on the work of Kibrik, A. E. and S.V. Kodzasov 1990; cf. the E. Cauc. reconstructions of Bokarev (1981). I have compared them with Bengtson 1999 and with his PEC forms which, according to his private communication of March 2002 (henceforth B. in this list), in part follow Starostin's PNC reconstructions of 1994: *ɬᵀem- / *ɬᵀu-, "water" (with tense voiceless lateral fricative [ɬ], secondary from *x-, PEC *x̌anhi, B. 2002); *šᵀor- "water", (~ PEC *šVrV "river, lake", Bur. *du-śór* "to melt", B.; cf. *Syr* Darya); *ƛᵀenc'o- "river" (cf. *Sindes, Sindhu,* Bur. *sende*); *xᵀul- "river" (PEC *hwɨlV, ḥwiri "river", Bur. *hur* "water conduit", Yen. *hur* "water" Bengtson 1999: 49; cf. Nuristani, Dardic -gol, -gul. -gal in river names, further (?): W. Nepali -gaḍ); *'or, 'ur "lake" (PEC "lake, pond", B.); *rélo- "sea" (cf. PNC *járλwɨ/λā(j)rɨ "sea," B.); *myero- / muyro- "mountain" (PEC *muhalV "mountain," B.; cf. Late Vedic, Class. Skt. *Meru* "central, world mountain", NIA Dardic *Tirīc* Mīr "central mountrain of Chitral", *Devameru > Shina diámer "Nanga Parbat" CDIAL 6533, Bur. mǝrt "earth cliff"?); *qᵀunt'u- / qᵀunt'o- "hill" (PEC *Gwint "mound, hill," B.); *'arcᵀi, "land" (PEC *jomc'V "earth," B.); *naq'o- "land" (PEC *neqwɨ "earth, dirt," B.). Colarusso (1998) mentions as criteria for substrate words: ethnonyms, non-native vocabulary, oronymy, and hydronomy are the most conservative toponymy in surviving languages. He gives toponyms and hydronyms from three Caucasian families (with no *apparent* C. Asian connections except for NEC/PNC); cf. also Murzaev 1980.

He adds (pers. comm.): I would collapse the cognates down to one original stem *ɬ em- and take the forms as mid-Daghestani (Lak-Dargwa, and Lezgian) shifts, with some of the southern languages showing velar or even uvular reflexes of this original tensed lateral spirant. A typologically driven shift of *-m- to -n- would open the door to n ~ r alternation (as in the BMAC language), and in some the *-r- shifted to /-d-/. The use of superscript "T" [in the 1998 paper] to denote tenseness seems to have arisen from some font mismatch. The usual representation for "river" in PNEC would be *ɬ enc"o or kɬ enc"o, with a ligtture under the initial cluster. -- Starostin's assumption that *x- is primary in NEC "water" is not supported by the development of velars or uvulars in these languages. I also find no evidence to support his form for "river." Apart from *ɬ enc"o, there are two other roots *'ork'u (from Avar and Dargwa evidence), and *onq'o- from Khinalug and Udi forms). The match for "mountain" is very good. I see no reason to alter my original PNEC form for "hill" *q'untu-/q'onto-, except to see pharyngealized uvulars as secondary developments of the tensed *k' under conditions of tone (an imponderable, really). But "Guti" is clearly a southern Daghestani (Macro-Caucasian) word for "Hill (People)."

[92] In fact, it has been suggested that the population of Gorgan and S. Turkmenistan (Kara-Kamar) "reflects the spread of Mesolithic people from the Zagros mountains to the northern foothills of the Hindu Kush via the Caspian coast." (Sarianidi 1992: 124).

presented so far (and that in §3) does not allow us to state how far the BMAC language(s) once spread into C. Asia.

    This is in spite of, and converse to, the efforts of J. Nichols (1997, 1998) who assumed a Bactrian/Sogdian homeland ("locus") of PIE (1997: 135, 137, 1998: 233)[93] and a still earlier one of pre-PIE south of the Caspian.[94] These locations are not born out, and are in fact contradicted by the host of words discussed in this paper.[95] Her locus of PIE is, indeed, located precisely in those areas that represent an older, *non-IE* layer of words; these appear as a substrate in IIr. In other words, they belong to the language of the BMAC area (e.g., place names such as *Xnənta, Baxδī(?), Suγδa(?)*, or etyma such as *uštr* "camel," *anc'u* "Soma," etc.) Further, agriculture in this area is not as early as she seems to assume: its arrival in the BMAC of Bactria only at c. 2400 BCE is much too late to have influenced PIE. That Bactria/Sogdia could be the locus of PIE therefore is at the least very doubtful, if not simply impossible. If the localization were indeed correct, *all* IE languages should have received the same "BMAC" substrate words that are typical for Old Iranian and Old Indo-Aryan. (The same argument destroys the revisionist and "autochthonous" Indian fantasy, the so-called "Out of India theory" of PIE, see Witzel 2001a).

    As the non-IIr. language groups of IE do *not* have the loans discussed here, the supposed locus of earliest (pre-)PIE must be at least to the north of the BMAC area, north of Sogdia, if not on the very boundary between steppe and woodland (*taiga*) in N. Kazakhstan, where also the oldest correspondences between PU and PIE are located (PIE *wed+r/n-*, PFU *wete* "water", etc. (cf. Nichols, 1997: 146).[96]
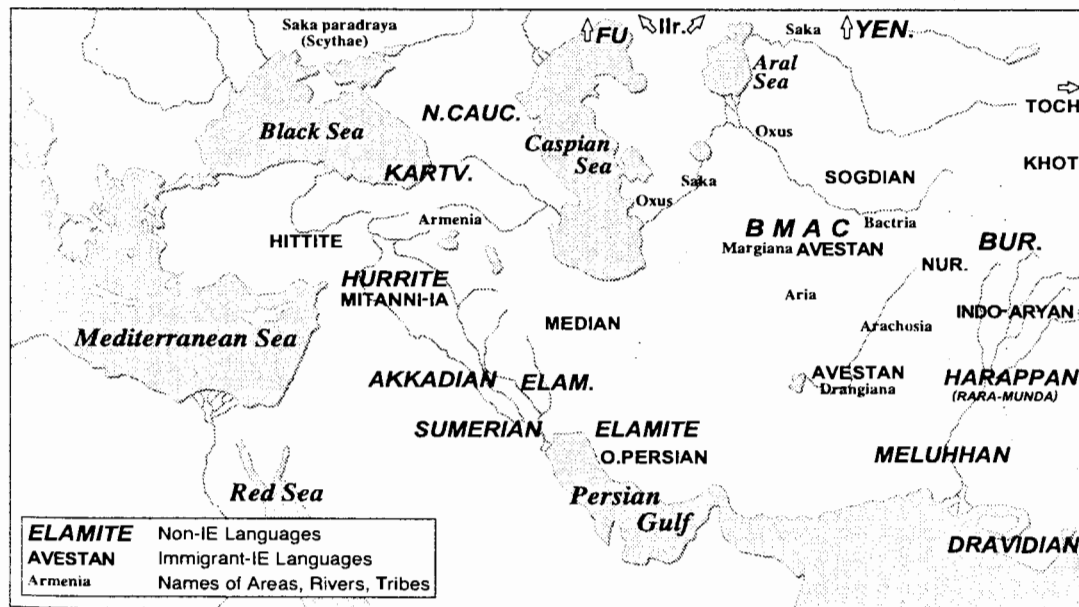
Map 2. Distribution of languages, c. 2000-500 BCE

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[93] "The locus of the IE spread was therefore somewhere in the vicinity of ancient Bactria-Sogdiana," Nichols 1979: 137, and "a spread beginning at the frontier of ancient near Eastern civilization" ... "in the vicinity of Bactria-Sogdiana ... included the ... urbanized oases of Southern Turkmenistan and Bactria-Sogdiana" (Nichols 1998: 233).

[94] Viz., north of the Black Sea. Certainly not in the clearly non-IIr. Mazenderan, as her map seems to indicate.

[95] Note also the early criticism, in part based on prepublication materials, by Mallory 1998.

[96] If not going back to common Nostratic, see Witzel 1992.

§ 3. The Greater Bactria-Margiana Area

§ 3.1. Delineating the BMAC area

All of the data mentioned so far need to be studied in greater detail, especially the reconstruction of an early IIr. presence in Central Asia and on the Iranian plateau as seen in their linguistic, religious, social, and material culture-related data (Witzel 1999a,b). In contrast, for the BMAC area itself, we have no written sources at all, except for the loans quoted above (for further details see below).

First of all, it has to be established why one should think of Central Asian origins for the loans found both in Indo-Aryan and Iranian. In theory, such loans could also have originated in the Panjab and have traveled to Iran (as the words for "rice" did, indeed); or, conversely, from an Iranian area to the Panjab (as is the case with "wheat").

However, some words that can be reasonably well plotted both in time and place, that is, *uštr* "camel", *khar* "donkey", and *išt* "brick", point to the areas along the northern rims of Greater Iran (BMAC, for short; Witzel 1995a, 1999a,b,c). This is the first Central Asian area with a highly-developed agriculture and town civilization that the speakers of Indo-Iranian could have come into contact with, south of their original contact zone with the Uralic and Yeneseian speaking peoples. We know that, in this civilization, the domesticated camel was used,[97] that it continued the large scale use of unburned bricks, and that the donkey was introduced from the Near East at the time. These three *leitfossils* also provide a time frame: the speakers of IIr. will hardly have moved into this complex earlier than the introduction of donkeys.[98] Pinault (2003) shows that the word for "brick", *išt(i)*, has also been taken over into early (Common) Tocharian; (cf. further below, passim, on *anc'u, c'arwa, pani, ani, athr*).

However, as will be seen, some of the IIr. loan words have been taken over independently of each other, twice or thrice into various IIr. languages in different areas of Greater Iran (cf. Lubotsky 2001: 302 sq.), but they still look very similar to each other. This kind of difference is a clear indication of dialect variations in an underlying substrate language.

A selection of the most typical loans tends to center on the Bactria-Margiana area (cf. Witzel 1995a, 1999a,b, 2000a, Lubotsky 2001) -- perhaps, for some words, with the inclusion of Sistan/Arachosia where the delineation of the boundary of the "BMAC" language is unclear so far. However, for other parts of Greater Iran (Iran proper, Baluchistan, Afghanistan), the southern boundary of the "BMAC" language(s) is fairly clear. We can easily exclude the southern belt of Iran as well as Baluchistan. East of Akkadian and Sumerian in Mesopotamia, the isolated[99] language Elamite was spoken, not just in the Susiana (Khuzistan) and *Anšan* (Fars and surroundings), but also in Southern and Central Iran,[100] in the areas of Tepe

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[97] By 2500 BCE there are camels (figurines) drawing vehicles in S. Turkmenistan.

[98] They could, however, have learnt about camels from the Central Asian hunters, as represented by the Kelteminar culture.

[99] A genetic link between Elamite and Dravidian has not been established, see the extensive discussion in *Current Anthropology* (McAlpin et al., 1975).

[100] The insurrection of Naram-Sın (text from the end of 3rd mill. BCE) mentions the rulers allied against Akkade: "the man of Meluḫḫa, the man of Aratta, the king of Marhaši, ... (another country : gap in tablet), the

Yahya (*Simaški*),[101] and Shahdad (*Tukriš*),[102] but apparently not farther east than Bampur (*Marhaši*).[103]

According to F. Vallat (1985: 52, cf. 1993) the language of Marhaši[104] differs from that of Simaški, and is only very partially Elamite related. Here and in Meluḫḫa (Baluchistan, Sindh)[105] the language changes, though Elamite cultural influence extends even to the borders of Sindh. However, eastern names are neither Elamite nor Dravidian.[106] This indicates that there was a language boundary somewhere to the west of the present Iran-Pakistan border, probably in a southwards prolongation of the Iran-Afghanistan border. That the Meluhhan language was (sufficiently) different from Elamite or Sumerian is obvious: the Mesopotamians needed a "translator from Meluḫḫa" (Possehl 1996: no. 2), whose name was reported as *Šu-ilišu* (Parpola 1994: 132).[107]

Baluchistan is characterized by an overlap between the influences from the Elamite and Indus cultures. Baluchi sites such as Kulli are dated about 2000 BCE.[108] The area which is later on called (O.Pers.) *Maka* (Mesopot. *Makkan*) or Makrān, has its center at Marhaši (Bampur), an important place of exchange between the Indus areas east of it, the Elamite areas west of it, the Arachosian site of Mundigak, and Shahr-i-Sokhta (Aratta, Sistan), Simaški, as well as Turkmenia north of it. Only during the last period of Mehrgarh (level VII) we find a cemetery with BMAC-derived items, and the rituals and metallurgy recall those of the BMAC as well. The spread of late BMAC influences into the Indus valley, Baluchistan, Susiana, etc., is now well documented (see §7).

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king of all of Elam" (Vallat 1995: 53); note also the list by the Sargonic king Rimus who conquered Parahšum, Zahar, Elam, [Ba]sin(?), and Meluhha (see Gelb 1997: 594).

[101] Perhaps one of the Elamite capitals.

[102] Later taken over by the *Tukriš*; Steinkeller (1982: 265), however, locates *Tukriš* in the Elburz mountains north of Tehran. The word *Tukriš* has been compared with *Tuyran, Tuyrastan, Tokharoi,* etc. (Henning 1978), and with a possible Mitanni-IA name *Tugra*, see *EWA* I 651 s.v. *tugra*. Some RV passages involving *tugr-* may provide a link with this Central Iranian area as well. Cf. also Gamkrelidze and Ivanov 1989 who equate the Near Eastern Guti and Tukriš with the later "Tokharians" (Kuchaeans).

[103] For various Elamite sources see Vallat 1985, 1993. However, Steinkeller (1982: 255, map p. 265) tentatively locates it a little farther west, "in the perimeter of Kerman and Eastern Fars." The original name of *Maharši* seems to have been *ᵐparahši*, represented in Akkadian as *Parahšum* (Steinkeller 1982: 237-8). Cf. the modern *Maškai* and other rivers in Baluchistan beginning with *Maš-*?

[104] Steinkeller 1982, 1989 (cf. also Hiebert 1998: 147). Steinkeller connects the name of Marhaši /Parahšum/Paraši with the name of the Persians; for this, however, note the *Paršu* reference in RV, BŚS (Witzel 1999c) and a possible connection with mod. Pashto, see below, n. 197. For further E. Iranian/Vedic correspondences see Witzel 1989, ch.10, and for some Saka-like characteristics of O.P. see n. 261.

[105] See Possehl 1996.

[106] Which speaks against Drav. as the language of the Indus Civilization, see further Witzel 1999a,b, 2001b for other possibilities. -- Note, however, Gurov and Vasil'kov (1995) on a Drav. etymology of Aratta.

[107] The loan word links between Sumerian and Drav. are in further need of investigation (see Blažek and Boisson 1992 and Blažek, 1992, 2002a). As for the connection between the two areas, a *direct* southern route, from Sumeria via Bampur to Meluhha (provided it was Dravidian speaking!) is *not* likely as it is blocked by a large area of Elamite (from Susa up to Tepe Yahya) and by the separate linguistic area of Simaški (Bampur). Following the observations made in Witzel 1999a,b, I suggest that early Dravidian may have received its agricultural terminology via Aratta (Sistan) or even directly by maritime contacts.

[108] Possehl 1997, with a date of 2500-1900 BCE for the Kulli/Quetta phases.

While the southern belt of Greater Iran thus is excluded, the exact alignment of the "BMAC" language boundary in the more northern parts of Greater Iran, however, is not so clear. We have some notices about a series of peoples who entered Mesopotamia from the Zagros mountains starting around the end of the 3rd millennium. First came the Lullubi and Guti, in the time of Narām Sīn of Akkade (c. 2250 BCE). On the Iranian highlands, the Simaški state of the 3rd mill. was replaced by the Tukriš state in the second millennium, which is connected, in some texts, with the Guti.[109] The Hurrites (with a Caucasian language related to the later Urartian) appeared in the same epoch but more to the north; the Kassites entered under the successor of Hammurabi, Šamšu-Iluna, at c. 1740 BCE and soon took over Babylon for centuries. Both the Kassite (Balkan 1954) and Hurrite languages (Mitanni, around 1400 BCE) contain some OIA linguistic elements.[110] However, we know much less about Media (the area around Tehran, Hamadan), Herat, Sistan and Arachosia.

While the language of the substrate studied below included the greater BMAC area, roughly from Anau to Balkh, we cannot firmly exclude, at this stage, the Media/Areia/Arachosia areas as belonging to that of the "BMAC" language. Some arguments, however, will be presented below (§3-5).[111]
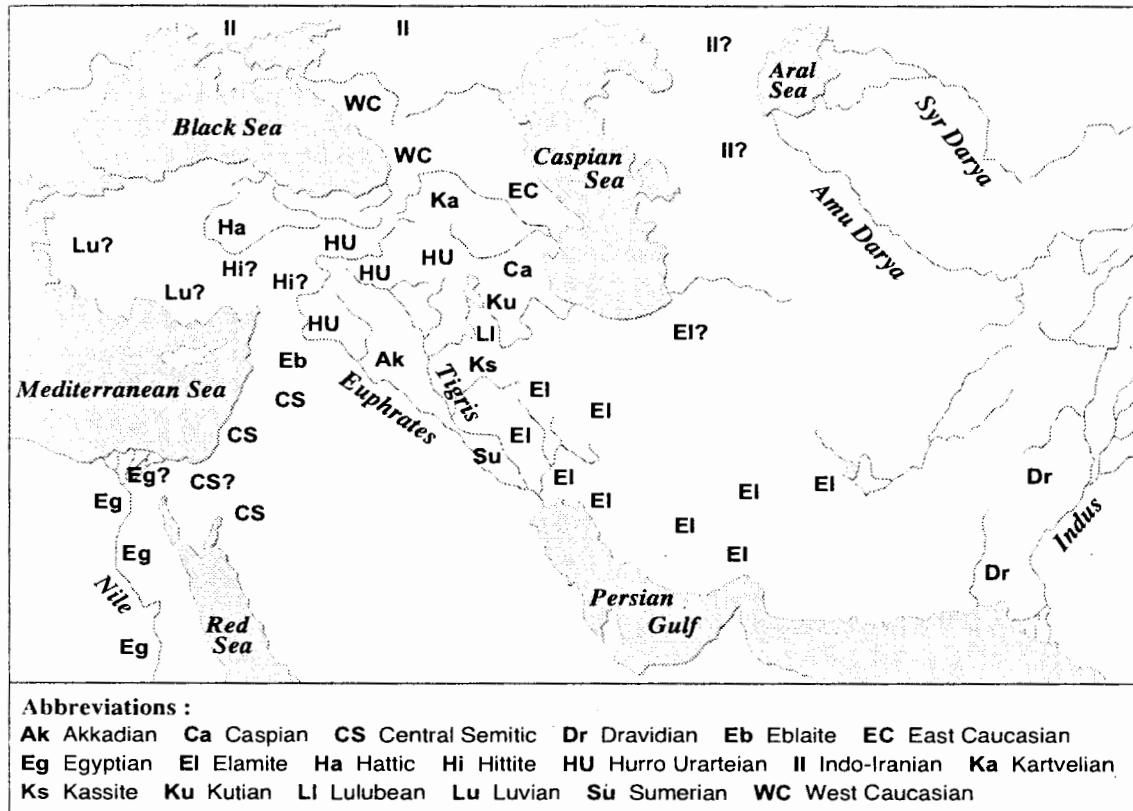
Indeed, *anc'u "Soma plant" (probably Ephedra, discussion below), which is pressed out to prepare the sacred drink of the Indo-Iranian peoples, points to the high mountains of Central Asia (incl. the Hindukush, Pamir, and the Himalayas, see Staal 2001, Witzel forthc. b), where according to both the Avesta and the Ṛgveda the best Soma grows (Ved. Mūja-vant mountain, Avest. Muza, mod. Muzh Tagh Ata in the Pamirs). There are, indeed, some indications of non-IIr. speakers in the high mountains of Afghanistan even at the time of the earliest IIr. texts. Such "foreigners" indeed still survive[112] in the Pamirs as the Burushaski speakers and are visible in the substrate in Khowar (Witzel 1999a,b, 2000a).

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[109] Hammurabi inscription, see Henning 1978, 220. Perhaps Guti means "hill (people)", from N. Caucasian *k:unt'i (J. Colarusso, pers. comm.).

[110] Needless to say, this fragmentary information will have to be compared with the Central Asian materials presented here. At first sight, I have not detected correspondences beyond the words for "jewel", Mit. mani-nnu, Ved. mani (see below), Soma (Mit. Sauma-, EWA II 749), and the Central Iranian name Tukriš, possibly retained by Mit. IA *Tugra, above n. 102.

[111] For Margiana etc., cf. also Erdosy 1998.

[112] Note that the central Afghan highlands have been occupied by Mongolians (Hazara) after the expansion of the Mongol empire -- wiping out possible traces of older populations; for some details on the Central Highlands see Witzel 2000a; cf. the similar situation in the Tian Shan/Pamirs, where Mt. Muzh [Tagh Ata] of our maps is derived from the old, non-IIr. name Ved. Mūja-, Avest. Muža, but was re-interpreted as a Turkic name. The impressive, Kailash-like 24,767 ft./8.200 m high Muzh Tagh Ata means "ice mountain father" in Kyrgyz. Another Muzh Tagh is found northeast of Skardu in northernmost Kashmir.

Abbreviations :

Ak Akkadian   **Ca** Caspian   **CS** Central Semitic   **Dr** Dravidian   **Eb** Eblaite   **EC** East Caucasian
Eg Egyptian   **El** Elamite   **Ha** Hattic   **Hi** Hittite   **HU** Hurro Urarteian   **II** Indo-Iranian   **Ka** Kartvelian
Ks Kassite   **Ku** Kutian   **Ll** Lulubean   **Lu** Luvian   **Su** Sumerian   **WC** West Caucasian

Map 3.   Distribution of languages (after Blažek 1999: 53)

§ 3.2. An older Central Asian level: The Oxus/BMAC language

At this stage, therefore, it is more profitable to take a close look at the actual linguistic evidence preserved by the loans into the IIr. languages. Such IIr. words do not have Indo-European shape and etymologies (Witzel 1995a, 1999a,b, Lubotsky 2001).[113]

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[113] I cannot enter here a detailed discussion of Lubotsky's recent paper (2001). His new observations, based on the Indo-Iran. words listed in *EWA*, include: (1) unusual IIr. suffixes, including *-ka, -pa, -sa* which are directly attached to the root: **stuka/stūpa* "tuft", **papa* "evil", **kac'yapa* "tortoise", **jharm(i)ya* "firm structure, house"; (2) the unusual structure of trisyllabic words with long middle syllable (CəCəCə), such as **yavīya* "irrigation canal", **kapara* "vessel, dish", **piyūša* "biestings (first yellowish milk of a cow after it has given birth), **waraj'ha* "wild boar" (but note the early loan into FU: F-Volg. **oraśe*, Finn. *oras*, Rédei 1986: 54!). -- He had originally assumed (as per van Driem 1999) that some of these words could have only been taken over *inside* the subcontinent and that the language north of the Hindukush and in the Panjab was the *same* as that in the BMAC (or, as he now formulates, "intimately related," Lubotsky 2001: 306; however, see Witzel 1999a,b and forthc. a). This close connection is, however, unlikely and does not account for loan words with the suffix *-śa, -ṣa, -sa* that also occur with short medial vowel (of "Para-Munda" type, Witzel 1999a,b). Proof for a CəCəCə type Panjab language could only come from some words typical for that climate, flora, fauna or culture. Indeed, there are at least two such words which may be indicative, *mayūra* "peacock" and *śardūla* "tiger"; however, they have complicated etymologies (Witzel 1999a,b). Only a study of Lubotsky's new words from IIr., as found in the *various strata* of Vedic and Iranian texts, would allow us to determine what is securely reconstructable for Indo-Iranian, or just for the subsequent levels. The *earliest* attestation of a particular "foreign" word, such as in the RV or the older

Shibboleths for time and place are, as mentioned, the local words *uštr "camel", *khar "donkey", *išt "brick".

The Bactrian camel was domesticated in Central Asia in the late 3rd mill. BCE and introduced in the BMAC area late in the 3rd Mill. / c. 2000 BCE (Meadow 1983, Masson 1992: 39 sq., 229, 233). It is also found on a few Indus copper plates. Its Mesopotamian designation, found in middle and new Akkad. *udru* "Bactrian camel", is a loan from Iran (*EWA* I 238, *KEWA* III 652, cf. Diakonoff in *JAOS* 105, 1985, 600). However, the IIr. designation, of PIIr. *uštra*, represented by the identical Ved. *uṣṭra*, Avest. *uštra* "camel", has no plausible IIr. or IE etymology.

The case of the donkey is of similar nature, though the source of the word seems to be a more southern one. IIr. *khara > Ved. *khara*, Avest. *xara* "donkey" seem to go back to the earlier areas of its domestication, in this case Mesopotamia, where an Akkadian (Mari) source has *ḥarum, ajarum* "male donkey" (*EWA* I, 447, 473; cf. perhaps also Kushitic *dəqʷar*, Elamite /dranku?/ Blažek 1999: 64). Various types of donkeys may be distinguished in Vedic India,[114] in addition to the other wild equid, the hemione (onager, *Equus hemionus khur*). Interestingly Vedic, Tocharian, and Dravidian have words that resemble the IIr. and Akkadian form, Ved. *garda-bha* "donkey" :: *karca-bha*? > Toch.B *kercapo*[115] :: PDrav. *gar-(?)* > Tamil *kaḷutai* "donkey".[116] They all may go back to a Near Eastern form *xar- that is also reflected by IIr. *khara. When and how Dravidian took over the word remains unclear so far (cf., however, Blažek 2002a).

Finally, the word for "brick" finds its likely source right in the center of these relationships, in the BMAC area. An IIr. or IE etymology is unlikely (cf. *EWA* I 201, Lubotsky 2001: 311). Ved. *iṣṭi, iṣṭaka, iṣṭikā*, Avest. *ištiia* "brick", *zəmō-ištuua* "clay brick", O.Pers. *išti*, M.P., N.Pers. *x-išt* > Pashto *xašta*? (Morgenstierne 1927: 98), Baluchi *išt*. One also may compare Toch. B *iścem* (or *iṣcem*) "a kind of clay", B *iścake* "clay". Interestingly, this goes back, as in Indo-Iranian, to an *i*-stem *išti- > Toch. A *iśce, A *iśäc, borrowed into Uighur as *išic" "earthen cooking vessel" (Pinault 2003, cf. Pinault 2002: 326 sqq.). Finally, we may add,

parts of Avestan, is the *only* secure basis for analysis, since words from the (unknown, complex) popular *local Indian* level constantly emerged in the sacred speech of High Vedic and the educated speech of the Brahmins (cf. Kuiper 1991, Witzel 1989), even at much later periods (cf. the IE *perd, attested only in post-Vedic *pardati* "to fart"). Such words could accidentally have the desired shape, CəCəCə (such as Avest. *araɛka, Ainiiauua, Aiiɛhiia, ayažana*, etc. see n. 158). Lubotsky so far neglects the typical substrate words found *only* in Iranian such as *kaufa* "hump, mountain" or *tutuk* "clay" (see n. 158) which can serve as a corrective. -- Lubotsky's new data, however, support my initial analysis of Central Asian loans (Witzel 1995a, 1999a,b,c), though he does not localize this substrate beyond pointing to the towns of the BMAC and to the Panjab (echoed by van Driem in *MT*, Special Issue, Oct. 1999; for a discussion and refutation see Witzel forthc. a).

[114] For instance *khara, rasabha, gardabha*, etc. see Rau 1980-81.

[115] Both with the common Indian animal suffix *-bha* (?) as in *garda-bha* (~ *gṛda* "penis"?), *śara-bha* which is preserved in the northwestern NIA Dardic Kalasha language as *śára* "markhor mountain goat", *ṛṣa-bha*, which would point to a slightly different source.

[116] The overlap of Dravidian *kaḷu-* and Ved. *garda-bha* "donkey" would be one of the few links of the Central Asian (BMAC?) language(s) with Dravidian (cf. McAlpin et al. 1975) and Indo-Aryan. IA words for domesticated animals are entirely different from Drav. However, Ved. *garda-bha* (*EWA* I 473, Drav. *kaḷu-tai* DEDR 1364) could, or rather should, be independent loans from a language of Greater Iran or Central Asia. - Some want to make the BMAC a Dravidian speaking area (cf. Lamberg-Karlovsky 2002: 73), however, the close loan relationships between Drav. and Sumerian and Elamite point to a more western trail; this is confirmed by the lack of any Drav. words among the BMAC loan words found in OIA and OIr.

unnoticed so far, some words from south of the Hindukush and Pamir mountains: Bur. *d-iṣcik*, Shina *d-ištik*, Kalash *kh-iṣṭi-poktá* "brick", and, surprisingly, Marathi *v- īṭ* "brick" (with "Dravidian" style *v*+vowel, instead of expected **īṭ*). While all of these words lead back to a C. Asian source for "(clay) brick", **išt(i)*, the South Asian words have unclear pre-Indic "prefixes" *d-, kh-, v -* (M.P. *x-* is secondary).

Since there are no brick buildings at the northern rim of C. Asia[117] and as both the Indus as well as the Mesopotamian areas are too asymmetrically located to be the source of all these words, the most likely Central Asian source for all these loans is the BMAC area. Instead of some hypothetical Caucasian source, the BMAC area is the first place where the steppe people, the speakers of IIr., coming from somewhere north close to Uralic and Yeneseian, would first encounter bricks and would need a term for them. As discussed above, the domesticated camel was used here, and the donkey had been introduced from the Near East at the time. These three *leitfossils* provide the time frame.[118] This is confirmed by the forms of some words in still undivided IIr., which can be dated at c. 2000 BCE: the common IIr. designations for the newly invented horse-drawn chariot (**ratha*, Ved. *ratha*, Ir. *raϑa*, Mitanni *Tuš-ratta*, Kassite *Abi-rattaš*) and related words (**rathin*, *rathī/raϑī* "chariot driver", and the archaic compound word *rathesthā/raϑaešta* "chariot warrior").[119] All of this leads to a successful triangulation of material culture, time, and space in W. Central Asia at c. 2000 BCE or somewhat later.

§ 3.3. Wheat agriculture

To these, the plants cultivated in the area may be added. Wheat probably is the best case. It is a western import, as it originated west of the Zagros and south of the Caucasus[120] in the western Fertile Crescent (between Jericho and Jerf al Ahmar). In S. Asia it is found as early as the 7th millennium BCE; it is first attested linguistically by Ved. *godhūma*, Drav. (Kan.) *gōdi*, Bur. *guriṅ*, *gureṅ* (pl.), *yárum;* all words are derived from W. Asia.

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[117] For example, in Sintashta there are only reinforced palisades with clay inside; however, the area just north of the Caucasus reportedly has clay bricks, see Witzel 2000a.

[118] Note that the speakers of IIr. could not have entered or been in close contact with the BMAC area *earlier* than the introduction of donkeys (while they could have learned about camels from the Central Asian hunters, as represented by the Kelteminar culture). For the passing through the BMAC area by IA speakers note also a few words transmitted in Mitanni IA: *mani-nnu, Sauma, Tukriš* as **Tugra* (above, n. 110, 102).

[119] Such as "chariot warrior (bow shooter), spoke, felloe", etc. (Raulwing 2000); (pre-)chariots (**ratha*, not **anas* "wagon") are first found in the northern steppes at Sintashta and also in Near East about 2000 BCE, see Witzel 2000a.

[120] See the recent summary on Ofer Bar Yosef's work, at http://www.harvard-magazine.com/on-line/09016.html.

Ved. *godhūma*, Avest. *gantuma* must go back, with folk etymology on the Indian side (see below)[121] to a common IIr. < **gant-um*,[122] which in turn, echoes a Near Eastern source, Semit. **hnt* (Arab. *hint^{atum}*), Hitt. *kant*, Egypt. *xnd* (*EWA* II 499). On the other hand, a Caucasian/Bur./Basque (Macro-Caucasian) source is seen in: Bur. *gur* "wheat"[123] ~ Basque *gari* "wheat", Proto-East Caucasian (Daghestani, etc.) **Gŏl'e*, PKartvelian (Georgian *yomu* "millet", etc.) **ghomu* (see Witzel 1999a,b,c). Obviously the ultimate Near Eastern source for all these words must have been something like ***gər // ^9/gən-d* (ə = uncertain vowel; for the variation of r/n see §5).[124] These relationships, along with those pointed out above for "goat" and "buck", and those discussed by J. Nichols (1997-8) establish an early, widespread network of cultural interactions between the populations of the Fertile Crescent, the Caucasus, the steppes, the Urals, Iran/India and the speakers of Macro-Caucasian (including Basque and Burushaski). Such relationships will be pursued elsewhere.

The IIr. source, **gant+um-a*, differs from its Near Eastern source ***gənd-* by a suffix *-um* which is attested not only in Iranian (Avest.) *gantuma*[125] and Vedic *godhūma*[126] but also in Burushaski **yond-um* (and perhaps in P.Kartvelian (Georgian, etc.) **ghomu*, cf. Proto-East Caucasian (Daghestani, etc.) **Gŏl'e* (see Witzel 1999a,b,c). One may assume a BMAC word **gant-um* that has entered Iran and India via the northern Iranian trade route (Media-Turkmenistan-Margiana/Bactria-Aratta/Sistan), while the forms with *go-* (PECauc.

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[121] The unfamiliar **gant-um/gand-um* > Iranian **gantum*, Indian **godum* (OIA and Drav.) was analyzed as IA *go-dhūma* "cow smoke" (cf. also *DEDR* 2226 Konda etc. *goyi* "smoke", thus *godhūma* an original joke form?); similarly, though differently, in Dravidian (see below, n. 128).

[122] For the "suffix," cf. Neo-Elam. *umi* "to grind (grain)" and PDrav. **um* "husk, chaff"; the compound "Pan-Iranian" *gant* + *um* (note Berger's Bur. **yund-um*) may therefore have originally meant "wheat grain". (Cf. also the link between PDrav. **var* "seed, grain", Elam. *bar* "seed", Southworth, 1988: 659-660.)

[123] Bur. *guriń, gureń* (pl.), *-yárum* < **yor-um* < ***yund-* (Berger), ***yund-um*); cf. also Bur. *gur* "barley, wheat colored", *bur* "buck wheat," Berger 1959: 43. -- J. Colarusso (pers. comm.) adds the following N. Caucasian forms. "For "wheat" note the W. Circass. /k⁰ec'ə/, Kabard. /g⁰ec'/. The words for "wheat" in NEC are (capital L = velar lateral fricative): Avar *roL-*, Andi *muGa*, Akhvakh *q'iru-*, Chamalal *q'ew*, *cibaL'*, *q'erú-*, *cibú-réL'u*, Tindi *q'eru*, *cibaL'ab*, Inkhokhvari *at'*, Tsez, Hunikh *at'*, Bezhta *q'ibo*, Lak *lac"'a*, Archi *qoq(ó)l-*, *sot-*, Tabasaran *daxin-i*, *ž,ʸaxn-i*, Aghul *`'ak'*, *ek'y*, *ek'én* (`' = ejective pharyngeal), Lezgi *q'ul*, *næx⁰* (/u/ fronted), Rutul *yml*, *q'ir*, *nax⁰*, Tsakhur *suk*, Kryz *Gul*, Budukh *Gul*, Khinalug *li*, *l-i*, *lok'-i*, Udi *arum*. The voiced uvular stop proposed by Bengtson is the Kryz-Budukh development of **q'*. The words are clearly borrowings (with perhaps a few native forms for earlier grains, such as Tsezic **at'*), but from an unknown source. There are two originals: **q'uli-*, **qol-*, and **lok'-i*, with assimilated variant **loL'i*. Note how final /-kV/ syllable can lateralize, Russ. *babka*, Archi /babL⁰/."

[124] See below, §5, on the interchange of r/n.

[125] Avest. *gantuma*, M.P., N.P. *gandum*, Shughni *žindam*, Pashto *yanɔm* < **gandūma?*, Khot. Saka *ganama* < **gandama* (Berger 1959: 40f, *EWA* II 498); however, Brahui *xŏlum* < IA **yolum* (*CDIAL* 4287).

[126] As seen in Nur. *gūm*, Hindi *gohū/gehū/gahū*, etc. The northern form, based on Pre-Iranian **gantum* would have resulted in Vedic **gan-dhūma* or perhaps **gandha-dhūma* "perfume smell", cf. *CDIAL* 4020 Skt. (lex.) *gandhālu* "fragrant rice", Pashai *gandár* "a kind of grain". The actual Ved. form *go-dhūma* must be due to local influence by the Southern (Meluhhan) **godi* (see above n. 121, on Konda *goyi*) on a northern **gantum/gandum*; it may be due to Dravidian influence on the Panjab in the Middle/Late Rgvedic period as *godhūma* appears only in early post-RV texts.

Gol'e, PKartv. *ghomu*), which are reflected in Dravidian, must have come via the Southern route (Elam/Anšan - Simaški/Tepe Yahya - Marhaši/Bampur), resulting in Drav. *gōdi* (Kan. *gōdi*, Tam. *kōti*, cf. *DEDR* 1906).[127] The post-RV change from *-an- > -o-* is untypical for the Panjab but found in Sindh (Witzel 1999a,b). It must have influenced, in some way (such as Drav. influence on the late RV, Witzel 1999a,b), the actual form of Ved. *go-dhūma* as well. Note that the Drav. word, too, seems to be based on a popular etymology.[128]

Interestingly, irrigation channels, the only means allowing of sustainable cultivation in these dry lands, are indicated by a loan word as well, *ya(u)vya* "streamlet, channel".[129] Irrigation agriculture is said to have existed from 2200 BCE in W. Central Asia.[130] The difference in sound between Vedic and O.Persian indicates a slightly different source of the loan, e.g., more eastern vs. a more western, or Gorgan origin: Ved. *yavya* "stream, channel", but O.P. *yauviya* > M.P., N.P. *jō, jōy* "stream, channel", Parachi *žī* "rivulet" (*EWA* II 405). Both forms cannot go back to exactly the same source; this kind of telling difference often is indicative of loan words.[131] In the sequel, a few more important words relating to material culture are listed briefly.

§ 3.4. Other agricultural terms

Items from agriculture and settled life include words for "sheaf", "seed, semen", "pillar", "to heal, healer", "lute", "mark", "lump", and even colors: "blue", "brown". These items are indicative of the expanded agricultural base and the settlements of the BMAC. The words below are given here without the IIr. nominal stem suffix *-a-* as we do not know the original (stem?) form that they may have had in the BMAC area.

• *parš* "sheaf": Ved. *parsa* "sheaf (of corn)", Y.Avest. *parša* "sheaf", EWA II 101;

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[127] There is archaeological evidence now: while Renfrew had maintained an introduction of wheat by the speakers of the (hypothetical) Elamo-Dravidian, reaching India as early as 6000 BCE, Dorian Fuller (University College, London) now shows that wheat and barley arrived in southern India only at c. 2200 BCE, after having stalled for 3000 years in northwest India before farmers developed a monsoon-tolerant variety, see *Science Magazine*, Volume 294, 2 November 2001: 989, http://www.sciencemag.org/ cgi/content/full/294/5544/988.

[128] The unfamiliar (Iranian) *godum*, adopted into India, has been reconstructed for Drav. by Southworth (1988: 658, 660) for c. 1000 BCE as *kō-tumpai* "low red plant" (perhaps because of *DEDR* 3334 Tam. *tumpai* etc. "nettle, weed"?) The development from *tumpai > di*, however, is not clear. At the *supposed* date of 1000 BCE, *kōtumpai* could even be based on RV *godhūma*! This late date (along with its speculative, glottochronological basis), anyhow, is now doubtful as wheat is found in S. India already at 2200 BCE (see previous note). The various Elamite, Sumerian, etc. loans into Drav. will have to be compared, and must be reconciled with Blažek 2002a.

[129] See Dani 1992: 116, 222 etc.; note, later on, also the extensive network of underground channels in Afghanistan, *karēz*, etc.

[130] Adams 1998: 376, quoting F. Hiebert (1996, cf. 1998: 231); cf. however, Francfort 1999: 451.

[131] It is interesting that the O.P. word is as close as it is to Vedic; this suggests, like several other (grammatical) items, a previous closer relationship in N.(E.) Iran/Central Asia -- *yav(i)ya* may have been influenced by PIIr. *naHwiya* "boatable" (from *naHu* "boat"), > Avest. (*afš*) *nauuaiia* "water channel", Skt. *navya* "navigable river" (cf. Adams 1998: 373). Adams thinks that Tocharian borrowed key words for irrigation from E. Iranian sources (which he dates much too early, Francfort 1999: 451), though the Tocharians knew terms of primitive agriculture (plow, draft ox, harness, grain/wheat, harvest, to plow) before; cf. Shishlina and Hiebert 1998: 231.

• *bīj "seed, semen": Ved. bīja "seed, semen", OIran. *bīza (in names), Buddh. Sogd. byz'k, Parachi bīz "grains";

• *sthūna "pillar": Ved. sthūna, YAvest. stūna, stuna, O.P. stūna "pillar"; unless ~ Ved. sthūra "tall, thick", Avest. -stura, Khot. stura (thus EWA II 768);

• *piṇḍ "lump": Ved. piṇḍa "lump, ball (of food)" Khotan. piṇḍaa, Armen. pind "compact, firm" < Iran.;[132]

• *ling "mark" : Ved. liṅga "mark, penis" : Avest. haptō-iriṅga "the seven marks" = the seven stars of the Great Bear/Wain (ursa maior), s. EWA II 478 sq.;

• *vīna "lute" : vīṇa "lute" (YV+ RVkh), Khot. bīna "harp, lute", Sogd. wyn' "lute", M.P. win "lute", Armen. vin "lute", -- unless these are loans from India, cf. EWA II 568;

• *mani "jewel", Mitanni IA manni-nnu, Ved. maṇi, Avest. -maⁱni, -- if not from IE, cf. Lat. monīle, O.Eng. mene, etc., s. EWA II 293 sq.

