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Meanders of the Tarim River between Korla and Qarklik (author: Michal Schwarz).

VÁCLAV BLAŽEK AND MICHAL SCHWARZ

**THE EARLY INDO-EUROPEANS
IN CENTRAL ASIA AND CHINA**

Cultural relations as reflected in language



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Buddhist stupa in Subashi (Kucha oasis)
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Analytical Contents

I. Tocharian and Chinese mutual relations, as reflected in lexicon, in a wider Indo-European perspective	21
A. Tocharian loanwords in Chinese	21
1. B <i>ike</i> , pl. <i>ykenta</i> “place, location, position”	22
2. A <i>kār-parām</i> “good dignity”; B <i>kare</i> ? “good”, <i>kāre-perne</i> “dignity”	23
3. A <i>klānk</i> “riding animal”; B <i>klenke</i> “vehicle”	23
4. B <i>klese</i> “barley (meal)”	24
5. A <i>ko</i> ; B <i>ke</i> “cow”	24
6. A <i>k_uli</i> ; B <i>klīye</i> ~ <i>klyīye</i> “woman; female of animals”	25
7. A <i>kursär</i> “mile; vehicle”; B <i>kwarsär</i> “league; course, path”	26
8. A <i>kwre</i> “earth”; B adj. <i>kwraiññe</i> “made of clay”	26
9. A <i>ku</i> “nave, hub”	27
10. AB <i>läk-</i> “to see; look at; catch sight of; visit; look”,	27
11. A <i>lyäm</i> , B <i>lyam</i> , pl. <i>lyamanta</i> m. “lake”	27
12. AB <i>lik-</i> “to wash”, B <i>laiko</i> “bath, washing”	28
13. A <i>lyokäs</i> ; B <i>lyauksa</i> ~ <i>lye_uksa</i> “was illuminated”	28
14. B <i>mũ</i> “honey”	28
15. A <i>or</i> “wood, wooden part of a plant, stem”; B acc.sg. <i>or</i> , acc.pl. <i>ārwa</i> “wood”	29
16. B <i>pwenta</i> nom.pl.f. “spokes of a wheel”	30
17. A <i>rake</i> ; B <i>reki</i> “word; command”	31
18. B <i>saiwai</i> adj. “left”	31
19. A <i>tkam</i> f., B <i>kem</i> ~ <i>tkem</i> f. “earth, ground, base, place”	32
20. B acc.pl. <i>traksiñ</i> “ears of grain”	32
21. A <i>turs-ko</i> “draft-ox”	33
22. B <i>tsain</i> “arrow”	33
23a. AB <i>tsäk-</i> “to burn up; roast”; AB <i>tsāk-</i> “to glow”	34
23b. A <i>tsek-</i> , B <i>tsik-</i> “to build, form, fashion, shape”	34
24. A <i>wiki</i> ; B <i>ikām</i> “20”	34
25. A <i>yuk</i> ; B <i>yakwe</i> “horse”	35
B. Chinese loanwords in Tocharian	36
1. A <i>āñk</i> * “seal, stamp”	36
2. B <i>cak</i> “foot” (measurement)	36
3. B <i>cāk</i> “hundred quarts” {dry measure}	37
4. B <i>cāne</i> “cash”	37
5. AB <i>cok</i> “lamp”	37
6. B <i>hkhai</i> * “shoe”	37
7. B <i>hwuṣṣi</i> “vice-commissioner”	37
8. B <i>kapci</i> “thumbprint (as a mark of authentication)”	38
9. B <i>kau(m)</i> ~ <i>*ko(m)</i> “bolt of unbleached silk”	39
10. B acc.sg. <i>kāy</i> “cover?, model?”	39
11. A <i>klu</i> ; B acc.sg. <i>klu</i> “rice”	39
12. B <i>k_ušāne</i> “a coin and measure of weight”	39

13. B <i>lwāke</i> “pot”	39
14. A <i>lyāk</i> , B <i>lyak</i> “thief”	41
15. B <i>rāp</i> “{the twelfth month} Rāp”,	41
16. B <i>simā</i> “{executive} adjutant, marshal”	41
17. B <i>śak_(u)se</i> “brandy”	41
18. B <i>śwelyāñk</i> ± «tax-grains»	42
19. B <i>ṣaṅk</i> “a wet or dry measure of volume”	42
20. B <i>ṣau</i> “receipt”	42
21. B <i>ṣipāñkiñc</i> “abacus”	42
22. B <i>ṣitsok</i> “millet-alcohol”	43
23. A <i>ṣoštāñk</i> “tax collector, banker”	43
24. A <i>ṣukṣ</i> “(smaller) village”	43
25. B <i>taittsyāñkuṃ</i> «±major general»	44
26. B <i>tau</i> “ten quarts (dry measure)”	44
27. A <i>tmām</i> ; B <i>tumane</i> , - <i>t_umane</i> & <i>tmāne</i> , - <i>tmāne</i> “10 000”	44
28. A <i>truñk</i> , B <i>tronk*</i> “hollow, cave”	46
29. B <i>tsum</i> “inch”	46
30. B <i>tsyāñk</i> “sauce made from beans” or “wild rice”	46
31. B <i>tsyāñkune</i> “general”	47
32. B <i>wāñk-</i> “to prepare”	47
33. A <i>yāppāk</i> , B <i>yāpko</i> “duke, count palatine, sub-king”	47
34. B <i>yāywyem</i> “convoy”	48
35. A <i>yāmutsi</i> , B <i>yāmuttsi</i> “a kind of waterfowl”	48
36. A <i>ype</i> ; B <i>yapoy</i> “land, country”	49
C. Borrowings from third party languages	50
1. B <i>añkwaṣ(t)</i> , <i>aṃkwaṣ</i> “asa foetida / Ferula foetida”	50
2. A nom.pl. <i>kāñkañ</i> & “river; the river Gaṅgā” and <i>kāñkuk</i> “designation of an auspicious sign on the body of the Buddha” (not “stone”)	50
3. A pl. <i>mkowañ</i> ; B <i>mokauška</i> ~ <i>mokomška</i> ~ <i>mokoškae</i> “monkey”	51
D. Uncertain and problematic Tocharian – Chinese comparisons	53
1. A <i>añcu</i> ; B <i>eñcuwo</i> ~ <i>iñcuwo</i> “iron”	53
2. B <i>kents</i> ± “goose”	55
3. A <i>ku</i> , <i>kū</i> , acc. <i>koṃ</i> ; B <i>ku</i> , <i>kū</i> , acc. <i>kwem</i> “dog”	56
4. A obl.sg. <i>kukäl</i> ; B <i>kokale</i> “cart, wagon, chariot”	57
5. B <i>lant*</i> n. “lead”	58
6. B m. <i>mewiyo</i> , f. <i>mewiya</i> “tiger”	58
7. B <i>rīye</i> , A <i>ri</i> “city, town”	59
8. A <i>por</i> , B <i>pūwar</i> “fire, digestion, beacon-fire”	60
9. A <i>pracar</i> ; B <i>procer</i> “brother”	61
10. B <i>suwo</i> “pig, hog”	61
11. A <i>trāñk-</i> , B <i>treñk-</i> “to adhere, cling, stick”	62
12. B <i>tsāñkana</i> or <i>tsāñkanta</i> pl. “mountain naked barley”	62
13. A <i>tsem</i> ; B m. <i>tsem</i> “blue”	63
14. AB <i>wānt-</i> “to cover, envelop, surround”	64
E. Non-Chinese glosses, probably of Indo-European origin, in Chinese texts	65
1a. Han Chinese 若苴 * <i>ñakcja</i> ~ Tocharian B <i>ñāk(i)ye</i> “divine, celestial, heavenly”	65
1b. Han Chinese 若鞮 * <i>ñakte</i> ~ Tocharian B <i>ñakte</i> “god”	65

2. Han Chinese 燻蠶 *mekrə (*mekle) & *mekrwa(j) (*meklwa) “dried fermented milk” ~ Tocharian A malke, B malkwer “milk”	66
3. Han Chinese 師子 *šajcá? (Pulleyblank) ~ *šajcjá[?] (à la Starostin) or *šitsiá[?] (à la Schuessler) < ‘Kashgarian’ “lion” ~ Tocharian B šecake “lion”	68
4. Classic Old Chinese / Western Han Chinese 狻麤 ~ 狻猊 *sōrŋ(h)ē “lion” < pre-Khotan-Saka gen.sg. *sarguai	70
F. Indo-European – Chinese parallels without Tocharian data	75
1. Celto-Germanic *marko- “horse”	75
2. IE *g ₁ lg-t-s, gen. *g ₁ lg-t-os or *g ₁ lk-t-s, gen. *g ₁ lk-t-os “milk”	77
3. IE *porkō- “pig”	78
4. Indo-Iranian *paraću- “axe”	79
II. Tocharian and Iranian designations of metals in the light of etymology	80
A. Tocharian names of metals	80
”copper” – B pilke	80
”gold” – A wās; B yasa	84
”iron” – A añcu; B eñcuwo ~ iñcuwo	93
”lead” or “tin” – B lant	96
”silver” – A nkiñc; B acc. ñkante “silver”	98
Table 1: Indo-European word-family “white, bright” & “silver”	103
Conclusion	105
B. Iranian names of metals	106
”brass” ₁ – Ossetic Iron būr, Digor bor	106
”brass” ₂ – Persian pītal	106
”bronze” ₁ – Middle Persian ^M bryn(n)g, ^Z blnc [brinj] or [bring], Parthian ^M plync [plinj]	106
”bronze” ₂ – Pashto žar, žer	108
”bronze” ₃ – Persian tūj	108
”bronze” ₄ – Ossetic bronzæ	108
”copper” ₁ – Avestan aiiāh-	108
”copper” ₂ – Middle Persian lwd [rōy]; Parthian ^M rwd [rōδ]; Sogdian ^B rwd [rōδ]	109
”copper” ₃ – Khotanese śā	110
”copper” ₄ – Sangisari zā “red copper”	111
”copper” ₅ – Ossetic Iron ærx ^w i, Digor ærxi	111
”copper” ₆ – Persian mis	112
”copper” ₇ – Baluchi trāmā, trāmā	113
”copper” ₈ – Persian šufr, Kurdish sifir	113
”copper” ₉ – Kurdish pāxir/l, pāyir	113
”copper” ₁₀ – Pashto tāmba	113
”copper” ₁₁ – Pashto (East) taṭ	114
”copper” ₁₂ – Yidgha loh	114
”gold” ₁ – Iranian *žaranja-	114
”gold” ₂ – Persian tilā & talā etc.	116
”gold” ₃ – Persian altūn	116
”gold” ₄ – Yidgha soworom	117
”iron” ₁ / “steel” – Iranian *šūana- & *šūanja-	117
”iron” ₂ – Persian tīmūr	118

”iron” ₃ – Persian <i>čaudan</i>	119
”iron” ₄ – Wakhi <i>tiš</i>	119
”lead” ₁ – Iranian * <i>šruua-</i>	119
”lead” ₂ – Old Persian * <i>siça-</i> > Sanskrit <i>sīsa-</i> ; Kurdish <i>sīs</i>	120
”lead” ₃ / “tin” – Middle Persian: ^Z <i>lcyc</i> , ^M <i>rzyz</i> [<i>arzīz</i>]; Sogdian ^M <i>rcyc</i> [<i>aržīž</i>]	120
”lead” ₄ – Khotanese <i>daujsä</i>	121
”lead” ₅ – Ossetic Digor, Iron <i>æγæu</i>	121
”lead” ₆ – Persian <i>ānuk</i>	122
”lead” ₇ – Persian <i>abār</i>	122
”lead” ₈ – Persian <i>rašāš</i> , Kurdish <i>rūsās</i> , <i>rīsās</i>	122
”lead” ₉ – Persian <i>qarqasūn</i> etc.	122
”lead” ₁₀ – Kurdish <i>gule</i>	122
”lead” ₁₁ – Ossetic Iron <i>zdī</i> , Digor <i>izdi</i>	122
”silver” ₁ – Iranian *(<i>H</i>) <i>r̥zata-</i>	123
”silver” ₂ – Old Persian <i>s^a-i-y^a-m^a-m^a</i> [<i>sēymam</i>], Middle Persian ^M <i>sym</i> [<i>asēm</i>]; Parthian <i>hsym</i> ; Bactrian <i>σιμυγο</i>	124
”silver” ₃ – Sogdian ^{Bn} <i>kr̥t’k</i> [<i>nā-k̥rte</i>]; ^{B.Sn} <i>n’kr̥tk-(w)</i> [<i>nā-k̥rte</i> , <i>nāk(ar)taku</i>]	125
”silver” ₄ – Ossetic Digor <i>ævzestæ</i> , Iron <i>ævzīst</i>	125
”silver” ₅ – Persian <i>zari saped</i>	125
”silver” ₆ – Pashto <i>spīnzār</i> , Ormuri <i>spīu-zār</i>	125
”silver” ₇ – Khwarezmian <i>nqryk</i> , <i>nkrk-</i> , Classical Persian <i>nuqra</i> etc.	126
”silver” ₈ – Middle Persian ^M <i>drhm</i> [<i>drahm</i>]	126
”silver” ₉ – Persian <i>mūnkān</i>	126
”silver” ₁₀ – Baluchi <i>chāndī</i>	126
”silver” ₁₁ – Parachi <i>čataī</i>	127
”steel” ₁ – Middle Persian ^Z <i>pwl’p̄t</i> [<i>pōlāwad</i>], ^M <i>pwl’wd</i> [<i>pōlāwad</i>]	127
”steel” ₂ – Ossetic <i>ændon</i>	128
”tin” ₁ – Khotanese <i>tralō</i> , <i>ttralau</i>	128
”tin” ₂ – Persian <i>saped-roy</i>	128
”tin” ₃ – Persian <i>tūtiyā</i> “tin”	128
”tin” ₄ – Persian <i>qal’ī</i>	129
”tin” ₅ – Persian <i>qazdīr</i>	129
Conclusion	129
Table 2: Metal-terms inherited from Indo-European	132
Table 3: Metal-terms formed only in (Indo-)Iranian	132

III. Traces of Indo-European place-names in the toponymy of Central Asia 134

A. Central Asiatic Hydronyms I: Basins of the Aral Sea and Lake Balkhash 134

Aral Sea 134

Turkic origin: Chaghatai *Aral dāñizi* etc. 134

Mongolic origin: Kalmyk *Arļ nūr* 134

Chinese sources: *Leizhu*; *Dazewuya* 135

Greek and Roman sources: *Oxia Palus*; Ὠξειανὴ λίμνη 136

Iranian sources: *Čaēčasta-* 137

Lake Balkhash 140

Turkic origin: Kazakh *balqaš* 140

Chinese sources: *Yibo*; *Deyi* 140

Table 4: Kottic nominal declension 142

Tree-diagram 1: Yeniseian languages 143

Amu Darya / Oxus	143
Present name	143
Greek and Latin sources: Ὠξος & Ὠχος	143
Chinese sources: <i>Wuhu & Wuxu, Fuchu, Bocha, Buhe, Buhuo; Hanlou; Gui</i>	146
Iranian sources: <i>Arəduuī</i>	152
Zaravshan	152
Persian sources: <i>Zaravšan; Suyd</i>	152
Greek sources: Δήμος / Δήμος / Δῶμος, <i>Dymas</i> ; Πολυτίμητος	153
Chinese sources: <i>Nami</i>	155
Syr Darya / Iaxartes	157
Present name (Iranian, Turkic, or Mongolic origin?)	157
Greek & Latin sources: Ἰαξάρτης, Ὀρεξάρτης, <i>Araxates</i> , Ὠήχ	158
Chinese sources: <i>Yaosha, Niluoqiti, Leyuete & Leyueni; Zhenzhu</i>	160
Ili River	166
Turkic sources: <i>Ili</i>	166
Chinese sources: <i>Yili, Yile he, Yili, Yilie; Didi</i>	166
Conclusion	170
B. Central Asiatic Hydronyms II: Tarim Basin	170
Tarim	170
Mongolic origin: <i>Ergigüü youl</i>	170
Turkic origin: <i>Tarim</i>	171
Chinese origin: <i>Bei he & Bei bo he; Da he & Xi yu da he</i>	172
Possible Tocharian origin: <i>Jishi, Jishu & Jishou; Chihe; Zhuojujia; Luan</i>	172
Probable Iranian origin: <i>Zhubin; Sihun; Οἰχάρδης & Βατύσος</i>	176
Karayulgun He / Qara yulghun däryasi	181
Probable Iranian origin: <i>Bohuan</i>	181
Hotän River / Khotan-Darya	182
Probable Iranian origin: <i>Hulu</i>	182
Keriyä River	182
Present name	182
Probable Iranian origin: <i>Kelediya; Jiandeli</i>	183
Chärc'hän He / Cherchen Darya	184
Present name	184
Probable Indo-Aryan origin: <i>Anouda</i>	185
Khaidu He	185
Mongolic origin: <i>Khaidu</i>	186
Chinese origin: <i>Liusha</i>	186
Probable Iranian origin: <i>Dan</i>	186
Kongque He / Könchi Darya	186
Present name	187

Turkic form: <i>Könchi Darya</i>	187
?Tocharian origin	187
Lakes	187
Lop Nur Lake	187
Probable Iranian origin: <i>Nafubo</i>	188
Possible Tocharian origin: <i>Puchang, Yanze</i>	188
Bostan (Bagrash) Lake	190
Turkic origin: <i>Baghrash</i>	190
Iranian origin: <i>Bositeng</i>	190
Barköl Lake	191
Possible Tocharian origin: <i>Pulei</i>	191
C. Central Asiatic oronyms	192
Qilian	192
Iranian origin: <i>Qilian</i>	192
Tocharian origin: <i>Kunlun</i>	194
Pamir	198
Iranian, Indo-Aryan or Burushaski origin: <i>Pamir & Pamer</i>	198
Iranian or Burushaski origin: <i>Jiyi; Congling & Κάσια ὄρη</i>	198–199
IV. On internal and external classification of Tocharian and Iranian	201
A. Position of the Tocharian and Indo-Iranian within the Indo-European language family	201
1. Qualitative models	201
Tree-Diagram 2: Indo-European classification according to Georgiev (1981, 363)	201
Tree-Diagram 3: Indo-European classification according to Gamkrelidze & Ivanov (1984, 415)	202
Tree-Diagram 4: Indo-European classification according to Hamp (1990)	202
2. Quantitative models	203
Tree-Diagram 5: Indo-European classification according to Ringe, Warnow & Taylor (2002, 87)	203
Tree-Diagram 6: Indo-European classification according to Starostin (2004)	203
Tree-Diagram 7: Indo-European classification according to G. Starostin & A. Kassian (2010)	204
3. Discussion of results	204
B. On separation of Tocharian A and B in perspective of chronology	204
1. Methodological base	205
Wordlist 1: Tocharian	205
2. Lexicostatistical analysis and its discussion	209
C. On classification of the Iranian languages	211
1. Qualitative models	211
Tree-diagram 8: Traditional classification of the modern Iranian languages (<i>Ethnologue</i> ₁₈)	211

Tree-diagram 9: Old and middle stages of development of the Iranian languages (Windfuhr 2010)	212
Tree-diagram 10: Classification of the New Iranian languages (Windfuhr 2010)	
Tree-diagram 11: Classification of the Old, Middle and New Iranian languages (Gippert)	213
Tree-diagram 12: Pentachotomical classification of the East Iranian languages (Novák 2013)	214
Hypothetical modern Iranian continuants of the Middle Iranian languages (§1.6)	215
2. Quantitative models	215
Tree-diagram 13: Lexicostatistical classification of the modern Iranian languages (Jaxontov 2006)	215
Tree-diagram 14: Lexicostatistical classification of the Pamir languages (Sokolova 1967 & 1973)	216
Tree-diagram 15: Quantitative classification of the modern East Iranian languages on the basis of phonological & morphological isoglosses (Wentland 2009)	217
Tree-diagram 16: Lexicostatistical classification of the New, Middle & Old Iranian languages (Cathcart 2015)	218
Tree-diagram 17: Classification of the Iranian languages based on recalibrated glottochronology (Starostin 2004)	219
3. A new model of classification of the Iranian languages	219
3.1 Statistics of results of the lexicostatistic comparison of five selected East Iranian languages	219
Table 5: Mutual percentages of common cognates between six languages of East Iranian I	221
Tree-diagram 18a+b: Results of the glottochronological analysis applied to East Iranian I	221
3.2. Statistics of results of the lexicostatistic comparison of six selected Pamir Iranian languages	221
Table 6: Mutual percentages of common cognates between six Pamir languages	223
Tree-diagram 19: Results of the glottochronological analysis applied to the Pamir languages	223
3.3. Statistics of results of the lexicostatistic comparison of six selected West Iranian languages	223
Table 7: Mutual percentages of common cognates between six West Iranian languages	225
Tree-diagram 20a+b: Results of the glottochronological analysis applied to the West Iranian languages	225
3.4. Mutual relations between modern Iranian languages analyzed in the §§ 3.1., 3.2., 3.3.	226
Table 8: Mutual percentages of common cognates between 16 selected modern Iranian languages	226
Tree-diagram 21: Classification of 18 modern Iranian languages based on percentages of common cognates	227
Tree-diagram 22: Classification of 18 modern Iranian languages projected in the time scale	228
3.5. Statistics of results of the glottochronological comparison of 6 Middle Iranian languages	228
Table 9: Mutual percentages of common cognates between 6 Middle Iranian languages	230

Tree-diagram 23: Classification of the Middle Iranian languages without Bactrian based on percentages	231
Tree-diagram 24: Classification of the Middle Iranian languages with Bactrian based on percentages	231
Tree-diagram 25: Classification of the Middle Iranian languages with Bactrian in chronological perspective	232
3.6. Discussion of hypothetical modern Iranian continuants of the Middle and Old Iranian languages	233
3.7. Discussion of chronology of the partial protolanguages	233
Table 10: Middle Iranian & Avestan vs. Modern Iranian – chronological limits	233
Table 11: Middle Iranian vs. Avestan – chronological limits	234
Table 12: New Iranian vs. Middle Iranian vs. Avestan – mutual percentages of cognates	234
3.8. Position of Wakhi	235
Table 13: Wakhi vs. Middle Iranian & Avestan – chronological limits	235
3.9. Final discussion of the Iranian classification	235
Tree-diagram 26: Hypothetical development of Old, Middle & Modern Iranian languages	236
4. External relations of Avestan: Nuristani versus Vedic	236
Tree-diagram 27: Preliminary outline of chronology of divergence of the Indo-Iranian superbranch	237
D. Results of glottochronological classification in correlation with archaeological data	237
E. Iranian wordlists	239
Wordlist 2: East Iranian I	239
Wordlist 3: East Iranian II - Pamir Iranian	260
Wordlist 4: West Iranian	277
Wordlist 5: Middle Iranian	294
Wordlist 6: Nuristani vs. Vedic and Avestan	313
Abbreviations of authors and languages cited in wordlists	327
Appendix 1: Periodisation of history of the Chinese language	328
Appendix 2: Ptolemy about rivers of Sogdiane [6.12.1-4]	328
Appendix 3: Ptolemy about rivers of Serike [6.16.3]	330
Appendix 4: Turkic classification	331
Appendix 5: Sino-Tibetan classification	333
Appendix 6: Classification of Sinitic languages / dialects	335
Bibliography	336

Preface

Central Asia constitutes the interface between the East and West and marks the easternmost extension of the Indo-Europeans on the frontiers of China. Here on the periphery of the Indo-European world, Iranians and Tocharians occupied the mountain pastures, steppelands and oases that constituted the northern route of the Silk Road. The prehistory of the contacts between the East and West is continually emerging in the light of new archaeological discoveries but our ability to interpret the evidence of material remains in a broader ethnic context depends largely on a nuanced understanding of the relevant linguistic evidence as well. Can we discern the linguistic strata of Indo-Europeans as they entered and settled the Tarim Basin? Can we assess the chronological periods when the various Indo-European groups were in contact with both each other and their Central Asian and Chinese neighbours? These questions provide a broad context for the tasks set out by Václav Blažek and Michal Schwarz who evaluate the mutual loans between Chinese and the Indo-European world, the etymology of one of the most obvious items of material culture, metals, that may have been involved both commercial and linguistic exchanges, and the etymology of the all important names of rivers and lakes of the region. This work will undoubtedly provide a point of departure for all future discussion of the contacts between ancient China and the Indo-European world.

Belfast, March 1, 2017

James P. Mallory

Introduction

A purpose of the present monograph was to map the earliest traces of the Indo-Europeans in Central Asia and China. For this reason we have chosen three specific fields of our linguistic interest: I. Tocharian-Chinese mutual loanwords in broader Indo-European and Sino-Tibetan contexts; II. Tocharian and Iranian designations of metals in light of etymology; III. Hydronyms of the basins of the Aral Sea, Balkhash Lake and Tarim River, plus adjacent oronyms, all based on earliest sources of Iranian, Greek, Latin and Chinese provenance mediating the geographical information. To know the chronological ambits of ancestors of languages studied by us, we decided to include chapter IV devoted to mutual relations of Tocharian A & B and internal classification of the Iranian languages in chronological perspective. Our material was eventually so rich that we had to postpone the completion of the whole book. We find most important some new solutions and conclusions, which we discuss in all chapters.

In Chapter I we analyze Tocharian-Chinese comparisons, enlarged by us more than twofold. We try to determine the vector and probable chronology of borrowing with regard to dating the Chinese texts and phonetic changes in both Chinese and Tocharian. From the corpus of c. 85 comparisons we judge there are around 30 Tocharian borrowings in Chinese and around 40 Chinese borrowings in Tocharian. In the remaining items we identify as many as 9 early Iranian loanwords in Chinese, besides borrowings from additional languages, and difficult, or even wrong, comparisons. But the quantity of probably valid loanwords indicates significantly more intensive contacts between ancestors of Tocharians and Chinese, than have been supposed up to the present time. Most Tocharian loanwords were borrowed into Chinese during the Zhou era, frequently already in the time span 1200-600 BCE. On the other hand, Chinese loanwords in Tocharian tend to be younger, and usually datable from the Han to the Tang eras. There are also differences in semantics.

It is generally accepted that early Tocharians mediated to the Chinese wheeled transport, including its corresponding terminology. In this connection it should not be surprising to identify several terms of Tocharian origin pertaining to the horse in older stages of Chinese.

Remarkable are borrowings in the field of divination and ritual purification. The prestigious role of these practices in Chinese civilization is well-known. If the Chinese learned at least some prophetic and purifying techniques from their northwestern neighbours, it would be a witness that the civilization of the early Tocharians was inspirational for the Chinese of the Zhou Dynasty, not only in military, but also in spiritual spheres.

Typical of the Chinese lexicon borrowed into Tocharian are measures, weights and designations of military and bureaucratic officials, as already described by earlier writers. Quite new in this list could be two designations of metals, “iron” and “lead”. The designations of metals in Tocharian and Iranian languages represent the subject of interest of Chapter II. We decided on metals for their many-sided role in material culture as raw material for weapons, tools, jewels, coins, but also as objects of trade. Determination of donor-languages allows us to map the trajectories of the trade routes with metal ores or already finished metallic artifacts. In this respect the Iranian languages, especially, represent an incredibly dynamic entity, diffusing various names of metals to all cardinal points, from India and East Mediterranean through the Caucasus to Central Asia and China. Most of the Fenno-Ugric metallic terminology is of (Indo-)Iranian origin. And in the opposite direction, in modern Iranian languages there are metal names borrowed from Indic, Semitic, Turkic, Mongolic or Chinese languages.

The third chapter concentrates on the river-, lake- and mountain-names localized in the long belt from the Aral Sea to the Chinese province Gansu. Besides the recent names, usually of transparent Persian/Tajik, Turkic, Mongolian or Chinese origin, there are older layers, documented in

Greek, Latin or Chinese geographical or historical treatises, the oldest written in the 2nd cent. BCE. A quite unique source is the mythical geography of the Young Avesta, probably originating in the first quarter of the 1st mill. BCE. From the oldest sources the most dominant layer is represented by the Iranian hydronyms and oronyms, from the older designations of the Aral Sea to the Qilian Mountains in Gansu. The Tocharian hydronyms are concentrated in the Tarim Basin, but their traces probably appear in the northeast, in the names of the Ili River and Barköl Lake. The easternmost place-name of Tocharian origin studied here might be the Kunlun Mountain Range as the older name of the Qilian Mountains in Gansu. These traces of the Tocharian toponyms outside of the Tarim Basin suggest a potential focus for future studies.

As a secondary result we explain several hydronyms recorded in Chinese sources as having Yeniseian origins. This conclusion supports the idea formulated by Pulleyblank (1962-63) and developed by Vovin (2000, 2003) about a Yeniseian component in the steppe tribal confederation called Xiongnu (匈奴 *Xiōngnú*) in Chinese annals describing the events in the Northwest in the 3rd cent. BCE – 1st cent. CE. One of the present authors (Blažek 2017) has supplemented the arguments of Pulleyblank and Vovin, proposing the Yeniseian origin of many hydronyms of Kazakhstan.

The final chapter is devoted to chronological questions of dating the disintegration of the Indo-European protolanguage, positions of both the Tocharian and Iranian languages in the Indo-European dialect continuum, and chronologies of their internal disintegrations. There are discussions of hypotheses formulated on the basis of both qualitative and quantitative approaches. Finally our own models are offered, including the complete documentation of lexical data, their etymological analysis and statistical evaluation. We use the recalibrated glottochronology, developed by Sergei Starostin (1989a, 1999). This modified method was tested by us on various groups of Indo-European (Celtic, Germanic, Balto-Slavic) and non-Indo-European (Mongolic, Uralic, Kartvelian, Berber, Cushitic) languages and results have been relatively realistic. It is necessary to stress that the first step is a detailed etymological analysis of wordlists, based on standard comparative-historical method developed for the Indo-European languages. Naturally, this method was universally applied in all chapters.

In the present monograph a quite fundamental role belongs to Chinese reconstructions. In this place it is necessary to emphasize a crucial contribution of the Swedish sinologist Bernhard Karlgren (1889-1978). In the series of his studies (1915, 1923, 1940, 1957) he presented a reconstruction of ‘Ancient’ Chinese, reflecting the probable reading of characters around 600 CE. This stage of development of Chinese is called ‘Middle Chinese’ now. Karlgren’s reconstruction represents a serious base for all later attempts to reconstruct Middle Chinese. His attempt to reconstruct ‘Archaic Chinese’ dated to *c.* 600 BCE (Karlgren 1940, 1957) was less successful and is not accepted now. In the last four decades there have appeared four ‘schools’ of reconstruction of earlier stages of Chinese, presenting reconstructions of readings of a significant number of characters in several phases of development of Chinese:

Schuessler (1987, 2007, 2009);

Starostin (1989, 2005: *ChEDb*);

Pulleyblank (1991);

Baxter (1992), Baxter & Sagart (2014, 2014: *ChDb*).

The reconstructions of all four (five) authors are abundantly quoted and frequently combined here. Their advantages and weak points determine their use by us. Let us mention them:

Schuessler (1987) followed Karlgren’s ‘Archaic’ Chinese reconstructions, but later he abandoned this direction in Old Chinese reconstructions. But his Middle Chinese reconstructions more or less correspond to Karlgren’s ‘Ancient’ Chinese forms. His ‘Etymological Dictionary of Chinese’ (2007) does not exhaustively cover the Chinese lexicon, but there are useful comparisons from other Sino-Tibetan languages, plus possible areal parallels from Tai-Kadai, Hmong-Mien and Austro-Asiatic languages. Schuessler (2009) summarizes the characters analyzed by Karlgren

(1957), adds some further ones, and presents his reconstructions of three stages: Middle Chinese, Later Han Chinese, and Old Chinese.

Starostin (1989) developed in a thick book (728 pp.) his dissertation defended in 1979. He presented in detail his reconstruction of Middle Chinese and its preceding stages leading to Preclassic Old Chinese. Since this book is not a dictionary, the material is chosen selectively. Occasionally he used the parallels from other Sino-Tibetan languages, besides borrowings into Tai-Kadai or Vietnamese languages. Significantly more complete is his “Chinese Etymological Database” (2005), where he introduced his reconstruction of development of Chinese into the eight pre-modern stages: Middle Chinese, Late, Middle & Early Postclassic Chinese, Eastern & Western Han Chinese, Classic Old Chinese, and Preclassic Old Chinese. His reconstructions are supported by Sino-Vietnamese & Vietnamese and Sino-Japanese borrowings and adaptations of the earlier Chinese forms, as well as by cognates from other Sino-Tibetan languages. Because of its completeness, this database is the most frequent source of pre-modern Chinese forms in the present monograph.

Pulleyblank (1991) concentrated on younger stages of Chinese: Yuan, Late Middle Chinese, and Early Middle Chinese. His dictionary is very exhaustive, since also contains lexemes attested in later texts. His reconstructions of earlier stages of Chinese appear occasionally in his articles and are taken in account here.

Baxter (1992) operated only with two chronological layers in his reconstruction of earlier phases of development of Chinese: Middle Chinese of the Sui and Tang dynasties and Old Chinese of the early and mid Zhou Dynasty (11th – 7th cent. BCE). His survey of reconstructions is limited to *Shījīng* occurrence. Relatively brief is a collaborative monograph by Baxter & Sagart (2014), developing the ideas of Baxter (1992). More complete is their list of Middle & Old Chinese reconstructions (*ChDb* 2014), available online.

Comparing the reconstructions representing these four ‘schools’ from the point of view of their archaic features, the most archaic Middle Chinese has been the reconstruction of Pulleyblank (‘Early Middle Chinese’) and the most archaic Old Chinese has been the reconstruction of Baxter & Sagart (2014, *ChDb* 2014).

The progress in the field of comparative Sino-Tibetan linguistics connected with the names of Benedict, Shafer, Bodman, Matisoff, Starostin & Peiros (*CVST*) and others, allows us to verify the Old Chinese reconstructions in a diachronic plan.

Summing up, in our book we would like to demonstrate an importance of Chinese in its earlier, reconstructible, stages for reconstruction of a preliterate history of the easternmost Indo-European branches, Tocharian, followed by Iranian (Sakan, Bactrian, Sogdian, Khwarezmian, Parthian, and perhaps also Alanic and Scythian). We hope to stimulate a higher interest in toponyms not only in the Tarim Basin, but also in other promising areas, Dzungaria and Gansu, where we made only small probes.

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I. Tocharian and Chinese mutual relations, as reflected in lexicon, in a wider Indo-European perspective

The mutual lexical borrowings between Tocharian and Chinese languages represent a strong witness to the first direct contact between the Indo-European and Chinese civilisations. First Chinese was connected with other languages of Eurasia in perspective of Biblical traditions (e.g. Webb 1678; Edkins 1871). When this naive approach was replaced by more philological research of Chinese – Indo-European relations, results became more serious (Schlegel 1872; Georgievskij 1888; Polivanov 1916; Conrady 1925; Jensen 1936; Nehring 1936; Maenchen-Helfen 1945; Ulenbrook 1967, 1998; Ulving 1968–69; Chang 1988). Surprisingly, the first identification of an Indo-European borrowing in Chinese as Tocharian, namely the word “honey“, was made by a specialist in Sino-Tibetan languages, Paul K. Benedict (1942). The loans in both directions have already been studied by various scholars (in chronological order):

Tocharian > Chinese – e.g. Benedict 1942; Pulleyblank 1966, 1995; Schmidt 1985; Blažek 1997, 1999, 2011; Lubotsky 1998; Pulleyblank 1999; Mallory & Mair 2000; Behr 2001, 2004–2005.

Chinese > Tocharian – e.g. Pelliot 1931; Lüders 1933; Naert 1964, 1965; Van Windekens 1976; Grenet & Pinault 1997; Schmidt 1999b; Adams 1999/2013; Lubotsky & Starostin 2003; Carling 2005; Ching 2008, 2011; Ching & Ogihara 2012.

In the present survey *c.* 85 Indo-European – Chinese lexical parallels are summarized and discussed. Among them, in *c.* 70 items the Tocharian data occur too. With regard to the most probable donor-language, the following statistical results were obtained:

Tocharian > Chinese: A – 25; B – ?#36; D – ## 3b, 4b, 9; E – ## 1a+b, 2, 3. Σ 31÷32.

Chinese > Tocharian: B – 35÷36; D – ## ?1, 5, 6, ?7, ?12, 13. Σ 38÷42.

Iranian > Chinese: C – ## 1, 2; D – ## 4a, 8, 14; E – ## 4; F – ## 2, 3, 4. Σ 9.

Loloish > Tocharian & Chinese: C – # 3.

Independent similarities leading to the Indo-European & Sino-Tibetan protolanguages: D – ## 2, 3a.

Wrong comparisons: D – ## 10, 11.

It is possible to conclude: There are around 30 Tocharian borrowings in Chinese (or recorded in Chinese texts) and they are usually older than *c.* 40 Chinese borrowings in Tocharian. Remarkable are 9 possible Iranian loans in Chinese; some of them would have been borrowed already before 600 BCE. Although the corpus of proposed Iranisms is small, they are at least three different donor-languages: Avestan-like, early Khotan-Saka, and Scythian-like. These early Iranisms represent an important by-product of the present research.

A. Tocharian loanwords in Chinese

In section A we summarize the published Tocharian – Chinese comparisons (altogether 10), add some new ones (altogether 15), verifying the vector of borrowing with respect to such circumstances as the first attestation in the Chinese texts, and existence or absence of external cognates in both cases, Chinese within Sino-Tibetan and Tocharian within Indo-European. In the first section there are Tocharian words with secure Indo-European etymologies. Their Chinese counter-

parts are isolated in 19 cases (## 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24, 25). In 6 cases (## 1, 2, 3, 4, 22, 23) hypothetical Tibeto-Burman cognates have been proposed. We try to explain them as borrowings or really unrelated. From the point of view of chronology, 19 Chinese lexemes from among 25 of this mini-corpus, i.e. 76%, were first attested in texts dated before 600 BCE, namely Shijing: ## 1, 3, 4, 6, 7, 9, 12, 13, 16, 18, 21, 24, 25; Yijing: ## 10, 15, 19; Shujing: ## 17, 20; Guanzi: # 23b. Five lexemes appeared first in texts dated to the period 500–200 BCE, namely Chuci: ## 11, 14; Laozi: #2; Mengzi & Hunzi: # 8; Liji: # 22. Only one lexeme, # 5, is documented significantly later, in the dictionary Yupian completed in 543 CE. This means that, with only one exception, all Chinese lexemes appear first in the Chinese text corpus during the Zhou Dynasty. The beginning of the Tocharian-Chinese contact is probably indicated by introduction of chariotry into China *c.* 1200 BCE (Shaughnessy 1988, 228). The linguistic data confirm this – five terms connected with chariotry¹ among 25 represents exactly 20%. Other technological terms representing building (# 23b) and military terminology (# 22) are unique. A little surprising is a relatively rich terminological field consisting of terms connected with honorific titulary (## 2, 13), astronomical observation & foretelling (## 10, 17), (ritual) purification (# 12), plus the theonym “Earth Goddess” (# 19). No less unexpected are geographical terms (## 1, 8, 11), plus the unique “wood” (# 15). Less surprising are loanwords referring to domestic animals (## 5, 25), grains (## 4, 20), and “honey” (# 14). The remaining terms are semantically unique: “left” (# 18), “woman” (# 6).

Summary of classification of the present mini-corpus from the point of semantics:

chariotry & weapons: ## 3, 7, 9, 16, 21 & 22;
 rituals, worship & divination: ## 2, 10, 12, 13, 17, 19;
 geography & nature: ## 1, 8, 11, 15;
 grain & food: ## 4, 20 & 14;
 domestic animals: ## 5, 25;
 society: # 6;
 orientation: # 18;
 building: # 23b;
 quantification/trade: # 24.

This lexical mini-corpus of 25 probable Tocharian loanwords in Chinese represents a witness to relatively close contact between Tocharians and early China, probably implying their direct neighbourhood in the first half of the 1st mill. BCE and maybe already from *c.* 1200 BCE.

1. Tocharian B *ike*, pl. *ykenta* “place, location, position” < Common Tocharian **wjäike* < **uejkos-* (*s*-stem), cf. Gothic *weihs*, gen. *weihsis* “village”, Latin *vīcus* “village, part of a town” etc. (Adams 2013, 67).

Chinese 域 *yù* “boundary” [詩經 *Shījīng* ‘Book of Songs’; 1050–600 BCE], “region, territory, state” [论语 *Lùnyǔ*, ‘Analects’ of Confucius; 孔夫子 Kǒng Fūzǐ, 551–479 BCE], “universe” [老子 *Lǎozǐ*; 6th BCE] < Late Middle Chinese **yǎk* < Early Middle Chinese **wik* (Pulleyblank 1991, 385) ~ Middle Chinese **fiik* < Postclassic Chinese **whik* < Han Chinese **whək* < Classic & Preclassic Old Chinese **whək* (Starostin, *ChEDb*; *GSR* #0929 e-f). Schuessler (2009, 107, §5–6): Late Han Chinese **wik* < Old Chinese **wək*. Baxter (1992, 631) reconstructed Old Chinese **wrjik*, while Baxter & Sagart (2014, 230) reconstruct Old Chinese **[G]ʷrək*. Note: For **wh-* cf. Xiamen *hik*⁸, Chaozhou *hok*⁸, Meixian *vet*⁷. Sino-Tibetan parallels: ?Burmese *wəuk* “circle, district, zone“.

1 See the detailed discussion of probable Tocharian loans in Chinese in the field of chariotry terminology by Lubotsky 1998, 382–85, Blažek 1997, 234–35 & 1999, 82 (together 2011, 30–31, 44), and Pulleyblank 1999, 162–65.

Comments: Starostin (*ChEDb*) alternatively connected Burmese *wəuk* “circle, district, zone” with Old Chinese 國 **kwək* > Mandarin *guó*² “state, country” (*CVST* V, 11). In this case Chinese 域 *yù* “boundary” stands isolated within Sino-Tibetan. It seems, however, that there is no reason to reconstruct the Old Chinese cluster **wrj-* or **[G]wr-* as Baxter or Baxter & Sagart, respectively, do. Starostin and Schuessler independently reconstruct **wh-* and **w-*, respectively. If the Tocharian word for “place, location, position” was really adopted into Chinese, it would have been realized before 600 BCE. Remarkable, but logical, is the semantic dispersion of the borrowed term in Chinese: first “boundary”, later also “region, territory, state” and finally “universe”. Let us mention that it is probable that at that time the ancestors of Tocharians (also) lived in the present Chinese province Gansu, i.e. on the border with the Chinese world.

Lit.: Ulving 1968–69, 949: Chinese + IE.

2. Tocharian A *kār* in *kār-parām* “good dignity“, obl. *krant-/kränt-* (*DTA* 122–24, 133–34); B *?kare*, if it meant “good” and not “worth, rank, dignity” & *käre-perne* “dignity“, *kartse*, obl. *krent-* “good, beautiful” (Adams 2013, 151–52; 153–55: **g^urH₂-tó-* vs. **g^urH₂-ont-/g^urH₂-ūt-*; cf. Latin *grātus*, Lithuanian *gėras* “good, kind, splendid“, while Hilmarsson 1996, 97 derived these forms from Common Tocharian **käræ(n)* < **krH₂onts*, identifying the cognates in Latin *cārus* “dear“, Old Irish *carae* “friend” etc.).

Chinese 佳 *jiā* “good” < Middle Chinese **kǎ* < Late Postclassic Chinese **kiē* < Middle Postclassic Chinese **kiē* < Early Postclassic Chinese **kiē* < Eastern Han Chinese **kriē* < Western Han Chinese **krē* < Classic Old Chinese **krē* < Preclassic Old Chinese **krē* “good” [*Lǎozǐ*; 5th–4th cent. BCE] (Starostin 1989, 608, 691; Id., *ChEDb*; *GSR* 0879 n: **kěg*). Further Schuessler 2007, 300: **krē*; Baxter 1992, 493: **kre*; Baxter & Sagart (*ChDb* 2014): **[k]’re*. The hypothetical Sino-Tibetan cognates are rather problematic due to their different vocalism: Written Tibetan *bkra-ba* “beautiful, blooming“, *bkra-šis* “happiness, prosperity“, Lushai *t^ha^L / t^hat^L* “to be good, nice, virtuous” (Schuessler, l.c.).

Comments: The model of the hypothetical Chinese loanword could have been a predecessor of Common Tocharian **käre* (Adams 2013, 152) or **käræ(n)* (Hilmarsson), via monosyllabification leading to **kre* or **kræ*. The borrowing should be dated no later than to the 5th cent. BCE.

3. Tocharian A *klānk* “riding animal“, *klānka-* “to ride” (*DTA* 175–76); B *klenke* “vehicle“, B *klānkā-* “to ride, travel by wagon” (Adams 2013, 238, 245).

Chinese 乘 (a) *chéng*; (b) *shèng*:

(a) *chéng* “to mount, ride” < Middle Chinese **zìŋ* < Postclassic Chinese **zìŋ* < Eastern Han Chinese **zìŋ* < Western Han Chinese **ləŋ* < Classic & Preclassic Old Chinese **ləŋ* [*Shījīng*; 1050–600 BCE]; further compared with semantically distant Tibetan *lay* “to rise, get up“, Kachin *luŋ²* “to ascend“, Lepcha *tā-ljaŋ* “the high place; the sky, the firmament, the heavens; atmosphere“, Kiranti **liŋ* “to climb“, which should go back to Sino-Tibetan **lǎŋ* “to rise, ascend” (Starostin, *ChEDb*; *GSR* 0895 a-c). Schuessler (2007, 185): Middle Chinese **dźjəŋ* < Later Han Chinese **zìŋ* < Old Chinese **m-ləŋ*. Baxter (apud Lubotsky 1998, 382): **Ljīng/*Ləng*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **zyīng* < Old Chinese **Cə.ləŋ*.