• *ani (aṇi?) "lynch pin", Ved. aṇi "lynch pin", part of leg above the knee" (Suśruta). Pinault 2003 connects Toch. B oñiye, Loc. Sg. oñi-ne < *ani-ēn "hip" (with a productive Toch. suffix). The shift in meaning is explained by the common identification of vehicle parts and body parts (ratha-mukha, ratha-śīrṣa "head of a chariot", nabhi "navel, nave"): both sides ("hips") of a vehicle ~ sides of the body; Pinault also analyses kalyāṇī, kalyāṇa "beautiful" < kali-aṇi "having beautiful hips = pṛthu-śroṇi"). For the retroflex -ṇ- cf. Paṇi/Parṇa and see §5.

• *kapaut "blue": Ved. kapota "pigeon", O.P. kapauta "blue"; Khot. kavūta "blue", M.P. kabōd "grey-blue", kabōtar "pigeon", s. EWA I 303, Kuiper 1991

• *kadru "brown": Ved. kadru "red-brown", Kadrū "a snake deity", Avest. kadruua.aspa "with brown horses, N.P. kahar "light brown". Words for non-primary colors tend to be taken over as loan words (black, white, red, blue : orange, crimson, indigo, violet, etc.).

• Lubotsky 2001: 307 now adds: *aka "bad", *karuš "damaged (teeth)", *papa "bad" (actually, "evil").

• *bhiš, bhiš-aj' "to heal, healer" : IIr. *bhiš-aj' > Ved. bhiṣ-aj, bheṣaja ~ Avest. baēsaz-iia; note the unusual noun formation, and the important combinations with *sauma (Soma/Haoma), see EWA II 264.

• sīs the metal "lead", EWA 734 from southwest Iran. (O.P.) *siça "white" which would be too early[133] for a loan into Old Persian as sīsa is found already in AV. Rather the word must be due to a local substrate, perhaps one found[134] in the Kandahar area.[135]

• Lubotsky (201: 307) now adds a list of items of water/irrigation *kha 'well, source", c"at "pit, well", *yavīya "canal"; of agriculture: *nagna "yeast, bread:, *(s)phāra "ploughshare"; of building technology: *išt(y)a "brick, j'harmiya "firm structure, permanent house", *mayūkha

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[132] Note also kubja, kubhra "crooked", and N.P. kūž, kūz, Sogd. kwzz "humpbacked", Khot. kūysa "bent", with unclear etymology; cf. Skt. kuṇṭha "defective" CDIAL 3260, 3290 ~ Iran: N.P. kund, Bal. kunt and the many words in Turner, CDIAL meaning "defective". -- For Kubhā as a river name, see however, below n. 180.

[133] The Persians moved into the Persis and Anšan from NW Iran only after c. 700 BCE., see summary in Skjirvo 1995.

[134] Lead is found in the Kandahar area, see maps in Kenoyer 1995.

[135] Further, a large number of verbs can be added, such as *kan "to find pleasure, please", *kram "to stride", *kroc' "to shout", *kc'a "to regard, look", *kšad "to serve food", *kšam "to be patient", etc., or the culturally important *kaiš "to apportion magically, to teach", *bhiš "to heal" with its strange derivative *bhiš-aj' "healer" (see Lubotsky 2001), perhaps *mark/marc "to damage", or nouns such as *kaufa "mountain, hump (of a camel)", etc.; see further, below n. 158.

"wooden peg", *sikata/c'ikata "sand, gravel"; of artifacts: *kapara 'dish, bowl", *naij'(s) "spit", *wac'ı "axe, pointed knife" ("seems cognate with Circassian /wəš·ʸə/ "small axe for splitting rails," J. Colarusso, pers. comm.), *gada "club", and of clothing: *atka "cloak", *dac'a "hem, thread", *dṛc'a/dṛc'a "coarse garment", *pawasta "cloth", *sūc"ı/ c'ūc"ı "needle".

§ 3.5. Local Plants

Importantly, some Central Asian plants are included in this list as well.
· *bhang "hemp": Ved. bhaṅga, Iran. banga "hemp, hashish", if not ~ bhañj "to break", cf. Ir. Hauma-varga "Soma twisters", a Saka tribe; cf., however, Macro-Cauc. words such as Bur. baṅ, baṅgí "hemp", Caucasian: Chechen baga "pine tree", Lezgi muk'-rag "fir tree," etc. < PEC *bhinḵ'wV (Witzel 1999b, Bengtson 2001).
The following two cases, however, indicate a much deeper level and a wider spread, extending, via N. Iranian languages (such as Scythian), to the borders of Europe. These wanderwörter, words of culture such as "coffee" or "tea", have traveled the length and breadth of Eurasia.
· **kan-/k'an- "hemp" : Ved. śaṇa "hemp, cannabis", M.P. šan "hemp", Khot. kaṃha, Osset. gœn, gœnœ; note: Sumer. kunibu; Gr. kánnabis, Russ. Church Slav. konoplja, OHG hennep < Scythian *kanap; Kirgiz, etc. kändir, Turkish kendir > Hung. kender; Mordwin. kańc't, kańf; Cheremis kəńe; -- for the change between k'/ś in E. Afghanistan/Panjab, as in Karkōṭa/Śarkoṭa, see Witzel 1999a, b;
· **sinšap "mustard": Ved. saṣarpa "mustard" (Brāhmaṇas) > MIA, NIA sasapa "mustard seed", Khot. śśaśvāna, Parth. šyfš-d'n, Sodg. šywšp-δn, M.P. span-dān, N.P. sipan-dān "mustard seed" (cf. Gr. sínapi), < pre-Iran. *sinšapa < **sinsap (Henning's s_1ens_2ap, see KEWA s.v.)[136]

§ 3.6. Local animals

Even more importantly, some names for local animals pinpoint the area of the "BMAC" substrate more clearly. One would imagine that the Indo-Iranians had a word for the common tortoise, however, this is a loan which has been given to a river as well.
· *kac'yap "tortoise": Ved. kaśyapa KS+, YAvest. kasiiapa, Sogd. kyšph, N.P. kašaf, kaš(a)p "tortoise"; cf. Kashaf Rūd, river on the border of Turkmenistan and Khorasan (cf. Humbach 1984, 1991)
· Lubotsky (2001; 307) has: *(H)uštra 'camel, *khara "donkey", *kac'yapa 'tortoise", *kapauta "pigeon", *j"aj"a/uka "hedgehog", *matsya "fish", *mṛga "game", *waraj'ha "wild boar" ("reflected in Ossetian Uryz(mæg), Circassian (Iranian loan) Warza(meg). The Nart name must reflect what Johannes Knobloch thought "wild boar". He would be the sole theriomorphic warrior relic in that tradition." J. Colarusso, pers. comm.).
The leopard was a common Central Asian animal that is often found in early C. Asian art (Dani 1992), in fact a prominent motif on the oldest pottery from W. Turkmenistan.

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[136]Also found in S.E. Asia: Malay sawi, səsawi, Austro-As. *sapi, sV(r)-sapi; cf. further the similar word, EWA 712, 727: śiṃśápa RV+ "Dalbergia sissoo" N.P. šīšam, Pashto šəwa < *śiṣampa, CDIAL 12424, Elam. še-iš-šá-ba-ut = [šeššap].

Later on, it was used for sport (see Th. Allsen in V. Mair, forthc., van Binsbergen, forthc.). Its designations differ considerably in the various languages concerned.

• **pard/pandh* "spotted animal, panther": Ved. *prdaku* "snake" RV, *prdakū* AV "panther snake" AV, *prdakhu* BŚS, W.Panj. *parra*, O.Iran. *pard-*, cf. Khowar *purdūm* < *prdhūma?*, Bur. (Yasin) *phúrdum* "adder, snake", see *EWA* II 163, *KEWA* II 335, *CDIAL* 8362, Lubotsky 2001: 305 n. 3.

The overlap between "panther" and "(spotted) snake" is due to the fact that snakes are frequently named after a number of characteristics of other animals and plants, in case, the spots of the panther (differently *EWA* II 163). Lubotsky (2nd Intl. Vedic Workshop, Kyoto 1999) has pointed out that the AV snake *prdaku* is called after the leopard.[137]

The Iranian forms differ considerably: N.P. *palang* "leopard, felis pardus" < O.Iran. *pard-*,[138] Kurd. *pilink*, Pashto *prang*, Parachi *parö:n*, cf. further Lahnda *parra*, Gr. *párdalis*, *párdos*, *léo-pardos* "leopard", all < *pard* "spotted, wild animal?" (see *EWA* II 133), or following Henning, from an older **parϑ*. However, the alternate Greek word, *pánthēr*, must be taken into consideration as well. The original C. Asia word seems to have had the dialect variants **pard/pand*.[139]

Even more intriguing is the case of the word for the rhinoceros. It seems to go back to a local word *kart/kard* with a "suffix" *-ka/ga* (see now Lubotsky, 2001: 304, on the common BMAC suffix *-ka* added directly to roots, cf. Witzel 1999b: § 15, on the word for "rhinoceros").

• **kart-ka* "rhinoceros": Ved. *khadga* "rhinoceros" MS+; cf. N.P. *karka-dan*, Arab. *karkaddan*, Aelianus *kartázōnos* (*kargazōnos*) "Indian rhinoceros"; (however, cf. Kuiper 1948: 136 sqq).

The rhinoceros is by definition a South Asian (Indus Civilization, etc.), not a Central Asian, animal. However, its prehistoric spread needs to be investigated. The local climate and water table around the Sistan lakes and the reed thickets of the Helmand river[140] would have allowed for its existence and survival in the area, while the comparable situation in the Central Asian oases and their rivers, such as the Balkh river and the Amu Darya, must be studied more closely, and the question must be raised whether the word in question is a loan from S. Asia or a local word.[141] At any rate, based on this word alone, the southern and southeastern limits of

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[137] Note that the use of *pard* (*prdaku*) has been narrowed down in India to "[spotted] snake," while the old word for "panther" has been substituted early on by *dvīpin* "the one having islands (spots)", AV+, see *KEWA* II 87, *EWA* II 769; probably *prdaku* has been influenced in form (and meaning: "reptile") by the local Indian *srdaku/gu* MS, *srdaku* "lizard", *srdara* "snake" (Witzel 199a,b).

[138] For the sound changes involved cf. Avest. *paridaēza* (source for our "paradise") > N.P. *palēz* "garden."

[139] Greek *panth-* < substrate/loan word *pandh-?* Cf. §5, on the interchange of *r/n*; *par/nd* has been substituted in India early on by *dvīpin*, see above n. 137. Note that Steinkeller 1982: 253 considers the "speckled "dog" of Meluhha" (*ur gùn-a*, not: "red dog" as often quoted!), a diplomatic gift from Marhaši, to be a leopard (*Panthera pardus*). One wonders, however, why one would send such a common animal as the leopard to Ibbɪ-Sin, the last king of the Third Dynasty of Ur.

[140] See Falk 1997 with relevant literature. The rhinoceros is mentioned in the Hanshu 96: 3889 A (completed 92 CE) as living the kingdom of Wuyi (Alexandria) in Afghanistan (see Behr, n.d.: 8); note that rhinoceros were still hunted by the Moghuls in the Peshawar valley, which had been heavily forested and hardly settled in prehistory, at least down to the Achaemenid period.

[141] The tiger (along with the rhinoceros?), must have occurred in the swamps of Sistan. The last Central Asian tiger was reportedly shot on the Aral Lake in the Seventies (cf. Masson 1992: 39), and the last one in Afghanistan, on the Amu Darya islands near Kunduz, in 1970 (Bucherer-Dietschli 1986: 95). However, the tiger (*bebr*, Horn

the BMAC language cannot be decided. However, it offers a welcome possibility of checking the origin, track, and spread of such loans. - Lubotsky (2001: 307) now adds terms of cattle breeding: *kšīra "milk", *pīyūša "biestings", *sc'aga/sc'aga "billy-goat" (see above, § 2.3.) and a list of body parts: *kapha "mucus, phlegm", *kaic'a/gaic'a "head hair" (cf. Vaiti.gaēsa "Bādgīs Mt.", Witzel 1972), *kuc'ši "side of the body, flank", *gṛda "penis", *malj'ha "belly", pušc'a "tail", stuka "tuft of hair", šwaipa "tail", wṛtka "kidney".

§ 3.7. The religious sphere

Importantly, in addition to and beyond the items of material culture listed above, the religious sphere,[142] too, is strongly involved in the C. Asian loans into O. Iranian and OIA.

The most prominent words are those of certain rituals, deities, and priests: *anc'u "Soma plant", *yātu "black magic", *atharwan "priest" (however see EWA I 60), *ṛši "seer", *uc'ig "sacrificing priest", *magha "gift, offering, sacrifice", *c'arwa "name of Rudra", *indra, *g(h)andharw/b(h)a "demi-god or demon".[143]

All these words are at the center of much of Vedic and also (pre-)Zoroastrian religion but have not been considered as being non-IIr. (non-IE) so far. The advances made in the study of the Central Asian substrate now allow us to place these items in perspective.

First of all, the older IE ritual stressed the ritual drink made from honey, Greek ambrosia (the drink of "immortality" < IE *n-mṛto-); it is called madhu "mead, fermented honey" in India (see above, on "honey"). Reminiscences of this drink remain in the poetry used for Vedic ritual, where mead has been substituted altogether by the new "pressed out" (su-) drink, Soma, whose preparation and use developed into the most important Indo-

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1983: 42, cf. Ved. vyaghra, EWA II 593, with folk etymology < C. Asian **bagr?) is still found in Iran, in the Elburz and Kopet Dagh Mountains. Its absence in the RV in contrast to its prominence in the seals of the Indus civilization, along with the Ṛgvedic absence of the leopard (that has been found depicted from early Turkmenistan pottery onwards), may be due to the fact that it did not belong to the traditional imagery of the Indo-Aryans who preferred the lion (siṃha). A possible reason may be the preponderance of lion images in religion (and the absence of panther and tiger), a religious choice (Francfort 1994) already made by the people of the BMAC area through which the speakers of OIA must have passed, (cf. also W.J.M. van Binsbergen forthc., on the image of the leopard in Africa and Asia). A new study of early IIr. animal designations and their respective importance in religion (cf. W. Voigt 1937) is a desideratum. In view of these uncertainties with regard to the distribution of these animals, it remains of course entirely doubtful whether the languages of the BMAC and of Harappa were related at all as Lubotsky (2001: 306) believes (see above n. 113).

[142] First collected and discussed, as far as represented in EWA, by Lubotsky 2001: 304; cf. now the overview of pre-Vedic religion in Witzel, forthc. b).

[143] The last three words may, however, be late loans into Vīdēvdād, from OIA, in the late 1st. mill. BCE; but note Pinault on c'arwa, n. 152.

Iranian ritual.[144] The Soma plant, whose botanical nature is still uncertain,[145] originally seems to have been called *anc'u (Ved. aṃśu, Avest. ąsu, see G. Thompson 2001, 2003,[146] Pinault 2003). As has been mentioned, the best variety grows, according to Avestan and Vedic sources, on the high mountains (Tian Shan, Pamir, Himalayas),[147] and that is exactly where the more potent variety of Ephedra is found. From there it was traded and brought in by the local (mountain) people for Vedic rituals.[148] There are indications, so far largely neglected, of a C. Asian ritual involving smaller and larger (Soma?) vessels, usually found turned upside down in archaeological sites.[149]

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[144] Indo-Iranian *sauma, Ved. soma, O.P. hauma, Avest. haoma, from the root su "to press", thus *sauma "the pressed drink"; note also the name of the Saka Haumavarga "the Soma twisting/pressing Sakas" in Central Asia, attested in the O.P. inscriptions; discussion in Witzel (forthc. b).

[145] See Parpola 1995, Nyberg 1995 (= Ephedra), and the recent Leiden workshop on the problem; its results have partially been published in EJVS 9, (May) 2003, ed. by J. Houben. For Ephedra in Afghanistan and in the Kalash valleys of Chitral, see next note.

[146] Presentation at the 3rd Harvard Round Table on the Ethnogenesis of South and Central Asia, May 2001 (http://www.fas.harvard.edu/~sanskrit/RoundTableSchedule01.html) and now in EJVS 9 (2003). Note that the word for Asafoetida (a plant producing resin) is similar in shape: IIr. anc'u could go back to an older pre-IIr. form *ank'u which is found in Toch. as aṅkwaṣ, Chin. yangkuǐ, (a resin of Asafoetida sinica, a low grade stimulant), see Pulleyblank 1962; however, Lubotsky (1998: 379) simply subsumes it under Wanderwörter of unknown etymology. Pinault (2003) further connects the Common Toch. word for "iron" *æncuwæn > Toch. A *añcu (adj. añcwaṣi "made of iron"), B eñcuwo (adj. eñcuwaññe) and cf. Khor. hnc"w < Iran. *anśuwan. The meaning "iron" derives from the rusty color of iron ore, just like the Soma plant or its juice are called "rusty brown", indeed the color of the powder of some Ephedra varieties, cf. below. The Rgvedic Soma is called babhru, hari, aruṣa, aruṇa (i.e. "brownish" through "reddish". -- Interestingly, Arrianos, Anabasis iii, ch. 28 is aware of it as silphion, growing in the "Caucasus" (Hindukush); this has been identified as Asafoetida, liked by sheep, see Wirth 1985: 887, n. 111. However, note that the same is said about Ephedra = Kalash sámani (<*sumanas, CDIAL 13492): it grows in the higher mountain meadows, is eaten by goats..., and is used as an ingredient in making chewing tobacco (nazwár). It is, according to Morgenstierne who went there in 1929, a "small shrub resembling heather, with stiff, straight twigs, growing in the high mountain valleys." The latter description is the same as that given for hum in Afghanistan: "a stiff bush, three feet high, with closely arranged, vertical, leafless, articulated stems. It grows on stony, infertile ground. The fruits are red and fleshy and are eaten by children. The stems are used for dying yellow, and are used, as powder, for chewing [tobacco] and as snuff. The Afridi tribes crush the stems and soak them in cold water. The extract derived from it is used as medicine against fever. The plant grows in all of Turkestan, north and middle Persia, in northern and eastern Afghanistan and in the northwestern Himalayas." (K. F. Geldner, Der Rig-Veda, introduction to vol. iii, Cambridge: Harvard Oriental Series 35, 1951: 2; my translation). "The central portion of dried mature [Ephedra] twigs collected in autumn contains a powdery material of rusty red colour" (Pinault 2003, N.A. Qazilbash, The Pharmaceutical Journal 26, 1960, 499).

[147] See now Staal (2001, 2003) with an exact localization; the RV speak of the best variety, Maujavata, from the mountain Mūjavant (AV), cf. Avestan Muza, found even now as the mountain Muzh Tagh Ata and the R. Muzh-kol (Xinjiang/ Tajikistan border and in N. Kashmir), see Witzel 2000a, cf. above, n. 112.

[148] Pinault (2003) draws attention to the combination of aṃśu "Soma" and the "foreign" name Śiṣṭa (Śiṣṭra, Śirṣṭra, RV; Kuiper 1991: 7, 70); another from of this name is RV Kīsta, with the frequent interchange of k/ś [k'] in non-IA names and words (Witzel 1999a,b,c) . -- See further Witzel 2000a for a discussion of non-IIr. Hindukush and Pamir mountain peoples.

[149] Sarianidi 1992: 34; this custom continued even down to the Greek period in Bactria (Ai Khanum). -- For the alleged finds of Ephedra ("Soma") at Togolok in Bactria see Lamberg-Karlovsky 2002: 71 and now Houben EJVS 9, 2003.

Not unexpectedly then, the names of some of the most important IIr. priests and composers of ritual poetry also belong to this substrate: *atharwan "(fire?) priest," *ṛši "seer, poet", *uc'ig "sacrificing priest", *yatu "black magic".[150] IE etymologies, however, not very convincing ones, have been proposed for some of these designations, especially in the light of the analysis given below (-arwa suffix).

If these points are evaluated against a discussion of the names of deities, it becomes obvious that a major change in ritual and religion took place among the speakers of Indo-Iranian in C. Asia. A prominent feature of IIr. religion is the emergence, probably in the Ural area (Witzel forthc. b), of a group of "gods of law and order" (asura, Āditya, with IIr. names!) that regulate the "truthful" behavior of people, from a single person to a tribe.[151] Other important deities seem to be based on a substrate designation. They include *c'arwa "name of Rudra", *indra, *g(h)andh-arw/b(h)a "a demi-god or demon".[152] These are, however, of uncertain attribution, as they are, outside Vedic India, found only in a late Avestan text in

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[150] In detail: *atharwan, Ved. Atharvan "[ancient] priest, sorcerer", Avest. aϑrauuan "priest", EWA I 60; Pinault (2003) connects this with Toch. B etre, A atär "hero" < *athṛ "superior force" and assumes suffixation with the common IIr. suffix -van (cf. Ved. athar-yu, athar-vī, athar-ī); *ṛši "seer, poet", Ved. ṛṣi, cf. O.Avest. arašiš "(person) full of enthusiasm for god," Y 31.5, arašišiia, EWA I 261; *uc'ig "sacrificing priest", Ved. Ušij, Aušija, Avest. usij "sacrificer following non-Zoroastrian ritual/belief", EWA I 234; *yatu "black magic", Ved. yatu, Avest. yatu "sorcery, sorcerer", N.P. jadū "sorcerer". Note also *kaiš "to apportion magically, to teach" (cf. EWA I 359).

[151] The Vedic/Avestan lists have: 1. Ved. Varuṇa, Mitanni Uruna (substituted by Avest. Ahura Mazdā?; with a local(?) -una suffix otherwise rarely found in IE, IIr. (but note : *Perkʷ-uno- in Lith. Perkúnas/Slav. Perun' "thunder god"); IIr -una is seen in: Yamuna, taruṇa, aruṇa, cf. Avest. tauruna, auruna, etc.; note Blažek 2002: 233 for Elamite Urun, at Haft Tepe, 2nd half of 2nd mill. BCE), 2. Ved. Mitra, Mit. Mitra, Avest. Miϑra, "god Agreement", 3. Arya-man/Aⁱriia-man ("Arya-hood", god of marriage exchange, an artificial formation from an adjective with the deverbal derivative suffix -man, similarly Avest. x́aē-tu "self-hood" > "belonging to a family"), 4. Bhaga/baya (O.P. baga) "god Share", 5. Aṃśa "god Lot", 6. sqq. Dhātṛ/datar- "god Apportioner/Creator", Dakṣa "god Cleverness", Mārtaṇḍa Vivasvant/Gaiiō marətan, Viuuaŋhuuaṇt. These new deities are active in the social relationships, respectively: the world, tribe, clan (marriage), family, individual; Vivasvant is the ancestor of Manu and Yama/Yima and thus, of human beings (or at least of all arya lineages). These deities are not found in IE (Slav. bogᵘ "god" is a loan from N. Iranian baga "god"). Their PIIr. origin may be due to socio-religious developments in steppe conditions (water rights, oral agreements, etc., see Witzel, forthc. b); this location is indicated by the several correspondences of these early words in Uralic and Yeneseian, such as Asura > Mordwin azoro "lord", Vogul atər "prince" (Koivulehto 2001: 247), etc. -- However, the BMAC population had an altogether different local religion, with a preponderance of an (agricultural) fertility Goddess and her antipode, a polymorphous, male scaled-skin Dragon deity (combining several animal and human forms and allied with snakes and lions), who is fought by an eagle-headed Hero (Francfort 1994), see now Witzel, forthc. b; cf. below §7.

[152] Details: *c'arwa "name of a god", Ved. Śarva "name of Rudra" (commonly seen as archer, hunter), Iran. Sauruua "a demon"; Pinault (2003) connects the Toch. word for "hunter", Common Toch. *śœrwœ, B śer(u)we, A śaru "hunter", and N.Iran. words: Iran. *sarwa > *saurwa (Avest. Sauruua; cf. aora ~ Ved. arvāñc) > Osset. Digor sorun, surd, Iron sūryn, syrd "to hunt", Khotan. ha-sūrä, hu-sure < *fra-saura "quarry, hunted beast" and deduces the meaning of *c'arwa as "*hunting, hunter, living in the forest > *being of the wilds > god of the wilds, destroyer" (cf. also Osset. Syr(don), the name of a wicked Nart, J. Colarusso, pers. comm.), *indra "name of the "king" of the present generation of gods", Ved. "Indra", Mitanni Indara, Avest. Indara, "a demon", *g(h)andharw/b(h)a, Ved. Gandharva "name of a semi-divine spirit of lust and procreation", Avest. gaṇdarəßa "a demon, monster". -- Blažek 2002: 232-3 compares Indra with the Old Elamite names Int(a)ri, Inda(p) from d/ta "to put, lie". J. Colarusso (pers. comm.) thinks that "Indra/Indara, Hitt. Inara (Inra, Inar), all point to this name having been an epithet. Note Circassian /yəna-ø-ra/ big-be-gerund, Abkhaz /a-yn-ar/ the-big-(be-)gerund (the name of the god of the forge), all meaning "the big, great one" ."

(Vīdēvdād) and may represent loans from OIA, when Zoroastrian religion was confronted with Indian "unbelievers".

Importantly, Lubotsky (2001: 304, 306) now draws attention to the common "suffix" *-arwa-[153] in *atharwan, g(h)andharw/b(h)a, and perhaps also in *c'arwa.[154] Interestingly, this "suffix" is seen only in religious terms, which at a minimum points to intentional, if not artificial, formations involving these words.[155]

However that may be, the surprising cluster of words related to religion indicates that the Indo-Iranians were strongly influenced by a Central Asian population having its own peculiar religion; this whole problem is in need of a closer evaluation in comparison with Vedic and Avestan religion.[156]

The remaining group of words only attested in Indian sources[157] and words only attested in Iranian sources[158] will be evaluated in another paper.

§ 4. Place Names and Hydronomy

An extensive survey of the older place names of Turkmenistan, S. Uzbekistan, Afghanistan, etc. is still to be done. The oldest sources are found in the Avesta and in the Old Persian inscriptions. Both include only a few Central Asian names, usually of Iranian

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[153] Originally, Lubotsky had apparently thought that this group of words belonged to a *still older* layer of loans in IIr.

[154] Doubtful unless one assumes a root *c-, as can happen in Caucasian languages; cf. NEC river names, n. 91. See, however, n. 152 for a Toch. reflex, B šer(u)we, A śaru "hunter" ; cf. n. 143.

[155] For details see above n. 151: just like Arya-man. Is the IIr. suffix -man/van replacing a BMAC suffix -arwa whose use would have resulted in the difficult form Ved. *arya-rva/aryarva? Cf., finally, the rare -vala suffixes in Vedic (RV a-kṛṣi-vala)?

[156] For an initial investigation, see Witzel, forthc. b.

[157] One may also investigate, for example, the names of clearly non-IA gods and demons in the RV, only a few of which fit Lubotsky's trisyllabic pattern with long middle syllable (see above, n. 113): Araru, Arbuda, Ilībiśa, Uraṇa, Emuṣa, Karañja, K(a)ulitara, Khela(?), Cumuri, Jarūtha, Dṛbhīka, Namuci, Paṇi, Parṇaya, Pipru, Bṛsaya, Raji, Vaṅgṛda, Śambara, Śaṇḍa, Śimida, Sṛbinda, etc. Unfortunately these words do not have counterparts in Old Iranian and (many or most) may come from South Asian substrates; for details see EWA, s.v.

[158] Such as O.P. kaufa "hump of a camel, mountain"; Avest. aδu "channel, rivulet", aϑa "land, property", aoniia "fire place", akana "receptacle", aku "scissors", ayažana "an agricultural instrument", tatuk "clay" (note the Toch. loan (?) tuk-ri "clay", Pinault 2002: 334), -bata "threshed", muštəməša "myrrh", etc., or the many names of illnesses and other words describing "evils" of all sorts (cf. the many local Indian ones listed in CDIAL !) such as aka/aya, axti, afša, afsman, afšman, aŋra (= Ved. asra), ara, -yaska, -skanda, -stairiia, or those of insects and others pests such as anairiti, araeka, aširiia, and finally personal and place names such as Axtiia, Apaxšira, Ankasa, Ainiiauua, Amru, as well as those of demons such as Arəzura, Aiiehiia, Ara, Asabana, etc. A detailed investigation will be presented elsewhere.

origin.[159] The Greeks, starting with Herodotos[160] and the historians[161] of Alexander's trek towards India, provide a number of interesting toponyms and personal names, again mostly of Iranian nature. Ptolemy's *Geography*[162] adds a host of names, especially for the areas on and beyond the Yaxartes, in the Saka territories and in Eastern Central Asia.[163]

There is an increasing number of mythical and real names found in Middle Iranian Zoroastrian and Manichaean texts, and the old Sogdian letters or documents from Mt. Mug with more than 60 toponyms. A brief overview of such early, medieval, and more recent data up to the 19th century is provided in a survey article by Khromov (1980, 132-139). All of these later data cannot be dealt with in this paper.

Modern data for these areas as well as for other former Soviet Central Asian republics exist in a number of publications in Russian that can be compared with the older data. In a survey article Khasanov (1960: 156-160) discusses the multi-lingual names of rivers and towns. He underlines that the hydronomy is often taken from the names of local provinces or towns, a feature already seen (often vice versa) in the Avesta and O.Persian, such as Balx river/town < *Baxδī*, Merw river/town < *Margu*, etc. Taken from his map (1969: 159), the Syr Darya also goes by these names (note Russian |x| often for [h], *as in Šah*): (Gr.) *Tanais* (< Ir. *Dānu*), *Turkestan Daryasi, Otrad/Otrar Daryasi, Karalun Okuz, Seixun, Naxraš Šax, Benaret Daryasi, Xojent Sui, Kasart Aksu Suvi, Fargana Daryasi, Uzgan Suvi* (Gr. *Silis* is missing); similarly, the Amu Darya: (Lat.) *Oxus, Urgenc Daryasi, Xorezm Daryasi, Oks, Okus, Araks, Jeixun, Kelif Daryasi, Balx Daryasi*; and the Zerafšan: *Buxara Daryasi, Xaramkam, Rudizar, Obe [= ab-ī] Sogd, Obe Kuxak, Samarkand Daryasi, Zaravšan*. Out of these, obviously only the (parts of the) old designations not stemming from IIr. (*-darya, -ob*) and Turkic (*-si, -su*) are of interest here.

A useful overview of the literature and of some major toponymical features of the area has been given by Murzaev (1964: 3-13), Postelov (1980, 118-123), Khromov (1980, 132-139), Èdel'man (1980, 21-32). Other areas included in these studies written in Russian are the Upper Altai, Kirgizstan, Kazakhstan, Tajikistan (Khromov 1959, Rozenfel'd 1964), Tajik

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[159] See above §2.3: Choresmia, Sogdia, Bactria, Margiana, -- all already Iranian names, or mythical rivers such as the *Vaɪ̯hī*/Wehrūd; see Vamberi 1891, Witzel 2000a.

[160] Histories: i 205: the Saka tribe of the *Massagetai*, their queen *Tomuris*, her son *Spargapises*; iii 92 the tribal names *Kaspioi, Pausikai, Pantimathoi* (on the Oxos), *Dareitai, Baktrianoi, Aigiloi* (on the Iaxartes); iii 117 the *Khorasmioi, Hurkanioi* (in Gorgan), *Parthoi, Sarangai* (= O.P. *Zranka*), *Thamanaioi;* vii 64 sqq: *Baktrioi, Sakai, Skuthai, Khorasmioi, Sogdoi, Kaspioi.*

[161] For example, from Arrian's Anabasis, iii 29 the town of *Baktra*, west of Mt. *Aornos*, the tribe of the *Da[h]ai* from other side of the R. *Tanais* (Gk. *Iaksartes*); the R. *Oxos*, the town of *Drapsaka* (Kunduz), Mt. *Aornos*; iv: the towns *Zariaspa, Kurupolis, Gaza* (in Sogdia), R. *Tanais*, the town *Marakanda*, R. *Polutimetos* (Zarafshan), R. *Epardos* in *Marda* land (near Merv?); *Marakanda, Zariaspa, Ga[za]bai* (near Bukhara), *Nautaka, Paraitakene, Khorienos, Baktra*; cf. also Curtius Rufus, *Historia Alexandri Magni* (*De gestis Alexandri Magni*).

[162] See Ronca 1968/1971 and Humbach 1972, 1998.

[163] Such as the names on the eastern bank of the Yaxartes: the Saka tribes of the *Karatai, Komaraoi*, and east of them, the *Grinaoi, Toornai, Bultai* and *Massagetai*; further east, beyond the *Askatankas* and *Imaon* Mts.: *Kasia* (cf. Avest. *bərəzant- [antarə-]Kaŋha- < *kasa*, with the pass *Xšaϑrō.suka*), the *Khatai, Akhasa*, the *Khauranaoi*; and finally, in Eastern Central Asia (from north to south): the *Piadai, Asmiraia*, the *Oikhardai, Issedones, Throanoi, Thagouroi, Aspakarai, Batai* and *Ottarokorai* (= *Uttarakuru* "beyond the Himalayas", AB 8.14); the rivers *Oichardes, Bautisos*; the place names *Damna, Issedon, Piada, Asmiraia, Khaurana, Orosana, Ottarokora, Solana, Thogara, Daksata, Sera* (*metropolis*). Some of them clearly are Iranian (*Aspakara*), others are *prima facie* unclear.

the Indus, first met with in the RV *Sindhu,* a river that begins in the Himalayas and receives the Kabul, Kurram, and Gomal as well as all the Panjab rivers (RV 10.75). P. Thieme (1991) understood the Indus as the "border river" dividing IA and Iran. tribes and has derived it from IE with an etymology from the root *si(n)dh* "to divide."[172] The word is also found in O.Iranian as Avest. *həndu* "border river, ocean (at the western and eastern ends of the world"[173], O.Pers. *həndu [həndu]* "Indus". This points to an IIr. coinage with the meaning "border river, ocean".

The question remains why this reconstructable PIIr. word is so similar to Macro-Caucasian words that reflect something like *(t)sin(d)/ *(t)sir;*[174] (see above, n. 91, on NEC *λ^{T}enc'o-* "river" and NEC *š^{T}or-/PEC *šVrV* "water".)

In the case of IA one may also think of an adaptation of Bur. *sinda,*[175] from Proto-Burushaski,[176] to the well known IIr. and IE *sidh/sindh-* "to divide". Pinnow, indeed, connected IIr. *Sindhu* with Burushaski as he could not find a cogent IE etymology and as he rejected Near Eastern ones (Pinnow, 1953: 12-13.)[177] He also points to a number of river names in the northwestern subcontinent which have the same suffix -*u*, but are clearly IA (1954: 14 sqq). It must also be noted that the word *sinda* is attested fairly early in the context of Mesopotamian trade.[178]

However, the wide spread of these words east of the Caucasus rather seems to indicate a Macro-Caucasian source *sind-/sir-* (see §5) that has been connected, *already in IIr. times,* with IIr. *si(n)dh* "to divide" and etymologized as *Sindhu* "border river."[179] This suggests a localization of the process near the BMAC *Sindes* river rather than the *Syr* Darya (*Silis*).

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[172] Some compare Irish *Shannon,* etc., see *KEWA, EWA* II 729; these names are discussed in some detail by Mayrhofer (1979); he denies any connection with Skt. *Sindhu.*

[173] Cf. *us.həndauua* "beyond the natural frontier" (Thieme), that is: the (mountain) "rising from the ocean (Milky Way)" / or "beyond the Milky Way", *zraiiah vourukaša* (Witzel 1984).

[174] For details on the distribution of *r/n* see §5. The word is attested in Mesopotamian sources as *si-in-da-a,* var. *si-in-du,* see n. 177.

[175] Cf. Witzel 1999a,b,c.

[176] Cf. Tikkanen 1987, 1988, 1998. Early loans include Ved. *kilala* / Class. Skt. *kilāṭa* "a milk product" (RV), Bur. *kilay* "curds"; Ved. *meṣa* "sheep", Bur. *məs* "skin bag" (but cf. Slav. *mex^u*, Lith. *maišas* "skin bag"); cf. also Bur. *baluqá* "big hammer" (see above, §2.2); further *šon* "blind", Ved. *kaṇa* with the same northwestern variation of *k/š* as seen in *Kar-koṭa/Śar-koṭa* (Witzel 1999a,b); cf. also a cultural loan from the Indus: *yupas* "cotton", Ved. *karpasa;* all of this is in need of further investion. For pre-Bur. substrates see the summary in Kuiper 1962, 1991.

[177] Cf. also Mayrhofer 1979, on the *Sindes,* a people on the Kuban R., north of the Caucasus mountains and the *Sindes* river (Tedzhen, in Tacitus, *Annales* 10; Witzel 1999c, and below §5, n.180; cf. however, n. 171, 178

[178] Cf. Neo-Babylonian sources for Indian products, as detailed by B. Landsberger, *Welt des Orients* 3, 261 (cf. OIP 2, 123: 35), e.g., pillars of ivory, cypress, cedar, *dupranu,* juniper and "Indian wood" (*si-in-da-a,* var. *si-in-du*), apparently derived from a predecessor of Bur. *sinda*/OIA *sindhu.* Note however, also the alternative explanation by Southworth (1988: 659): P.Drav. *kintu > *cintu [cindu, sindu]* "date palm, *phoenix sylvestris*" > Munda *sindi, kindad, kita* etc. (Sant. *kinde't,* Mundari *kita*). Southworth sees here the origin of the name of Sindh, however without explaining -*dh*- in Ved. *Sindhu* (s. *EWA* II 729, Witzel 1999a,b,c).

[179] Note some early loans from Pre-Vedic IA into Iranian when O. Iranian still had *s* (later > *h,* as in Assyrian *As-sa-ra ma-za-aš = Assara Mazaš, Ahuramazda,* see Hintze 1998). Ir. *Hindu-* thus can be a loan from an older IA substrate. However, the "eastern and western" *həndu,* "oceans" Y. 57.29, and the name of the mythical central mountain, *us.həndauua* "emerging from the river/ocean [*Vourukaša*]" indicate *həndu* "(mythical) ocean" in

If the connections made above are correct we get a band of river names, from the Caucasus to the Pamirs, that reflect the language of a previous C. Asian population.

This impression is reinforced by a few other names. The people north of the Caucasus, the *Sindes*, live on a river now called Kuban that emerges from the Caucasus mountains of the Cherkes republic. This name, attested at least since 7th cent. CE,[180] seems to echo[181] that of the Kabul river, RV *Kubhā*, Gr. *Kophēs, Kophēn*. Another interesting river name is that of the Indra River in S. Tajikistan, *Indar-ab*,[182] and the *Inder* lake (Russ. *ozero Inder*) on the lower Ural river in W. Kazakhstan. In light of the proposed non-IIr. etymology[183] of the name of the god *Indra* (see above) these widespread names may reflect the C. Asian substrate language as well.[184] Much more research is needed, however, to turn these proposals into something closer to certainty.

As far as Greater Iran itself is concerned, the O.Iran. sources (O. Persian inscriptions and the Avestan texts)[185] add a number of interesting names. Beginning in the Northwest, the non-IIr. name of the Gorgān plains south of the Caspian Sea is found in the Avesta in V.1.9 as *Xnənta* < *khnanta* which Humbach (1991) derives from < *khr-* (cf. Ptolemy, Geogr. 6.9.5 *Khrindoi*, Lat. *Chrindi*). This, incidentally, is another case where we see a shift between *r/n* in Central Asian etyma and names (see below, §5). The IIr. name of the area is *Vəhrkāna* > mod. *Gorgan*, "the (country) of the wolf (men)." In the northwest of Iran the O.Pers. inscriptions mention the districts *Asagartiya* (Witzel 1980: 112 n. 76 with literature,

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Avestan (Witzel 1984), derived from an IIr. (loan) coinage "border river, ocean" which would fit P. Thieme's etymology (1967-91) from the IE root *si(n)dh* "to divide."

[180] Note the area called *Sindike* south of its mouth into the Sea of Azov. L.G. Gulieva, 1960, 140 quotes other names of the Kuban, such as *Kum* in the Armenian geography of Moses Xorenac'i; *Kofina* in the *Brevarium*, the history written by the Constaninopolitan patriarch Nikephoros (c. 750-829 CE, when describing the time of the emperor Maurikios, reigned until 602 CE); *Kuba* in the 17th cent. Russian records, *Bol'shoi Chertezh*. Gulieva 1960: 135 includes other names: (Gr.) *Hupanis* (she writes Gr. Gipauis, Gipanis), *Antikites, Bardan, Bardanus, Bardanis, Psalmis, Kuba, Kopa, Sopa, Kufus, Ukrug, Psyzh', (Psishe;* J. Colarusso, pers. comm., points out that this is Circassian /psəš·ʸə/ "water;" name of a tributary to the Kuban), *Burlik, Bal, Kum*.

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[182] The N. Afghani river *Andar-ab* has to be separated from this as it is attested in mid-first millennium Chinese sources with *an-*, see Witzel 2000a, n. 7.

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[184] Taking into account the Macro-Caucasian family, the French river name *Indré* (south of Tours) may reflect a Basque substrate.

[185] There is need of a detailed study of the many names of mountains in Yt 19; for some initial attempts see Witzel 2000a.