(b) *shèng* “team of four horses, chariot with team” < Middle Chinese **zìŋ* < Preclassic Old Chinese **ləŋ-s* [*Shījīng*; 1050–600 BCE]; further compared with Burmese *hlañh* “vehicle“, Kachin *leŋ²* “a vehicle, a wheel” < Sino-Tibetan **liŋ-s?* (*CVST* III, 26). Schuessler (2007, 185: lit. “what is mounted”): Middle Chinese **dźjəŋ^c* < Later Han Chinese **zìŋ^c* < Old Chinese **m-ləŋh*. Baxter (1992, 738, 740, 787): Middle Chinese **zyīngH* < Old Chinese **Ljīngs/*Ləngs*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **zyīngH* < Old Chinese **Cə.ləŋ-s*.

2 Chinese 國 *guó* “state, country, kingdom, homeland” < Middle Chinese **kwak* < Postclassic Chinese **kwək* < Han Chinese **kwək* < Classic Old Chinese **kwək* < Preclassic Old Chinese **k^wək* (Starostin, *ChEDb*; *GSR* 0929 o-p). Note: Shijing occurrences: 31.1. Vietnamese reading: *quóc*.

Comments: Both the verb and derived noun were first attested in *Shījīng*, e.g. before c. 600 BCE. It is thinkable that in Chinese the inherited Sino-Tibetan verb **lǎŋ* “to rise, ascend” and Tocharian AB *klānk-* “to ride” merged. The technological innovations were frequently spread from Chinese to other languages of the Far East. So it is possible to explain the Burmese and Kachin counterparts.

Lit.: Lubotsky 1998, 382 & Blažek 1999, 82: Tocharian > Chinese.

4. Tocharian B *klese* “barley (meal)” (Adams 2013, 247); the expected A counterpart would look like ⁺*klas* (cf. A *slam* vs. B *sleme* “flame” < **suolmo-*; see Adams 2013, 793).

Chinese 稼 *jià* “grain, crop; to sow” < Middle Chinese **kà* < Postclassic Chinese **kâ* < Eastern Han Chinese **krāh* < Western Han Chinese **krāh* < Classic Old Chinese **krāh* < Preclassic Old Chinese **krās* [*Shījīng*; 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0032 f). Schuessler (2007, 301; 2009, 48, §1–11 f): Middle Chinese **ka*^C < Old Northwest Chinese **kā* < Later Han Chinese **ka*^C < Old Chinese **krāh*. Baxter & Sagart (2014: *OChDb*): Old Chinese **k’ra-s*. Sino-Tibetan **krā* > Old Chinese 稼 **krās* “grain”; Tibetan *khra* “a sp. of grain”, while Lepcha *ko-gró(-zo)* “a species of grain” is better compatible with Tibetan *gro* “wheat” (Starostin, *ChEDb*; *CVST* V, 62: Sino-Tibetan **krā*). Thus the Tibetan form remains the only argument for Sino-Tibetan heritage of the Chinese word. But it could be connected with Tibetan *khre* “millet”, Kachin *gji*, *šagji* “millet”, Lushai *tai* “a sp. of early rice”, Chinese 苳 *qǐ* “a kind of grain (millet, rice)” < Middle Chinese **khí* < Postclassic Chinese **khí* < Han Chinese **kh(r)ǎ* < Classic Old Chinese **kh(r)ǎ* < Preclassic Old Chinese **kh(r)ǎ*? [*Shījīng*] < Sino-Tibetan **khriǎH* (*CVST* V, 100). On the other hand, Bodman (1985, 153) reconstructed Old Chinese **klas* with the initial cluster **kl-*, preserved in borrowings in Common Daic **kla*^{Cl} “young rice plants”, Kam-Sui **kla*³ “rice seedlings” (Schuessler 2007, 301).

Comments: Tocharian B *klese* with its hypothetical counterpart in A ⁺*klas* reflect Common Tocharian **klæsæ*. Its resemblance with Old Chinese **klas* in the reconstruction by Bodman is suggestive, but the one-to-one correspondence of the initial clusters, Common Tocharian **kl-* vs. Old Chinese **kl-*, is contradictory to the correspondence of Common Tocharian **kl-* vs. Old Chinese **l-*, illustrated by **klænkæ* “vehicle” vs. **lǎŋ-s* “chariot” respectively, although both of the Chinese lexemes were first documented in the same text, *Shījīng*. A passable solution may be found in internal development of Tocharian, where the tendency to metathesis of the type **K₁LæK₂æ* < **K₁æLK₂æ* is described (cf. Van Windekens 1976, 122, §381), cf. A *slam* vs. B *sleme* “flame” < **s^(w)læmæ* < **s(w)ælmæ* < **suolmo-*, with regard to Middle Low German *swalm* “thick smoke”, Latvian *svelme* “vapor”, from the verb continuing in Old English *swelan* “to burn, ignite”, Lithuanian *svilti* “to scorch, burn without flame” (Pokorny 1959, 1045; Adams 2013, 793–94). Thus, Common Tocharian **klæsæ* is derivable from **kælsæ* < **kolso-* and this reconstruction can be confirmed by other Indo-European cognates: Common Slavic **kolsъ* “ear of corn” (cf. Russian dial. *kolós’ja* “sacrificial bread backed in the end of May when ears of corn ripen”); Early Albanian (Buzuku) *kall*, Modern Albanian *kallë* “ear of corn, stalk” (**kolso-*); Iranian **karša-ka-* or **kṛša-ka-* “barley” > Khotanese *chaska*, Modern Persian *kašk*, Munji *kosk*, Yazghulami *kusk*, *kåsk*, Sarikoli *čūšć*, Shugni *čūšj* etc. (Bailey 1979, 107; Pokorny 1959, 545). The earlier Common Tocharian **kælsæ* would have been adopted in Old Chinese as **klas*, because a consonant cluster in final position is excluded in development of Chinese. In this case, the Chinese initial cluster is of secondary origin. If Chinese 稼 *jià* “grain, crop; to sow” < Old Chinese **klas* is of Tocharian origin, it cannot be connected with Tibetan *khra* “a sp. of grain” as a common heritage, only in areal perspective.

Lit.: Blažek 1999, 79–80: Tocharian > Chinese.

5. Tocharian A *ko*, obl.pl. *kowi*; B *kau*^{*}, really *ke_u*, nom.pl. *kewi* “cow” (*DTA* 161; Adams 2013, 201-02) < Common Tocharian **k^wæw-* (Hilmarsson 1996, 115) ~ **k^wëw(u)-* (Ringe 1996, 74).

Chinese 牯 *gǔ* “male of bovine: steer, bull, ox”, arch. “cow” [*Yùpiān*, “Jade Chapters” - dictionary compiled by Gu Yewang *c.* 543 CE; *Guāngyùn* - rime dictionary from 1011 CE] < Middle Chinese **kuX* < Old Chinese **Cə.k^wʰaʔ* (Baxter & Sagart 2014, 187, #778; *ChDb* 2014; *GSR* 0049 -). Schuessler (2007, 259; 2009, 46, §1-1 -): Middle Chinese **kuo^B* < Old Northwest **ko* & proto-Min **ko^B* < Later Han Chinese **ka^B* (Old Chinese is not reconstructed; the word appears only in postclassic sources). Probably unrelated is Chinese 羴 *gǔ* “ram” < Middle Chinese **kuX* < Old Chinese **Cə.k^wʰaʔ* (Baxter & Sagart, *ChDb* 2014; *GSR* 0051 b), while Schuessler (2007, 259) reconstructs Middle Chinese **kuo^B* < Later Han Chinese **ka^B* < Old Chinese [*Shījīng*, 1050-600 BCE] **kâʔ*.

Comments: The relatively late attestation of the word 牯 *gǔ* in Chinese texts indirectly indicates its foreign origin. It seems, a source could be Tocharian A *ko* or its earlier form, datable in the post-Han period, i.e. after *c.* 200 CE. In the case of the earlier borrowing the vocalism in Han Chinese **ka^B* is not explainable. Numerous scholars (e.g. Conrady 1925, 16; Illič-Svityč 1964, 3; Pulleyblank 1966, 11; Shafer 1965, 459; Gamkrelidze & Ivanov 1984, 935) compare the Tocharian designation of “cow” or its IE predecessors with Chinese 牛 *niú* “bovine, cattle, cow, ox”, preceded by Middle Chinese **ŋəw* < Late & Middle Postclassic Chinese **ŋəw* < Early Postclassic Chinese **ŋiw* < Han Chinese **ŋwə* < Classic Old Chinese **ŋwə* < Preclassic Old Chinese **ŋ^wə* (Starostin, *ChEDb*; *GSR* 0998 a). Baxter & Sagart (*ChDb* 2014): Middle Chinese **ngjuw* < Old Chinese **[ŋ]wə*. Note: For **ŋ*- cf. Xiamen, Chaozhou *gu²*, Fuzhou *ŋu²*, Jianou *niu²*. Vietnamese reading: *n^hu*. There are also convincing cognates in other Sino-Tibetan languages: Sino-Tibetan **ŋ^wə* “bull, cow” > Old Chinese 牛 **ŋ^wə* “bull, cow, ox”; Kachin *ŋa^l* “cattle, a taurus”; Moshang *ŋa*; Rawang *ŋwa* ~ *ŋa* ~ *nwa*, Trung *nun^l-ŋwa²* “yellow buffalo” (Shafer 1974, 429; Benedict 1972, 50; *CVST* V, 151: **ŋ^wə*). On the other hand, Lubotsky (1998, 381) correctly rejected the comparison of Tocharian A *ko*, B *ke_u* “cow” with Old Chinese **ŋ^wə* “bull, cow, ox”, but he offers no alternative.

Lit.: Schlegel (1872, 25) a Gamkrelidze & Ivanov (1984, 935): IE + Chinese 牛 *niú* & 牯 *gǔ*.

6. Tocharian A *k_uli*, acc.sg. *k_ule*; B *klīye* ~ *klyīye*, acc.sg. *klaiṃ* ~ *klaiñ* ~ *klai*, nom.-acc.pl. *klaina* “woman; female of animals” < Common Tocharian **k^wliye*, acc. **k^wlāi* (Adams 2013, 242-43) < IE **ǵleH_ui-H_{en}-* (Blažek 2005a, 92-100; in this contribution the labialization of the initial velar in Tocharian A is explained as secondary, under the influence of **u* from the second syllable; the possible Old Chinese loanword confirms the absence of labialization in anlaut).

Chinese 姬 *jī* “a lady of the Ji clan; the Ji clan; a fine lady; woman; concubine; female entertainer” < Middle Chinese **ki* < Postclassic Chinese **ki* < Han Chinese **kə* < Classic Old Chinese **kə* < Preclassic Old Chinese **klə* [Zhou inscriptions, 950-770 BCE; *Shījīng*, 1050-600 BCE] (Starostin, *ChEDb*; *GSR* 0960 f-h). Baxter (1992, 765): Middle Chinese **ki* < Old Chinese **k(r)ji*. Schuessler (2009, 99, §4-34 f): Middle Chinese **kji* < Later Han Chinese **kiə* < Old Chinese **k(j)ə*. Notes: Also read Middle Chinese **ji* < Old Chinese **lə* id.

Chinese 妓 *jì* “a small and weak woman” [*Shuōwén Jiězi* “Explaining graphs and analyzing characters” – a dictionary completed around 100 CE], “singing girl, geisha, courtesan, prostitute” [*Jinshū* “Book of Jin”, describing the events from 265 to 420 CE, completed 648 CE] < Late Middle Chinese **khi* < Early Middle Chinese **giə’/*gi* (Pulleyblank 1991, 142) ~ Middle Chinese **kje* & **gje^B* < Wei-Jin (220-420 CE) **kie* & **gie* < Old Chinese **kre* (Schuessler 2007, 297; 2009, 120, §7-3: Austro-Asiatic: Vietnamese *cái* / *gái* “feminine”; proto-Wa **krih* “girl”).

Comments: Combining the Old Chinese reconstructions of Chinese 姬 *jī* by Starostin, Baxter & Sagart and Schuessler, the protoform **kljə* is well-imaginable. It agrees remarkably with Common Tocharian **k^wliye* proposed by Adams. Its adaptation into Old Chinese could have been realized already around 1000 BCE. The second word, Chinese 妓 *jì*, may represent a younger borrowing of the same Tocharian word, adopted perhaps during the Han era. A good candidate could be some earlier form of Tocharian A acc.sg. *k_ule*.

7. Tocharian A *kursär*, obl.pl. *kurtsru* & *kursärwā* “mile; vehicle” (DTA 153); B *kwarsär*, nom.-acc.pl. *kwärsarwa* “league; course, path” (Adams 2013, 253) < **kwärsrä* < Common Tocharian **kwärsru* < **kʷrsru-* < **kʷrs-ur* (Hilmarsson 1996, 204–05), while Adams (2013, 253) explains the initial labiovelar through influence of the final **-u-*, i.e. from **kʷrsru-*, which should be derived from IE **kers-* “to run” (Kümmel, LIV 355; Pokorny 1959, 583).

Chinese 軌 *guǐ* “wheel-axle ends” < Middle Chinese **kwǐ* < Late & Middle Postclassic Chinese **kǎw* < Early Postclassic Chinese **kíw* < Han Chinese **krǎw* < Classic Old Chinese **krú* < Preclassic Old Chinese **kruʔ* [*Shījīng*; 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0992 k). Baxter (1992, 595, 761): Middle Chinese **kwijX* < Old Chinese **kʷrjuʔ*/**kʷruʔ*. Baxter & Sagart (2014, 218, 247, 248, 397, 398): Old Chinese **kʷruʔ*. Schuessler (2009, 94, §4–12 k): Middle Chinese **kjwi^B* < Later Han Chinese **ku^B* < **kwi^B* < Old Chinese **kruʔ*. Note: Middle Chinese *kwǐ* is irregular (it presupposes Old Chinese **kʷrǎʔ*, but the word clearly rhymes in **-uʔ*). Shijing occurrences: 34.2.

Comments: The borrowing should be dated before 600 BCE. Starostin and Schuessler reconstruct (Preclassic) Old Chinese **kruʔ*, which could reflect simplification of Common Tocharian **kärsru* by Adams in process of monosyllabification, while the Old Chinese reconstruction **kʷruʔ* of Baxter (& Sagart) might represent an adoption **kwärsru* by Hilmarsson.

Note: There is another candidate for a source of the Chinese term, namely Scythian, judging upon the gloss of Hesychius: *καραρυές*: οἱ Σκυθικοὶ οἴκοι. ἔνιοι δὲ τὰς κατήρεις ἀμάξας. Witczak (1991b, 59; 1992a, 54) reconstructed the Iranian protoform of this term as **kərəšaru-*. It is apparent that there should be some relation between the Scythian and Tocharian terms.

Lit.: Lubotsky 1998, 383: Tocharian > Chinese.

8. Tocharian A **kwre* “earth”, reconstructed on the basis of the adj. *kwreyu-* in the syntagm (nom.pl.) *štām-kwreyunt* which corresponds to Sanskrit *vykṣa-mṛd-bhū-* “tree-earth-born”, metaphorically designating “a kind of reed or cane”; B **kwäriye*, reconstructed on the basis of the adj. *kwraiññe* “made of clay”, translated by Sanskrit *mṛttikā-* (Pinault, DTA 184: IE **kʷr̥yo-* > Hittite *kuraya-* “a kind of ritual pot”; Old Irish *coire*, Welsh *pair* “cauldron”); Adams (2013, 259–60) includes here Tocharian A *tukri* “clay” and with regard to Old Irish *cré* f., Welsh *pridd* “clay” and Latin *crēta* “earth, chalk”, he reconstructs the paradigm nom. **tkʷreH₁ot-s*, gen. **tkʷr̥H₁itós*.

Chinese 磽 [Mengzi; 5th-3rd cent. BCE] & 塹 [Hunzi, 5th-3rd cent. BCE] *qiāo* “stony soil, stony terrain” < Late Middle Chinese **kʷja:w* < Early Middle Chinese **kʰaiw*/**kʰɛ:w* (Pulleyblank 1991, 252) ~ Middle Chinese **khaew* < Old Chinese **[C.q]^hrew* (Baxter & Sagart 2014, 298; *GSR* 1164 i). Schuessler (2007, 427) reconstructs Middle Chinese **kʰau* & **kʰieu* < East Han Chinese **kʰau* & **kʰeu* < Old Chinese **khrīâu?*

Comments: The Old Chinese reconstructions of Baxter & Sagart and Schuessler are derivable from a Tocharian source of the type the A adj. *kwreyu-*. The borrowing would have been realized no later than in the 3rd cent. BCE. It is also in agreement with chronology of simplification **khrV* > **khV³* in development of Chinese. According to Starostin, during the Han era this cluster was still preserved and simplified only in the post-Han times, while Schuessler proposes the simplified anlaut also for the Later Han era (23–220 CE). In any case, both the scholars agree in existence of the cluster **khrV* in the pre-Han era (before 206 BCE).

3 Cf. e.g. Chinese 殼 *qiào/què/ké* “hard shell; bark” [Han] < Middle Chinese **khauk* < Postclassic Chinese **khōk* < Han Chinese **khrōk* < Classic & Preclassic Old Chinese **khrōk* (Starostin, *ChEDb*; *GSR* 1226 d-f; while Schuessler 2007, 333, 428, reconstructs Later Han Chinese **kʰɔk* < Old Chinese **khrōk*) < Sino-Tibetan **khrəw* (~ *gh-*, *qh-*, *Gh-*) “shell, bark” (*CVST* V, 101–02); cf. Tibetan *sgro* “the bark of a species of willow”, *gro-ga* “thin bark of the birch-tree”; Kachin *šəgrau²* “outer skin, as of fruit”; Lepcha *krju*, *a-krju* “the slough of a snake, the skin of a bird, the scurf, skin, epidermis”; Kiranti **kru* (Benedict 1972, 39).

9. Tocharian A *ku*/// “nave, hub”? (Schmidt 1994, 265, fn. 148 and 281, fn. 216).

Chinese 轂 *gǔ* “nave of a wheel” < Middle Chinese **kuk* < Late Postclassic Chinese **kwōk* < Middle & Early Postclassic Chinese **kōk* < Han Chinese **kōk* < Classic Old Chinese **kōk* < Preclassic Old Chinese **k(l)ōk* [*Shījīng*; 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 1226 j). Baxter (1992, 633, 760): Middle Chinese **kuwk* < Old Chinese **kok*/**kōk*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **kuwk* < Old Chinese **[k]’ok*. Schuessler (2009, 156, §11–3 j): Middle Chinese **kuk* < Later Han Chinese **kok* < Old Chinese **kōk*.

Comments: It is possible to identify Tocharian A *ku*/// “nave, hub”? with Tocharian A *kuk**, du. *kukām* “heel” (*DTA* 147); B *kuke**, du. *kukene* id.? (Adams 2013, 191: Further connections are unknown⁴). For the Tocharian word for “heel” there are promising cognates in Old Church Slavonic *кѣкѣнѣ* “Schienbein, Unterschenkel” (Karlíková, *ESJS* 7, 392; cf. Pokorny 1959, 589) and in Celtic: Middle Welsh (13th cent.) *kukyn*, (14th cent.) *kygwng/kygwn/kygwg*, Welsh *cwgn*, pl. *cygnau*, “joint, knuckle; knot or joint on stem or root of plant; knot, knur (in wood); link in chain”; Irish *cocung* “chain” (*GPC*). The semantic dispersion resembles Germanic **hanha-* & **hanhila(n)-* “heel” vs. Lithuanian *kinka* f. “leg, thigh, knee-cap” (Kroonen 2013, 209) or Vedic *pārṣṇi-*, Avestan *pāšna-* id.; Hittite *paršna-* “a body part in the vicinity of the feet, heel?”, Greek πτέρνη “heel”; Gothic *fairzna* “heel”; vs. Tocharian B *porṣnai* “ankle”; Latin *perna* “ham, haunch, (upper) leg, thigh” (Adams 2013, 435; Kroonen 2013, 137; Adams, *EIEC* 265).

Lit.: Ulving (1968–1969, 950): Chinese + IE **k^wek^wlo-*; Lubotsky 1998, 383: Chinese < Tocharian B *kokale*, A *kukäl* “chariot”; Blažek 1997, 234–35: Chinese < Tocharian A *ku*/// “nave, hub”.

10. Tocharian AB *lāk-* “to see; look at; catch sight of; visit; look”, pret. A *lyakā-/lyākā-*, B *lyākā-* (Van Windekens 1976, 258: **leuk-* “to light; be light”; Adams 2013, 596–97 prefers the comparison with Greek λέγω “I pick up; collect, tell”, Latin *legō* “I pick up, gather; scan, read” etc. < **leg-*; see *LIV* 418, 397 and Malzahn 2010, 836–39 with detailed discussion). The difference in the root vocalism between *lāk-/lk^o* (unpalatalized *l-*) and *lyak^o/lyāk^o* indicating **luK-* vs. **lēK-* is solvable, if the suppletion of two different verbal roots, **leuk-* and **lēg-*, is accepted. The suppletivism of this verb is rich enough (cf. the imperatives *pälk^a-*, *palyaka-me* and even *pkāka* from *kāk-* “to call” – see Malzahn 2010, 837) that one form moreover is not surprising.

Chinese 覲 *dí* “to see, meet” < Middle Chinese **diek* < Late & Middle Postclassic Chinese **d(h)iēk* < Early Postclassic Chinese **d(h)iēuk* < Eastern Han Chinese **l(h)iāuk* < Western Han Chinese **l(h)jāuk* < Classic Old Chinese **l(h)īuk* < Preclassic Old Chinese [*Yijīng* “Book of Changes”, serving as a divination manual in 1000–750 BCE; in the period 500–200 BCE transformed into a cosmological text] **l(h)īk^w ~ *l(h)ēk^w* (Starostin, *ChEDb*; *GSR* 1023 e: **dīōk*). Schuessler (2009, 187, §14–4 e): Middle Chinese **diek* < Later Han Chinese **dek* < **deuk* < Old Chinese **liūk*.

Comments: A primary use in context of divination explains why such a verb could have been borrowed. It is datable in the period of the Western Zhou, i.e. in the last quarter of the first mill. BCE (or earlier). In this time the initial **l(h)-* is generally reconstructed. Its change into *d-* is dated later, to c. 200 CE by Starostin and to c. 200 BCE by Schuessler.

11. Tocharian A *lyām*, B *lyam*, pl. *lyamanta* m. “lake” < Common Tocharian **ljāmā* (~ **l’āmā* by Ringe 1996, 109) < **limṇ*, cf. Greek λίμνη f. “pool of standing water left by the sea or a river” [Il.21.317], “marshy lake, mere” [Pl. Criti.114e], “artificial pool or basin” [Herodot 1.185, 1.191], “sea” [Il.24.79, Od.3.1]; λιμὴν, -ένος m. “harbour” [Il.1.432] (Adams 2013, 614).

Chinese 潭 *tán* “gulf, deep, abyss; pond” [Late Zhou] < Middle Chinese **dām* < Postclassic Chinese **dhām* < Han Chinese **lhām* < Classic & Preclassic Old Chinese **lhām* [*Chūcǐ* “Songs of Chu”; book of poems collected in the Former Han Dynasty, but originating especially from

4 Adams finds implausible the attempt to explain Tocharian “heel” as borrowing of Permian **kok* “foot” or Chukchi *kyjä* “heel” proposed by Van Windekens 1976, 628.

the country of Chu, dated to *c.* 500 BCE] (Starostin, *ChEDb*; *GSR* 0646 b). Baxter & Sagart (*ChDb* 2014): Middle Chinese **dom* < Old Chinese **[l]ʰ[ə]m*. Schuessler (2007, 489; 2009, 364, §38–16 b): Middle Chinese **dām* < Later Han Chinese **dām* < Old Chinese **lām*. Note: Regular Sino-Vietnamese is *dām*. For **lh-* cf. Chaozhou *tham*², Fuzhou *thay*², Jianou *thaij*². Vietnamese reading: *dām*.

Comments: The borrowing from Common Tocharian into Old Chinese would probably have been realized before 500 BCE, i.e. in the time, when the initial **l(h)-* was safely reconstructed. Kam-Sui **t^hlam^l* as a hypothetical source of the Chinese word (Schuessler l.c.) is better explainable as borrowed from Chinese. Malay *kolam* “pond, well, pool” cannot support Schuessler’s solution, if it was borrowed from Sanskrit *kūlam* “pond, pool”, also “shore, bank, slope, declivity”, perhaps via Tamil *kulam* “pond, tank”.

12. Tocharian AB *lik-* “to wash”, B *laiko* “bath, washing” (Adams 2013, 600–01, 610; Malzahn 2010, 845–46).

Chinese 涤 *dí* “to wash, clean up/out, denuded, clarify (spirits)” < Middle Chinese **diek* < Late & Middle Postclassic Chinese **d(h)iēk* < Early Postclassic Chinese **d(h)iēuk* < Eastern Han Chinese **l(h)iāuk* < Western Han Chinese **l(h)jāuk*, Classic Old Chinese **l(h)īuk* < Preclassic Old Chinese **l(h)īk^w* “to clean up/out, denuded” [*Shījīng*, *c.* 600 BCE], “to wash” [*Lǐjì*; Han], “to clarify (spirits)” [*Zhōulǐ*; Late Zhou] (Starostin, *ChEDb*) = Old Chinese **liwk* (Baxter 1992, 522) = **liwk* (Baxter & Sagart 2014, 301) = **liuk* (Schuessler 2007, 209: the etymology is not clear; *GSR* 1077 x: **d’iok*). Note: Standard Sino-Vietnamese is *dich*.

Comments: With respect to the initial liquid, Old Chinese forms favor as cognates Latin *liquēre* “to be clear, liquid”, Old Irish *fliuch* “humid” < **uleik^w*-, against Greek *νίω* “I wash”, Old Irish *nigid* “washes” < **neig^w*- (*LIV* 696; 450 respectively). The borrowing, which took place before 600 BCE, had probably a specific semantics, “ritual purifying”.

13. Tocharian pret. A *lyokäs*; B *lyauksa* ~ *lye_uksa* < Common Tocharian **l’éwksa* (Ringe 1996, 135), all from AB *luk-* “to light up, be illuminated; illuminate, enlighten”, besides B *lukšiye* “brilliance”, *lak_utse* & *lak_utsetstse* “shining, bright, brilliant”, all from IE **leuk-* “to light; be light” (Adams 2013, 589, 597–98, 603–05; Malzahn 2010, 855; Hackstein 1995, 126; *LIV* 397).

Chinese 濯 *yào* “to be clean, brilliant, splendid; bright, glossy” < Middle Chinese **yewH* < Old Chinese [*Shījīng*, *c.* 600 BCE] **ljawks/*ljewks* (Baxter 1992, 532, #1671) = **lewk-s* (Baxter & Sagart 2014, 300; cf. *GSR* 1124 i: **d’iog*).

Note: Adams (p.c., Dec 11, 2012) mentions that in Tocharian there are no traces of the *s*-stem, attested directly practically only in Old Icelandic *ljós* n. “light” < **leuhsa-* (Pokorny 1959, 689). But the Chinese forms also bear the verbal meaning and in this perspective the borrowing of the Tocharian sigmatic verbal forms seems quite natural.

Comments: The borrowing is datable before 600 BCE. Old Chinese adopted the sigmatic verbal stem of Common Tocharian, forming the preterite.

14. Tocharian B *mīt* “honey”, com.sg. *mitä-mpa* < Common Tocharian **m’ätə* (Ringe 1996, 106; Kim 1999, 120) ~ **m’ätä* (Pinault 2008, 440) < **méd^hu-* (Schrader & Nehring I, 139; Van Windekens 1976, 298; Adams 2013, 494).

Chinese 蜜 *mì* “honey” < Late & Early Middle Chinese **mjit* (Pulleyblank 1991, 213) ~ Middle Chinese **mjit* < Postclassic Chinese **mjit* < Han Chinese **mjət* < Classic & Preclassic Old Chinese [Later Zhou] **mit* (Starostin, *ChEDb*; *GSR* 0405 r: ‘Ancient’ & ‘Archaic’ Chinese **mjēt*). Schuessler (2007, 383; 2009, 304) adds Middle Tang Chinese (*c.* 775 CE) **mir* < **mir*; Middle Chinese **mjiet^l* < Early Northwest Chinese **miit*; pMin **mit* < Later Han Chinese **mit* < Old Chinese **mit* [first attested in “Book of poems” (楚辭 *Chǔcí*), collected during the Western Han era, but originating from the country of Chu from the time around 500 BCE; other sources are summarized by Kim 1999, 122, fn. 28]. Baxter & Sagart (2014, 205–06, 216, 290)

also reconstruct Old Chinese **mit*. Note: For **m-* cf. Xiamen *bit*⁸, Chaozhou *bik*⁸, Fuzhou *mik*⁸. Other dialects: Shanghai *mī*², Jinan *mi*³, Xi'an *mi*¹¹, Taiyuan *miə*²¹, Hankou *mi*¹², Chengdu *mi*¹², Yangzhou *miə*², Suzhou *miō*², Wenzhou *mi*⁴², Changsha *mi*⁴, Shuangfeng *mi*³¹, Nanchang *mit*⁴¹, Meixian *met*⁴², Guangzhou *mat*⁴². Vietnamese reading: *mât*. In Vietnamese cf. also *mù* 't "jam, sweetmeat" (possibly a colloquial loan from the same source).

Comments: The IE term **med^{hu}-* "honey, mead" (Pokorny 1959, 707; Huld & Adams, *EIEC* 271; plus Cuneiform Luvian *maddu-*, Hieroglyphic Luvian *matusa-* "wine" – see Melchert 1993, 144 & Hawkins 2000, 477) became widespread across Eurasia. Geographically closest is Fenno-Ugric **mete* (*UEW* 273) ~ **meti* (Sammallahti 1988, 545) "honey, mead"⁴⁵. Traditionally it has been explained as a loanword from Indo-Iranian (Joki 1973, 284, §79; Rédei 1986, 45, §14). With regard to probable Tocharian loanwords in Samoyedic proposed by Janhunen (1983, 118–21), Napoľskix has identified several no less promising Tocharian borrowings in Fenno-Ugric, including the word for "honey" (Napoľskix 1994, 37; 1997, 138, 154; Napoľskikh 2001, 372). With exception of Saami, the IE loan "honey" is attested in all Fenno-Ugric branches. Thus, it is probable to assume its presence already in the Fenno-Ugric protolanguage. The disintegration of Fenno-Ugric is dated to 2 180 BCE by Sergei Starostin (p.c. 2004), 2 200 BCE by George Starostin (p.c. 2010) and 2 350 BCE by Blažek (2012, 34). On the other hand, the separation of Tocharian from the Indo-European dialect mainstream, as the second branch diverging after Anatolian, is dated to 3,810 BCE by Sergei Starostin and to 3 900 BCE by George Starostin. It is possible to conclude that the borrowing of the proto-Tocharian term "honey" would have been realized in the period 3 800 – 2 350 BCE. The Tocharian word was borrowed into Chinese no later than around 200 BCE, maybe already around or even before 500 BCE. In the younger case from early Tocharian B, in the older case from Common Tocharian.

During the 1st mill. CE the designation of "honey" was spread from Chinese into various Altaic branches:

Early Middle Chinese (c. 600 CE) **mjit* (Pulleyblank, Starostin) > Old Japanese *mitu* (in the Japanese Archipelago a honey-bee was brought from Korea only in 643 CE – see Polivanov 1916, 264).

Middle Tang Chinese (c. 775 CE) **mir* (Schuessler) > Old Uyghur (8th cent. CE) *mir* "honey" (Räsänen 1969, 339; Clauson 1972, 771) and Sino-Korean *mil*, North Korean *mir* "honey" (Schott 1936, 72, #100; Joki 1973, 283–85, §79; Ramstedt 1953–54, 12 speculated about relationship between Old Uyghur *mir* and Sino-Korean *mil*, adding Japanese *mitsu* id.).

More complex is the question whether the word was also borrowed from Chinese into Tai-Kadai languages. There seems to be promising cognate in Kam *mət*⁸ "bee" < Kam-Sui **mit* (Thurgood 1988, 209; but cf. Kam *mət*⁸ "ant" < Kam-Sui **mwit* "ant" {ibid.}). Therapan (1992, 71, 85) finds cognates in the Lakkja dialect cluster: Jintian *met*^{D25}, Liula *mlet*^{D25}, Jinxiu *mlet*^{D25} "bee" < **mlet*^D, and Benedict (1997, 164) even in Austronesian **manits* ~ **mamits* "sweet", reconstructing proto-Austro-Tai **m[a]mlets*.

Lit.: Schlegel 1872, 14; Polivanov 1916, 263–64; Conrady 1925, 7–9; Schott 1936, 72, #100; Maenchen-Helfen 1945, 256; Pokorny 1959, 707: IE + Chinese; Benedict 1942, 590, fn. 40; Pulleyblank 1966, 10 & 1995, 427; Gamkrelidze & Ivanov 1984, 611, 935; Ringe 1995, 442; Lubotsky 1998, 379; Behr 2001, 359; Carling 2005, 55: Tocharian > Chinese.

15. Tocharian A *or* "wood, wooden part of a plant, stem" (*DTA* 91); B acc.sg. *or*, acc.pl. *ārwa* "wood" (Adams 2013, 127) < Common Tocharian **órə* < **óru* < **éru* < **dēru* vs. obl. **réw*^o < **dóru* vs. obl. **dréw*^o (Ringe 1996, 98, 110, 127) ~ **oru* < Common Tocharian **æru* < **tæru* vs. **rau* < **doru* vs. **drou*s (Hilmarsson 1986, 142–43, 172), both applying the *u*-umlaut and the

5 Fenno-Ugric **mete* "honey, mead" > Finnish *mesi*, gen. *meden* "Honig, Met" (> Saami of Norway *miettä -ä-* "honey", Lule *mieta*, Kola, Ter, Kildin *mītt*, Notozero *mieht*), Estonian *mesi*, gen. *mee* "Honig"; Mordvin Erzya *med*, *mäd*, Moksha *med*; Mari *mü* (Kozmodemjansk & Uržum), *mij* (Birk); Udmurt *mu* (Sarapul), *mi* (Kazań), Komi *ma* (Sysola, Permyak, East Permyak) "honey" (> Nenets Sjoia *mā*); Hungarian *méz* "honey" (*UEW* 273).

generally accepted rule $*dR > *R$, where R are all resonants. The form $\bar{a}rwa$ is explainable via the \bar{a} -umlaut from $*(d)oru\bar{a} < *doru-H_2$ (Pinault 2008, 428, 432; he explains the loss of the expected initial dental through dissimilation $*dz...r > *o...r$).

Chinese 株 $zhū$ “tree root, tree trunk, stem” < Late Middle Chinese $*try\bar{a}$ < Early Middle Chinese $*tru\bar{a}$ (Pulleyblank 1991, 413) ~ Middle Chinese $*tū$ < Postclassic Chinese $*tuo$ < Han Chinese $*twa$ < Classic & Preclassic Old Chinese $*tro$ [*Yijīng*, 1000–750 BCE – originally a divination manual, later {500–200} transformed into a cosmological text; *Hánfēizǐ*, lit. Master Han Fei {and his eponymous work}, legalist, living in 280–236] (Starostin, *ChEDb*; *GSR* 0128 f). Schuessler (2007, 625; 2009, 149, §10–18 f): Middle Chinese $*tju$ < Later Han Chinese $*tio$ < Old Chinese $*tro$. Baxter & Sagart (2014, 396, fn. 25): Middle Chinese $*trju$ < Old Chinese $*tro$. Note: Starostin (*ChEDb*) thought about relationship to Kachin ndu^2 “a stump”, but Old Chinese 樛 $*dū$ “block of wood”, quoted by him as an alternative cognate of the Kachin word (*CVST* II, 141: $*trō$), looks more convincing.

Comments: The Common Tocharian word was probably introduced into Chinese in the period 1000–750 BCE. It seems that at that time the form with the initial dental still existed in Tocharian. One possibility is that the rule $*dR > R$ yet did not operate in that time, i.e. the oblique stem, IE $*dreu^o >$ pre-Tocharian $*träu^o$ was adopted as Old Chinese $*tro$. Alternatively, the continuant of IE $*doru$ could still be preserved in pre-Tocharian as $*tæru$ (Hilmarsson 1986, 142–43), monosyllabified into $*træu$ and finally adapted as Old Chinese $*tro$. The Old Chinese $*t-$ offers a witness that the loss of voicedness in development of Tocharian preceded this borrowing.

16. Tocharian B $pwenta$ (nom.pl.f.) “spokes of a wheel”, indicating nom.sg. $puwe^*$ < $*peues-$ (Adams 2013, 422), cf. Sanskrit $pavī-$ “metallic wheel-band, metallic point of spear or arrow” < $*peu(H)-i-$ (Lubotsky 1998, 383; *EWAI* II, 107). If the primary meaning was “point of spear or arrow” and the use of the term to wheel was applied secondarily, it is possible to connect the root with the verb attested in Greek $παίω$ “to strike, hit”; Latin $paviō$, $-īre$ “to thump, pound, strike”.

Chinese 輻 $fú$ “spokes of a wheel” (*GSR* 0933 j) < Late Middle Chinese $*fjywk/*fuwk$ < Early Middle Chinese $*puwk$ (Pulleyblank 1991, 98) ~ Middle Chinese $*pjuwk$ < Old Chinese $*pjik/*pək$ (Baxter 1992, 626, 667, 758) ~ Middle Chinese $*pjuwk$ < Old Chinese $*pək$ [*Shījīng*; 1050–600 BCE] (Baxter & Sagart, *ChDb* 2014) ~ Middle Chinese $*pjuk$ < Later Han Chinese $*puk$ < Old Chinese $*pək$ (Schuessler 2009, 112, §5–33 j).

Comments: The borrowing would have been introduced into Chinese before 600 BCE, maybe already in the 11th cent. BCE or even earlier. The final $-k$ is probably a petrified suffix, which could still have been productive in earlier stages of Old Chinese, cf. Old Chinese 角 $*krōk$ “horn, angle, corner” < Sino-Tibetan $*(k)rua$ “horn”⁶ or Old Chinese $*tik^w$ ~ $*tuk$ “third to second-to-last of brothers, junior”⁸ < Sino-Tibetan $*t(h)u$ (~ $-iw$) “nephew”⁹ (discussed in detail by Schuessler 2007, 68–69).

Lit.. Lubotsky 1998, 383: Tocharian > Chinese.

6 Chinese 角 $jiǎo$ “horn, angle, corner” < Middle Chinese $*kək$ < Postclassic Chinese $*kōk$ < Han Chinese $*krōk$ < Classic & Preclassic Old Chinese $*krōk$ (Starostin, *ChEDb*; *GSR* 1225 a-c); Vietnamese reading: $gác$.

7 In Sino-Tibetan cognates there is no final $-k$: Tibetan rwa “horn”, $grwa$, gru “angle, corner”; Burmese $khṛəw$, $kh-jəw$ “horn” < Lolo-Burmese $*khrəw$; proto-Garo $*ru$ “horn”; Kanauri rud ; Rgyarung $təru$ ~ $tere$; Digaro ru ~ ro ; Trung $xrəʔ$ “horn” < Sino-Tibetan $*(k)rua$ “horn” (Benedict 1972, 22, 113; *CVST* II, 99).

8 Chinese 叔 $shú$ “third to second-to-last of brothers, junior” < Middle Chinese $*śük$ < Late Postclassic Chinese $*śuk$ < Middle Postclassic Chinese $*čuk$ < Early Postclassic Chinese $*čuk$ (~ $-iuk$) < Eastern Han Chinese $*čauk$ (~ $-auk$) < Western Han Chinese $*tjəuk$ (~ $-auk$) < Classic Old Chinese $*tiuk$ (~ $-uk$) < Preclassic Old Chinese $*tik^w$ ~ $*tuk$ (Starostin, *ChEDb*; *GSR* 1031 b-d). Vietnamese reading: $thúc$.

9 Sino-Tibetan $*t(h)u$ (~ $-iw$) “nephew” > Burmese tu “nephew, son of a man’s sister” < Lolo-Burmese $*tu$; Lushai tu “grandchild”; Lepcha $thă$ “a grand-child”; Rawang $phədu$ “nephew”; Trung $pə^3-du^1$; Rgyarung $temdu$ (Shafer 1974, 48; Benedict 1972, 62; *CVST* II, 167).

17. Tocharian A *rake*, pl. *rakeyäntu*, B *reki*, pl. *rekauna* “word; command” (Van Windekens 1976, 400; Adams 2013, 585) may reflect both **rēk-* or **rok-* with the same root vowel as Old Church Slavonic *rěčb* “speech, talking, word, declaration, verdict” and *rokъ* “term; amount, number; command” respectively, both from the verb *rešti* “to say, speak, mention” (Vykyepěl, *ESJS* 13, 761–63). The derivational structure of the Tocharian word is unclear. Adams (1990, 70) reconstructs generally Tocharian ending **-äi*, which should be derived from **-u-H₁en-*. Alternatively, Hilmarsson (1988, 34) preferred the *oj-* root, which was productive namely in Hittite, cf. *hastāi* “bone(s)”. All is derived from the verbal root **rekH-* (Kümmel, *LIV* 506).

Chinese 曆 *lì* “to calculate the course of (stars); years; calendrical calculation; number” < Middle Chinese **liek* < Postclassic Chinese **liēk* < Eastern Han Chinese **riēk* < Western Han Chinese **rēk* < Classic & Preclassic Old Chinese **rēk* [*Shūjīng*, i.e. “Book of History” or “Book of Documents”, c. 1000–300 BCE] (Starostin, *ChEDb*; *GSR* 0858 h). Schuessler (2007, 353): Middle Chinese **liek* < Later Han Chinese **lek* < **rēk*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **lek* < Old Chinese **[r]ʰek*. Note: For **r* cf. Xiamen *laʔ*⁸, Chaozhou *leʔ*⁸, Fuzhou *lik*⁸.

Comments: The borrowing would have been realized before 300 BCE and maybe already before 1000 BCE. Besides the noun there could also have existed a corresponding verb in Tocharian. With respect to external, especially Slavic¹⁰ and Germanic¹¹ cognates and semantics of the Chinese word, it is legitimate to speculate about similar semantic dispersion of the hypothetical Tocharian verb, which might have been borrowed into Chinese. Its shape can be reconstructed in analogy with Tocharian A *lake*, B *leki* “bed”, both from the verb attested in B *lyäk-* “to lie (down)” < **leg^h-* (Adams 2013, 607, 615). Taking in account the fact that Tocharian *r-* is not palatalized before IE **e* in contrary to *l-*, it is possible to reconstruct the primary verb B **rāk-/rak-* and A **rāk-* < Common Tocharian **rāk-* (according to Hilmarsson) or **rək-* (according to Ringe).

18. Tocharian B *saiwai* adj. “left” < **sojuo-* < **soujo-*, cf. Vedic *savyá-*, Avestan *haoiia-*, besides Old Church Slavonic *šujb* “left” < **sejuo-* (Winter 1985, 586, 590–91; Adams 2013, 767).

Chinese 左 *zuǒ* “left, to be left (side), be to the left, eastern; bad, wrong” < Middle Chinese **cá* < Postclassic Chinese **cǎ* < Eastern Han Chinese **cǎ* < Western Han Chinese **cǎj* < Classic Old Chinese **cǎj* < Preclassic Old Chinese **cǎjʔ* [Bronze Inscriptions of the Western Zhou, 1050–770 BCE; *Shūjīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0005 a-d). Schuessler (2007, 637; 2009, 216, §18–13a): Middle Chinese **tsǎ^β* < Old Northwest Chinese **tsa* < Later Han Chinese **tsai^β* < Old Chinese **tsáiʔ*. Baxter (1992, 607, 630, 684, 812) and Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsaX* < Old Chinese **tsʰa[jj]ʔ*. Note: Shijing occurrences: 1.2, 38.3. Vietnamese reading: *ta*¹.

Comments: The Chinese word appeared in the bronze inscriptions of the Western Zhou Dynasty and in the literary texts first in Shijing, i.e. already around 1000 BCE this term could have been integrated into Old Chinese, representing the only designation for “left”. The Chinese term stands isolated within Sino-Tibetan¹². Isolated is also its negative semantics, typical for Indo-European traditions, while in Sino-Tibetan traditions the left side or left hand has been perceived as positive. The substitution of Common Tocharian **s-* by Old Chinese **c-* (Starostin) = **ts-* (Schuessler, Baxter & Sagart) cannot be verified with other parallel examples at present.

10 Cf. the semantic dispersion of Slavic **rokъ*: Serbo-Croatian *rók*, gen. *ròka* “time limit, time”, Slovenian *ròk*, gen. *ròka* “time limit, omen”, Slovak, Czech, Polish *rok*, Ukrainian *rik*, gen. *ròku* “year”, Old Russian *rokъ* “time limit, year, age; rule”, Russian *rok*, gen. *ròka* “fate” etc. (Vasmer III, 496).

11 Cf. Gothic *rahnjan* “to reckon, consider, *ga-rehns* “decision”, *ragin* “opinion, law, decree, task, responsibility”, Old Norse *regin* n.pl. “the rulling powers, the gods”, Old Saxon *regino-giskapu* “fate” (Kroonen 2013, 401).

12 In Sino-Tibetan two terms for “left” can be reconstructed, both without any Chinese cognates: (i) **phaj* “left” > Burmese *bhaj* “left, left side”; Kachin *pai*¹ “left”; Thebor *ba-e* “left” (Benedict 1972, 24–25); (ii) **wǎjH* ~ **wějH* “left” > Burmese *lak-wajh* “left hand”; Lushai *vei* “left”; Lepcha *vi-m* “left”; Mikir *ar-vi* “left”; Thangkur *wui-šoj* “left” (Benedict 1972, 24–25). The etymon (ii) may be of Austric origin: Austro-Asiatic **wier* / **weʔ* “left (side)”
/// Austronesian **wiRi* id.

19. Tocharian A *tkam* f., B *kem* ~ *tkem* f. “earth, ground, base, place” < acc.sg. **d^hg^hom-m* (Adams 2013, 205); cf. also *somotkaññe* “likewise, uniformly, evenly, constantly”?, originally probably “on the same ground” (Adams 2013, 769).

Chinese 坤 *kūn* “earth; principle of earth, Earth as the female beginning” < Late Middle Chinese **k^hun* < Early Middle Chinese **k^hwən* (Pulleyblank 1991, 179) ~ Middle Chinese **khon* < Postclassic Chinese **khwən* < Han Chinese **khwən* < Classic & Preclassic Old Chinese **khwən* [易經 *Yījīng* ‘Book of Changes’; primarily a divination manual (1000–750 BCE), later transformed into a cosmological text (500–200 BCE), finally included among the Five Classics in the 2nd cent. BCE] (Starostin, *ChEDb*; *GSR* 0421 a: ‘Ancient’ & ‘Archaic’ Chinese **kuən*) ~ Old Chinese **khwən* (Schuessler 2009, 334, §34–5 a) ~ Old Chinese **[k^h]u[n]* (Baxter & Sagart, *ChDb*).

Comments: The attested forms A *tkam*, B (*t*)*kem* reflect Common Tocharian **tkænän* < acc.sg. **d^hg^hom-m* (Hilmarsson 1996, 128; Ringe 1996, 41, 154 reconstructs this development in more detail: acc. **d^hg^hóm-m* {~ Greek $\chi\theta\acute{o}\nu\alpha$ } > **d^hg^hónən* > **t^hk^hénə* > **ikénə* > A *tkam*, B *kem*). The expected nom.sg. corresponding to Greek $\chi\theta\acute{o}\nu$ would have looked like **tkō* in Common Tocharian, cf. the Tocharian B nouns in **-ōn*: *okso* “ox”, *suwo* “pig, hog” (Van Windekens 1979, 38, §89; Pinault 2008, 433). In earlier phases of development of Common Tocharian it should be ***tkoN*. In the time of probable borrowing, i.e. in the period of origin of *Yijing* between 1000–750 BCE, the final nasal apparently was still pronounced in Common Tocharian. Concerning semantics, Chinese did not need to borrow the appellative “earth”, but it seems, they adopted the name of the Tocharian earth-goddess. She is really known from the Tocharian B text PK AS 13B¹³, where she is called *kem-ñäkte* “earth-goddess” (Old Uyghur *yer t(ä)ñri hatuni*):

b2 /// *šikaintso : tumem sā kem-ñäkte nmeträ paine ys(ape) šle pä(lskotsta ra :)*

“... of those who step (smoothly), thereupon this earth-goddess will bow close to [their] feet, like someone (female) of reason.”

b3 /// *(se äktikäm)ñe : māka lalamškana tseñāna ešnesa erššäm taka(rškñe :)*

“... (this wonder), because of [his, i.e. the Buddha’s] tender blue eyes it evokes in many instances faith ...”

b4 /// *(lkätsi o)ntsoytte : wcūkane yailwa toṃ lānte šeckemntse motr(a)nt(s)= ā(str) e(ñku ra :)*

“... one is never satisfied (looking at him). [His] two curved jaws [are] those of the lion king, holding (as it were) the missile of Hari, ...”

Edited and translated by Wilkens, Pinault & Peyrot 2014, 11–12, 14.

<<https://www.univie.ac.at/tocharian/?PK AS 13B>>

20. Tocharian B acc.pl. *traksiñ* “ears of grain” (Adams 2013, 331). There are two etymologies of this term, excluding one another:

(i) Adams (*EIEC* 252): **d^hrig^h-* or (1999, 312) **d^hreġ^h-* “a (coarse) hair” > Greek $\theta\rho\acute{\iota}\zeta$, gen. $\tau\rho\iota\chi\acute{o}\varsigma$ “a single hair”, pl. “hair”; Middle Irish *gairb-driuch* “bristle, rough hair” (Pokorny 1959, 276).

(ii) Adams (2005, 219–25; 2013, 331): Khotanese *drāmšā-* “millet” < Iranian **drāgsjā-*; Sanskrit *drākṣā-* & *dhrākṣā-* “grape” < **d^hrāg^h-šā-*.

Chinese 銚 *zhì* “sickle; to cut grain with a sickle” [*Shījīng*, 1050–600 BCE]; “ears of grain” [*Shūjīng*, 11th–3rd cent. BCE] < Middle Chinese **tjet* < Later Han Chinese **tit* < Old Chinese **trit* (*GSR* 0413 g; Schuessler 2007, 618; 2009, 299, §29–15 g). On the change **-it* < **-ik* in Old Chinese – see Baxter 1992, 300–301.

Chinese 種 *zhì* “earliest-sown grain” < Middle Chinese **trik* < Old Chinese **trək* [*Shījīng*, 1050–600 BCE] (*GSR* 0919 b; Baxter & Sagart, *ChDb* 2014) ~ Middle Chinese **tjək* < Later Han Chinese **tik* < Old Chinese **trək* (Schuessler 2009, 108, §5–12 b).

13 Pelliot Koutchéen Ancienne, Série 13B.

Comments: The exact semantic correspondence between Tocharian B acc.pl. *traksiñ* and Old Chinese 銜 **trit* < **trik* indicates that the Chinese word should have been borrowed from proto-Tocharian **triks*^o, i.e. the earlier etymology of Adams seems better. The borrowing would have been realized already around 1000 BCE. Old Chinese 植 **trək* may represent a variant borrowed from the same source.

21. Tocharian A *turs-ko* “draft-ox” < **d^hurH₁-es g^oōus* (Schmidt 1987, 294f: related to Sanskrit *dhūr-* “yoke, burden, load”, later “carriage pole, peg, pin” (MW 517; *EWIA* I, 794); Hittite *tu-u-ri-ia^o* “to yoke”; Greek θαιρός “pivot of a door or gate” [*Il.* 12.459]; “axle of a chariot” [*S.Fr.* 596] < **d^hurH₁-iō-* – see Pokorny 1959, 278–79).

Chinese 輅 *zhōu* “carriage pole” (*GSR* 1084 g) < Late Middle Chinese **triu* < Early Middle Chinese **truw* (Pulleyblank 1991, 411) ~ Middle Chinese **tjəu* < Later Han Chinese **tu* < Old Chinese **tru* [*Shījīng*; c. 1050–600 BCE] (Schuessler 2007, 623; 2009, 173, §13–19 g) ~ Middle Chinese **trjuw* < Old Chinese **trju* (Baxter 1992, 632, 810).

Comments: The hypothetical IE *s*-stem in the nom.sg. **d^hurH₁-os* would have continued in Common Tocharian **turæ* > A **tur*, B **ture*, similar to the *o*-stems (cf. Van Windekens 1979, 74, §142). In the process of adoption into Chinese, datable before 600 BCE, the monosyllabification probably transformed the Common Tocharian form into **træu*.

Lit.: Lubotsky 1998, 384: Tocharian > Chinese.

22. Tocharian B *tsain* “arrow” (Adams 2013, 811) < Iranian **dzainu-*, cf. Avestan *zaēna-* “weapon” & *zaēnu-* “baldric”, Middle Persian *zyn’ /zēn/* “weapon, armour”, Parthian *zyn* “weapon, sword; armour, arms”, Sogdian: Buddhist *zyn* & Manichaean *zyyn /zēn/* “armour, weapon”; Iranian > Armenian *zēn* {*u*-stem} “weapon, armour” and Old Aramaic *zyn’*, Syriac of Talmud *zainā* (Bartholomae 1904, 1650–51; MacKenzie 1971, 99; Nyberg 1974, 231; Gharib 1995, ##11543, 11616; Olsen 1999, 880; Tremblay 2001, 26, fn. 38; Cheung 2007, 461–62). Cf. also the component **zaina-* of the Median onomasticon: {Elamite} *Za-a-na /Zaina-*, perhaps corresponding to Avestan *hu-zaēna-* “well-armed”; {Greek coin legend from Cilicia} Σινιάτης */Zaina-pati-* “weapon-master” (Hinze 1975, 276).

Chinese 箭 *jiàn* “arrow; small bamboo used for arrows / *Phyllostachys bambusoides*” [Late Zhou] < Middle Chinese **cjèn* < Late Postclassic Chinese **cjèn* < Han Chinese **cjanh* < Classic Old Chinese **cenh* < Preclassic Old Chinese **cens* (Starostin, *ChEDb*; *GSR* 0245 h: ‘Ancient’ **tsjān* < ‘Archaic’ **tsjan* [禮記 *Lǐjì* ‘Book of Rites’, lit. “gift of records”, the collection of ceremonial rites and administrative texts of the Zhou dynasty, existing already around 300 BCE and summarized in the Former Han era]). Baxter & Adams (2014, 100, 277): Middle Chinese **tsjenH* < Old Chinese **[ts]jen-s* “arrow”. Schuessler (2009, 248, §23–20h): Later Han Chinese **tsian^c* < Old Chinese **tsens*. Baxter & Sagart (2014, 100, 277): Middle Chinese **tsjenH* < Old Chinese **[ts]jen-s*. Note: Standard Sino-Vietnamese is *tiến*. Vietnamese reading: *tên*. The only isolated external parallel within Sino-Tibetan found by Starostin & Peiros, Lushai *čāl* “a sp. of bamboo” (*CVST* IV, 56), does not represent a very strong argument for the Sino-Tibetan heritage of the Chinese word, due to its isolation and semantic difference.

Comments: The donor-language of the borrowing into Chinese should be some earlier stage of development of Tocharian A, where Late IE diphthongs *ōj* & **āj* were monophthongized into *e*, while in Tocharian B were preserved as *ai*, cf. A *-ne*, B *nai* “indeed” ~ Greek *vai*; A *pek-*, B *paik-* (preterit) “to paint, write” ~ Lithuanian *piēšti* id. (Van Windekens 1976, 30–31, §§74, 76). It would have been realized in pre-Han Chinese, but after disintegration of Common Tocharian, i.e. in the time interval c. 200–400 BCE. On the other hand, the Tocharian word itself had to be borrowed from some Iranian source before this period. For the Iranian donor-language there should be a characteristic preservation of the diphthong *aj*. It could be some earlier form of Sogdian.

Lit.: Schmidt 1985, 763; Tremblay 2005, 424; Carling 2005, 59; Schuessler 2009, 248: Chinese + Tocharian B *tsain* “arrow”.

23a. Tocharian AB *tsäk-* “to burn up, consume by fire, apply heat to (in cooking), i.e. roast, boil; burn off, evaporate” < Common Tocharian **tʰək-* (Ringe 1996, 47, 150) < **dʰegʰh-*; AB *tsäk-* “to glow” < **dʰōgʰh-* (Adams 2013, 802, 799; Malzahn 2010, 980–81, 974).

Chinese 灼 *zhuó* “to burn, illuminate; brightly, clearly, brilliant” < Middle Chinese **ćak* < Late & Middle Postclassic Chinese **ćak* < Early Postclassic Chinese **ćauk* < Eastern Han Chinese **ćauk* < Western Han Chinese **tjauk* < Classic Old Chinese **teuk* < Preclassic Old Chinese [詩經 *Shījīng*, c. 600 BCE] **tekʷ* (Starostin, *ChEDb*; *GSR* 1120 f). Schuessler (2007, 631): Late Han **tsak* < Old Chinese **tiakʷ*?; cf. also 的 *dì* “bright, brilliant” < Middle Chinese **tiek* < Later Han **tek* < Old Chinese **tiâu* (Schuessler 2007, 631) = **tēkʷ* (Starostin, *ChEDb*).

Note: Peiros & Starostin (*CVST* II, 7–8) connected Old Chinese 灼 **tekʷ* “burn, brilliant, illuminate”, and 的 **tēkʷ* “bright, brilliant” with Tibetan *dugs* “heat; make warm; to light, to kindle”, *thog* “thunderbolt, lightning”, Burmese *tauk* “to blaze, flame, be luminous brilliant”, Lushai *duk* “to be glowing with heat (as ashes)”, Kiranti **thok* (~ *-uk*, *-ak*), but these forms are better compatible with Old Chinese 燭 **tok* “torch”. On the other hand, the front vocalism appears in Lepcha *tik*, *tik-kā tik-kā* “sparkling, flickering (light)”, Kiranti **thik* “to cook, burn”. Starostin admitted there were two original roots that are now very hard to distinguish.

Comments: If Old Chinese **tekʷ* “to burn” (Starostin) really represents an adaptation of the Tocharian continuant of IE **dʰegʰh-*, this hypothetical borrowing would have been realized before palatalization of the Tocharian initial. But this conclusion is contradictory to the assumption that Old Chinese 墾 **ćit* (Starostin) ~ **tsik* (Baxter & Sagart) “masonry” was borrowed from Tocharian A *tsek-*, B *tsik-* “to build, form, fashion, shape”. The second argument against this comparison is the form AB *tsäk-* “to glow” < **dʰōgʰh-*, already remodelled according to the palatalized form continuing **dʰegʰh-*. Thus, in the known history of Tocharian no form of this root with the unpalatalized anlaut is attested. The final contra-argument is a real possibility of identifying an adaptation of an unattested derivative of Tocharian AB *tsäk-* “to burn up” in Old Chinese **tsik* “to burn or scorch earth around the grave”. Let us also mention the relatively convincing parallels in other Sino-Tibetan languages.

23b. Tocharian A *tsek-*, B *tsik-* “to build, form, fashion, shape” < Common Tocharian **tʰaik-/tʰik-* (Ringe 1996, 47, 104) < **dʰeigʰh-*; cf. also A *kuntis-tsek* ~ B *lwaksā-tsaika* “potter”, lit. “pot-maker” (Adams 2013, 807; Malzahn 2010, 991–92; Pinault 2008, 247).

Chinese 墾 *jí* (i) “to burn or scorch earth around the grave” [*Guānzǐ*; philosophical text from the 7th cent. BCE, revised and expanded around 26 BCE]; (ii) “masonry” [*Lǐjì*; “Book of Rites” of the Zhou Dynasty, almost destroyed in 213 BCE, but reconstructed during the Han Dynasty] < Middle Chinese **ćjit* < Postclassic Chinese **ćjit* < Han Chinese **ćjət* < Classic Old Chinese **ćit* < Preclassic Old Chinese **ćit* (Starostin, *ChEDb*; *GSR* 0923 c) ~ Schuessler (2007, 294–95): Middle Chinese **tsjet* < Later Han Chinese **tsit* < Old Chinese **tsit* < **tsjik* (Baxter 1992, 301). Baxter & Sagart (*OChDb*, 2014): Middle Chinese **tsit* < Old Chinese **tsik*. On the change **-it* < **-ik* in Old Chinese – see Baxter 1992, 300–301.

Comments: In the Chinese word perhaps two distinct etymons merged, judging from meanings (i) and (ii) and different affricates in corresponding Tibetan counterparts: (i) *āchig-pa* “to burn, destroy by fire”; (ii) *rcig* “to build, to wall up; wall, masonry” (Bodman 1980, 158; Coblin 1986, 50, 108; Baxter 1992, 301; *CVST* IV, 7). It is tempting to explain variants (i) and (ii) in both Old Chinese and Tibetan as adaptations of Common Tocharian (i) **tʰək-* “to burn up” and (ii) **tʰik-* “to build, form, fashion, shape” respectively, maybe at distinct chronological levels with respect to chronological difference between attestations of the meanings (i) and (ii) of Chinese 墾 *jí*.

Lit.: Lubotsky 1998, 385: Tocharian > Chinese & Tibetan.

24. Tocharian A *wiki*; B *ikām* “20” < Common Tocharian **wʷikən* (Ringe 1996, 129) ~ **wʷikän* (Pinault 2008, 556) ~ **wʷikän* (Adams 2013, 66).

Chinese 緘 *yù* “bundle of 20 threads; seam” < Late Middle Chinese **yāk* < Early Middle

Chinese **wik* (Pulleyblank 1991, 385) ~ Middle Chinese **wik* < Postclassic Chinese **w(h)ik* < Han Chinese **w(h)ək* < Classic & Preclassic Old Chinese **w(h)ək* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0929 n). Schuessler (2009, 107, §5–6 n): Middle Chinese **jwək* < Later Han Chinese **wik* < Old Chinese **wək*. Baxter & Sagart (2014): Middle Chinese **hwik* < Old Chinese *[*ɣ*]*wrək* / **q^wwrək*.

Comments: The borrowing would have been realized before 600 BCE, when the word (still in Common Tocharian form) was adopted in Preclassic Old Chinese. The term could have been borrowed in the frame of trade contacts between the Western Zhou Dynasty and ancestors of the Tocharians, living at that time in the present province Gansu.

25. Tocharian A *yuk*, pl. *yukañ*; B *yakwe*, pl. *yakwi* “horse” (Van Wdekens 1976, 611; Adams 2013, 518–19) < Common Tocharian **yäkwæ* (Hilmarsson 1986, 113; Pinault 2008, 469) ~ **yäk-wë* (Ringe 1996, 126).

(i) Chinese 駒 *jū* “colt, young horse” < Middle Chinese **kü* < Postclassic Chinese **kwo* < Han Chinese **kwa* < Classic & Preclassic Old Chinese **ko* [Bronze inscription, 1050–770 BCE; 詩經 *Shījīng* ‘Book of Songs’; 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0108 r-s). Baxter (1992, 770): Middle Chinese **kju* < Old Chinese **k(r)jo*. Schuessler (2007, 322; 2009, 145, §10–1 r): Middle Chinese **kju* < Old Northwest Chinese **kuo* < Old Chinese **ko*.

Comments: The borrowing would have been realized no later than around 800 BCE, but may be already in the 10–11th cent. BCE. In process of monosyllabification the first syllable has been reduced (**yäkwæ* > **ykwæ*) and finally was integrated into the originally final syllable (**ykwæ* > **kywæ* > Old Chinese **kyo*). This scenario agrees well with the ‘*r*-less’ reconstruction **kjo* of Baxter.

(ii) Chinese 驛 *yì* “post horses, horse relay station” (*GSR* 0790 h) < Late Middle Chinese **jyaik* < Early Middle Chinese **jwiajk* (Pulleyblank 1991, 371) ~ Middle Chinese **jiäk* < Later Han Chinese **jak* ~ **jak* < Old Chinese **lak* (Schuessler 2007, 571) ~ Middle Chinese **yek* < Old Chinese **lak* (Baxter & Sagart 2014). The term in this meaning was first recorded in the dictionary called *Shuōwén Jiězì* “Explaining Graphs and Analyzing Characters”, completed by Xu Shen c. 100 CE, but presented by his son Xu Chong in 121 CE.

Comments: Unfortunately, Starostin’s reconstruction of development of reading of this character is missing in his *Chinese Etymological Database*. But it is possible to help ourselves with reading the character consisting of the same phonogram. A good example can be Chinese 懈 *yì* “to be relaxed, pleased, delighted” < Middle Chinese **jek* < Late & Middle Postclassic Chinese **jjek* < Early Postclassic Chinese **zjek* < Eastern Han Chinese **ziak* < Western Han Chinese **liak* < Classic & Preclassic Old Chinese **Liak* (Starostin, *ChEDb*; *GSR* 0790 c). Thus, in the 1st cent. CE, when Xu Shen compiled his dictionary, the term should have been pronounced as **ziak*, but several decades earlier still **liak*, both according to Starostin. It is tempting to think about a hypothetical Tocharian model preceding the Tocharian B unattested compound, consisting of *klyelle* “standing” (gerund from *käly-* “to stand, stay”) & *yakwe* “horse”, i.e. **klyælyæ-yäkwæ* “standing of horses” (see Pinault 2008, 458, §42 on the Tocharian B gerund suffix *-lle* & *-lye* < **lylyæ* < **liō-*), simplified via haplology in process of monosyllabification in **lyæk^(w)* *vel sim.*, adopted as Western Han Chinese **liak*. If the Tocharian compound **klyælyælyæ-yäkwæ* was introduced into Chinese earlier, i.e. in the pre-Han times, it is possible to think about substitution of Tocharian *kl-* by pre-Han Old Chinese **L(h)-*, perhaps symmetrically to substitution initials in Tocharian AB *klu-* “rice”, if it really represents a borrowing from Preclassic Old Chinese 稻 **Lhū?*. In process of monosyllabification it would be possible to imagine haplological elimination of the second syllable of the hypothetical compound **klyælyælyæ-yäkwæ* “horse-standing” > **klyæk^(w)* > Old Chinese **Liak*. If one of these alternatives is correct, it seems, Tocharians developed the horse post organized on relay principle and introduced it to the Chinese probably already in the Western (Former) Han era, long before Chinggis Khan and far earlier than the U.S. Pony Express.

B. Chinese loanwords in Tocharian

The crucial question is again the most probable chronology of adaptation of Chinese words into Tocharian. Here it is estimated on the basis of phonetic similarity of reconstructed, approximately datable, historical forms of the Chinese words to their Tocharian counterparts. Generally it is possible to conclude that the Chinese loanwords in Tocharian are younger than the Tocharian borrowings in Chinese. There are several exceptions. The oldest identified loanwords seem to be #11 “rice”, whose borrowing should have taken place in the period of Preclassic Old Chinese, i.e. between the 10th and 6th cent. BCE, and maybe #27 “ten thousand”, originally perhaps “community of ten thousand”. To the pre-Han Chinese, i.e. before c. 200 BCE, may also be dated #24 “village”, #33 “duke, sub-king”, and perhaps #36 “land, country”, if it is not a Tocharian loan into Chinese. Uncertain is the dating of item #28 “hollow, cave” – it depends on reconstruction of the cluster **hr-* in Chinese – by Pulleyblank (and Baxter & Sagart) already in Early Middle Chinese, while by Starostin & Schuessler only in the pre-Han Old Chinese. The remaining 30 items may be divided into two chronological layers, an older, representing Han Chinese (c. 200 BCE – 200 CE), and a younger, representing Middle Chinese (6th cent.-10th cent. CE), perfectly reflecting the periods of intensive Chinese spreading into Central Asia, the Han and Tang Dynasties respectively. Han Chinese: ## 1, 2, 3, 4, 5, 12, 13, 15, 32.

Middle Chinese: ## 6, 7, 8, 10, 14, 16, 17, 18, 19, 20, 21, 22, 25, 26, 29, 30, 31, 34, 35.

Ambiguous, Middle or Han, Chinese: ## 9, 23.

From the point of view of semantics, the Chinese borrowings in Tocharian characterize the typical attributes of the Chinese state, which was in a relatively intensive trade and diplomatic contact with the Tarim Basin during the Han Dynasty and conquered it during the Tang Dynasty.

Semantic classification of probable Chinese borrowings in Tocharian:

measures, weights & abacus: ##2, 3, 19, 26, 29 & 21;

bureaucratic procedures and officials: ##1, 8, 18, 20 & 7, 16, 23;

money: ##4, 12;

military officials and organization: ##25, 31, 34;

craft production: ##5, 6, 9, 10, 13;

food, drinks & grain: ##17, 22, 30 & 11;

country: ##24, 36.

The remaining meanings are unique: #14 “thief”; #15 ‘month Rāp’; #28 “hollow, cave”; #32 “to prepare”; #35 “water fowl”.

1. Tocharian A *ānk** “seal, stamp”, com.sg. *ānkāmsäl* (DTA 30) < Early Middle Chinese **ʔjin^h* (Pulleyblank) or Han Chinese **ʔjənh* (Starostin).

Chinese 印 *yìn* “to press; seal” [Han] < Late Middle Chinese **ʔjin* < Early Middle Chinese **ʔjin^h* (Pulleyblank 1991, 373) ~ Middle Chinese **ʔjìn* < Postclassic Chinese **ʔjìn* < Han Chinese **ʔjənh* < Classic Old Chinese **ʔinh* < Preclassic Old Chinese **ʔins* (Starostin, *ChEDb*; *GSR* 1251 f-g). Schuessler (2009, 319, §32–11 f): Middle Chinese **ʔjien^c* < Later Han Chinese **ʔin^c* < Old Chinese **ʔins*. Note: Also borrowed in Vietnamese as *in* “to print, impress”, as well as *nhấn, nhận* “to press” (with a frequently occurring nasal assimilation). Vietnamese reading: *án*.

Lit.: Carling 2005, 58: Tocharian < Middle Chinese.

2. Tocharian B *cak* “foot” (measurement) (Adams 2013, 267) < Eastern Han Chinese **čhiak* (Starostin).

Chinese 尺 *chǐ* “one foot” (measure 22.5 cm), “to measure in feet” < Late Middle Chinese **tʂ^hiajk* < Early Middle Chinese **te^hiajk* (Pulleyblank 1991, 56) ~ Middle Chinese **čhek* < Postclassic Chinese **čhek* < Eastern Han Chinese **čhiak* < Western Han Chinese **thiak* < Classic

& Preclassic Old Chinese **thiak* (Starostin; *ChEDb*; *GSR* 0794 a). Schuessler (2009, 69, §2–20): Middle Chinese **tʰjāk* < Eastern Han Chinese **tʰhak* < Old Chinese **thak*. Note: Standard Sino-Vietnamese is *xích*. Vietnamese reading *thu ‘ó ‘c*.

Lit.: Schmidt 1999, 19; Lubotsky & Starostin 2003, 266: Tocharian < Chinese.

3. Tocharian B *cāk* “hundred quarts” {dry measure} (Adams 2013, 270) < Eastern Han Chinese **ziak* (Starostin).

Chinese 石 *shí* “stone; hard, barren; measure of weight, measure of capacity” < Late Middle Chinese **ʃhiak* < Early Middle Chinese **dziajk* (Pulleyblank 1991, 282) ~ Middle Chinese **žek* < Postclassic Chinese **žjek* < Eastern Han Chinese **ziak* < Western Han Chinese **diak* < Classic & Preclassic Old Chinese **diak* (Starostin, *ChEDb*). Cf. also Sino-Japanese *seki*.

Note: Bactrian σαγο “a measure for wine (‘gallon’), Sogdian š’x & š’γ (Sims-Williams 2007, 261).

Lit.: Naert 1965, 535; Lubotsky & Starostin 2003, 262, 265: Tocharian < Chinese.

4. Tocharian B *cāne* “cash” (Adams 2013, 271) < Eastern Han **zjan* or Western Han Chinese **zan* (Starostin).

Chinese 錢 *qián* “cash, coin, money” < Middle & Postclassic Chinese **zjen* < Eastern Han **zjan* < Western Han Chinese & Classic Old Chinese **zan* < Preclassic Old Chinese **žan* (Starostin, *ChEDb*). Cf. also *k_všāne* as a compound **k_vš(i)cāne* “money of Kuca” (Adams 2013, 198, 271).

Lit.: Naert 1965, 535; Starostin 2005; Lubotsky & Starostin 2003, 262, 265: Tocharian < Chinese.

5. Tocharian AB *cok* “lamp” (*DTA* 198; Adams 2013, 276) < Postclassic or Eastern Han Chinese **cok* (Starostin).

Chinese 燭 *zhú* “torch, candle; shine” < Late Middle Chinese **tʰywk* < Early Middle Chinese **teuwk* (Pulleyblank 1991, 414) ~ Middle Chinese **cök* < Postclassic Chinese **cok* < Eastern Han Chinese **cok* < Western Han Chinese **tok* < Classic & Preclassic Old Chinese **tok* [Late Zhou] (Starostin; *ChEDb*; *GSR* 1224 e). Comments: An archaic Vietnamese loan from the same source is *đuốc* “torch”. Vietnamese reading *chúc*. Sino-Tibetan: Burmese *tauk* “to blaze, flame; be luminous, brilliant”; proto-Kiranti **thok* “to cook” (*CVST* II, 8).

Lit.: Lubotsky & Starostin 2003, 263: Tocharian < Old Chinese.

6. Tocharian B *hkhai** “shoe” (Ching & Ogihara 2012, 94) < Late Middle Chinese **xhja:j* (Pulleyblank) or Middle Chinese **yāj* (Starostin).

Chinese 鞋 *xié* “shoe(s)” [Tang] < Late Middle Chinese **xhja:j* < Early Middle Chinese **yai-j/*yε:j* (Pulleyblank 1991, 341) ~ Middle Chinese **yā* < Postclassic Chinese **yiē* < Eastern Han Chinese **yriē* < Western Han Chinese **yrē* < Classic & Preclassic Old Chinese **ghrē* (Starostin, *ChEDb*). Notes: Also read **yāj* in Middle Chinese (which is probably a dialectal variant). Regular Sino-Vietnamese is *hài*; another Vietnamese colloquial loan from the same source is *hia* “mandarin’s boots”. Vietnamese reading: *giày*. Go-on *ge*; Kan-on *kai*. For **gh-* cf. Min forms: Xiamen *ue²*, Chaozhou *oi²*, Fuzhou *ā²*, Jianou *ai⁹*. Sino-Tibetan: Tibetan *krad* “leather half-boot or shoe” (*CVST* V, 99).

Note: Old Uyghur *qay* is of the same origin.

Lit.: Ching & Ogihara 2012, 94: Tocharian & Old Uyghur < Middle Chinese.

7. Tocharian B *hwuṣṣi* “vice-commissioner” (Ching 2011, 66; Adams 2013, 797) < Late Middle Chinese **fuw ʃr* (Pulleyblank) ~ Middle Chinese **phəwʃi* “next in rank” & “ambassador” (Starostin).

Chinese 副使 *fù¹⁴ shì¹⁵*. Note: Khotanese *hvūm-sī* is of the same origin.
Lit.: Ching 2011, 66: Tocharian B & Khotanese < Middle Chinese.

8. Tocharian B *kapci* “thumbprint (as a mark of authentication)” (Adams 2013, 148) < Middle Chinese **ɣwǎcí* (Starostin).

The same procedure is called in Khotanese *hamğusta-* “finger (seal)”; Tibetan *hjub-/mjub-čhad*; Chinese 畫指 *huà zhǐ* “finger seal” (Emmerick & Skjærvø 1987, 152). Adams (2013, 148) thinks the Tocharian word cannot represent an adaptation of this Chinese word, nor its Middle Chinese projection **ɣwɛ:jk-tei*’ according to Pulleyblank. Let us repeat, what we know:

Chinese 畫指 *huà¹⁶ zhǐ¹⁷* (not *huàzhǐ*) “finger seal” is derivable from Early Middle Chinese **ɣwǎjɨk/*ɣwɛ:jk tei*’ according to Pulleyblank (1991, 129, 406), Middle Chinese **ɣwǎ cí* by Starostin (*ChEDb*) or Old Northwest Chinese **ɣuǎ tsi* by Schuessler. Just the Middle Chinese reconstructions of Starostin and Schuessler could offer an acceptable solution. One would expect their adoption into Tocharian A as *+kwāci*, with a hypothetical orthographical(?) variant *+kpāci*, cf. A *klu-spe* ~ B *kluṣṣa-swīye* “rice porridge” : B acc.sg. *ṣuwi* “porridge, broth” (*DTA* 178; Adams 2013, 733). The variant *+kpāci* with unusual anlaut would have been adopted in Tocharian B as *kapci*.

Jeroen Wiedenhof apud Lubotsky & Starostin (2003, 266; corrected 2007, 846, fn. 5) offers another solution, Chinese 押字 *yā¹⁸ zì¹⁹* “to authenticate with a signature” = “signature, mark,

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- 14 Chinese 副 *fù* “to rend, split; aide, assistant, deputy; kind of headdress; second, secondary” < Late Middle Chinese **fɣyw/ *fɣw* < Early Middle Chinese **puw^h* (Pulleyblank 1991, 101) ~ Middle Chinese **phik* < Postclassic Chinese **phik* < Han Chinese **phrək* < Classic & Preclassic Old Chinese **phrək* (Starostin, *ChEDb*; *GSR* 0933 s). Note: Also read Old Chinese **phək*, Middle Chinese **phük* id. Another reading is Middle Chinese **phəw* (hence Vietnamese *phó*), Old Chinese **phək-s* “a k. of head-dress” (thus in *Shijing* 47.1); since Han the word obtained the meaning “next in rank, deputy” (it is not quite clear whether these two meanings of **phək-s* > *phəw* are actually related to each other). Vietnamese reading: *phó*. Sino-Tibetan **phjək* “to destroy” > Old Chinese 副 **phək* “to cleave, divide”; Burmese *pjak* “to be destroyed”, *phjak* “destroy”; Kachin *bjak²* “to be destroyed” (prob. < Burmese); *phja³* “chop, hack”; Lushai *pe²* “to break or be broken”; Lepcha *pāk* “to be cut off”; Kiranti **phək* “to break”; **phák* “to separate, divide” (Matisoff 1972, 200; 2003, 323; *CVST I*, 75–76).
- 15 Chinese 使 *shǐ* & *shì* “to send, employ, cause; envoy, ambassador” < Late Middle Chinese **ʂɿ* < Early Middle Chinese **ʂi^h/*ʂi^h* (Pulleyblank 1991, 283) ~ Middle Chinese **ʂi* & **ʂi* < Postclassic Chinese **ʂi* < Han Chinese **ʂá* < Classic Old Chinese **ʂrǎ* < Preclassic Old Chinese **ʂrǎ?* & **ʂrǎʔs* (Starostin, *ChEDb*; *GSR* 0975 n). Note: Vietnamese *sú* “envoy, ambassador”. Vietnamese reading: *su*. *Shijing* occurrences: 23.3, 57.3. Sino-Tibetan **[čh]a(H)* “to send” > Old Chinese 使 **ʂrǎ?* “to send, employ”; Kachin *sa²* “to send”; Lushai *čǎ?* “to send for”; Trung *sǎ* “to send”; Kaiké *sǎw-* “to come” (*CVST IV*, 135).
- 16 Chinese 畫 *huà* “to draw, draw a design, paint designs, plan, write; a picture” < Late Middle Chinese **xhwa:jk* < Early Middle Chinese **ɣwǎjɨk/*ɣwɛ:jk* (Pulleyblank 1991, 129) ~ Middle Chinese **ɣwǎ* < Postclassic Chinese **wiǎ* < Eastern Han Chinese **wriǎh* < Western Han Chinese **wrǎh* < Classic Old Chinese **wrǎh* < Preclassic Old Chinese **wrǎks* (Starostin, *ChEDb*; *GSR* 0847 a). Schuessler (2007, 283–84) differentiates two variants according to sources, including the semantic differences: Middle Chinese **ɣwǎi^c* < Old Northwest Chinese **ɣuǎ* < Later Han Chinese **ɣuǎ^c* < Old Chinese **(g)wrekh* “painted, with a design” [Bronze Inscriptions, 1050–770 BCE; *Shijing*, c. 1000–300 BCE] > “to draw a design, depict” [*Mèngzǐ*, i.e. Master Meng, 372–289 BCE]; *huò* < Middle Chinese **ɣwek* < Later Han Chinese **ɣusk* < Old Chinese **(g)wrek* “to delineate, mark off, plan” [*Zuǒzhuan*, covers the period 722–468 BCE]. Baxter & Sagart (2014, 106, 171, 234): Middle Chinese **hweaH* < **C-g^{wi}rek-s* “drawing”; Middle Chinese **hweak* < Old Chinese **g^{wi}rek* “to draw”. Note: A colloquial loan from the same source is Vietnamese *vẽ* “to draw, design”. For **w* cf. Xiamen *ui⁶*, Chaozhou *ue⁶*, Fuzhou *ua⁶*, Jianou *ua⁸*. Vietnamese reading: *họa*.
- 17 Chinese 指 *zhǐ* “to point, indicate; finger” < Late Middle Chinese **tʂi* < Early Middle Chinese **tei*’ (Pulleyblank 1991, 406) ~ Middle Chinese **cí* < Late Postclassic Chinese **kji* < Middle & Early Postclassic Chinese **kji* < Han Chinese **kjǎj* < Classic Old Chinese **kij* < Preclassic Old Chinese **kij?* (Starostin, *ChEDb*; *GSR* 0552 f). Schuessler (2007, 467): Middle Chinese **tʂi^b* < Later Han Chinese **ki^b* < Old Chinese **ki* “to point to” [*Shijing*], “aim” [*Shijing*], “finger” [*Zuǒzhuan*, covers the period 722–468 BCE]. Baxter & Sagart (2014, 79): Middle Chinese **tʂijX* < Old Chinese **mǎ.kij?* “finger; point”. Note: *Shijing* occurrences: 51.1. Vietnamese reading: *chỉ*.
- 18 Chinese 押 *yā* “to seal, stamp” < Middle Chinese **ʔap* < Postclassic Chinese **ʔāp* < Han Chinese **ʔāp* < Classic & Preclassic Old Chinese **ʔrāp* [Late Zhou] (Starostin, *ChEDb*; *GSR* 0629 h).
- 19 Chinese 字 *zì* “to breed, nurture; love, cherish”, later, since Han, “character, letter” < Middle Chinese **ʒi* < Postclassic Chinese **ʒi* < Eastern Han Chinese **ʒǎh* < Western Han Chinese **ʒǎh* < Classic Old Chinese **ʒǎh* < Preclassic Old Chinese **ʒǎʔs* (Starostin, *ChEDb*; *GSR* 0964 n-o).

pledge” + “written character” < Middle Chinese *ʔapʒj̄i. But there is no analogy for substitution of Middle Chinese *ʔ by Tocharian *k-*.

9. Tocharian B **kau(m)* ~ **ko(m)*, pl. *kaumma* “bolt of unbleached silk” (Ching 2011, 70–76; Adams 2013, 226–27) < Early Middle Chinese **kaw*’ (Pulleyblank) ~ Middle Chinese **kâu^B* or Late Han Chinese *kau^B* (Schuessler).

Chinese 縞 *gǎo* “thin (unbleached) white silk” < Late Middle Chinese **kaw*’ < Early Middle Chinese **kaw*’ (Pulleyblank 1991, 104; *GSR* 1129 h) ~ Middle Chinese **kâu^B* < Late Han Chinese *kau^B* < Old Chinese **kâu[?]* [*Shījīng*, 1050–600 BCE] (Schuessler 2007, 251).

Lit.₁: Ogihara apud Ching 2011, 75: Tocharian < Prakrit, cf. Pali *khoma-* < Sanskrit *kṣauma-* “linen”.

Lit.₂: Adams 2013, 226–27: Middle Chinese ancestor of Chinese *gǎo* “thin (unbleached) white silk”.

10. Tocharian B acc.sg. *kāy* “cover?, model?” (Adams 2013, 161–62) < Middle Chinese **kâj* (Starostin).

Chinese 蓋 *gài* “to cover, conceal; a cover (of a car); why not, of course” < Middle Chinese **kâj* < Late & Middle Postclassic Chinese **kâj* < Early Postclassic Chinese **kās* < Han Chinese **kās* < Classic Old Chinese **kāc* < Preclassic Old Chinese **kāps* (Starostin, *ChEDb*; *GSR* 0642 q-r). Note: Also read Old Chinese **gāp* > Middle Chinese *yâp* “to thatch, to cover”.

Lit.: Adams 2013, 161–62: Tocharian < Chinese.

11. Tocharian A *klu* (*DTA* 178); B acc.sg. *klu* “rice” (Adams 2013, 243) < Preclassic Old Chinese **Lhū[?]* (Starostin).

Chinese 稻 *dào* “rice plant” < Middle Chinese **dāw* < Late & Middle Postclassic Chinese **dhāw* < Early Postclassic Chinese **dhāw* < Han Chinese **lhāw* < Classic Old Chinese **lhū* < Preclassic Old Chinese **lhū[?]* (~ *Lh-*) [Bronze inscriptions 950–770 BCE; *Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 1078 h-k). Schuessler (2007, 207): Middle Chinese **dāu^B* < Later Han Chinese **dou^B* < Old Chinese **lū[?]*. Baxter & Sagart (2014, 246): Middle Chinese **dawX* < Old Chinese **[l]’u[?]*. Note: Vietnamese *lúa* is an archaic loanword; regular Sino-Vietnamese is *đạo*. For aspiration cf. Jianou *thau⁶*. Sino-Tibetan **l̥wH* (~ **l̥-*) > Old Chinese 稻 **lhū[?]* (~ **Lh-*) “rice, paddy”; Burmese *luh* “sp. of grain / Panicum paspalum”; Kachin *čəkhrau¹* “paddy ready for husking”; Kiranti **IV* “millet” > Tulung *liser*, Kaling *luza*, Dumi *liʒə*, Kulung *lisi* (*CVST* III, 43).

Comments: The Tocharian initial cluster could probably substitute only the Old Chinese initial **Lh-*, in pronunciation perhaps [*lʰ*], while the cluster **lh-* was substituted by Tocharian *l-*, cf. B *lwāke* and A *lyäk* & B *lyak* below. Starostin (1989, 431–33) dated his reconstruction of Preclassic Old Chinese to the 6th – 10th cent. BCE. Thus, in the present corpus of probable Chinese loanwords in Tocharian the designation of “rice” seems to be older than others.

Lit.: Blažek 1999, 81–82; Lubotsky & Starostin 2003, 263: Tocharian < Old Chinese.

12. Tocharian B *k_ušāne* “a coin and measure of weight” (Adams 2013, 198)

With respect to Tocharian B *cāne* “cash” (Adams 2013, 271) and its Chinese origin, cf. Mandarin Chinese 錢 *qián* “cash, coin, money” < Middle & Postclassic Chinese **zjen* < Eastern Han Chinese **zjan* < Western Han & Classic Old Chinese **zan* < Preclassic Old Chinese **zan* (Naert 1965, 535; Starostin 2005; Lubotsky & Starostin 2003, 262, 265), it is possible to analyze the form *k_ušāne* as a compound **k_uš(i)cāne* “money of Kuca” (Adams 2013, 198, 271).

13. Tocharian B *lwāke* “pot”, nom.-acc.pl. *lwāksa*, in compound *lwaksā-tsaika* “potter” < Later Han Chinese **lhāwgā* (Starostin).

Chinese 陶壺 *tao*²⁰ *hu*²¹ “pottery pot”²². The Chinese vessel name was probably adopted into Tocharian during the Eastern Han period, when realization of the initial consonant of the first component was **lh-*. In later periods the Chinese initial changed into a dental, and in preceding periods its reading was **Lh-*, a lateral affricate probably adapted in Tocharian as *kl-*²³. The substitution of the Later Han Chinese diphthong *-āw-* by Tocharian *-wā-* is more difficult to explain. Perhaps it was motivated by absence of the long diphthong *-āu-* in Tocharian non-final syllables (cf. Van Windekens 1976, 36 about the final *-āu*), plus the effect of *ā*-umlaut (cf. Ringe 1996, 160–63). The nom.-acc. sg. *-e* in B *lwake* indicates **-os* in both *o*-stems and *s*-stems (Van Windekens 1979, 74). The nom.-acc. pl. *lwāksa* is classified as an *s*-stem in Tocharian B (Van Windekens 1976, 270; Adams 1988, 128: *°ksa* < *°k-es-ā* < *°k-es-(e)H₂*). The final *-a* (**-ā*) in *lwāksa* and *-ā* in the compound *lwaksā-tsaika* “potter” (Pinault 2007, 247, 561) correspond exactly to the final **-ā* reconstructed in all stages of Chinese 陶壺 *taohu* “pottery pot” preceding Middle Chinese **dāwyo*. The Chinese form **lhāwḡā* reconstructed for the period of the Later Han could have been interpreted as a nom.-acc. pl. neuter in early Tocharian B. This type of plural was probably extended as an *s*-stem, parallel to B nom.-acc. pl. *lwāsa* vs. A *lwā* “animals” (Van Windekens 1979, 75, 190; Pinault 1989, 90). It is a pity that the counterpart of Tocharian B *lwāke*, pl. *lwāksa*, is not known in Tocharian A till the present time.

Note: Probably the only etymological attempts were proposed by Pedersen (1941, 71f), who saw in the word a compound “washing vessel”, where the first component was derived from the verb **leuH₃-* “to wash” (Pokorny 1959, 692; LIV 418) and the second component corresponded to Gothic *kas* “vessel”, and Van Windekens (1976, 270), who derived this word from the Tocharian designation of “animal”, namely A *lu*, nom.-acc. pl. *lwā*, B *luwo*, nom.-acc. pl. *lwāsa*, loc. pl. *lwākam*. Although these forms are very similar, from the point of view of semantics this solution is improbable. If the phenomenon of a ‘labial metathesis’, in reality an effect of the *u*-umlaut (Van Windekens 1976, 55) is taken in account, i.e. the process transforming the stem **lwāk°* from a hypothetical starting point **lāku-/*lākw-*²⁴, it is possible to connect the Tocharian word with IE **laku-/*lakwo-* “water reservoir” > Greek *λάκκος* “pond in which water-fowl were kept” [Herodot]; “cistern, tank” [Aristophanes], “pit, reservoir” [Herodot]; “pit for storing wine, oil, or grain” [Xenophon]; Latin *lacus* “lake” (> Old English *lacu* “river, brook”), *lacūna* “hollow, pit, pond”; Old Irish *loch* “lake, pond”, Gaulish NL *Penne-locōs* and a Gaulish loan in Southeast French *loye* < **lokūā*, Old Cornish, Breton *lagen* “small lake”; Old English *lagu* “lake, flood”, pl. “surface of the sea”, Old Saxon *lagu-strōm* “waters”, Old Norse *lōgr*, gen. *lagar* “sea, water,

20 Chinese 陶 *táo* “pottery, earthenware” < Late Middle Chinese **thaw* < Early Middle Chinese **daw* “pottery, ceramics” (Pulleyblank 1991, 303) ~ Middle Chinese **dāw* < Late & Middle Postclassic Chinese **dhāw* < Early Postclassic Chinese **dhāw* < Eastern Han Chinese **lhāw* < Western Han Chinese **Lhāw* < Classic & Preclassic Old Chinese **Lhū* (Starostin, *ChEDb*; *GSR* 1047 d). Schuessler (2007, 492): Middle Chinese **dāu* < Later Han Chinese **dou* < Old Chinese **lū* “pottery” (*Liji*, 5th-4th cent. BCE, redaction in the 2nd cent. BCE). Baxter & Sagart (*ChDb* 2014): Middle Chinese **daw* < Old Chinese **[l]’u*. Note: Vietnamese reading: *lu*. Sino-Tibetan **[a]w* > Burmese *kjəw* “to boil, brew (tea), to melt” (*CVST* III, 78).