If the connections made above are correct we get a band of river names, from the Caucasus to the Pamirs, that reflect the language of a previous C. Asian population.

This impression is reinforced by a few other names. The people north of the Caucasus, the *Sindes*, live on a river now called Kuban that emerges from the Caucasus mountains of the Cherkes republic. This name, attested at least since 7th cent. CE,[180] seems to echo[181] that of the Kabul river, RV *Kubha*, Gr. *Kophēs*, *Kophēn*. Another interesting river name is that of the Indra River in S. Tajikistan, *Indar-ab*,[182] and the *Inder* lake (Russ. *ozero Inder*) on the lower Ural river in W. Kazakhstan. In light of the proposed non-IIr. etymology[183] of the name of the god *Indra* (see above) these widespread names may reflect the C. Asian substrate language as well.[184] Much more research is needed, however, to turn these proposals into something closer to certainty.

As far as Greater Iran itself is concerned, the O.Iran. sources (O. Persian inscriptions and the Avestan texts)[185] add a number of interesting names. Beginning in the Northwest, the non-IIr. name of the Gorgān plains south of the Caspian Sea is found in the Avesta in V.1.9 as *Xnənta* < **khnanta* which Humbach (1991) derives from < **khr-* (cf. Ptolemy, Geogr. 6.9.5 *Khrindoi*, Lat. *Chrindi*). This, incidentally, is another case where we see a shift between *r/n* in Central Asian etyma and names (see below, §5). The IIr. name of the area is *Vəhrkāna* > mod. *Gorgān*, "the (country) of the wolf (men)." In the northwest of Iran the O.Pers. inscriptions mention the districts *Asagartiya* (Witzel 1980: 112 n. 76 with literature,

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Avestan (Witzel 1984), derived from an IIr. (loan) coinage "border river, ocean" which would fit P. Thieme's etymology (1967-91) from the IE root **si(n)dh* "to divide."

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on place names), *Kampanda* and *Nisaya*, and the fortress *Sikaya(h)uvati* (cf. O.P. *ϑika* "gravel", Ved. *sikata)*, some of which have been explained by Eilers (1982,1987).

Further east, the name of Bactria may have a non-IE etymology as well. The E. Ir. name *Baxϑi-* (Witzel 1980), may be derived from O.Ir. **Baxϑ(r)i-* < IIr. **bhak-tri-* which may mean the "distributing (river);"[186] however, the loss of *-r-* remains enigmatic (but cf. O.P. *Skud(r)a*, below). Y.Avest. *Baxδi* corresponds to the AV loan *balhika* and would indicate a Y.Avest. dialect form *Baxδi-* already at the time of the AV, c. 1000 BCE (Witzel 1980, 1997b). If the local form of the name *Baxδi* is original, and the Iranian forms in *-tri/ϑri-* were to be regarded as popular etymologies, it may reflect a local name.

Indeed, the name of a neighboring tribe and area, that of the Sogdians, is without clear etymology as well. Y.Avest. *Suyδa*, O.P. *Suguda*, which Szemerényi 1980, however, derives from O.P. *Skud(r)a* "archer", the older name of the Saka.

To the South of this area, in Arachosia, the O.Persian sources have the names of two fortresses, *Aršada*[187] and *Kapišakani* and a *Gandutava* district. *Kapišakani* is close to *Kapiśi*, a town in the Kabul area (Gandhāra), see Pāṇini 4.2.99; Patañjali further specifies *Kapiśayana/-i* "inhabitant of *Kapiśi*".[188] In the same area may be found the Vedic *Kamboja* tribe, reflected by the O.Pers. royal name *Kambūjiya* "Cambyses".[189] Finally, there are the SE Iranian provinces of *Karmana* and *Maka* (modern Makrān, Gedrosia) whose inhabitants are called *Maciya* "person from *Maka*."[190] These may reflect the old names of the area (see above, on *Marhaši*/Bampur).[191] (The Southwest of Iran is proper Elamite territory and therefore left out here).[192]

§5. Some Characteristics of the BMAC Language

In spite of the (so far) limited number of etyma, anthroponyms, and toponyms we can summarize a few characteristics of this language. In addition to the materials collected by Lubotsky (2001: 303 sqq.) we can discern, just as in the case of the rather limited dialect materials available for the northern and southern Indus languages (Witzel 1999a,b), for example a dialect difference involving an interchange of *r/n*. Naturally, we are still very much in the realm of speculation here, as the available data are still very sketchy and come from a variety of quite different languages and sources. It is also still somewhat difficult to pin them

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[186] Cf. also the *Vaxδrika* mountains in Yt 19.4, see Witzel 1980, 2000a.

[187] One may try, however, the IIr. etymology, such as *arśa(n)-d(h)a* "placing/containing men."

[188] Cf. *Kapisa* in Ptolemy, Geogr. 6.18.4; see Witzel 1980: 108: n. 49, Eilers 1982: 21; on Kandahar < Gandhāra, see Eilers 1982: 22.

[189] Cf. Witzel 1980, n. 81, also n. 16, 32, 47, 52, 82, 96, 105, 106, 108. Note also the import of horses from Kamboja, Bactria, and Sauvīra (Sindh) in *Arthaśastra* 2.30.9.

[190] Witzel 1980: 112 n. 76 and Eilers 1982: 30 with literature on place names.

[191] Incidentally, the Greek name of the capital of this area, *Poura*, does not seem to be connected with IA *pura* "city", cf. modern *Bampur*; see Mayrhofer 1979.

[192] In the SW, the towns *Kuganaka, Tarava, Maru*, and *Raxa* and the mountains *Arakadi* and *Parga; Patiš(h)uvari* (Gr. *Pateiskhorēis*), a Persian tribe Eilers 1987: 49, "gegen die Sonne gerichtet" in Bartholomae's *Wörterbuch*.

down in time and place. Nevertheless, a few observations are added here in the hope of drawing attention to the facts.

(1) *r/n*. Assuming the existence of the Macro-Caucasian language family, the terms for wheat have the structure **gVr/l* (Basque *gari*, PECauc. *$\underline{G}\bar{o}l'e$*, Bur. *gur* "wheat"); other languages of the Near East have ***kant*, and in Iran/India the "suffix" *-um* (Ir. *gantuma*) or they have changed the initial cluster *-an-* to *-o-* (PKartv *ghomu*, Ved. *godhūma*, Drav. **kotumpai, gōdi*, see Witzel 1999a,b) In sum, the more northern population (Macro-Caucasian?) which derived its word for wheat directly from the Fertile Crescent, has a predilection for *r/l* while other, more southern languages from the area have *-n-*.

The loan word for "leopard" has a similar distribution. The southern belt has *-r-* forms while the west has *-n-*: ***pard* "spotted wild animal?" > O.Iran. **pard-* "leopard" (N.P. *palang*, etc.), Lahnda *parṛa*; taken into Gr. as *párdalis, párdos, léo-pardos* "leopard"; however another loan (from Anatolia?) is seen in Greek *pánthεr*.

Similarly, the word for "lion" has *-r-* in the southern belt, represented by Iran. *šer (< *serg'h-)*, while a host of "non-southern" languages from the intrusive IA (originally close to FU north of the steppes), Tibetan, Chinese etc., have a form with *-n-*, ***$s_1$engha*, pre-OIA *sing'ha*, etc. Note the possible western form in Arm. *inc/inj < *sinj'h*.

The same distribution is reflected by the word for "water, river": Macro-Cauc. **(t)sir*, NEC *$\check{s}^Tor$-, PEC *$\check{s}VrV* "water" which may be preserved in the name of the Yaxartes, *Silis*, in Bur. *t.s.hil* etc., (cf. Basque *(h)ur* Bur. *hur*, and also Yeneseian **xur*). However, the case of southern *-n-* (*Sindes/Sindhu* river, Bur. *sende*) is more complex. NEC *$\check{\lambda}^Tenc'o$- "river" can be compared with the rivers *Sind-* in the Caucasian Kuban, Turkmenian Tedzhen, and Indus areas, where it is fairly early, as Mesop. *sinda* "wood from Meluḫḫa" (Baluchistan/Sindh) attests.[193] A Macro-Caucasian word ***sin(d-)* apparently was taken over early on into Indo-Iranian and given a popular etymology from IE/IIr. **sidh/sindh* "to divide", which is what border rivers indeed do; consequently IIr. **sindh-u* designates (border) rivers and the rim of the world, the ocean surrounding the world (Avest. *həndu* "western and eastern ocean", *us.həndauua* "(mountain) rising from the ocean"). It was also applied, in S. Asia, to the Indus river (cf. Bur. *sende*), whence Iran. *Hindu/Həndu/Ḥəndu*.

With some reservations one may add the name of the province of Gorgān (Hyrcania, *Vəhrkāna*) in N. Iran, Avest. *Xnənta*, found next to an original **Xrənta* (Humbach 1984, 1991). The name certainly is non-IIr. and as the Avestan texts were redacted in Arachosia, this would represent a split between the Macro-Caucasian areas close to the Caucasus, in Turkmenistan-Bactria and the Pamirs, versus a southeastern O. Iranian dialect close to the Vedic area, with *-n-*, (see above on *-šer/*sing'ha*).

The interchange between ***sinšap* "mustard" > pre-Iran. **sinšapa*, Khot. *śśaśvana*, Parth. *šyfš-d'n*, Sodg. *šywšp-δn*, M.P. *span-dan* "mustard seed" vs. Vedic *saṣarpa* "mustard" may also belong here.

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[193] If indeed an old designation for the Indus, this would present an interesting aspect as far as the language of the Indus civilization is concerned. Cf. in general Witzel 1999a,b.

In sum, much of the old Macro-Caucasian belt, stretching from the Pamirs to the Caucasus (and further west), has a predilection for forms with -r-, where others have -n-.[194] The actual distribution has been influenced and confused by the immigration of IIr. speakers.

It probably goes too far to see in the interchange of r/n two representations of a prehistoric retroflex *ṇ, though Pinault (2003) thinks that the combined evidence of Paṇi and aṇi points in that direction: BMAC *ani (aṇi?) : Ved. aṇi "lynch pin" : Toch. *ani-ën "hip"; BMAC *Paṇi/Parna (Gr. Parnoi) : Ved. Paṇi : Toch. *paniya "that which belongs to wealthy people" where the Greek form Parnoi would be a local variant with "intrusive" -r-, cf. Kuiper 1991:70-81).

If this were the case and the BMAC language indeed had forms like *aṇi, *parna/parṇi, one must wonder why the regional Hindukush-Pamir feature of retroflexion (cf. Tikkanen 1988, 1999, Witzel 1999a,b) would have affected the BMAC area and Nuristani/Vedic but not the neighboring O.Iranian: Avestan was spoken in the presently retroflexing Pashto territory, for example in Kandahar/Arachosia. One way out of this dilemma would be to assume an earlier "retroflex Avesta", imported from Arachosia (K. Hoffmann 1975/6, 1992) into the Persis around 500 BCE, where it was transmitted orally under Old Persian phonetic influences for the next thousand years or so. However, there are no materials, so far, to sustain the assumption of an older, "retroflex Avesta".

Furthermore, the supposition is contradicted by inner-OIA and E. Iran. evidence: the word *mani "jewel" turns up as maṇi in Vedic but without retroflex in the other OIA dialect, Mitanni-IA, as mani-nnu and also in Avestan -ma^{i}ni.

At best, we can assume local variation in the Hindukush-Pamir belt itself and with all those who have migrated through this "retroflexing belt" (Nuristani, E. Iranians, Saka, Burusho, Vedic Indians, Dravidians, etc.); note however, that NWC also has retroflexation of its affricates and fricatives.

(2) _k : g_ Avestan may supply another feature, an interchange of k : g as in *kaiśa > keśa (~ Caesar?) :: Avest. gaēsa; cf. above, western (Hitt., Semitic) kant/ḫant "wheat" :: local "Iranian" gant-uma (~ Kartv. *ghomu?); and further the unexplainable difference in an old loan word: Cauc. b'ok'o "male goat" :: pre-Proto-Iran. *bûg'a > *bûj'a > Avest. bûza :: Indic *bôkka "he-goat" (CDIAL 9312., also bukka in lex.) > Prakṛt bokkaḍa "male goat", Panjabi bokka, Nep. boko, etc. (cf. Nichols 1997, 1998 referring to Gamkrelidze-Ivanov 1994: 501).

(3) Perhaps, _kh : ka_ may be added; note Ved. kha, Avest. xan "source, well" : Ved. khan "to dig", khara "dug out mound" :: Iran. *kan "to dig" (Avest. us.kənti, ni-kainti, auua-kanta, O.P. ni-ka^{n}tuv, ka^{n}tanaiy etc.), cf. EWA I 446.

(4) _t : dh_
is seen early on in IE med(h)- (Skt. madhu, Engl. mead, etc.) :: western IE **melit, Gr. mélit-, Hitt. milit, Lat. mel, mell-, Gothic miliϑ.

(5) _c : j_ ?
may perhaps be deduced from Armen. inc, inj "lion" < **sinj' ~ pre-Ved. *sinj'h < *sing'h :: Toch. A śiśäk, B śecake "lion".

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[194] Note also the more widely spread IE apophony of r/n (and r/i, named after W. Caland) in Indo-European of the type nom. *wedô-r, gen. *wede-n-es (innovative from the point of view of Nostratic, Witzel 1992).

(6) syllable structure CǝCǝCǝ,
as discovered for the Central Asian substrate by A. Lubotsky (2001: 303, 305, see above, n. 113).

In sum, the still expandable list of the names, etyma, phonetic and grammatical details, discussed so far,[195] allows us to posit a pervasive substrate in Old Indo-Iranian that has certain phonetic peculiarities and that does not go back to the Sumerian, Akkadian, Hurrite, Elamite, Dravidian, Indus or Tocharian languages. It is to be located in northernmost Iran/Afghanistan and in Western Central Asia, in other words, in the Greater BMAC area and its surroundings.

In order to reach a still greater understanding of the BMAC civilization, it will be necessary to carry out further linguistic investigations -- such as a detailed study of (Old) Iranian and Tocharian words-- and then comparisons with the archaeological record. Cooperation with geneticists, physical anthropologists, and other specialists will also yield valuable clues to the identity of the people(s) who inhabited the area of the BMAC. By all the evidence available to us, it is very clear that they interacted with their neighbors (and indeed, more distant communities) in all four directions. The strong influence they exerted on the late Indus Civilization is becoming increasingly obvious now.

On the other hand, the Bactria-Margiana area is the immediate contact zone for steppe populations coming from the north.[196]

On the other side of the Hindukush, the oldest texts available are those of the Ṛgveda, a collection of 1028 hymns addressed to the Vedic gods.

§6. Central Asian origins of the Ṛgvedic Religious System

§6.0 Introduction

Our knowledge of Ṛgvedic religion is limited by the circumstances of the production, early collection, redaction and transmission of the texts. They were composed by and for (male) poets/priests (brahmán) and their aficionado mundane and divine audience. Conversely, the RV rarely treats the wishes and aspirations, the problems and trials of 'common' Vedic man in straightforward fashion. We therefore rely on the fragmentary direct information provided by, and on obscure hints culled from, the poetic texts. It always remains difficult to ascertain how much of the later materials can be projected back into the Ṛgvedic period.

Because of the fragmented and sketchy nature of our information, what is generally missing in modern interpretation is a view of the Vedic religion as a *system* that includes mythology, ritual, customs and beliefs which permeate the life of a Vedic Indian (Oberlies 2001: 7). Other religions, whether those of the great early civilizations or of modern tribal communities, are built on such *inherent* conceptual systems (and rituals). It would be very

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[195] A comprehensive survey, especially of non-Persian place names, has not yet been carried out, and a list of Iranian substrate words in Old (not to speak of Middle) Iranian has not been drawn up either. As underlined above, this kind of research has simply been neglected so far; see now above, n. 158.

[196] It should be noted that the late BMAC shows an intrusion of steppe pottery (Hiebert, 1998, Shishlina and Hiebert 1998, Lamberg-Karlovsky 2002).

surprising if only the Rgveda would prove to be an exception from this general trend (Kuiper 1983, 1979: 45 sq.; Oberlies 2001: 8). Still, both due to increasing specialization and the fragmentary nature of our materials, it is not unusual to find statements indicating that there was no major overarching Rgvedic world view yet.

Instead of the many important detailed but atomistic studies of the past century a new, fuller description would proceed in a concerted, systematic way (using metalinguistic terminology), and would indicate in how far and in which way the various deities, demi-gods, demonic powers and other forces make up a fairly coherent conceptual system.

Close comparison with Iranian, Indo-European, Nostratic, Eurasian mythologies will greatly assist in establishing some of the seemingly obscure but ultimately *widespread common* parameters and motifs that underlie Rgvedic mythology and ritual. If we try to build up a scheme based on the Indo-Iranian and Indo-European relatives of Rgvedic religion, we can succeed to a certain degree, but what to do, e.g., with the Ādityas/Asuras? Simple back-projecting cannot be allowed. The same is true for ritual: The horse sacrifice is IE, but the discrepancy between the Irish king's and the Indian queen's 'participation' is obvious (Puhvel 1987: 267-76). The following paragraphs contain a sketch of some of the diachronic developments, their likely locations, the several subsequent synchronic systems built on them, and finally, the stage codified in the Rgveda, i.e., a look at Rgvedic religion as a system.

§6.1. Diachronic developments

As we can observe even within the c. thousand years of development of Vedic religion --- not to speak of later Hinduism --- a religion is never static but is constantly evolving due to a number of influences, some internal, some external. Internal pressures include those of changes in habitat, economy and society, such as the constant upward influence or upscale movement of sections of the lower classes; they also include *some* system-immanent, built in internal contradictions of a given *weltanschauung* (Heesterman's 'inner conflict of tradition', 1985), and the gradual realization, by whatever processes or (vested) interests, of such contradictions.

The mechanics of such developments have recently been analyzed in a paper that covers much of the early cultures of China, India and Europe (Farmer *et al.* 2000). It is important to realize that local intellectuals, thinkers, priests and philosophers constantly discover certain contradictions (which may not bother most people most of the time) and seek for a solution, in other words, try to establish a new system. This often involves thinking 'outside the box', as was already well described for African religion by Gluckman (1944), by now more than half a century ago. We can observe such discussions even in the Rgveda ('is there an Indra?' RV 2.12.5, 8.100.3; cf. 10.82.7, Ruben 1961: 20 sqq.). Frequently, contradictions are resolved by syncretistic amalgamation of various competing deities, or by positing 'higher' levels of truth or insight (Farmer *et al.* 2000).

External influences can obviously be due to trade, immigration or invasion of outside peoples, or by the movement of the bearers of the religion in question into a new area of settlement and subsequent developments of amalgamation, syncretism and priestly justification conditioned by the new surroundings.

Like any other facet of human culture after the African Eve, Rgvedic religion neither was static nor without history. It has a prehistory that dates back all the way to IE formations (and beyond). It also includes some of the local (Indus) beliefs as well as several layers of those picked up 'along the way' --- from a hypothetical IIr. steppe homeland (wherever exactly situated), via the general area of the Bactria-Margiana Archaeological Complex (BMAC) and the Afghan mountains to the Greater Panjab. So far, these various *layers* of influences have

hardly been listed and they certainly have not been discussed in historical fashion, at least not in detail. This will be attempted in the following sections.

§6.2. Indo-European background

By necessity, we must begin[197] with reconstructed Indo-European (IE) religion. It is well known that only a few IE deities can be firmly reconstructed by linguistic means. Some, such as 'Mother Earth' (Dunkel, 1988/90, 1991/3, Oberlies 2000: 373 n. 32) are based more on typology than on linguistic reconstruction of common IE words (but see n. 202). Nevertheless, a number of deities, and what is perhaps even more important, a series of generations of the gods or of successive ages, an opposition between two sets of deities and even some common rituals can be reconstructed. It is perhaps best to sum all of this up briefly in the form of a table. This is partly informed by Kuiper 1975, 1979, 1983, Dunkel 1988/90 and Oberlies 2000; it also includes, for the sake of some Eurasian comparison, traditional Japanese myth, as codified by c. 700 CE[198]).

'ages' IE	Greek	Vedic	Eurasia: Japanese
1. 'non-being'			
CHAOS / DARKNESS	waters: m. salty:: f. sweet chaos	/ asat	[GIANT/EGG/DIVING for earth] Kamurogi/-romi?
ASEXUAL			
*sal-, *wetōr- (neuter 'elements'	hudōr	salila- : udan-	seven entities, asexual > sexual

[197] One can go back beyond that, though not really by linguistic means. It would be very difficult, for the moment, to reconstruct the religion belonging with the Proto-Nostratic language except for some vague notions such a 'spirit', etc. However, there now is another track available, that of comparative mythology (Witzel 1990a, 2001b: 53-57). This is based on comparison of *complete systems of* myth, not just of random individual myths, and allows to construct a well-structured pan-Eurasian, indeed Laurasian mythology (i.e., one that includes the Americas). These comparisons will be mentioned below, when appropriate.

[198] The Kojiki was composed in Old Japanese, collected from 682 onwards and written down in 712 CE, in a mixed *kambun* style (with some Chinese characters expressing not Jpn. words but just Jpn. syllables); it is based on oral tradition transmitted by bards (*katari-be*) that goes back several centuries, as indicated by the mentioning of Beimihu/Himiko (**pimiko* 'the august child of the sun', of 238/9 C.E) in the history, written in the Wei period (220-265 CE, Wei-chih/*Gishiwajinden*. The Nihongi, or more correctly Nihon Shoki, of (697/720 CE) is written in Chinese. I am aware of Yoshida Atsuhiko's Dumézil-inspired theory (1962, and later) that Jpn. myths are related to IE ones and ultimately derive from Scythian models (cf. now also S. Littleton, in Mair 1998). However, the early mentioning of Himiko and the description of contemporary Japan in the Wei history (often based on the still earlier records of the Later Han, from 57 C.E. onwards) argues against such late (4th cent. CE) intrusions of 'foreign' myths.--- Japanese myth, situated at the other end of the Eurasian land mass, is quoted in the sequel as just *one* representative of Eurasian myth.

in IE)			pairs
'being'		sat	

SEXUAL

2.	HEAVEN: D.P.	Zeus Pater	Dyaus Pitar	Izanagi/Izanami
3.	GIANTS: *worun(n)os	Titans: Uranos, Kronos	Asura,[199] Pūrve Devaḥ[200] Varuṇa	Kuni.no Kami 'mundane deities'
	< >	< >	< >	< >
4.	'GODS': *deiwo-	dio-, theo-	Deva:	Ama.no Kami: 'heavenly deities'
	diwos sunus, nepōth₁, dhugh₂tēr	Zeus, Eos / Herakles etc.	Indra, Uṣas / Trita	Susa.no Wo/Tajikara; Amaterasu (Sun) Tsukuyomi (Moon)

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(5.)	HUMANS: *mṛtyo, *dhghmo (homo)	brotos	martya, manuṣya marta, Avest. marəta	hito
	*Menu, *Yemo?	Deukalion; & Pyrrha (cf. *Yemos / Romulus)	MANU (cf. Mannus / Ymir in Germanic)	JIMMU (1st ruler) (2 brothers, Ko. 1.42 fishing : hunting: Ho-deri : Ho-wori)

Several points are of importance. There is a vague, undefined and unordered beginning, as found time and again in the various mythologies of Eurasia: chaos/*asat*/darkness, male/female waters or a primordial ocean, the universe derived from two halves of an egg or from a dismembered primordial giant, or an animal diving into the ocean and bringing up the earth.[201]

This is followed by the emergence of the ordered cosmos (*sat*), evolving over several 'ages' (as in Greek, Indian, Meso-American myths) or generations of deities, all defined

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[199] Cf. the name of *Ess,* the highest god of the Ket Yenessians, in Siberia and his destructive wife Xosadam; cf. the *Äsi,* lords of the forest, mountains of the Buryat Mongolians; Tunguse *buga*; note also IIr. *ṛta* > Kott (Yeneseian) *art`a* 'true'.

[200] Or: *Sadhyaḥ*; for them and the *Pūrve Devaḥ* 'the earlier gods', see Kuiper 1979, appendix.

[201] In India this is a boar (PS 6.7, KS 8.2, cf. also TS 7.1.5.1, TĀ 1.10.8, ŚB 14.1.2.11), while the standard animal in North Asia and North America is the musk rat or a diver bird. The substitution by a boar seems to go back to pre-Vedic ideas (as seen in Andaman mythology, see Radcliffe-Brown 1922, and Andaman archaeology, Campbell 1988: 122 sq., cf. §1.6.). Finnish mythology (Kalevala) unites several of these themes in its introductory section (primordial ocean, diver bird, split primordial egg).

sexually, and in terms of family relationship. The primordial deities (Father Heaven/Mother Earth)[202] have two sets of children, the 'demonic' Titans (Kronos etc., the Germanic Giants, Jpn. 'mundane deities') and the 'Olympian' gods (Zeus, Valhalla Æsir gods, Jpn. 'heavenly deities').[203] A variation of this theme are the gods of Asgard and Vanaheim: Æsir/Vanir, or the Asura/Deva, two moieties in constant competition who nevertheless also cooperate.

Both groups do not only act in similar fashion, they also intermarry. Importantly, they act, just as human brothers and cousins would behave (Ved. *bhratrvya*, cf. the Kaurava/Pāndava cousins) when it comes to dominance and inheritance (e.g. Manu's sons and Nābhānedistha). Thus, the gods of the 'Titan' and 'Olympian' ages are not really from different generations, but the Olympians take over and either kill or disperse the 'Titans', which is perhaps clearest in Vedic India, where the Devas and the Asuras are in constant competition. This primordial deed is re-enacted at winter solstice by collapse of time and society (Mahāvrata, 'carnivals', etc.) where the two moieties of society clash, after which order is reestablished (Witzel 1997a, 1997c; below, §6.5.5).

The gods, notably the Sun deity, are the ancestors of humans, who are in many respects the opposite of the deities: they are mortal (*mart(y)a : amrta, manusya : deva*), eat and drink different food (*surā : soma*, mead, *ambrosia, sake*) and have a somewhat different language (Güntert 1921, Elizarenkova 1995, Watkins 1995) that is in part used by IE poets.

Superficially, one could perceive many of these deities as 'gods and goddesses of nature': heaven, sun, dawn, sons of heaven, lightning, wind, earth, ocean, rivers, etc.[204] However, even these 'gods of nature' are not simple natural forces as imagined about a hundred years ago. The deities had acquired, in PIE and even in pre-PIE times, their own 'personal' biographies, as seen in a number of more or less inter-connected, common IE myths.

For the present purpose it is important to note that there is a heroic demiurge deity, a son of Father Heaven, who pushed up the sky, brought the (female) sun light from a cave and killed the dragon to make life possible on earth (a deity variously represented by Indra, Zeus/Herakles, Thor, and Susa.no Wo[205]). There are myths of primordial incest between twins (Yama/Yamī; Izanagi/Izanami) or siblings (Indra and Usas, Amaterasu and Susa.no Wo), and by Father Heaven and his daughter Dawn. The leader of the present gods[206] killed his father and, as Indra/Trita, Herakles, Susa.no Wo, killed various Titanic monsters such as the Dragon. Primordial incest of deities leads directly to the emergence of humans, Yama/Yamī : Yima/*Yamī > Jam/Jai in Iran, cf. Deukalion and Pyrrha in Greece, Izanagi/Izanami in Japan;

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[202] Oberlies (2000: 373, n. 32) denies the IE age of 'Mother Earth' as the wife of Heaven, but see below on RVKh 5.5.5 and cf. the Polynesian myth quoted in Witzel 2004: n. 65.

[203] These concepts are perhaps best seen in RV 3.38 (a hymn later assigned to Indra): the androgynous 'older bull' (*vrsabha*) Asura (cf. Iranian myth), the 'great hoary' bull, gives birth to/creates the world; he is in part identified with Heaven and Earth (Rodasī), who were later separated; the (*younger) bull, Heaven/Sun, is also called Asura Viśvarūpa (cf. §1.2. on the dragon Viśvarūpa); Mitra and Varuna (?), the grandsons of Heaven, reign, served by the wind-haired Gandharvas.

[204] There also is the old opposition between a male fire and a female water deity (Witzel 1992, appendix); it is again echoed in Japan (though minus grammatical gender).

[205] Laurasian deities, in this case, include Susa.no Wo (Japan), Toko 'the pole' (Polynesia), etc. His 'opponent', the cave, is called Vala and Jpn. Iwato, where the Rgvedic Dawns/cows and the Jpn. Sun Goddess Amaterasu reside; cf. n. 237.

[206] The Jpn. counterpart, Izanami, just dies and is supposed to be buried in Awaji.

or due to incest prohibition, indirectly via Yama's brother Manu (cf. Germ. Mannus), or by the symbolically enacted incest of Amaterasu and Susa.no Wo (Kojiki 1.15).

Humans must worship their direct ancestors ---always three (*tritopátores*) --- and their indirect ones, the three generations of gods (Titans included as third generation), and they must offer food and drink to them. Such rituals include the use of sacred fire (Rome, Greece, India, Japan),[207] and the use of a heavenly drink (*medhu*, mead/*ambrosia, soma, sake, kava*). Animal sacrifice is typical for much of Eurasia, not just of sheep, goats, cattle but also of the new prestige animal, the horse (Puhvel 1987, 267-76). This is offered in a ritual which was found in Ireland, Rome, India, and still recently, with the Altai Turks.[208] Ritual is accompanied by elaborate verse and prose texts (*mantra*, Jpn. *norito*), composed and carried out by members of a special class, the traditional poets/priests (*kavi*, O.Irish *fili*) and by bards (the later *sūta*, Jpn. *katari-be*), both of whom make use of traditional poetic devices (Schmitt 1968; Jpn. *kake kotoba* 'Śleṣa', *makura kotoba* 'ornamental epithet', etc.). Other classes include the nobility and 'the people' (*viś*, cf. Dumézil).

All of this is testimony to a PIE (if not Eurasian) complex of religion, myth and ritual, partly reflected in society (clans, moieties, classes), that must be localized in the original homeland of the tribes speaking PIE. They lived, as their vocabulary indicates, in a temperate zone with 'cool climate' animals and plants (Mallory 1989), somewhere along the bee-supporting interface of the Eurasian steppe and forest (Taiga) belts, perhaps in the Volga-Don area. This ancient PIE religious complex is reflected by those of the various individual IE peoples, including the Indo-Iranians of Iran, Nuristan and India. Against the background briefly sketched here, various innovations and reworkings of the PIE system, often due to local influences, can be detected, analyzed and described.

§6.2. Central Asian steppe innovations

There are a number of items in Vedic as well as in Avestan/Old Persian[209] and Nuristani religion that cannot be found in the reconstructed PIE one. This is not always due to lack of materials. One would expect that a group of deities like the Indo-Iranian *Asura (Ved. *Asura, Āditya*) and the god and drink *Sauma (Soma, Haoma*) would appear *somewhere* in one of the many other IE religions, but they do not.

The geographical and ecological background is this: the temperate homeland area of PIE speakers is divided by a broad stretch of steppes and deserts of the Ural-Kazakh-Uzbek area from the settlement areas of Vedic speakers in the Greater Panjab and that of the W. and E. Iranians in Greater Iran. The Asura concept appears both in the Indo-Aryan and the

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[207] Often identified with the fire in the Sun (see ṚVKh 5.5.8), that must first be brought to humans (Prometheus, Kagu-Tsuchi.no Kami etc., Kojiki 1.8) --- the opposite takes place in India where fire (just like the cows of the Paṇis) is stolen (*pra math*) by Matariśvan *for* the gods (ṚV 3.9.5) and for Manu, see Kuiper 1983 [1971].

[208] As late as c. 1900 CE, by suffocation (Witzel 1997a: 395, n. 15); as residue in Japan note the *ema* 'horse picture' tablets offered at Shinto shrines. Horse sacrifice replaced old Siberian bear sacrifices (e.g. with the Ainu) and dog sacrifices (for which see D. Anthony, excavations in the Samara Valley, west of the S. Urals: http://users.hartwick.edu/iaes/Russia.htm), or the more 'southern', common goat/sheep sacrifices (e.g., at Mehrgarh), or the Mediterranean/Indian bull sacrifice (cf. §1.6, Puhvel 1987: 275).

[209] Many vestiges can also be discovered with the North Iranian people, the Ossetes; on the impact IE religion had on the Caucasus, see the work by Dumézil, summarized by Charachidzé (1987), and that of Tuite (2000), which helps to distinguish such data from the traditional ones of the mountain regions of the Pyrenees, Alps, Pamirs.

Iranian religions (and at least some of its deities also in Nuristan); we must assume that this is an *innovation* that took place somewhere between the Taiga and Greater Iran.

The IIr. Asuras (Ved. *asura*, Avest. *ahura*) are, for the most part,[210] different from the gods of the third generation of gods, the demonic Titans, who appear in the Vedas as Tvaṣṭr and his son, the three-headed dragon Viśvarūpa, etc. Instead, they are a particular group of deities that (in part) overlap with other gods ('of nature'), both those of the second and especially of the fourth 'generations'. Both in the Veda and in Iranian, they constitute a narrower group of 7 or 8 (later 12) deities; note the 7/8 Kalash Devalog (*dewalók*).

The *terminus ad quem* for the group is the IIr. unity around c. 2000 BCE[211] and the date *ante quem* is that of the attestation of Varuṇa, Mitra, Indra in the Mitanni documents of Syria/Iraq at c. 1380 BCE. The development of the Asura group of deities can have taken place anywhere in the northern steppes, such as in the Ural (Sintastha/Arkhaim) complex or further south, close to or even in the BMAC area. The Ural area is a priori more likely as *all* of the Iranians have Asuras: for example, the Scythians must have transmitted their god **baga* to their northwestern neighbors, the Proto-Slavs (**bogu*). It would be very difficult to let Bhaga be invented in the greater BMAC area and then let him be transported back, all the way to the Ukraine (cf. n. 214).

The group of Asura (or Āditya, in India) deities has been studied repeatedly during the past century (Brereton 1981). However, it is necessary to take a brief look at them in the present context. To begin with, it is obvious that they form, other than the old IE 'gods of nature', a group of *social* deities, a feature that has been stressed for long (Meillet 1907). Some words belonging to this complex, notably *Arya-man*, clearly are articial formations. Indeed, their Indo-Iranian line-up immediately confirms this:

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[210] A few Asuras of the RV are ambiguous, such as Varuṇa (Kuiper 1979), and note some 'gods of nature' among the Asuras: Dyaus, Savitr, Agni, Pūṣan, Soma, Rudra, *vīraḥ = divaḥ putraḥ* RV 3.53.7, and even the *Asura* Pipru and his forts 10.138.3; --- Devas from among the Ādityas: Mitrāvaruṇā 7.36.2, Mitrāvaruṇā *devau* 8.25.4; Varuṇa, Mitra, Bhaga 5.42.1, cf. 8.27.20, even Indra 1.174.1; note: *adevaḥ* Asurāḥ 8.96.9, but Asura + *deva* 10.82.5. See also n. 220.

[211] Approximately, the time of the invention of the chariot: note *ratha, rathin, rathestha* and their Mitanni, OIr. counterparts (Witzel 1999a: 34, 2001a).

Ved.	Mitanni	Iran.	Nur./Kalash	meaning/acting in
Varuṇa (~ ṛta)	Uruna	--- (~aša)	---	? (active truth: *Ṛta; oath*) cosmic order UNIVERSE
Mitra	Mitra	Miϑra	--/*a-mitrá* dis- 'obedient'	agreement, contract *mitra*, n. 'contract' TRIBAL LEVEL
(Dhātṛ)	---	(dātar 'ordainer')		('ordainer, creator', as Āditya only in MS 1.6.12, Hoffmann 1975/6: 424)
Aryaman	---	Airiiaman	(Wushum? Shomde? / Sajigor?)	'Arya-hood', guest friendship, marriage *arya* 'hospitable' CLAN LEVEL
Bhaga	---	baγa	Bagisht? < *bhagya*-?	*bhaga*, n. 'share' wealth, luck FAMILY LEVEL
Aṃśa	---	(ạsa 'party')	*onshái?* 'lot'	*aṃśa* 'lot' FAMILY (?) LEVEL
Dakṣa	---	(daxš)		'cleverness' PERSONAL LEVEL
Vivasvant Mārtāṇḍa born from a 'dead egg'	---	Vīuuaŋhant gaiia marətan (Gayōmart)		SUN DEITY, ANCESTOR of all *arya* lineages
Indra	Indara	Indra	Indr/Indr,Varen(dr); Giwish, Munjem; Māndi / Mahandeu	'the strong one'? Son of Vivasvant, King of Gods
Yama	---	Yima	Imra (< *yama-rája*) (Mára)	Son of Vivasvant, ancestor of humans, first mortal being.
[Manu				first human]

Indra figures only marginally in this list (Hoffmann 1975-6: 424 sq.), but he marks the bifurcation of the present gods (Yama, Indra) and humans (Manu). The human ancestor is either Manu (India) or Yama (Iran), and this is reflected in the one found with the Germanic

tribes, Mannus (NW Germany) vs. Ymir (Iceland).[212] However, the names and position in the pantheon of figures as Indra, or his Greek representation Hera-klēs (< *-k'lewos)/Zeus are not universal in IE or Eurasian --- even if their function is (Thor, Susa.no Wo).

The list of personifications given above seems to reflect human society very closely. A 'universal' chief (if existent at all at that time) may reflect the (preeminent) lord(s) of the large settlements of the Ural 'land of towns',[213] with aspirations of general fame (*k'lewos, śravas) and respect. This position is followed by the tribal leader, aided by Mitra, who is not only in charge of agreements but also of the large pastures (Avest. vouru.gaoiiaoiti = Ved. urugavyūti) -- the very wording points to flat steppe lands and rather not the narrow pastoral strips along river banks (BMAC) or the mountain meadows (Tien Shan/Afghan highlands). Notably Miϑra, guarding the pastures and herdsmen, is also a war god in the Avesta.

Further, Aryaman, who is needs not only to be received a guest, but more importantly as guarantor of another important exchange, that of brides: one had to marry outside one's clan (Ved. gotra). Significantly, both Miϑra and Airiiaman have been kept in (or reintroduced into) the Post-Zaraϑuštrian pantheon. Aryaman functions at the level of the śreṣṭha svanāṃ, or clan leader (Zimmer 1985).

More important still is Bhaga who has become a god of personal fortune in post-Rgvedic culture (KaṭhĀ 2.222: 88.15 andhó hi bhágaḥ 'luck is blind'; cf. also MS 1.6.12 about jana and bhaga). In Iranian, the term has developed in various ways: while it is rare in Avestan (Y 10.10, 70.1; Yt 7.5; V 19.23 bago.δata) where the designation for 'deity' is the theological one (yazata), it appears in Old Persian in the meaning 'god', apparently in a quote from Mede (aniya bagāha, but note also DNa,b1 baga vazraka Auramazda); it is kept in MP as bay 'god'. In Sogdian, however, bay has become the general designation for 'lord' (like Engl. Lord 'god, nobleman'), and even for 'Mr.'. The word must also have been present in Northern Iranian as it has been taken over, fairly early, into Proto-Slavic from Scythian, and, to be sure, in the general meaning of 'god', as found in Sogdian and Mede.[214] It also has been taken over, fairly early (note the nom. in -s-) into Uralic: Mordwinian pakas 'good luck' is probably directly derived from IIr. or OIA (Rédei 1986: 56).[215]

The rest of the list is not so easily attributable to levels of society. Aṃśa seems to reflect family wealth and Dakṣa personal cleverness, while Vivasvant represents the descent of arya human lineages from the Sun deity, via Yama or Manu.

While these names and functions can be reconstructed for IIr., their rather old age is also attested to by the appearance of Asura in Uralic, both east and west of the Urals, where the word asura is reflected in old loans both in the meanings 'lord' and 'rich'.[216] This is further supported by the fact that the old IIr. dichotomy is seen as Ess : Xosadam with the Ket (W.

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[212] Cf. also the dichotomy between Remus (*Yemos?) and Romulus (Puhvel 1987: 289) and the killing of Remus, cf. that of the primordial giant Puruṣa/Ymir and later Indian derivatives (§1.7).

[213] Note also the interaction between Sintashta/Arkhaim and the BMAC, according to recent archaeology, see Hiebert and Shishlina (in Mair 1998), Francfort 1999, Tosi & Cattani 2002.

[214] The sounds changes are regular: ProtoSlav. a > o. There must have been the old IE meaning in Slavic as well: O.Slav. bogat' 'rich', Russian bogatyi 'rich'; cf. Rédei 1986: 56; however, note Katz 1981 (see next note).

[215] Complicated by the fact that Finno-Permian (in the old loan, Mordwinian paz, pas, pavas 'god') also has *pakas(e) 'god' (Rédei 1986: 55); note Katz (1981: 28) who thinks of an already PIE *bhágos 'god'.

[216] Mordwinian azor(o) 'lord', Wotyak uzir, uzər 'rich', Syryenian ozir 'rich', Wogul atər, ōtər 'chieftain', see Rédei 1986: 44.

Siberia, an old remnant language family perhaps related to Macro-Caucasian and Sino-Tibetan, *Mother Tongue* IV 1998).[217] Both the word and the concept must have been taken over from the neighboring Indo-Iranians, long before the area came to be dominated by Iranian speakers.

In short, the whole Indo-Iranian sphere and its neighboring areas have several old reflections of the word Asura and of the Asura group of deities: the whole belt from the Ukraine to the Urals and W. Siberia contains hints or direct attestations of the old *Asura*. Necessarily, the *Asura : *Daiva distinction must also be old. It was developed with IIr. speakers in the Northern Steppes, from where it spread, early on and in various forms, to their northern neighbors, the Uralic, Ket and then to the Slavic peoples.