21 Chinese 壺 *hú* “flask, flask-shaped vase; bottle gourd (*Lagenaria leucantha*); a pitcher” < Late Middle Chinese **xhuā* < Early Middle Chinese **yo* “wine bottle, pot” (Pulleyblank 1991, 126) ~ Middle Chinese **yo* < Postclassic Chinese **gā* (~ *γ-*) < Han Chinese **gā* (~ *γ-*) < Classic & Preclassic Old Chinese **g(h)ā* (Starostin, *ChEDb*; *GSR*, 0056 a-d). Schuessler (2007, 281): Middle Chinese **yuo* < Later Han Chinese **ga* < Old Chinese **gā* “bottle-gourd, flask; teapot”. Baxter 1992, 643, 763: Old Chinese **g/ha*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **hu* < Old Chinese **[g]’a*. Note: The sign 壺 is a traditional character for 壺. Their more pictographic variant appears already in the Yin inscriptions on bones (*GSR* 0056 b). Vietnamese reading *hũ* is probably a late loan; regular Sino-Vietnamese form is *hũ*.

22 See Qi, Xiaoshan & Wang, Bo 2008, 44–45, 50–51, 66–67, 76–79, 100–103, 134–137, 148–149, 164–165, 168–173, 180–183, 256–257.

23 Cf. Tocharian AB *klu* “rice”, which may be borrowed from Preclassic Old Chinese **Lhū* “paddy, rice plant”, today 稻 *dào* (Blažek 1999, 81–82; Lubotsky & Starostin 2003, 262). Schuessler (1987, 116) reconstructed Old Chinese **gləw?*, but later he changed it to **lū?* (Schuessler 2007, 207).

24 Cf. B *kwasār*, A *kursār* “league” < **kys-r-u-* (Adams 2013, 253); AB *kulyp-* “to desire”, B *kwālypelle* “desire” < **kā-lyup-* < **ko(m)-leub^h-* (Blažek & Schwarz 2011, 74–75); A *pukmäs* – imperative of *kum-* “to come” < **pā-kum-ās* (Van Windekens 1976, 55).

liquid”, *lá, lé* “inshore water” < **lahō*; Old Church Slavonic *loky*, gen. sg. *lokъve* “puddle, pool, reservoir” (Pokorny 1959, 653; de Vaan 2008, 322). Concerning the semantic difference, the primary meaning “water reservoir” seems to be a satisfactory common denominator for “pot”, “pit for storing wine or oil”, “cistern” and “lake”.

Lit.: Blažek 2016, 228–230: Tocharian < Later Han Chinese.

14. Tocharian A *lyäk*, B *lyak* “thief” (Adams 2013, 613–14) < Early Middle Chinese **liak* (Pulleyblank).

Chinese 掠 *lüè* = *lyuè* “to plunder, rob; be rapacious” < Late Middle Chinese **liak* < Early Middle Chinese **liak* (Pulleyblank 1991, 205) ~ Middle Chinese **lak* < Postclassic Chinese **lhak* < Han Chinese **rhak* < Classic & Preclassic Old Chinese **rhak* (Starostin, *ChEDb*; *GSR* 0755 k). Note: For **rh-* cf. Xiamen *liaʔ*?; Siamese *lak*, Dìoi *thak* (**dlak*). Sino-Tibetan **riāk* > Old Chinese 掠 **rhak*, **rhans* “to plunder, rob”; Tibetan *āphrog* (p., i. *phrogs*, f. *dbrog*) “to rob, take away, to deprive of”; Lushai *rok* “to plunder, loot, spoil”; Lepcha *krjuk* “to be deprived, emptied of its virtue as comb of bees, after honey is extracted”; Kiranti: Kulung *rɔ:ma* (*rɔks-*) “to plunder” (*CVST* II, 96).

Lit.: Lubotsky & Starostin 2003, 264: Tocharian < Middle Chinese.

15. Tocharian B *rāp* “{the twelfth month} Rāp”, adj. *rapaññe* ~ *rawa(i)ññe* “of the last month of the year” (Adams 2013, 573–74) < Han Chinese **rāp*.

Chinese 臘 *là* “winter sacrifice” < Middle Chinese **lāp* < Postclassic Chinese **lāp* < Han Chinese **rāp* < Classic & Preclassic Old Chinese **rāp* (Starostin, *ChEDb*; *GSR* 0637 j).

Comments: The adoption of the Chinese term into Tocharian B should be dated no later than in the Han era, when **r-* was still preserved in Chinese, i.e. before c. 200 CE according to Starostin.

Lit.: Lubotsky & Starostin 2003, 262: Tocharian < Han Chinese.

16. Tocharian B *simā* “{executive} adjutant, marshal” (Adams 2013, 758) < Middle Chinese **sjimá* (Starostin).

Chinese 私馬 *sī²⁵ mǎ²⁶* “keeper {of the} horse”.

Lit.: Ching & Ogihara 2012, 81: Tocharian < Middle Chinese.

17. Tocharian B *śak_(w)se* “brandy” (Adams 2013, 675) < Late Middle Chinese **sywktsw*’ (Pulleyblank) ~ Middle Chinese **sjöukcjəw* (Starostin) ~ *sjowktsjuwX* (Baxter & Sagart).

Chinese 粟酒 *sù²⁷ jiǔ²⁸* “millet” + “wine”.

Lit.: Naert 1965, 535; Lubotsky & Starostin 2003, 262: Tocharian < Middle Chinese.

25 Chinese 私 *sī* “to be private; to turn into one’s own, keep for oneself; sister’s husband” < Middle Chinese **sjī* < Late Postclassic Chinese **sjī* < Middle & Early Postclassic Chinese **sjij* < Eastern Han Chinese **sjaj* < Western Han Chinese **saj* < Classic & Preclassic Old Chinese **saj* (Starostin, *ChEDb*; *GSR* 0557 b). Sino-Tibetan **śaj* > Old Chinese 私 **saj* “private, oneself”; Tibetan *še, še-dag, śa-sdag* “for oneself only, only, privately”.

26 Chinese 馬 *mǎ* “horse” < Middle Chinese **má* < Postclassic Chinese **má* < Eastern Han Chinese **mrǎ* < Western Han Chinese **mrǎ* < Classic Old Chinese **mrǎ* < Preclassic Old Chinese **mrǎ?* (Starostin, *ChEDb*; *GSR* 0040 a-e). Note: For **m-* cf. Xiamen, Chaozhou *be*?, Fuzhou, Jianou *ma*?. Vietnamese reading *mā*. Sino-Tibetan **mrāH* / **mrāḡ* > Old Chinese 馬 **mrǎ?* “horse”; Lolo-Burmese **mhrunx* > Burmese *mraḡh* “horse”; Kachin *kumraḡ* “a horse, a pony”; Rgyarung *nporo, poro, moro* (Shafer 1974, 121, 135, 143, 410; Benedict 1972, 43; *CVST* I, 35–36).

27 Chinese 粟 *sù* “Italian or fox-tail millet (*Setaria italica*); grain (rice or millet) in husk” < Late Middle Chinese **sywk* < Early Middle Chinese **suawk* (Pulleyblank 1991, 295) ~ Middle Chinese **sjök* < Postclassic Chinese **shjok* < Eastern Han Chinese **shjok* < Western Han Chinese **shok* < Classic & Preclassic Old Chinese **shok* (Starostin, *ChEDb*; *GSR* 1221 a). Baxter & Sagart (*ChDb* 2014): Middle Chinese **sjowk* < Old Chinese **[s]ok*.

28 Chinese 酒 *jiǔ* “wine” < Late Middle Chinese **tsiw*’ < Early Middle Chinese **tsuw*’ (Pulleyblank 1991, 161) ~ Middle Chinese **cjəw* < Postclassic Chinese **cjəw* < Eastern Han Chinese **cjəw* < Western Han Chinese **cəw* < Classic Old Chinese **cú* < Preclassic Old Chinese **cú?* (~ **č-*) (Starostin, *ChEDb*; *GSR* 1096 k). Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsjuwX* < Old Chinese **tsu?*.

18. Tocharian B *śwelyānk* ± “tax-grains” (Adams 2013, 707) < Early Middle Chinese **ɕwiał^hlianj* (Pulleyblank) ~ Middle Chinese **śwèjlanj* (Starostin).

Chinese 稅糧 *shuì²⁹ liáng³⁰* “tax” + “grain”.

Lit.: Ching & Ogihara 2012, 107: Tocharian < Middle Chinese.

19. Tocharian B *śaṅk* “a wet or dry measure of volume (c. 1.1 – 1.2 liters or 1.2 – 1.3 quarts)” (Adams 2013, 689, 708) < Middle Chinese **śij* (Starostin).

Chinese 升 *shēng* “to climb, ascend, rise; a measure of capacity, pint {1,03547 l}” < Late Middle Chinese **śiǎŋ* < Early Middle Chinese **ɕij* (Pulleyblank 1991, 281) ~ Middle Chinese **śij* < Post-classic Chinese **cǐŋ* < Eastern Han Chinese **cǎŋ* < Western Han Chinese **tǎŋ* < Classic & Preclassic Old Chinese **tǎŋ* (Starostin, *ChEDb*; Karlgren, *GSR* 0897 a-c). Note: Vietnamese reading *thăng*.

Note: The same term was also borrowed into Khotanese *śimṅa-* (Bailey 1979, 399 “a measure”) and Old Uyghur *śij* “liter”, Taranchi *śij* (Räsänen 1969, 447). Van Windekens (1976, 640) connected Tocharian B *śaṅk* with Khotanese *śṣamṅa-* “a measure for grain”, but it is 8 *śimṅa-* (Bailey 1979, 406), while *śimṅa-* corresponds to Tocharian B *śaṅk*.

Lit.: Lubotsky & Starostin 2003, 262: Tocharian < Middle Chinese.

20. Tocharian B *śau* “receipt” (Adams 2013, 727) < Late Middle Chinese **tś^ha:w* (Pulleyblank).

Chinese 鈔 1. *chāo* “to seize, grab; copy out; abridge, excerpt; receipt, paper money”; 2. *chào* “to rob, plunder; paper money” < Late Middle Chinese **tś^ha:w* < Early Middle Chinese **tś^haiw / *tś^hε:w* (Pulleyblank 1991, 51–52).

Lit.: Ching & Ogihara 2012, 104 (they also add Khotanese *kśau*, but such the word does not appear in Bailey 1979).

21. Tocharian B *śipāṅkiñc* “abacus” (Grenet & Pinault 1997, 1020–22) < Middle Chinese **śúb-wānkun^hkü* (Starostin) ~ **śjubwānkun^hkju* (Schuessler).

Chinese 數盤 *shù³¹ pán³²* “counting board, tally, abacus”. The final part of the Tocharian word can be identified in Chinese 工句 *gōng³³ jù³⁴* “instrument”.

Lit.: Grenet & Pinault 1997, 1020–22; Lubotsky & Starostin 2003, 263: Tocharian < Chinese.

29 Chinese 稅 *shuì* “to let loose, to free; to give goods, presents; tax” [Late Zhou] < Late Middle Chinese **śyāj¹* < Early Middle Chinese **ɕwiał^h* (Pulleyblank 1991, 290) ~ Middle Chinese **śwèj* < Late & Middle Postclassic Chinese **śwèj* < Early Postclassic Chinese **śwés* < Eastern Han Chinese **śwas* < Western Han Chinese **fwas* < Classic Old Chinese **łwać* < Preclassic Old Chinese **łots* (Starostin, *ChEDb*; *GSR* 0324 i). Note: Also read *tùì* “a mourning ritual” < Middle Chinese **thwǎj* < Old Chinese **łōts*. More recent semantic developments are: “to tax, tax”, attested since Han; “to hire, rent”, attested since Tang.

30 Chinese 糧 *liáng* “grain, yield of grain, provisions” < Late Middle Chinese **lianj* < Early Middle Chinese **lianj* (Pulleyblank 1991, 192) ~ Middle Chinese **laiŋ* < Postclassic Chinese **leiŋ* < Eastern Han Chinese **reiŋ* < Western Han Chinese **raŋ* < Classic & Preclassic Old Chinese **raŋ* (Starostin, *ChEDb*; *GSR* 0737 d-e). Note: For **r* cf. Xiamen *liŋ²*, Chaozhou *ně²*, Fuzhou *liŋ²*, Jianou *liŋ²*. Vietnamese reading: *lu’o’ng*. Sino-Tibetan **r[ǎ]ŋ* > Old Chinese 糧 **raŋ* “grain, provisions”; Tibetan *āgrān-ba* “to satisfy with food”; Kachin *lǎreŋ⁴* “the vitals”; Lepcha *kǎ-ruŋ* “meat or drink prepared for special occasions; ambrosia, nectar”; Idu **b-reŋ*, Daofu *bjoŋ* (*noŋ*) “meat” (*CVST* II, 71).

31 Chinese 數 *shù* & 數 *shù* “to calculate, count, evaluate” & “number; fate” < Middle Chinese **śú¹, *śù¹* < Postclassic Chinese **śwó* < Han Chinese **śwá* < Classic Old Chinese **śró* < Preclassic Old Chinese **śro², *śro²s* (Starostin, *ChEDb*; *GSR* 0123 r, 1207 a). Schuessler (2009, 152, §10–29 r): *shù* < Middle Chinese **śju^b* < Later Han Chinese **śo^b* < Old Chinese **śro²*; *shù* < Middle Chinese **śju^c* < Later Han Chinese **śo^c* < Old Chinese **śroh*. Baxter & Sagart (2014, 80, 144, 242–43): *shù* “to count” < Middle Chinese **śrjuX* < Old Chinese **ś-ro²*; *shù* “number” < Middle Chinese **śrjuH* < Old Chinese **ś-ro²-s*. Vietnamese reading *só¹*.

32 Chinese 盤 *pán* “a dish, basin; game-board; game, hand (in a game)” < Middle Chinese **bwān* < Postclassic Chinese **bān* < Han Chinese **bān* < Classic & Preclassic Old Chinese **bān* (Starostin, *ChEDb*; *GSR* 0182 e-f). Schuessler (2009, 261, §24–48 e): Middle Chinese **bwān* < Later Han Chinese **ban* < Old Chinese **bān*. Vietnamese reading: *ván*; Siamese *bhān* (**bān*).

33 Chinese 工 *gōng* “work; merit; artisan” < Middle Chinese **kuŋ* < Late Postclassic Chinese **kwōŋ* < Middle & Early Postclassic Chinese **kōŋ* < Han Chinese **kōŋ* < Classic & Preclassic Old Chinese **kōŋ* (Starostin, *ChEDb*; *GSR* 1172 a-c). Schuessler (2009, 162, §12–1 a): Middle Chinese **kuŋ* < Later Han Chinese **koŋ* < Old Chinese **kōŋ*. Vietnamese reading: *cōng*.

34 Chinese 句 *jù* “sentence, clause, phrase” [Han] < Middle Chinese **kü* < Postclassic Chinese **kwò* < Han Chinese **kwah* < Classic Old Chinese **koh* < Preclassic Old Chinese **kos* (Starostin, *ChEDb*; *GSR* 0108 a-b). Schuessler

22. Tocharian B *šitsok* “millet-alcohol” (Grenet & Pinault 1997, 1016–22) < Early Middle Chinese **eiātsuw*’ (Pulleyblank) ~ Middle Chinese **śóćjǎw* (Starostin) ~ **syoXtsjuwX* (Baxter & Sagart).

Chinese 黍酒 *shǔ*³⁵ *jiǔ*³⁶ “millet+wine”.

Lit.: Grenet & Pinault 1997, 1016–22; Lubotsky & Starostin 2003, 263: Tocharian < Chinese.

23. Tocharian A *šoštānk* “tax collector, banker” (Carling 2005, 57) < Early Middle Chinese **cu-wdzaŋ* (Pulleyblank) ~ Middle Chinese **śǎwzāŋ* (Starostin) ~ **syuwdzang* (Baxter & Sagart) or Later Han Chinese **śudzaŋ* (Schuessler), in contamination with (Buddhist Hybrid) Sanskrit *śreṣṭhin-* “foreman of a guild”, lit. “having the best”, to explain the inlaut *-št-* in Tocharian, if it is not a substitution of Middle Chinese **dz*).

Chinese 收藏 *shōu*³⁷ *cáng*³⁸ “collecting a store”.

Note: Corresponding terms appear in Niya Prakrit *šoṭhaṅga* “tax collector” and Bactrian *σωταγγο*, but with simplifications typical for Prakrits (*śr-* > *s-*; *-ṣṭh-* > *-(t)th-*), cf. Pali *seṭṭhin-* “guild-master” (Turner 1966, #12726). Van Windekens (1976, 640) speculated about mediation of hypothetical Iranian **śauštanga-*.

Lit.: Pinault apud Carling 2005, 57: Tocharian < Chinese.

24. Tocharian A *šukṣ* “(smaller) village” (Poucha 1955, 347) < pre-Han Chinese **suk-s* “mansion” (Baxter & Sagart).

Chinese 宿 *sù* “to stay overnight, lodge; to shrink, shrivel” < Late Middle Chinese **siwk* < Early Middle Chinese **suwk* (Pulleyblank 1991, 295) ~ Middle Chinese **sjük* < Postclassic Chinese **siuk* < Eastern Han Chinese **sjəuk* < Western Han Chinese **səuk* < Classic & Preclassic Old Chinese **suk* (Starostin, *ChEDb*; *GSR* 1029 a-b). Baxter & Sagart (2014, 249): *sù* < Middle Chinese **sjuwk* < Old Chinese **[s]uk* “to spend the night”, besides *xiù* “‘mansion’ of the zodiac (where the moon is found on successive nights)” < Middle Chinese **sjuwH* < Old Chinese **[s]uk-s*. Carling (2005, 58) added that the final *-s* had a function of localization and production of *nomina actionis*. It became lost around 3rd-4th cent. CE.

Lit.: Carling 2005, 58: Tocharian < pre-Han Chinese.

(2009, 145, §10–1 a): Middle Chinese **kju*^c < Later Han Chinese **kuo*^c. Note: Vietnamese *câu* is colloquial (regular Sino-Vietnamese is *cú*) – probably under the influence of another reading of 句, Middle Chinese **kaŋ*.

35 Chinese 黍 *shǔ* “glutinous millet / Panicum miliaceum” < Late Middle Chinese **siǎ*’/**syǎ*’ < Early Middle Chinese **eiǎ* (Pulleyblank 1991, 288) ~ Middle Chinese **śó* < Postclassic Chinese **śó* < Eastern Han Chinese **śá* < Western Han & Classic Old Chinese Chinese **ǎ* < Preclassic Old Chinese **śla?* (~ *ǎ-*) (Starostin, *ChEDb*; *GSR* 0093 a-d). Baxter & Sagart (2014, 138–39): Middle Chinese **syoX* < Old Chinese **s-ǎ?*.

36 Chinese 酒 *jiǔ* “wine” < Late Middle Chinese **tsiw*’ < Early Middle Chinese **tsuw*’ (Pulleyblank 1991, 161) ~ Middle Chinese **ćjǎw* < Postclassic Chinese **ćjǎw* < Eastern Han Chinese **ćjǎw* < Western Han Chinese **ćǎw* < Classic Old Chinese **cú* < Preclassic Old Chinese **cú?* (~ *ć-*) (Starostin, *ChEDb*; *GSR* 1096 k). Baxter & Sagart (2014, 101, 247): Middle Chinese **tsjuwX* < Old Chinese **tsu?*.

37 Chinese 收 *shōu* “to gather up, collect, take possession; remove, retire” < Late Middle Chinese **siw* < Early Middle Chinese **euw* (Pulleyblank 1991, 286) ~ Middle Chinese **śǎw* < Postclassic Chinese **hjiw* < Han Chinese **hjǎw* < Classic & Preclassic Old Chinese **hiw* (Starostin, *ChEDb*; *GSR* 1103 a). Schuessler (2009, 172, §13–8 a): Middle Chinese **śjǎu* < Old Northwest Chinese **śu* < Later Han Chinese **śu* < Old Chinese **hju?* or **nhiu?* Baxter & Sagart (2014, 137, 300): Middle Chinese **syuw* < **eiw* < **s-teiw* < Old Chinese **s-kiw*. Note: Vietnamese reading: *thu*.

38 Chinese 藏 *cáng* “to conceal, store” & *zàng* “a store, entrails” < Late Middle Chinese **tshaŋ* < Early Middle Chinese **dzaŋ* (Pulleyblank 1991, 45) ~ Middle Chinese **zǎŋ* < Postclassic Chinese **zhǎŋ* < Han Chinese **zhǎŋ* < Classic Old Chinese **zhǎŋ* < Preclassic Old Chinese **zhǎŋ* (Starostin, *ChEDb*; *GSR* 0727 g’). Schuessler (2009, 86, §3–49 g’): Middle Chinese **dzǎŋ* “to store” / **dzǎŋ*^c “a store” < Later Han Chinese **dzaŋ* / **dzaŋ*^c < Old Chinese **dzǎŋ* / **dzǎŋ*^h. Baxter & Sagart (2014, 55, 128): Middle Chinese **dzang* < Old Chinese **m-ts^hǎŋ*. Note: For **zh-* cf. Xiamen *chǎŋ*², Chaozhou *chǎŋ*², Longdu *chǎŋ*². Also read *zàng* “a store” < Middle Chinese **zǎŋ* < Old Chinese **zhǎŋ-s*. Vietnamese *tàng* “a store, treasure”. Vietnamese reading: *tàng*. Sino-Tibetan: Tibetan *āzang-s-pa* “to hoard wealth” (Coblin 1986, 57; *CVST* IV, 44).

25. Tocharian B *taittsyānkum* “±major general” (Adams 2013, 326) < Early Middle Chinese **daj^htsiaŋ^hkun* (Pulleyblank).

Chinese *dàijiāngjūn* “great general”, i.e. 大 *dài*³⁹ 将 *jiāng*⁴⁰ 军 *jūn*⁴¹.
Lit.: Ching 2011, 66: Tocharian < Middle Chinese.

26. Tocharian B *tau*, pl. *towä* ~ *tom* ~ *taum* “ten quarts (dry measure)” (Adams 2013, 329–30) < Early Middle Chinese **təw*’ (Pulleyblank).

Chinese 斗 *dǒu* “ladle, dipper; constellation Great Bear”, later “a measure used for dry goods” < Late Middle Chinese **təw*’ < Early Middle Chinese **təw*’ (Pulleyblank 1991, 81) ~ Middle Chinese **tɹw* < Late & Middle Postclassic Chinese **təw* < Early Postclassic Chinese **tōw* < Han Chinese **twā* < Classic Old Chinese **tó* < Preclassic Old Chinese **tō?* (Starostin, *ChEDb*; *GSR* 0116 a). Note: Also read *zhǔ* < Middle Chinese **čú* < Old Chinese **to?* id. Regular Sino-Vietnamese is *dā*’*u*. Vietnamese reading: *dầu*.

Lit.: Naert 1965, 535; Lubotsky & Starostin 2003, 262: Tocharian < Chinese.

27. Tocharian A *tmām*, pl. *tmānantu*; B *tumane*, -*t_umane* & *tmāne*, -*tmāne*, pl. *tmanenma* “10 000” (Winter 1992, 127; Adams 2013, 319).

Pulleyblank (apud Clauson 1972, 507) formulated hypothesis that the Tocharian numeral “10 000” was borrowed from a predecessor of Chinese 萬 *wàn*⁴² “10 000” and reconstructed it as **tman*. From Tocharian the numeral had to be borrowed into Turkic (e.g. from the 8th cent. Old Turkic of Orkhon *twmn*, Old Uyghur *tūmen*) and the Turkic numeral became a source of borrowing into Mongolic (*tūme(n)*) and Persian (*tumān*). This idea was supported by Tremblay (2005, 437), while Lubotsky & Starostin (2003, 260–61) prefer the Turkic origin of the Tocharian numeral, perhaps via Middle Iranian (but it is attested only in New Persian and modern languages borrowing the numeral from it – see *TMEN* II, 637). They find the Altaic cognate in Korean **čimín* “1000”. The Chinese origin and scenario proposed by Clauson seem to be most natural, but it remains to define the primary Chinese source. The initial cluster **tm-* is not reconstructed for any stage of Chinese. A key could be in reconstruction of a prefixed Old Chinese protoform by Baxter & Sagart (*ChDb* 2014) as **C.ma[n]-s*. In their wordlist they do not comment on their

39 Chinese 大 *dà* [*dài*] [*tài*] “(to be) great, big” < Late Middle Chinese **tʰa*’ & **tʰaj*’ < Early Middle Chinese **da*’ & **daj^h* (Pulleyblank 1991, 69) ~ Middle Chinese **dāj* [*tʰāj*] < Late & Middle Postclassic Chinese **dhāj* < Early Postclassic Chinese **dhās* < Han Chinese **dhās* < Classic Old Chinese **dhāc* < Preclassic Old Chinese **dhāts* [*tʰhāts*] (Starostin, *ChEDb*; *GSR* 0317 a). Note: Also read *tài* < Middle Chinese **tʰaj*’ < Old Chinese **thāt-s*. Shijing occurrences: 51.3, 54.1, 54.4, 57.3. Vietnamese reading: *dại*.

40 Chinese 将 *jiàng* & *jiāng* “to take smth. or smb. along, to lead along; intend to; to take, hold, support; to go with, lead on, advance; course; commander, military leader, general” < Late Middle Chinese **tsiaŋ*’ < Early Middle Chinese **tsiaŋ^h* (Pulleyblank 1991, 150) ~ Middle Chinese **cjaŋ* & **cjāŋ* < Postclassic Chinese **cjaŋ* < Eastern Han Chinese **cjaŋ* < Western Han Chinese **caŋ* < Classic Old Chinese **caŋ* < Preclassic Old Chinese **caŋ* & **čaŋs* (Starostin, *ChEDb*; Karlgren, *GSR* 0727 f). Vietnamese reading: *tu*’*o*’*ng* “army-leader, general”. Sino-Tibetan **čāŋ* “bring, arrange” > Old Chinese 將 **caŋ* “to bring, offer; take; arrange”; Tibetan *āčhaŋ* “to hold, to keep; to carry; to wear”; Burmese *čhaŋ* “to make, construct, arrange”; Kachin *kəžəŋ*, *ləžəŋ* “to arrange”; Lushai *čəŋ* (*čan*) “to receive or get”; Yamphu *caŋma* “to bring or take smth. out” (Coblin 1986, 94; *CVST* IV, 43).

41 Chinese 军 *jūn* “army, troops” < Late Middle Chinese **kyn* < Early Middle Chinese **kun* (Pulleyblank 1991, 169) ~ Middle Chinese **kün* < Postclassic Chinese **kun* < Han Chinese **kun* < Classic Old Chinese **kun* < Preclassic Old Chinese **kur* (Starostin, *ChEDb*; *GSR* 0458 a). Note: Vietnamese reading *quân*.

42 Chinese 萬 *wàn* “to be ten-thousand, myriad” < Late Middle Chinese **vjyan*’/**va:n* < Early Middle Chinese **muan^h* (Pulleyblank 1991, 318) < Middle Chinese **mwən* < Late & Middle Postclassic Chinese **mwən* < Early Postclassic Chinese **mwàn* < Eastern Han Chinese **mwanh* < Western Han Chinese **manh* < Classic Old Chinese **manh* < Preclassic Old Chinese **mans* (~ *-rs*) [Bronze inscriptions, 1050–770 BCE; *Shijing*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0267 a-b). Schuessler (2007, 507): Middle Chinese **mjwən^c* < Later Han Chinese **muan^c* < Old Chinese **mans*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **mjonH* < Old Chinese **C.ma[n]-s*. Note: Shijing occurrences: 38.1, 38.2. Also used for a homonymous **mans* (~ *-rs*) “a ritual dance”. Standard Sino-Vietnamese is *vàn* (there also is a variant *vàn*). Vietnamese reading: *muôn*. For **m-* cf. Guangzhou *mān*³², Xiamen *man*³², Chaozhou *bueŋ*⁶. Chinese > Siamese *hmin*⁶ “10 000”. Sino-Tibetan parallels are uncertain: Tibetan ’*bum* “100 000”; Kachin *lə³¹-mun* “10 000” (or early loans from Chinese? – see Schuessler 2007, 507).

reconstructions and the word 萬 *wàn* “10 000” was not included in their book (2014). It is possible to seek only an indirect witness about a determination of this prefix from its discussion by Baxter & Sagart (2014, 172). For Chinese 蚊 *wén*⁴³ “mosquito” they reconstruct Middle Chinese **mjun* < Old Chinese **C.mə[r]* with early loan in (or from?) proto-Vietic **t.mu:l* “midge”. In any case, this initial **t-* may indicate a similar prefix in 萬 *wàn* “10 000”. But the hypothetical protoform **tman* cannot explain Tocharian B *t_umāne*, nor the Turkic forms. To explain the Turkic forms of this numeral from Chinese, Blochet (1915, 307, fn. 2) sought a source in the Chinese compound 多萬 *duō/duó*⁴⁴ *wàn* “many ten thousand” or “all the ten thousand”. It is apparent, already from the Middle Chinese stage, the vowel was reconstructed as *â/ā*, earlier *āj*. None of these possibilities allow us to explain the vocalism in Turkic or Tocharian numerals “10 000”. From the point of view of vocalism a more promising solution could be a compound 眾萬 *zhòng*⁴⁵ *wàn* “all ten thousand”, reconstructible as Classic Old Chinese **tuŋhmanh* by Starostin for the period from the 6th to 3rd cent. BCE, i.e. including the probable time of disintegration of Tocharian A and B, dated to c. 400 BCE according to our glottochronological test. This solution implies simplification **-ŋhm- > *-m-*. But it cannot be explained in Tocharian, because the cluster *-ŋkm-* has been preserved here, cf. A *m*-participle *länkmām* from *länk-* “to hang, dangle” (Malzahn 2010, 840 and 983 about the development of the cluster *-ŋkC-* in general). These problems with vocalism and internal clusters are eliminated, if one of the following compounds is taken in account:

周萬 *zhōu*⁴⁶ *wàn* “all round ten thousand” or “complete ten thousand” < Preclassic Old Chinese **tumans*.

州萬 *zhōu*⁴⁷ *wàn* “community of ten thousand {persons}” < Preclassic Old Chinese **tumans*.

- 43 Cf. the reconstruction of Starostin, differing in final **-n* from the final **-r* by Baxter & Sagart: Chinese 蚊 *wén* “mosquito” [Late Zhou] < Middle Chinese **mūn* < Postclassic Chinese **mhwin* < Eastern Han Chinese **mhwan* < Western Han Chinese **mhən* < Classic & Preclassic Old Chinese **mhən* (Starostin, *ChEDb*; *GSR* 0475 k-1). Note: For **mh-* cf. Chaozhou *buŋ*¹; Shaowu *mən*⁷. Sino-Tibetan: Lepcha *tūk-men*, *tūŋ-men* “the white ant when they have obtained their wings, the flying white ant”; Kiranti: Sunwar *mimti*, Tulung *mundi* “white ant”, Kaling *mūndi* “a large flying ant”, Yampu *minžuwā* “fly”.
- 44 Chinese 多 *duō* & *duó* “to be much, many, all the...” < Middle Chinese **tā* < Postclassic Chinese **tā* < Eastern Han Chinese **tā* < Western Han Chinese **tāj* < Classic Old Chinese **tāj* < Preclassic Old Chinese **tāj* [Oracle bone inscriptions, 1250–1050 BCE; Bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0003 a-c). Schuessler (2007, 220): Middle Chinese **tā* < Later Han Chinese **tai* < Old Chinese **tāi* < **tai*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **ta* < Old Chinese **[t.l]’aj*. Reconstructions with the initial **tl-* should be supported by proto-Tai **hlai*⁴¹ and proto-Hlai **l’pooi*⁴² “(how) many” (Schuessler 2007, 220). But there are Sino-Tibetan cognates which do not confirm the initial lateral in Chinese: Burmese *taj* “very”; Lushai: *te?* “much, very much”; Mikir *the* “big”; Rawang *the*; Gurung *tha* “great” (Benedict 1972, 66; *CVST* II, 113–14).
- 45 Chinese 眾 *zhòng* “to be numerous, all; multitude, common (people)” < Late Middle Chinese **tšiwŋ* < Early Middle Chinese **teuwŋ* (Pulleyblank 1991, 411) ~ Middle Chinese **čūŋ* < Late & Middle Postclassic Chinese **čūŋ* < Early Postclassic Chinese **čūŋ* < Eastern Han Chinese **čəuŋh* < Western Han Chinese **təuŋh* < Classic Old Chinese **tuŋh* < Preclassic Old Chinese **tuŋs* [Oracle bone inscriptions, 1250–1050 BCE; Bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 1010 a-d). Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsyuwŋX* < Old Chinese **tuŋs*. Note: Shijing occurrences: 54.3. Vietnamese reading: *chúng*. Sino-Tibetan **Toŋ* (~ *s-*) “thousand” > Old Chinese 眾 **tuŋs* “numerous, multitude”; Tibetan *stoj* “thousand”; Burmese *thauŋ* “1000” < Lolo-Burmic **stuwŋ*. Cf. also Trung *ti tuŋ ŋai* “1 000”, *ti tuŋ gra* “10 000”, where *ti* means “one”. (Shafer 1974, 45; Benedict 1972, 21; *CVST* II, 182).
- 46 Chinese 周 *zhōu* “circle” [*Liji* “Record of Rites”, 5th-4th cent. BCE]; “bend or curve (of the road)” [*Shījīng*, 1050–600 BCE], “all round, complete” [*Zuōzhùàn* “Comments of Zuo”, describing the period 722–468 BCE]; “everywhere” [*Yili* “Ceremonies and Rites”, originating in the 5th cent. BCE?]; “universally” [*Shījīng*, 1050–600 BCE], “great” [*Shījīng*, 1050–600 BCE]; ‘Zhou Dynasty’ [*Shījīng*, 1050–600 BCE] < Middle Chinese **čəw* < Late & Middle Postclassic Chinese **čəw* < Early Postclassic Chinese **čiw* < Eastern Han Chinese **čəw* < Western Han Chinese **təw* < Classic & Preclassic Old Chinese **tu* (Starostin, *ChEDb*; *GSR* 1083 a-e). Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsyuw* < Old Chinese **tiw*. Note: Starostin added following comments: The rhymes in *Shijing* are controversial and make us suspect that the word originally had two readings: a) **tu* with the meaning “curve (of the road), circle (of the road)” (cf. the rhyme in 123.2); b) **tiw* with the meaning ‘Zhou’ (territory, state and dynasty) (cf. the rhyme in 153.2).
- 47 Chinese 州 *zhōu* “province” [*Shūjīng* “Book of Documents”, 5th-4th cent. BCE], “district” [*Zhōuli* “Rites of Zhou, 2nd cent. BCE]; “islet in stream” [*Shījīng*, 1050–600 BCE]; “congregation” [*Guóyǔ* “Discourse of the States,

The final **-s*, reconstructible only for the oldest stage of development of Chinese, dated to the 6th cent. BCE and earlier, might have caused integration of the Tocharian numeral “10 000” into the paradigm of the IE *o*-stems.

Further see a rich survey of reflexes of this cultural word in Turkic, Mongolic, Tungusic, Iranian and other languages collected by Doerfer (*TMEN* II, 633–42). Tremblay (2001, 26–27) summarized older alternative explanations.

28. Tocharian A *trunk*, B *tronk** “hollow, cave”, B *tronktse* (adj.) “hollow” (Adams 2013, 341) < Early Middle Chinese **tr^huŋ* (Pulleyblank) or Classic Old Chinese **thruŋ* (Starostin; Schuessler).

Chinese 盅 *chōng*, 冢 *chǒng* “empty, hollow” < Late Middle Chinese **tr^hiŋ* < Early Middle Chinese **tr^huŋ* (Pulleyblank 1991, 410, 57) ~ Middle Chinese **thüŋ* < Late Postclassic Chinese **thuy* < Early Postclassic Chinese **thiuy* < Han Chinese **thəuy* < Classic & Preclassic Old Chinese **thruŋ* (Starostin, *ChEDb*; *GSR* 1007 o). Schuessler (2009, 191, §15–6 o): Middle Chinese **^hjuŋ* < Later Han Chinese **^huŋ* < Old Chinese **thruŋ*. Note: Also read Old Chinese **dhruŋ*, Middle Chinese *düŋ* id. Modern *zhōng* is secondary (on analogy with 中). Sino-Tibetan **thuaŋ* (~ **dh-*): Tibetan *doŋ* “a deep hole, pit, ditch”, *stoy* “empty, clear, hollow”, *stoy*s “to make empty”, Burmese *twayh* “hole in the ground, pit”, *thwayh* “to make a hole”; Rawang *duy-*; Trung *duy^l* “cave” (Shafer 1974, 51; Benedict 1972, 45; *CVST* II, 168).

Comments: The chronological determination of this borrowing depends on reconstruction of **tr-* in development of Chinese: according to Pulleyblank it was in the end of the 6th cent. CE, while Starostin and Schuessler date it before 200 BCE.

Lit.: Lubotsky & Starostin 2003, 263: Tocharian < pre-Han Old Chinese.

29. Tocharian B *tsum* “inch” (Adams 2013, 810) < Late Middle Chinese **ts^hun* (Pulleyblank).

Chinese 寸 *cùn* “thumb, inch, measure of length [Late Zhou]; little, short” < Late Middle Chinese **ts^hun* < Early Middle Chinese **ts^hwən* (Pulleyblank 1991, 67) ~ Middle Chinese **chôn* < Postclassic Chinese **chwǎn* < Han Chinese **chwǎnh* < Classic Old Chinese **chwǎnh* < Preclassic Old Chinese **chūns* (Starostin, *ChEDb*; *GSR* 0431 a-b). Schuessler (2009, 339, §34–27 a): Middle Chinese **ts^hwən^C* < Old Northwest Chinese **ts^hon* < Later Han Chinese **ts^huən^C* < Old Chinese **tshūns*. Baxter & Sagart (2014, 31–32, 80, 155): Middle Chinese **tshwonH* < Old Chinese **[ts^h]ʷu[n]-s*. Sino-Tibetan **ch[ū]n* (~ *-l*) > Old Chinese 寸 **chūns* “thumb, inch”; 寸 **chūn?* “to measure, consider”; Burmese *chunh* “to measure a distance; to cut”; Kachin *cen* “an inch” (*CVST* IV, 38).

Comments: The initial **sh-* reconstructed for various stages of Chinese preceding Middle Chinese by Starostin (*ChEDb*) should apparently be corrected to **ch-*. This initial is reconstructed by Starostin himself in a survey of Sino-Tibetan cognates.

Lit.: Schmidt 1999b, 19; Lubotsky & Starostin 2003, 266: Tocharian < Chinese.

30. Tocharian B *tsyānk* “sauce made from beans” or “wild rice” (Adams 2013, 814) < Early Middle Chinese **tsiaŋ^h* (Pulleyblank) ~ Middle Chinese **tsjaŋ^C* (Schuessler).

Chinese 醬 *jiàng* “sauce made from grains or beans” < Late Middle Chinese **tsiaŋ* < Early Middle Chinese **tsiaŋ^h* (Pulleyblank 1991, 150) ~ Middle Chinese **tsjaŋ^C* < Later Han Chinese **tsiaŋ^C* < **tsaŋh* (Schuessler 2009, 86, §3–49 y; *GSR* 0727 y).

Lit.: Ching & Ogihara 2012, 91, 109: Tocharian < Chinese.

compiled in the 5th cent. BCE, but summarizes events already from the 10th cent. BCE]; “village consisting of 2500 families” < Middle Chinese **čəw* < Late & Middle Postclassic Chinese **čəw* < Early Postclassic Chinese **čiw* < Eastern Han Chinese **čəw* < Western Han Chinese **təw* < Classic & Preclassic Old Chinese **tu* (Starostin, *ChEDb*; *GSR* 1086 a-c). Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsyuw* < Old Chinese **tu*. Sino-Tibetan: Tibetan *mdo* “district, province, end”. Note: Vietnamese reading: *châu*.

31. Tocharian B *tsyānkune* “general” (Adams 2013, 814) < Early Middle Chinese **tsian^hkun* (Pulleyblank).

Chinese 将军 *jiāng*⁴⁸ *jūn*⁴⁹ “general”.

Lit.: Ching 2011, 66: Tocharian < Early Middle Chinese.

32. Tocharian B *wānk-* “to prepare” (Adams 2013, 641) < Postclassic or Han Chinese **weŋ* (Starostin)

Chinese 營 *yíng* “to lay out, plan, build; military camp” < Late Middle Chinese **jyājŋ* < Early Middle Chinese **jwiājŋ* (Pulleyblank 1991, 375) ~ Middle Chinese **jweŋ* < Postclassic Chinese **weŋ* < Han Chinese **weŋ* < Classic & Preclassical Old Chinese **weŋ* (Starostin, *ChEDb*; *GSR* 0843 f). Comments: The Vietnamese loanword (having a later derived meaning “palace; military camp”) is colloquial; regular Sino-Vietnamese is *doanh*. Vietnamese reading: *dinh*. Sino-Tibetan **q^wəŋ* (~ *G^w-*) “round, surround” > Chinese 營 **weŋ* “to demarcate, to encamp; to surround”; Tibetan *sgoŋ* “to make round, globular”; Burmese *wəuŋh* “to be round, to surround, as a forest” (*CVST* V, 158).

Lit.: Lubotsky 1998, 381: Tocharian < Postclassic or Han Chinese.

33. Tocharian A *yāppāk*, B *yāpko* “duke, count palatine, sub-king” (Adams 2013, 528–29) < Later Han Chinese **hipgo* < pre-Han Chinese **həpgo* (Schuessler) ~ Classic Old Chinese **həpɡ(h)ō* (Starostin).

Chinese 歙侯 *xī*⁵⁰ *hóu*⁵¹ “leader among the western barbarians”, namely 康⁵² 居⁵³ *Kāngjū* (Han **khāŋka*), 烏⁵⁴ 孫⁵⁵ *Wūsūn* (Western Han **ʔā(s)wān*), and 月⁵⁶ 氏⁵⁷ *Yuèzhī* (Western Han **ŋwat-g(h)é*) in *Hanshu*, ‘Book of {Former} Han’, later “leader of the five divisions of Yuezhi”.

48 Chinese 將 *jiàng* & *jiāng* “to take smth. or smb. along, to lead along; intend to; to take, hold, support; to go with, lead on, advance; course; commander, military leader, general” < Late Middle Chinese **tsiaŋ^h* < Early Middle Chinese **tsiaŋ^h* (Pulleyblank 1991, 150) ~ Middle Chinese **cjaŋ* & **cjàŋ* < Postclassic Chinese **cjaŋ* < Eastern Han Chinese **cjaŋ* < Western Han Chinese **caŋ* < Classic Old Chinese **caŋ* < Preclassical Old Chinese **caŋ* & **cāŋs* (Starostin, *ChEDb*; Karlgren, *GSR* 0727 f). Vietnamese reading: *tu* ‘o’ng “army-leader, general”. Sino-Tibetan **cāŋ* “bring, arrange” > Old Chinese 將 **cāŋ* “to bring, offer; take; arrange”; Tibetan *āchaj* “to hold, to keep; to carry; to wear”; Burmese *čaj* “to make, construct, arrange”; Kachin *kəʒaj*, *ləʒaj* “to arrange”; Lushai *čaj* (*čan*) “to receive or get”; Yamphu *caŋma* “to bring or take smth. out” (Coblin 1986, 94; *CVST* IV, 43).

49 Chinese 軍 *jūn* “army, troops” < Late Middle Chinese **kyn* < Early Middle Chinese **kun* (Pulleyblank 1991, 169) ~ Middle Chinese **kūn* < Postclassic Chinese **kun* < Han Chinese **kun* < Classic Old Chinese **kun* < Preclassical Old Chinese **kur* (Starostin, *ChEDb*; *GSR* 0458 a). Note: Vietnamese reading *quân*.

50 Chinese 歙 *xī* “to contract, draw in” < Late & Early Middle Chinese **xip* (Pulleyblank 1991, 332) ~ Middle Chinese **xjəp* < Later Han Chinese **hip* < Old Chinese **həp* [*Zhuāngzǐ*, i.e. ‘{Work of} Master Zhuang’, 369–301/295/286 BCE] (Schuessler 2009, 354, §37–1; *GSR* 0675 s).