What exactly was the old dichotomy that could be taken over so early on into Uralic/Ket? Or, to be more specific: what is the background of the dichotomy (Kuiper 1979: 6 sqq., 46 sqq., 1983) of the Asura and the Deva group? Such moieties are already seen in PIE and even in Eurasian religion (Olympian gods : Titans; Æsir : Vanir; Ama.no Kami : Kuni.no Kami). They presuppose an altogether different background than the (supposed) Ṛgvedic dichotomy and the obvious Brāhmaṇa one, seen by scholars about a hundred years ago: a split between the Iranian and Indian schemes of things:

Ahura 'god(s)' : Daiva 'demons' :: Asura 'demons' : Deva 'gods'.

Rather, we should think in terms of a dynamic, non-static scheme:

[[*<u>Daiva</u>: {{ Heaven and his children, Titans, 'New Gods': Indra Rājan[218]]] :: *<u>Asura</u>: new deities: Varuṇa *Medha/* Rājan, Mitra, Aryaman, etc., further: demons of fertility, etc.}} ,

that is, with a *partial* overlap of the new *Asura deities and some of the older *Daiva deities (as is still clear from the Ṛgveda, see n. 210). Both groups separate and line up on opposite sides during the breakdown of order at winter solstice,[219] as Devas and Asuras.[220] It is at this moment that Varuṇa makes his cross-over from the Asura group to the Deva group (Kuiper 1979: 46 sqq. for the ṚV, 1979: 92 for the Epic; cf. Kuiper 1983, Oberlies 2001: 8-9; note the

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[217] Cf. also the Buryat Mongolian female *asi* gods of the forests/mountains, the *yz* of the Gilyak; note the primordial competition, between two figures, with the Uralic, Altaic and other (east) Siberian peoples.

[218] Note the character of Indra as 'visitor' god from the outside, especially at New Year; see §1.5.1, 6 on the Kalash god Balumain.

[219] Do the other two 'chiefs' (*rajan*), Soma Rājan and Yama Rājan, represent the (mythological and cosmographical) locations 'up' on the mountain and 'below' in the netherworld? Cf. however Witzel 1984: 228 sqq. for a non-static view of such locations, and their movement from the daytime situation to the night time one and back to the daytime one; note ṚV 1.35.6, and the reflexes of this concept in Nuristani (Jettmar 1975: 52-54) or Jpn. myth (Kojiki 2.50.8-11).

[220] The exact membership of both groups *at this point in time* must be determined, as far as possible, by further research. To make a start, according to some Ṛgvedic classifications and sub-groups:
[Deva: (Viśve Vasu: Savitṛ; Aditi; note: Varuṇa, Mitra, Aryaman!), {Rudras: Rudra, ...}, <Ādityas: Mitrāvaruṇa, Bhaga, Indra...>} ::
[Asura: ('nature' gods: Dyaus, Divaḥ Putrāḥ, Savitṛ, Agni, Pūṣan, Soma, Rudra), {Rudra; Pipru}, <Ādityas, 7+1: Varuṇa, Mitra, etc.>].
For the overlaps visible here, note the 'shift of alliance' by Varuṇa (Kuiper), cf. n. 210.

Kalash god Balumain §6.5.1,3,5), to allow the re-establishment of an ordered universe and society (in Oberlies' terms, the change from *yoga* to *kṣema*).

This entails abandoning, in certain cases, a 'static' view of the universe, the gods, and of mythology; instead, a different view is more appropriate, one that is informed by the contemporaneous view of the *cyclical* nature of the year and of ritual.

[<u>Deva</u>: New Gods, {Varuṇa <---]--::-- <u>Asura</u>: Mitra, Aryaman, Demons of fertility? etc.}

In this scenario, Zarathustra's stress on the opposition between *daēuua :: ahura (mazdā)* is not as surprising as it generally is made out to be, and the reason for the lack of Varuṇa in his scheme is obvious: Varuṇa has been included, unnamed, among the *daēuua*, leaving the field to the *ahura*(s), especially his *alter ego*, Ahura Mazdā. Further, the moiety division at the time of Solstice echoes Zarathustra's stress on liminal time, the 'final turning point': Y 43.5 *uruuaēsē apəmē*, Y 51.6 *apəmē aŋhāuš uruuaēsē*, cf. Y. 30.9, 44.19, note *dūraē.uruuēsa* (of stars, Witzel 1984: 257, n. 90, 272) Y 46.3-4, of winter Y. 51.12 (and of the year N. 44; cf. also Y 46.1-3); other terms are taken from horse races (at year's end): Y 33.5 *auuaŋhana* 'unharnessing, rest' (Narten 1982: 51 sq.). All of the terms have been used in his scheme of individual decision making (reflecting that of Varuṇa's surprising move over to the 'good guys', Kuiper 1979: 31 sqq., 1983). In post-Rgvedic times, the emphasis on choice at the time of solstice was destressed and the two groups of divine equals (and relatives) are simply represented as being in perpetual conflict --- just as are the *arya :: dasyu, arya :: śūdra*[221] --- with the Devas pushing the Asuras back to the fringes of the 'civilized' Vedic world --- for the time being.

The ancient scenario is still vividly reflected in the present day Kalash (Hindukush) rituals of the Chaumos (*cawmós* < **caturmāsya*) festival of winter solstice: the visitor god Balumain (*baḷimaín* < **balamahendra?*) is received by the Devalog (*dewalók*) of the westernChitral valleys, and an intermingling of the two moieties (male/female) in divine and human society follows,[222] (discussion, §6.5.5).

In sum, the new IIr. *Asura concept of gods of universal and social 'law and order' (with the sun and the stars as all-seeing spies, cf. Dunkel 2001: 330 sqq.) and the underlying rule of the active force of truth (Ved. *Ṛta*/Avest. *Aṣa* 'Wahrheitsverwirklichung') was developed in the Northern Steppes, close to the Uralic and Ket peoples; it was built on the older IE (and Eurasian) dichotomy of two groups of deities. Time and location thus are clear: c. 2000 BCE, in the wide steppe belt comprising, among others, the 'land of cities' (Arkhaim, Sintashta). In any case, we do not have to look for a BMAC origin of the concept. We can only speculate about the internal reasons among the tribes speaking IIr. that led them to adopt the Asura group of personified, abstract deities. The strong stress on social aspects ('agreement, guest friendship, share, lot' and a common ancestor) points to the necessities of a tribal, semi-

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[221] Note that this set-up of society perfectly reflects the divine one: the Śūdras are part of society, but outside of it at the same time, just as the Rgvedic Asuras are part of the Deva group, but also outside of it. Both divine as well as both human groups (partially) join and intermingle at New Year (see §1.5.5) and in Vedic ritual during the Mahāvrata (contest of Brahmin and Śūdra, see ĀpŚS 21.9.9-12).

[222] A good impression of this festival, described by Jettmar 1975, 1987, can be gained at http://www.site-shara.net/photoalbum/chawmos/html/sarazari.html. For other related rituals in Nepal see Witzel 1997e: 520-532; note that the Vedic winter solstice *Indradhvaja* festival (KauśS 140.2, on *prauṣṭhapada śukla 8*) has been transferred to the New Year in Spring (Nepali) and Fall (Newar); details in Kuiper 1979: 132 sqq.

pastoral society, in the process of quick expansion eastwards across the steppe belt (see several discussions in Mair 1998).

By a careful comparisons inside and outside IIr., further items that have entered the IIr. and therefore Ṛgvedic religion can be pinpointed as well, both in time and space.

§6.3. Soma's origins

The sacred drink of the Indo-Iranians, *Sauma* (Ved. *Soma*, Avest. *Haoma*, OP. *Hauma*) must have been acquired in the same general surroundings, or to be more precise, in the territories close to the high mountains of Central Asia: somewhere between the Altai and the Himalayas, between the Elburz and the Pamirs. The area can be narrowed down further.

A connection with high mountains is made in all the IIr. myths connected with *Sauma*. For example, Aṃśu/Soma/Haoma is brought (stolen) by an eagle/falcon (*śyena*) from 'the mountain'. This is not just mythology,[223] rather, it is supported by the remark that the best Soma grows on the (high) mountains (Hōm Yašt = Y 9; 10.3-4, RV 1.176.5, 5.36.2, etc.), especially so on Mt. Mūjavant (RV *maujavata* 10.34.1, AV *mūjavant* 'Mūjavant people'; (Witzel 1980: 87 sq., 1999b: 3, 2000a: n. 23). In the Indian and Iranian context, that would mean somewhere in the high Himalaya, Pamir, and Hindukush mountains. The Vedic designation *Mūja-vant* 'having Mūja' is reflected by Avestan *Muža,* a country that was apparently close to Indo-Aryan territory; note the Muža man *Daštayni* Yt 13.125, with -*agni*-lexically unusual in Iranian. The name is retained, even today, in the Turkic designation of one of the highest mountains in the area, Muzh Tagh Ata (24,767 ft./8.120 m), and in the nearby river Muzh Kol, found just east of the border of Tajikistan, in the Kirghiz and Sariqoli (Saka) lands of westernmost China (Witzel 1999, 2001, Staal 2001, Thompson 2001); another Muzhtagh is found some 50 km northeast of Skardu (N. Kashmir).

The post-Ṛgvedic Soma ritual contains a strange episode (e.g. ĀpŚS 10.27.6-8) where the new Soma has been bought from outsiders; the sellers then are 'rewarded' by a heavy beating. Soma, stemming from the high mountains,[224] far to the north of the Vedic Panjab, had to be imported and bought by bartering.

Such data are supported by the reports in Vedic texts about the physiological effects of Soma juice (Nyberg 1995, see now Houben aand Thompson in *EJVS* 9) --- if the plant indeed is some form of *Ephedra*. Though this plant grows all over the steppes, from Kazakhstan and Xinjiang to the Panjab, its most potent form is found not in the plains but in the high mountains (necessarily, the difficulty of access giving rise to many substitutes, Kuiper 1984; see now Houben in *EJVS* 9).

The very name of the plant further supports the 'foreign' origin of Soma: *Sauma* is obviously derived from *su* 'to press out', but its original name seems to be *ank'u:* Ved. *aṃśu,* Avest. *ąsu,* Tochar. *ankwaṣ,* Chin. *yangkui* (Witzel 1999, 2001, Thompson 2001, cf. Lubotsky 2001, Thompson in *EJVS* 9, 2003); note also the variety Ephedra *Sinica, ma huang*). In

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[223] On the motif of the mountain/primordial hill see Kuiper 1983, 1979: 17, cf. p. 107 for *Mandara* (as inverted hill); myths about the origin of plants and deities on the high mountains/Himalaya can be added from the AV. As for birds, note Greek Paropanisos ~ Paropamisos < Iran.*para upari-saina* (Akkad. *paruparaesanna* = O.P. Gandāra; Avest. Y 10.11, Yt 19.3 *upairi.saena; upariśyena* svarga loka JB 3.66; EWAia I 221, II 662), 'even birds cannot fly to the abode of Viṣṇu' RV 1.155.5; see §1.4. for the Bactrian eagle hero.

[224] Some details about the high snow mountains (RV *Himavant*), which can be seen from the north Indian plains, are known to the plains people, note e.g. (then as now) herb collecting Kirāta girls in AV 10.4.14.

addition, there is a cluster of Central Asian words connected with myth and ritual (Lubotsky 2001: 303-5) such as those in *-rwa: Ath-arva(n), Gandh-arva, Ś-arva (cf. also Path-arvan, k-arva 'mutilated' ?), or in *-ig: *uc'-ig Avest. Usig, RV Uśij, cf. ṛtvij?, van-ij, and *bhiš, *bhiš-aj', *bhes-aj'-a: bhiṣaj/bheṣaja, baēsaza. All of these represent a cluster of words with a clearly non-IE origin that has entered both the Vedic and Avestan corpus at an early, probably (Common) IIr. date. They belong to the large group of Central Asian words that have recently been identified in both early Iranian as well as earliest Vedic (Witzel 1995a: 101-3, 1999a: 58-60, Lubotsky 2001[225]). We must assume, thus, a sacred drink, a ritual and a group of specialized priests that were imported into IIr. ritual and myth somewhere in western Central Asia, perhaps close to the Tien Shan/Pamir mountain chains.

Given the 'foreign', high mountain origin of *Sauma, it should not surprise that there are clear traces that *Sauma has replaced an older IE ritual and mythical drink (Oberlies 2000: 377 sq.). This is the one made of fermented honey, i.e. mead (*medhu, Skt. madhu, Gr. ambrosia, Thieme 1952: 5-15). Indeed, just as the Greek ambrosia was brought by an eagle from 'the mountain', so was its substitute, the Ṛgvedic Soma (Oldenberg; Houben in EJVS 9). Otherwise, Soma has fairly little mythology, though in the RV a lot is made of its heroic and warlike characteristics (Oberlies 1999).

Clearly, the IIr. *Sauma legend is another adjustment of older IE patterns, in the present case a substitution for the original PIE drink of immortality, mead. As so often, the older IE pattern still is very visible in the Ṛgveda (like Thor's and Indra's stone weapon), where the bitter Soma juice is called madhu 'sweet, mead' (note the use of piyūṣa and kīlāla 'biestings' cf. Bur. kilay, Kalash kire'r', Khowar kiḷál, Shina kirari, Witzel 1999: 3).

In order to locate the IIr. speaking tribes that took over this Central Asian mountain drink, we have to look at a location in the steppes, from Kazakhstan (Sintastha etc.) southwards. The cluster of newly acquired foreign words in IIr. is centered around agriculture and settled life (Witzel 1995a: 103, 1999a: 58-60, Lubotsky 2001: 307), but it also includes some of the foreign words that are more or less connected with the Soma ritual: ulūkhala, ṛjīṣin, karotara, camrīṣ, musala, indu, camū, piyūṣa (Kuiper 1955). This makes it perhaps more likely that the take-over of *Sauma took place in the southern regions of Central Asia. Note also that the Saka are divided by the Persians into the general Saka tigraxauda 'Saka with the pointed (Phrygian) cap' and the Saka haumavarga 'the Soma twisting, collecting (?) Saka'.[226]

Archaeologists have tried to find evidence of *Sauma as Ephedra in Central Asia (Sarianidi in EJVS 9) but this has met with little substantiation so far. We will know with certainty only when all purported remnants have been finally analyzed (cf. Nyberg 1995, but see now Houben et al. in EJVS 9). We have to take a look at the few steppe, cattle herders' stopping places in N. Bactria/S. Tajikistan that have been found and excavated so far (Dani & Masson 1992) in order to get a better idea of the Indo-Iranians of the period. Early interaction with the BMAC (2400-1600 BCE) is now archaeologically attested, for example at Merw (Tosi & Cattani 2002); this is best visible at c. 2000-1800 BCE (Francfort 1999: 455). A Soma-like ritual may be represented by the remnants of libation rites (see now Sarianidi in EJVS 9) and in finds of inverted ritual vessels discovered in the BMAC (Sarianidi 1992: 34) and even in much later periods, such as at Ai Khanum.

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[225] Lubotsky (2001: 306) is not entirely sure about the underlying substrate language and its location; see, however, Witzel 1999a: 58 sqq., and the preprints (1998, 2001b).

[226] If vṛj means 'turn around, twist, tear out from the ground'; differently, Hoffmann 1976: 612, n. 6, who suggests: 'homa-Pflanze um das Feuer legend'; cf. further EWAia II 517.

According to linguistic and literary data therefore, and to some extent also according to archaeological data, it is clear that a Bronze Age Central Asian *Sauma* cult was taken over by the Indo-Iranians and integrated into their religion and rituals. It was integrated so well, and to such an extent, that neither the Avesta nor the Ṛgveda allow, at first sight, to assume 'foreign' origin --- were it not for the fact that all other, western IE peoples did *not* have a *Sauma* ritual (for *Ephedra* finds in Xinjiang see Mair 1998: 70, 127). For all the subsequent early IIr. cultures the *Sauma* ritual was central to their religion, even in the newly converted(?) Zoroastrian Persians.[227]

In sum, we can observe Soma as an ingredient to Ṛgvedic religion whose intrusion can be pinpointed in time (c. 2000 BCE) and space (southern part of Western Central Asia, close to Muzh Tagh Ata). It has added considerably to the richness and texture of Ṛgvedic religion and poetry (Oberlies 1999).

Other possible influences of this period and area cannot be discussed here for want of space; attention has to be drawn, for example, to the complex of fire rituals, altars and bricks (IIr. *išt-*; Staal 2001), to which some more strange, prefixed words for 'brick' can now be added: Kalash *kh-iṣṭi-poktá,* cf. Shina *d-ištik,* Burushaski *d-iṣ.c.ik* (Witzel 1995a: 103, 1999: 58, Lubotsky 2001: 311).

§6.4. BMAC or Para-Bactria?

The localization and time frame of further IIr./OIA religious developments depends in part on how the Proto-Indo-Aryans/Proto-Iranians are related to, or interacted with the Bactria-Margiana Archaeological Complex (BMAC). Did contact take place only by 'passing through', by vague acquaintance, or by personal, intensive contact and interaction: for example as horse/camel traders, as soldiers, and subsequently as local lords of BMAC castles (*pur, vara*)? (Note Mallory's *Kulturkugel* model, in Mair 1998).

We have already seen that the IIr. invention of the Asura deities, the social gods of Law and Order and of the universal force of *Ṛta*/Aša was a steppe development. Was this 'intermediate' stage of IIr. religion also influenced by a reaction to the BMAC culture, with its agricultural villages and fortresses, aligned along desert streams?

Luckily, there are a few items that lend themselves to comparison and provide some insight into the extent both populations and religions were in contact. These are the three motifs of the primordial dragon guarding and inhibiting the waters, the dragon-slaying hero, and the divine eagle. As briefly indicated above, all these motifs were already of IE origin: the dragon as primordial guardian of productive forces or of riches, the divine hero as his slayer, and the eagle as the general messenger bird that also brings the sacred drink (mead). Many of the similarities between the IE and BMAC motifs, however, are due to the general, underlying paradigms of Eurasian myth, found from Ireland to Japan and beyond; they may differ in details as they represent local variations.

Aspects of the myth are met in Greek myths of Herakles who slays various monsters (and finds the cows); for Slavic cf. the fight with *Veles* (cf. Avest. *Vara,* Ved. *Vala,* and for Nuristani, 'the house near heaven', §6.5.4); for Germanic, Sigurd's killing of the 'worm' (cf.

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[227] Actual Haoma mortars have been found at Persepolis. Other intoxicants in the Hindukush include notably wine, some rhubarb, mead, and even the Afghan/Afridi *hum* bush (< *haoma*) which is used as snuff and against fever (Geldner RV transl., introduction to book 9: 2); similarly in the Kalash area, where the *sámani* (<*sumanas*) bush, growing in the high valleys, is used in making chewing tobacco.

Thor's and Tyr's killing of the giants), and for Japanese, Susa.no Wo's killing the 'eight-forked' dragon, *ya-mata.nö orochi* (cf. n. 9, 39).

In the BMAC area, these motifs have evolved into a typical, local variety, such as the scaled, *anthropomorphic* dragon. It may be useful to begin with a schematic depiction of Francfort's reconstruction of BMAC religion (Francfort 1994). Various Old Indo-Aryan and Old Iranian items have been added (in italics) for the sake of comparison.

Oxus religion :: *IIr. religions*

Goddess
fertility
vegetation
Anahita?/ Sarasvatī/Rasa
Aditi, Dezalik

anthropomorphic DRAGON
drought;
then releases waters
*Aži/Ahi / '*Vərəθra'/Vrtra*
Apaoša (Forssman 1968)
3-headed (IIr.) : θri-kamərəδa/
      trišīrṣan Višvarūpa
Vrtra > cobra snake in India : Vyaṃsa
children:
combined forms, anthropomorphic
 lion/snake ~ *Sēnmurv?* (Schmidt 1980)

FIGHTS WITH
THE HERO: eagle faced[228]
(*Circaetus Gallicus* 'snake eagle', *saēna?*),
      eagle flies in Winter over the
      Hindukush (*upairi saēna, upari śyena*);
      catches and eats snakes;
Hero in human form: *Vərəθragan/Vrtrahan*
      Indara/Indra

The dragon is found in IIr. as *aži/ahi* 'dragon', a three-headed (*trišīrṣan, θri-kamərəδa*) reptile monster, however, in Vedic also as the three-headed Višvarūpa, the son of a primordial deity, Tvaṣṭr,[229] the adoptive father of Indra. When Indra kills the dragon Višvarūpa, then he kills his 'cousin' (or due to 'adoption' by Tvaṣṭr, even his step-brother, and in the YV, a Brahmin, to bet), a feature of rivalry seen as *bhratrvya* all over the post-Rgvedic texts. In view of the various representations of the dragon in the BMAC, the designation Viṣvarūpa as 'having all forms' is of some significance. He mainly appears as a scaled, human-headed, ugly, standing man carrying a water vessel.

In most IIr. descriptions the dragon is seen not in human form but as a giant reptile, killed by the Avestan heroes Thraētaona (Yt 5.33-35, Y 9.7-8) or Kərəsāspa (Yt 19.38-40, Y

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[228] For a detailed example, see the reproduction in *Afghanistan* 2002: 204, of the eagle-faced hero found on a bronze axe, from Daulatab near Balkh, of c. 2000 BCE.

[229] Cf. Avesta, Yt 19.18 *θworəštar* as 'creator' of Ahura Mazdā's creation, cf. Y 29.6, EWAia I 685, Oberlies 2000: 370.

9.11), who was resting and cooking on it (cf. Oberlies 2000: 371 sq.). The reptile also appears, with local Indian adaptation, as a giant cobra (*vyaṃsa*, Schmidt 1963, also in the IA Hindukush, see §6.5.1). Such slight differences between the Vedic, Iranian and Nuristani strands of IIr. myth have to be seen within the context of the Avesta as local successor culture of the BMAC. We would then have, in IIr., these epithets of an old Dragon Slayer god:

<u>IIr.</u>
*indra vṛtraghan-   ::   *aj'hi (*yaz) vṛtra;
'strong slayer of resistance' ::   'dragon, the 'resistance '

<u>Ved. /OIA</u>
Indra   ::   Vṛtra, ahi, (*triśīrṣan Viśvarūpa 10.8.9; 2.11.19, =
                                                    triśīrṣán trikakúd krími AV 5.23.9)
                                                    Śuṣṇa, Cumuri (local)

<u>Avest.</u>
(Indra), Vərəϑragna   ::   aži, (Y 9.8 ažīm dahākəm ϑri-kamərəδam xšašašīm)
(Kərəsāspa,[230]   ::   yellowish monster, exuding yellow poison;
cooking meal in metal pot   ::   Gandarəβa with yellow heel
at noon, Yt 19.38-41)

(Ātar, son of A.M. Yt 19.47)::   aži Dahāka, ϑri-kamərəδa
(Tištriia Yt 8.13-23:   ::   daēuua Apaoša, ka-mərəδa
in human, cattle, horse form)   black, bald horse

Interaction between the BMAC and steppe peoples is now clearly visible: the BMAC has certain steppe influences, in pottery etc., and the opposite direction of influence is sometimes assumed for the Arkhaim/Sintashta culture (Hiebert, Shishlina in Mair 1998). By a comparison of IE and BMAC mythological systems, it appears that the old IE myth of dragon slaying has been adjusted in the Avesta under the influence of the BMAC or its successor cultures. Several Avestan texts were composed precisely in the BMAC area. Not only do we find the killing of the dragon but also Tištriia's fight with the demon of drought, Apaoša, and the generation of clouds and rain, reflecting what Francfort has reconstructed for the BMAC belief system.

Some of these influences are still visible in the RV. Indra is not just the dragon slayer but is also closely connected with releasing the waters. The Rgvedic giant cobra, *vyaṃsa*, surrounds the waters and must be killed (at least temporarily) to let them flow. This is more of an Afghanistan and Indus myth (Falk 1997) than a monsoon myth (Vajracharya 1997). In Central Asia, Afghanistan and the Panjab, the penned up waters, encapsulated by (the *Nāgas of) snow and ice, are released by the snow melt, resulting in the late spring/summer floods so prominent in the Avestan and Rgvedic texts (Falk 1997).

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[230] Note that his name 'having emaciate horses' (Ved. Kṛṣāśva, cf. *kṛśagu, kṛśapaśu*) reflects the situation before the release of the waters; the name would fit Tištriia better. --- Note also the stress in Zoroastrian tradition on the miserable situation (cf. Y 51.12) of Zarathustra ('having old camels'?) before he succeeded in gaining some followers.

One may therefore revisit the old etymology of Indra from *ind* 'to swell'.[231] He is, in fact, the one who releases the waters and lets the rivers swell in late spring,[232] so vividly described for the Afghan Highands, the Airiianəm Vaējah of the Avesta (Witzel 2000a). Incidentally, as Indra is also attested in the Mitanni documents, this branch of OIA should have come there via (southern) Central Asia.[233]

Importantly Indo-Aryan has innovated in turning the dragon into a giant snake, and stressing its role in encapsulating the waters. The Avestan concepts, on the other hand, are perhaps closest to the one Francfort (1994) has reconstructed for the BMAC[234] --- as can be expected for the location of Avestan in Bactria-Margiana-Sistan. However, differently from the BMAC scheme, a mother goddess-like deity does not play a major role in either the Avestan or the Vedic myths and, indeed, also beyond the IIr. area. Where she occurs, it is at other points in the mythological scheme (Aditi, Yamī, Nur. Dizane, Kal. Jeṣṭak, Jpn. Izanami, Amaterasu, which cannot be detailed here).

In other words, the PIE and indeed Pan-Eurasian (Laurasian) myth of killing the dragon has been transformed into a Western Central Asian (Bactrian) myth of releasing the waters of the late spring snow melt by the rivers of Afghanistan, and this concept was transferred with the IA speakers to the Indus. In order to be sure, we can triangulate between the reconstructed IE scheme of things, the reconstructed BMAC one, and the local IIr. variations, the Avestan, the Ṛgvedic and the Hindukush ones (§6.5.1, 5).

The IE concept of slaying of the dragon seems to have incorporated some general ideas of fertility,[235] as is also seen in Japan: the dragon's blood makes the earth fertile. In the IIr. (and BMAC) version, the dragon guards the waters, and the stress is on their fertilizing aspect, not on a fertilization by blood (which is regarded as polluting, at least in India).

As mentioned above, in the Avestan version a three-headed monster is slain by Thraētaona or Kərəsāspa, and the late spring time waters are released (Falk 1997); but this is complemented by the BMAC-related Apaoša myth: the demon of drought is slain by Tištriia (Yt 8. 13-33) in form of a white horse, and rain sets in (Forssman 1968). In the RV, the three-headed monster/Viśvāvasu (guarding the Soma) is slain by Indra; but it is also seen as giant cobra (*vyaṃsa*), an innovation (Schmidt 1963); when slain and cut by Indra, this releases the waters.

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[231] EWAia, however, connects *indra* with the meaning 'strong': *índra* or **indrá* 'strong, strength' ~ Gr. *oidéo* 'to swell' and perhaps *índu* 'drop'; if this goes back to **(h)i-n-d-ro* ~ Slav. **je,dr* 'strong, forceful' (Croat. *jédar* 'strong', ORuss. *jadr'* 'quick'), note also Ved. *índra* ~ *indriyá*; in the case of the quick rivers of the mountains (of Airiianəm Vaējah) there is an obvious overlap; cf. also ṚVKh 5.5.3 and 11: *Indro (')pam vegam airayat*.

[232] Note the Indar-ab in N. Afghanistan (next to another river, Andar-ab < **antara*), and the Indar lake in W. Kazakhstan, even the French river Indré (?), cf. Witzel 2001a.

[233] Mitanni *in-da-ra* = *in-tar*; YAvest. *indra* 'name of a Daēuua': V 19.43 Indra, but also Gaṇdərəβa = Gandharva, Sauruua = Śarva, probably all due to local Vedic (substrate) influence (see now Swennen 2001); cf. however the human name Gaṇdrəβa Yt 13.125.

[234] While his reconstruction seems solid, I caution to compare, as he does, the BMAC situation with early China. While situations of drought/wet season are fairly universal, the N. Chinese situation is different from that of Bactria. Also, note that the dragon appears as beneficial in China only in sources that do not reflect the *oldest* situation (where he is killed).

[235] Watkins 1995; for Russia, cf. the tale of Ivan, the young bull, for Slavic: *hero/Veles (~ Vala), etc.; cf. n. 205.

In both the Iranian and Vedic versions there is a clear opposition between the dry (winter) season and the moist (late spring/summer snow melt) season, personified by the fight between Indra : dragon (Kuiper 1979: 11, Schmidt 1968), or in IIr. times by *Vṛtrahan : *Aj'hi. This was to change again, later on, in subcontinental India (Vajracharya 1997), where Indra became simply a general rain god (cf. PS 6.15), who must be stopped from raining too much (Matsyendranāth of Nepal, Kṛṣṇa myth of Govardhana). It is less known that he is still important at New Year in Nepal, and that even today villagers in Northern India worship him.[236] In the Hindukush, however, he is still one of the major deities (§6.5.1).

A few further important myths and wide-spread motifs can only be dealt with here in form of a sketch: first that of the eagle or falcon as a messenger bird or as the bird that brings the Soma or mead from the mountain (India, Greece; see Oberlies 2000: 371: n. 8, 377 sq., cf. para-upari-saina, n. 223), and the related Avestan topic of the central tree 'of the falcon' (Yt 12.17; cf. Yt 14.41), i.e. the tree vīspō.biš, situated like the mountain us.həndauua (Yt 8.32, Witzel 1984: 257, 2000a: n. 70, cf. for Nuristan, Buddruss 2002: 131), in the middle of the 'lake' Vourukaša. Note also Odin's raven, and the vulture as Indra's messenger (JB 2.440-2, Witzel 1997a: 337); further Noah's and Jimmu's (Kojiki 2.51) messenger bird, etc. This bird is shot at (Oberlies 2000: 371 n. 8, Kojiki 51.2, for the Hindukush version see §6.5.2).

Second, there also is the myth of the 'great archer' who gains important advantages for the people in question. It is found from Central Asia to the Indus, China and the Maya: The Avestan hero ərəxša 'the best bow-shooter of the Aryas', shot from the interestingly named mountain Airiio.xšuϑa to the mountain X^vanvant (Yt 8.6, 37); the IIr. *T(r)ištriia shot at the demon of drought, (Avest.) Apaoša, viz. as Rudra at Dyaus/Prajāpati (= Sirius at Orion: Forssman 1968). In a local Indus variant Indra shot his bunda arrow at the boar enemy Emuṣa (RV 8.77.7-11, 8.69.14, 8.78.1, Kuiper 1950, 1991: 16, Witzel 1999a: 24, cf. n. 253). A striding archer is also seen on an Indus copper plate (Parpola 1994: 112, 234). In China, the archer Yi shot down 9 of the 10 (too hot) suns; similarly, in Siberian and Mexican myths; in Maya myth, the proud impersonator of the sun (Vucub Caquix, 'Seven Macaw') was shot down from a tree by Hunahpu with a blowpipe (Popol Vuh II, beginning).

Third, the Gandharva and Yakṣa (Oberlies 1998: 228-9, 539-40) should be compared with the lists of local Afghan deities (Gnoli 1980) and of Yakṣas (Lévy 1915, cf. Fussman 1977: 35 sqq.) as well as local Nāgas (Witzel 1990b). Fourth, importantly, BMAC iconography has some indications of shamanic ritual: one seal shows a procession with standards (like Avestan, V 1.6, about Baxδī) and shamanic drums. Such reminiscences are indeed seen in some of Zarathustra's wording, as has long been recognized (astuuant 'bone-having' life, Y 31.11, 34. 14, 43.16), and it is reflected in many myths, such as the life-containing bones of Thor's ram. Or, note the shamanic ladder 'leading to heaven' in the post-Rgvedic Vājapeya ritual, still similarly enacted by the shamans of the Nepalese Kham Magars (Oppitz 1991), cf. the ladder motif in Job, etc. (Witzel 1984: 253, n. 71, 83) and note the approach to the Avest. cinvat.parətu 'bridge', for which see the book of Ardā Vīrāz (Gignoux 1984, ch. 3 sqq.); cf. finally, the Upaniṣadic tales of reaching Brahman's palace (KU, Thieme 1951/2, Bodewitz 2002); for ascent to the sky, see also the shaman-like Muni and his intoxicating drink in RV 10.136 (cf. 5.56.8 Marut, 8.17.14 Indra as sakhi of the Muni).

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[236] Survival of Indra (cf. Kuiper 1979): in the Nepalese Indrajātrā, and the little known Indra festival at the Thankot Indra temple in Summer; further on Indra Boh (= dvadaśī, Witzel 1997e: §7.3 and n. 249) in Kashmir, and his still continuing status in N. Indian villages; further note more recent adaptations such as Kṛṣṇa's killing the many-headed river snake.

The lists could be prolonged, covering all of the IIr. topics already mentioned; however, I add just one rather unexpected example. Because of the IIr. phrase indicating the priest's gesture of worship, *ustāna.zasta/uttāna-hasta* 'with (upwardly) spread out (arms and) hands', one might regard this 'Near Eastern' gesture as typical for IIr. ritual. But there is a unique find from BMAC levels of the 'Indian' *añjali* gesture of greeting with the raised, open hands put together. This is accompanied by the 'IE' gesture of kneeling down on just one knee (RV 10.15.6 *ácya jā́nu dakṣiṇató niṣā́dya*, MS 1.10,9:149,18 *ūrdhvájñur ā́sīno yajati*; Oguibénine 1997). This combination is performed by three persons sitting in front of a tree in a *cire perdue* copper piece of c. 2000 BCE (*Afghanistan* 2002: 98-9).

All of this indicates close interaction between the Southern Central Asian peoples and the speakers of IIr. or even of earliest OIA. Yet there is a neighboring, almost neglected region that the Indo-Aryans must have passed through: the high mountain pastures and the fertile valleys of the Hindukush and Pamir, *giri :: ajra* as the RV calls them. The religion of the Nuristani speaking former 'Kafirs' and of the neighboring, NIA speaking, but religiously closely allied Kalash (in Chitral, N.W. Pakistan) will be treated here at some length as this 'third branch' of IIr. speakers (Morgenstierne) offers important insights for the formation of Rgvedic religion (in addition to the few selected items in Fussman 1977 that lack comprehensive treatment of the Vedic data and rely too heavily on later Indian features).

§6.5. The Hindukush area: Nuristanis and Dards

The eastern Hindukush is a wide stretch of land that one cannot transgress in a few days if one is intent on moving from Bactria to the Indian (Gandhāra) plains. The Central Afghan highlands offer extensive green pastures and water: *Airiiᵊnᵊm Vaēĵah* (Witzel 2000a) was an ideal land for the cattle herding Indo-Iranians. There are similar highlands in Central Asia, visible in the settlement pattern of the pastoral Kirghiz, in the Pamirs and in Wakhan. Their economy may have closely matched that of part of the IIr. speaking tribes (cf. Staal 2001), which would explain the relative closeness of the Muzh Mountains at the time of the takeover of *Sauma*.

However, sources for Greater Afghanistan are few and far between: the Avestan texts, esp. the Vīdēvdād, some Greek notes, Bactrian inscriptions and letters, some medieval Persian and Arab texts, and recent ethnographic materials, especially Robertson's report about Kafiristan before forced Islamization in 1895. One can only extrapolate from this report based on a year spent in the Hindukush in 1890/1 and compare its data with reminiscences recorded by the anthropologists of the past century (Jettmar 1975, 1986, Buddruss 1960, 2002, Fussman 1977, Bashir & Israr-ud-Din 1996). However, we now know how much and how quickly a local religion can change even in these remote mountains (Jettmar 1975: 394 sqq., whose summary is, by and large, followed in the sequel).

As for the influences pre-Vedic religion might have received in the mountains of the Hindukush and the Pamirs, we must extrapolate from such modern sources (but cf. Jettmar 1975: 179 sqq., Buddruss 2002). Just as in the other areas discussed so far (or as in Nepal, Maskarinec 1998, Witzel 1997c: 520-32), we must assume many layers of developments and external influences. Nevertheless, the older Hindukush religions, their pantheon and their rituals can be reconstructed to some extent even from our recent sources, but this would lead too far here. There are, however, a number of typical features that allow to sketch the outlines.

To begin with, the valleys of Nuristan in E. Afghanistan inhabited by the Nuristani (Kafiri) speaking tribes that form a third branch of IIr., while the neighboring valleys of northern Pakistan are inhabited (apart from a few recent Nuristani immigrants that have arrived in Chitral over the past hundred years), by various Dardic (NIA) speaking Muslim

populations such as the Kalash, Kho, Shina etc. Only the larger part of the Kalash, living in three of the western valleys of Chitral, have retained their old, pre-Islamic religion and rituals, while the rest of the Nuristani and Dardic speaking peoples have retained, as Muslims, only vestiges of their former beliefs. However, though the languages of the Nuristanis and Kalash belong to two different, not mutually understandable subfamilies of modern IIr., they share many common concepts, beliefs and often even figures of the pantheon, though normally under different names. The isolated Kalash have received strong religious influences from pre-Islamic Nuristan. For that reason, most of the religious traits of both areas can be treated together.

Both groups (and to a large degree also the other Dards, including the Kashmiris), also share some features that are general 'Himalaya-Pamir-Hindukush' and in all probability represent an ancient, common substrate (Tuite 2000, cf. Bengtson 1999, 2001, 2002). These must be separated from what *may* appear to be Vedic. In the sequel, Hindukush religion is described according to its traditional Nuristani (N.) features, but Kalash (K.) peculiarities are always indicated.

Common traits of these 'mountain religions' --- often extending all along the Himalays --- include the following. There is the prominent role of shamans (*pshur, wrear, deal* N., *dehar* K., Lièvre & Loude 1990) and related items: the use of flat circular drums, of various types of psychopharmaca (wine, fly agaric, rhubarb, mead, Pashto *hum* ~ Kalash *sámani*; cf. also Nyberg 1995), and a general pattern of goat sacrifice (already seen at Mehrgarh, near Quetta, 6500 BCE), with sprinkling of the blood of the victim. There also is a general pattern of belief in mountain fairies, now often called by their Persian name, *Peri,* but still called *Apsaras* in the Rājataraṅginī (3.465, 468-471 for King Raṇāditya's entering and disappearig in a mountain cave into the company of *Daitya* women). The Kalash distinguish between Suchi (*súci*), who are helpers in the hunt and in the killing of enemies,[237] and the Varōti who are the more violent and angry male partners of the Suchi, reflecting the later Vedic (and typical medieval Kashmiri) distinction between Apsarases and Gandharvas. Certain mountains are the favored seats of the fairies, especially the impressive, 7708 m high pyramid of the Kailāsa-like Tirich Mir in the North of Chitral (~ *Meru* KaṭhB, *Meros* Arrian, *Anabasis* 1.6; *Sumeru,* Pāli *Sineru;* cf. **devameru,* Shina *díamer* = Nanga Parbat, CDIAL 6533). In late autumn, the Peri descend to the high mountain meadows.[238]

A few key features that highlight the position of Hindukush religion in between the IIr., BMAC and Vedic religions will be summarized and discussed in some detail, as they by and large even now remain unknown to Vedic specialists, in spite of Buddruss 1960 and the selective summary "d'un domaine mal connu des indianistes" by Fussman (1977: 21-35), who, even with an "esprit hypercritique comme le nôtre" (1977: 27), overstresses (post-Vedic) Indian influences (1977: 69; for a balanced evaluation of the linguistic features, see now Degener 2002). However, both Hindukush and Vedic mythology, ritual, and festivals, in

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[237] Note the role of the Apsarases as leading warriors to heaven: in the Epic (Hara 2001), in the Rājataraṅginī, for which cf. the Germanic Walkyries (Witzel 1997d, n. 48); for the Kalash Varōti < *vātaputrī,* cf. *gandharva vāyukeśa* RV 3.38.6, and the Avestan mountain range *Vaiti.gaēsa* 'whose hairs (trees) are tossed up by the wind' (= modern Badgīs), Witzel 1972: 184 sq.

[238] Reflected in the Nīlamata Purāṇa and the Rājataraṅginī: both Piśacas and Nāgas stay for half a year each in the Kashmir Valley, see Witzel 1994: 220 and n. 82; cf. Nuristani *nang* (= *naga,* cf. Fussman 1977: 36 sqq.), and the Prasun river (f.) *Lu-nang* (*lu* = *deva,* Buddruss 2002: 129); note also the mountains Nanga Parbat and (?) Nanda Devī, popular etymology < **nanga?* Cf. the many Kashmir mountains in -*nag.*

spite of many layers of developments and mutual influences, tend to explain each other very effectively; cf. the similar case of Nepal (Witzel 1997c: 520-32).

§6.5.1. Mythology

Nuristani deities were praised in songs called *bem* (= Ved. *bráhman*, Buddruss 2002: 123). There is a creator god, appearing under various names, no longer as Father Heaven, but as lord of the nether world *and* of heaven: Imra (*Yama Rājan), Māra 'death' (N.), Dezau (*dih, CDIAL 14621, from N.) or Paidagarau (*paydagaráw*, K.). Sometimes he has taken over, like Zeus, some characteristics of Indra (he kills a snake, like the RV Indra). He also is the ancestor of humans or their creator (uncharacteristically, out of mud). However, just as Yama has a twin sister YamI, so has Dezau (*dizáw*, K.): Dezālik (*dizálik*, K.), the goddess of birth, similar to the Kafiri Nirmali (N. < *nirmalika*).

Heaven consists of seven round disks, clearly an influence of the South Asian (probably, originally Near Eastern) preponderance of this number, as compared to Northern Eurasian nine (also seen in the RV and in Nepalese Shaman songs, Maskarinec 1998, where 7 appears next to 9).