51 Chinese 侯 *hóu* “target” [*Shījīng*]; “target shooter, archer” > “feudal lord” [Oracle bone inscriptions, 1250–1050 BCE; bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE]; “border guard” [*Guóyù*] < Late Middle Chinese **xhəw* < Early Middle Chinese **ɣəw* (Pulleyblank 1991, 125) ~ Middle Chinese **ɣaw* < Postclassic Chinese **gwā* (~ **ɣ-*) < Han Chinese **gwā* (~ **ɣ-*) < Classic & Preclassical Old Chinese **g(h)ō* (Starostin, *ChEDb*; *GSR* 0113 a-d). Schuessler (2007, 279): Middle Chinese **ɣəw^c* < Later Han Chinese **go^c* < Old Chinese **gō*. Notes: In older parts of *Shijing* used for **g(h)ō* – a personal existential copula (“he/she/it has, is”). *Shijing* occurrences: 7.1, 7.2, 7.3, 13.1, 13.2, 24.2, 24.3, 54.1, 57.1. Vietnamese reading: *hầu*.

52 Chinese 康 *kāng* “to be at ease, have peace of mind; be prosperous, healthy; tranquility, peace; prosperity” < Late & Early Middle Chinese **k^hāŋ* (Pulleyblank 1991, 171) ~ Middle Chinese **khāŋ* < Old Han-Preclassical Chinese **khāŋ* (Starostin, *ChEDb*).

53 Chinese 居 *jū* “to stay at, remain, dwell; part” < Late Middle Chinese **kiǎ/*kyǎ* < Early Middle Chinese **kiǎ* (Pulleyblank 1991, 162) ~ Middle Chinese **kō* < Postclassic Chinese **ko* < Han-Preclassical Chinese **ka* (Starostin, *ChEDb*).

54 Chinese 烏 *wū* “crow”, later also “black” < Middle Chinese **ʔo* < Postclassic Chinese **ʔō* < Han Chinese **ʔā* < Classic & Preclassical Old Chinese **ʔā* (Starostin, *ChEDb*; *GSR* 0061 a-c). Comments: Vietnamese reading: *ô*. Sino-Tibetan **ɣā* “crow, raven” > Old Chinese 烏 **ʔā* “crow, raven”, besides 鴉 **ʔrā* “raven, crow”; Tibetan *kha-tha* “crow, raven”; Burmese *kjih-ʔa* “raven; to caw”; Kachin *u²-kha¹* “crow, raven”; Kiranti **gá(k)* id.; Rawang *thaj-kha*; Trung *tak-ka* “crow” (Benedict 1972, 100; *CVST* V, 35).

55 Chinese 孫 *sūn* “grandson, descendant” < Middle Chinese **son* < Postclassic Chinese **swān* < Eastern Han Chinese **wān* < Western Han Chinese **(s)wān* < Classic Old Chinese **(s)wān* < Preclassical Old Chinese **sw(h)ān* (Starostin, *ChEDb*; *GSR* 0434 a-c). Sino-Tibetan **sū* “grandchild” > Old Chinese 孫 **sūn* (? **swān*) “grandson, granddaughter”; Kachin *šur¹* “grandchild”; Kuki-Chin **su* “grandchild”; Lepcha *zon* “grandchild” (?); Bodo-Garo: Dimasa *su*, Bodo *sou*; Mikir *su*; Meithei *su* (Benedict 1972, 27, 158; *CVST* IV, 122).

Comments: The term was first used in ‘Book of {Former} Han’ in description of events attested in the 1st cent. BCE. During the 1st mill. CE the title became widespread in Central Asiatic languages:

1st cent. CE – Prakrit (Brahmi script) *yavuga* ~ *yāiia* [coins of Kujula Kadphises, 30–80 CE], & 2nd cent. CE – Prakrit (Kharoṣṭi script) *jauva-* [inscription from Taxila/ Takṣaśilā] (Sims-Williams & de la Vaissiere 2007, 314);

2nd cent. CE – Bactrian $\alpha\beta\gamma\theta$ (Sims-Williams 2007, 215);

7th cent. CE – Tocharian A *yāppāk*, B *yāpko* (Adams 2013, 528);

7th cent. CE – Sogdian $\gamma\gamma\gamma\omega$ [Karabalgasun inscription]; $\epsilon\gamma\gamma\omega$ /*ʃabγu/* [coins from Čač], & 9th cent. CE – $\textit{jβγw}$ /*ʒaβγu/* [title of the ruler of Parvān/Āqsu in the Manichean hymn-book *Mahr-nāmag*]; $\textit{yβγw}$ [a part of a Turkic personal name] (Sims-Williams & de la Vaissiere 2007, 314–17);

8th cent. CE – Old Turkic, Old Uyghur *yabγu* “high degree or title” (Clauson 1972, 873; Räsänen 1969, 176).

Pulleyblank speculated about a source transcribed in Han Chinese **ḡhēāp-goḥ* in his reconstruction from 1962–63, 95. Adams (2013, 528) thought about a source of the type Old Chinese **hjep-γu* after Karlgren (*GSR* 675 s + 0113 a-d). These reconstructions are outdated now. Unfortunately, Starostin did not include this word and its character in his *Chinese Etymological Database*, but to judge from his reading of a related character, 翕 *xì* “to bring together, get together, conform, be concordant”, it is probable that the reading was **həp* for the Han, Classic & Preclassic periods. Thus, Schuessler’s and Starostin’s reconstructions of pre-Han Chinese title **həpgô* and **həpg(h)ô* respectively, interpretable perhaps as “leader in concordance” *vel sim.*, are practically identical.

Note: Adams (2013, 529) thinks that the Tocharian A *yāppāk*, B *yāpko* < Common Tocharian **yāp(ā)ku-* may be etymologized as an agent noun derived from Tocharian A *ype*, B *yapoy* “land, country”. But this solution is not compatible with the possibility of identifying in Tocharian A *ype*, B *yapoy* a borrowing from Middle / Postclassic Chinese 邑 **ʔip* or Han / Classic & Preclassic Old Chinese **ʔəp* “settlement, town, city; district; principality” (see below).

34. Tocharian B *yāwyem* “convoy” (Adams 2013, 532) < Early Middle Chinese **ʔaipwun^h* (Pulleyblank) or Postclassic Chinese **ʔāpwìn* (Starostin).

Chinese 押運 *yā⁵⁸ yùn⁵⁹* “protecting the conveyance”.

Lit.: Ching & Ogihara 2012, 93: Tocharian < Middle Chinese.

35. Tocharian A *yāmutsi*, B *yāmuttsi* “a kind of waterfowl” (Adams 2013, 532) < Middle Chinese **ʔaiŋmúćjǐ* (Starostin) ~ **ʔəiŋmuǎ^htsǐ* (Pulleyblank).

56 Chinese 月 *yue* “moon; month” < Middle Chinese **ḡwət* < Postclassic Chinese **ḡwət* < Han Chinese **ḡwat* < Classic Old Chinese **ḡwat* < Preclassic Old Chinese **ḡot* (Starostin, *ChEDb*; *GSR* 0306 a-f). Comments: Min forms: Xiamen *ge^ʔ*, *ŋe^ʔ*, Chaozhou *gue^ʔ*, Fuzhou *ŋuok^ʔ*, Jianou *ŋüe^ʔ*. Vietnamese reading: *nguyêt*.

57 Chinese 氏 *shì* “clan, family; a honorific suffixed to place names, kinship terms, feudal and official titles”; *zhī* in the ethnonym *Yuèzhī* < Middle Chinese **ʒé* < Postclassic Chinese **g(h)jé* < Eastern Han Chinese **g(h)jé* < Western Han Chinese **g(h)é* < Classic Old Chinese **g(h)é* < Preclassic Old Chinese **g(h)e^ʔ* (Starostin, *ChEDb*; *GSR* 0867 a-c). Schuessler (2009, 121, §7–6): *-zhī* < Middle Chinese **-tʃje* < Eastern Han **-tʃe* < **-kie* < Old Chinese **-ke*.

58 Chinese 押 *yā* “to seal, stamp; signature, mark; pawn, pledge” < Late Middle Chinese **ʔjāp* < Early Middle Chinese **ʔaip* (Pulleyblank 1991, 354) ~ Middle Chinese **ʔap* < Postclassic Chinese **ʔāp* < Han Chinese **ʔrāp* < Classic & Preclassic Old Chinese **ʔrāp* (Starostin, *ChEDb*; *GSR* 0629 h).

59 Chinese 運 *yùn* “to move, transfer, activate; (movement >) fate” < Late Middle Chinese **yn^h* < Early Middle Chinese **wun^h* (Pulleyblank 1991, 390) ~ Middle Chinese **hün* < Postclassic Chinese **wìn* < Han Chinese **wānh* < Classic Old Chinese **wānh* < Preclassic Old Chinese **wārs* (Starostin, *ChEDb*; *GSR* 0458 d). Note: Vietnamese reading *văn*.

Chinese 鸚鵡子 *yīng*⁶⁰ *wǔ*⁶¹ *zǐ*⁶² “parrot+“parrot+“child”.

Comments: Already Poucha (1933, 88–89; 1955, 240) thought about Chinese origin via Sogdian *’ym’wtsy /imutsi/* “parrot” (Gharib 1995, #2176), citing the compound 鸚鵡子 *yīng-wou-tsi*. Let us mention that in Chinese the word means “parrot” and its correct *pinyin* transcription is *yīngwǔzǐ*, where the individual components mean “parrot+“parrot+“child” respectively. Adams mentions that the first syllable of the Chinese word does not match the Tocharian ornithonym. This is true for modern Chinese, but Middle Chinese (6th–10th cent. CE) **ʔaiŋmúci* quoted by Lubotsky & Starostin (2003, 262–63) or Early Middle Chinese **ʔəijŋmuǎ’tsi*’ in reconstruction of Pulleyblank (1991) really could be a source of both Sogdian and Tocharian words.

36. Tocharian A *ype*, nom.-acc. pl. *ypeyu*; B *yapoy*, acc.pl. *yapauna* “land, country” (Adams 2013, 520: **H₁ep-o-uen-*, pl. **H₁ep-o-uneH₂*, with survey of preceding etymological attempts) < Middle Chinese **ʔip* (Pulleyblank; Starostin; Baxter & Sagart) or Han & pre-Han Old Chinese **ʔəp* (Starostin).

Chinese 邑 *yì* “settlement, town, city; district; principality” < Late & Early Middle Chinese **ʔip* (Pulleyblank 1991, 371) ~ Middle Chinese **ʔip* < Postclassic Chinese **ʔip* < Han Chinese **ʔəp* < Classic & Preclassic Old Chinese **ʔəp* [Oracle bone inscriptions, 1250–1050 BCE; Bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0683 a-e). Schuessler (2007, 568–69): Middle Chinese **ʔjəp* < Later Han Chinese **ʔip* < Old Chinese **ʔəp*.

Baxter & Sagart (*ChDb* 2014): Middle Chinese **ip* < Old Chinese **q(r)[ə]p*. Note: Vietnamese reading: *áp*. Sino-Tibetan: Tibetan *khab* “court, residence of a prince” (*CVST* V, 36: **yǎp* ~ **yěp*).

Note: There is an alternative, Indo-European etymology, based on Old High German *-eiba* “Gau, Land”, e.g. in *Wetareiba* or *Wingarteiba*, Langobardic *-aib*, e.g. in *Antaib*, *Bainaib*, *Burgundaib* [*Origo Gentis Langobardorum*, c. 2; Paulus Diaconus, *Historia Langobardorum* I.13] < Germanic **aibō*, and perhaps Vedic *ibha-* “servants, domestics, household, family” (Lidén 1897, 52; Falk & Torp 1909, 557; *KEWA* I, 90). The Germanic, Vedic and Tocharian counterparts would form the apophonic opposition **H₁oib^h-/*H₁ib^h-* vs. **H₁ieb^h-* respectively. Common Tocharian **iäp^o* could be a source of Old Chinese **ʔəp*, whose character⁶³ is attested already in the oracle bone inscriptions from the period 1250–1050 BCE. If it is the case, the term would have been adopted from Early Common Tocharian into Old Chinese already in the time of their first contacts. In this case, isolated Tibetan *khab* “court, residence of a prince” would not be a cognate of the Chinese word.

Lit.: Naert 1964, 257: Tocharian < Chinese.

60 Chinese 鸚 *yīng* “parrot” < Late Middle Chinese **ʔja:jŋ* < Early Middle Chinese **ʔəijŋ/*ʔe:jŋ* (Pulleyblank 1991, 374) ~ Middle Chinese **ʔaiŋ* < Postclassic Chinese **ʔiēŋ* < Eastern Han Chinese **ʔriēŋ* < Western Han Chinese **ʔrēŋ* < Classic & Preclassic Old Chinese **ʔrēŋ* (Starostin, *ChEDb*; *GSR* 0814 g). Schuessler (2009, 137, §9–10 g): Middle Chinese **ʔeŋ* < Late Han Chinese **ʔeŋ* < Old Chinese **ʔrēŋ*. Sino-Tibetan: Kachin *ukhrin¹* “a small parrot” (*CVST* V, 39).

61 Chinese 鸚 *wǔ* “parrot / *Psittacus erithacus*” < Late Middle Chinese **ojuǎ’/*ouǎ’* < Early Middle Chinese **muǎ’* (Pulleyblank 1991, 326) ~ Middle Chinese **mü* < Postclassic Chinese **m(h)wó* < Eastern Han Chinese **m(h)wá* < Western Han Chinese **m(h)á* < Classic Old Chinese **m(h)á* < Preclassic Old Chinese **m(h)a?* (Starostin, *ChEDb*; *GSR* 0104 f). Schuessler (2009, 62, §1–71 f): Middle Chinese **mju^β* < Later Han Chinese **mua* < Old Chinese **ma?*. Sino-Tibetan: Tibetan *rma-bja* “peacock”; Bodo *məy-ra* “peacock” (*CVST* I, 17).

62 Chinese 子 *zǐ* “child, son, daughter, young person; prince; a polite substitute for ‘you’” < Late Middle Chinese **tsz’* < Early Middle Chinese **tsi’/*tsi’* (Pulleyblank 1991, 420) ~ Middle Chinese **cǐ* < Postclassic Chinese **cǐ* < Eastern Han Chinese **cǐ* < Western Han Chinese **cǐ* < Classic Old Chinese **cǐ* < Preclassic Old Chinese **cǐ?* (Starostin, *ChEDb*; *GSR* 0964 a-j). Schuessler (2009, 102, §4–47 a): Middle Chinese **tsi^β* < Later Han Chinese **tsi^β* < Old Chinese **tsǐ?*. Note: Vietnamese reading: *tu*. Sino-Tibetan: Tibetan *cha* “grandchild; nephew, brother’s son”, *bca* “to bear”; Burmese *sah* “son” < Lolo-Burmese **zax*; Kachin *ša¹* “a child”; Lushai *fa* “an off-spring, a child; nephew”; Kiranti **ʔcǐ*; Tsangla *za-sa* “child”; Bodo-Garo: Garo *-sa*; Dimasa *-sa* etc. (Shafer 1974, 436, 124; Benedict 1972, 27; Matisoff 2003, 450; *CVST* IV, 131).

63 邑 The character 邑 *yì* in the oracle bone inscriptions.

<<https://en.wiktionary.org/wiki/%E9%82%91>>

C. Borrowings from third party languages

In this section are included the Tocharian-Chinese comparisons which are best explainable as borrowings from some third sources. In lemmas ## 1, 2 the primary donor-language would have been of Iranian origin, while in # 3 both the Tocharian and Chinese designations of “monkey” would have been borrowed from some Sino-Tibetan language different from Chinese.

1. Tocharian B *aṅkwaṣ(t)*, *aṅkwaṣ* “asa foetida / Ferula foetida” (Adams 2013, 7).

(i) Chinese 阿魏 *ē⁶⁴ wèi⁶⁵* “asafoetida” < Early Middle Chinese **ʔaŋwuj^h* (Pulleyblank) < Post-classic Chinese **ʔāŋwīj* (Starostin) < Later Han Chinese **ʔa(i)ŋwui* < Old Chinese **ʔāiŋwəi(h)* / *ŋwəs* (Schuessler) ~ Old Chinese **q^fa[j]Nq^huj^s* (Baxter & Sagart).

(ii) Chinese 央匱 *yāng⁶⁶ kuì⁶⁷* “asafoetida” < Early Postclassic Chinese **ʔaŋ-gwiś* (Starostin).

Comments: Bailey (1946, 786; 1979, 1) has demonstrated the Iranian origin of this cultural term, reconstructing a source in the form **aŋgu-ǰatu-*, existing in Persian *aŋguzād* and the Iranian loan in Armenian *angoužat*, *angžat*, *angoužataber* “bearing silphium”, where the second component should mean “gum, resin”, cf. Persian *žad* “gum”, Pashto *žāwla* “resin, pitch” (*NEVP* 105), Sanskrit *ǰatu-* “lac, gum” [*Kauśika-sūtra*] (MW 409).

Lit.: Laufer 1919, 361 & Bailey 1946, 786: Tocharian + Chinese < Iranian; Pulleyblank 1962–63, 99, 217: Middle Chinese **ʔaŋ-gwi* + Khotanese *aŋgūśdā* + Old Uyghur *ʔnk^hpwš* “asafoetida”; Baxter 1992, 313 & Lubotsky 1998, 379: Tocharian + Chinese.

2. Tocharian A *kāñk-* (nom.pl. *kāñkañ*) & *kāñkuk* were translated by Bailey apud Pulleyblank (1962–63, 247–48) as “stone”. But in the most recent lexicon of Tocharian A these words are interpreted as “river; the river Gaŋgā” and “designation of an auspicious sign on the body of the Buddha”, borrowed from Sanskrit *Gaŋgā-* ‘Ganges’ and *kañkuka-* “a kind of Panic seed” or *kāñguka-* “a kind of corn” respectively (*DTA* 109).

With help of these Tocharian forms Pulleyblank (l.c.) tried to explain the name of the tribal federation called Kangju (康居 *kāng⁶⁸ jū⁶⁹*) according to “Book of {Former} Han (漢書 *Hànshū*), describing the period from 206 BCE to 23 CE, which was written by Ban Biao, his son Ban Gu,

64 Chinese 阿 *ē* “slope, hill, high mound, river bank; to show partially; servile” < Late Middle Chinese **ʔa* < Early Middle Chinese **ʔa* (Pulleyblank 1991, 86) ~ Middle Chinese **ʔā* < Postclassic Chinese **ʔā* < Eastern Han Chinese **ʔā* < Western Han Chinese **ʔāj* < Classic & Preclassic Old Chinese **ʔāj* (Starostin, *ChEDb*; *GSR* 0001 m). Schuessler (2009, 211, §18–1 m): Middle Chinese **ʔā* < Old Northwest Chinese **ʔa* < Later Han Chinese **ʔa(i)* < Old Chinese **ʔāi*. Baxter & Sagart (2014, 121, 271, 399, fn. 63): Middle Chinese **a* < Old Chinese **q^fa[j]*. Note: Shijing occurrences: 54.3, 56.2. Also read *hē* and *ā* (*hē* as a loan for 訶, *ā* as a transcription syllable) in Modern Chinese. During Late Zhou used also for a homonymous **ʔāj* “pillar, ridge-pole”.

65 Chinese 魏 *wèi* “high, exalted, majestic” [Late Zhou] < Late Middle Chinese **ŋwǰj* < Early Middle Chinese **ŋwuj^h* (Pulleyblank 1991, 322) ~ Middle Chinese **ŋwǰj* < Postclassic Chinese **ŋwǰj* < Han Chinese **ŋwǰj* < Classic Old Chinese **ŋwǰj* < Preclassic Old Chinese **ŋwǰj* (Starostin, *ChEDb*; *GSR* 0569 k). Schuessler (2009, 291, §28–1 k): Middle Chinese **ŋwǰj* < Later Han Chinese **ŋwǰj* < Old Chinese **ŋwǰj(h)* or **ŋwǰj*. Baxter & Sagart (2014, 121): Middle Chinese **nhjw+jH* < Old Chinese **N-q^huj-s*. Note: Also read Old Chinese **ŋwǰj-s* > Middle Chinese **ŋwǰj* id. For **ŋ* cf. Xiamen *gui⁶*, Chaozhou *ŋui^l*, *gui⁶*, Fuzhou *ŋui⁶*.

66 Chinese 央 *yāng* “middle, center, half; to ask” < Middle Chinese **ʔaŋ* < Postclassic Chinese **ʔaŋ* < Han Chinese **ʔaŋ* < Classic & Preclassic Old Chinese **ʔaŋ* (Starostin, *ChEDb*; *GSR* 0718 a-b). Note: Used also for a homonymous **ʔaŋ* (also with a variant in Old Chinese **ʔraŋ*, Middle Chinese **ʔāiŋ*) “to be tinkling, chiming, striking (e.g. bells)”. Sino-Tibetan **ʔǎŋ* “middle, centre” > Old Chinese 央 **ʔaŋ* “centre, middle”; Kachin: *gə-aŋ^l* “a middle, midst, centre”; Shaiyang (Tani) *aŋ* “heart”, Idu *huŋ* id. (*CVSTV*, 3).

67 Chinese 匱 *kuì* “box, coffer; defective, lacking” < Middle Chinese **gwi* < Late Postclassic Chinese **gwi* < Middle Postclassic Chinese **gwi* < Early Postclassic Chinese **gwiś* < Eastern Han Chinese **grwās* < Western Han Chinese **grwās* < Classic Old Chinese **grwās* < Preclassic Old Chinese **gruts* (Starostin, *ChEDb*; *GSR* 0540 g). Sino-Tibetan **krūt* (~ **k^writ*) “box, receptacle” > Old Chinese 匱 **gruts* “box, basket”; Burmese *krut* “casket”; Lushai *tot* “a rectangular plaited plate or dish” (*CVSTV*, 84).

68 Chinese 康 *kāng* “to be at ease, have peace of mind; be prosperous, healthy; tranquility, peace; prosperity” < Middle Chinese **khāŋ* < Old Han-Preclassic Chinese **khāŋ* (Starostin, *ChEDb*; *GSR* 746 h).

69 Chinese 居 *jū* “to stay at, remain, dwell; part” < Middle Chinese **kō* < Postclassic Chinese **ko* < Han-Preclassic Chinese **ka* (Starostin, *ChEDb*; *GSR* 0049 c’).

and finished by his sister Ban Zhao in 111 CE, §96A (cf. Hulsewé 1979, 124–25; Pulleyblank 1962–63, 94). The Kangju tribes were located between the Oxus and Iaxartes. He sought the following arguments for his ‘stony’-etymology. Already in the mid-2nd cent. C.E. in Sakaland Ptolemy [VI, 13.2] recorded Λίθινος Πύργος, ‘Stone Tower’ (Marquart 1901, 155; Humbach & Ziegler 1998, 176–77). The annals of Chinese dynasties of Sui and Tang mention the possession named 石 *Shí* or 赭時 *Zhěshí* with a capital of the same name since the fifth century AD (Bičurin II, 242, 243, 264, 313). The name 石 *Shí*⁷⁰ means “stone” in Chinese, while the name 赭時 *Zhěshí*⁷¹, recorded also by the Buddhist monk and pilgrim Xuánzàng (玄奘; 602 – 664 CE), corresponds to the non-Turkic and non-Chinese name *Čāč*⁷² or *Šāš*⁷³ of the city and the area surrounding it. Pulleyblank (1962–63, 247) also mentioned the Chinese name of the area around Taškent, 石國 *shí guó*⁷⁴ “stony or rocky country”, and the Turkic name of the city of Taškent itself: cf. Old Turkic (Orkhon) *taš*, Old & Modern Uyghur, Kirghiz *taš*, Uzbek *təš*, Kazakh *tas*, Turkmen *dāš* etc. “stone” (Räsänen 1969, 466) & Old Uyghur *kānt*, Middle Turkic *kānd*, *kānt*, Kazakh *kent* “city”, Uzbek (arch.) *kent* “town, small city, big village” etc. (Räsänen 1969, 252; *ESTJ* 4, 44) < Sogdian *knδ(h)*, *qnθ*, *knδ(δ)* /*kand/t/* or /*kanθ/* (Gharib 1995, #4761), further Khotanese *kanthā-* “city”, Zoroastrian Pahlavi *Samar-kand* ~ Μαράκανδα [Plutarch], further New Persian *kand* “village”, Pashto *kandai* “ward”, Ossetic Iron *kānt* “building” (Bailey 1979, 51). It is apparent that the Tocharian etymology of Pulleyblank is wrong. But arguments for the primary “stony” semantics of Kangju are quite convincing. A more appropriate candidate can be found in the Iranian languages: Pashto *kāṅay* m. “stone”, Waziri *kōnai* id. < **karna-ka-* (*NEVP* 39); Pamir: Shughni *čīn* “a rocky slope, place in the hills which is difficult to pass” < **ka[r]nja-*, Roshani **čāwn* “steep slope”, Yazghulami *kawn* “slope, canyon, abyss” < **karnā-* (Morgenstierne 1974, 26, 28; *ESIJ* 4, 295).

3. Tocharian A *mkow*^o: pl. *mkowañ* and *mkowy arämpāt* “simiae figura” (Poucha 1955, 233); B *mokauška* ~ *mokomška* ~ *mokoška* f., *mokomške* m. “monkey” (Adams 2013, 510; Van Windekens 1976, 299 projected A into Common Tocharian **muko* or **moko*, which would have been borrowed into B).

Pelliot (1931, 450) and Lüders (1933, 1018) connected the Tocharian forms with two Chinese designations of “monkey” from 史記 *Shǐjì*, finished 94 BCE, and 漢書 *Hànshū*, finished 111 CE (Hulsewé 1979, 107, fn. 222): (a) 沐猴 *mù*⁷⁵ *hóu*⁷⁶ “monkey” (Mathews 1960, 644, #4594.6), (b)

70 Chinese 石 *shí* “stone, rock” < Late Middle Chinese **shiajk* < Early Middle Chinese **dziak* (Pulleyblank 1991: 283) = Middle Chinese **žek* < Postclassic Chinese **žjek* < Eastern Han Chinese **žiak* < Western Han Chinese **diak* < Classic & Preclassic Old Chinese **diak* (Starostin, *ChEDb*; *GSR* 0795 a).

71 Consisting of these components: Chinese 赭 *zhě* “reddish-brown; burnt ochre” < Late Middle Chinese **tšia* < Early Middle Chinese **teia* (Pulleyblank 1991, 42) = Middle Chinese **čá* < Postclassic Chinese **čá* < Eastern Han Chinese **čá* < Western Han Chinese **tiá* < Classic Old Chinese **tiá* < Preclassic Old Chinese **tiá*? (Starostin, *ChEDb*; *GSR* 0045 d), & Chinese 時 *shí* “season, time” < Late Middle Chinese **šhi* < Early Middle Chinese **dzi*/*dzi* (Pulleyblank 1991, 282) = Middle Chinese **ži* < Postclassic Chinese **ž(h)i* < Eastern Han Chinese **ž(h)* < Western Han Chinese **d(h)ə* < Classic & Preclassic Old Chinese **d(h)ə* (Starostin, *ChEDb*; *GSR* 0961 z).

72 Sogdian *c’c* /*Čāč*/, *c’c(y)ny* /*čāč(ē)nē*/ ‘from Čāč, i.e. Tashkent’ (Gharib 1995, #3117).

73 In the inscription on the Ka’ba-ye Zardošt at Naqš-e Rostam of the Sassanian king Šāhpuhr I (reign 240/42 – 270/72 CE) the toponym was recorded in the Greek transcription as Τσατσηνής and in Parthian as š’s[tn?] / *Čāčestān* (Tremblay 2004, 127). Following Gershevits, Livshits (2007, 179) thinks that Čāč originally designated the Aral sea and only later the name was shifted to the Tashkent oasis. He derives Čāč from hypothetical Iranian **čāiča-*, reconstructed after Avestan lake called *Čāčēista-* [Yašt 9.18, 22]).

74 Chinese 國 *guó* “state, country, homeland, kingdom” < Late Middle Chinese **kuōk* < Early Middle Chinese **kwōk* (Pulleyblank 1991, 116) ~ Middle Chinese **kwōk* < Postclassic Chinese **kwōk* < Han Chinese **kwōk* < Classic Old Chinese **kwōk* < Preclassic Old Chinese **kwōk* (Starostin, *ChEDb*; *GSR* 0929 o-p). Note: Shijing occurrences: 31.1. Vietnamese reading: *quốc*.

75 Chinese 沐 *mù* “to wash hair” [*Shījīng*], “to put in order, prepare” [*Liji* “Record of Rites”, 5th/4th cent. BCE] < Late Middle Chinese **mōwk* < Early Middle Chinese **mōwk* (Pulleyblank 1991, 220) ~ Middle Chinese **muk* < Late Postclassic Chinese **m(h)wōk* < Middle & Early Postclassic Chinese **m(h)ōk* < Han Chinese **m(h)ōk* < Classic & Preclassic Old Chinese **m(h)ōk* (Starostin, *ChEDb*; *GSR* 1212 e).

76 Chinese 猴 *hóu* “monkey” [Late Zhou] < Late Middle Chinese **xhəw* < Early Middle Chinese **γəw* (Pulleyblank 1991, 125) ~ Middle Chinese **γəw* < Late & Middle Postclassic Chinese **gəw* < Early Postclassic Chinese **gəw*

獼猴 *mí*⁷⁷ *hóu* “rhesus monkey, macaque” (Pulleyblank 1991, 213). It is possible to add (c) 母猴 *mǔ*⁷⁸ *hóu* “female monkey” (first “Explaining Graphs and Analyzing Characters”, 說文解字 *Shuōwén jiězì* [10A: 4422b], finished *c.* 100 CE; see Hulsewé 1979, 107, fn. 222). At least the compounds (a) & (b) are known already from the Han texts (Pelliot, l.c.). They can be projected in development of Chinese as follows: (a) 沐猴 Early Middle Chinese **məwkγəw* (Pulleyblank) ~ Middle Chinese **mukyɿw* < Han Chinese **m(h)ōkgwā* < pre-Han Old Chinese **m(h)ōkgō* (Starostin); (b) 獼猴 Early Middle Chinese **mji(ǎ)γəw* (Pulleyblank) ~ Middle Chinese **mjeyɿw* < Western Han Chinese **m(h)egwā* < pre-Han Chinese **m(h)ejgō*; (c) 母猴 Early Middle Chinese **məw’γəw* (Pulleyblank) ~ Middle Chinese **máwɿw* < Han Chinese **mǎgwā* < pre-Han Chinese **mǎǎgō*. The Middle Chinese reconstructions (a), **məwkγəw* and **mukyɿw* by Pulleyblank and Starostin respectively, resemble the Tocharian stems, A *mkow*^o and B *mokaw*^o. On the other hand, the Chinese unstable binomic expressions have frequently been indications of borrowing, representing transcriptions of non-Chinese words. In this word-family “monkey” it is probable in the case (a), where “washing” has nothing in common with “monkeys” and the character 沐 *mù* was used apparently only as a phonogram. Together with the fact that monkeys did not occur in Northern China during the period of Zhou offers strong evidence for foreign origin of this Chinese word-family as well. Sergei Jaxontov (in a letter of July 23, 1991) has proposed a borrowing of this Old Chinese word for “monkey” from aboriginal languages of Sichuan, the territory of the old kingdoms Shu and Ba conquered in 316 BC by the Qin Empire. Monkeys live in Sichuan up to the present time. Two thousand years ago the local population probably spoke some Lolo-Burmic language rather than Old Chinese. A good candidate may be proto-Lolo **myok* + **ʔko* “macaque rhesus”. The compound **myok-ʔko*, still surviving in Akha as *a’myo k’oe* (Bradley 1978, 296, nn. 23 and 26A), could represent a source of Old Chinese **m(h)ōkgō* and perhaps also of Common Tocharian **moko* (see Blažek 1984, 390–391; 2011, 32–34). Cognates of both the components also appear in other languages: Lahu *maw*, Lisu *chya mye*, Written Burmese *myauk*, Intha dial. *mrok* ~ *mlok* “monkey” (Bradley 1978, 295–96; Matisoff 2003, 145); further Midžu *a-muk*, Diga-ro *tǎ-myǔ*, Gurung *timyu*; Bahing *moro* id. < **mruk* (Shafer 1974, 181; Benedict 1972, 112, #314; Matisoff 2003, 80, 145) ~ **mlūk* “a kind of monkey” (*CVST* I, 31). The second component is attested besides Akha *k’oe* in Lahu *k’we* “macaque rhesus”, and further in Trung *akoi*, Kadu *kwe* “monkey” (Benedict 1972, 68; Matisoff 2003, 450).

Lit.: Blažek 1997b, 236–38 & 2011, 32–33: Tocharian + Chinese < proto-Loloish.

< Han Chinese **gwā* < Classic & Preclassic Old Chinese **gō* [*Zhuāngzǐ*, lit. ‘Master Zhuang’, called after the author living from 369 BCE to 301/295/286 BCE] (Starostin, *ChEDb*; *GSR* 0113 g). Baxter & Sagart (2014, 178): Middle Chinese **huw* < Old Chinese **mǎ-g’(r)o*. Note: For **g-* cf. Min forms: Xiamen, Chaozhou, Fuzhou *kau*², Jianou *ke*², *ke*^o. Vietnamese reading: *hâu*.

- 77 Chinese 獼 (simplified 猕) *mí* “female monkey” (Mathews 1960, 625, #4461) < Late Middle Chinese **mji* < Early Middle Chinese **mji*/**mjiǎ* (Pulleyblank 1991, 213: 獼猴 *mí hóu* “rhesus monkey, macaque”). Older forms may be reconstructed according to close character 彌 *mí* “to be filling, watery expanse” < Late Middle Chinese **mji* < Early Middle Chinese **mji*/**mjiǎ* (Pulleyblank 1991, 213) ~ Middle Chinese **mje* < Postclassic Chinese **m(h)je* < Eastern Han Chinese **m(h)je* < Western Han Chinese **m(h)e* < Classic Old Chinese **m(h)e* < Preclassic Old Chinese **m(h)ej* [*Shījīng*] (Starostin, *ChEDb*; *GSR* 0359 o). Baxter & Sagart (2014): Middle Chinese **mje* < Old Chinese **m.ner* “richly flowing stream”. Note: Also read Old Chinese **m(h)ej?* > Middle Chinese **mjé*, and **m(h)ēj?* > Middle Chinese **miej* id. *Shijing* occurrences: 34.2, 43.1.
- 78 Chinese 母 *mǔ* “mother; female” < Late Middle Chinese **məw’* < Early Middle Chinese **məw’* (Pulleyblank 1991, 219) ~ Middle Chinese **máw* < Late & Middle Postclassic Chinese **mǎw* < Early Postclassic Chinese **mǎw* < Han Chinese **mǎ* < Classic Old Chinese **mǎ* < Preclassic Old Chinese **mǎ*? [Oracle bone inscriptions; *Shījīng*] (Starostin, *ChEDb*; *GSR* 0947 a-e). Baxter & Sagart (2014): Middle Chinese **muwX* < Old Chinese **mǎ?* (or **m’o?*?). Note: For initial **m-* cf. Min forms: Xiamen *bo*³, Chaozhou *bo*³, Fuzhou, Jianou *mu*³. Vietnamese reading: *mǎu*. Sino-Tibetan: Tibetan *ma* “mother” & *rmo* “grandmother”; Burmese *maj* “mother” < Lolo-Burmese **ma*; Lepcha *mo*, *a-mo* “mother”; Kiranti **má*; Bodo-Garo: Garo *ama*, Bodo *má* “mother”; Kanauri *ama*; Lepcha *amo*; Bahing *əmo*, Vayu *umu*; Diga-ro *na-ma*, Dhimal *ama*; Chepang *ma* (Benedict 1972, 148; *CVST* I, 17).

D. Uncertain and problematic Tocharian – Chinese comparisons

This section consists of rather heterogenous and ambiguous comparisons. From 14 terms analyzed here there are 4 animal-names (c. 29%), but each with own scenario: “goose” (#2) and “dog” (#3a) are convincingly connected with their relatives in their own language families and any Tocharian-Chinese relation is thinkable only on the level of Indo-European and Sino-Tibetan protolanguages or their predecessors. On the other hand, a younger synonym for dog (#3b), Chinese 狗 *gǒu*, really can be a Tocharian loanword, perhaps a special Tocharian breed of dog. The Tocharian designation of “tiger” (#6) may represent an adaptation of Middle Chinese “cat”, but with respect to probable context of a ‘hunting speech’ it is possible that the donor-language was some other Sino-Tibetan language, whose speakers lived in neighbourhood of forests around 500 CE. The fourth comparison operating with an animal-name, “pig, hog” (#10), in spite of a partial similarity between Tocharian B and Modern Chinese forms, is not compatible with regard to older stages of the Chinese word, which indicate probable Austroasiatic origin. Remarkable is possibility of Chinese origin of two Tocharian designations of metals, “iron” and “lead” (## 1, 5). The double reading of the Chinese character 車, *chē* & *jū* “chariot, carriage, cart” (#4), leading to the most archaic Old Chinese **[t.qʰ](r)A* & **C.q(r)a* respectively, probably indicate also their double origin, in (a) Iranian **čaxra-* and (b) Common Tocharian *kwäkwlä* < **kwükwlä* respectively. The term “city” (#7) may be borrowed from Chinese, but its Indo-European origin (“wooden” as Russian *деревня* “village”) should also have been taken in account, while the traditional counterpart, Thracian βρία · πόλις, is more probably derived from **srijā*. Similarly in the case of “barley” (#12) there are both Indo-European and Chinese etymologies of the Tocharian word. The term “(beacon-)fire” (#8) is better explainable as an early Iranian loan and the same may be said of the term “to cover, surround” (#14). With respect to its final, Tocharian AB *tsem* “blue” (#13) is better etymologizable as an adaptation of Chinese 黧 *zhěn* “black, black (beautiful) hair” < Early Middle Chinese **tein* than of Chinese 青 *qīng* “green, blue, dark, black” < Early Middle Chinese **tsʰejj*. Finally, the comparison of meanings “to adhere, cling, stick” and “post in framework used in rearing earth walls” (#10) is quite untenable. Summing up, in this section there are 3 probable additional borrowings from Tocharian into Chinese (## 3b, 4b, 9), 2–6 borrowings from Chinese into Tocharian (## ?1, ?5, 6, ?7, ?12, 13b) and 3 hypothetical early borrowings from Iranian into Chinese (## 4a, 8, 14). If the alternative solutions are taken in account, the items ## 1, 5, 7, 12 are of Indo-European origin and their similarity to Chinese is only accidental.

1. Tocharian A adj. *añcwāsi* “of iron, ferrous” → **añcu* “iron” (*DTA* 6; Poucha 1955, 3); B *eñcuwo* ~ *iñcuwo* “iron”, adj. *eñcuwaññe* nom.-obl.sg.m., *eñcuwañña* nom.sg.f. (Adams 2013, 84–85: Common Tocharian **encuwān-*).

The Common Tocharian designation of “iron” is reconstructible as **aencwo*; cf. Tocharian A *käntu*, B *kantwo* “tongue” < Common Tocharian **käntwo* < **käntwā* < **täntkwā* < **dngʰuā*, probably representing a merger of *ā-* and *ōn-*stems (Hilmarsson 1986, 18, 151, 246).

(a) It can represent an adaptation of the Chinese compound 暗鑄 *àn⁷⁹ zhù⁸⁰* “dark cast iron” < Middle Chinese **ʔām teuǎ^h* < Han Chinese **ʔām^h tso*. Alternatively, **æñ-* > A *an-*, B *en-*, may be (i) the Tocharian intensive prefix continuing IE **H₁on-* “in” (cf. A *anapär/anaprä*, B *enepre* “in front of, in face of” – see *DTA* 8; Adams 2013, 89) or (ii) the negative prefix **ñ-* (cf. A *añsär/amšär*{?}, B *eñcare* “disagreeable, unpleasant, unfriendly, unwelcome” < **eñcäñcare* vs. *cäñcare* / *ciñcare* “lovely, agreeable, charming, delightful, tender”, from the verb *cäñk-* “to please” – see

79 Chinese 暗 *àn* “dark” < Middle Chinese **ʔām* < Postclassic Chinese **ʔām* < Han Chinese **ʔām^h* < Classic Old Chinese **ʔām^h* < Preclassic Old Chinese **ʔāms* (Starostin, *ChEDb*; *GSR* 0653 h). Cf. also the Vietnamese reading *ám*.

80 Chinese 鑄 *zhù* “to cast (metal), casted, casting (metal)” < Late Middle Chinese **tšyǎ^h* < Early Middle Chinese **teuǎ^h* (Pulleyblank 1991, 415; *GSR* 1090 a'-d) < East Han Chinese **tso^c* < Old Chinese [bronze inscriptions of Western Zhou] **toh* (Schuessler 2007, 627) ~ **tu-s* (Baxter & Sagart, *ChDb* 2014).

Adams 2013, 83, 272; Hilmarsson 1991, 180–81). In case (i) the formation “in cast iron” could perhaps express *”{made} of cast iron”. On the contrary in case (ii) the formation with the privative prefix would determine that it is not made of cast iron, i.e. it belongs to the ‘normal’ iron.

(b) Alternatively, a source could also be one of the Sino-Tibetan designations of “iron”, reconstructed as **śam*⁸¹ “iron”. It is attested in three branches: Lolo-Burmese **śam* > Old Burmese *sam*, *sam̄*, New Burmese *θā*, Akha *śm̄*, Lahu *śo*, Naxi Lijiang *śu*, Hani Mojiang *śu*, Jinuo, Yi Wuding *εε*, Yi Xide *śu du*, Lisu *xwō*, Ahi *hō*, Lolopho *hō* “iron” | Nungish: Rawang *śam*, dial. *śām* “iron; sword”, Trung *čām* “iron” | Qiangic: Rgyarung *śom*, Daofu (= Horpa) *teo*, Namuyi *śu*, Lüsu *śu*, Sixing of Muli *śō*, Pumi of Jinghua *śā*, Ergong *teo*, Queyu of Yajiang *eā* id. etc., plus Tangut *śion* “iron” (Benedict 1972, 53, 91; Shafer 1974, 359; Matisoff 2003, 255, 257; Kepping 1999, 237). A hypothetical source of the Tocharian-Khwarezmian isogloss could be reconstructed as **ʔaŋ-cu*^(m) or **ʔaŋ-cwo*^(m), where the second component was a predecessor of such Lolo-Burmese forms as Lahu *śo*, Naxi Lijiang *śu*, Hani Mojiang *śu*, Jinuo, Yi Wuding *εε*, Yi Xide *śu du*, etc., or Qiangic forms as Daofu (= Horpa) *teo*, Namuyi *śu*, Lüsu *śu*, Sixing of Muli *śō*, Pumi of Jinghua *śā*, Ergong *teo* etc. In the first component the Sino-Tibetan nominalizing prefix can be identified, which is known e.g. in Lolo-Burmese languages: Burmese *ʔaʔim* “sheath” vs. *ʔim* “house”; Lahu *ə-śā* “meat” vs. *śā* “animal, game”; Bisu *ʔaŋ-fā* “meat” etc. In Bisu (Northern Thailand) the same prefix also forms adjectives, e.g. *ʔaŋ-pluŋ* “full”, *ʔaŋ-plán* “black” etc. (Benedict 1972, 121–23; Matisoff 2003, 108–09). The hypothetical formation **ʔaŋ-cu*^(m) or **ʔaŋ-cwo*^(m) would mean “of iron”. To demonstrate that the idea of adoption of this hypothetical Lolo-Burmese formation by Tocharians is really possible, it is necessary to prove some historical contacts between the Tarim Basin and Yunnan with adjacent regions, where the Lolo-Burmese populations lived and live till the present time. The Chinese historical annals bear witness to foreign people living in Yunnan, called 塞 *sāi*⁸². This ethnonym, ‘Saka’, had been used by Chinese historians to designate populations of Iranian origin from the Tarim Basin and partially from Central Asia too. The Chinese archaeologist Zhang Zengqi recognizes in bronze figures from Yunnan the ‘animal style’ typical for the Eurasian steppelands and Caucasoid features in the case of human figures. The drinking horns unearthed here are also characteristic e.g. for Scythians (Mallory & Mair 2000, 328–30). If these conclusions are correct, some Iranian (Saka?) tribes moved to Yunnan from the Tarim Basin during the 1st mill. BCE. With respect to their mobility they probably were able to keep the trade contacts with their homeland. It could be the same route which brought some names of exotic animals, e.g. “monkey”, to the Tocharians from Lolo-Burmese populations⁸³.

Note: Other etymological attempts are discussed in details in the section Tocharian and Iranian designations of metals in light of etymology.

81 This metal-name can be connected with Sino-Tibetan **śim* “black, dark” > Garo *sim*, Dimasa *sim-ba* ~ *sum-ba*, *gisim* ~ *gusum* “black, blue, dark”, Lushai *thim* “dark(ness)” (Benedict 1972, 81, #380; Matisoff 2003, 271).

82 Chinese 塞 *sāi* & *sāi* “to block (up), stop up, shut; a pass, strait; to fill” < Late Middle Chinese **sāk* < Early Middle Chinese **sək* (Pulleyblank 1991, 271) ~ Middle Chinese **sak* < Postclassic Chinese **sāk* < Han Chinese **sāk* < Classic & Preclassic Old Chinese **sək* (Starostin, *ChEDb*; *GSR* 0908 a; Bailey 1982, 7–8, 19).

83 The proto-Loloish compound **myok* “monkey” + **ko* “rhesus monkey, macaque”, still surviving in Akha *myo k'oe* (Bradley 1979, 296, ##23 & 26A), could represent a source of both the Chinese gloss 沐猴 *mùhóu* < Middle Chinese **mukyAW* < Han Chinese **m(h)ōkgwā* < Classic & Preclassic Old Chinese **m(h)ōkgō* (*GSR* 1212 e & 113 g; Starostin 1989, 676, 605, 697; *ChEDb*; Pulleyblank 1991, 220 & 125) and proto-Tocharian **moko* > A *mkow-* (pl. *mkowañ* and *mkowy arāmpāt* “simiae figura”) and B *moko-* (dim. *mokomśke*) “monkey” (cf. also Blažek 1984, 390–391; 1997, 236–37; 2011, 32–34).

2. Tocharian B *kents* ±“goose” (Adams 2013, 207).

It was already Schlegel (1872, 26–27) who probably first connected the Indo-European ornithonym **g^hH₂ens*⁸⁴ “goose” and its Chinese counterparts, 雁 *yàn*⁸⁵ “wild goose” & 鵝 *é*⁸⁶ “(domestic) goose”. This comparison was repeated many times, e.g. by Conrady 1925, 13f; Jensen 1936, 142; Nehring 1936, 209–11; Ulenbrook 1967, 544. Only in 2011 a missing-link was discovered, namely Tocharian B *kents**, attested as the gen.pl. *kentsants* (Adams 2011, 34–35, 39–41; 2013, 207). But it brings no solution. The Tocharian word cannot be borrowed into Chinese with respect to either its most archaic reconstruction **ȳrāns* (Starostin) or **C.[ŋ]^rrar-s* (Baxter & Sagart) and Sino-Tibetan cognates Old Chinese 雁 **ȳrāns* “wild goose” (< **r-ȳāns*); Tibetan *ȳaŋ* “goose”; Burmese *ȳanh* “goose, swan”; Kachin *ȳan^l* “white-headed bungarus” (Shafer 1974, 36; Benedict 1972, 99, 155), derivable from Sino-Tibetan **ȳān(-s)* “goose” (Starostin, *ChEDb*). Cf. also Austroasiatic **ȳa:n* “goose” (ibid.).

Adams (2011, 34–35, 39–41; 2013, 207) tried to find an alternative counterpart in Chinese 翰 *hàn*⁸⁷ “pheasant feather; to take wing, soar” with regard to its ‘Archaic’ Chinese predecessor **ganh* in reconstruction of Li. But deeper reconstructions, Preclassic Old Chinese **g(h)ārs* by Starostin and **m-k^lar-s* by Baxter & Sagart, plus their Sino-Tibetan cognates, exclude any deeper relations between Tocharian B *kents* and Chinese 翰 *hàn*. Summing up, any relation between the

- 84 IE nom. **g^hH₂ens*, gen. **g^hH₂nsos* > Vedic m. *hamsá-*, f. *hamsī-* “goose, gander, swan, flamingo or other aquatic bird” [RV] (*EWAI* II, 799); Greek **χανς* > *χίψ*, gen. *χηνός*, Doric & Boeotian *χάψ*, gen. *χανός*, Mycenaean gen. sg. *ka-no*, dat.pl. *ka-si* “goose” (Beekes 2010, 1630); Latin **hanser* > *ānsēr* “goose” with automatic lengthening before *-ns-* and rhotacism caused by levelling the cases: acc. **hanesem* vs. gen. **hānsos* → acc. **hānsērem* (de Vaan 2008, 44); Celtic **gansī* > Old Irish *géis* “swan”; Germanic **gans-* “goose” > Old Norse *gás*, pl. *gæss*, Old English *gōs*, West Frisian *goes*, Dutch, Old High German *gans* id. (Kroonen 2013, 168); Baltic **žans(i)-* id. > Lithuanian *žąsis*, acc.sg. *žąsį*, nom.pl. (dial.) *žąses*, gen.pl. *žąsų*, Latvian *zūss*, acc. *zūsi* (besides the *e*-stem *zuose*), Prussian *sansy* “goose” (E 719) < **zansī* (Derksen 2015, 514); Baltic > Finnish *hanhi*, Estonian *hani* id. (*SKES* 55); Slavic **gops* “goose / Anser anser” > Bulgarian *gops* (Djuvernua), besides standard *gǎska*, Macedonian *guska*, Slovenian *gós*, Slovak *hus*, Old Czech *hus*, Czech *husa*, dial. *hus*, Upper Sorbian pl. *husy*, Lower Sorbian *gus*, Polabian. *gops*, Pomerian Slovincian *gās*, Polish *gęś*, Old Russian *grsь*, Russian *guś*, Ukrainian, Belorussian *huś* id. (*ESSJ* 7, 88) with unpalatalized **g^h-* from the cluster **g^hH₂-* (cf. Derksen 2008, 184). Rudnyčkyj (1970, 414–17) tried to demonstrate that the expected Slavic **z-* was preserved in the Ukrainian interjection *duś!* to frighten geese (besides the parallel interjection *guś!*). As cognates remain problematic Iranian ornithonyms, designating other kinds of birds: Sogdian *z’γ* “crow” (Gharib 1995, #11134), Yaghnobi *zōγ* “crow” (*KEWA* III, 571), Munji *zōγa* “raven” (Paxalina 1983, 86), Persian *zāγ* “crow, raven, a sort of pigeon, jay, jackdaw”, *zāγi abī* “water-crow” (Steingass 1892, 606; Schapka 1972, 103–04). Doubtful Pashto *zāγa* “goose”, derived from Iranian **zanhā-* by Geiger, should represent an adaptation of Persian *γāz* // *qāz* “goose” (Steingass 1892, 878, 947), itself of Turkic origin (Morgenstierne 1927, 101). Armenian *sag* “goose”, sometimes also added (first Hübschmann 1877, 26; recently e.g. Kortlandt 1993, 11: metathesis & depalatalization), is better compatible with Slavic **sova* “owl”; Old High German *hūwo*, Welsh *cuan*, Gallo-Latin *cavannus* id. (Martirosyan 2010, 563).
- 85 Chinese 雁 *yàn* “wild goose / Anser albifrons” < Middle Chinese **ȳàn* < Postclassic Chinese **ȳān* < Han Chinese **ȳrānh* < Classic Old Chinese **ȳrānh* < Preclassic Old Chinese **ȳrāns* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0186 a-b). Schuessler (2007, 556: Chinese > Thai *ha:n^b* id. < **hγ-*): Middle Chinese **ȳan^c* < Later Han Chinese **ȳan^c* < Old Chinese **ȳrāns*. Baxter & Sagart (2014): Middle Chinese **ngaenH* < Old Chinese **C.[ŋ]^rrar-s*. Note: For **ȳ-* cf. Min forms: Xiamen *gan⁶*, Chaozhou *ȳan⁴*, Fuzhou *ȳan⁶*, Jianou *ȳain⁶*. Sino-Tibetan **ȳān(-s)* “goose” > Old Chinese 雁 **ȳrāns* “wild goose”; Tibetan *ȳaŋ* “goose”; Burmese *ȳanh* “goose, swan”; Kachin *ȳan^l* “white-headed bungarus (snake)” (Shafer 1974, 36; Benedict 1972, 99, 155; *CVST* V, 139). Cf. Austroasiatic **ȳa:n* “goose” (*ChEDb*).
- 86 Chinese 鵝 *é* “goose” [Later Zhou] < Middle Chinese **ȳā* < Postclassic Chinese **ȳā* < Eastern Han Chinese **ȳā* < Western Han Chinese **ȳāj* < Classic & Preclassic Old Chinese **ȳāj* [Mèngzǐ “{Book of} Master Meng”, compiled by his disciples around 300 BCE] (Starostin, *ChEDb*; *GSR* 0002 p). Schuessler (2007, 222): Middle Chinese **ȳā* < Later Han Chinese **ȳai* < Old Chinese **ȳai*. Baxter & Sagart (2014): Middle Chinese **nga* < Old Chinese **ȳa[r]*. Note: For **ȳ-* cf. Min forms: Xiamen *gia²*, Chaozhou *gɔ²*, Fuzhou *ȳie²*, Jianou *ȳie²*.
- 87 Chinese 翰 *hàn* “pheasant feather” [*Yì Zhōushū* “Lost book of Zhou”, about the Western Zhou Dynasty 1046–771 BCE]; “to spread (wings), take wings, soar” [*Shījīng*, 1050–600 BCE] < Middle Chinese **ȳān* < Postclassic Chinese **gān* (~ *γ-*) < Eastern Han Chinese **gānh* (~ *γ-*) < Classic Old Chinese **g(h)ānh* < Preclassic Old Chinese **g(h)ārs* (Starostin, *ChEDb*; *GSR* 0140 f-g). Baxter & Sagart (2014): Middle Chinese **hanH* < Old Chinese **m-k^lar-s*. Sino-Tibetan **q(h)ār* > Old Chinese 翰 **gārs* “pheasant feather; wing, to fly”; Kuki-Chin **ȳār* “bird, feather” > Lushai *ār* “fowl”. Further Wancho *ao-koi* “feather”, Kham *kār* “wing”; Apatani *gó*, Ersu *guar* “fly” (*CVST* V, 161–62).

Tocharian and Chinese ornithonyms “(wild) goose” is thinkable only on the level of their protolanguages, Indo-European **g^hH₂ens-* and Sino-Tibetan **ŋān(-s)*. If it was a borrowing, it would be natural to ask, who borrowed from whom and why? In the case of a common heritage it is necessary to prove a deeper relationship in this term between their hypothetical ancestors, Nostratic and Sino-Caucasian protolanguages. But there is also the third solution in play: onomatopoeic origin implying the independent, parallel development.

3. Tocharian A *ku, kū*, acc. *koṃ* (DTA 146); B *ku, kū*, acc. *kwem* “dog” (Adams 2013, 190).

Already Schlegel (1872, 26), followed by Conrady (1925, 11f), Nehring (1936, 70–72), Jensen (1936, 141), Pulleyblank (1966, 11; 1975, 505), Ulving (1968–69, 950), Gamkrelidze & Ivanov 1984, 935 compared the Indo-European designation of “dog” with (a) Chinese 犬 *quǎn*⁸⁸ “dog” (and other Sino-Tibetan counterparts).

Comments: The Tocharian forms reflect IE **k^uuō*, acc. **k^uuon-ṃ* (Hilmarsson 1996, 187). With exception of Slavic there are safe cognates in all IE branches. Similarly, the Sino-Tibetan origin of the Chinese term is generally accepted (cf. Lubotsky 1998, 381). Any relation is thinkable only on a level of proto-languages (which is the position of Pulleyblank and Shafer) or better of their ancestors (the idea of Starostin), much like the case of “goose”. Naturally, it is possible to speculate about independent onomatopoeic origin or about an accidental similarity.

On the other hand, there is another candidate for adaptation of a predecessor of this Tocharian (A?) word for “dog”, namely (b) Chinese 狗 *gǒu*⁸⁹ “dog”. At the time of its first recording in Chinese sources [*Mèngzǐ*] in the end of the 4th cent. BCE it was pronounced as **k^ó*. Crucial are again external parallels. There are two competing hypotheses: (i) Sino-Tibetan heritage by Starostin; (ii) Hmong-Mien or Austroasiatic substrate by Schuessler, cf. (i) Sino-Tibetan: Kiranti **hu / *huk(s)* “to bark” > Sunwar *hōk-ca*, Tulung *huk-*, Kaling *’hunā*, Limbu *homā*, Dumi *hūkni*, Kulung *hūma* id., Yamphu *hu?wa* “dog”, which are apparently of onomatopoeic origin; (ii) Hmong-Mien **klu²* “dog” [Purnell] ~ **qluwX* [see Baxter & Sagart 2014, 186], with Austro-Asiatic cognates: Written Mon *chuiw, kluiw*; Bahnar *kō* “dog”. Schuessler also mentions Bahing *k’li* “dog” (Kiranti group of the Sino-Tibetan family), which may be of the same origin. It is apparent that the conception of the Sino-Tibetan heritage of Chinese 狗 *gǒu* is based only on a problematic onomatopoeic parallel (“to bark”) in the only, relatively small, group of languages. In the case of the substrate alternative, it seems, the reconstruction of the cluster **kl-* in the most archaic stage of development of Chinese was motivated by Hmong-Mien and Monic counterparts in *kl-*. If this is the case, the Tocharian origin of this younger synonym for “dog” in Chinese is a quite legitimate solution and the whole item belongs to the first section.

88 Chinese 犬 *quǎn* “dog” [bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE], “official in charge of dogs” [Oracle bone inscriptions, 1250–1050 BCE] < Late Middle Chinese **k^hjyan’* < Early Middle Chinese **k^hwen’* (Pulleyblank 1991, 262) ~ Middle Chinese **khwien* < Postclassical Chinese **khwien* < Eastern Han Chinese **khwien* < Western Han Chinese **khwjǎn* < Classic Old Chinese **khwǐn* < Preclassical Old Chinese **khwǐn?* (Starostin, *ChEDb*; *GSR* 0479 a-d). Schuessler (2007, 437): Middle Chinese **k^hiwen^B* < Later Han Chinese **k^huen^B* < Old Chinese **khwǐn?*. Baxter & Sagart (2014, 277): Middle Chinese **khwēnX* < Old Chinese **[k]^{whi}[e][n]?*. Notes: Dialect forms: Xiamen *k^hian^{B1}*. Vietnamese reading: *khuyê’n*. Sino-Tibetan **qh^{wh}j / *qh^{wh}in* “dog” > Old Chinese 犬 **khwǐn* “dog”; Tibetan *khji* “dog”; Burmese *khwijh* “dog” < Lolo-Burmese **khujx*; Kachin *gui²* “dog”, also in *čǎkhjon¹* “a fox, wolf or wild dog”; Lushai *ui* “dog” < Kuki-Chin **yui*; Karen *thwi*; Kanauri *kui*; Moshang *gui-hě*; Namsangia *hu*; Chepang *kuj?* etc. (*CVSTV*, 169; Shafer 1974, 42, 408, 428; Benedict 1972, 44; Matisoff 2003, 448 on the role of the final *-n*).

89 Chinese 狗 *gǒu* “dog” [Late Zhou] < Late Middle Chinese stč. **kew’* < Early Middle Chinese **kew’* (Pulleyblank 1991, 109) ~ Middle Chinese **k^hw* < Late & Middle Postclassical Chinese **kǎw* < Early Postclassical Chinese **k^how* < Han Chinese **kwá* < Classic Old Chinese **k^ó* < Preclassical Old Chinese **kō?* [*Mèngzǐ*, i.e. “{Work of} Master Meng”, known as Mencius, summarized by his disciples around 300 BCE] (Starostin, *ChEDb*; *GSR* 0108 d). Schuessler (2007, 257–58): Middle Chinese **kəu^B* < Later Han Chinese **ko^B* < Old Chinese **klo?*. Baxter & Sagart (2014, 186, 215): Middle Chinese **kuwX* < Old Chinese **Cə.k^hro?*.

4. Tocharian A obl.sg. *kukäl*, obl.pl. *kuklas* (DTA 147); B *kokale*, nom.pl. *kokalyi*, acc.pl. *kok(a)lem* m. “cart, wagon, chariot” (Adams 2013, 214).

The Chinese character 車 has double reading, but the same meaning:

(a) *chē* “chariot, carriage, cart, barrow” (Mathews 1960, 34, #280), also “potter’s wheel” or “water wheel” < Late Middle Chinese **tʂʰia* < Early Middle Chinese **tʂʰia* (Pulleyblank 1991, 52) ~ Middle Chinese **kō* < Postclassic Chinese **ko* < Han Chinese **ka* < Classic Old Chinese **ka* < Preclassic Old Chinese **k(l)a* (Starostin, *ChEDb*: If the reconstruction is indeed **kla*, one can think of an early borrowing from IE; *GSR* 0074 a-d). Schuessler (2007, 182): Middle Chinese **tʂʰja* < Later Han Chinese **tʂʰa* < Old Chinese **k-hla*. Baxter & Sagart (2014, 158, 224, 397, fn. 38): Middle Chinese **tsyhae* < Old Chinese **[t.qʰ](r)A*, while Baxter (1992, 214) reconstructed Old Chinese **KHjA*. Notes: Vietnamese reading *xa*. Vietnamese has also a colloquial loan *xe* id. from the same source. The Middle Chinese form was borrowed into proto-Hmong **tshjua* “spinning wheel” (Baxter & Sagart 2014, 158).

(b) *jū* “chariot, carriage” (in contemporary Chinese it remains for chess) < Late Middle Chinese **kiǎ/*kǎ* < Early Middle Chinese **kiǎ* ~ Middle Chinese **kjwo* < Later Han Chinese **kia* < Old Chinese **ka* (Schuessler (2007, 182) ~ Middle Chinese **kjo* < Old Chinese **C.q(r)a* (Baxter & Sagart 2014, 158, 224; Baxter 1992, 214, 769: Old Chinese **k(r)ja*). Note: The Middle Chinese form was borrowed into Written Burmese *khyā* “spinning wheel” (Baxter & Sagart 2014, 158).

The character 車 appears already in the Oracle bone inscriptions (1250–1050 BCE), in following Bronze inscriptions⁹⁰ (1050–770 BCE), and also in *Shījīng* (1050–600 BCE).

Note: Baxter & Sagart (2014, 158, 224) add still Chinese 輿 *yú* “bottom of carriage” [*Shījīng*, 1050–600 BCE]; “the (lifted) top part of a carriage, carriage box, carriage, vehicle; carrier, to carry on the shoulders” [*Zuōzhuan* “Comments of Zuo”, describing the period 722–468 BCE] < Middle Chinese **jō* < Late & Middle Postclassic Chinese **jo* < Early Postclassic Chinese **zo* < Eastern Han Chinese **za* < Western Han Chinese **la* < Classic & Preclassic Old Chinese **la* (Starostin, *ChEDb*; *GSR* 0089 j). Baxter & Sagart (2014, 158, 224): Middle Chinese **yo* < **g(r)a* < Old Chinese **m-q(r)a*.



Comments: It is tempting to admit a borrowing and merging two originally different forms from different donor-languages, which were recorded by the same character:

(a) Iranian **čaxra-* “wheel” > Avestan *čaxra-*, Old Persian **čaxra-* (reconstructed according to Elamite transcription *za-kur-ra* of a hypocoristic personal name), Manichaean Middle Persian *čhr /čaxr/* “wheel”, Classical Persian *čarx*, Parthian *čxr /čaxr/* “wheel, cycle”, Buddhistic Sogdian *cyr(h)- /čaxr(a)/* “wheel, circle”, Manichaean Sogdian *čxr- /čaxr/* & *čkkrr /čakr/* “wheel”, Khwarezmian *cxyr* “Schöpfrad”, *čx(y)r* “circle, wheel”; Ossetic *calx* “wheel” < **čāxrja-*, Mazandarani *čal* “wheel”; further Vedic *cakrā-* “wheel (of carriage, of the Sun’s chariot)” [RV], “potter’s wheel” [ŚBr], “oil-mill” [Mn], “circle” [R] (*ESIJ* 2, 248–49; Hinz 1975, 70; *MPP* 125, 128; Gharib 1995, ## 3180, 3313, 3192; Benzing 1983, 223, 237–38; Abaev I, 287–88; *EWAI* I, 521–22; MW 380) could be adopted into Old Chinese as **[t.qʰ](r)A* (Baxter & Sagart).

(b) Common Tocharian **kwäkwlä* < **kwükwlä* < pre-Tocharian **k^uuk^ulo-* (Hilmarsson 1986, 61, 71–72), whose collective form **k^uuk^ulā* (cf. Greek κύκλος m. “circle, ring, wheel”, coll. κύκλα) might have been adopted in monosyllabified form into Old Chinese as **C.q(r)a* (Baxter & Sagart).

This solution implies the introduction of the Iranian term “wheel” into Chinese in the time preceding the occurrence of the reading (a) in *Shījīng*, maybe simultaneous with composition of the Younger Avesta (c. 900–700 BCE). Older seems to be the reading (b), reflecting probably a borrowing from a Tocharian source already around 1200 BCE.

Lit.: Lubotsky 1998, 385 & Mallory & Mair 2000, 326: Tocharian > Chinese.

90  Oracle bone script;  Bronze inscriptions

<<https://en.wiktionary.org/wiki/%E8%BB%8A>>

<<http://www.internationalscientific.org/CharacterEtymology.aspx?characterInput=%E8%BB%8A&submitButton1=Etymology>>

5. Tocharian B *lant** n. “lead”, reconstructed on the basis of the Tocharian B adj. *lāntaṣṣa*, corresponding to Pali *tipu-* “tin” or *sisā-* “lead” (Pinault 2000, 97–98; Adams 2013, 600; he also speculates about identification of the noun in the formulation */// mā lāntsa taṣālyya ///*, which could be interpreted as “it is not to be placed on lead”, but also might not, how he admits) < Tocharian A **lant* < Preclassic Old Chinese **lontos* or **lontus* “cast lead”.

Chinese 鉛鑄 *qiān zhù* “cast lead”, consisting of 鉛 *qiān*⁹¹ “lead” < Late Middle Chinese **jyan* < Early Middle Chinese **jwian* (Pulleyblank 1991, 249) ~ Middle Chinese **jwen* < Late & Middle Postclassic Chinese **jwen* < Early Postclassic Chinese **zwen* < Eastern Han Chinese **zwan* < Western Han Chinese **lwan* < Classic Old Chinese **lwan* < Preclassic Old Chinese **lon* (Starostin, *ChEDb*; *GSR* 0229 c) ~ **lon* or **jon* “lead” [*Shūjīng* “Book of Documents”, 5th–3rd cent. BCE, reconstructed around 200 BCE] (Schuessler 2007, 424), and 鑄 *zhù* “to cast (metal), cast (adj.)” < Late Middle Chinese **tʂyǎ* < Early Middle Chinese **tʂuǎ*^h (Pulleyblank 1991, 415) < Later Han Chinese **tʂo*^c < Old Chinese⁹² **toh* (Schuessler 2007, 627) ~ **tos*⁹³ (Starostin, *ChEDb*; *GSR* 1090 c) ~ **tu-s* (Baxter & Sagart, *ChDb* 2014). With respect to the change **l- > *z-* realized in the end of the 1st century BCE, the adoption of this term should have occurred earlier. The vowel of the first syllable indicates as a more probable source Preclassic Old Chinese **lontos* or **lontus* (before the 6th cent. BCE) than Western Han / Classic Old Chinese **lwantoh* (1st–5th cent. BCE). Old Chinese **lontos* should have been borrowed into (still Common) Tocharian **læntæ* (à la Hilmarsson) or **lëntë* (à la Ringe) > A **lant*, B **lente*. The variant **lontus* would lead to Common Tocharian **læntä* (à la Hilmarsson) or **lëntä* (à la Ringe) > A **lant*, B **lent*. It means that Tocharian B **lant* seems to be borrowed from Tocharian A.

Note: Other etymological attempts are discussed in details in the section Tocharian and Iranian designations of metals in light of etymology.

6. Tocharian B nom.sg.m. *mewiyo*, acc.sg.m./f. *mewyai*, nom.pl.m. *mewiyañ*, nom.sg.f. *mewiya* “tiger” (Van Windekens 1976, 631: acc.sg. *maiwyai*; Adams 2013, 505–06).

The term is apparently connected with Buddhist & Manichaean Sogdian *myw* (Gharib 1995, #5669) and Khotanese *mauya*, later *muyi* “tiger” (Bailey 1979, 335, 340). But in these languages designations of “tiger” also remain without any internal or IE etymology (the attempt of Bailey to derive them from the onomatopoeic verb **meu-* “to roar” is unconvincing). Already Müller (1907, 464) speculated about origin of Sogdian *myw* “tiger” in Chinese 貓 *māo* “(wild) cat”. Poucha (1931, 177, fn. 12; 1932, 90) and Lüders (1933, 1018) added Khotanese and Tocharian parallels, all as possible loans from Chinese. Let us judge this solution in perspective of historical phonology of Chinese and word formation of Tocharian.

Chinese 貓 *māo* “cat, wild cat” < Late Middle Chinese **ma:w* < Early Middle Chinese **maiw* (Pulleyblank 1991, 208) ~ Middle Chinese **maq* < Postclassic Chinese **mhāw* < Han Chinese **mhrāw* < Classic & Preclassic Old Chinese **mhrāw* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 1159 c). Schuessler (2007, 375): Middle Chinese **mau* & **mjäu* < Later Han Chinese **mau* < Old Chinese **mau*. Baxter & Sagart (2014, 296): Middle Chinese **maew* < Old Chinese **C.m^hraw*. Notes: Also read Middle Chinese **mew* id. < Old Chinese **mhraw*. Vietnamese reading *mèo* is colloquial; standard Sino-Vietnamese is *miêu*. For **mh* cf. Xiamen *miau*^l, Chaozhou *ŋiəu*^l, Longdu *māw*^l; Shaowu *mau*⁷, Guangzhou *māu*^l. Sino-Tibetan: Bodo *maw-zi* “cat” (*CVST* I, 38: **mrāw*). There are also other possible cognates in several groups of the Si-

91 Pulleyblank (1991, 249) also mentions the Modern Chinese variant *yán*, whose initial is regular in contrary to *qiān* (cf. Karlgren, *GSR* #0229 c, where reconstructions **jwän* < **djwan* were proposed).

92 Known beginning from the bronze inscriptions of Western Zhou, 1050–770 BCE (*GSR* #1090 a–d’).

93 Starostin (*ChEDb*) did not reconstruct history of 鑄 *zhù* “to cast (metal), casted”, he only proposed its Preclassic protoform **tos*. But it is possible to expect the parallel development in the case of the close verb 注 *zhù* “to pour, flow to, conduct water; be led to” < Middle Chinese **cū* < Postclassic Chinese **cò* < Eastern Han Chinese **cōh* < Western Han Chinese **toh* < Classic Old Chinese **toh* < Preclassic Old Chinese **to(?)s* (Starostin *ChEDb*; cf. Schuessler 2007, 627; *GSR* #0129 c).

no-Tibetan languages, namely Bodo-Garo (Barish): Konta *meyan*, Wanang *meyoñ*, Namsangia *miañ*, Garo *meñ-go*, Dacca *myã-gaõ*, Muthun *miah*, Banpara *mia*, Angwanku *a-mi*, Lalung *myaõ* “cat” (Shafer 1974, 448); Dhimalish: Dhimal *men-kau*, Toṭo *miñ-ki* “cat” (Shafer 1974, 169); Loloish: Lahu *mi / meh*, Phunoi *mi* or *ṛa meṅ*, Akha *a mi*, Mpi *ṛa² meṅ* “cat” (Bradley 1978, 294–95); Ao: Tengsa *měyãä*; Kiranti: Limbu *mīyo-n*; Karenic: Pwo *miayu* (Shafer 1965, 464–65). The word for “cat” probably also appears in compounds designating “tiger”: Bodo *mõ-sa*, Garo *ma-tsa*, Tipura *mã-tsa*, Metś *mo-tsa* (Shafer 1974, 440). Similar compounds meaning “tiger” were formed with other designations of “cat”: Kachin *rəṅ & šərō(ṅ)* “tiger, leopard” vs. Written Burmese *krauṅ* “cat”, Lahu *ṛõ* “wild cat”, Maru *rauṅ* id. (Benedict 1972, 27, #107; Matisoff 2003, 138, 294). Another example of the semantic shift “cat” → “tiger” may be found in the Munda languages. Santali *ruṅḍa* “wild cat” is used in the forest as a taboo substitute for *kul* “tiger” and *ṭarup* “leopard”. Related is Mundari *ruṅḍā* “wild cat”. Prakrit *bheruṅḍa-* “tiger” is probably formed from this Munda root (Kuiper 1948, 151, fn 48).

Comments: Tocharian m. *mewiyo*, f. *mewiya* “tiger” probably reflect the derivatives in **-ijō(n)* & **-ijā* respectively (Van Windekens 1979, 9, 149–50). The suffix *-(i)ye* (**-ijo-*) forms the adjectives from animal names, e.g. B *kewiye* “pertaining to a cow or to cows; butter” from *ke* “cow” or *warmiye* “pertaining to ants” from *warme* “ant” (Van Windekens 1976, 102–03; Adams 2013, 212, 630). It is natural to interpret *mewiyo* & *mewiya* as “pertaining to *mew*”. If *mew*^o represents adaptation of Middle Chinese **maew* (Baxter & Sagart) or Early Middle Chinese **maiw* (Pulleyblank) “(wild) cat”, *mewiyo* & *mewiya* would mean “pertaining to a wild cat”, i.e. “similar to a wild cat (e.g. in striped skin)”. This is a quite intelligible metaphorical designation for “tiger”. If this was the case, the Khotanese and Sogdian tiger-names would have been borrowed from Tocharian. On the other hand, the metaphoric replacement of “tiger” by “wild cat” indicates a hunting lexicon. In this case, one would expect a source in a language of people living in the neighbourhood of forests. It is questionable whether this was characteristic for Chinese, which could have been in contact with Tocharians. Alternatively, the donor-language should be sought in other Sino-Tibetan languages.

7. Tocharian B *rīye*, A *ri* “city, town” (Adams 2013, 582).

The traditional reconstruction of Common Tocharian **rīē* < **uriH₁-en-* has been supported only by the Thracian gloss βρία · πόλις [Strabo VII, 6.1⁹⁴], i.e. “city, citadel”, and βρία · κόμη [Hesychius], i.e. “unwalled village (= Latin *vicus*); country town, city quarter”, opposed to “a fortified city”, if it is derivable from **uriH₁-eH_a-* (Adams 2013, 582; Van Windekens 1976, 405; Smith 1910, 43). Greek ρίον “mountain peak, foothills” cannot be a cognate with respect to Mycenaean *ri-jo*, indicating the starting point **(s)rijom*, which is compatible with Hittite *šēr* “above, on top” adv., *šarā* “up(wards)” adv.; “on top of, above” (postp.), Cuneiform Luwian *šarri* “above, up; for”, *šarra* “(up)on, thereon”, Lycian *hri* “up; on (top)” (Kloekhorst 2008, 729). Witczak (1991a, 107, fn. 1) judges that Tracian βρία is of the same origin, assuming the development **sr-* > Thracian (or Dacian) *br-* (similar to Latin *tenebrae* “darkness” ~ Vedic *támisrā-* “dark night”). He finds support in the substratal ornithonym attested in Rumanian *barză*, Bulgarian dial. (N.

94 ἐν τῷ μεταξύ δὲ διαστήματι τῷ ἀπὸ Καλλάτιδος εἰς Ἀπολλωνίαν Βιζώνη τέ ἐστιν, ἣς κατεπόθη πολὺ μέρος ὑπὸ σεισμῶν, καὶ Κρουνοὶ καὶ Ὀδησσὸς Μιλησίων ἄποικος, καὶ Ναύλοχος Μεσημβριανῶν πολίχνηιον: εἶτα τὸ Αἶμον ὄρος μέχρι τῆς δεῦρο θαλάττης διῆκον: εἶτα Μεσημβρία Μεγαρέων ἄποικος, πρότερον δὲ Μενεβρία, οἷον Μένα πόλις, τοῦ κτίσαντος Μένα καλουμένου, τῆς δὲ πόλεως βρίας καλουμένης θρακιστί: ὡς καὶ ἡ τοῦ Σήλως πόλις Σηλυμβρία προσηγόρευται, ἣ τε Αἶνος Πολτυμβρία ποτὲ ὀνομάζετο... “In the intermediate distance between Callatis and Apollonia, is Bizone, a great part of which was swallowed up by an earthquake; Cruni (= Balčik today); Odessus (= Varna), a colony of Milesians; and Naulochus, a small town of the Mesembriani. Next follows the mountain Hæmus (= Balkan Mountains, also Stara Planina today), extending to the sea in this quarter; then Mesembria (= Nesebâr), a colony of the Megarenses, formerly called Menabria, or city of Mena, Menas being the name of the founder, and bria, signifying in the Thracian tongue, city. Thus the city of Selys is called Selybria, and Ænus once had the name of Poltyobria.” (see *The Geography of Strabo*. Literally translated, with notes, in three volumes, ed. by H.C. Hamilton, W. Falconer, London: George Bell & Sons 1903).
<<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0239%3Abook%3D7%3Achapter%3D6%3Asection%3D1>>

Selo) *bárzɔ* “stork”, which should reflect **srgō-*, reconstructed on the basis of Germanic **sturkaz* “stork” and Old Indic *srjayá-* m. & *srjayā-* f. “a wading bird”.

If the traditional etymology is destroyed, it is legitimate to verify less traditional, in this case non-Indo-European etymologies.

(i) Smith (1910, 15, cited by Van Windekens 1976, 405) sought a source in Tibetan *ris* “(city) quarter”.

(ii) Lubotsky & Starostin (2003, 264) see a source in a predecessor of Modern (Beijing) Chinese 里 *lǐ* “village, neighborhood, community” < Middle Chinese **lí* < Preclassic Old Chinese **rəʔ*. With respect to a cognate in Kachin *məre* “town”, implying Sino-Tibetan **riəH* (CVST II, 77), the direction of borrowing should be Old Chinese > Tocharian and not vice versa. Although this solution is based on a close semantic correspondence, the word formation and early dating of the hypothetical adaptation imply new questions.

(iii) Schwarz (2013, 200–202) seeks a source in history of Modern (Beijing) Chinese 市 *shì* “market, market place” < Middle Chinese **ʒi* < Late & Middle Postclassic Chinese **ʒhi* < Early Postclassic Chinese **zhi* < Eastern Han Chinese **zhá* < Western Han Chinese **dhá* < Classic Old Chinese **dhá* < Preclassic Old Chinese **dhəʔ* (Starostin, *ChEDb*). He proposes a retroflex pronunciation /dʰ/ of the initial dental in process of fricativization leading to a dental approximant, followed by application of the rule **dr > r* in Common Tocharian adapting the Chinese word. Concerning semantics, cf. Hittite *hāppiriya-*, *hāppira-* “town” vs. *hāppar-* / *hāppir-* “business, trade; compensation, payment, price” (Kloekhorst 2008, 295, 297).

(iv) But the cluster **(-)dr-* also leads to *(-)r-* in Tocharian inherited words. This rule opens a possibility of seeing in the Tocharian word “city” a hypothetical counterpart of Russian *derévnya* “village”. The Russian form has been derived from a protoform **dər̥v̥n̥ja* “Ackerland” ~ Lithuanian *dirvā* “Acker” (Vasmer I, 341 with literature) < **d̥r̥H̥u̯*^o, or from *derevo* “wood” (Miklosich 1886, 42–43). Brückner (1925, 1–2) explicitly rejected any connection with Lithuanian *dirvā* “Acker”. The latter solution may be supported by the existence of Ukrainian *derévnya* “forest, wood”, but also “wooden house” (Trubačev, *ESSJ* 4, 214). In this case the East Slavic word “village” may be projected into the Common Slavic protoform **derv̥n̥ja*. This is not directly compatible with the Tocharian forms, but the semantic motivation “wooden (houses)” is substantial. The starting point could be reconstructed as **dreu̯io*⁻⁹⁵, the adjective derived in *-io-* from a hypothetical genitive **dreus* implying the nominative **doru* of the proterodynamic paradigm, known e.g. from Vedic *jānu*, gen. *jñós* “knee” < **ǵónu*, gen. **ǵnéus*. The proterodynamic paradigm nom. **doru* vs. gen. **dreus* explains the loss of **d-* in Tocharian AB *or*, pl. B *ārwa*, applying the rule **dr- > r-* realized in the gen.sg. and further generalized in the whole paradigm (cf. Hilmarsson 1984, 112, proposing the gen. **drou̯s*). The development of **-eu̯io-* was probably also regular, if it changed into **-eijio*⁻⁹⁶ > **-ijio*⁻⁹⁷ > Tocharian B *-iye*.

Lit.: Blažek 2016, 225–27.

8. Tocharian A *por*, B *pūwar*, pl. *pwāra* “fire, digestion, beacon-fire” (Adams 2013, 421–22).

Chinese 烽 *fēng* “beacon-fire” < Late Middle Chinese **fjyawŋ/fəwŋ* < Early Middle Chinese **p^huawŋ* (Pulleyblank 1991, 95; *GSR* 1197 r) ~ Middle Chinese **p^hjwŋ* < Later Han Chinese **p^huoŋ* < Old Chinese **phoŋ* [Mòzǐ, i.e. Master Mo, 470–391 BCE] (Schuessler 2009, §12–25 r).

Comments: With regard to the identical semantics Adams (2013, 421–22) thinks about connection of Chinese and Tocharian forms. It is tempting to speculate that the Chinese forms in-

95 Attested in the Sanskrit adj. *dravya-* “derived from or relating to a tree” (MW 501). Cf. also Lithuanian *drėvė* “Höhlung in einem Baumstamm” < **dreu̯iā*. For **dreu̯io* / **drou̯io*- Charpentier (1906, 25) even proposed the meaning “house”.

96 Cf. B *aiyye* “ovine” < **H_ou̯io-*, *kaiyye* adj. “bovine” < **g^oou̯io-* or B *saiyye* “sheep/goat” < **g^ojeH_{u̯io-}* (Adams 2013, 110, 214, 695; Van Windekens 1976, 95).

97 On monophthongization cf. AB *pik-* “to write, paint, delineate” < **pejk-* or B *ike* “place, location” < **uejk-* (Adams 2013, 410; Van Windekens 1976, 30).

dicating the lost *n*-stem in the heteroclitic formation, but the Chinese final *-ŋ* cannot be explained from any hypothetical Tocharian form. In Hittite this opposition is well-preserved e.g. in the paradigm: *paḥhur*, gen. *paḥḥuenaš* “fire”, reflecting **peH₂ur*, gen. **pH₂uens*. In Tocharian there are no traces of such an *r/n*-stem, but in Iranian it is attested, e.g. in Old Avestan *huuarš*, gen. *x^vəṅg* “sun” < **suH₂l*, gen. **suH₂ens* / **sH₂uens* (*EWAI* II, 793–94; Hoffmann & Forssman 1996, 153; Wodtko, *NIL* 608). If a continuant of the *r/n*-stem **peH₂ur*, gen. **pH₂uens* “fire” was preserved in Iranian, its genitive would resemble the earlier Chinese forms. Although the Indo-Iranian continuants of IE **peH₂ur*, gen. **pH₂uens* “fire” are missing in standard handbooks (Pokorny 1959, 828; Beekes, *EIEC* 202; Wodtko, *NIL* 540–45), already Morgenstierne identified the *r*-stem in Nuristani: Waigali *puř*, *purûi* “embers”, and Dardic: Pashai *pūr*, *puer*, *pōr* “big fire, bonfire”, Shumashti *pōr* “burning embers” (Turner 1966, #8329; while Mayrhofer, *EWAI* II, 106 derived them from the root preserved in Vedic *pavⁱ*– “to become clean”⁹⁸).

9. Tocharian A *pracar*, dual *pratiri*; B *procer*, gen. *protri*, acc. *protär* “brother” (Van Windekens 1976, 387; Pinault 2008, 510; Adams 2013, 454–55) < Common Tocharian **prācær* (Pinault 2008, 428).

Chinese 伯 (i) *bó* “father’s elder brother, the eldest (of brothers), uncle”; (ii) *bǎi* “father’s or husband’s elder brother” < Late Middle Chinese **pa:jk* < Early Middle Chinese **paijk*/**pe:jk* (Pulleyblank 1991, 28) ~ Middle Chinese **pāik* < Postclassic Chinese **pēk* < Han Chinese **prāk* < Classic & Preclassic Old Chinese **prāk* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0782 i). Schuessler (2007, 169–70): Middle Chinese **pək* < Later Han Chinese **pak* < Old Chinese **prāk*. Baxter & Sagart (2014, 65): Middle Chinese **paek* < Old Chinese **p^rak*. Note: The word is very frequently used to denote a clan title – “clan elder, lord” – already from the Bronze inscriptions. It is also used verbally: “to sacrifice to the horse’s ancestor”. Vietnamese reading: *bác*.

Comments: The Chinese forms cannot be directly borrowed from Tocharian. As a source is thinkable only some hypocoristic modification formed by the suffix *-kke* or *-kki*, e.g. B *appakke* “daddy” from *āppo* “father”, *ammakki* “mummy”, *larekke* “dear one” from *lāre* “dear, beloved” (Van Windekens 1979, 80; Adams 2013, 17, 22, 592, 595). The hypocoristic forms have sometimes been substantially shortened. A good example, including the semantic dispersion, can be Slavic **bata*/**bata*/**batja* > Bulgarian *báte* “elder brother”, dial. *bat* “father, elder brother”, Macedonian *bate* “elder brother”, Serbo-Croatian *báta* “brother, friend; father, father-in-law”, *bàca* “brother”, Slovak *bát’a* “father, uncle, elder brother”, Old Czech *báta* “brother” [*Dalimil’s Chronicle*, finished in 1314], Old Russian *bate* “father” [*Hypatian Codex* – AD 1161], Russian dial. *bátja* “father, grandfather, father-in-law, elder brother”, Old Ukrainian *bat’ko* “father”, Belorussian *báčka* “father” (*ESSJ* 1, 163–64). Berneker (1908, 45–46) explained these forms as hypocoristic formations from Common Slavic **bratrъ* “brother”.

10. Tocharian B *suwo* “pig, hog” (Adams 2013, 763).

Chinese 豕 *shǐ* “pig” [Bronze inscriptions, 1050–770 BCE; *Shījīng*, 1050–600 BCE], “boar” [*Zuōzhuan* “Comments of Zuo”, describing the period 722–468 BCE] < Late Middle Chinese **sɿ* < Early Middle Chinese **eið*/**ei* (Pulleyblank 1991, 283; *GSR* 1238 f) ~ Schuessler (2007, 465; 2009, 125, §7–19 f): Middle Chinese **sje^B* < Later Han Chinese **sé^B* / **sai^B* < Old Chinese **lhe[?]*/**lhai[?]* ~ Baxter & Sagart (*ChDb* 2014): Middle Chinese **syeX* < Old Chinese **laj[?]*. Probably of Austro-Asiatic origin: proto-Wa **lik* “pig”; Mon *kloik*, *klot* < proto-Monic **cliik* id. (Schuessler 2009, 125).

98 But de Vaan 2008, 500 convincingly returns to the old idea of connecting both etymons, “fire” and “purification”; cf. also Sanskrit *pāvana-* “purifying, pure” [Mn, MBh] vs. “fire” [Kullūka on Manu 3.185; lex.] or *pāvaka-* “pure, clear, bright” [RV] vs. “fire of the God of fire” [Up, MBh, Kāv] – see MW 623.

Comments: The Tocharian word has a secure Indo-European etymology (**suH₂-on-*), while Old Chinese differs from Tocharian and its IE predecessor in its lateral initial, indicating more probable explanation from Austroasiatic substratum. Thus, this comparison is not valid.

Note: Polivanov (1937, 405–06) thought about relation of IE **sū-s* (i.e. **suH₂-*) with Chinese 豬 *zhū* “small pig”, but earlier forms indicate that they are not compatible, cf. Middle Chinese **tō* < Postclassic Chinese **to* < Han Chinese **ta* < Classic & Preclassic Old Chinese **tra* [Zuōzhuàn “Comments of Zuo”, describing the period 722–468 BCE; *Shūjīng* “Book of Documents, 500–300 BCE, with beginning in Former Zhou] (Starostin, *ChEDb*; *GSR* 0045 h). Schuessler (2007, 625) also reconstructs Old Chinese **tra* and adds a cognate in Mru *tia* “(wild) pig”.

11. Tocharian A *trānk-*, B *trenk-* “to adhere, cling, stick”, *trenke* “clinging, worldly attachment” (Adams 2013, 338–39).

Chinese 楨 *zhēn* “post in framework used in rearing earth walls” [*Shūjīng* “Book of Documents, 500–300 BCE, with beginning in Former Zhou], “supports” [*Shūjīng*, 1050–600 BCE] < Late & Early Middle Chinese **triaŋ* (Pulleyblank 1991, 401) ~ Middle Chinese **trjeng* < Old Chinese **trjeng* (Baxter 1992, 695, 808; *GSR* 08341) ~ Middle Chinese **tjāŋ* < Later Han Chinese **tjēŋ* < Old Chinese **treŋ* (Schuessler 2009, 138, §9–12 l).

Comments: The traditional comparison with Avestan *drəŋjaiti* “strengthens, fixes” should be abandoned, if it is connected with Greek δρᾶσσομαι “I grasp, take handfuls”, implying the root **dreg^h-* (Zehnder & Kümmel, *LIV* 126), i.e. with the initial **dr-* simplified regularly in Tocharian *r-*. Independently of this fact the semantic difference between the Tocharian and Chinese forms is so big that their connection seems to be excluded.

Lit.: Lubotsky 1998, 386–87: Chinese < Tocharian.

12. Tocharian B *tsānkana* or *tsānkanta* pl. “mountain naked barley” (Adams 2013, 803; Ching 2008).

Ching (2008, 17, §7) supposes that a source of Tocharian B *tsānkana* is its Chinese equivalent 青稞 *qīngkē* “highland barley”, lit. “green corn”⁹⁹, sometimes abbreviated 青 *qīng* “green”, also “blue, dark, black” < Late Middle Chinese **ts^hiaŋ* < Early Middle Chinese **ts^hejŋ* (Pulleyblank 1991, 255) ~ Middle Chinese **chieŋ* < Postclassic Old Chinese **shīēŋ* < Eastern Han **shīēŋ* < Western Han **shēŋ* < Classical & Preclassical Old Chinese **shēŋ*¹⁰⁰ [*Shūjīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0812 c’-d’). Schuessler (2007, 431): Middle Chinese **ts^hieŋ* < Later Han Chinese **ts^hejŋ* < Old Chinese **tshêŋ* “green, blue”. The second character 稞 *kē* designates “wheat; grain ready for grinding” (Mathews 1960, 507, #3392) < Late Middle Chinese **k^hua* < Early Middle Chinese **k^hwa* (Pulleyblank 1991, 172). Ching (p.c. 2012) assumes that the adoption of the Chinese designation of mountain barley in Tocharian was realized after the conquest of Turfan by the Tang army in 648 CE. Ching’s solution is faultless.