More importantly, there is an Indra-like figure, often actually called *Indr* (N., K.) or *Varendr* (K., *warín*, *werín*, *aparendra*). As in the Veda, the rainbow is called after him: Ved. *indra-dhanúṣ*, N.: Kati *indrő~*, *i~dró~*, K. *indré~*, etc. (CDIAL 1577); when it thunders, Indra is playing Polo (or, when Munjem moves, Buddruss 2002: 125); Kal. *indócik* 'lightning' < *indradyotya* (CDIAL 1576); and the earthquake is called *indreṣṭi* 'impulse from Indra', Kati *indrí.c.*, *indríṣṭ* (CDIAL 1582).

Indra appears, however, in various forms and modern 'disguises'; we have to assume many local developments and cross-wise influences from one local tradition on the other during the past 3000 years, as clearly seen in the god Balumain (§6.5.1, 5). The Kafiri GiwIs/Giwĕ's/GyIs (< *gaviṣa* 'wishing for cows') is a daring, always successful killer and hero and reflects Indra's Rgvedic character well (RV *gaviṣ*, cf. *gaviṣṭi*); some other of his 'incarnations' stress fertility that he brought about or personifies, and also Indra's connection with rain when he appears as as Wushum, Shomde (N.) and as Sajigor (Sajigór, K.), who is indeed called Shura Verin (*śúra werín* < *śūra *aparendra* 'the hero, the unrivaled Indra'). *Warín(dr-)* or *In WarIn* (K.) is the mightiest and most dangerous god; the location of his shrine was assigned by bow shot, which recalls Indra's *Bunda* bow (see §6.4, above). Another god, Munjem 'malik' (*munjem* < *madhyama* 'middle'; *malék* < Arab. *malik* 'king') is the Lord of Middle Earth and killed, like Indra, his father, a demon. He pressed him down, took his head to the upper valley, his feet to the lower valley and covered him with earth,[239] all of which is reminiscent of the Puruṣa/Ymir and Chin. (< Austric) Pangu myths. Most interestingly, Mahandeu (*mahandéo*, K.) and Mon/Mandi (*Mandi*, N., < *mahan deva*), too, is a war god, a negotiator with the highest deity, and he is everywhere and accessible like Indra. Mon/Mandi has a golden body, appears as Zebu bull and collects clouds (cf. the bull/horse form of Tištriia, opponent of the demon of drought, Apaoša).

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[239] The same story is found among the Nuristani Prasun: Munjem kills his father and buries him, his head up in the valley and his feet down (Buddruss 2002: 125); cf. further §1.7. on the founding legend of Srinagar; Snoy (in Jettmar 1975) compares some Sherpa and Panjshir myths (lower Panjshir Valley = 'the feet of Panjshir'). Jettmar (1975: 78), however, denies the cutting up of Munjem's father.

Even the recently popular Balumain (*baḷimaín*, K.) has taken over some of Indra's features: he comes from the outside, riding on a horse. Mahandeu had 'cheated' him, like other Indra figures, from superiority.[240] Balumain is a culture hero who, among others things, taught how to celebrate the Kalash winter festival (Chaumos).

Like the IIr. *Indra *Vṛtraghan, the Hindukush Indra has a demon-like counterpart, *Jeṣṭan* (K., < **jyeṣṭha?*), seen on earth as a dog; the gods (Devalog, cf. N. *dilū*) are his enemies and throw stones at him, seen as the shooting stars.

There are many other deities, which cannot be treated here;[241] however, the goddess Jeṣṭak (*jéṣṭak*, K. < **jyeṣṭha*, or **deṣṭrī?*), the Dis(a)ni (< *dhiṣaṇa*) of the Kafirs, is important: she is the goddess of the hearth and of life force; she protects children and birth giving women, as are the Jach (*.j.a.c.* < *yakṣ(in)ī*, K.), a whole category of female spirits of the soil or of special places, fields and mountain pastures.

§6.5.2. Ritual

Hindukush ritual has many IIr. and IA features, too (*pace* Fussman 1977: 34). Kafiri religion had priests (N. *wutô*, *utô* < *hotṛka?* CDIAL 14176; note K. *iṣṭikavan* 'priest', from *iṣṭikhék* 'to praise a god', still found by Morgenstierne in 1929),[242] bards and shamans. However, in Kalash religion the priests are missing now (only some shamans, *dehár*, remain). Instead, there is a special role for half-grown boys, who are treated with special awe, and who combine, like Brahmacārins, pre-sexual behavior and the purity of the high mountains, where they tend goats for the summer months. The same degree of purity cannot be attained by men who interact with women and other impure entities in the villages.

Purity is very much stressed, just as in the Veda or in Hinduism. In Kalash religion it is centered around altars, goat stables, the space between the hearth and the back wall of houses (as modern Himalayan/Newar practice), and also in periods of festivals; the higher up in the valley, the more pure the location. By contrast, women (especially during menstruation and birth), as well as death and decomposition, and the outside (Muslim) world are impure, and, just as in the Veda (and Avesta), many cleansing ceremonies are required, even for the average householder, if purity was infringed upon.

In Kalash ritual, the deities are seen, as in Vedic ritual (and in Hindu Pūjā), as temporary visitors. Other than Nuristani shrines, Kalash ones (*dūr* 'house' < Ved. *dúr*; *malosh*) are located, with the exception of the women's house (Jeṣṭak Han), under the open sky at trees (juniper, oak, cedar), and they are characterized by a wooden board or a stone altar. There always is an opening, apparently to the other world of the gods (as in shrines for the Newar

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[240] In the Kafiri south, Indra remained the patriarch of a divine family: Gish is his brother (cf. the Epic Upendra?), Disani his daughter, Pano his son, Bagisht (a water deity) his nephew, whose myth, recorded by G. Morgenstierne, is found at http://www.nb.no:9000/nirmali/nirmali/Imra/Kareik/Bagisht-at.mov.

[241] For example, Praba(zón) < ṚV *pravabhrá*, another form of Indra, is generally feared and no woman is allowed near his shrine; his *pru* (*pu.~*) festival is connected with the grape harvest and the making of new wine, which is poured, like Soma, into the fire and only then is allowed to be drunk. Note that wine is ritually pure, and more so even than snow or spring water (Trail & Cooper 1999: 90, sv. *ḍa*, 320 s.v. *uk*), for which compare the Kashmirian ritual (Nīlamata 465): new wine (*navya madya*) is drunk *on the snow* after the first snow fall; cf. Witzel 1994: 243, n. 253. --- Or, some spirits take form of small children: the upper part of their body is black, the lower one red, for which cf. the Vedic Rudra.

[242] Incidentally, if *wutô* < **hotṛka*, this would be an indication of the IIr. age of this important ritual term: it is also found in Avestan *zaotar*, the title of Zaraϑuštra in the Gāϑās.

deity Nāsa Dyo). In 1929 Morgenstierne still saw the effigy of a human head inside such holes; cf. the (lost) 'head of the sacrifice', so important in Vedic ritual (Heesterman 1967, Witzel 1987); cf. further old Celtic practices.

Fire is generally used at rituals, but next to the altars, and not *inside* an altar as in Vedic religion; blood is sprinkled there, unlike in India where it is regarded as polluting, except for Tantric or tribal rituals. Horses, cows, goats and sheep are sacrificed.

Hindukush ritual makes use of several forms of sacred drinks, especially wine (vines grow locally, and are attested already by Alexander's Greeks, who thought of Dionysos). Indr, or similar gods, have a vineyard; he defends it against invaders, and an eagle appears. When the invaders shoot at him with arrows, he creates a rock slide, killing them. This may reflect a faint Kafiri echo of the old IE and IIr. myth of the eagle bringing the sacred drink. Crows, however, represent the ancestors, and are frequently fed, also at tombs (with the *left* hand), just as in the Veda and in parts of modern India and Nepal (Witzel 1986: 163).

In general, solemn Kalash ritual seems to be of *potlatch* type (*namús* < Arab.), as Kuiper has proposed for the Ŗgvedic one. By organizing rituals and festivals (up to 12 are mentioned, the highest form being *biramór*) with many offerings of goats and also cattle, one gains fame and a greater voice in the local assemblies. It seems that just as in the ŖV, the offered cattle join the herd of the offerer after death, and perhaps his rank is preserved as well. --- Importantly, the former local artisan class was excluded (K., N.) from public religious functions (cf. Fussman 1977: 68), just like the Vedic Śūdras.

§6.5.3. Festivals

Finally, in order to better understand Hindukush religion and to compare it with IIr. and BMAC religion, it is important to take a brief look at the division of the year and the major rituals/festivals (*khawsáṅgaw*, K.) associated with it. A common division seems to be that into two moieties, Spring/Summer and Autumn/Winter. For example, Mära (~ Yama Räjan) is welcomed in Spring, and Munjem (~ Indra) in the Fall. Among the Kalash, the pastoral god Sorizan protects the herds in Fall and Winter and is thanked at the winter festival, while Goshidai does so until the *Pul* festival (*pu.~* < *pūrṇa*, full moon in Sept.) and is thanked at the Joshi (*joṣi, žóši*) festival in spring. This reminds of the two (ritual) halves of the year (*uttarāyaṇa, dakṣiṇāyana* in the *gavām ayana*),[243] of various similar instances in the Himalayas,[244] and the division of the year into a dry and a moist part in the BMAC, Avesta and ŖV (as discussed above).

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[243] Note that this may be the origin of the term *sam-vatsa-ra* 'year' : when all calves, cows have been brought together, at the end of the yearly pasture period in the hills, followed by the end of the cycle of sunrises (dawns = cows/calves). Cf. ŖVKh 5.5.6: *saṃvatsare svapaso yajñiyam bhagam ayan.* Note, however, also the other terms of the Vedic five year cycle: *pari-, ida-, id-vatsara* and *vatsara*, Ved. Ind. II 412, EWAia *s.v.*, Falk 2002: 78, Falk 1982.

[244] Just as in Kashmir, the deities also change in Kalash land: in late Autumn, the Peri descend to the mountain meadows and they are asked to return to the peaks in spring (Jettmar 1975: 390); Balumain visits in December. Jettmar (1975: 78) compares the male part of the year in Fall/Winter and female one in Spring/Summer with Tajik beliefs, and notes that the water, stored in ice/snow, is released in Spring to fertilize the female earth, cf. above, on BMAC iconography. Note also the role of Indra at year's end, and that of other visitor gods, such as the *marebito* of Japan.

The most important Kalash festival is the Chaumos (*cawmós*, Khowar *chitrimas*, importantly < *caturmāsya*, CDIAL 4742),[245] which is celebrated for two weeks at winter solstice (c. Dec. 7-22). It has significant repercussions in the foundational myth of the Kalash (and Nuristanis), which will follow. At this festival the visitor god Balumain appears. Impure and uninitiated persons are not admitted. Purification is achieved by a waving a fire brand over women and children and by a special fire ritual for men, involving a shaman waving juniper brands over the men. The 'old rules' of the gods (Devalog, *dewalók*) are no longer in force, as is typical for year-end and carnival-like rituals. Differently from other festivals, drum and flute are now forbidden, and only the human voice is allowed. The ritual takes place at a Tok tree, a place called Indrunkot, or *indréyin*, clearly indicating the older concept of Indra as focus of this festival; in fact, Indrunkot is sometimes believed to belong to Balumain's brother, In(dr), lord of cattle. Balumain is offered specially baked bread, often in the form of sacred animals, such as the ibex. This is later taken up to his mountain seat by 'shepherd king' (*budálak*) and offered along with goat milk.

In the ritual, a fire is constructed out of superimposed, crossing twigs ('a fortress') much like a Vedic one, and a goat, especially its heart, is offered into the fire. Ancestors, impersonated by the young boys (*ónjesta* 'pure') are worshipped and offered bread (cf. Dollfus 1989:69 sq.) The children hold on to each other and form a chain (Ved. *anvārambhana*) and snake through the village. (This chain should represent the Vedic *tantu* string of the ancestors, Witzel 2000b.).[246] A fox chase is included as the fox is Balumain's dog. (In the Altai the bear is the 'dog' of the mountain god).

The men must be divided into two parties: the pure ones have to sing the well-honored songs of the past, but the impure sing wild, passionate, and obscene songs, with an altogether different rhythm. This is accompanied by a 'sex change': men dress as women, women as men (Balumain also is partly seen as female and can change between both forms at will).[247] Modern dress, such as of tourists, is included now.

At the central point of the ritual, Balumain gives his blessings to seven boys (certainly representing the seven of the eight Devalog who actually received him), and these pass the blessings on to all pure men. At this point, the impure men resist and fight. When the *nagayró* song with the response *han sarías* (< *samrīyate* 'flows together', CDIAL 12995) is voiced, Balumain showers all his blessings and disappears. At this crucial moment --- it seems that of solstice, i.e. change of the year --- the pure get weaker, and the impure try to take hold of the (very pure) boys, pretend to mount them "like a hornless ram", and proceed in snake procession (see above). This action creates mixture and fusion (like Balumain's change between male and a female form), so important for the fertility and life of the year beginning now. Things then return to normal.

Much of this reminds of the solstice festival in neigboring Tibetan Ladakh (Dollfus 1987) as well as in the Veda, of the Mahāvrata and the form it has taken in the second

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[245] This etymology is important as it could indicate Vedic ritual influence. But, by contrast, *hotṛka/zaotar/*Nur. *wutó* is already IIr. (see §1.5.2.); note also: Joshi (*jośi*, Khowar *chilinjusht*) festival in spring < *yajusya*, CDIAL 14768.

[246] But note also the sexual connotations (Jettmar 1975: 386). --- It may also echo that of the heavenly river, connecting heaven and earth, symbolized by the Sarasavatī in the Anvārambhaṇīya Iṣṭi, Witzel 1984: 253, n. 71. The winter dances are echoed by the same type of dance --- but this time by women --- during the Joshi festival in spring.

[247] Note that the shaman, too, often has a female double that accompanies him throughout life; cf. the alternating male/female lineages of the Kham Magar shamans (Oppitz 1991).

pressing of the Soma ritual (Witzel 1997a: 398-400, 404), and also of reflections in myth. The one that corresponds to 'Indra's opening of the Vala', a typical New Year myth, is found among the Nuristani in two main versions, summarized here.

§6.5.4. Creation myths

First, the recovery of the lost Sun and Moon by the gods (Robertson 1896: 385, 28; further Prasun and Urtsun versions, following Jettmar 1975/1986 (who used Buddruss' unpublished materials; however, see now Buddruss 2002).

There was no sun, no moon. It was very dark. A demon (Espereg-era) brought sun and moon into his house, right and left of a waterfall.[248] The god Mandi changes into a boy, and goes to the mother of Espereg-era. Mandi is not allowed to open a certain door. He tries to do so, pushes in his finger, this turns golden; finally, he breaks the door and sees the waterfall, the sun, the moon and a horse. He puts the Sun on his right shoulder, the Moon on his left, and rides out of the house. The dark world becomes bright. Espereg-era follows them, Mandi cuts off all his seven heads, drags him to the right side of the valley and covers him up.

The God Mara tells him to share sun and moon with the rest of the world; he carries them up to heaven, where they are ordered to go about in circles. Mara then creates humans, gives them cattle, teaches them, goes up to heaven and disappears.

The other version is more concerned with the actual conquest of the 'house' of the sun (Kati in Bumboret, Urtsun and Lutdeh; Prasun version following Buddruss, as reported by Jettmar 1975).

The gods assemble. In the upper part of the Valley there is a house, near heaven, where a demon lives. He has much wealth. If he is killed the world will become well. The gods decide to fight him. They call God Mandi who gathers other gods as he marches up the valley, finally including also the female deity Disni. Halfway up, they sit and deliberate. They discover the house. Mandi goes there, sees an old woman and asks her about the house. "It is a house, between up and down; inside there are seven brothers (called *Dizano*, cf. Dezālik of the Kalash) who have many things: the sun and moon, gold, silver, water, fields where they sow". The Old woman explains how to make the rope visible by which the house hangs between heaven and earth.

Man(d)i goes back to the gods but forgets, three times, what he had been told; finally, another god follows him (cf. the vulture and Saramā, JB 2.240-2) and reports back to the gods, who tease Mandi. The gods shoot arrows at the house, but as it is of iron, the arrows are repelled (cf. the *ayas* forts in the Veda). They ask Disni to sow seeds, which ripen quickly, and are threshed. The chaff attaches itself to the thread and it is visible in white.

Mara makes two-pointed arrows which cut though the copper, silver-, gold and iron thread. The 'flour castle' crashes down to earth. The gods jump against its door, but it does not open. Dis(a)ni tells Mandi to look at her thighs[249] which are white and full. Mandi gets

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[248] Cf. Mithraic and Iranian-related Armenian myths about David of Sassoun; further Buddruss 2002; ultimately, the descent of waters as Sarasvatī/Gaṅga may be intended (Witzel 1984: 217 sq., Buddruss 2002: 128, 130); see next note.

[249] Cf. the Jpn. Iwato myth, with Uzume dancing, exposed, and stamping loudly on an upturned bucket (cf. Witzel 1995b); cf. in the Mahāvrata: young women carrying water vessels go around three times, stomping their right feet, shouting *'madhu'*, then pour out the water.

excited, jumps against the door and breaks it. He enters with a dagger and kills all seven demons. The gods draw them outside and bury them.

§6.5.5 Kalash myths of winter solstice

The act of reviving the Sun is repeated by the Kalash in the Chaumos (*cawmós*) festival at Winter solstice; this is now dominated by the god Balumain (*balimaín*). He is the typical 'visitor god' from far away, and is rarely seen. Such visiting deities are also found in Kafiristan (noted by Masson in 1844), and are also common, as *marebito*, in old Japan. Apparently, Mahandeu had cheated Balumain from superiority, when all the gods had slept together (a euphemism, K.) in the *Shawalo*[250] meadow; therefore, he went to the mythical home of the Kalash in Tsiyam (*tsíam*), to come back next year like Indra at year's end (RV 10.86, Witzel 1997a: 394; cf. 1997c: 520 sqq.). If this had not happened, Balumain would have taught humans how to have sex as a sacred act. Instead, he could only teach them fertility songs used at the Chaumos ritual, exemplified by the explicit, chorus-supported male/female exchanges of 'dialogues' such as RV 10.86.

He arrives in Kalash land in early December, before solstice, and leaves the day after. A myth tells how he was at first shunned by some people, who chased him with their dogs, and therefore were annihilated. He comes from the west, the (Kati Kafir) Bashgal valley. But, in spite of this, the mythical country of the Kalash, in the east or south, is also connected with him. Clearly there are several layers of mythology, the later one being the introduction from Kafiristan. He always comes riding on a horse, as also said in the secret songs addressed to him.

He was awaited by seven Devalog of the Kalash land (cf. the seven Ādityas?) and they all went to several villages, e.g, Kamadeo, where he was received only by dogs and therefore destroys the village. The people of Batrik village, however, received him with seven pure, young boys whom he took with him (therefore one only sends men and older boys to receive him nowadays). Several items mentioned in his ritual reception allow to identify him, at least in part, with Indra.

Sometimes Balumain is seen as female. When he turns right, he is male, when he turns left, he is female. The shaman, in trance at the sacred Tok tree, identifies and addresses Balumain with Kushumai (*kuṣumáy*), the goddess of fertility, and the festival 'king' honors her. There is a myth about Kushumai's staying away from Balumain's reception, back on her own mountain. Balumain turned towards her, and he in fact became Kushumai, and is now addressed as such.

Balumain is the typical culture hero. He told the people (of Batrik) about the sacred fire made from junipers, about the sowing ceremony for wheat that involved using the blood of a small goat he had brought with him, and he asked for wheat tribute (*hushak*) for his horse. Finally, Balumain taught how to celebrate the winter festival (see above). He was visible only during his first visit, now he is just felt to be present.

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[250] Which in Kalash means 'spotted' (*šáwaḷa*), like a snake; not possible < Skt. *śabala*, rather, from N. Kati *šawili* 'pregnant': the place is situated on the western boundary of the Kalash valleys with the Kati Kafirs, on a high pass.

§6.5.6 Hindukush influences: a summary

In sum, the Hindukush area shares many of the traits of IIr. myths, ritual, society, and echoes many aspects of Rgvedic, but hardly of post-Rgvedic religion (*pace* Fussman 1977). They may be summarized as follows.

In myth it is notably the role of Indra, his rainbow and his eagle who is shot at, the killing of his father, the killing of the snake or of a demon with many heads, and the central myth of releasing the Sun from an enclosure (by Mandi < Mahān Deva). There are echoes of the Puruṣa myth, and there is the cyclical elevation of Yama Rājan (Imra) to sky god (Witzel 1984: 288 sqq., *pace* Fussman 1977: 70). Importantly, the division between two groups of deities (Devalog) and their intermarriage (Imra's mother is a 'giant') has been preserved, and this dichotomy is still re-enacted in rituals and festivals, especially the Chaumos.

Ritual still is of IIr. type: Among the Kalash it is basically, though not always, temple-less, involving fire, sacred wood, three circumambulations, and the *hotr* (?, N. *wuto* 'high priest'). Animal sacrifice, at square fire places, is very prominent; it is carried out by decapitation (as in RV, Schmidt 1973) and by offering parts of it into the fire or into holes (cf. Avest. *maya?*, and perhaps even with the 'lost head of sacrifice', still seen by Morgenstierne). Sacred drink (wine < *Sauma* < mead), is prominent; consumption is allowed only after Indra (as Praba) has been offered to. Ritual often is a potlatch-like merit festival (Kuiper) meant to gain status and to confirm rank. There are year-end rituals (*cawmós* < *caturmasya*), involving the two moieties of the gods (Devalog and others) and of society with a Mahāvrata-like carnival, and there are other seasonal festivals within the two halves of the year.

Society stresses the aspect of purity (as in India, Iran); this affects the position of women, and results in the exclusion of artisans from ritual (like the Śūdras). There is exogamy of clans, and intermarriage is allowed again, as in the Veda, only after 7 or 4 generations. As in IIr., there is a great importance of oaths, sworn at special ritual places.

Some features already have their Vedic, and no longer their Central Asian form (e.g. dragon > snake), and there is clear South Asian influence as well, such as the prominence of the number 7 (7 heavens, 7 gods, 7 boys in ritual).

One may wonder, however, about the exact nature of the Yakṣ(iṇ)ī and Shuci as local Hindukush or as S. Asian female spirits. The stress on the purity of the mountain regions, as habitat of fairies (Varōti < *vataputrī*), and the black/red demons (like Rudra) seems to be local. Many of the Hindukush features further elucidate what we observe in the RV (Gandharva, Rudra, Apsaras, Yakṣa RV+) and especially in the AV, as features of the deities, demigods and spirits living on the (high) mountains. Some items clearly belong to the ancient mountain cultures of the Hindukush-Pamir-Himalayas (*pace* Fussman 1977), and have not been taken over, or only fragmentarily so, into Vedic religion. Examples include the shamans (except for the RV Muni) and their rituals (except for a trace in the Vājapeya, and maybe some healing ceremonies in the AV); the role of boys and adolescents as semi-priests (note the description of the Brahmacārin in the AV); the centrality of goat sacrifice and blood, of sacred twigs (juniper), and of megalithic monuments.

In sum, all of these features of Hindukush religion are in need of further, much more detailed study, not just by anthropologists but certainly by Vedic specialists. While the Iranian side of IIr. religion is not followed up further in this context, a brief closer look is taken at the Indian side, as seen in the Rgveda.

§6.6. Acculturation in the Greater Panjab

We have to assume a certain degree of interaction, as the RV clearly tells us, with local people in northwestern South Asia. The question is still: who exactly were these inhabitants of the Gandhara area, the Salt Range and the Panjab proper? One may think of hill or mountain people belonging, like those of Kashmir, to the so-called Northern Neolithic (Possehl 2002). It survived beyond the Harappan period on the Derajat Plateau, west of the middle Indus, and on the Gandhara/Salt Range Plateau. At least in part of the region, however, this culture was rather abruptly followed by the Gandhara Grave Culture, with early evidence of horses, in Swat, at c. 1400 BCE.

The northern substrate language spoken there, as attested by loan words in the RV, cannot have been one of the Proto-Burushaski or Proto-Tibeto-Burmese speakers, as both do not have the full prefix system seen in Rgvedic Austro-Asiatic/(Para-)Munda loan words (Witzel 1999). Instead, Tib.-Burm. had only a few isolated one-consonant remnant prefixes.[251] Much future work will have to be done to subdivide the substrate material in the RV securely into several layers, such as BMAC-related (*iṣṭ, khar, uštr*), the Gangetic 'language X' (Masica 1979), Dravidian, and 'local' such as Para-Munda (for a beginning, see Witzel 2001c).

Furthermore, as local rock engravings tell us, the northern cultures were characterized by the important role of the mountain caprids, the markhor and ibex (still seen in Hindukush religion); but these are not typical for the RV.[252]

Instead, a different kind of local religion emerges from a study of the substrate words of the RV (Kuiper 1955). Apart from terms of village life, music and dance, only the more popular level of religion (the 'small tradition') was accepted, notably the demons *piśaci, kimīdin, nicumpuṇa*; names such as Arbuda and Śambara (see n. 260); the words *puṇya, maṅgala, bali*; the *aśvattha, pippala, udumbala* trees. However, there also are some words that are more or less closely connected with the prestigious Soma (thus at least partly, from C. Asia?), in Kuiper's list: *ulūkhala*, etc. (see §6.3); to be added are those discussed above as Central Asian (*Atharva(n)*, etc. see §6.3). Finally there is the local Indus motif of the boar *Emuṣa*, and such denigrating words as *śiśnadeva, mūradeva*.

Other South Asian influence seems to include, e.g., that of tree worship (Indus civ., Pali texts, Drav., Munda, Tharu, etc.), the role of the peacock (Cemetery H urns, Kandhs in Orissa, etc.), perhaps that of menhir-like memorial stones (Gandharan and S. Indian megaliths, Drav., Khasi etc.).

The local Gandhara/Panjab influences are perhaps best exemplified by a clear, regionally based example, that is the use of numbers that are prominently used in religion and classifications: the *typical* North Asian (shamanic) number is the number 9 (or 8 in Japan, Polynesia). As pointed out above, in the Near East it is the sacred 7, which is also found in the Indus Civilization, e.g., with seven dancing women appearing in front of a deity in a tree (Parpola 1994: 260), and in the RV. It has also spread (when?) into the Hindukush and into the Nepalese Himalayas.

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[251] Such as *s-, r-, b-, g-, d-, m-, a-* (Benedict 1972: 103-123). Other language families are excluded as well, such as Dravidian (no *system* of prefixes), or some (other) form of IE as the Ved. loan words are decidedly non-IE.

[252] Perhaps with the exception of RV 8.100.6 *śarabha* > Kalash *šára* 'markhor, male mountain goat with upward spiraling horns' (cf. CDIAL 12331), which confirms the traditional etymology: 'animal with horns', EWAia II 616. Interestingly, RV Śarabha is a name of a person related to Rsis (*ṛṣibandhu*), and connected with the mountain tribe of the Parāvata.

Many more items from West Asia could be added, such as the prominent role of the lion, as found in the Indus Civilization and in the RV. However, the RV expressively *excludes*, probably due to inherited poetic conventions, the use of the Panjab and Central Asian panther (already prominent in pre-BMAC pottery), as well as of the Central Asian and Indian tiger, though the tiger is prominent in the iconography of the Indus Civilization.

In sum, by the time the speakers of OIA dialects set foot into the Greater Panjab, all of the foundational themes and incidental influences (IE, Steppe, BMAC, Hindukush) had already been amalgamated into a *new* system that was set to clash with the local beliefs of the Indus area. Evidence for this amalgam is abundant in the non-IA words in the RV (Kuiper 1955, 1991), or in the Vedic Aśvamedha as influenced by Indus rituals. In Vedic ritual, the queen (*mahisī*) interacts with a slaughtered *male* horse, but the Irish *king* bathes in the broth of a *mare* (c. 1185 CE, Puhvel 1987: 273); in Rome a horse (*October equus*) is killed with a spear, head and tail are raced from the *Campus Martius* to the *Regia* (Puhvel 1987: 272) while the blood that dripped from the tail is kept by the Vestal virgins and used in the Palilia festival in April. Conversely, on a seal from Chanhu Daro, a willing Indus *woman* is seen as lying under a sexually stimulated *bull* (note Ved. *mahisī* 'female buffalo, queen', even today still a title of queens; cf. Puhvel 1987: 275 on the Near Eastern ritual copulation of queen and bull). Apparently, the IE horse sacrifice has been acculturated in India before it was codified in the Veda (Possehl & Witzel 2003).

The Emuṣa boar myth, discussed by Kuiper in 1950 (partially withdrawn in 1991) is another case in point. This myth only occurs in the 'suspicious' Kaṇva book of the RV, (Hoffmann 1975: 15-28 = 1940/1). Here, we find a local substitution for the IIr. myth, i.e. the Vala myth of the RV, the Nuristani one of Mandi opening the House of the Sun, etc., and its earlier versions (IE: Herakles/Cacus and the cows, Eurasian: e.g. Jpn. Amaterasu/Iwato myth), by one of a great archer shooting at the boar Emuṣa.[253] The boar, incidentally, figures also in AV (PS 6.7) and YV myth (KS 8.2), substituting for the diver bird and, as such, is rather old in South Asia, which archaeological and modern remnants of a boar cult indicate in the linguistically and culturally isolated Andaman islands (Campbell 1988: 122 sq.; and elsewhere, for example among the Mushahars of U.P.).

Whether the Emuṣa myth is of Munda origin is not very important here (cf. Witzel 1999: 23 for some suggestions); rather, it is important to recognize, as Kuiper has prophetically done also in this case, half a century ago, that this myth does *not fit* the Vedic (and IE) pattern.

The historical section of this sketch has to terminate here. In the future, it must be expanded by a close investigation of what we can reconstruct for the religion of the Indus civilization and for Dravidian and Munda/Austro-Asiatic myths and religion; --- that is, as far as the Sangam (*Caṅkam*) and medieval South Indian texts as well as modern anthropology and the interpretation of archaeological remains will actually allow. These reconstructions are to be followed by a comparison of the new data with Rgvedic religion. Even now, a few topics stand out. The bow shooter is also seen on an Indus copper plate (Parpola 1994: 112), and it is also typical for the Dravidian god Murugan. The worship or ritual setting up of megalithic stones among the Hindukush peoples, Khasis, Mundas, and Dravidians, and the role of the peacock and its myths among the Mundas compared with Cemetary H images of *homunculi* souls (Witzel 1999a: 16 sq., 41) supply further interesting hints.

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[253] Who is hoarding milk-rice(?) *odana* in the mountains. This interpretation depends on the Rgvedic meaning of *odana*. --- Cf. our cornucopia, *Schlaraffenland*, and the AV idea of food that cannot be eaten up, Lopez 1997.

§6.7. Summary of diachronic developments

An amalgam of all the various historical influences, delineated above, is clearly in evidence in the RV, with some of the expected, system-inherent contradictions resolved, and some not. Much has always been made of the various creation myths in the RV as one of the elements for emerging Indian philosophical thought. This is, however, rather myopic --- as if mythical thought about nature and the universe was developing only at that late stage in Homo Sapiens history.[254] When we compare Eurasian or Laurasian mythology, we can clearly see that

* Creation of the world out of a primordial giant is a very old item, probably a shamanic myth (of dismemberment) of stone age hunters' societies (cf. Macdonald 1952): it is found among the IE (Ymir in Iceland, Remus in Rome, Puruṣa in RV 10.90, cf. AV 10.2.28, PS 9.5), Ooge.tsu Hime (Kojiki 1.18), in the Chinese Pangu myth (derived from the Miao/Austric peoples), etc. Variants of it have found various positions in local mythologies, for example close to primordial creation in Iceland (Vafthrūdnismāl 21, Grīmnismāl 40), i.e. stage 1, or with Oberlies (2000: 378) at stage 2: the giant as a son of Heaven. The myth re-appears frequently in "late" myths, e.g. in Nuristani valleys or in Kashmir: Srinagar city is built on the right bank of the Vitastā, where king Pravarasena II comes across a giant Rākṣasa, whom he kills and then builds an embankment (setu, the modern Suth) from his leg, with a sharp turn: the demon's knee (see Stein, Rājataraṅgiṇī 3.336-358, ad loc.; 1.159, Yakṣa dikes); cf. also the initial section of the Finnish Kalevala.

* Very frequent, too, is creation from primordial waters (salila, RV 10.129.3; cf. also 7.49.1, 10.72.6, 10.109.1, 1.164.41), perhaps best seen in Mesopotamian myth, with the male salty ocean and female sweet waters; or creation arising from darkness/chaos, which is again found from Iceland (gap var ginnunga, Völuspá 3) to Polynesia (Po, darkness) and to the Maya (only emptiness and water under the sky, Popol Vuh).

* Creation from an egg, or rather from a golden embryo (RV 10.121.3, JB 3.360, Hoffmann 1975-6: 519-22), is again found from Finland (Kalevala, introduction) eastwards, for example in Munda (Santal) myth: the first humans developed from two eggs, laid by a goose made of grass (Orans 1965: 5.)[255]

* The Indian boar diver myth (first seen at PS 6.7, KS 8.2), tells how mud brought up from the bottom of the ocean by a boar (the later Varāha avatāra of Viṣṇu) forms the new, still shaky (śithira) earth, floating on the ocean. This is a variation of the older diver bird/diver muskrat myths of Northern Eurasia and North America. Its South Asian shape is due to the influence of local Indian ideas: boar worship is old in the (post-glacially) isolated Andamans and in the subcontinent proper.

* The more 'abstract' creation from 'nothing' (asat, unordered chaos) to order (sat) is seen at RV 10.72.3 (for which see Kuiper 1983).

In sum, even in the RV we find representations of the development of the world in 4 stages (in part, even called yuga): 1. (salty) waters/darkness, 2. Heaven and Earth, 3. the early gods (Pūrve Devāḥ, Sādhya, Asura), 4. the (Viśve) Devāḥ (Indra, etc.). This is a progression that is seen in many other cultures as well (such as in Japan: Kojiki), from an

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[254] Differently, in 'Vedic Hinduism' (Jamison & Witzel 1992); an assertion of Eurasian/Laurasian character would have required much explanation in this summary paper; see however, Witzel 1990a, 2001b: 53-57.

[255] Or created by the primordial deities (Otē Borām and Sing Bonga), put in a cave, and made drunk on rice beer, to have sex and produce children (Hastings 1928, s.v. Mūṇḍās §4, Dravidians (North India), §38).

asexual/undifferentiated state, to bisexual procreation, and to several generations of (competing) gods, frequently followed by a final destruction of the world (summary in Witzel 2001b).

Such comparisons indicate that the Rgvedic evidence (10.90, 10.129, 10.82, 3.38, cf. 10.72.2-3, AV 10.7.25, etc.) is not new, but *recapitulated, recycled* shamanic/priestly speculation, based on much older models found in Palaeolithic Eurasian/Laurasian mythology, that has been poured into concrete, very elaborate poetic form by the Rgvedic Rsis.[256]

In sum: (a) The Rgvedic religious system (Kuiper 1983, Oberlies 1998, 1999, 2001) was one that was *still digesting* recent influences from the Hindukush and the Greater Panjab and whose exact conceptual boundaries need to be defined by further research. (b) Such more recent additions are distinguished from older (Central Asian) ones; this amalgamation process is not visible in the commonly found 'flat', synchronic picture of Rgvedic religion, which is at best tempered by some (Indo-)Iranian/IE ideas. (c) Instead, we must begin to study Rgvedic attempts at changing and 'updating' (Farmer *et al.* 2000) an older pre-Vedic system in accordance with local religious, social and political developments that eventually led to the post-Rgvedic continuation of speculation (AV 8-12/PS 16-17), and even more significantly, to the classification in the post-RV period of the Śrauta system with its stress on a rather restricted 'access to heaven'. In this way, I think, we can do justice to Vedic religion and can avoid the conflation of Rgvedic and post-Rgvedic materials on the one hand, and on the other, the lumping together of all post-Rgvedic data, from the AV down to the Upanisads, over a period of at least half a millennium.

I hope to have *begun* to indicate how very complex (cf. Witzel 2004: 64) Rgvedic religion is: it has taken in and reworked elements from the Urals to the Panjab: notably, the local influences of the Greater BMAC area, of the Hindukush, and those related indirectly to the Near East that came via via Elam (Blažek 2002), Baluchistan, S. Afghanistan (Aratta/Arachosia). Finally, it included the local repercussions of the Indus Civilization, already distant in time. All of this makes for fascinating study, involving comparisons with Eurasian myth, from Iceland to Japan, and beyond.

§7. Transhumance, Trickling in, Immigration of Steppe Peoples

There is no need to underline that the establishment of a BMAC substrate belt has grave implications for the theory of the immigration of speakers of Indo-Iranian languages into Greater Iran and then into the Panjab.

By and large, the body of words taken over into the Indo-Iranian languages in the BMAC area, necessarily by bilingualism, closes the linguistic gap between the Urals and the languages of Greater Iran and India. Uralic and Yeneseian were situated, as many IIr. loan words indicate, to the north of the steppe/*taiga* boundary of the (Proto-)IIr. speaking territories (§2.1.1). The individual IIr. languages are firmly attested in Greater Iran (Avestan, O.Persian, Median) as well as in the northwestern Indian subcontinent (Rgvedic, Middle Vedic).

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[256] Mythological origin is to be distinguished from the mere poetic description and interpretation of the qualities of the gods ('father of, mother of, son of...') e.g. Agni = son of waters or Vayu, father of Maruts. Thus, Agni can be the father of the Angiras (1.96.1-2), and the gods can be those of Atri, the Kanvas (1.139.9). The ancestry of Vasistha, a newcomer, was apologetically conceived: Mitra-Varuna and Urvaśi as his parents, 7.33.10-14. Note also expression such as: Dawn generates the sun, Indra is lord of strength, etc.

These materials, mentioned above (§2.1.) and some more materials relating to religion (Witzel forthc. b) indicate an early habitat of Proto-IIr. in the steppes south of the Russian/Siberian *taiga* belt. The most obvious linguistic proofs of this location are the FU words corresponding to IIr. *Arya* "self-designation of the IIr. tribes": Pre-Saami **orja > oarji* "southwest" (Koivulehto 2001: 248), *årjel* "Southerner", and Finnish *orja*, Mordvin *uṣe/uṣä*, Votyak *var*, Syry. *ver* "slave" (Rédei 1986: 54). In other words, the IIr. speaking area may have included the S. Ural "country of towns" (Petrovka, Sintashta, Arkhaim) dated at c. 2100/2000 BCE (see the archaeological and linguistic summary in Witzel 2000a, Lamberg-Karlovsky 2002). This, however, is not the place to engage in a detailed discussion of all of the relevant archaeological materials.

It is a truism that "Linguists too often assign languages to archaeological cultures, while archaeologists are often too quick to assign their sherds a language" (Lamberg-Karlovsky 2002: 74), but Mallory (in Lamberg-Karlovsky 2002: 79) is equally right in asserting that "there are still degrees of geo-linguistic plausibility".

Indeed, we cannot be sure that (Proto-)IIr. was actually spoken at Sintastha-Arkhaim around 2100/2000 BCE (Witzel 2000a), but it must be pointed out that the archaeological assemblage and the geographical position of these sites close to the *taiga* makes this quite likely: the Sintastha-Arkhaim complex has the newly developed spoked (proto-)chariot and many other items (horse sacrifice, grave structure, Dadhyañc style replaced horse head in a grave at Potapovka, *pur*-style forts, etc.) overlapping with the early IA and Old Iranian cultures and texts (Witzel 2000a, Anthony in Lamberg-Karlovsky 2002: 75). The discussion of all such relevant IIr. words and concepts is unfortunately missing in Lamberg-Karlovsky (2002) and with most of his interlocutors in that issue of *Current Anthropology* (with the partial exception of Anthony and Mallory); instead they operate with rather vague, bloodless notions of IIr., hardly progressing beyond Benveniste's IE(!) linguistic reconstructions of the social sphere (Benveniste 1973).

That the oldest IIr. texts (Ṛgveda, Avesta) are about 1000 years later than the date of the Sintashta-Arkhaim complex (Lamberg-Karlovsky 2002) is *not* of as great relevance as thought. First, the relevant words from the two very closely related languages can easily be reconstructed from the extant texts for the P-IIr. period. In addition, both texts are notoriously archaic in their language, culture, and religion, and actually contain some reminiscences of Central Asia (Gr. *Rha* "Volga"~ N. Iran. *Raha*, Ved. *Rasa, Parna* ~ Ved. *Paṇi*; N. Iran. *Daha, Daha-ka*, Ved. *Dasa, Dasyu; Sarayu = Harδiiu-m/Harē* = Herat R., Ved. *Sarayu; *Sindh-* ~ *Sindēs* River (Tedzhen) ~ Iran. *Həndu*, Ved. *Sindhu*, etc., (see above, Witzel 1984, 1995, 1999c).