But the Tocharian word itself offers an internal etymology, based on the verb attested in B *tsānk-* “to flay”, A *tspānk-* id. < **ui-TenK-* (Adams 2013, 803: IE **t^heng^h-* “to pull” – see Kümmel, *LIV* 657), indicating peeling seeds of this species of barley. The semantic connection with crushing is implied by the compound *tsapāñce-tsānkana* known from the manuscript called Weber-MacCartney [W-3b2], where the first component is probably a derivative of the verb B *tsāp-*, A *tsāw-* “to mash, crush; pierce” (Adams 2013, 798, 800). The same semantic motivation appears

99 The same colour is used for certain kinds of mountain barley in other languages too, e.g. in Tibetan *nas* “barley” & *ngon mo* “green, blue” (Ching 2008, 18, fn. 40), or Khufi (the Pamir group of the Iranian languages) *xing-čušč*, lit. “green barley” (Steblin-Kamenskij 1982, 28).

100 Sino-Tibetan **chēŋ*: Kachin *gaciŋ* “to be fresh, green”, Garo *gathaj* “green”, Dimasa *gathaj* “unripen”; Kanauri *šōŋ*; Rawang *māšij* “green”; Manipuri *asaŋ-ba*, Rengma *ke-šin* “green” (Peiros & Starostin, *CVST* IV, 35, reconstruct Sino-Tibetan **chriaŋ*, with **-r-*, based on Old Chinese 生 **shreŋ* “to live, be alive; grow, give birth”, Burmese *hraŋ* “to live, alive”, Lushai *hriŋ* “to be green, fresh”; in the Sino-Tibetan database of Sergei Starostin (2005) already two Sino-Tibetan protoforms are differentiated, **chēŋ* and **chreŋ*). Baxter (1992, 205, 499) reconstructed Middle Chinese **tsheng* and derived it from Old Chinese **sreŋ* “green or blue”.

in Slavic **p̥šeno* > Old Church Slavonic adj. **p̥šennyŋ* “wheat, cereal”, Bulgarian pl. *pšená*, Serbo-Croatian *pšeno* “caryopsis”, arch. also “wheat”, Slovenian *pšeno* “peeled millet grains”, Slovak, Old Czech *pšeno*, Old Polish *pszono*, Old Russian *p(š)šeno*, Russian *pšenó* “peeled millet grain”, besides common Slavic **p̥šenica* “wheat”, known from Old Church Slavonic *p̥šenica* to Russian *pšenica*, including Polabian *pasinaičə*, and Slovenian *samopäh*, Old Czech *samopše* “kind of wheat” etc., all from the verb attested e.g. in Old Church Slavonic *p̥xaxǝ* : *p̥xati* “to hit, thrust; press, push, stuff; kick” (Šarapatková, *ESJS* 12, 742). Similarly in the Nuristani language Ashkun *pi’sā* “millet” (Morgenstierne 1929, 274) is formed from the same IE root **pejs-* “to crush, grind” (Pokorny 1959, 796; *LIV* 466–67), which is attested in Vedic *pináṣṭi* “crushes, grinds, mills” : *piṣṭá-* “crushed, ground; flour”; Young Avestan *pišant-* “crushing, chipping”, Persian *pist* “flour from parched grain”, Wakhi *pəst* “flour from parched barley grain” etc. (Steblin-Kamenskij 1982, 27). In the Indo-European corn-terminology the Tocharian B *tsänkana* or *tsänkanta* pl. “mountain naked barley” need not be isolated. Related may be West Germanic **pinkila-* & **punkila-* > Old High German *dinkil* m. glossed as ‘spelta, siligo, far’ (Tatian; 9th cent.), Middle High German *dinkel*, German *Dinkel* “spelt wheat, Triticum spelta”, dial. (Swiss) *dinkel*, *dinckel*, *tünckel*, (Steyr) *tunkel*, *dunkel* id.; Old Saxon place-name *Thinkilburg* (10th cent.), today Dinkelburg in the district Warburg; Latvian *tengas* “barley hulled grain boiled together with pea and beans”, also “groats, hulled grain” and “crushed hemp” (*LDW* IV, 163). Mühlenbach (*LDW* 1.c.) derived the Latvian word from Estonian *tang* “(little) grain”, but the Estonian word is completely isolated in Balto-Finnic and Finno-Ugric. Finnish *tanko* “peeled barley grains” is borrowed from Estonian (*SKES* 1224), and so the Baltic origin of Estonian *tang* is quite probable. The West Germanic protoforms **pinkila-* & **punkila-* reflect the ablaut pair **ten(ǵ)ilo-* & **tǵ(ǵ)ilo-* projected to late Indo-European (*EWAhD* II, cc. 657–58). With respect to Old High German *himil* “heavens”, which must be derived from Germanic **himena-* (Kluge 1999, 374–75) via nasal dissimilation (cf. Gothic *himins*, Old Nordic *himinn* id.), it is also possible to think about analogous development in the case of **pinkila-* & **punkila-* → **pinkina-* & **punkina-* < **ten(ǵ)ino-* & **tǵ(ǵ)ino-*. The etymology of the West Germanic forms, which may be applied to their Latvian and Tocharian counterparts, has been sought in a hypothetical Germanic root **penk-* (*EWAhD* II, cc. 657–58), but is attested only with the initial *st-* (*s*-mobile?): Gothic. *stigqan* “to clash, do battle”, *bi-stigqan* “to strike against”, *ga-stigqan* “to stumble”, *ga-stagqjan* “to strike against”, Old Nordic *stökkva* “to leap, spring up, flee”, Old English *stencan* “to scatter” (Lehmann 1986, 325). But this root should be reconstructed with a labiovelar, also with respect to Latin *ex-stinguō* “I extinguish”, *di-stinguō* “I keep separate, distinguish” < **stengʷ-* (*LIV* 596–97). It may, but need not, be related with Tocharian B *tsänk-* “to flay”, A *tspänk-* “to flay”. In spite of apparent semantic compatibility this etymology has its limits in Germanic data especially because of the weak material support of the Germanic root **penk-*. For this reason it is legitimate to think about alternative solutions. In the case of a species of mountain barley it is necessary to use irrigation (Steblin-Kamenskij 1982, 29). In this perspective it is quite natural to derive this term from IE **ten(ǵ)-* > Greek *τέγγω* “I wet, moisten; dye” | Latin *tingō,-ere* “to wet, imbue, dye”; Old High German *dunkōn* “to immerse” (*LIV* 628; Pokorny 1959, 1067). Summing up, it is difficult to decide, if this Tocharian B designation of “barley” is inherited or borrowed from Chinese.

13. Tocharian A *tsem*; B m. *tsem*, acc. *tseṇam*, f. *tseñña*, acc. *tseññai* “blue” (Adams 2013, 810).

(a) Lubotsky & Starostin (2003, 264) seek a source in Chinese 青 *qīng* “green”, also “blue, dark, black” < Late Middle Chinese **tsʰiaŋ* < Early Middle Chinese **tsʰejŋ* (Pulleyblank 1991, 255) ~ Middle Chinese **chieŋ* < Postclassic Old Chinese **shiēŋ* < Eastern Han **shiēŋ* < Western Han **shēŋ* < Classical & Preclassical Old Chinese **shēŋ*¹⁰¹ [*Shījīng*, 1050–600 BCE] (Starostin,

101 Sino-Tibetan **chēŋ*: Kachin *gaciŋ* “to be fresh, green”, Garo *gathaj* “green”, Dimasa *gathaj* “unripen”; Kanauri *śōŋ*; Rawang *məśiŋ* “green”; Manipuri *asaŋ-ba*, Rengma *ke-sin* “green” (Peiros & Starostin, *CVST* IV, 35, reconstruct Sino-Tibetan **chriaŋ*, with **-r-*, based on Old Chinese 生 **shreŋ* “to live, be alive; grow, give birth”, Bur-

ChEDb; *GSR* 0812 c' -d'). Schuessler (2007, 431): Middle Chinese **ts^hieŋ* < Later Han Chinese **ts^heiŋ* < Old Chinese **tshêŋ* “green, blue”. Lubotsky & Starostin (2003, 264) supposed that the Middle Chinese designation of the “green” or “blue” color **chieŋ* was adapted as Tocharian B *tsem* “blue” and further borrowed unchanged into A, since Tocharian B *-e-* reflects **-ē-*, while the A continuant is *a*: B *yente* ~ A *want* “wind” < **uēnto-*.

(b) Semantically solution (a) is perfect, but there is a problem with the final nasal. A regular reflex of Chinese final *-ŋ* in probable Tocharian borrowings is the final *-ñk*:

B *ṣaṅk* “a wet or dry measure of volume” < Middle Chinese 升 **śiŋ* (Starostin).

A *ṣoštāñk* “tax collector, banker” < Early Middle Chinese 收藏 **euwdzaŋ* (Pulleyblank)

A *trūñk*, B *tronk* “hollow, cave” < Classic Old Chinese 盅 **thruŋ* (Starostin; Schuessler)

B *tsyāñk* “sauce made from beans” < Early Middle Chinese 醬 **tsiaŋ^h* (Pulleyblank)

On the other hand, Tocharian *-m* reflects Chinese *-n*, e.g. B *tsum* “inch” < Late Middle Chinese 寸 **ts^hun* (Pulleyblank). In this perspective it seems better to seek a source of the Tocharian word(s) in Chinese 黝 *zhěn* “black, black (beautiful) hair” < Late Middle Chinese **tśin'* < Early Middle Chinese **tein'* (Pulleyblank 1991, 402; *GSR* 0375 e) ~ Middle Chinese **tśjen^b* < Later Han Chinese **tśin^b* < Old Chinese **tin(?)* [*Zuǒzhuàn* “Comments of Zuo”, describing the period 722–468 BCE] (Schuessler 2009, 319, §32–16 e). Apparently related is Chinese 鬢 *zhěn* “black (hair)” < Late Middle Chinese **tśin'* < Early Middle Chinese **tein'* (Pulleyblank 1991, 402) ~ Middle Chinese **čīn* < Postclassic Chinese **čīn* < Eastern Han Chinese **čón* < Western Han Chinese **tjón* < Classic Old Chinese **tīn* < Preclassic Old Chinese **tin?* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0375 d). Baxter & Sagart (2014): Middle Chinese **tsyinX* < Old Chinese **ti[n]?* “black hair”. The semantic shift from “black” in Chinese to “blue” in Tocharian would be understandable, if it was an attribute of the hair of Chinese women, whose blue-black hue could have been perceived as very attractive by Tocharians.

14. Tocharian AB *wānt-* “to cover, envelop, surround” (Adams 2013, 642–43).

Chinese 垣 *yuán* “wall, city” < Middle Chinese **wān* < Late & Middle Postclassic Chinese **w(h)ān* < Early Postclassic Chinese **w(h)an* < Han Chinese **w(h)an* < Classic Old Chinese **w(h)an* < Preclassic Old Chinese **w(h)ar* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0164 m) ~ Old Chinese **[G]^war* (Baxter & Sagart 2014, 137, 258, 261). Comments: From the point of view of semantics Gothic *wands* “wall”, derived from the verb *bi-windan* “to wrap”, which is a probable cognate of the Tocharian word, is closer to the Chinese meaning than the Tocharian words are. On the other hand, the Old Chinese final **-r* in reconstructions of both Starostin and Baxter & Sagart exclude Tocharian as a possible donor-language. More promising are perhaps the Iranian parallels: Young Avestan *var-* “Schloss, Burg”, *vāra-* “Deckung, Wehr”; Khotanese *vara-* “court, courtyard; enclosure; bank”; Parthian of Turfan *'hryw(w)r*, Pāzand *ganā var*, Zoroastrian Pahlavi *Yam-kart var* “the enclosure made by Yam”; Persian *bār* “Wall, Fundament, Burg” (Bartholomae 1904, 1363–64, 1411; Bailey 1979, 376, 377), all from Iranian **Huar-* (Cheung 2007, 206–07) < IE **H₂er-* “to open/close” (Kümmel, *LIV* 227). According to the periodization of development of Chinese by Starostin, the final **-r* existed here still around 600 BCE and earlier. The first source, where the Chinese word 垣 *yuán* “wall, city” was recorded, was *Shījīng*, originating in the period 1050–600 BCE. Thus, if the Chinese word is of Iranian origin, its adoption would have been realized still before 600 BCE. Let us mention that the same Iranian designation of “fortification” also penetrated into Fenno-Ugric, namely in Hungarian *vár* “Festung, Burg” (first 1055), and its derivative *város* “Stadt” (first 1193) (Joki 1973, 336, #193).

mese *hraiŋ* “to live, alive”, Lushai *hriŋ* “to be green, fresh”; in the Sino-Tibetan database of Sergei Starostin (2005) already two Sino-Tibetan protoforms are differentiated, **chēŋ* and **chreŋ*). Baxter (1992, 205, 499) reconstructs Middle Chinese **tsheng* and derived it from Old Chinese **sreng* “green or blue”.

E. Non-Chinese glosses, probably of Indo-European origin, in Chinese texts

In the present section are included four glosses from non-Chinese, probably Indo-European, sources, identified in Chinese texts. Both of the lion-names are connected with the Kingdom of Shule, i.e. Kashgar, the term #3 reflects an archaic Tocharian B form, the older term #4 may be identified as Early Khotan-Sakan. Two other terms were ascribed to Xiongnu, ##1b & 2, but they are apparently of Tocharian (B) origin. Finally, the term #1a has to belong to the Lesser Yuezhi and also looks like a Tocharian (B) loan. The oldest borrowing is surprisingly the lion-name of Iranian origin (#3), whose presence in Chinese is datable already around 300 BCE. The remaining glosses, reflecting more or less the Tocharian B provenance of a donor-language, appeared in Chinese documents during the Han era, when Tocharian B was already separated from A (we date this split to *c.* 400 BCE, likewise Lubotsky 1998, 380).

1a. Han Chinese 若苴 **ñakcja* < Lesser Yuezhi ~ Tocharian B *ñäk(i)ye* “divine, celestial, heavenly”.

1b. Han Chinese 若鞮 **ñakte* < Xiongnu < Tocharian B *ñakte* “god”.

(a) According to the witness of “Records of the {Grand} Scribe” (太史公書 *Tàishǐgōng shū*), also known as “The Scribe’s Records” (史記 *Shǐjì*, 20.0087.2), written by Sima Qian (司馬遷; 145–86 BCE), the king of Lesser Yuezhi (小月氏 *Xiǎo Yuèzhī*), who surrendered to the Chinese in 108 BCE, was called 若苴王 *ruò jū wáng*. Pulleyblank (1966, 19) separated the last character, 王 *wáng*, the usual Chinese word for “king”, while in *ruò¹⁰² jū¹⁰³* he did not see a name of the king of the Lesser Yuezhi, but his title in their language. He added his Middle Chinese reconstruction and its earlier projection: **nyāktsjō* < **nyaktsia*, corresponding to his Early Middle Chinese reconstruction from 1991: **ñiaktsiǎ*. Applying the historical reconstructions of other authors, it is possible to shift the historical forms deeper as Schuessler did with his Later Han Chinese **ñakts^hia*, corresponding exactly to Starostin’s Eastern Han Chinese **ñakcja* < Western Han Chinese **ñakca*. Pulleyblank (1966, 19) convincingly identified here the Tocharian adj. A *ñäki*, B *ñäk(i)ye* “divine, celestial, heavenly” (Adams 2013, 284–85). The whole title 若苴王 *ruò jū wáng* should mean “Divine King” and has an exact equivalent in the title βαγο βαο “God King”, used in the monument of the Kushan king Kanishka¹⁰⁴ I, who ruled *c.* 127–150 CE also over the Tarim Basin

102 Chinese 若 *ruò* “such, thus, like this, like that” < Late Middle Chinese **riak* < Early Middle Chinese **ñiak* (Pulleyblank 1991, 270) ~ Middle Chinese, Postclassic Chinese & Eastern Han Chinese **riak* < Western Han Chinese & (Pre)classic Old Chinese **nak* (Starostin, *ChEDb*; *GSR* 0777 a) ~ Later Han Chinese **riak* < Old Chinese **nak* (Schuessler 2007, 395).

103 Chinese 苴 *jū* “hemp, straw” < Late Middle Chinese **tsiǎ/*tsyǎ* < Early Middle Chinese **tsiǎ* (Pulleyblank 1991, 162) ~ Middle Chinese **cjō* < Postclassic Chinese **cjo* < Eastern Han Chinese **cja* < Western Han Chinese **ca* < Classic Old Chinese **ca* < Preclassic Old Chinese **ca* (Starostin, *ChEDb*; *GSR* 0046 t). Schuessler (2007, 322): Middle Chinese **ts^hjwo* < Later Han Chinese **ts^hia* < Old Chinese **ts^ha*. Note: Also read Middle Chinese **chjō* < Old Chinese **cha*; and Middle Chinese **cjō* < Old Chinese **ca* id. Sino-Tibetan: Tibetan *gco*, *bco*, *so* “hemp”.

104 Sanskrit *Kaniška*, Bactrian *Kanḥḥku*, Chinese 迦膩色伽, today pronounced as *Jiānisèjiā*, in Early Middle Chinese as **kainrişikgia* or **kianrişikgia* by Pulleyblank and in Later/Eastern Han Chinese as **kañisṣəkga* by Schuessler and **kañāsṣəkga* by Starostin:

迦 *jiā* < Late Middle Chinese **kia* < Early Middle Chinese **kia* or **kai* (Pulleyblank 1991, 143) ~ Middle Chinese **ka/*kja* < Late Han Chinese **ka* (Schuessler 2009, 212, §18–4: the sign was used to transcript Sanskrit *ka*).

膩 *nì* “fat, slippery” < Late Middle Chinese **nri* < Early Middle Chinese **nri^h* (Pulleyblank 1991, 224) ~ Middle Chinese **ni* < Late & Middle Postclassic Chinese **nij* < Early Postclassic Chinese **niś* < Eastern Han Chinese **nās* < Western Han Chinese **njās* < Classic Old Chinese **nrić* < Preclassic Old Chinese **nrijs* (Starostin, *ChEDb*; *GSR* 0564 j) ~ Middle Chinese **ni^c* < Late Han Chinese **nis* < Old Chinese **nris* (Schuessler 2009, 301, §29–28 j).

色 *sè* “colour, appearance, countenance” < Late Middle Chinese **səǎk* < Early Middle Chinese **sik* (Pulleyblank 1991, 272) ~ Middle Chinese **sik* < Postclassic Chinese **sik* < Eastern Han Chinese **sək* < Classic & Preclassic Old Chinese **srək* (Starostin, *ChEDb*; *GSR* 0927 a) ~ Middle Chinese **sək* < Late Han Chinese **sək* < Old Chinese **srək* (Schuessler 2009, 112, §5–31 a). Vietnamese reading: *sác*.

伽 *jiā* or *qié* < Late Middle Chinese **khia* < Early Middle Chinese **gia* (Pulleyblank 1991, 253) ~ Middle Chinese **ga* < Late Han Chinese **ga* (Schuessler 2009, 212, §18–4: the sign was used to transcript Sanskrit *ga*).

(Pulleyblank 1966, 20). In “Book of {Former} Han” (漢書 *Hànshū* 17.0347.1), compiled by Ban Gu and his sister Ban Biao in 111 CE, there was the variant spelling 右苴王, where original 若 *ruò* was replaced by 右 *yòu*¹⁰⁵ apparently mistakenly, only on the basis of similarity of characters.

(b) In the latter part of the “Book of {Former} Han” [漢書 *Hànshū* 94.B.0602.3], there is also information that rulers of Xiongnu used in their titles the epithet 若鞮 *ruò dī*¹⁰⁶. Pulleyblank (1966, 19) derived it from Middle Chinese **nyaktei* ~ Early Middle Chinese **niaktej* (Pulleyblank 1991, 270, 75) < Later (= Eastern) Han Chinese **riakte* (Schuessler) < Western (= Former) Han Chinese **riaktē* (Starostin) and identified in the epithet the Tocharian B word *riakte* “god” (~ A *riaktē*). Hanshu describes the events in the time interval 206 BCE – 23 CE. It would mean that during the 1st cent. BCE the chieftains of the tribal confederation, in Chinese sources called Xiongnu (匈奴 *Xiōngnú*), introduced among their titles and epithets a Tocharian word with typical features of Tocharian B.

Note: Attested forms, derivatives, compounds and etymological attempts were summarized and carefully analyzed and commented by Normier 1980, 251–278; Winter 1987, 297–325; Barnes 2013, 31–54.

2. Han Chinese 爍蠡 **mekrə* (**mekle*) & **mekrwa(j)* (**meklwa*) “dried fermented milk” < Xiongnu < Tocharian A *malke*, B *malkwer* “milk”¹⁰⁸.

The term 爍蠡 *mīluo* / *mīlí* / *mīlǐ* was first used in the poem called 長楊賦 *Cháng-yáng fù*, i.e. “Long Willow Rhapsody”, from the 1st cent. BCE, where the poet 楊雄 *Yáng Xióng* (53 BCE – 18 CE) described the victories of the Emperor Wu (141–87 BCE) over the confederation of the 匈奴 Xiongnu tribes. He wrote about deeds of the Chinese army: ‘We destroyed their wagons and ruined their yurts, drove away their camels and burned their 爍蠡.’ The commentator Zhang Yan (3rd cent. CE) explained the hapax 爍¹⁰⁹ 蠡¹¹⁰ as “dried *lao*”, i.e. “dried fermented

105 Chinese 右 *yòu* “right hand; to be right (side), be to the right” < Late Middle Chinese **iw* < Early Middle Chinese **wuw* (Pulleyblank 1991, 379) ~ Middle Chinese **həw* < Late & Middle Postclassic Chinese **wəw* < Early Postclassic Chinese **wíw* < Han Chinese **wə* < Classic Old Chinese **wə* < Preclassic Old Chinese **wə?* (Starostin, *ChEDb*; *GSR* 0995 i).

106 Chinese 若 *ruò* “such, thus, like this, like that” < Late Middle Chinese **riak* < Early Middle Chinese **riak* (Pulleyblank 1991, 270) ~ Middle Chinese, Postclassic Chinese & Eastern Han Chinese **riak* < Western Han Chinese & (Pre)classic Old Chinese **nak* (Starostin, *ChEDb*; *GSR* 0777 a) ~ Later Han Chinese **riak* < Old Chinese **nak* (Schuessler 2007, 395).

107 Chinese 鞮 *dī* “leather shoe” < Middle Chinese **tiei*/**diei* < Later Han Chinese **te*/**de* < Old Chinese **tē*/**dē* (Schuessler 2009, 124, §7–14 h; *GSR* 0866 h). In Starostin’s *Chinese Etymological Database* the character 鞮 is not analyzed, but it is possible to propose its probable phonetic development on the basis of a close character with the same phonogram, e.g. 堤 *dī* “dike, dam” [Late Zhou] < Middle Chinese **tiej* < Postclassic Chinese **tiēj* < Eastern Han Chinese **tiē* < Western Han Chinese **tē* < Classic & Preclassic Old Chinese **tē* (Starostin, *ChEDb*; *GSR* 0866 k).

108 The first version of this part devoted to “milk” was published in Blažek 2015.

109 Professor Wolfgang Behr (Zürich) points out (p.c., June 23, 2015) that in Pulleyblank’s article the wrong sign 爍 *dīng* “cauldron” (Unicode U+24423) was used instead of correct 爍 *mì* (Unicode U+2447A).

<http://www.unicode.org/cgi-bin/GetUnihanData.pl?codepoint=2447A&useutf8=true>

Behr adds: ‘...perhaps the printer didn’t have that exceedingly rare character...’. In the dictionary called 字彙 *Zihui* his author 梅膺祚 *Méi Yīngzuò* (1615), which introduced the 214-radical system in China, says that 爍 is a variant of 煨 (U+7190) *mì* (Behr, p.c.).

110 For the character 蠡 there are three various interpretations:

(a) *lí* “woodworm, worm-eater” < Late Middle Chinese **liaj* < Early Middle Chinese **lej* (Pulleyblank 1991, 188; *GSR* 1241 o) ~ Middle Chinese **liei*^b < Later Han Chinese **le*^b < Old Chinese **rē?* (Schuessler 2009, 126, §7–22 o; *GSR* 1241 o). The character is missing in Starostin’s *Chinese Etymological Database*, but it is possible to help ourselves with the character with common phonogram: 鯉 *lí* “carp; letter” < Middle Chinese **li* < Late Postclassic Chinese **li* < Han Chinese **rə* < Classic Old Chinese **rə* < Preclassic Old Chinese **rə?* (*GSR* 0978 j-k). Note: For **r* cf. Xiamen, Chaozhou, Fuzhou *li*³ (Starostin, *ChEDb*).

(b) *lí* “calabash shell serving as a dipper; dipper” < Late Middle Chinese **liaj* < Early Middle Chinese **lej* (Pulleyblank 1991, 187; character in *GSR* 1241 o). The character is missing in Starostin’s *Chinese Etymological Database*, but it is possible to help ourselves with the character with common phonogram: 裡 *lí* “shovel” < Middle

milk¹¹¹ (cf. 酪 *lào* “fermented milk; yoghurt; kumiss; cream” < Early Middle Chinese **lak* (Pulleyblank 1991, 184) ~ Middle Chinese **lāk* < Postclassic Chinese **lāk* < Han Chinese **rāk* < Classic & Preclassic Old Chinese **rāk* by Starostin, *ChEDb*; *GSR* 0766 p). In his article, Pulleyblank (1962–63, 255), the author of translation of Yang Xiong’s words, reconstructed the Middle Chinese pronunciation of 爍蠶, i.e. *miluo* / *mili* / *mili* in modern Beijing pronunciation, as **meklwa* (or **-lje*) “dried curd”. Pulleyblank (1962–63, 256) added: ‘There is no word for cheese in neighbouring languages which shows any resemblance to M[iddle Chinese] **mek-lwa* that I can discover.’ This is true for Turkic, Mongolic or Yeniseian languages, where Pulleyblank tried to identify a source. Let us mention that in the unborrowed Yeniseian lexicon the initial *m-* is excluded and in Turkic *m-* appears only in the words where another nasal follows.

Etymology:

(a) Bailey (1985, 31) tried to find an Iranian source of the Chinese gloss, assuming the chain of hypothetical forms preceding the adaptation: **milāka-* < **mižāka-* < **miž-*, reconstructed on the basis of the actually attested Khotanese *bišī*, *bešī* (*b-* < **m-* as in *buhu* ~ *muhu* “we”?) “buttermilk”, Yagnobi *mešin*, *mayšin* id., Ossetic Iron *mīsyn*, Digor *mesin* “whey”, Sanskrit *āmikṣā* “curds of milk” : *mikṣ-* “to mix”; further cf. Gaulish-Latin *mesgus* “whey”, Welsh *maidd*, Middle Irish *medg* “curds” (Abaev II, 123; Bailey 1979, 290). In spite of the perfect semantic agreement it is difficult to accept the existence of the Khotanese variant with *-l-*, if the form with *-š-* is really attested. The examples cited by Bailey (1985, 31) to demonstrate the change of Khotanese *l* < **ž* are convincingly explained by the same author by the presence of the following liquid: *mūla-* “rat” < **mūžla-* < **mūš-la-* or *ūla-* & *ula-* “camel” < **ūžla-* < **uštra-* (Bailey 1979, 337, 40).

(b) First Schlegel (1872, 8–9) mentioned similarity of the Chinese gloss and the Indo-European designation of “milk”, widespread in European branches: Greek ἀμέλω “I milk”, ἰππημολγός “Mare Milker” (about Scythians), ἄμελις “milking”; Albanian *mjel* “I milk”; Latin *mulgeō* “I milk”; Old Irish *mligid* “milks”, *melg* “milk”, *mlicht* id., Middle Welsh *blith* “full of milk”; Gothic *miluks*, Old Norse *mjolk*, Old English *meol(o)c*, Old Frisian *melok*, Old Saxon *miluk*, Old High German *miluh* “milk”, besides Old English *melcan*, Old High German *melkan* “to milk”; Lithuanian *melžti* “to milk”; Church Slavonic (of Russian redaction) *melžiti* “to milk”, Slovak *mízt’* “to suck”, Czech *mlezivo*, Russian *molóživo* “colostrum, beestings”, while Slavic **melko* “milk” (> Old Church Slavonic *mlěko*, Serbo-Croatian *mlijěko*, Czech *mléko*, Russian *molokó* etc.) has been identified as a Germanic borrowing. All unborrowed forms are derivable from **H.melg-* “to milk” (Pokorny 1959, 722–23; Beekes 2010, 86; de Vaan 2008, 393; Matasović 2009, 263, 274; Kroonen 2013, 364; Derksen 2008, 307–08; 2015, 310–11). Already more than century ago Antoine Meillet (1911, 146–47) recognized the Tocharian cognates: A *malke*, denominative *mālk-* “to milk”; B *malkwer* n. “milk”, *mālk-* “to milk”, PP *māлкуwe-* (Van Windekens 1976, 284; Adams 2013, 475, 490), but only almost a century later Dybo (2007, 95) indicates a source of the Chinese gloss just in Tocharian. Concerning semantics, cf. Sanskrit *dadhi-* “thick sour milk” : *dadhi-ja-* “curds”, lit. “milk-born”; Avestan *tūiri-* “milk that has become like cheese” : Greek τῦρός “cheese” (Buck 1949, 387, #5.88). It remains to answer some questions:

(i) For the earlier stages of Chinese the following reconstructions were established: Middle Chinese **miekluā* or **miekliei* by Bailey 1985, 31, following Karlgren (*GSR*, ## 0859 a-b, 1241 o), **meklwa* or **meklej’* by Pulleyblank (1962–63/1991) or **meklejX* by Behr (p.c., applying

Chinese **li* < Postclassic Chinese **l(h)i* < Han Chinese **r(h)ə* < Classic & Preclassic Old Chinese **r(h)ə* (Starostin, *ChEDb*).

(c) *luó* “snail; helical shell” < Late Middle Chinese **lua* < Early Middle Chinese **lwa* (Pulleyblank 1991, 203; character in *GSR* 1241 o). The character is missing in Starostin’s *Chinese Etymological Database*, but it is possible to help ourselves with synonymous 螺 *luó* “a k. of mollusc” [Han] < Middle Chinese **lwā* < Postclassic Chinese **lhwā* < Eastern Han Chinese **rhwā* < Western Han Chinese **rhwāj* < Classic Old Chinese *rhwāj* < Preclassic Old Chinese **rhōj* (Starostin, *ChEDb*).

111 Later commentators, e.g. 吕向 Lǚ Xiàng (later Han), explained this *hapax* as “settlement”. Pulleyblank (l.c.) and Behr (p.c.) prefer the meaning “dried curds”.

the system of Baxter), and Postclassic Old Chinese **miēklwo* < West Han Chinese **mēkrwa* according to Starostin (cited after Dybo 2007, 95; Schuessler reconstructs still **-l-* for Later Han Chinese). In all these Chinese reconstructions the order of *k...l* is opposite of that in Tocharian A *malke*, B *malkwer* “milk”. This metathesis may be ascribed to transcription of a word foreign to Chinese. There is an analogical case in Chinese transcription of the name of the oasis-city Merw on the Silk Road, today known as Mary in Turkmenistan, mediated by the text 後漢書 *Hòu Hànsū* “Book of the later Han”, compiled by the historian Fan-ye (398–445 CE). The place-name is of Iranian origin, cf. Old Persian *Marguš*, Parthian *mrg*, Manichaean Sogdian *mry* /*Mary*/, besides *mrw-rwd* “Marv river” /*Marw-rūd*/ (Gharib 1995, ##5430, 5477). Its Chinese transcription 木¹¹² 鹿¹¹³, in modern Beijing pronunciation *mùlù* (cf. Chavannes 1907, 177), may be projected into Early Middle Chinese **məwkləwk* (Pulleyblank 1991, 220, 201) or Middle Chinese **mukluk* < Late Postclassic Chinese **mhwōklwōk* < Early Postclassic Chinese **mhōklōk* < Han Chinese **mhōkrōk* (Starostin, *ChEDb*). Alternatively, it is possible to assume a dissimilative loss of the first liquid in the cluster **-lkrw-* originating in the following chain of changes: Early Tocharian B **mälkwær* (Pinault 2008, 444) > Xiongnu **mēlkwær* > Western Han Chinese **mēlkrwa* > **mēkrwa*. This latter solution seems more probable with regard to the fact that the adaptation of the Tocharian word into the Xiongnu language and further in Chinese would have been realized during the 1st cent. BCE, i.e. in the Western Han period, while the Early Middle Chinese reconstruction reflects the time around 600 CE.

(ii) According to the witness of Yang Xiong, the word 爓蠶 “dried fermented milk”, reconstructed in Middle Chinese as **meklwa* or **meklēj*^(?), was the term adopted from the Xiongnu tribes, enemies of the Yuezhi, usually identified with Tocharians, as it was mediated by Sima Qian (司馬遷; 145–86 BCE) in Chapter 123 of his “Records of the {Grand} Scribe” (太史公書 *Tàishīgōng shū*), also known as “The Scribe’s Records” (史記 *Shǐjì*): ‘The Yuezhi originally lived in the area between the Qilian Mountains and Dunhuang, but after they were defeated by the Xiongnu, they moved far away to the West, beyond Dawan {= Ferghana}, where they attacked and conquered the people of Daxia {= Bactria} and set up the court of their king on the northern bank of the Gui river.’¹¹⁴ In the time of the Han dynasty the names of the Xiongnu chieftains were accompanied by the epithet 若鞮 *ruòdī* < Middle Chinese **nyaktei* (Pulleyblank 1966, 19–20) ~ Early Middle Chinese **niaktej* (Pulleyblank 1991, 270, 75) < Later (= Eastern) Han Chinese **hakte* (Schuessler) < Western (= Former) Han Chinese **haktē* (Starostin). With respect to Tocharian B *hakte*, A *hakat*, “god”, the title becomes understandable (cf. §1 of this section). If the Xiongnu language could borrow the Tocharian titles, why not words for milk products?

3. Han Chinese 師子 **šəjčə?* (Pulleyblank) ~ **šəjčə[?]* (à la Starostin) or **šitsiə[?]* (à la Schuessler) < ‘Kashgarian’ “lion” ~ Tocharian B *šecake* “lion” < **šēcike* < **šicēke*.

The oldest attestations of Chinese 師子 *shīzǐ* “lion” come from the *Hànshū* 漢書 “Book of {Former} Han” [96A: 3889], completed in 92 CE, but describing the events of the 2nd and 1st cent. BCE: “In the territories of 烏弋 Wūyì (today in Afghanistan) ... there are 桃拔 *táobá-s* (?‘long-tailed deer’), 師子 lions, and 犀牛 rhinoceroses.”¹¹⁵ (see Hulswé 1979, 114; Behr 2004, 9–10).

Further is a gloss in the dictionary *Shuōwén jiězì* [5A18: 103] (說文解字 “Explaining Graphs and Analyzing Characters”), finished c. 100 CE:

112 Chinese 木 *mù* “tree” < Middle Chinese **muk* < Late Postclassic Chinese **mhwōk* < Middle & Early Postclassic Chinese **mhōk* < Han Chinese **mhōk* < Classic & Preclassic Old Chinese **mhōk* (Starostin, *ChEDb*).

113 Chinese 鹿 *lù* “(sika) deer” < Middle Chinese **luk* < Late Postclassic Chinese **lwōk* < Middle & Early Postclassic Chinese **lōk* < Han Chinese **rōk* < Classic & Preclassic Old Chinese **rōk* (Starostin, *ChEDb*).

114 Translation of B. Watson: *Record of the Grand Historian of China*, vol. 2. New York: Columbia University Press, 1962, 268 (cited after Lin Meicun 1998, 476).

115 烏弋地...有桃拔、師子、犀牛.

“*Xiāo* means ‘tiger’s roar’. One {commentator} says: 師子 ‘lion’. Derived form {the word} 九 *jiǔ* for ‘tiger’.”¹¹⁶ The real word for “tiger” is 虎 *hǔ* (GSR 0057 a-e), the form 九 *jiǔ* means “nine” and is used only in phonophoric function (Behr 2004, 10–11).

More detailed information was mediated by the commentator Mèng Kāng (孟康, c. 250 CE):

“The Records compiled in the Eastern Lodge say: ‘The king of the state of *Shūlè*¹¹⁷ sent an envoy, who presented a lion and a zebu.’ The lion (*shīzǐ*) is similar to the tiger, pure yellow, with a long mane, and a tuft on its tail which is as big as a bushel.”¹¹⁸ (Behr 2004, 11). This event is dated to 133 CE.

Hòu Hànshū [3: 158] (87 CE): “The kingdom of *Yuèzhī*¹¹⁹ dispatched an official who presented a *fúbá* (‘hornless unicorn’) and a lion.”¹²⁰ (Behr 2004, 12).

Following Pelliot (1931, 449), who first had mentioned similarity of Tocharian A *śisāk*, B *ṣecake* “lion” and one of Chinese designations of “lion”, Lüders (1933, 1018) proposed that the Tocharian words had to represent a transcription of Chinese 師子 *shīzǐ*¹²¹ *zǐ*¹²² “lion”, Middle Chinese **ṣiṣiǎʔ* (Pulleyblank 1962–63, 109) ~ Early Middle Chinese **ṣitsiʔ* / **ṣitsiʔ* (Pulleyblank 1991, 281, 420) < Western Han Chinese **ṣājčǎʔ* (Pulleyblank 1995, 428). According to Pulleyblank (1962–63, 109) the direction of borrowings must be the opposite, from Tocharian into Chinese. One such occasion is even described by Mèng Kāng (see above) and is dated to 133 CE when a delegation from the kingdom *Shūlè* (i.e. Kashgar) brought a lion as a present in China. It was in the period of Han (206 BC – 220 CE) when the western border of China shifted far to the west. At that time the first character was probably read as **ṣ(j)aj* < Early Old Chinese **srij*, and the second character as **c(j)ǎ* < **čǎʔ* (Starostin 1989, 695, 597; 549, 550). The main difference consists in dating the elimination of the final glottal stop: Starostin reconstructed it only for the earliest stage of Chinese, beginning of the end of the 6th cent. BCE, Schuessler introduced it in his pre-Han Old Chinese, i.e. from the 3rd cent. BCE, while Pulleyblank operated with it in his Early Middle Chinese, i.e. till the end of the 6th cent. CE! Making a ‘mean value’, it is possible to assume its existence still in the Han era. The reading of 師子 or 獅子 for this period should be **ṣājčǎʔ* by Pulleyblank, **ṣājčǎʔ* à la Starostin and **ṣitsiǎʔ* à la Schuessler. Concerning the substitution of the Han Chinese final **-ʔ* for the Tocharian velar, the same fate of the final velar occurs in (Early) Middle Chinese 昆子 **kuən-tsiǎʔ* (Pulleyblank 1962–63, 226) = **kwəntsiʔ* (Pulleyblank 1991, 179, 420; GSR 0417 a + 0964 a) which was mentioned in the “Brief History of Wei” (魏略 *Wèi lüè* or *Wei lüè*), written by Yu Huan in 239–265 CE, as the name of a fur-bearing animal in the territory of the Dingling (丁零) people. This apparently foreign word, recorded by the same second character as the word “lion”, must represent an adaptation of Turkic **qirsaq* ~ **qarsaq* “polar fox” (Pulleyblank 1962–63, 226).

The designation of “lion” is attested in both Tocharian A and B. The Tocharian A nom. *śisāk* occurs e.g. in 12b3: *sne wāsklune kesār śisāk tāṣ* “without motion of [his] mane the lion lay” and with the gemined variant 257a6: *kesār śisāk oki pālkāt śtwar kālymentwam* “like a lion’s mane the four cardinal points are visible”; in compounds 213a6: 23 *śisāk-śanwem* du. “lion’s jaws” (Poucha 1955, 324). Tocharian B *ṣecake* e.g. in 75a1: *ysāṣṣe ramt karse mlyuweñc pokaine*

116 虓，虎名也。一曰師子。从虎九聲。

117 Early Middle Chinese 疏勒 **siǎʔlək*, i.e. Kashgar (Pulleyblank 1991, 288, 184; GSR 0090 b + 0928 f).

118 東觀記曰：疏勒國王盤...遣使...獻師子、封牛。師子似虎，正黃鬃，尾端茸大如斗。

119 Early Middle Chinese 月氏 **ṣuattci(ā)* (Pulleyblank 1991, 388, 404; GSR 0306 a + 0867 a).

120 月氏國遣使獻扶拔、師子。

121 Chinese 師 *shī* “multitude, army; master” < Late Middle Chinese **ṣi* < Early Middle Chinese **ṣi* (Pulleyblank 1991, 281: probably a transcription of Tocharian B *ṣecake*) = Middle Chinese **ṣi* < Postclassic Chinese **ṣij* < Eastern Han Chinese **ṣaj* < Western Han Chinese **ṣāj* < Classic & Preclassic Old Chinese **srij* (Starostin, *ChEDb*; GSR 0559 a-e); Schuessler (2007, 461; 2009, 283, §26–36): 獅子 *shīzǐ* “lion” < Middle Chinese **ṣitsiʔ* < Later Han Chinese **ṣitsiʔ*. Baxter & Sagart 2014, 289: Middle Chinese **srij* < Old Chinese **srij*.

122 Chinese 子 *zǐ* “child, son, daughter, young person; prince; a polite substitute for ‘you’; derivational suffix” < Early Middle Chinese **tsiʔ* / **tsiʔ* (Pulleyblank 1991, 420) ~ Middle & Postclassic Chinese **cǐ* < Eastern Han Chinese **cǐǎ* < Western Han Chinese **čǎ* < Preclassic Old Chinese **čǎʔ(s)* (Starostin, *ChEDb*; GSR 0964 a-j) ~ Middle Chinese **tsiʔ* < Later Han Chinese **tsiʔ* < Old Chinese **tsǎʔ* (Schuessler 2007, 633) ~ Middle Chinese **tsiX* < Old Chinese **tsǎʔ* (Baxter & Sagart, *ChDb* 2014).

šecakem[*tse*] “thighs like a golden stag, arms [like] a lion’s” (Adams 1999, 660). It is difficult to determine a common denominator of the A and B forms: A *šisäk* is derivable from **sä(n)šäke* or **säcäke* (via regressive assimilation – see Burlak 2000, 136; the influence of *šisri* “mane” is also possible – see Adams 1999, 660 & 2013, 723; the specific correspondence of A *i* : B *e* has an analogy in A pl. *kapsiññāñ* vs. B *kektseñe* “body”, again between two palatal consonants, cf. Čop 1975, 22; similarly Burlak 2000, 94). But the initial syllable **sĩ* is also reconstructible, while B *šecake* from **sēĩ* with *c* reflecting a palatalized dental and **ē* explained by the vṛddhi-lengthening of the root-vowel (Adams, l.c.). The termination in **-äke* can reflect both **-eko-* and **-iko-* (~ **-k-*). In the Indo-European zoological terminology the *k*-suffixes are very frequent (Brugmann 1906, 505). From the productive suffixes, **-eko-* and **-iko-* are compatible with the Tocharian data (concerning IE **-eko-* : **-eko-* expectable in Tocharian, it is necessary to take in account the morphological alternance of the type Greek ἀλώπηξ, gen. -εκος).

Etymology:

(i) Van Windekens (1976, 480–81) reconstructed **sūtēko-* and **sēteko-* for A and B respectively, seeking a support in Latin *saeta* “mane”. Let us add Hittite *šettis* id. and perhaps Greek σάρτα· κάλυμμα κεφαλῆς γυναικείας (Hesych.) [corr. *σαίτα?]. The Latin word and Hesychius’ gloss are derivable from **sH₂eĩt₂/ā* or **seH₂it₂/ā*, while the absence of laryngeal in Hittite indicates the vowel **o* eliminating the preceding laryngeals (Beekes 1995, 144), i.e. the starting-point **sH₂oĩti-*. The difference between A and B in vocalism is really troublesome. Accepting the reconstruction of Common Tocharian **ä* in the first syllable (Čop & Adams quoted above), a common starting point could be **sHit^o/*siH₂t^o* plus **-eko-* or **-iko-*. On the other hand, the hypothetical protoform **sH₂eĩt^o/*sH₂oĩt^o* or **seH₂it^o/*soH₂it^o* would continue in B **saicake*. The actually attested vowel *e* can represent a hypercorrect A correspondent of B *ai*, taking in account the rule B *ai* ~ A *e* (Van Windekens 1976, 30; cf. also Winter 1984, 75, 84–85 on the phenomenon of hypercorrectness). According to D.Q. Adams (his comments on ms. of Blažek 2005b), the A form is derivable from **šäcēk(e)* ~ **šicēk(e)*, accepting the influence of the word *šisri* “mane”, while the B form reflects **šēcäke* ~ **šēcike*. He mentions the ‘switched’ vowels in the first two syllables. Taking in account possibility of the vocalic metathesis in B, the common starting point **sH₂itēk^o* seems to be an acceptable solution. The Later Han Chinese transcriptions **šajcjǎ?* (à la Starostin) or **šitsiǎ?* (à la Schuessler) of the Kashgarian designation of “lion” more or less preserves the first two consonants of Tocharian B *šecake*, but better agrees with vocalism of Tocharian A *šisäk*, if it is derivable from **šicēk(e)*. Kashgar is located in the far west of the Tocharian oikumene and it is difficult to expect a presence of East Tocharian (= A) here. Thus, the local Tocharian variety preserved the word for “lion” with consonantism close to Western (= B) Tocharian, but with vocalism closer to the A counterpart, being more archaic. Adams (2013, 723) returns to Van Windekens’ reconstruction for A and thinks about the zero-grade protoform **siH₂tekó-* “maned (one)”. The semantic motivation “lion” = “having a mane” is also quite natural, cf. Sanskrit *kešarin-* & *kesarin-* “lion” = “having a mane” [Mahābhārata] vs. *kešara-* mane (of horse or lion) [Rāmāyaṇa], from *keša-* “hair of the head” [Atharvaveda], “mane (of horse or lion)” [Mahābhārata].