The *older* forms of IIr. words have been taken over into Uralic and Proto-Yeneseian, as has been discussed above (see Kott *art'a* §2.1.2; see n. 151 for *asura* > Mordwin *azoro* not, e.g., from the later, Iran. *ahura*). This again underlines the early age of contact, before and around 2000 BCE. In this light, the geographical location and spread of the eastern Catacomb, Sintastha-Arkhaim, Afanasievo and finally the early (northern) Andronovo cultures make for a more or less widespread overlap with speakers of (P)IIr., though occupation by some other languages (also lost ones) cannot be ruled out altogether, at least for part of the area: i.e., Uralic and Yeneseian at the northern borders, while Altaic is excluded (perhaps except for some Proto-Turkic in the extreme East, Róna-Tas in Lamberg-Karlovsky 2002: 82 sq.).
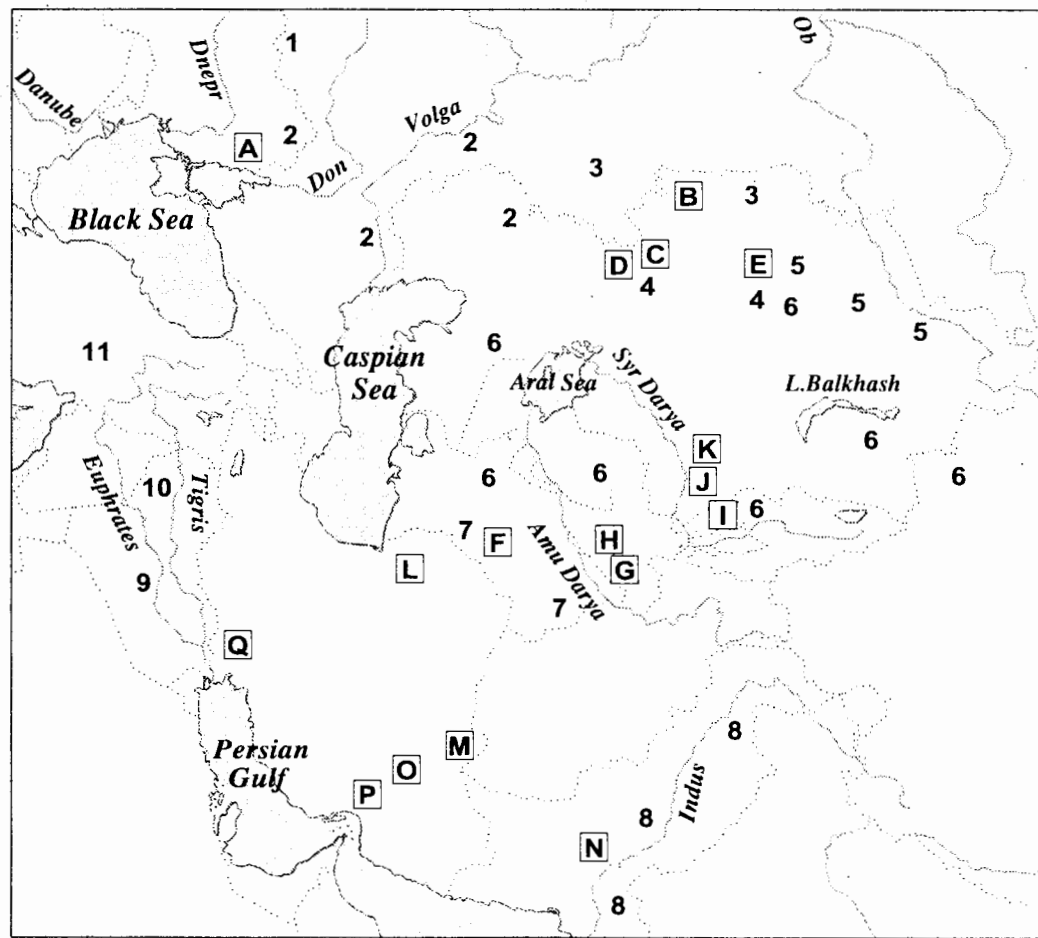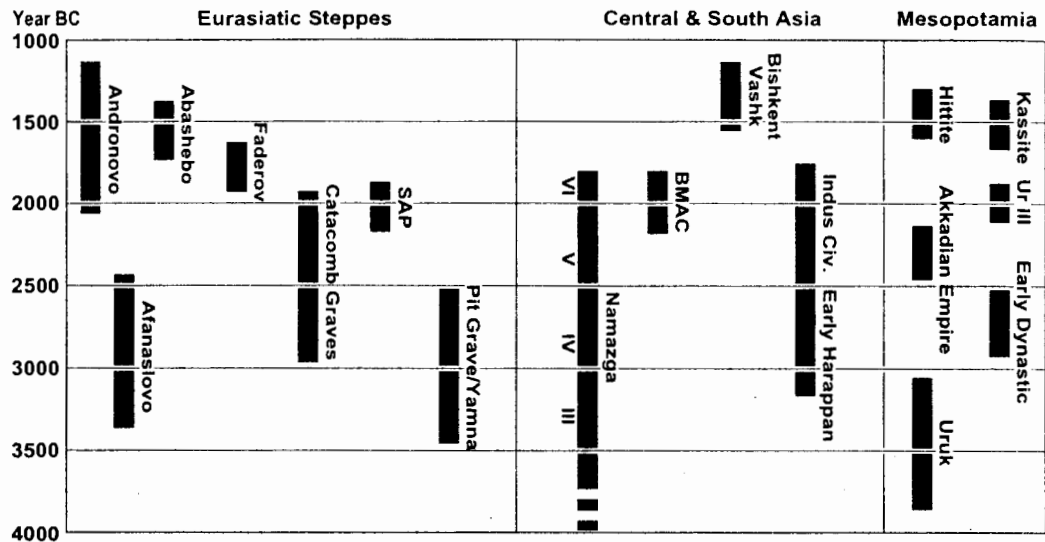
Map 4.   Principal archaeological sites and cultures (After Lamberg-Kerlovsky 2002)

**Sites:** A Mikhailovka; B Pertrovka; C Arkhaim; D Sintsshta; E Botai; F Namazga; G Gonur; H Togolok; I Dashly Oasis; J Sapelli; K Djarkutan; L Hissar; M Shahr-i-Sokhta; N Sibri; O Shahdad; P Yahya; Q Susa
Cultures: 1 Tripolye; 2 Pit Grave/Catacomb; 3 Sintashta/Arkhaim; 4 Abashevo; 5 Afanasievo; 6 Andronovo; 7 Bactrian Margiana archaeological complex; 8 Indus; 9 Akkadian; 10 Hurrian; 11 Hittite

It is likely that, like in Turkic and Mongolian times, there was use of a *lingua franca* in the wide steppe (and desert) belt. This cannot have been Uralic, Yeneseian, Altaic or another unknown language as we do not have any indication of any respective influence on the southern languages (BMAC, Elamite, or later, on attested OIA, OIr.) This lingua franca most likely was an IIr. *koine* (cf. Kohl in Lamberg-Karlovsky 2002: 77-78), a form of P-IIr. (and later on, of pre-OIA, then of pre-Ir.), as is witnessed in the various levels of IIr. loans into Uralic and Yeneseian.

The clearly defined situation described above contradicts Mallory's assertion, in spite of his principle of "degrees of geo-linguistic plausibility", that "there are clear instances, the Indo-Iranians being a case in point, in which there is no hint of the distribution of any archaeological assemblage that might correlate with the target language group" (loc.cit., p. 80). The use of an IIr. *koine* also does *not* contradict, as Kohl seems to think, the model of a tree-like linguistic divergence model: the IIr. "mythical homeland" is indicated by the correlation of linguistic and zoological/botanical evidence, and as the various stages and branches of the IE/IIr. tree model are visible in the "quasi-archaeological" layers of loans words taken over from the IIr. languages into the Uralic and Yeneseian languages. A *koine* (Hellenic Greek, Latin, French, Russian, English) simply does not imply "fusion" of languages à la Trubetskoy (Kohl in Lamberg-Karlovsky 2002: 77, cf. Makkay p. 78). Such fusion is rarely if at all visible even in the developments of Pidgin and Creole languages. They always have a strong basis in one extant language but have taken over some grammatical traits and words from others (not unlike medieval English!).

In sum, the agnosticism of Lamberg-Karlovsky and other archaeologists with regard to a correlation between IIr. languages and the steppe archaeological cultures is repudiated by the increasing wealth of "archaeologically" stratified linguistic data, generally neglected, that locate PIIr. in the steppe belt *just south* of the Uralic/Yeneseian *taiga*, in other words, in the very archaeological areas discussed above (eastern Catacomb to northern Andronovo).

Finally, as outlined elsewhere (Witzel forthc. b), there is an additional number of words from the religious sphere (*anc'u* ~ Soma, etc., Lubotsky 2001) that again indicate a gradual spread of IIr. speaking tribes southwards from the "quickly filling steppes" (Kohl) of the Catacomb - S. Ural - Afanasievo areas, all of which is not unlike the attested eastwards and southwards spread of the Andronovo culture that has created well documented overlaps with the BMAC in the Merw delta, on the Zerafshan River and at Kangurttut in S. Tajikistan (see Lamberg-Karlovsky 2002: 71, 73).
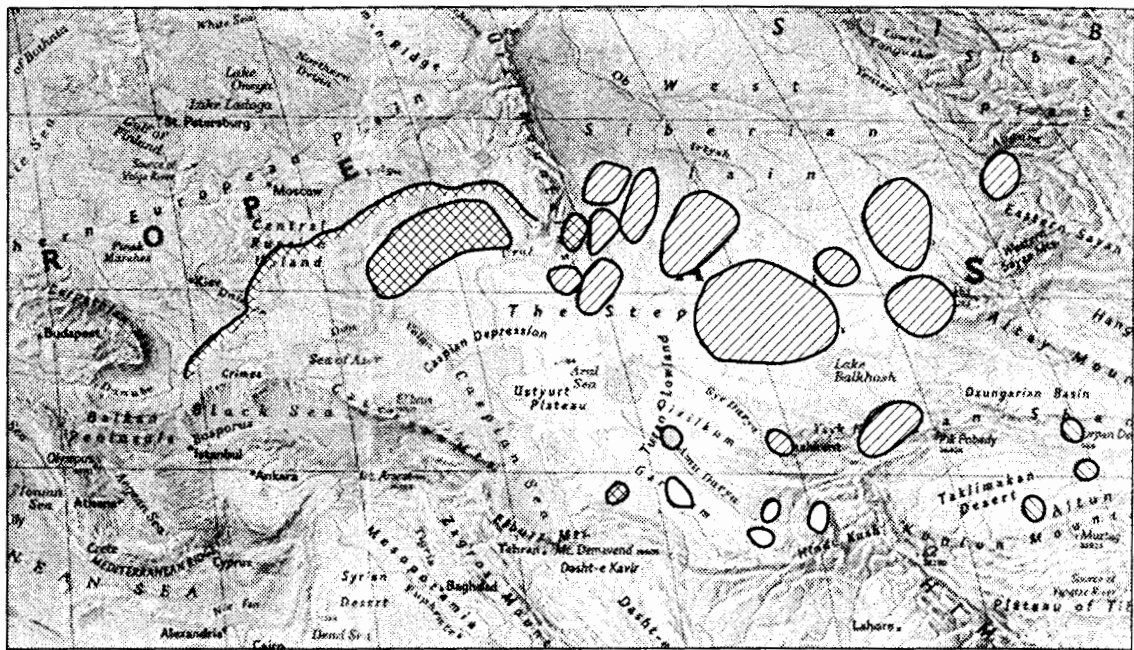
Map 5.   Map of Eurasian about 2,000BC   SRUBNAYA ANDRONOVO BMAC. DESERT MUMMIES TAZABAGYABU

(From D. Anthony: Samara Project, http://users.hartwick.edu/iaes/newsletter/newsletter.html)

Against this background of a (partial) overlap of the steppe archaeological cultures and the location of tribes speaking various forms of IIr., a scenario of cultural and linguistic interactions and actual movements can be drawn up. In the form of a brief summary, this would include the following steps.

·   Gradual immigration of the cattle herding speakers of common Proto-Indo-Iranian (or of pre-Old Indo-Aryan) from the steppe belt into the general BMAC area (cf. Mallory in Lamberg-Karlovsky 2002: 80). This general, seasonal migrational pattern was continued, just as in Afghanistan transhumance, well into our time. (Meridianal migrations of Kazakhs took place down to 1929 CE, Olsen in Lamberg-Karlovsky 2002: 81). Again, the IIr. languages *must* have come from the northern steppe areas as the *early* (Proto-IIr.) loans into Proto-Uralic (*asura*, Koivulehto 2001: 247) and Yeneseian (*art'a*) clearly indicate. This contact persisted for several millennia as the virtually "archaeological" layers of loans indicate.

·   Amalgamation of BMAC/Central Asian words into the (late) common IIr., pre-Vedic and pre-OIr. languages then took place, along with their underlying concepts (**bhiš*, **kapauta*, etc.), religion (the **sauma* drink, **-rwa* beings), animals (**uštra*, **khara*) and plants (**bhanga*, **anc'u*). The non-IE BMAC religion, as depicted in its seals and other art (Francfort

1994, 2001, Anthony in Lamberg-Karlovsky), seems to have directly influenced the Avestan and Vedic form on certain IIr. beliefs, such as the Avestan version of the hero fighting the dragon of drought (Aži/Ahi/ '*Vərəθra' / Vṛtra), transforming the IE (and Eurasian, Witzel 2001b) myth of the killing of the dragon into one of releasing the waters by the late spring snow melt in Afghanistan (Avesta) and in the northwestern Indian subcontinent (RV). The prominence of the BMAC Goddess of waters and fertility has influenced, to some extent, the character of the Avestan river Goddess Anāhitā and of the Vedic Sarasvatī.

While such interaction can be deduced from linguistic analysis and comparative religion, it is very difficult to indicate, by archaeological means alone, the actual "form of symbiosis" of the two antithetical and dissimilar cultures, the agro-pastoral Andronovo and the settled BMAC culture with its irrigation agriculture (Lamberg-Karlovsky 2002: 74). However, there are many steppe type sites near the BMAC settlements (Lamberg-Karlovsky: 71, 73).[257] While there is some indication of steppe materials in actual BMAC sites, the opposite is not true. Some degree of avoidance (Lamberg-Karlovsky 2002: 73) between the bearers of both distinctly different cultures seems likely. However, some details of the BMAC culture *must* have been taken over, at some time in the second mill. BCE, by the speakers of IIr. (note the list of BMAC words of agriculture, settlement religion, above § 3.3-4, and see below).

The incoming steppe people with Andronovo cultural traits must have shed many of these characteristics in the Greater BMAC area (Mallory 1998, in Lamberg-Karlovsky 2002: 80, cf. Kohl, p. 78) before moving on, as "not a single artifact of Andronovo type has been identified in Iran or in northern India" (Lamberg-Karlovsky 2002: 74), all while keeping their IIr. language - and, somewhat differently from Mallory, also much of their spiritual culture.

Mallory thus is right (in Lamberg-Karlovsky 2002: 80) in pointing out that "this would require far more intimate relationships between the Andronovo and the Bactrian Margiana complex than the existing distribution of "mutually exclusive" material culture would permit." However, the question that has not been put yet is: exactly when should the extensive exchange as seen in the BMAC loan words in Vedic and OIran. have taken place? The steppe pottery found in the BMAC (see n. 196, 257) may just reflect the *forerunners* (no horses!) of a more massive IA influx at the end of the BMAC, around 1600 BCE. While Lamberg-Karlovsky (2002) is still looking for a model of such cultural change, the actual state of affairs may be still have been remembered in and is reflected by the conservative poetry of the RV: the Paṇi (wealthy, "stingy", rich in cattle) are depicted as holed up in their forts (*pur*) while the Ṛgvedic Aryans are depicted as being *outside* and desiring to *get in* and acquire the cattle (Elizarenkova 1995). As has been pointed out above (cf. §1.1) this *topos* may very well be a reminiscence of the situation in the BMAC area where the steppe tribes opposed the Parna (*Parnoi, Parni*) on the Sindes (Tedzhen/Sindhu river).

Incidentally, a tradition of avoidance similar to the one in the BMAC area is still seen, much later, in the Sistan/Arachosian area (Falk 1997) and in the Ṛgvedic Panjab (Witzel 1995, 1997b): while, conveniently, many agricultural, musical, and a few religious terms of the *small tradition* were taken over (Kuiper 1955, Witzel 1999a,b,c), the local settled Dasyu populations as such were avoided and were despised (note, e.g., RV 3.53.14 about the Kīkaṭa and the "misuse" of their cows). What else may one expect of proud, semi-nomadic cattle herders with their habitual disdain for farmers?

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[257] For early steppe-Bactria/Margiana contacts see Francfort 2001: 153 about Kelteminar pottery and a Afanas'evo funary stone circle found at Sarazm II, i.e. before 2500 BCE. For late steppe pottery see the preceding note.

The obvious solution to look for, out of Lamberg-Karlovsky's and Mallory's dilemma of contact/avoidance of the steppe and BMAC cultures, is the one indicated just now: some trade and exchange, but also occasional friction and warfare (fortresses of the BMAC!), perhaps even including some steppe mercenaries(?), existed between the impoverished pastoralists at the fringes of BMAC settlements (cf. Kohl in Lamberg-Karlovsky 2002: 78) and the occupants of the BMAC, perhaps not unlike the relationship arising between the nomads and the occupants of fixed settlements in later history.

Some sort of contact is clearly in evidence in the borrowed vocabulary found in the IIr. languages, and just as in the RV later on, it is restricted to agriculture, village life, small tradition religion, but it also included a few more prominent terms for priests (*atharwan*, *uc'ij*), ritual (*anc'u*, *yatu*) and deities (*c'arwa*, *g(h)andharw/b(h)a*). Even then, the IE and IIr. pattern (Father Heaven, drink of immortality, the hero killing the dragon, the IIr. Asura deities, etc.) is clearly maintained in the early Iranian and Vedic texts (Witzel forthc. b), and little influence seen of the prominence of the BMAC goddess or the anthropomorphic dragon and eagle (Frankfort 1994, 2001: 154). Equally so, the Dumézilian three-level IE social structure (poet/priests, nobility, commoners) was maintained but it was enlarged, both in Iran and in the Panjab (or, e.g., in Greece, the *pan-hellenes*), by a fourth class (*Śūdra*) that made room for persons from the local populations that had joined the *arya/ariya*.

Such adjustments will be difficult to detect by archaeology. If they have indeed been looked for, then in the wrong direction: we cannot expect Zoroastrian rituals in the BMAC in 2000 BCE but only around 1000 BCE, not every hearth is an IIr. "fire altar", and the findings of Ephedra ("Soma") in the BMAC have not been substantiated (see the discussion in EJVS 9). The occurrence of certain steppe vessels in BMAC contexts could point in that direction -- if they had indeed been found with Soma presses and filters. Most notable is the absence, so far, of horse remains, horse furniture, chariots (invented around 2000 BCE) and clear depictions of horses in stratified BMAC layers. One can hardly imagine the IIr.s without their favorite prestige animal, the horse. The archaeological picture of avoidance/contact by the forerunners of the massive IA move onto the Iranian plateau so far remains sketchy. Perhaps it can be explained if the main period of major contacts was as late as c. 1500 BCE.

Once the successor settlements of the BMAC were abandoned around 1500 BCE, a partially changed IIr. speaking, entirely pastoral culture (Anthony, *op. cit.* p. 76), probably swelled by some of the Bactria-Margiana populations, spread all over Greater Iran. This is accompanied by a clear cultural change, with the appearance of painted handmade pottery in the former BMAC area (Frankfort 2001: 154) at 1500 BCE and the accompanying disappearance of tomb and grave structures in Central Asia (reflecting some Vedic and Zoroastrian customs). The proposed comparatively late date of the onward migration towards Mesopotamia and the Panjab at c. 1500/1200 BCE fits this scenario better than an early influx into, and cohabitation with, the late Indus civilization, as some have assumed (e.g., Allchin 1995: 47, at 2200-2000 BCE sqq.).

•   This new, amalgamated, *late* IIr./pre-OIA speaking entity moved -- *Kulturkugel* fashion (Mallory 1998, 2001: 360 sq.)-- into Iran and towards the Panjab. By this term, Mallory means a culture that has kept its IIr. language but has taken over (much of) BMAC cultural and societal structures. Conversely to the situation during the BMAC period, this

expansion can only sparsely be substantiated, so far, by linguistic data as the relevant spade work in (Old) Iranian has not yet been done.[258]

It is probable that this move was preceded by successive spearheading forays of (non-IIr. speaking) mountain peoples into Mesopotamia, such as the Guti, Lullubi, and Kassites[259] (c. 2250-1750 BCE), who were as yet only marginally influenced by IIr. languages and customs. Some of them are perhaps represented by the sudden expansion of BMAC materials into Susa, Shahdad, Tepe Yahya, Hissar, the Gulf, Baluchistan, the S. Indus area (Lamberg-Karlovsky 2002: 72, 74, 84) and Harappa (R. Meadow, pers. comm.).[260] Lamberg-Karlovsky (2002: 84), however, thinks of this spread as "the prime candidate for Indo-Iranian arrival on the Iranian plateau," which in the light of the above discussion is too early, but he (correctly) suggests that "the indigenous people, although in the majority, adopted their language," -- later on, that is (cf. below, § 7, end). A similar move may have brought speakers of PDrav. to Bolan and Sindh.

•   Later, apparently after the abandonment of the BMAC and successor settlements around 1650/1500 BCE and the spread of pastoralism all over Iran (Anthony, in Lamberg-Karlovsky 2002: 76), the actual spread of speakers of pre-Vedic IA took place, that is of Mitanni-OIA, into N. Iraq/Syria (c. 1400 BCE), an area settled by the Caucasian-speaking Hurrites. The speakers of the linguistically slightly later, though still pre-Iron Age Ṛgvedic then moved into Arachosia (*$Sarasvatī$ > Avest. $Harax^{v}a^{i}tī$), Swat ($Suvāstu$) and Panjab ($Sapta Sindhu$), before c.1200/1000 BCE -- depending on the local date of the introduction of iron (Possehl and Gullapalli 1999), which still is missing in the Ṛgveda but found in the next level of Vedic texts.

•   The intermediate Hindukush area has been largely neglected in scenarios of this kind. However, the Ṛgveda does not only take note of some its geographical features ($Kubhā$ = Kabul River, $Suvāstu$ = Swat, the opposition $giri$: $ajra$ "mountains: flat valley pastures"), it also is influenced by certain religious ideas of the Hindukush area, such as the concept of Yakṣ(iṇ)ī/Apsaras (*$Śucī$ "pure" > Kalash $súci$) and Rudra/Gandharva as inhabitants of the pure snow mountains, snow/ice dragons engulfing the flowing waters (the later Kashmirian Nāgas), and the like (Witzel, forthc. b: § 1.5.6.). The RV also contains a number of words that

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[258] Only some initial guesses are possible, for example about the ethnic nature of the $Tukriš$ (see above n. 102) which might be connected with Ved. $tugra, tugrya$ (both personal names), Iran. $tuγr$-. If true, we would have continuing RV (and later Vedic, BŚS) links with Bolan, Aratta, and Shahdad -- recalling the more northern trail that lead the Mitanni-Indo-Aryans westward into N. Mesopotamia. However, note the pre-OIA words in Kassite (c. 1740 BCE-), and cf. now Blažek (1999, 2002a) on early Elamite connections with Vedic.

[259] Only a few Kassite words seem to come from IIr., e.g. $Šuriiaš$ "sun god", $Maruttaš$ "divine Marut comrades of Indra", $Bugaš$ "god Bhaga?"; see Balkan 1954, for horse names such as $akriyaš$ = $agriya$-s "(running) in front?", $timiraš$ "black?", etc.; note the direct loan from IIr. with Nominative -s, as seen in some old FU loans as well (above, or cf. later on, Finnish $kuningas$ "king" < P.Germanic *$kuningaz$, as seen in Dutch $koning$).

[260] In this context, a remarkable overlap between BMAC and Indus shamanistic concepts has not been noticed, as far as I see: a cylinder seal (Sarianidi 1992: 25, fig. 33) and a terracotta tablet from Mohenjo-daro (Kenoyer 1998: 83, fig. 5.6) show remarkably similar scenes of processions of flag and standard bearers (cf. Avestan $arəδβo.drafša$ V. 1.6), the latter involving carrying animals on a pole and being accompanied by a figure beating a typical shamanic circular drum (still found with in Kalasha ritual, in the eastern Hindukush). Sarianidi (1992: 24, 26) takes the scene as one depicting jumping athletes or acrobats. There is, however, comparatively little shamanism in the Veda, and the use of the circular drum is not attested so far.

can be linked with the local Pamir language, Burushaski (Witzel 1999 a,b), such as Bur. *kilay*, RV *kilala-* "biestings, a sweet drink". Indeed, the Hindukush/Pamir area is one of transhumance that was well suited for the Indo-Aryan pastoralists (Witzel 2000a). Movements between the mountain pastures of the Hindukush highlands and the Panjab/Sindh lowlands and the continue to this day, including that of cattle (Meadow, oral comm. based on personal observance).

Furthermore, it is precisely in this area that the phonetic feature of retroflexation, so typical of Vedic (and of South Asian languages in general), must have set in (Witzel 1999 a,b). This feature is *missing* in Mitanni-IA and Old Iranian but typical for all languages of the Hindukush/Pamir areas, whether they be Burushaski, E. Iranian, N. Iranian (Saka), Nuristani, or IA (from RV to modern Dardic); retroflexation even has affected the eastern (i.e. S. Asian) dialects of the newcomer, Baluchi, a *West* Iranian language.

·   The move toward the Panjab may have been independent of and may actually have been preceded by that of the speakers of the third group of IIr. languages, now called Nuristani, whose speakers, originally called Kafirs by their Muslim neighbors, live in the Hindukush mountains of NE Afghanistan. They have preserved some archaic features until today (Nur. *c* is older than RV *ś* or Avestan *s*, all from IIr. **c'*). Such movements may also have included that of the speakers of the non-IIr., western-IE group now represented in the substrate of Bangani, a NIA language in the high Himalayas of Uttarkhand, on the border to Himachal Pradesh. However, the people who spoke that substrate language may just as well have come, as potential IE neighbors of the "western-IE" Tocharians, *across the mountains* from the general area of modern Xinjiang. People often establish their alpine grazing grounds (and settlements) *across* the mountain range they border on: German speakers in Wallis/Valois and S. Tyrol, Slovenian in Carynthia, Ossete north and south of the Caucasus range, Iranian Yidgha in the NIA speaking Chitral, Kafiri in westernmost Chitral, Tibetans (Sherpa, Bhutanese, etc.) on the southern side of the Himalayas.

It might be added that the general path of immigration of the speakers of Indo-Aryan from the north into the Panjab, via the general BMAC/Hindukush area, is also indicated by an early loan from Nuristani. This is Nur. **kat's'a* > Ved. *kaca* "shining piece of jewelry" (K. Hoffmann 1976, *EWA* I 33),[261] also taken over into O.P. as *kasa-ka* "semi-precious stone."

·   All of this is followed by the spread into Greater Iran of the earliest Iranians (c. 1000 BCE, Hintze 1998, cf. K. Hoffmann 1976-92 [= 1941], for some pre-Ir. names in the RV), with the introduction of E. Iranian (Avestan) into E. Iran (1200/1000 BCE -- note the overlap with AV *Balhika* "Bactria", Witzel 1980). The movement of the West Iranian tribes, Median and Persian, into W. Iran, is later still, c. 900-700 BCE.[262] Lamberg-Karlovsky (2002: 74)

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[261] However, this may also be a post-Rgvedic loan from these isolated mountain languages, the archaic third branch of the Indo-Iranians (Morgenstierne 1973) that has survived in the mountains of northeast Afghanistan and in neighboring Chitral (Pakistan). Note O.P. *kasaka* "semi-precious stone", *kasaka kapauta* "lapis lazuli," and *si^nkabru* "carnelian" described as brought from Sogdia, and *kasaka axšaina* "from Choresmia" (DSf 37-40). One would expect Bactria/Badakhshan.

[262] It remains to be investigated whether the Persians (*Parsa* < **parc'va-*) are related to the Paršu (< **parc'u*) of the Vedic texts (RV, BŚS), where they are located next to the Arattas *(aratta, aratta)*, thus in Afghanistan. These are likely to be the ancestors of the Pashto (*pašto* < *-*rš*/**xšt-* < **parštu/parštawa* or [improbably] < **paxšt-*; or cf. Avest. *paršta* "back" thus, "*the hill people"; see Morgenstierne 1927: 61; Pashto has often been compared with Herodotus' *Paktues* which however cannot reflect expected -*ršt-*, only -*xšt-*, at the time). Notably, whether

stresses the fact that the spread of BMAC materials cannot be linked to the later archaeological developments on the Iranian plateau in the later 2nd and 1st millennium as would be required by the spread of the Iranian speaking groups.[263]

In sum, as far as South Asia is concerned, it can now be stated more securely that speakers of an IE language, early OIA (pre-Rgvedic) entered the Greater Panjab from Afghanistan, acquired local words from the Northern Indus dialect (such as *śana, langala, vrīhi, godhūma, kangu, Gandhāra,* Witzel 1999a,b). About the same time(?) speakers of Proto-Dravidian entered Sindh, acquired related words from the southern Indus dialect (*gōnu, ñāñcil, variñci, godī, kanku/kampu*), and perhaps it was they who brought the first horses to South Asia (Pirak, Eastern Baluchistan near the Bolān Pass, c. 1800 BCE, see Allchin 1995: 31, Kenoyer 1998: 78, Witzel 1999a,b), rather than the IA(?) Bhalānas (RV 7.18), whose name seems to be reflected by the modern Iranian place name.

A similar scenario for Greater Iran cannot yet be written as the relevant linguistic investigations have not yet been carried out: we do not have a comprehensive study of loan words in early Iranian (and Hurrite/Urartian, Elamite, etc.). Instead, it has often been alleged that Old Iranian has fewer loan words from the local substrates than Rgvedic, all in spite of the well attested pre-IIr. archaeological cultures of Greater Iran, from Tepe Hissar to Mundigak. The assumption is a fallacy, as a closer look at the Avestan vocabulary will indicate (see n. 158 for the direction to be taken.) Scholars apparently have been mislead by the glaring archaisms of Zoroaster's IE poetic language (cf. Kuiper 1979) as to assume a "pure" IIr. language.

The whole process of "Aryanization" in Iran and India, progressing with a large degree of intervening bilingualism, may be summed up in the words of Polomé (1990: 337). He discusses the introduction of Indo-European into Northern Europe, supplanting the local language, but not without leaving many substrate words (and ideas) with the emerging Proto-Germanic speaking peoples:

> whichever way .... [the area] was indo-europeanized, the new population initially constituted a mere *adstratum* or *superstratum* to the long-established set of peoples. When and why the language shift took place remains a widely open question, but one

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parc'va is connected with Pashto or not, Old Persian -s- (as in < *asa* "horse") < *śś < śv < c'v < IE k'w shares the development of IIr. c'v > śś with Saka -śś-, while the rest of Iranian has -sp- (*aspa*) and Vedic has -śv- (*aśva*). This feature and others (cf. further grammatical features in Witzel 1989, ch. 10) may point to an ultimately northeastern (Bactrian?) rather than a northwestern (Urartu/Median) origin of O.P., and thus to a track of immigration from the NE via Media to the Persis, somewhat like Nichols' (1997-98) "southern trajectory". A northeastern origin would be close to the location of the Ved. *Parśu.*

[263] The question of the location and spread of early Iranian is not discussed here. It is likely (see above) that this form of IIr. developed further north in the steppes and spread both westwards (Scythians) and eastwards (Saka) as well as southwards (E. Iranian), and still later, also south-westwards (W. Iranian: Median, Persian). This took place only after an early southward move of the (pre-)OIAs from the northern steppes, as suggested by Burrow in 1973; cf. Lubotsky 2001: 308 sq. and Chlenova (1984) who "shows a correspondence between Iranian place names and the distribution of the Timber Grave, Andronovo, and related cultural groups. Place names of Indo-Aryan character are scattered or absent in that area" (Makkay in Lamberg-Karlovsky 2002: 79).

thing is certain : it did not take place without leaving clear traces of the prior language(s) in the lexicon.

To which we may add: and, of customs, beliefs, rituals, religion,[264] and material culture.

§ 8. Acculturation: Gandhāra and the greater Panjab

Finally, we will take a closer look at the developments after the immigration of the first speakers of Old Indo-Aryan into the subcontinent.

The exact fashion of their arrival still is unsolved. It will have included, just as in similar cases in the Mesopotamian area, a combination of trickling in, migration into marginally used or unused land (especially after the collapse of the Indus Civilization), and outright invasion of lands settled by remnant Harappan populations and their non-Harappan neighbors in the Indus area (Northern Neolithic, etc.)

Passages for the Rgveda can be invoked for all these scenarios. The ongoing acculturation of the remnant pre-Aryan populations finally resulted in the Aryanization of most of Northern India. Even the immigration of a single IA speaking tribe out of the Afghan highlands into Gandhara and the Panjab would have been enough to set off an increasing wave of acculturation, using the newly imported *elite kit* (Ehret) of Vedic language, ritual, poetry, horse breeding and pastoralism, as opposed to they settled agricultural habits of the (post)Indus people. Note that a similar developments took place in the BMAC area around 1500 BCE, when most of Iran took to pastoralism.

Whatever be the case, the Rgvedic evidence points to a *number* of IA speaking tribes, acting independently from each other and only vaguely relating to each other as Aryan speaking and following Arya rituals.

Their impact will be briefly studied in the last sections of this paper.

§8.1. The Northwest of the subcontinent in Rgvedic times

This is the area of the first Indo-Aryan influx into the subcontinent, as reflected by the hymns of the RV. It includes the mountainous regions of Afghanistan and Northern Pakistan as well as the plains of Gandhāra, the area between Kabul and Islamabad in Pakistan, and the Panjab proper. In the Veda we find few place names; river names, as ancient tribal boundaries, are much better attested. However, the Rgvedic area is characterized by an almost total substitution of local river names by those of IA type, such as *Gomatī* 'the one having cows' (mod. *Gomal*), *Mehatnu* 'the one full of fluid', *Asiknī* 'the black one' (now *Chenāb*).

We find some of the Rgvedic river names also in the more eastern regions of N. India: especially the *Sarayū, Gomatī* (in U.P.). It is interesting to note, however, that some of these names are also found, with Iranian forms, closer to the older, (pre-)Rgvedic home of the Vedic tribes: The *Rasā* as *Raŋhā*, the mythical river of the Avesta, *Sarayu* as *Harōiiu-* in the Herat area, *Sarasvatī* as *Harax^vaiti* 'the one with [many] ponds' in Sīstān / Helmand < *Setumant*, 'the one with [natural] dams' (a feature typical of rivers in their lower courses),

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[264] For an initial discussion see Witzel (forthc. b); to be added is the comparison of a shamanistic BMAC seal and its Hindukush and Vedic relationships, see n. 258.

Gomatī as *Gomal* 'the one with cows' in eastern Afghanistan, *Hindu/Hǝndu* < *Sindhu* 'the border [river]', etc. It seems that the Iranians simply changed the old Indo-Iranian names into their respective Iranian forms (see now Hintze 1998) when they moved into the area, while the Vedic Indo-Aryans took some of these names with them eastwards, up to Bihar, in the typical fashion of people on the move.[265]

As has been mentioned, most Ṛgvedic river names in the NW are Indo-Aryan, with the notable exception of the Kubhā, Śutrudrī, and perhaps the Sindhu. These, incidentally, prove a local non-IA substrate. Pinnow connected the apparent Indo-Iranian river name *Sindhu* (Avest. *Hǝndu*, O.Pers. *Handu* [Hindu]) with a word from the Burushaski language as he could not find a cogent IE etymology and as he rejected Near Eastern ones (Pinnow, BzN4, 12-13[266]). Burushaski *sinda*, Werchikwar *sende*, unless they are loans from NIA Shina *sin*, should then be connected with the Bur. word for 'water', *sil, tshil, tsil*, Werk./Yasin *tshel*.

The question is complicated by the fact of the early loans from Pre-Vedic IA in Iranian, for which see now Almut Hintze (1998). She argues that certain Iranian words have been taken over from IA when Iranian still had *s* (later > *h*): note the Assyrian loan word *As-sa-ra ma-za-aš* = *Assara Mazaš*, Ahuramazdā. If this was the case, Ir. *Hindu-* could indeed be a loan from an older IA substrate. While this may be true for several other names, the usage of *hindu-* in Iranian point in another direction. The mentioning of the eastern and western *hǝndu* 'oceans' Y. 57.29, and the name of the mythical central mountain, *us.hǝndauua* 'emerging from the river/ocean [*Vourukaṣa*]' indicate that *hǝndu* is understood as 'ocean' also in Avestan (Witzel 1984). This points to IIr coinage with the meaning 'border river, ocean' and fits P. Thieme's etymology (1967-91) from the IE root **sidh* 'to divide'. (Based on this, we may again connect the N. Caucasian *Sindes* [see above § 2.3.].

In view of the contested etymology of Sindhu and a number of river names in the area which have the same suffix *-u*, but are clearly IA, Pinnow's theory (1954, 14 sqq) of a NW area of non-IA names in *-u* must be reinvestigated. Pinnow (1953-4) has tried to establish an area of river names ending in *-u*[267] in the northwest that should go back to a local, in part proto-Burušaski substrate. Pinnow's list includes

Sindhu   (cf. Burušaski *sinda*, dial. *sende*, Shina *sin*)

Kuhu/ū   (Viṣṇu, BhāgPur, =Kabul R. = Vedic *Kubhā*, Greek *Kophēn*, cf. *Kobhi*)

Suvāstu (Swat, *Śubhavāstu*)

Vakṣu (Vaxš, Oxos)

Of these, *Vakṣu* is a late adaptation of Iran. **Vaxšu* (= mod. Vaxš = Amu Dārya, Greek *Oxos*) > Skt. *Vakṣu* BṛSaṃh, *Vaṅkṣu* Mbh., *Cakṣu* by paleographical mistake[268], or *Ikṣu* 'the sugar cane [river]' by popular etymology, cf. KEWA III 123, Pinnow 1953: 233. However, Iran. **Vaxšu* ~ Ved. *vakṣ* 'to grow', Avest. *uxšieiti* 'grows' (EWA II 485 sq), means 'river' in other Iran. languages : Khot. *baṣṣa* 'river', Yidga *baxšiyo* 'stream'; the IE root is **h₂ᵘeg-s*.

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[265] Cf. in North America: New York, New London; however, untypically hardly any British river names.

[266] Cf. also Mayrhofer 1979, on the Kuban (north of the Caucasus) *Sindes*.

[267] A list of Ṛgvedic -u stems includes: *kakardu, kaṭu-ka, kamadyū, karkandhu, kaṇu-ka, kiyambu, kuṇaru, kuru-, kṛkadāśū, krumu, khalu, guṅgu, guṅgū, chubu-ka, jadhu, jatru, jabāru, jarāyu, tṛtsu, pipru, pūru, pṛdāku, bṛbu, bṛbū-ka, maṇḍū-ka, yakṣu, yadu, yāśu, ruru, viṇaspū, veṇu, vetasu, śigru, śimyu, saktu, sarayu, salalū-ka, su-kiṃśu-ka;* further: *jarū-tha, balbū-tha.*

[268] See also Pinnow 1953: 231, 233.

All the other river names in -*u/ū* of the NW area, however, are of IA origin (*Sarayu* > Avest. *Harōiiu(-m), Sindhu* > Avest. *Hǝndu, Mehatnū, Krumu, Susartu, Suvāstu*),[269] with the possible exception of the *Krumu* and *Sindhu* only (see discussion above).

This means that one of the starting points of Pinnow's thesis for a NW area with non-IA names in -*u* does not hold. On the other hand, the tribal and clan names of the northwest show a predilection for *u*-stems as well. We find: *Anu, Āyu, Ikṣvaku, Kuru-, Gungu, Tṛtsu, Druhyu, Parśu, Pūru, Pṛthu, Bhṛgu, Yadu, Vibindhu, Śigru, Śimyu.*

Again, only a few have none or no good IA, IIr or IE etymology, namely: *Gungu, Gaungava/Gungū, Tṛtsu, Yadu, Yadva, Śimyu*. It seems, thus, that the Indo-Aryans added the common *u*-suffix to some local names.[270] The river name *Krumu*, and less likely, *Sindhu*, must be regarded as remnant of the pre-IA substrate, which is not necessarily identical with proto-Burushaski or with the language of the Indus area.[271]

In sum, the Northwest shows the strongest concentration of IA (or IIr, even IE) names, and this is a situation entirely expected in a scenario which sees the Indo-Aryans trickling in from the Bactria-Margiana-Arachosia area (Parpola 1987, Hiebert 1995, Witzel 1995, Falk 1997).

Their tribal names, much more difficult to locate, are typical IA ones (*Druhyu* 'the cheaters', *Bharata* (*bhṛ* 'to carry, bring'). But there are also many that have no plausible IA etymologies, such as: the *Gandhari* tribe of *Gandhāra; Śambara*, a mountain chieftain; *Vayiyu* and *Prayiyu* (chieftains on the *Suvāstu*, modern Swat); *Mauja-vant*, a Himalayan peak. This is the typical picture of an intrusive element, the IA, overlaying a previous population.

North of this area, at the northern bend of the Indus (Baltistan/Hunza), Burushaski is spoken. However, the language and the tribal name are indirectly attested in this general area ever since the RV if **m/bruža* (mod. *burušo*) > Ved. *Mūja-vant*, Avestan *Muža* (see below). Indeed, the RV contains a few words which are still preserved in Bur., such as Bur. *kilāy*, Ved. *kīlāla-* 'biestings, a sweet drink' that cannot have a IA etymology (EWA I 358 'unclear'); continuants are found in Dardic (Khowar *kilal*), Nuristani (*kilá* etc.), in later Skt. *kilāṭa* 'cheese', cf. DEDR 1580 Tam. *kilaan* 'curd'). For details see Kuiper 1955: 150f., Turner, CDIAL 3181, Tikkanen 1988. Further, the following Burushaski words can be adduced as having Vedic connections (discussion in Witzel 1999a,b): *mẹṣ* 'skinbag' < Ved. **maiṣiya* 'ovine', *meṣa* 'ram' RV; *gur* 'wheat' pl. *gurin/guren* < **yorum, gurgán* 'winter wheat', cf. Ved. *godhūma; bras* 'rice', cf. Ved. *vrīhi; bus* 'sheaf', cf. Ved. *busa, bṛsī* 'chaff'; *ku(h)á* (Berger *yuá*) 'new moon', cf. Ved *kuhū* 'deity of new moon'; *yupas* (Berger *gupás*) 'cotton', cf. Ved. *karpāsa; baluqa* 'stone', cf. Ved. *paraśu* '(stone) ax', Greek *pélekus*, cf. PEC **belvgwi* 'hammer'; *ban* 'resin of trees' ~ IIr *bhanga* 'hemp, cannabis', rather, ultimately, PEC **bhinkwV* 'pine tree'[see above § 3.5.]; Bur. *šon* 'blind one-eyed' cf. Ved. *kana*; Bur. *yoro* (Berger *yuró*) 'stone, pebbles', cf. Ved. *śar-kara*; Bur. *yoqares*, Berger *yókurac* 'raven', Ved. *kāka*; Bur. *yaśú* 'onion', cf. Ved. *laśuna*. In Proto-Burushaski (or in its early loans from the lowlands) and in

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[269] Add the name of the Great Indian desert, *Maru* TĀ+ ~ Lat. *mare?*, EWA II 321.

[270] This would hold even for the *Sindhu* if it indeed, with Pinnow, should go back to a local, Proto-Burušaski substrate; however, see above.

[271] Note the opinions about the language of the Indus seals: Emeneau (Dravidian), *contra* Thieme (non-Drav.), etc.

the pre-Vedic Indus language there is interchange of *k/ś*, and retention of *-an-* (not > *-o-*, as discussed above § 3.3.).

While it is questionable how far south Burushaski territory extended at this early time, some of the loan words mentioned above indicate that there was early contact. It may be that the name of the Burušo is reflected by the RV mountain name *Mauja-vant* "having *Mūja* (people)", cf. Avestan *Muža* (see discussion above). The forms look like adaptations of the local self-designation, **M(r)uža*, attested since the middle of the first millennium in early Tib. *bru-ža*, Sanskritized *puruṣa* (von Hinüber 1989, 1980), in local 10th cent. inscriptions *prūśava* (Jettmar 1989: xxxvii), and in mod. Bur. *Burušo*.

Phonetic reflexes of Bur. have been seen (Tikkanen 1988) in the Vedic (and Dravidian) retroflex consonants. The occurrence of these sounds is an areal feature that is strongest in the Northwest, but extends all the way to Tamil in the South, and has also influenced Munda to some extent. It is an ancient feature of the Indus language as well, that cannot be traced back to Bur. influence alone.

Some early syntactic influence by Burushaski on Vedic in the formation of the Absolutive has been assumed by Tikkanen (1988); it is found already in earliest RV but only as past verbal adverb/conjunctive participle. This S. Asian feature, unknown in Old Iranian, is also found in various degrees in Drav. and Munda, and may have been an early regional feature whose ultimate origin remains unclear (cf. Witzel 1999a,b).

At any rate, IA, as soon as it made contact with the local population(s) of the northwest, started to change, both in its phonetical appearance (K. Hoffmann 1941, Emeneau 1956, Kuiper 1967, 1991) as well as in formantia (Kuiper 1967, 1991), and in vocabulary (Kuiper 1948, 1955, 1991). The tracing of these developments must be left aside here. It important, however, to remember the result of Kuiper's early investigation into the South Asian linguistic area: 'between the arrival of the Aryans .... and the formation of the oldest hymns of the RV a much longer period must have elapsed than normally thought.' (Kuiper 1967, 1997: XXIV).

In the following sections, the impact of the languages spoken in the northwestern subcontinent on Vedic will be detailed as far as on-IA loan words are concerned.

§8.2. The Ṛgvedic Greater Panjab

The RV reflects Gandhāra, the Panjab and its immediate surroundings of c. 1500-1000 BCE., most clearly visible in its river names, extending from the Kabul River to the Yamunā (mod. Jamna) and even the Ganges (*Gaṅgā*, mentioned only twice).

In order to use the linguistic evidence contained in this text properly, it is important to realize that it has been composed not just in two layers ('main' and 'late', as found in the handbooks), but in *three* clearly distinguishable, and very roughly datable layers (Witzel 1995, 1999, J. R. Gardner 1998, Th. Proferes 1999).

I. the *early Ṛgvedic period:* especially the hymns in books 4, 5, 6 (and maybe book 2);

II. the important *middle Ṛgvedic period:* RV 3, 7, parts of 8.1-66 and 1.51-191;

III. the *late Ṛgvedic period:* RV 8.67-103; 1.1-50; 10, 8.49-59.

It is important to note that level I has no Dravidian loan words at all (details, below); they begin to appear only in level II and III. Instead, we find some three hundred words from one or more *unknown* languages, especially one working with prefixes. Prefixes are typical neither for Drav. nor for Burushaski (cf. Kuiper 1991: 39 sqq., 53). Note that the "prefixes" of Tibeto-

Burm. (Benedict 1972) do not agree with those of the RV substrate either. Their presence apparently excludes also another unknown language which occasionally appears in the RV and more frequently later on with typical gemination of certain consonant groups (perhaps identical with Masica's "Language X" (1979); cf. Zide and Zide 1973: 15, see Witzel 1999b). The prefixes of the RV substrate are, however, close to, or even identical with those of Proto-Munda; taking my clue from Kuiper (1962: 51,102; but see now Zide MT *II*, 1996, 96), I will therefore, *provisionally,* call this substrate language *Para-Munda.*

§8.2. The Para-Munda substrate in the Ṛyveda

§8.2.1. Para-Munda loan words

The convenient list of Kuiper (1991) has 383 entries (some 4% of the hieratic RV vocabulary!). Oberlies (1994) retains "only" 344-358 words, and minus those that are personal names, 211-250 'foreign' words.[272] Even Oberlies' lowest number would be significant enough in a hieratic text composed in the traditional poetic speech of the Indo-Iranian tradition. It is more difficult to discern Munda/Austro-Asiatic words and to distinguish them from those of an unknown local substrate (remnants of the Gangetic "Language X"), or the still unknown language(s) of the Indus than to establish IA or Dravidian etymologies, as an etymological dictionary of Munda is still outstanding (in preparation by David Stampe et al.). One can also sympathize with Kuiper (1991: 53): "Burrow and Emeneau understandably and rightly ignore the Pan-Indic aspects, but ... their dictionary [DEDR], by omitting all references to Munda, sometimes inevitably creates a false perspective from a Pan-Indic point of view." Nevertheless, one can, for the time being, make use of Pinnow's reconstructions of Proto-Munda in his investigation of Kharia (1959), Bhattacharya's short list (1966: 28-40), Zide & Zide's discussion of agricultural plants (1973, 1976), and Kuiper's relevant studies (especially 1955, 1991; his 1948 book is still useful as a collection of relevant materials). It must be stressed that neither the commonly found Drav. nor Munda etymologies are up to the present standard of linguistic analysis, where both the root and all affixes are explained. This is why most of the subsequent etymologies have to be regarded as preliminary.

Among the c. 380 'foreign' words of the RV, those with certain prefixes are especially apt to be explained from Munda (viz. directly from Austro-Asiatic). However, "owing to the typological change that has taken place in these languages, only some petrified relicts remain" (Kuiper 1991: 39). Typical prefixes in modern Munda are such as *p-, k-, m-, ro-, ra-, ma-, a, ə-, u-, ka-* (Pinnow 1959:10 sqq.; cf. also the plural suffix *-ki* in Kharia, p. 265 §341a, 211

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[272] Oberlies' criticism is written from an IE-centered point of view similar to that of Mayrhofer (EWA). This is fine from the point of view of someone who has to write an etymological dictionary of OIA; however, due to the clear attestation of cultural, ethnical and religious amalgamation of IIr/IA and local elements visible already in the oldest IA text, the RV, the existence of such a large number of 'foreign' words must not be minimized in its importance. Nor does Oberlies offer an explanation or analysis of the remaining 250 words; they are simply "non-IA". In a similar vein, R.P. Das has written a much more 'engaged', nit-picking review of Kuiper's book, tellingly entitled 'The hunt for foreign words in the Ṛgveda' (*IIJ* 38, 1995, 207-238), which induced Kuiper to write a well-deserved, rather scathing reply in the same volume ("On a Hunt for 'Possible' Objections". *IIJ* 38, 1995, 239-247). It is difficult to understand, in view of the well-known evidence (added to in this paper), how one can regard the language (and religion, culture) of the Ṛgvedic Arya as 'relatively free from foreign influences' (Oberlies 1994: 347). "Pristine" languages and cultures do not exist, nor did they at c. 1500 BCE.

§145c, and the Khasi article); some of them are indeed attested in the c. 300 'foreign words' of the RV. [The clearest cases in Vedic are:

- *tila* : *jartila*;
- *sṛ-binda* : **Ku-suru-binda, Ku-sur-binda : Bainda,** cf.
- **Vindh**-*ya* : **Vi**-*bhindu,* **Vi**-*bhindu-ka,* **Vi**-*bhindu-kīya,* and
- *śa-kunti(-kā), śa-kunta, śa-kunta-ka, Śa-kuntalā* : **Kunti,** belonging to Kharia **kon**-*the'd,* Sora *on-tidən;* Korku *ti-tid,* cf. Ved. *tit-tir-a* (details below)].

Of interest for the RV substrate are especially the prefixes *ka-, ki-, kī-, ku-, ke-,* which relate to persons and animals (Pinnow 1959: 11; cf. p. 265 §341a) and which can be compared, in the rest of Austro-Asiatic, to the 'article' of Khasi (masc. *u-,* fem. *ka-,* pl. *ki-,* cf. Pinnow 1959: 14). The following words in the RV are important, even if we cannot yet find etymologies. They have been discussed in some detail in Witzel 1999 and are merely listed here. (Sanskrit suffixes and prefixes are separated from the substrate word in question).

- ka-: *kakardu* 'wooden stick'; *kapard-in* 'with hair knot', *kabandh-in, kavandha* 'barrel'; *kavaṣa?* 'straddle-legged'; *kakambīra* 'a certain tree'; · ki-: *kimīd-in* 'a demon'; *su-kiṃśu-ka* 'a tree, 'Butea frondosa'; *kiyāmbu* 'a water plant'; *kilāsa* 'spotted, leprous'; *kilbiṣa* 'evil action'; *kīkaṭa* 'a tribe'; *kīkasā* (dual) 'vertebra, rib bone'; *kīja* 'implement, spur?'; *kīnārā* dual, 'two ploughmen'; *kīnāśa* 'plough man'; *kīlāla* 'biestings, a sweet drink', cf. above: Bur. *kilāy; kīsta* 'praiser, poet' cf. *śīṣṭa* 8.53.4, a Sanskritization of **k'īsəta-;* · ku-: *kuṇāru* 'lame in the arm?'; *kupaya* 'shimmering?'; *kumāra* 'boy, young man'; *kurīra* 'women's hair dress'; *kuruṅga* name of a chieftain of the Turvaśa; *kulaya* 'nest'; *kuliśa* 'ax'; *kuśika* name of a poets' clan; *kuṣumbhaka* 'poison gland of an insect'.

- 'Double prefixes' in *Cər-.* More important, perhaps, are the so-called 'double prefixes' in Austro-Asiatic, composed of a prefix (e.g. *k-*) followed by a second prefix (mostly *-n-,* see Pinnow 1959: 11). The use of *k-n-* is clear in names of domesticated animals, in Sora *kin-sod* 'dog' : Kharia *solog* 'dog'; Sora *kim-med* 'goat' : Remo *-me'; kəm-bon* 'pig' : Juang *bu-tae* (see Pinnow 1959: 168, cf. Jpn. *buta,* Austr. > Sino-Tib. **mba(γ)*); Sora *ken-sim* 'chicken' : Mundari, Khasi *sim;* Remo *gi-rem* 'cat' : Sora *ram-en.* Such 'double prefixes' seem to be rarer in Munda now than in Eastern Austro-Asiatic; cf., nevertheless, Kuiper 1991: 94 on *śar-varī* 'night': *śa-bala* 'variegated'; Kuiper 1948: 38 on the prefixes *kal-, kil-,* p. 138 on the 'Proto-Munda prefix *k-,* 1948: 49f. 'prefix *kər-, kar-,* and *gala-';* further cf. above, on *kuliśa,* Kharia *khon-ḍe'j.* Note also the prefixes of Sora *kar-dol* 'being hungry' (D. Stampe, oral communication, June '99) and Skt. *sṛ-kaṇḍu* 'itch', Khasi *śyr-toṅ* 'comb', Stieng *sər-luot* 'sweet' (F.B.J. Kuiper, letter 8/24/98; *tur-/tər* also in Ved., Khasi, Senoi, and Austronesian (Kuiper, 1/29/99).

The clearest Vedic case is, perhaps, *jar-tila* 'wild sesame' AV : *tila* 'sesame' AV (cf. *tilvila* 'fertile' RV, Kuiper 1955: 157, *tilpiñja, -ī* 'infertile sesame' AV, *tilvaka* 'a tree'). Double prefixes, however, are typical for the Ṛgvedic loans, especially formations with consonant-vowel-*r* = *Cər-,* and due to the common Vedic interchange of *r/l,* also *Cəl-,* that were adapted in Vedic with various vowels (*ṛ, ur,* etc., see Kuiper 1991: 42 sqq.). The cases with *Cər* (note also *Cən-, Cəm-*), include: *karañja* name of a demon; *karambha* 'gruel'; *karkandhu* later, a tree name 'Zizyphus Jujuba', but personal name in RV; *karkari* 'lute'; *karotara* 'sieve, filter'; *khargalā* 'owl'; *a-kharva* 'mutilated'; *kalmalīk-in* 'shining'. Further: *kṛ-* [*kər-*] see Kuiper 1991: 40 sqq., 23: *kṛkadāśū,* unclear meaning, personal name?; *kṛpīṭa* 'bush, brush'; *kṛśana* 'pearl'; *khṛgala* 'staff, crutch, amulet, armor, brush?' Due to the frequent interchange *k[k']/ś,* the prefix *śar-/śal-* belongs here as well (cf. *kar-koṭa-ka* RVKh ~ *śar-koṭa* AV): *śaryāta* name

of a person; *śarvarī* 'night'; *śalmali* name of a tree, 'Salmalia malabarica' [see now Witzel 2000b on *śimbala/śalmali*]; *srñjaya* a name of a person; *srbinda* name of a demon, cf. *Ku-surubinda* TS, PB, ŚB, *Kusur-binda* JB and *Bainda* VS 'member of the tribe of the Binds' (probably also the name of the Mountain range, post-Vedic *Vindh-ya*), *Vi-bhindu* RV 8.2.41, 1.116.20, *Vi-bhindu-ka, Vi-bhindu-kīya* JB §203; (cf. Kuiper 1939 = 1997: 3 sqq., 1955: 182, Witzel 1999).

In the same way, the prefixes *jar, tar, nar, par, bar, śar, sr* = [*jər, tər*] etc.: *jarāyu, jarūtha* (cf. also Ved. *jar-tila : tila*); *taranta, taruksa, trksi, trtsu, nār-miṇī,* epithet of a fort; *nār-mara; parṇaya, parpharī-ka, parśana; prakankata* (next to: *kankata*), *prakala, parpharvī, pramaganda, pra-skaṇva, pharva-ra, phāriva; prthi, prthī, pr-dāku* [*pər-dak-u*]; *barjaha;* (cf. also *Nār-sada* RV, *Nār-vidāla, Nār-kavinda* PS and **ku-bind* in: Ved. *ku-sur(u)-binda, bainda, vi-bhindu, vi-bhindu-kī-ya*). Furthermore, the formations with other vowels that are adaptations of [*-ər*] as above in [*kər*]: *tirindi-ra, turīpa, turphari, turva/turvaśa?, turvīti, tūrṇāśa, sūrmī.*

Instead of *Cər*, the much more common double prefix of Munda, *Cən-, Cəm-,* is found as well: *kankata; śamba, śambara* (cf. *śabala!*), *śāmbara, śimśapā, śimśumāra, śiñjāra, śimbala, śimbāta, śimyu.* Compare also the prefixes in *Cəs-: puskara, pusya, rāspina, rāspira.* Kuiper (1991: 39 sqq.) also discusses other prefixes, such as *a-, i-, u-, o-, ni-, bhr-, ma-, sa-, śa-, hi-.* Among them, the old prefix *u-* (*o-*) would be of special interest; however, is found in the RV only in some 5 or 6 cases.

A very clear case, next to *tila : jar-tila,* is *śa-kunti(-ka)* 'bird' RV, *śa-kunta* 'bird' AV, Ved. *śa-kunta-ka* 'bird', *Śa-kuntala* 'name of a nymph', Ved. *Kunti* 'a tribal name', next to the Matsya (IA, 'the Fishes'). The Ved. words belong to Kharia *kon-the'd,* Sora *on-tidən, etc.;* Korku *ti-tid* 'a certain bird', Ved. *tit-tir-a* 'partridge', Pinnow 1959: 160 §336; cf. however RV *śa-kuna* 'a (larger) bird', *śa-kuni* 'bird (of omen)' (Kuiper 1991: 44); [cf. Khasi *sim*].

Munda- or Austro-Asiatic-like prefixes are thus very common in the RV. One has to agree with Kuiper 1991: 39f: "According to some scholars Munda was never spoken west of Orissa, Bihar, Madhya Pradesh and eastern Maharashtra... The obvious occurrence of Old Munda names in the Rigveda points to the conclusion that this statement should be revised." If (some of) these words should not go back directly to Proto-Munda, one may think, especially in the case of the untypical formation *Cər,* of an *unknown* western Austro-Asiatic language, "Para-Munda" (cf. Kuiper 1962: 51, 102).

If this initial interpretation is correct, several far-reaching conclusions can be drawn. The very frequency itself of non-Drav. loan words in the early (as well as in the later) RV is remarkable: it indicates a much stronger *non-Drav. substrate in the Panjab than usually admitted.* Because of the great similarity with Austro-Asiatic formations and because of some already established (Para-)Munda etymologies (such as *śa-kunta ~* Kharia *kon-the'd,* etc., Pinnow 1959 160 : 336), this substrate is likely to be an early form of western Austro-Asiatic (cf. below, at the end of §4.3.)

Is the Indus language therefore a kind of Proto-Munda? Against this may speak first of all, as Kuiper states (1991), that the RV substrate does not have infixes like Munda. However, *-n-*infixes can perhaps be adduced in *ka-bandha/ka-vandha* 'headless rump', *kar-kandhu* 'name of a tree, Zizyphus jujuba', *gandha-ri* 'name of a tribe in N. Pakistan', *pra-maganda* 'name of a chieftain of the Kīkata non-Aryans', *śa-kunti* 'bird' < PMunda **śa-kontid, sr-binda,* and in post-RV, e.g., *ku-sur(u)-binda, bainda, vi-bhindu, vi-bhindu-kī-ya* 'name of a tribe'. Yet, the substrate may be a very early form of Munda (or another variety of Austro-Asiatic) which still used prefixes actively, just like the eastern Austro-As. languages, e.g. Mon, Khmer, do even today. Further, the infixes may have developed from prefixes which had

found their way into the root (Pinnow 1959: 15). Among these, one can include 'double' prefixes such as *kə-r-, šə-r-, pə-r-* etc. (Pinnow 1959: 11). If this is correct, then Ṛgvedic Proto-Munda represents a *very* old stage of Austro-Asiatic indeed.

§8.2.2. Munda and Para-Munda names

However, direct contact of the non-Indo-Aryan words in the RV with predecessors of present day Munda languages is more problematic. Some of the substrate words may, at least in part, have entered the RV through the *intervention* of the Indus language(s) (*langala* etc., see below). Yet, there also are a few *direct* correspondences with reconstructed Proto-Munda (*śa-kunta* < **kon-ti'd*) which indicate the archaic character of the para-Mundic Indus language. For example, the name of *Pramaganda*, the chieftain of the *Kīkaṭa* (RV 3.53.14) who lived south of Kurukṣetra (cf. Witzel 1995). Both words are non-Indo-Aryan and they show clear indications of Mundic character: *maganda* can be explained as *ma-gand* with the old, now unproductive Munda prefix *ma-* that indicates possession. The word *gand* may belong to Munda **gad/gaḍ, ga-n-d/gaṇd* (Pinnow 1959: 351 §498) that is also seen in *Gaṇda-kī, Gaṅga* (Witzel 1999, if not modeled after the tribal names *Aṅga, Vaṅga,* see below), W. Nepali *gaḍ* (as 'suffix' of river names, Witzel 1993) and apparently also in *Ma-gadha* (with Sanskritization > *dh*). Kuiper 1991: 43f. (8, 21, 96, also 1955) has explained the prefix *pra-* [*pər*] (cf. prefixes such as *kər-/šər-*) from Munda, which looks perfectly Indo-Aryan but in this case certainly is 'foreign'. The tribe of chief *Pra-maganda* (*pər* 'son of'? Kuiper 1991: 43), the *Kīkaṭa,* has either the typical 'tribal' suffix *-ṭa* (see below) or the old Austro-As. plural prefix *ki-,* or maybe both. Cf. further the prefix *kī-/ki-* in: *kīnaśa/kīnara* 'plough man', *Kimīdin* 'a class of demons', *kīkasa* 'vertebra, breast bone', *kīlala* 'biestings', *kiyāmbu* 'a water plant', all of which may be compared with the Munda prefix *k-* for designation of persons (and the plural prefix *ki-* of Khasi; note that in RV, *k-* also applies to items merely *connected* with humans and animals).

Further RV substrate names of persons, tribes and rivers include some exactly from the areas where Indus people are to be expected: in their late/post- Indus new settlement area (J. Shaffer 1995: 139) in the eastern Panjab, in Haryana (Kurukṣetra), and especially east of there, well into the Gangetic plains. Even during the middle/late Vedic period, the local rivers of E. Panjab are still designated by non-Indo-Aryan names: the famous Bharata chieftain Sudās crosses (RV 3.33) the Śutudrī and Vipāś and settles on the Sarasvatī. They are not explainable from IA: Śutudrī (Satlej) < **šə-tu-da'*? from Munda **tu* 'float, drift', Kharia *thu'da'* < **tu-da'* (*da'* 'water'), Khasi *pər-tiu* 'outflow', (note the later popular etymology *Śatadru* 'running with a hundred streams'); for the Ved. substitution of *'k/'* by *r* cf. **kul-do'* 'tiger' > *kulitar-a*? and **ganda'* > *gandhar-i*? -- Vipāś < **vipaž/*vibal* (cf. *Vibalī* RV 4.30.11- 12), and note that the Sarasvatī still has a similar name, *Vaiśambhalya* (with many variants, always a sign of foreign origin: TB 2.5.8.6, *-bhalya, -palya, -balya* ĀpŚS 4.14.4, *-bhalya* Bhāradvāja Śikṣā; cf. also RV *viśpala*?) < **viśambaž, *viśambal,* probably with the prefix *śam/k'am-* (as in *Śam-bara, Kam-boja*) from **(vi)-śam-baž* (note the popular etymology from *vi-śambala* 'having widespread blankets').

The land of *Tūrghna* (TĀ), north of this region, has no Indo-Aryan etymology either (see EWA), and *Khāṇḍava* (TĀ) with its suspicious cluster *-ṇḍ-* (K. Hoffmann 1941), south of Kurukṣetra, is inhabited by the *Kīkaṭa* under their chieftain *Pra-maganda.* Note also, in the same area (Kurukṣetra), the appearance of Pinnow's *u*-suffixes in 'foreign words', e.g. *Khāṇḍava, Kārapacava, Naitandhava* (Pinnow 1953-4).

The Greater Panjab names of *Gandhara, Kubha, Krumu, Kamboja* may be added. -- *Gandhari* RV, *Gandhara* Br., OP *Ga^{n}dara*, Herodotos *Gandárioi*, EWA I 462, cf. Munda **ga(n)d* 'river', the river names of the Gangetic plains, *Gandakī* and *Ganga*, the *Gandhina* people on its upper course, and Nep. *-gad* in river names. Gandhāra is formed with the common suffix *-ara, -ala* (Witzel 1993, 1999); -- *Kubha*, cf. Skt. *kubja* 'bent', Kuiper 1948: 42f., Sant. *kubja* which belongs to Munda *dui'j, kəb-duj* etc. (Pinnow 1959: 21, 91: §108, 249 §286 Kharia *dui'j* 'bend', Santali *kəbduj* 'ugly', *kəbduju'd* 'crooked', p. 435e Santali *kəbnūj* 'bent', etc.) -- *Krumu* from Munda **kə-rum* 'luke warm'?? cf. Kharia *rum* 'to burn', Sant. *ur-gum* 'luke warm', Mon *uj-run* 'humid, warm'. --The *Kamboja* (AV, PS < *ka-mboj*??) settled in S.E. Afghanistan (Kandahar); cf. OP *Ka^{m}bujīya* (or *Kambaujīya?*) 'Cambyses'; however, their name is transmitted as *Ambautai* by Ptolemy (Geography 6.18.3), without the typical prefix; cf. also *Bulitai*). This change in the first syllable is typical for Munda names (see below *Anga : Vanga, Kalinga : Telinga; Kulūta : Ulūta*, etc.) - Mundas that far west cannot be excluded (Kuiper 1991: 39).

It may be asked, therefore, how far Austro-Asiatic speakers extended westwards during and before the RV period. Until now, the *present* distribution of the Munda languages has led to rather far-going conclusions, for example by Burrow (1958, cf. Southworth 1979: 200). Starting from the modern settlement areas of the Mundas in Eastern India (Bihar, Orissa, W. Bengal) and on the River Tapti (in northwestern Maharaṣṭra and Madhya Pradesh) he regarded it as impossible that the Munda could ever have settled in the Panjab. Kuiper, however, has been of a different opinion (1955: 140, 1991: 39, see also 1948: 8, cf. Witzel 1980, 1993 on the substrate in Nepal, and 1999 for the Panjab area). The cases discussed above indicate a strong Austro-Asiatic substrate in the Panjab, and there are some hints which point to Munda influence in the Himalayas (Konow 1905, Witzel 1993, see below) and even in E. Afghanistan (*Śambara, Kamboja*).

An important result therefore is, *that the language of the Indus people*, at least those in the Panjab, must have been *Para-Munda or a western form of Austro-Asiatic*.

If a relationship with Munda could not be confirmed by obvious etymologies, a minimal position would be to define the c. 300 non-Dravidian loan words as coming from an unknown, prefixing language of the Greater Panjab, which might be called, for lack of a self-designation, after its prominent geographical features, the Gandhāra-Khāṇḍava or perhaps better, Kubhā-Vipāś, or simply the Harappan language.

Finally, in reviewing the evidence of the Ṛgvedic Para-Munda, it should be taken into account that Northern and Southern Munda differ from each other in many respects, the southern version usually being more archaic (Zide 1969: 414 sq., 423), though much less known, and that both this difference as well as the shift of Munda from a prefixing language with mono-syllabic roots to one working, in typical South Asian fashion, with suffixes, may have been influenced or even may have been due to a north Indian substrate such as Masica's "Language X".

§8.3. Dravidian

§8.3.1. Dravidian in the Middle and Late Ṛgveda

As has been repeatedly mentioned, there are no traces of Dravidian language in the Panjab until c. 1500/1000 BCE, not even of the supposedly Dravidian speaking traders and rulers of the Indus civilization; however, Drav. loan words suddenly appear in the RV texts of level II (books 3, 7, 8.1-66 and 1.51-191) and of level III (books RV 1.1-50, 8.67-103, 10.1-854; 10.85-191). These include personal and tribal names, as well as cultural terms.

For comparisons, we are limited to Burrow-Emeneau's DEDR, and a few lists from old Tamil texts, but scholars usually work directly with Tamil, Kannada, Telugu (etc.) comparisons; a reconstruction of Proto-Drav. forms is but rarely given.

To begin with, many words that have been regarded as Drav., are now explained as coming from Munda or another substrate language, for example, *mayūra* 'peacock' whose correspondence in Munda *ma-ra'* still has an appellative meaning, 'crier'; (PMunda *ra'k* 'to cry,' Pinnow 1959: 76 §57;[see now above, §5 on the syllable structure *Cəcəcə* in the BMAC language]. However, this is not so for its Drav. designation, where 'peacock feather' is reconstructed at a level earlier than 'peacock' itself. Indeed, many of the 26 words attested in the RV that Burrow (1945, 1946, 1947-48, 1955, cf. Southworth 1979 sqq.) originally listed as Drav., as well as those added by Southworth (1979) and Zvelebil (1990) cannot be regarded as early Dravidian loans in Vedic.

Even if one would regard *all* of them, for argument's sake, as Dravidian, only *kulāya* 'nest' 6.15.16, *karambha* 'gruel' 6.56.1, 6.57.2, *ukha-cchid* 'lame in the hip' 4.19.9 occur in early Ṛgvedic. These words can, however, no longer be explained as Dravidian.

• *karambha* 'gruel' CDIAL 14358, no longer in DEDR; Kuiper 1955: 151 Drav. etym. as 'doubtful', EWA I 310 'unclear'; Kuiper 1991: 51 sqq. compares loan words with -*b*- > -*bh*- (Pkt. *karamba* 'gruel').

• *kulāy-in* 'nest-like' 6.15.16, cf. *kulāyayat*- 7.50.1; from Drav. CDIAL 3340, cf. DEDR 1884 Tam. *kuṭai*, DEDR 1883 Tel. *gūḍa* 'basket', but word formation? and Drav. *-ḍ-* > Ved. -*l*-?; EWA I 373 'not clear', comparing N.Pers *kunam*, East Baluchi *kuδam* < *kudaman*, with the same problems; 'foreign word', Kuiper 1991: 14.

• *ukha* 'pan, hip' in *ukha-chid* 'breaking the hip, lame' 4.19.9, cf. MS 4, p. 4.9 *ukhā́* (dual) 'hips'; DEDR 564 'particular part of upper leg' : *ukkam* 'waist' Tulu *okka* 'hip'; for sound change Drav. *k*: Ved. *kh*, s. Kuiper 1991: 36, cf. 1995: 243; EWA I 210 compares Latin *auxilla* 'small pot', Lat. *aulla* 'pot' (Pokorny 88), but declares 'not sufficiently explained'. As RV 4.19 is not seen as a late hymn, this might be the oldest Drav. loan in Vedic (RV I).

Only cases in the middle and late RV remain. In the early RV (4,5,6) possible Drav. words are found only in some additional, late hymns (insertion after the initial collection of the RV, c. 1200 BCE, cf. Witzel 1995): -*phala* 4.57.6 'fruit'; *phala* 'plough share' 4.57.8, -*piṇḍa* 6.47.23 'ball, dumpling'. In the middle RV (3,7,8) we find: *kuṇaru* 3.30.8 'lame in the arm?', *mayūra* 3.45.1 'peacock'; *phala* 3.45.4 see above; *kāṇa* 7.50.1 'one-eyed'; *kulpha* 7.50.2 'ankle', *daṇḍa* 7.33.6 (late) 'stick', *kuṇḍa*- 'vessel' 8.17.13; *mayūra* 8.1.25, see above; *naḷa* 8.1.33 'reed'; *kaṇuka* 8.77.4; and in the late RV (1, 10): *ulūkhala* 1.28 'mortar'; *vriś* 1.144.5 'finger'; *bila* 1.11.5, 1.32.11 'hole, cave'; *kūṭa* 10.102.4 'hammer'; *kaṭu(ka)* 10.85.34 'pungent'. There is repeated occurrence of some words already found in middle RV: *a-phala* 10.71.5

'without fruit'; *phal-inī* 10.97.15 'having fruits'; *mayūra* 1.191.14; *piṇḍa* 1.162.19; *phala* 10.117.7; *phala* 10.146.5; *kaṇa* 10.155.1; finally *bala*(?) RV 1,3,5,6,7,9,10 'strength, force'.

The same is the case with some words that have later on been added and discussed (Sanskrit Index of the DEDR, p. 759-763) and elsewhere. Most of them are too late to be of interest here. In DEDR we find, from the early RV: *phalgu* 'minute, weak' 4.5.14, *kalaśa* 'vessel' 4.27.5, 6.69.2, 3.32.15, 7.69.6; and later: *taḍit* 'flash' 2.23.9 (late), 1.94.7 *phala* 'plough share' 4.57.8 (late); -- from the middle RV: *ukha* 3.53 'pan, hip' (late), *kavaṣa* 'straddle legged', a personal name 7.18.12, *kūla* 'slope, bank' 8.47.11; -- from the late RV: *ukha* 'pan, hip' 1.162.13,15; *khala* 'treshing floor' 10.48.7. Of these, only *phalgu* 'minute, weak' (RV 4) remains as a possible early loan into IA, if it indeed belongs to DEDR 4562, Tam. *pollu* 'empty husk of grain'; EWA II 203 has an IE etymology. Again, all other words regarded as Dravidian appear only in the *middle* and especially in the in *later* RV.

Southworth (1990, 1995) adds the following examples of early contact between Drav. and Indo-Ar., however, without ordering the texts historically: *car-, carati* RV; *maya* 'confusion, wonderment, awe' RV, and Southworth 1979: 203, 228 f., 1990: 222-3, 1995 reconstructs as further indication of early contact between Drav. and Indo-Ar. in Iran, a word **tanu* 'self', Tamil *tan̲/tan̲* 'oneself', *tanū* RV 'body, self/oneself'. The variation in vowel length in the Drav. pronoun (Tam. *tan̲/tan̲* 'oneself') is old (Krishnamurti 1968). However, next to the RV instances, there is Avest. *tanū* 'body, self', OP *tanū* 'body'; they all have no clear IE etymology. The comparison of the IIr. and Drav. words would presuppose a very close relationship between Drav. and (pre-)Indo-Ar. tribes, as pronouns are not taken over easily. Such early Drav.-IA relationships are not found otherwise: there are no early loans in designations of material culture, e.g. pastoralist terms in Vedic/Drav.: horse: *aśva* : *ivuḷi, kutira*, cow: *gau-* : *a(n̲)*, sheep: *avi* : *(y)āṭu, koṟi*, goat : *aja* : *(y)āṭu, koṟi*, dog: *śvan* : *nāy, nai*. This would rather point *against* a neighborly relationship of both languages in any pre-South Asian context. Southworth adds *garda-bha* 'donkey' RV 1.23.5, in a late appendix hymn 3.53.23; *piśaca, piśacī* AV, *piśaci-* 'demon' RV, late: 1.133.5; *paṭhati* 'to recite' RVKh; *nagara* 'town' TĀ, but cf. already *nagar-in* JB. The other words added by Southworth are post-Ṛgvedic (*śava, paṭhati, nagara*), or they are attested in relatively late RV sections (*gardabha, piśaci*), or they are of dubious nature (*car, maya, tanū*). Therefore, it is not possible to suppose an *early* close contact, *even in Iran*, and on all levels of society, of Dravidas and Indo-Aryans.

However, Zvelebil's summary is: "as Emeneau (1971) writes, 'We end, then with a small, but precious handful of Vedic forms for which Dr. etymologies are certain and acceptable as may be expected in this field of areal linguistics, adding, though that no chronology of the borrowings is possible" (Zvelebil 1990: 81; similarly Parpola 1994: 168). According to what has been said above, this has to be modified drastically: Ṛgvedic loans from Drav. are visible, but they also are now datable *only* to middle and late Ṛgvedic (in the Greater Panjab), and they can both be localized *and* dated for the Post-Ṛgvedic texts (Witzel 1987, 1989).

Of all the words mentioned so far that have been regarded as Drav., only the following few are possible, though not uncontroversial, for the early RV :

> *ukha[-chid]* 'hip[-breaking]' 4.19.9; *phalgu* 'minute' 4.5.14, *aṇi* 'lynch pin' 5.43.8
> (whose ultimate source is unclear, and, very tentatively, *bala* 'force' 5.57.6, 5.30.9,
> probably from IE, cf. Latin *de-bilis*).

Whether this is enough to ensure the presence of (even a small number of) speakers of Dravidian in the Panjab during early RV times may remain in the balance. These few village type words would constitute a strange legacy of the c. 700 years of the great Indus civilization,

had it been speaking Dravidian. From the middle RV, however, come: *kavaṣa* 'straddle legged', (a personal name) 7.18.12, *kūla* 'slope, bank' 8.47.11 and perhaps also *kuṇḍa* 'vessel' 8.17.13.

If the middle and late RV words mentioned above are accepted as Drav. and even if some of the words *excluded* above for the early RV should be accepted, this would not change the general picture: There is *very* little Dravidian, but there are about 300 words of the Indus substrate. For it *cannot* be said, conversely, that there were, during the older and middle RV, clear indications (or: "a precious handful", Zvelebil) of a strong Drav. substrate in the Panjab. At best, one can speak of a few very isolated cases which have been taken over into the RV; clearly this indicates an adstrate rather than a substrate.

This result is important for the time of the immigration of speakers of Dravidian into the Panjab and it specifically underlines that the Indo-Aryans *did not at once* get into contact with speakers of Drav. but only much later, when the tribes speaking IA were already living in the Panjab and on the Sarasvatī and Yamunā. Apparently, Dravidian speakers began influencing the Panjab *only at this moment in time* (cf. Allchin 1995: 31 sqq., see above). *Consequently, all linguistic and cultural deliberations based on the early presence of the Drav. in the area of speakers of IA, are void* or they have to be reinvestigated.

It cannot be argued that the immigration of the Dravidians into the Panjab should have taken place *earlier* than discussed above, for the simple reason that Drav. words do not exist in that early period; the same is the case if only the upper class such as traders (cf. *vaṇij* 'trader?' RV 1.112.11, 5.45.6, AV, (*pra-*)*vaṇa* 'trade?' 4.24.9, see Kuiper 1955: 168) and administrators of the Indus Civilization was composed of Dravidian speakers (Parpola 1994, Fairservis in: Southworth, 1979: 208, 228; contra, Hock 1975: 87f., cf. Southworth 1992: 663), and that in consequence, the Indus inscriptions should be read as Dravidian. In this case, one would expect, after some 700 years of the flourishing of the Indus civilization, cases of bilingualism. Consequently, much more Drav. influence should have been retained than visible in the few (late) words found in the c. 380 'foreign' words. One would expect at least a few important loan words from the fields of trade, handicraft or state organization -- at least, from the post-Indus, village level type cultures. This, again, is *not* the case. *Paṇi* '(rich) foreigner, demon' cannot be connected with 'trader' inside the RV [see now discussion above, § 1.1.] and *paṇ* 'to barter' appears first only in post-Rgvedic. Even if Drav. had been the traders' language, one would be at loss to answer the question why Drav. influence is only seen in the middle and late RV as well as later on. [It must be added that the body of loan words from the Dilmun (Bharain) and Meluḥḥa (Sindh) area that are attested in early Mesopotamian sources (see Witzel 2000b), likewise, is not Dravidian but has some of the prefixes of Para-Munda, discussed above, such as in *śambara/śalmali* : Sum. ᴳᴵˢ*gi-šimmar*. There even is testimony of a translator for the Meluḥḥa language, named Šu-ilišu.]

Summing up, *early* Dravidian influence in Gandhāra and in the Panjab can be excluded, but must be *explained* for the following middle and later RV periods (cf. also Kuiper 1997: 7 sq). This is best done by the scenario mentioned in §8.2: middle and later RV immigration of Drav. speakers from Sindh. Incidentally, it must be noted that in *all* of the RV, there are no typical Drav. words for agriculture which should be expected if the Indus people of the Panjab had been speakers of Dravidian. This agrees with the reconstruction of Fairservis (1995), Southworth (1979, 1988, 1990: 663 'an "Indus" or "Harappan" language or group of languages'), and McAlpin (1979) of early Dravidian: an originally pastoral society that acquired agriculture only in South Asia. All of this indicates that we have to take a closer look at the regions bordering the Panjab in the South, especially Sindh.

§8.3.2. Dravidian immigration

The observations about the early linguistic evidence from Sindh (Witzel 1999) indicate that Dravidians were not a primary factor in the population of the Indus civilization, even of Sindh, and that they were immigrating into the Panjab only in middle Rgvedic times. But when could they have entered South Asia?

Earlier scholars (Heine-Geldern 1964, Pinnow 1954: 15) thought that they entered S. Asia (sometime as late as the early 1st millennium BCE) and proceeded via Baluchistan, Sindh and Gujarat to S. India (Zvelebil 1970, 1990: 48, 123). Indeed, their tracks are still visible in certain place names in Sindh, Gujarat and Maharashtra. According to Southworth and McAlpin, however, the semi-nomadic speakers of Dravidian who even had contacts in Iran with the pre-immigration Indo-Aryans (Southworth 1979: 203, 228 f., 1990: 222-3, 1995), came to S. Asia relatively late, but early enough to participate in the Indus civilization, from which they acquired agriculture and the accompanying vocabulary. This scenario, if applied just to Sindh, explains why the c. 300 foreign words of the RV (in the Panjab) with their (agricultural) vocabulary are relatively free of Drav. influence.

According to the indications given above, the Dravidians apparently were just as foreign to Sindh and its agriculture as the Indo-Aryans to the Panjab. As the Northern Indus language (Para-Munda/Harappan) differs considerably from the Southern one (Meluhhan), it seems likely that the speakers of Indo-Aryan entered the Panjab and acquired local words from the Northern dialect (*śaṇa, laṅgala, vrīhi, godhūma, kaṅgu, Gandhāra*), and that the Dravidians entered Sindh at or about the same time and acquired such words from the southern dialect (*gōnu, ñañcil, variñci, godī, kaṅku/kampu*). It may even be the case that the first who made horses statues at Pirak (1700 BCE) were Dravidians, not the 'IA' Bhalānas. For the first use of horses must not necessarily be linked to speakers of an IA language.

The Drav. words for 'horse' underline this: DEDR 500 Tam. *ivuḷi*, Brah. *(h)ulḷi*, 1711 Tam. *kutirai*, Kan. *kudire*, Tel. *kudira*, etc., 3963 Tam. *pari* 'runner', 4780 Tam. *ma* 'animal' (horse, elephant), Tel. *māvu* 'horse, (cognates mean 'deer' etc. in other Drav. languages), cf. Nahali *māv* 'horse'. These words are quite different and independent of IA *aśva* 'horse' and various words for 'runner' (*arvant, vājin*, etc.), etc.

On the other hand, the technical terminology for chariots is IA and IE. It has been taken over into Drav.: *akṣa* 'axle' RV > Parji-Kolami *accu* 'axle'; *aṇi* RV (of unknown origin) > *aṇi* 'lynch pin', *ara* RV > *ar* 'spoke' (cf. Southworth 1979: 230 n. 14). Note that the earliest IIr **ratha* 'chariot (with two spoked wheels)' (Gening 1977, Pigott 1992, Anthony u. Vinogradov 1995, cf. Littauer u. Crouwel 1979, 1996) is found about 2000 BCE, near the Volga (North Iran. **Raha* > Greek *Rhā* = Avest. *Raṇhā*, Ved. *Rasā*). The IIr word for 'chariot', however, is old enough to have resulted in the archaic compounds Ved. *rathe-ṣṭhā*, Avest. *raϑaē-šta-* 'chariot fighter', cf. Old Avestan *raϑī*, RV *rathī* 'chariot driver.' Dravidian has nothing of this, but words for 'wagon' or 'bullock cart'.

An early wave of Dravidian speakers might very well have preceded the IAs into Iran and S. Asia [just like those of the Guti, Lullubi, Kassites did with regard to western Iran/Mesopotamia.]. (Note the strange absence of *Maka* in the list of "Aryan countries" in the Avestan records, such as V. 1, cf. Herodotos 3.94). A few IA loans in Proto-Drav. would settle the case, but culturally decisive words, such as for the newly introduced horse, the chariot, or other pastoral terminology do not exist. The Dravidians hardly had any previous contact with the Indo-Aryans while still in Iran. Contra Southworth (1979: 196f.), there is little secure evidence for *early* loans from IA into Drav.; such words can have been taken over any time

between the RV (1200 BCE) and the earliest attestation of Tamil at the begin of our era (see above, on Drav. evidence in Vedic).

There are only a few questionable loans that might have come from the pre-immigration period, that is from hypothetical contact when still in Iran; these remain speculative; cf. perhaps, Ved. *garda-bha* EWA I 473, Drav. *kaḷu-tai* DEDR 1364 'donkey'. -- On the other hand, several agricultural terms in Dravidian are in a close loan word relationship with Sumerian and sometimes beyond, with Afro-Asiatic (Blažek and Boisson 1992). These include words for plough-tail, -handle, plough share, to plough, mortar, threshing floor, and to grind; this close link may point to a more western path of immigration of Proto-Drav. speakers than that of those of pre-Vedic IA.

§8.4. Indo-Aryan acculturation in the eastern Panjab and upper Gangetic plains

We return now to the epicenter of post-Indus developments, the area of Eastern Panjab-Haryana-Uttar Pradesh, in other words, the lands from the Pakistani border up to Allahabad. In the early post-RV texts, the hub is the Kurukṣetra area, northwest of Delhi. This is the realm of the middle Ṛgvedic Bharata and the late Ṛgvedic Kuru (Witzel 1997). The Bharata tribe and its successor, the new tribal union of the Kuru, represent a new wave of IA immigrants from the other side of the Indus (Vasiṣṭha RV 7, JB 3.238-9 §204), which brought new linguistic traits with them (*kuru* for older *kṛṇu, sarva* for *viśva*, etc., Witzel 1989). The Kuru dialect is remarkably more modern than the language of the bulk of the RV. However, RV book 10 often reads already like the next level, that of the AV and other Mantra texts of the Kuru period.

The Kuru confederation, supplanting the 50-odd Ṛgvedic clans and tribes, became the center of linguistic (Witzel 1989), religious and social (Witzel 1997b) development. They formed, together with partly IA acculturated Indus people (*arya*-tribes such as the Anu-Druhyu, Yadu-Turvaśa) and with the new addition of Dravida speakers, a new society with a new *elite kit* (Ehret 1988). This included pastoralism (cattle, horse, sheep, goat), IA ritual and acculturated customs, IA religion and ritual, but also post-Indus type agriculture (barley, wheat, rice, millet) and local artisans (potters, etc.). The new culture, Vedic orthopraxy and social system (with four classes) then spread eastwards into the Gangetic plains, and ultimately to Bihar.

Because of the amalgamation of the three groups (IA, Para-Munda, Drav.) we have to suppose a large degree of bilingualism and even trilingualism, and the forming of pidgins. A Vedic pidgin must have been used at home, and proper Vedic Sanskrit was learnt 'in school', at the time of initiation of boys (cf. Kuiper, A bilingual Ṛṣi, 2000). While the *lingua franca* was a form of late/post-Ṛgvedic IA, pockets of the Para-Munda Indus language, of the newly arrived Dravidian as well as some remnants of the Gangetic Language "X" must have survived as well.

Among the post-Ṛgvedic texts, especially the AV is full of non-IA, 'popular' words of plants, animals, demons, local deities, and the like. Their character still is, by and large, Para-Munda, with some words from the 'local' language ("X"), and with some Drav. words included; all of which is clearly visible in the increase of words with retroflexes.

The linguistic situation is reflected, among other items, in the mixture of IA and other river names in the area. The famous Sarasvatī is also called Vaiśambhālyā / Vaiśampālyā / Vibalī; these names and that of the nearby Vipāś < *vipaḷ/vipaž* all seem to go back to a local word, *vi-śam-paž*, (Witzel 1999). However, and typically, there are no Dravidian river names in the whole of the Kuru area.

A hint of how Drav. influence on Vedic was exerted is contained in the name of the Śūdra. From the late RV (10.90) onwards, this designates the fourth, non-Ārya class; it was added to the three 'Ārya' classes of Brahmins, Kṣatriya (nobility) and Vaiśya ('the people') only at this time. However, Greek sources of Alexander's time still place the *Sudroi* people at the confluence of the Panjab rivers with the Indus; this may still indicate their origin in Sindh/ Baluchistan.

As has been pointed out, Drav. words first appear in Middle and Late Ṛgvedic, in RV 3, 7, and 8, especially in the Kāṇva section. Interestingly, it is Tura Kāvaṣeya, the great-grandson of the Drav.-named *Kavaṣa* 'straddle legged', a priest on the 'wrong side' in the great Bharata battle (RV 7.18) who becomes an influential priest in the Kuru realm and who developed the new, post-Ṛgvedic *(śrauta)* rituals (Proferes 1999), just three generations later.

It has been stressed by Burrow (1973 : 386) that the post-Vedic texts have more Dravidian words; indeed, the evidence of Para-Munda words, too, is not diminishing but increasing during the Vedic period. This is the case right from the Mantra texts, and includes the Yajurveda Saṃhitās whose territory can be easily established (Witzel 1987, 1989, 1997) as that of the area between E. Panjab (Lahore), Allahabad and the Chambal River area (Ujjain).

§8.5. The Post-Ṛgvedic period

The new tribal union of the Kuru (and their more eastern allies, the Pañcāla), with their new social set-up and solemn rituals expanded, incorporating the surrounding tribes, eastwards into the Gangetic plains, in a partly military, partly peaceful fashion until it reached northern Bihar (Witzel 1995, 1997). The eastern tribes were at first regarded as half-barbarian (JB 1.337 §115) or *'asurya'* (demonic).

The same is seen in archaeology: late Harappan people emigrated upstream along the eastern Panjab rivers and towards the Upper Gangetic plain (the only movement of people the archaeologists allow for the whole period under discussion here, Shaffer 1995: 139, cf. Allchin 1995: 33-35), a fact reflected in the Vedic texts as well. The emigration was possible due to a new type of agriculture, permitting cultivation of rice during the monsoon (Kenoyer 1998: 163) as well as wheat and barley in winter, resulting in a food surplus. The settlement at first occurred along the river banks, (Witzel 1987, 1995), in half-nomadic treks (*grāma*, Rau 1997). This is reflected by the Painted Gray Ware culture, with their clear elite pottery whose regional motifs indicate the split into western Kuru and more eastern Pañcāla, something that is also seen in the Vedic dialects they use (Witzel 1989).

Not everybody is included: The non-IA *Kīkaṭa* (3.53) or the *Paṇi* are clearly described as foreigners (late hymn 6.45.31), and even later, in the Mantra and YV Saṃhitā period, the *Niṣāda* in the Chambal area (MS 2.9.5 etc.) and other *dasyu* 'enemies' (JB, Witzel 1997b: n.161, 163, 278); in RV 10.61.8 as well the South (i.e. the area south of Kurukṣetra) still is the land to banish someone.

As has already been indicated, the features of the Ṛgvedic substrate language are also found in post-Ṛgvedic texts that were composed further east in the Kurukṣetra and in western Gangetic plains, as well as in the Chambal area. These words are not just the same as found in the RV, but there are many new ones.

In the Mantra period, starting with YV (MS, KS, TS) and AV/PS, we can clearly distinguish all three linguistic elements:
· Indo-Aryan with some already incorporated north-western elements such as Nuristani *kāca* 'shining piece of jewelry' or Burushaski *kilay* ~ RV *kīlala*, *śon* ~ RV *kaṇa*, *bus* ~ RV *busa*, etc.;

[To be added now are the elements picked up in Central Asia, such as the words for brick, donkey, and camel, see above § 3.1., Witzel 2003.)
• The Indus substrate (Para-Munda), that also is found in the Ganges area (next to some elements of language 'X'), such as RV *kuśika, karañja, kaṅkata, śiṃśapa, śiṃśumāra, puṣkara, puṣya*, especially the words with prefix Cər (*pər/kər/sər-*), *kar-koṭa-ka* RVKh ~ *śar-koṭa* AV, *tila* AV: *jar-tila* KS, *kalmāśa* MS, KS, *kal-maṣa* PS, *kul-maṣa* Up. : *maṣa* AV, with the -*ṭa*, -*śa/ṣa* suffixes, and with -*ṇḍ-*: *ka-maṇḍalu : maṇḍa-la*, etc.
• The Middle and Late Ṛgvedic Drav. element also is found in the Ganges area: *godhūma* AV (Hindi *gehū* etc., Kusunda *gabun*), *kuṇapa* AV, *kurkura* AV, *cūḍa* ŚB, *coḍa* TS, *eḍaka* JB, *arka* ŚB, *bilva* AV 20 (Kuiper 1991:66), -*nīra-* ŚB, etc.

In short, the upper class IA language (of the Vedic priests) used in the upper Gangetic plains contains the same substrate elements as seen in the late Ṛgvedic period of the Panjab. However, due to the increasing stratification of society and increasing specialization among occupations, many words from the sphere of the artisans and from technology were added; furthermore many names of persons, localities and rivers.

Their affiliation can still be ascertained to some extent. With regards to agriculture, Kuiper's RV list (Kuiper 1991: 8, 21, 96, see already Kuiper 1955) contains quite a number of such terms (*kīnāśa, lāṅgala, bīja*, etc.) Especially among the artisans there is an increasing number of non-IA designations; many of them first appear in the Horse sacrifice, the Aśvamedha ritual (MS *kevarta*, *kaivarta* TB).[273] Some of them are, in line with the increasing specialization, new Indo-Aryan formations (*anucara* 'servant', *grāma-ṇī* 'leader of a trek, wagon train' etc.), but especially those of fishermen (*kevarta/kaivarta, dāśa, dhīvan, daivara, puñjiṣṭha, pauñjiṣṭha, bainda, maināla*) are non-IA (often until today). Furthermore, non-IA specialists are: musicians (*talava* 'musician', *aḍambara-aghāta* 'drum beater', *dundubhy-āghāta* 'drum beater' (cf. *dundubhi* RV), *vīṇa-gāthin* 'lute player', *vīṇā-vāda* 'lute player', cf. *vīṇā* 'lute' KS (EWA II 568), artisans (*kaṇṭakī-kārī* worker in thorns', *bidala-kārī* 'female splitter of bamboo', also *kulāla* 'potter', and the *palāgala* 'messenger' (cf. *palāgalī* 'fourth wife of a chieftain'), *gaṇaka* 'astrologer' (cf. *gaṇa* 'troop, number' RV) and 'money lender' (*kusīdin, kusīda* KS).

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[273] Details: *kīnāśa* 'plough man' EWA: 'non-IE'; *kīnara* only RV 10.106.10; -- the following words all mean 'fisher' *kevarta/kaivarta* VS/TB; Pali, Pkt. *kevaṭṭa, *kevaṭa*, CDIAL 3469 and add., 3479; Drav. according to Burrow, KEWA I 566, DEDR 1252 Tam. *kayal* 'carp', Mal. *kayal* 'a fish', etc.; *kai-* in *kevarta*; -- *dāśa* VS, *dāśera* lex. CDIAL 6314 a Jat tribe: *ḍaha*; -- *daivara* VS, see *dhī*, CDIAL add. 6819 NIA, Kuiper, KEWA II 105 ~ *tivara* (lex.) = tribal name? -- *puñjiṣṭha* also 'bird catcher?', MS, VS, *pauñjiṣṭha* AV; no NIA etym.; -- *bainda* ~ Śrbinda, Kuiper 1991, EWA; -- *maināla* < Drav. *mīna* 'fish'; --- *śauṣkala* ~ *śuṣka* 'dried up'? -- Further: *talava* 'musician' VS ~ *taḍ* Epic 'to play a musical instrument'? Kuiper *ZII* 8, 1931, 251; -- *aḍambara-ghāta* 'drummer' VS, *a-* ŚB; Kuiper 1948: 85f. from Proto-Munda, *dundubhy-āghāta* 'drummer' (RV), ŚB EWA: onomatopoetic, Kuiper 1948: 84 Munda; *vīṇa-gāthin* 'lute player', also in Iran?, see EWA, Mayrhofer 1968, CDIAL 12048; *vīṇā-vāda* 'ditto'; -- *palāgala* 'messenger' ŚB, -*kalī* ŚS. no NIA continuants; -- *kaṇṭakī-kārī* 'worker in thorns' VS; *kaṇṭaka* 'thorn' ŚB, Iran?, Greek *akantha*? -- *bidala-kārī* 'basket maker' VS, EWA "not clear", but cf. DEDR 5432 *viḷ* 'to split'; -- *sirīn* 'weaver?' only RV 10.71.9 (Ved. Ind. 585-6); -- *gaṇaka* 'astrologer' VS: RV, *gaṇa, *gṛna*, CDIAL 3993 and add.; Greek *ageirō* 'collect'; Kuiper 1948: 54 Munda; -- *kusīdin* 'money lender' ŚB, *kusīda* KS, TS; Pali *kusīta* 'lazy', etym.? *ku+sad* > Pali *ko-sajja*?? -- *parṇaka*? a tribal name? VS "Bhilla" in later commentary, EWA ~ *paṇi*? -- *paulkasa*? VS a mixed tribe, Kuiper 1948: 54ff. -- Indo-Iran.: *malaga* 'washer man' < AV, *mala*: IE *mel*; -- *upala-prakṣiṇī* from IA *upala* 'mill stone' TS: *kulāla* 'potter' MS, KS, VS; EWA ~ RV *kula* 'hole, hollow', in *mahakula*, Pashai *kōlāla* 'potter' CDIAL 3341; -- *kṛṣī-vala* 'agriculturist' RV, *a-*, AV *karṣīvaṇa* : suffix variation!; -- *vaṇij* RV, *vaṇija* KS 'trader' < *van-ij* 'winning goods' according to EWA, Mayrhofer 1968.

Such words come up not only in the eastern parts of North India (Bihar, area of VS/ŚB) but also everywhere from the Panjab (RV) and the Delhi area (MS, KS) eastwards, e.g. *kīnaśa* 'plough man' RV, *gaṇa* 'troop' RV, *dundubhi* 'drum' RV, *vīṇa* 'lute' KS, *kusīda* 'money lending' KS. The newly attested words have the same 'foreign' grammatical formations as seen in the RV: prefixes (*ke-/kai-, dun-dubhī?*), retroflexes (*aḍambara, kaṇṭakī-*), initial *b-* (*bidala*), suffix *-ala* (*pal-ala, main-ala,* cf. Oberlies 1994: 341).

Similar data could be supplied for the spheres of material culture and the surrounding nature: agriculture and domesticated plants, local animals and plants, many items of food, illnesses and poisons, implements and utensils, and ornaments; this would lead to far afield in present context (see the lists in MacDonell-Keith, Vedic Index, Delhi 1967 [1912] 517-92).

§8.6. Conclusion

In short, the early linguistic picture of South Asia in the second and first millennium BCE is as complex as (or even more so) than its modern counterpart. Some of the examples adduced above indeed indicate that we are in for surprises, once more information is received. The RV hapax *akhkhalī kṛ* 'to speak haltingly, to bleat' would have remained one -- if not for A. Mundlay's list in *MT* II, 17 with Nahali *akkal-(kayni)* '(to cry) loudly in anguish'. This excludes other etymologies recorded in EWA, ingenious as they may be. This example also indicates that even the oldest literary tradition has retained important information on the (lost) substrates. What may we still find in the Tamil Sangam texts? Yet, as expressed above: nobody is looking!

The few etymological dictionaries available so far do not provide geographical and historical information, though Mayrhofer's EWA now gives a general idea, for the specialist, of the historical levels, but hardly of the geographical spread. DEDR does not have any such information yet, and we need to check the on-line dictionary at Cologne (http://www.uni-koeln.de/phil-fak/indologie/tamil/otl_search.html); and the KWIC Concordance of Classical Tamil texts (http://www.uni-koeln.de/cgi-bin/SFgate). A Munda etymological dictionary is still under preparation.

We need much more philological and linguistic study in a number of areas for further comparisons inside and outside South Asia. In this undertaking, the ancient Vedic and Tamil texts still hold out a lot of important and interesting data, but they have not yet been tapped properly. Even in the well-studied IA sector we do not yet have enough reliable information on the geographical spread an time frame of the texts (except for the Veda, see Witzel 1987, 1989, 1997). The various levels and the geography of the Pāli and Epic texts still need much more sorting out. In the Dravidian field, we need, especially, a detailed historical grammar and dictionary of Tamil that covers the past two millennia or so in a comprehensive fashion. In Munda, a new reconstruction that pays more attention to S. Munda is eagerly awaited, not to speak of a comparative or etymological dictionary of the various languages and dialects involved. For the remnant languages such as Burushaski, Nahali, Kusunda, and the various substrates the lesser said the better. Even the extensive new Burushaski dictionary of Berger (1998) contains few etymological notes, and they are restricted to the northwestern languages and to Urdu. Almost all major Indian languages, north or south, lack historical and etymological dictionaries. Even in the well researched field of Indo-Aryan, Turner's CDIAL and Mayrhofer's EWA are only of limited help for our purpose, restricted as they are, to words derived from OIA or reconstructable as OIA. Mayrhofer's 'unexplained, difficult, unclear' words and Turners 'starred' words may be a help, at least, to highlight possible loan

and substrate words; even then, Mayrhofer's marked tendency to explain virtually everything as IE needs constant attention. Unfortunately, in similar vein, Burrow-Emeneau's DEDR only compares only inside Drav., and outside the family refers only IA and not to Munda or to other S. Asian languages, so that "their dictionary, by omitting all references to Munda, sometimes inevitably creates a false perspective from a Pan-Indic point of view" (Kuiper 1991: 53).

In sum, not only is the linguistic situation of northern South Asia in the second millennium BCE much more complex than usually admitted, the materials adduced above also indicate that, even with the addition of the modern descendants of Proto-Burushaski, -Nahali and -Kusunda, we have to reckon with, and make use of, a number of other substrate languages such languages as Tharu, Masica's "Language X", the substrate of the Kathmandu Valley, and the Panjab and the Sindh varieties of the Indus language.

All of this, provides a multitude of data for the many waves of immigration and amalgamation that have swept over the Indian subcontinent. Ultimately, these substrates will hint at the first wave of immigrant groups of Homo Sapiens sapiens (now visible in genetic data), which may have left us some remnants in the deep substratum of languages such as Nahali, Vedda and Kusunda.

What does the linguistic evidence tell? During the Vedic period, there has been an almost complete Indo-Aryanization of the North India, including its hydronomy. The result of Aryanization is steadily increasing in the early texts of northern India: the Vedas, the early Pāli texts and the Epics. Sanskritization has progressed much less in many parts of South India and in the often inaccessible areas of Central India. However, in the northwestern section of the subcontinent, the starting point of IA infiltration, there are but a few exceptions from this trend, such as the names of the rivers *Śutudrī*, *Krumu*, and maybe the *Kubhā*. In the eastern part of northern India, the situation is similar: apart from the *Gaṅgā*, a folk etymology for Munda **gand*, and the transient Vedic innovation *Sadānīra*, Sanskritic names or adaptations have overlaid the medieval and modern continuants of local names, e.g., the *Gaṇḍakī* and the *Kauśikī (Kosī)*.

Indo-Aryan influence, whether due to actual settlement, cultural expansion, or, in still more neutral terms, through the substitution of indigenous names by Sanskritic ones, was from early on powerful enough to replace the local names, in spite of the well-known conservatism of river names. The development is especially surprising in the area of the Indus civilization. One would expect, just as in the Near East or in Europe, a survival of older river names and adaptation of them by the IA newcomers upon entering the territories of the people(s) of the Indus civilization and its successor cultures.

However, in the northern part of the subcontinent the few surviving local names have been Sanskritized superficially. If the local population had been socially important or politically powerful enough it would have insured the survival of their old nomenclature (as is found in the eastern Himalayas and in the south). Their failure to do so must have been due to social and political factors that become visible in the Ṛgvedic process of acculturation and take-over of IA material culture, religion and ritual by some local chieftains, possible adoption of local shamans and priests (Kuiper),[274] all of which resulted in the establishment of the four classes (*varna*) by the time of the Puruṣa hymn (RV 10.90).

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[274] Whether these also became IA poets - such as, according to Kuiper, Agastya - remains to be investigated; note, however the handy adoption scheme found in the RV, Witzel 1995a, Deshpande 1995.

It is useful to remember Kuiper's definition (1991: 6 sq.) of the Rgvedic Ārya: "[In the RV] 'Aryans' were in general those who maintained the world order by means of sacrifices and gifts..." They were not isolated form the rest of the population: "those who believed that a definite ethnic barrier separated the 'Aryans' from the surrounding non-Aryan peoples disregarded some well known facts. ..."

In light of the present discussion about the arrival of 'the Aryans' in India and in some circles of Anglophone archaeology,[275] that is, the growing denial of any immigration or even trickling in of people speaking Indo-Iranian or Indo-Aryan dialects, it is important to note that not only the Vedic language but their *whole* complex material and spiritual culture has somehow been taken over and absorbed in the northwest of the subcontinent. This includes chariot making technology and horse training as well as Indo-Iranian poetry and its complicated conventions that are still visible and functioning in the Rgveda. It also includes the old Indo-Iranian religion centering around the opposition of *Devas* and *Asuras*, ancestor worship which is carried out along old Indo-European lines, and of course, the naming or renaming of places and rivers treated in this contribution.[276]

In any scenario, we must distinguish between the initial import and the process of (gradually) taking over, by the indigenous populations, of Indo-Aryan language (including poetry, etc.), of Indo-Aryan technology (horse drawn chariots, etc.), and thirdly, that of the *whole complex* of Indo-Iranian culture including language, customs, beliefs, religion, ritual, family structure, pastoralist economy, material culture and technology. All of these features may have progressed at a different rate and with varying impact in the various areas of the northwest and beyond.

We should regard the 'importation' of Indo-Aryan into the subcontinent as the outcome of an influx of a group of clans, tribes, or a people who spoke early Vedic and had an Indo-Iranian or rather, an early Indo-Aryan civilization, with exogamous groups of patrilinear descent, pastoralism, horse-drawn chariots, etc. Emerging from the Turkmenian-Bactrian area, (the Bactria-Margiana Archaeological Complex) after a complete acculturation in the area,[277] they probably had mainly West/Central Asian somatic characteristics.[278] Their genetic impact may have been fairly negligible[279] due to acculturation and the quick adaptation of their culture by the Panjab populations.

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[275] It is useful to heed the warning of S. Embleton (1990) expressed in quite a different context: '...when non-academics also get involved, progress is often slowed down and the field as a whole suffers, sometimes with all work in the field being unjustly tainted... constant difficulty is occasioned by the 'anyone can do it' attitude, which leads scholars who have no philological expertise to propound impossible etymologies.'

[276] Three ancestors only out of the many generations still remembered are worshipped, three *piṇḍas* are offered, cf. the Greek *tripatores*, the Russian custom of offering three *klyochki* to the ancestors, etc.

[277] Note that Bactria has always been a staging place for immigration to and invasions of India; it also has been an area where a relatively quick acculturation has taken place, e.g. of the Central Asian Yue Ji, the Kuṣaṇa, the Turks of the Turkī Šāhi dynasty, the Turks and Mongols of Babur and Akbar, etc.

[278] A few European strains might have been included, such as *one* 'goldhaired' (*hiraṇyakeśin*) person that is not a god, the author of HŚS. See now L. Cavalli-Sforza 1994.

[279] A model such as that of Renfrew 1987 based on economical exchange certainly does not explain this kind of complete take-over. His dominance model, however, might have applied in *some* strictly localized cases. But both neglect the increasing evidence for a voluntary adaptation of IA culture by some of the leading classes of the indigenous population in certain areas of the northwest. See below.

The reasons for the initial trickling in and immigration of the Indo-Aryans may include the following: the breakdown of the city-centered Indus civilization and its reverting to rural settlements, and the explosive spread of the resulting localized culture eastwards into Haryana and Western U.P. (as well as into Gujarat), accompanied by a large scale abandonment of the earlier settlements in the Indus and Sarasvatī (Ghaggar-Hakra) areas.[280] This expansion was probably due to the possibility to grow the new summer grains rice and millet there.

On the other hand, this movement left large sections of the Panjab open to the (mainly) pastoral IA tribes who could now exploit not only the area formerly marginal for agriculture but also the newly abandoned lands. Since they had practised only limited agriculture[281] (*yava* 'barley') in an area not affected by this change, i.e. their older home in Afghanistan, they did neither take over, at first, rice or millet, and they also did not do so at first in the Panjab. The RV does not mention either (*vrīhi* AV, *aṇu* VS 18.12, *priyaṅgu* MS, KS, TS, VS), and also not the staple of the Indus civilization, wheat (*godhūma* MS, VS). Only when the Indo-Aryans definitly expanded into U.P., that is in the Mantra period (AV, PS, YV Mantras), rice, millet and wheat make their appearance.

In other words, the RV period may have seen increasing pastoralism in the Panjab, with substitution of IA river names, but with some post-Indus villagers hanging on to agriculture in those areas that had periodic flooding or could have artificial irrigation. These people are clearly distinct: most of the agricultural terminology is non-IA (Kuiper 1991).[282] Note that even in the later RV, Viśvāmitra and his sons can speak of the autochthoneous people, the Kīkaṭa, as being inept with cattle: 'what is the use of cows with the Kīkaṭa?' (RV 3.53).

According to this scenario, we can expect linguistic interaction between the newly arrived Indo-Aryans and the indigeous population since the end of the Indus civilization at c. 1900 B.C., even if IA infiltration had already started somewhat earlier (or, conversely, later) than that. In all scenarios, there were several hundred years (c. 1900-1200 B.C.) when interaction (such as changes in hydronomy) and convergence could take place. Indeed, the language, the names as well as the data for civilization and religion in the RV indicate a long period of acculturation. As Kuiper has shown (1967, 1991) even the hieratic and highly poetical language of the Ṛgveda has been influenced by acculturation and, therefore, by substrates, in the form of loan words, calques or in syntax. The emergence of the South Asian linguistic area (*Sprachbund*) can be witnessed in the Ṛgveda itself.

Kuiper (1991, 20) has recently stressed that [grammatical innovations].... were only gradually gaining access among the poets of the Rigveda. This would allow but one conclusion, viz. that they had arisen among lower social circles of bilinguals, who were in a steady contact with speakers of Dravidian and other non-Aryan languages (Kuiper 1967, 96)." On the other hand, Southworth (1979: 204) has recently underlined that "the nature of borrowings

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[280] One should not, however, take TB 2.4.6.8 as indication of this *(yeṣam ime pūrve armasa asan / ayūpa* (text: *ayūpaḥ) sadma vibhṛta purāṇi / vaiśvanara tvaya te nuttaḥ / pṛthivīm anyam abhi tasthur janasaḥ*). The mentioning of *a-yūpa* dwellings rather seems to refer to the IA *grāma* and offering grounds. -- But cf. AB 3.45 with long wildernesses in the west and more populous settlements in the east; this describes the post-Indus, post-RV situation perfectly.

[281] Some Indo-European words relating to agriculture have survived in Vedic, such as *sa* 'to sow', *sīta* 'furrow', *kṛṣ* 'to plow', *kṛṣṭi* 'furrow', *yava* 'barley' (also IIr *bhaṅga* 'cannabis'). But cf. EWA on *sa*.

[282] See Kuiper 1991: 8, 96.

[between IA and Drav.] shows no dominance pattern" and that it works both ways as it includes general vocabulary such as body parts and social structure (*kula*, but cf. EWA I 373, where a Drav. etymology is rejected). While is is true with regard to agriculture (influence of an unknown language in the RV, Kuiper 1991, Southworth 1979, 1995),[283] on the other hand, IA influence on Dravidian is evident with regard to the innovative chariot technology (*akṣa* RV > Ta. *accu* 'axle', *aṇi* RV > Ta. *aṇi* 'nail', Southworth 1979).[284]

   In sum, mutual influence exerted on each other in Northern South Asia must have included, according to the discussion above, Munda, Dravidian, Indo-Iranian, Tibeto-Burmese, and some unknown languages (Proto-Burushaski?, the language "X", and others such as Proto-Nahali). All of which indicates that the linguistic (and ethnic) situation in S. Asia of the Vedic period was much more complicated and varied than usually admitted.

   S. Asia, thus, was not isolated at all from developments in other parts of Asia but took part in the transmission of languages and cultures as well as new techniques and economies along with the words designating them. We have noted connections with the east and the west -- and even with Africa (introduction of millet during the Indus period).

   In fact, why should South Asia, differently from any other region of the world be isolated from an influx of other populations? Such gradual trickling in, or even larger scale immigration, has been attested from times immemorial: The Veddoid and Australian/Andaman type inhabitants largely gave way to those who spoke the N. Indian language "X", Burušaski, Proto-Nahali, -Vedda, and -Kusunda. If the linguistic Central Asian connections of Dravidian (relationship with Uralic and perhaps beyond, or a proposed one with Elamian) bear out, the original speakers of Proto-Dravidian must have entered the subcontinent, just like so many tribes and armies later on, via the same (north)western passes. The Bolān, Khyber, etc. always have been the easiest and therefore typical routes of immigration and invasion (differently from the seasonally difficult Baltistan-Gilgit crossing north of Kashmir). The connections of IA with Iranian, Slavic, Greek, etc., and archaeological ones with the Ural (chariots) area make the IA language and culture the next candidate, after Dravidian, for immigration from across the Hindukush and Suleiman ranges.

   Nor were they the last ones to enter. We know, from historical records, of a never ending slew of peaceful and not so peaceful immigrants: Mede and Persian generals, Alexander's and the Bactrian Greeks, the Saka, Tukhāra/Kuṣāṇa, Huns, Gurjara, etc. Among the peoples from the north and east, we know of the central Asian Saka (via Baltistan), Tibetans, Ahom-Thais from S.E. Asia, Turks from Hsinkiang, Sherpas from Tibet; the close linguistic links of the Khasi with Mon-Khmer as well as those of the Mundas with them and with the rest of the Austro-Asiatic languages indicate some immigration of speakers of these languages from the East. Needless to say, introduction of a language does not mean mass-immigration of a population. A whole set of models of transfer are possible (Witzel 1995). In short, Northern South Asia always has been part of a web of interrelations both inside the

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[283] The words for 'plow' and 'threshing' are of uncertain origin : language "X"? They have no certain etymologies in either Drav. or Munda *khala* 'threshing floor' VS, *khalya* :: Ta. *kalam, kalaṉ* 'place, open space', threshing floor, battlefield, DED 1160; **laṅgala* 'plow' Dravidian: DED 2368 Ta. *ñancil, nancil* 'plow', Kan. *negal*, Ga. *nangal* (**ñan-kel/kil/kal* 'earth stone'!) in Dravidian lgs.; (note Kuiper, 1997: 307sqq.: *laṅgula* 'tail'); Munda: *laṅgala* 'plough' (N. Munda, Korku); Khasi *lynkor* [*lǝnkor*] < **lēnkol; cf.* also continuanats in Austronesian. Another word, *kūṭa* 'part of plow, share', DED 1785 Ta. *koz.u* 'bar of metal, plowshare" < IA lgs.; but cf. Munda Pinnow 1959; finally, Southworth also points to Drav. *sīra* 'plow' from IA.

[284] Southworth even sees an earlier contact between the Dravidians and the Aryans: 1979: 203, 228 sq., 1990:222-3, 1995.

subcontinent and with the outside world: it was not so isolated as often imagined. And certainly, it was not altgether self-sufficient as imagined now by some revisionist historians and, increasingly, by the general public in India.

It is therefore necessary to underline, in the present social and academic climate, that at least the IA immigration cannot simply have been a language take-over such as that of Swahili in East Africa. A whole pattern of civilization from poetry to chariot building was taken over as well. Of course, the whole scenario is open to debate: the individual patterns are subject for ongoing and future research, best carried out by a collaboration of linguists, philologists, palaeo-zoologists and -botanists and archaeologists, and with some healthy input of some anthropologists, geneticists, sociologists and broad-ranging historians. Their combined evidence must agree in any scenario still under development (cf. Erdosy 1995) or still to be discovered. The time for individual linguistic or archaeological research, carried out in splendid isolation, has long passed.

The multitude of non-IA animal and plant names, as well as terms of agriculture point to the importance of the speakers of these languages in the social structure and in the economy of early India. These groups, however, must have had a fairly low social position as they were not even able to maintain their local place and river names, almost all of which were supplanted by new Sanskrit ones. Their elite or their upper classes, however, joined, especially in the Panjab and in Kurukṣetra, the new 'Aryan' elite early on, as their personal and tribal names and those of places and rivers clearly indicate. The pattern then established is visible in the late RV (Puruṣa hymn with its four varṇa system).

The increasing influence of IA language and culture, albeit in a new acculturated form, culminates in the evolution of the template of all later Indian civilization, during the Kuru realm (Witzel 1995, 1997), with its particular reformed but archaizing style of IA ritual, religion, social set-up and political style, that is a decentralized early state with a Great Chieftain or 'king', surrounded by allied chieftains. This cultural pattern served as template for the spread of Vedic and 'Hindu' culture all over South Asia and, to some degree --note the case of Bali-- even over S.E. Asia.

ABBREVIATIONS

AB	Aitareya Brāhmaṇa
Akkad.	Akkadian
Armen.	Armenian
Austro-As.	Austro-Asiatic
AV	Atharvaveda Saṃhita
Avest.	Avestan
Brah.	Brahui
BŚS	Baudhayana Śrautasūtra
Bur.	Burushaski
Cauc.	Caucasian
CDIAL	Turner 1966-69
Circ.	Circassian
DEDR	Burrow, T. and M.B. Emeneau 1984
Drav.	Dravidian
EJVS	Electronic Journal of Vedic Studies
Elam.	Elamite
ep.	Epic Sanskrit
EWA	Mayrhofer 1956-76
FU	Finno-Ugrian
F-Volg.	Finnish-Volgaic
Gr.	Greek
GS	Gṛhyasūtra(s)
Guj.	Gujarati
Hitt.	Hittite
IA	Indo-Aryan
IE	Indo-European
IIJ	Indo-Iranian Journal
IIr.	Indo-Iranian
Indo-Ar.	Indo-Aryan
Ir(an).	Iranian
JAOS	Journal of the American Oriental Society
JB	Jaiminīya Brāhmaṇa
Jpn.	Japanese
Kab.	Kabardian
Kan.	Kannada, Canarese
Kartv.	Kartvelian
Kaśm.	Kashmiri
KEWA	Mayrhofer 1986-96
Khot.	Khotanese Saka
KZ	Zeitschrift für Vergleichende Sprachwissenschaft
Lith.	Lithuanian
M	Middle-
Mal.	Malayalam
Mar.	Marathi
Mbh.	Mahabharata
MIA	Middle Indo-Aryan
Mong.	Mongolian
M.P.	Middle Persian
MS	Maitrayaṇi Saṃhita

MT	Mother Tongue (Boston)
N	New-
NEC	Northeast Caucasian
Nep.	Nepali
N.P.	New Persian
NIA	New Indo-Aryan
Nur.	Nuristani (Kafiri)
NWC	Northwest Caucasian
O	Old-
O.Avest	Old Avestan
OHG	Old High German
OIA	Old Indo-Aryan
O.P.	Old Persian
Osset.	Ossete
P	Proto-
Panj.	Panjabi
PEC	Proto-East Caucasian
Pkt.	Prakrit
PNC	Proto-North Caucasian
PPerm.	Proto-Permian
PS	Paippalāda Saṃhitā
RV	Ṛgveda Saṃhitā
RVKh	Ṛgveda Khila
Saṃh.	Saṃhitā(s)
Sant.	Santali
ŚB	Śatapatha Brāhmaṇa
ŚS	Śrautasūtra
Skt.	Sanskrit
Sum(er).	Sumerian
Sū.	Sūtra(s)
StII	Studien zur Indologie und Iranistik
Tam.	Tamil
Tel.	Telugu
Tib.	Tibetan
Tib.-Burm.	Tibeto-Burmese
Toch.	Tocharian
TS	Taittirīya Saṃhitā
Up.	Upaniṣad(s)
V.	Vīdevdād
Ved.	Vedic
VS	Vājasaneyi Saṃhita
Y.	Yasna
Y.Avest.	Young Avestan
Yt.	Yašt
Yen.	Yeneseian
YV	Yajurveda (-Saṃhitā)
ZDMG	Zeitschrift der Deutschen Morgenländischen Gesellschaft
ZII	Zeitschrift für Indologie und Iranistik

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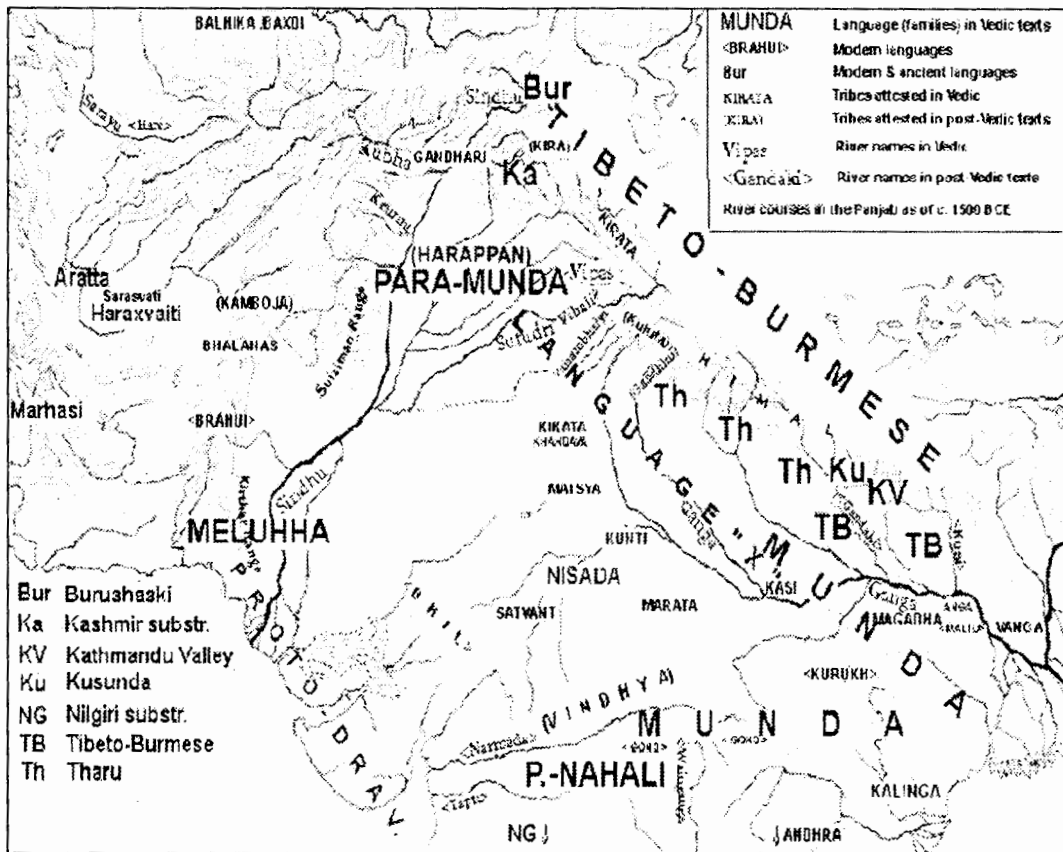
Map 6.   Language Situation in North India and Surroundings