(ii) Adams (1984, 284–86) proposed Common Tocharian **sä(n)šäke* which should have been derivable from **sing^heko-*, reconstructed on the basis of Vedic *simhá-*, especially regarding the later derivative *simhaka-* [Divyāvadāna]. Later Adams (1999, 660) himself expresses his doubts concerning this etymology.

(iii) Schwentner (1939, 59) derived Tocharian A *šisäk* from **kišäk*, which should have been borrowed from Sanskrit *kešaka-* “lion”, really “bestowing care upon the hair” [Pāṇīni], the derivative of *keša-* “hair of the head” [from AV], “mane (of a horse or lion)” [from Mahābhārata], cf. the semantic development in other derivatives as *kešarin-* & *kesarin-* “having a mane; lion” (cf. above). Schwentner admits that he is unable to explain Tocharian B in the same way.

4. Classic Old Chinese / Western Han Chinese 狻麤 ~ 狻猊 **sōrŋ(h)ē* “lion” < pre-Khotan-Saka gen.sg. **sarguai*.

The oldest Chinese designation of “lion”, 狻猊 ~ 狻猊, in modern pronunciation *suānní*, appears first in two texts, 爾雅 *Ēryǎ*¹²³ and 穆天子傳 *Mù Tiānzǐ zhuàn*¹²⁴, both dated, at least partially, to the early 3rd cent. BCE, i.e. in the late Zhou period (Behr 2004, 14–16, including his translations):

Ēryǎ [18.26, Xú ed.: 336]: “The *suānní* is like a *zhànmāo* [a ‘light-haired tiger/ fierce cat’]; it eats tigers and leopards.”¹²⁵

Mù Tiānzǐ zhuàn [1: 2b]: “The *suānní* and the wild horse travel 500 *lǐ* [per day].”¹²⁶

About the place of origin of this term we are informed thanks to Guō Pú (郭璞; 276–324 CE) in his comments to “Lost Book of Zhou” (逸周書 *Yì Zhōushū*) about the era of Western Zhou:

“*Suānní* stands for ‘lion’, it stems from the Western territories. During the time of Emperor Shun of Eastern Han [ruled 126–145 CE], the king of *Shūlè* came to present a zebu and a lion.”¹²⁷ Now in the same sentence both lion names are used, 狻猊 *suānní* and 師子 *shīzǐ*. It is the same event from 133 CE, described in the preceding paragraph and the city-state 疏勒 *Shūlè* (< Early Middle Chinese **sīð^hlək*) is the same address as in the case of the preceding gloss, 師子 *shīzǐ* “lion”, i.e. Kashgar.

Two characters writing the Modern Chinese word 狻猊 ~ 狻猊 *suān-ní* “lion” indicate its foreign origin. B. Karlgren reconstructed its pronunciation in his ‘Ancient’ (really Middle) Chinese as *suān-ngiei* and in ‘Archaic’ Chinese as *swān-ngieg* (*GSR* 0468 d’ + 0873 o; cf. Henning 1965, 46; Brough 1970, 81: **suān-ŋei*). Pulleyblank (1991, 296, 223) reconstructed Early Middle Chinese **swanŋej*. Behr (2004, 14) assumes a reconstruction of Old Chinese **so[n,r]=ŋe* after Baxter & Sagart. The latter reconstruction is very close to the Old Chinese reconstruction **sōr-ŋē?* proposed by Sergei Jaxontov¹²⁸ on the basis of the reconstruction of the Archaic Chinese phonology by Sergei A. Starostin (1989, 402: Middle Chinese **Cwān* < Old Chinese **Cōr*; 692: Karlgren’s **ngieg* < Starostin’s **ŋ(h)ē?*). The characters 狻, 猊 & 麤¹²⁹ do not appear in Starostin’s *Chinese Etymological Database*, but it is possible to help ourselves with characters consisting of the same phonograms:

酸 *suān* “(to be) sour, bitter, pungent” < Middle Chinese **swān* < Postclassic Chinese **sōn* < Han Chinese **sōn* < Classic Old Chinese **sōn* < Preclassic Old Chinese **sōr* (Starostin, *ChEDb*; *GSR* 0468 e’). Baxter & Sagart (2014): Middle Chinese **swan* < Old Chinese **[s]’or*. Sino-Tibetan: Tibetan *skjur* “sour” (< **g-sūr*, cf. Rgyarung *kātsyur*); Lushai: *thūr* “to be acid, sour”; Lepcha *čór* “to be sour, to be acid”; Tsangla *tūr*; Kanauri *sur-*; Rgyarung *kātsyur*; Midžu *tūr*; Bahing *dzyur* (Shafer 1974, 52, 181; Benedict 1972, 23; *CVST* IV, 124).

睨 *nì* “to look askance” < Middle Chinese **ŋiej* < Postclassic Chinese **ŋ(h)iēj* < Eastern Han Chinese **ŋ(h)ié* < Western Han Chinese **ŋ(h)é* < Classic Old Chinese **ŋ(h)é* < Preclassic Old Chinese **ŋ(h)ē?* (Starostin, 1989, 692 & *ChEDb*; *GSR* 0873 h).

The result **sōrŋ(h)ē?* for Preclassic Old Chinese agrees with Jaxontov’s reconstruction. This protoform is reconstructed for Preclassic Old Chinese, dated to the 6th–10th cent. BCE by Starostin. The change **-r > -n* was dated by Starostin (1989, 446–47, 450) to the time of transformation from Preclassic to Classic Old Chinese, i.e. around 500 BCE. On the other hand, Baxter & Sagart (2014, 260) reconstruct the coda **-r* still for Western Han Chinese. The difference in these

123 An ancient lexicon containing entries on flora and fauna, as well as glosses on terms to be found in the older classics. The presence of numerous citations dating from the middle and late Zhou period led Karlgren to dating it to the 3rd cent. BCE (Rakita Goldin 2001, 95).

124 “Tale of King Mu, Son of Heaven” <https://en.wikipedia.org/wiki/Tale_of_King_Mu,_Son_of_Heaven>. Cf. also Hargett 2001, 555.

125 狻猊如戲貓，食虎豹。

126 狻猊、野馬，走五百里。

127 狻猊，即師子也，出西域。漢順帝時，疏勒王來獻犍牛及師子。

128 In his letter addressed to Václav Blažek, dated on Feb 23, 1991.

129 Chinese 麤 *ní* “fawn” < Late Middle Chinese **ŋijaj* < Early Middle Chinese **ŋej* (Pulleyblank 1991, 223; *GSR* 0873 o) ~ Middle Chinese **ŋiei* < Later Han Chinese **ŋe* < Old Chinese **ŋé* (Schuessler 2007, 398–99).

positions may be illustrated by various interpretations of the Xiongnu title 單于 *chán*¹³⁰ *yú*¹³¹. Starostin (1989, 452: 禪¹³²于) reconstructed Western Han Chinese **danwha*, following Pulleyblank (1962–63, 91), who reconstructed *dānhwāh*, and both saw in it the Turkic title *tarxan/tarqan*. Baxter & Sagart (2014, 260, 399, fn. 66) reconstruct history of the title as follows: Middle Chinese **dzyen-hju* < Western Han Chinese **dar-hwa* < Old Chinese **[d]ar+G^w(r)a* and identify in it the Written Mongol title *daruya* > Persian *dārūga* “governor” (*TMEN* I, 319–23). Another example of Baxter & Sagart (2014, 260) is still more convincing, namely the Chinese transcription 驩潛 *huān*¹³³ *qián*¹³⁴ of the country Khwarezm from the lower Oxus/Amu-Darya, first recorded in “The Scribe’s Records” (史記 *Shǐjì*), also known as “Records of the {Grand} Scribe” (太史公書 *Tàishǐgōng shū*), compiled by Sima Qian (司馬遷; 145–86 BCE). Starostin’s Western Han Chinese reconstruction should be **hwānzam*, Baxter & Sagart reconstruct for the same period **x^fwardzem*. Cf. Khwarezmian *xw’rzm*, Persian *Xwārazm*, Old Persian *^huwārazmī-*, Young Avestan *x^vāirizam-* [Yašt 10.14] (Benzing 1983, 686; Bartholomae 1904, 1878). Thus, if the coda **-r* was still preserved in the Western Han era, it had to exist in the time of record of the term 狻麤 ~ 狻猊, i.e. in the early 3rd cent. BCE. For Classic Old Chinese / Western Han Chinese it is thus quite legitimate to propose a reading **sōrŋ(h)ē*.

Etymology:

Henning (1965) and Brough (1970) thought about a borrowing from an Iranian source, but with respect to Karlgren’s reconstructions e.g. Henning (1965, 45) speculated about a common pre-Indo-Iranian denominator ***s¹eŋgha-* as a source of the Chinese term. His protoform is reconstructed on the basis of Indo-Aryan **sin^{zh}a-* “lion”¹³⁵ and the following Middle¹³⁶ & Modern Iranian forms: Khotanese *sarau* “lion” < **sargāva-*, gen. sg. *sarvai* & *saruai*, nom. pl. *sarauva*

130 Chinese 單 *dān* “single, unit”; *chán* in the title *chányú* < Middle Chinese **tān* < Postclassic Chinese **tān* < Han Chinese **tān* < Classic Old Chinese **tān* < Preclassic Old Chinese **tār* (Starostin, *ChEDb*; *GSR* 0147 a-d) ~ Old Chinese **Cə.t^har* (Baxter & Sagart 2014). Sino-Tibetan: Tibetan *thor-bu* “single, separate”; Motuo *thor*, Padam *a-tel*, Shaiyang *ter* “one” (*CVST* II, 118).

131 Chinese 于 *yú* “to go; be in, to; to enlarge” < Middle Chinese **hü* < Postclassic Chinese **wo* < Han Chinese **wa* < Classic & Preclassic Old Chinese **wa* (Starostin, *ChEDb*; *GSR* 0097 a-g). Baxter & Sagart (2014): Middle Chinese **hju* < Old Chinese **G^w(r)a*. Sino-Tibetan: Kachin *wa²* “to return”; Lushai *vāk, va²* “to go, walk”; Chepang, Magari *hwa* “to go”; Newari *wa* “to go”; Dhimal *waŋ* “to enter”; Bunan *hwaŋs* ~ *hoanŋ* “to come out” (Shafer 1974, 64; Benedict 1972, 105; *CVST* V, 10).

132 Chinese 禪 *dān* “unlined garment” [Late Zhou] < Middle Chinese **tān* < Postclassic Chinese **tān* < Han Chinese **tān* < Classic Old Chinese **tān* < Preclassic Old Chinese **tār* (Starostin, *ChEDb*; *GSR* 0147 i). Sino-Tibetan: Tibetan *ther* “a kind of thin woollen cloth” or *dar* “silk, cloth”.

133 Chinese 驩 *huān* “to rejoice, joyous” < Middle Chinese **xwān* < Postclassic Chinese **hwān* < Han Chinese **hwān* < Classic Old Chinese **hwān* < Preclassic Old Chinese **h^wār* (Starostin, *ChEDb*; *GSR* 0158 l). Baxter & Sagart (2014, 260): Middle Chinese **xwan* < Western Han Chinese **x^fwar* < Old Chinese **q^war*.

134 Chinese 潛 *qián* “to dive, go under water” < Middle Chinese **zjem* < Postclassic Chinese **zjem* < Eastern Han Chinese **zjam* < Western Han Chinese **zam* < Classic Old Chinese **zam* < Preclassic Old Chinese **zam* (Starostin, *ChEDb*; *GSR* 0660 n). Baxter & Sagart (2014, 260): Middle Chinese **dzjem* < Western Han Chinese **dzem* < Old Chinese **[dz][o]m*. Comments: For **z* cf. Xiamen *ciam²*, Fuzhou *cieŋ²* (but Chaozhou *chiam²*).

135 Indo-Aryan **sin^{zh}a-*: Old Indic [RV] *simhá-* m. / *simhā-* f. [RV VII, 18.17], Prakrit *simha-*, *siŋgha-*, *sīha-* / *sīhī-* m./f., Pali *sīha-* / *sīhī-*, (> Sinhalese *sī, siha*), Old Gujarati *sīha*, Hindi *sīgh, sīh* / *sīghnī* id., Panjabi *sīh* m. “lion”, *sīhanī* f. “tigress”, West Pahari *sī* “leopard”, *sīh* “lion”, *sīhan* “tigress”, Kumaoni *syū* “tiger”, Maithili *sīh* “lion”, Lahnda *sīh* “tiger”; Dardic: Kashmiri *sah, sūh* m. “tiger, leopard”, *sīmiñ* f. “tigress, leopard”; Nuristani: Waigali *sī* “tiger” (Turner 1966, #13384; *EWAI* II, 727). There is a remarkable parallel in Burushaski *siŋgē-tiñ -muč* “lion, hero; dragon, monster” (Berger 1998, 379; Lorimer 1938, 315; they compare the Burushaski form with Balti *siŋge* and Classical Tibetan *señ-ge, siñ-ge*; cf. cognates in modern Bodish dialects as Amdo *sañ-ge*, Mustang *siñki*, Stau *sej-ki*, Cuona Menba *sej³⁵ke³⁵*; Qiangic: rGyarong *səŋ-ge*, Muya *si³⁵-ŋgi*, Jiulong Pumi *siŋ³⁵gi³⁵*, Žaň-Zuň *saŋ-go*, and other geographically closed languages as Lepcha *sūŋ-gi*; Geman Deng/Midzu *suŋ⁵⁵gi⁵⁵* – all probably borrowed from some Middle Indo-Aryan source, cf. Prakrit *siŋgha-* – lexical data and discussion see Behr 2005, 5–6).

136 From the Old Iranian period there are only uncertain onomastical traces: Old Persian (Hinz) or Median (Mayrhofer) **šargu-* in proper names in the Elamite records: *Šá-ir-ku-da-da* = **Šargu-dāta-* “born of a lion” = Classical Persian *Šēr-zād* in Sāhname (the herold of Khusraw I), *Šá-ir-ku-nu-ya-* = **Šargu-vaniya-* “lion-conqueror” (the second component corresponds to Avestan *vīspauuanīia-*), *Šá-ir-ku-zī-iš* = **Šargučya-* (Gershevitch 1970, 90; Mayrhofer 1973, 230; Hinz & Koch 1987, 1122).

& *saramva* (with loss of *-g- as in *mura-* “bird” < **mrga-*), Khwarezmian *sry* “lion”, *sry'n* “lioness”, Sogdian (Buddhistic) *šryw* /*šaryu*/, (Manichean) *šrwγ* /*šruγ*/ “lion”, Manichean Parthian & Manichean Middle Persian of Turfan *šgr* /*šagr*/, Zoroastrian Pahlavi *šgl* ~ *šyl* /*šēr*/, Modern Persian¹³⁷ (West dialects) *šēr*, (Tehranī) *šīr* id. (Bailey 1979, 421; Benzing 1983, 583; Gharib 1995, ##9320, 9323; Klingenschmitt 2000, 208, fn. 64; Lazard 1989, 289; MacKenzie 1971, 78; Nyberg 1974, 182). These forms are derivable from Iranian **š/sargu-*¹³⁸ < **[Jšorg^(h)u-* or **[Jšyḡ^(h)u-*. The Classical Old Chinese reconstruction **sōrḡē* may reflect a source close to pre-Khotanese gen.sg. **sarguai*, adapted via hypothetical **sāry^uē* in Late Zhou Chinese, perhaps around 300 BCE. If the place of origin of this lion-name was really *Shūlè*, i.e. Kashgar, it is a witness that in the territory of this city state some early form of the Sakan language was spoken already around 300 BCE.

The following etymologies of this Iranian designation of “lion” were formulated:

(i) Darmesteter (apud Horn 1893, 178, #803) sought origin of Persian *šēr* “lion” in Avestan *xšaθriia-* “imperiosus, Machthaber, Gebieter” (Bartholomae 1904, 548), constructing the semantic starting-point “king of animals”. Hübschmann (1895, 88) rejected it, determining the correct cognate of this Avestan adj. in Persian *šahrī-yatun* “Persian horse”. Moreover, the Middle Iranian “lion“-counterparts definitively exclude Darmesteter’s comparison.

(ii) It was already said that Henning (1965, 45) speculated about a common Indo-Iranian starting-point **s¹engha-*, which should continue in both Iranian **š/sargu-* and Indo-Aryan **sinz^ha-* “lion”. But these animal names agree only in the meaning. Both the root and stem vowels are different and incompatible. The regular Iranian counterpart of Indo-Aryan **s-* is **h-*, while Iranian **s-* corresponds to IA **ś-* and Iranian **š* to IA **ṣ*. Iranian **r* does not correspond to IA *n* and Iranian **g* cannot correspond to IA **z^h*, whose palatal character is supported by the cognate in Armenian *inṣ*, *inc*, gen. -*ow* “leopard”.

(iii) Bailey (1979, 420–21) tried to derive the zoonym from the verb attested in Middle Persian of Turfan *sr’xš-yn-* “to overcome” (**sarg-*), Khotanese *sar-* “to rush at, pounce upon, rise over”, Yazgulami *sar-*, *sard*, Shughni *sār-*, *sārd*, Roshani *sōr*, *sērt*, Sarikoli *sur-*, *sord*, Ishkashimi *sur-*, *surd*, Tajiki *sār-* “to creep upon”, and further Sanskrit *tsárati* “creeps on, sneaks”, *tsáru-* “a crawling animal”. Naturally, the semantic motivation leading to the designation of “lion” is not too apparent.

(iv) With respect to phonetic laws established in the Indo-Iranian branch, Blažek (2005b, 11) reconstructs the Iranian denotation for “lion” as **šorg^(h)-u-* or **šyḡ^(h)-u-* and connects it with another Indo-Aryan predator-name, namely **šyḡāla-*¹³⁹, usually designating “jackal”, but also “fox” or “wolf”. The semantic difference between the *felidae* and *canidae* is not invincible – let us mention e.g. examples from the Dravidian languages: (a) Tamil *uruvai* “tiger”, Kolami *dū* “panther” vs. Koi *duhkiak* “wolf”, Gadba *ducca* id. (DEDR 693); (b) Kodagu *nari* “tiger” vs. Tamil *nari* “jackal” & “tiger” (cant), Malayalam *nari* “jackal / *Canis aureus*” & “(female) tiger” vs. Kannada, Tulu *nari* “jackal, fox”, Telugu *nariyāḍu* “jackal” (DEDR 3606); (c) Kolami *keḍiak* “tiger”, Naiki *khareyak* “panther” vs. Kui *krāḍi* “tiger, leopard” & “hyena” (DEDR 1132). Similarly (d) Old Indic *tarākṣu-* “hyena” [YV] vs. *tarākṣu-* “tiger” (EWAI I, 628) or (e) Luwian *walwa/i-* “lion” vs. non-Anatolian IE **ul^ko-* “wolf” (Lehrman 1987, 13–18).

137 Persian is a source of Baluchi *šēr* “lion” (Klingenschmitt 2000, 208; Korn 2005, 119) and Kurdish Kurmanji *šēr* “lion; brave person” (Rizgar 1993, 177); Tajik *šēr* id. is a source of West Wakhi *šēr*, East & Central Wakhi *šīr* “lion” (Paxalina 1975, 264), Shughni *šēr* “lion” (Zarubin 1960, 234), Ishkashimi *šer*, Sanglechi *šēr* “lion” (Paxalina 1959, 236).

138 Klingenschmitt (2000, 208–09, fn. 64) reconstructs proto-Iranian **č(š)argu-*.

139 Old Indic [ŠB] *šyḡālā-* & *syḡālā-*, Pali *sigāla-*, Prakrits *si(g)āla-* “jackal”, Sinhalese *sivalā* ~ *hivalā*, Maldivian *hiyal* “jackal”, Gujarati *siyāl*, Hindi *siyāl/r*, *sāl*, Bihari *siyār* “jackal”, Assamese *xiyāl*, Bengali *siyāl*, Oriya *siyāla* “jackal”, West Pahari: Curahi *siālī*, Pangwali *sagāl*, Padari *suga^l* “fox”, Joshi *siāl*; Nepali *siyāl* “jackal”; Dardic: Kashmiri *šāl* “jackal”, Pashai: Wegali *šāl* “wolf”, Shumashti *šāl* “jackal”, Shina *šāl* “jackal”, Gawar *šāl* “jackal”, Khovar *šial* “jackal”; Nuristani: Kati *syōl* “wolf”, Prasun *šil*, *šéli*, Dameli *šial* “jackal” (Turner 1966, #12578); cf. also Burushaski *hal* “fox” (Berger 1998, 186) < **sayāl* (Berger 1959, 23, 32).

In this concrete case there are etymological solutions in Indo-European:

(α) A common semantic denominator for “lion” and “jackal / wolf” can be their typical sound, the roar for “lion” and the howling for “jackal / wolf”. This idea may be supported by the ornithonym *śārgá-* [Maitrāyaṇī Saṁhitā], if we take in account that for bird-names the semantic motivation based on characteristic sounds is most typical. Already in 1857, A. Weber proposed for Indo-Aryan *śyrgāla-* the primary semantics “Schreier” (see *KEWA* III, 368). The only term used for “jackal” in Ṛgveda, *kroṣṭár-* [X, 28.4], represents the nomen agentis from the verb *krósati* “cries out, shrieks”. And the ‘roaring’ epithets for “lion” are equally natural, e.g. Sanskrit *bhīma-nāda-* “lion” (lex.), lit. “terrific sound” [Kāv.], Arabic *nahhām* “lion” : *nahama* “to roar, cry out” (Steingass 1988, 1150, 1152). But there is no material support for Weber’s etymology.

(β) “Lion” and “jackal / wolf” are killing predators. But the only Indo-European root of the type **k-r-* expressing some destructive activity, is the *seṭ-*root **kerH₂-* (*LIV* 327–28), perhaps also continuing in Sanskrit *śari-* “wild beast, beast of prey”. But the sequence **k_ṛH₂C* would give **śīrC* (cf. e.g. Beekes 1995, 145) and not *śrC* as in the word “jackal”.

(γ) “Lion” and “jackal” have their gluttony in common too. Also in this case, only the *seṭ-*root **kerH₃-* (*LIV* 329) is at our disposal. In the sequence **k_ṛH₃C* it would be probably transformed into **śūrC* / **śīrC*.

None of the speculations (α–γ) are successful. It seems that a non-Indo-European origin of either, or both, Iranian “lion” and Indo-Aryan “jackal” cannot be excluded.

It remains to determine a function of the extension in **-āla-* in Sanskrit *ś/syrgāla-*. The formation in *-ālo-* is productive in more Indo-European branches – Greek: Doric *σιγᾶλός* “reticent” : *σιγή*, *σιγάω*; Italic: Latin *animālis* : *anima*, *animāre*, *naturālis* : *natura*, *generālis* : *genus*, pl. *genera*, *generāre*, Oscan *fertalis* **fertales* : Latin *fertum*, Umbrian *uerfale* ‘verbale’ : Latin *verbum*; Celtic: Welsh *gwasawl* “serving” : *gwas* “servant”; in Slavic the part. praet. of the verbal *ā*-class: Old Church Slavonic *dělalъ* : *dělati* “to do, work” (Brugmann 1906, 369). In Sanskrit this formation is rare. Brugmann (l.c.) quoted only one example formally agreeing with the preceding ones, viz. *vācāla-* “talkative” (Kāvya lit., Kathāsarisāgara) : *vācā* “speech, word” (Pāñcatantra). If Indo-Aryan *ś/syrgāla-* “jackal, wolf, fox” represents a derivative in *-ālo-* of the primary noun “lion” (preserved only in Iranian **š/sargu-*), it is possible to interpret it as “leoninus”, “belonging to lion” *vel sim*. But with respect to Old Indic tradition where “jackal” represented a ‘lower class’ among animals in contrast with “lion” (cf. RV X, 28.4¹⁴⁰ and discussion by Gamkrelidze & Ivanov 1984, 514), the direct derivation “jackal” = “leoninus” seems rather doubtful. Thieme (1985, 251, 255, 257) identifies the nouns in *-āla-/āra-* in Old Indic, frequently forming the names of professions: *karmāra-* & *vṛddhi karmārā-* “smith”, *kulāla-* & *kaulālā-* “potter”, *dhīvara-* & *dhīvarā-* “fisher”; sometimes only the *vṛddhi*-formation has been preserved: **mṛgāra-* & *mārgārā-* “hunter”, **mīnāla-* & *maināla-* “fisher”. Thieme derives this formation from IE **al-* < **H₂el-* “to nourish” (*LIV* 262; Pokorny 1959, 26–27), supposing the semantic motivation “der sich von Fisch (*mīna-*) nährt” for “fisher”, “der sich von Wild (*mṛga-*) nährt” for “hunter”, “der Aushöhlung [von Lehmklumpen auf dem Töpferrad] (*kula-*) nährt” for “potter”. Accepting Thieme’s idea, the primary semantic motivation of the Indo-Aryan “jackal” could be “der sich dank Löwe nährt”. It is a realistic description of the feeding on carrion – so typical for jackals and other wild canidae. There is a similar semantic derivation in Sumerian *ur-bar-ra* “wolf” vs. *ur-bar* “lion” (Hübner & Reizammer 1986, 1123). Let us also mention the notice of Aristotle from his *History of Animals* [IX, 1; translated by D’Arcy Wentworth Thompson]: “The lion and jackal or civet are enemies, for both are carnivorous and live on the same food”.

140 *lopāśāḥ śimhām pratyāñcam atsaḥ kroṣṭā varāḥam nir atakta kākṣāt* [RV X, 28.4]

“The fox crept up on the lion, his opponent; the jackal sprang on the boar from out of the underbrush”

[translated by Stephanie W. Jamison & Joel P. Brereton]

F. Indo-European – Chinese parallels without Tocharian data

The following four comparisons are without Tocharian data. Even in the case of their identification in Tocharian texts in future, it could play a role of a mediator only in the lemma “horse” (#1). But the internal Sino-Tibetan etymology of the Old Chinese term **mrā?* “horse” indicates that the similarity to the Celto-Germanic isogloss **marko-* is only accidental. On the other hand, with respect to their phonetic peculiarities the earlier Chinese forms in lemmas ## 2, 3, 4 are derivable only from Iranian sources, perhaps close to the language of Scythians. Their adaptation into Chinese would have been dated already before 600 BCE.



1. “horse“

IE: Celtic **marko-* > Middle Irish *marc* “horse”, Old Irish *marcach* “horseman“; Middle Welsh *march*, pl. *meirch*, Old Cornish *march* gl. ‘equus’, Middle Cornish *margh*, Old Breton *marh*, Middle Breton *march*, Modern Breton *marc’h*; Gaulish *calliomarcus*, glossed *equi ungula* by Marcellus Burdigalensis in his pharmacological compendium *De medicamentis*, written c. 400 CE; *marcosior* “may I ride” [inscr. from Autun], Galatian acc.sg. μάρκων “horse”, τριμαρκασία “group of three horsemen” [Pausanias 10.19.11], while Celtiberian [Bottorita III] personal name *Markos* is more probably an adaptation of Latin *Marcus* (Meid 1996, 19–22; Delamarre 2001, 64, 183; Matasović 2009, 257); Germanic **marha-* m. “horse, steed” > Old Norse *marr*, Old English *mearh*, Old Frisian *mar*, Old High German *marh*, *marah*, Middle High German *march* id.; **marhī-* or **marhjō(n)-* f. “mare” > Old Norse *merr*, Old English *mere*, Middle Dutch *mer(i)e*, Dutch *merrie*, Old High German *mariha*, *meriha*, German *Mähre* id. (Kroonen 2013, 354). North(west) Germanic **marha-menþila-* > Balto-Fennic: Finnish *marhain*, pl. *marhaimed* “Half-terriemen, -strick, -kette”, Ingrian pl. *marhamed*, Karelian *marhaminta*, Vepsian pl. *varhindod* (LGLO II, 250). Late Old High German *mar(i)ha* “mare” > Old Czech *mrcha* “meagre mare”, Slovenian *míha* “mare; pecus, armentum, merx“; Hungarian *marha* “merx“; Rumanian *marfă* “goods” (Schrader & Nehring I, 438). From East Germanic there is known only a hypothetical onomastic counterpart MARINGS in the inscription from a buckle discovered by Szabadbattyán in Central Hungary, dated to 400–425 CE. It can reflect **marhings*, interpretable as “horseman” or “descendant of **Mar(h)s*, i.e. “horse” (Antonsen 1975, 74–75, #98). There are also onomastic traces in the Balkan Peninsula. The first component of the toponym Μαρκόδαυα [Ptolemy 3.8.4] from Dacia with the typical component -δαυα forming Dacian places of settlements can be of Celtic origin. In Gaulish a corresponding compound should be *Marco-durum* (Georgiev 1981, 148). Other onomastic parallels are from the West Balkan: *Zimarcus* from Aquileia [CIL 5.1614]; Ἰλλυροὶ γένος ... Ζιμαρχός [Procopius of Caesarea, *Anecdota sive Historia Arcana* 6.2] etc., but also from Jambol in present Bulgaria: Ζιαμαρκης (see Detschew 1957, 188, 288).

It was probably first Schlegel (1872, 18) who compared the Celto-Germanic isogloss **marko-* and Chinese 馬 *mǎ* “horse”. Polivanov (1924/1968¹⁴¹, 167–68), Conrady (1925, 3), Jensen (1936, 141–42), Pulleyblank (1966, 11), Ulenbrook (1967, 540), Gamkrelidze & Ivanov (1984, 553), Chang (1988, 10, 37) and Lubotsky (1998, 385) discuss the frequently repeated comparison between the Celto-Germanic isogloss **marko-* “horse” and Old Chinese **mrā?* (Starostin) ~ **mrāh* (Schuessler) ~ **m’ra?* (Baxter & Sagart). Jensen and Lubotsky correctly express their doubts. Besides the limited distribution in the Indo-European space there are convincing Sino-Tibetan cognates to the Chinese word, whose character appeared already in inscriptions on the oracle bones dated to 1250–1050 BCE: Chinese 馬¹⁴² *mǎ* “horse” < Middle Chinese **má* < Postclassical

141 Polivanov’s article was published posthumously from an unpublished manuscript. Polivanov operated with this comparison in other articles already in 1924.

142 The character is attested already in the oracle bones (a) and bronze inscriptions (b):

(a)  ; (b)  Cf. <<https://en.wiktionary.org/wiki/%E9%A6%AC>>

Chinese **mā* < Han Chinese **mrā* < Classic Old Chinese **mrā* < Preclassic Old Chinese **mrā* (Starostin, *ChEDb*; *GSR* 0040 a-e) ~ Middle Chinese & Later Han Chinese **ma^B* < Old Chinese **mrāh* ~ Middle Chinese **maeX* < **m^rra?* “horse” (Baxter & Sagart 2014, 110, 213). For **m-* cf. Xiamen, Chaozhou *be³*, Fuzhou, Jianou *ma³*. Bai: Jianchuan *me^l*, Dali *mer^l*, Bijiang *mo^l*, *ma^l*. Vietnamese reading: *mā*. Sino-Tibetan **mrāH* / **mrāṅ* “horse” > Old Chinese 馬 **mrā?* “horse”; Old Tibetan *rmaṅ*; Lolo-Burmese **mhrunx* > Burmese *mraṅh* “horse”, Lahu *i-mū*; Kachin *kum-raṅ* “a horse, a pony”; Rgyarung *nporo*, *poro*, *moro* “horse” > Manyak *broh*, *bo-ro* (Shafer 1974, 121, 135, 143, 388, 410; Benedict 1972, 43; Matisoff 2003, 267; *CVST* I, 35–36).

Comments: Besides the geographic distance¹⁴³ between western and eastern peripheries of Eurasia there is another reason, why this comparison can be explained neither as a common heritage, nor as a result of contact, namely internal etymologies in both, (i) Sino-Tibetan and (ii) Indo-European:

(i) The Sino-Tibetan designation of “horse”, reconstructed as **mrāH* / **mrāṅ* (Peiros & Starostin), can be etymologized on the basis of Tibetan *rmo* “to plough, to sow and plough”, Thebor *myo*; Bunan *myo* (Shafer 1974, 141; *CVST* I, 47–48). Baxter (1992, 469, 861, fn. 349) added Chinese 畝 *mǔ* “Chinese acre; field” < Middle Chinese **muwX* < Old Chinese **m(r)o?*, while Starostin¹⁴⁴ (*ChEDb*) did not reconstruct the cluster **mr-* in Old Chinese here. Schuessler (2007, 392) compares Chinese 畝 *mǔ* “Chinese acre; field” with Tibetan *rmo-ba*, *rmos* “to plow”, *rmod* “the plowing”, *rmon-pa* “plow ox”. Concerning the semantic development, cf. Lithuanian *arkl̥ys* “horse” < **H₂erH₃-tl̥io-* = “belonging to a plough”, vs. *árklas* (**H₂erH₃-tlo-*) “plough”, all from *ariù* : *árti* “to plough” (Pokorny 1959, 62–63). Alternatively, it is possible to connect the Sino-Tibetan designation of “horse” with Old Chinese 武 **m(r)a?* “military, martial” [*Shījīng*, 1050–600 BCE] (Starostin; Baxter & Sagart), although other Sino-Tibetan cognates do not confirm the cluster **mr-*¹⁴⁵. A similar correspondence appears e.g. between Chinese 冢 *mèng* “the eldest (of brothers)” < Old Chinese **mrāṅs* (Starostin, *ChEDb*; *GSR* 0761 e-f) and Tibetan *miṅ* “brother in relation to his sister”; Burmese *mauṅ* “brother” (Benedict 1972, 189; Luce 1981, 75; *CVST* I, 39). Concerning semantics, cf. Latin *eques*-, *itis* “knight”, *equitātus* “cavalry”, both from *equus* “horse”. The opposite motivation may be identified in Sanskrit *ghoṭa-* [Āpastamba Śrauta-sūtra], *ghoṭaka-* [Pañcatantra] “horse” vs. *ghuṭ-* “to strike again, resist, oppose” [Dhātupāṭha] (MW 377, 379).

(ii) A meaningful etymology of the Celto-Germanic isogloss **marko-* “horse” was proposed already by Schrader & Nehring (I, 438). They explained the word for “horse” with help of Latin *merx* “commodity, goods, merchandise”, *mercārī* “to buy, trade”, *mercātus* “market”, *mercātor* “merchant”, *commercārī* “to buy” [all Plautus]. Further also Oscan acc.sg. *amirikum* “commerce”, abl.sg. *amiricatud* “sold” < **ad-merk-* (de Vaan 2008, 376); Greek βρακεῖν · συνίειν “to understand” (**“to grasp”*), βράζειν · συλλαβεῖν, δακεῖν, καταπιεῖν “to gather, bite, drink”; Vedic *mṛśāti* “touches, takes, strokes, handles” (Pokorny 1959, 739); Christian Sogdian *mrws-* “to touch”, Parthian *pd-ms-* / *pad-mas-* < **pati-mars-* “to understand” (*EWAI* II, 331: **melk-*); Tocharian A *mārk-*

143 Geographically closer are designations of “horse” in Altaic languages: Mongolian **morin*; Tungusic **murin* id., if it was not borrowed from a source of the type Middle Mongol *murin* (Muqqadimat al-Adab); Middle Korean *mār* id. (Ramstedt 1935, 267; *TMEN* I, 507). Already Polivanov 1927/1968, 163 speculated about connection between Mongolian & Korean and Sino-Tibetan designations of “horse”.

144 Starostin reconstructed Chinese 畝 *mǔ* “Chinese acre; field” < Middle Chinese **māw* < Late & Middle Postclassic Chinese **māw* < Early Postclassic Chinese **māw* < Han Chinese **mā* < Classic Old Chinese **mā* < Preclassic Old Chinese **mā?* (Starostin, *ChEDb*; *GSR* 0949 a). Notes: For **m* cf. Xiamen *bō³*, Chaozhou *bou³*, Fuzhou *mu³*. Vietnamese reading: *māu*.

145 Chinese 武 *wǔ* “military, martial; brave” < Middle Chinese **mú* < Late Postclassic Chinese **mwó* < Eastern Han Chinese **mwá* < Western Han Chinese **má* < Classic Old Chinese **má* < Preclassic Old Chinese **m(r)a?* (Starostin, *ChEDb*; *GSR* 0104 a-e) ~ Middle Chinese **mjuX* < Old Chinese **m(r)a?* (Baxter & Sagart, *ChDb* 2014). Comments: For **m-* cf. Xiamen, Chaozhou *bu³*. Sino-Tibetan: Tibetan *dmag* “army, host, war”; Burmese *mak* “soldier, war” < Lolo-Burmese **makx*; Kachin *dəmya?* “bandit”; Miri *mi-māk* “to be at war” (*CVST* I, 16; Schuessler 2007, 519; Shafer 1974, 204; Luce 1981, 67).

“to take away” (cf. Adams 2013, 487 – he is ready to separate it from B *märk-* “to besmirch, smudge, make bleary”; otherwise Malzahn 2010, 755–56: **H₂merĝ-* “abstreifen, abwischen” in *LIV* 280f.). Thus, horses were objects of trade, and they represented property similar to cattle. Schrader & Nehring (l.c.) found interesting semantic parallels: Middle High German *meidem* “horse” vs. Gothic *maipms* “(exchange) gift”, Old Norse *meiðmar* pl. “valuables”, Old English *māþom* “gift”, Old Saxon *mēðom* “treasure” (Lehmann 1986, 242), all from the IE verb **meiH₂-* “to change, take (away)” (Zehnder, *LIV* 430). Cf. also the formulation *Si homo alii equum suum praestiterit vel quamlibet aliam pecuniam qualis ei praestita est, reddat domino ejus ...* from *Lex Frisionum, Additio Sapientum, Titulus XI* (see Canciani 1785, 29), which was introduced during the reign of Charlemagne after 785 CE. It remains to explain the root-vowel *a* in Celtic. The zero-grade root *C₁RC₂^o* usually continues in Celtic **C₁RiC₂^o*, cf. Celtic **mlig-o-* “to milk” & **mlixto-* “milk” > Old Irish *mligid* & *mlicht*; Middle Welsh *blith* “(full of) milk”, or **mrixto-* “variegated, diversified, painted, speckled” > Old Irish *mrecht*, Old Welsh *brith* gl. ‘pictam’, Cornish *bruit*, Middle Breton *briz* (Matasović 2009, 274, 280). De Bernardo Stempel (1987, 24, 32–33) and Schrijver (1995, 141–43) summarize conditions, when the Celtic reflex **C₁aRC₂^o* appears, namely before **n, *s, *i, *u, *HV*. Schrijver applies this rule to explain the root vowel in Old Irish *arcaid* “asks, pleads”, Middle Welsh *archaf*, Middle Breton *archaff* “I ask”. It cannot reflect directly IE **pr̥k^o*, but the *sk*-present **pr̥k-sk-* (> Celtic **park-sk^o* > **par(s)k^o*), forming frequently this verbal root in other IE languages¹⁴⁶, is already satisfactory (Schrijver 1995, 143, 350; Matasović 2009, 125). Similarly Old Irish *balc* “stout, strong, firm” < **b^hl-sk-o-* or *tailc* “strong, vigorous” < **tl̥g-sk-i-* (Hamp 1990, 186–87; de Bernardo Stempel 1999, 276–77). An analogous process may be proposed in the case of the IE verb **merk-* “to trade”, whose *sk*-present in the zero-grade **mr̥k-sk-* would be a base for the Celtic noun **mar(s)ko-* “object of trade” > “horse”. The Germanic counterpart **marha-* would be explainable either directly from **morko-* or as a loan from Continental Celtic (cf. Schrader & Nehring II, 176), still before activation of the Germanic *Lautverschiebung*.

2. “milk”

IE **g^hg-t-s*, gen. **g^hg-t-os* or **g^hk-t-s*, gen. **g^hk-t-os* “milk” (Pokorny 1959, 400–01) > Armenian dial. of Agulis *kaxc* “milk” < **kalc* < **g^hg-t-s*, vs. *kat^hn* id. < **kalt^h-n* < acc.sg. **g^hg-t-m* (Martirosyan 2010, 345–46); Greek γάλα, gen. γάλακτος, rare dat. γάλακι (Call. *Hek.* 1.4.1) n. “milk”, Homeric γάλας, Cretan κλάγος, in compound e.g. γλακτο-φάγος, all probably derivable from the nom.sg. **γλακτ* (Beekes 2010, 256); Latin *lac*, gen. *lactis* n. “milk” (de Vaan 2008, 320).

Chinese 酪 *lào* “a kind of acid soy made of rice or millet” [*Liji* “Record of Rites”, 5th–4th cent. BCE, with redaction in the 2nd cent. BCE]; “fermented milk, yoghurt, sour milk, kumiss” [*Shuōwén Jiězhì* “Explaining graphs and analyzing characters”, c. 100 AD] < Middle Chinese **lāk* < Postclassic Chinese **lāk* < Han Chinese **rāk* < Classic & Preclassic Old Chinese **rāk* (Starostin, *ChEDb*; *GSR* 0766 p: ‘Ancient Chinese’ **lāk* < ‘Archaic Chinese’ **glāk*). Schuessler (2007, 345): Middle Chinese **lāk* < Later Han Chinese **lak* < Old Chinese **rāk*. Comments: For **r-* cf. Xiamen *lok⁸*, Chaozhou *lok⁸*, Fuzhou *lok⁸*. Pulleyblank (1962–63, 253): Middle Chinese **lak* < Old Chinese **hlak* < **yrak*. The hypothetical parallels in other Sino-Tibetan languages collected by Starostin (*ChEDb*: **r[iā]k* “to ferment; fermented drink?”), namely Burmese *ərak* “spiritous liquor”; Trung *a³-rǎ²* “beer”; Lushai *tok* “to ferment”, look like cultural words – at least the Burmese and Trung forms – may represent outputs of relay borrowings leading back to Arabic *šaraq*, originally “sap, juice” (Pulleyblank 1962–63, 250). Starostin himself concluded: ‘The Sino-Tibetan antiquity is dubious.’

146 Vedic *pr̥chāti*, Armenian *eharc^h*, Latin *poscō*, Old High German *farscon* (Schirmer, *LIV* 490–91). The deverbal formations are also productive, e.g. Sanskrit *pr̥chā*, Armenian *harc^h*, Old High German *forsca* (Brugmann 1906, 478).

Comments: If the initial cluster **gl-* mistakenly reconstructed for ‘Archaic Chinese’ by Karlgren (*GSR* 0766 p) and repeated by Pulleyblank (1962–63) as **hl-*, is excluded and replaced by **r-*, which should have existed still in Han Chinese according to Starostin or pre-Han Chinese by Schuessler, the similarity between Old Chinese **rāk* and Indo-European **g[gl-t-* is significantly weakened. On the other hand, there are more promising Iranian parallels: Khotanese *ragai* ‘fermented liquor’ < **rakaka-* or **rankaka-* (Bailey 1979, 356); Ossetic *rong* ‘hoppy drink’, borrowed into the Kartvelian languages: Georgian (dial. of Rača) *rangi* ‘hoppy drink, prepared from honey; honey wine’, Mingrelian *rangi* ‘honey drink’, Svan *rang* id. (Abaev II, 421–22: **frān(a)ka-* ‘breathe’ → ‘spiritus’).

Lit.: Schlegel 1872, 9; Karlgren, *Deutsche Literaturzeitung* 1926, c. 1960f., cited by Pokorny 1959, 401; Jensen 1936, 142; Ulving 1968–69, 950: IE + Chinese.

3. ‘pig’

IE **porko-* (Pokorny 1959, 841) > Avestan *pərəsō* ‘piglet’ [Nīrangastān 114.9–10: *yaθa huš pərəsō*] = corr. **parəsa-* (Hoffmann 1967, 35–36), Khotanese *pāsa-* ‘pig, hog’ < **pālsa-* < **parsa-* (Bailey 1979, 235); sometimes quoted Kurdish *purs* id. is probably a ghostword, cf. Benveniste 1949, 88; Indo-Iranian > Fenno-Permic **porśas* (**porćas*) ‘pig, piglet’ > Finnish *porsas*, Mordvin *purcos*, Udmurt *parś*, Komi *porś* > Khanty *porás*, Mansi *pūrás* etc. (Joki 1973, 303; *UEW* 736); ?Armenian *mkn-harsnuk* ‘weasel’ = ‘mouse’-**pig*? (Mann 1984–87, c. 977) or *ors* ‘hunt, catch; hunted animal, game’ (Clackson 1994, 164); Latin *porcus* m. ‘male pig’, *porca* f. ‘sow’, Umbrian *purka*, *porca* f. acc.pl. ‘sow’; Latin > Greek πόρκος [Varro, *Lingua Latina* 5.97]; Gaulish personal names *Orco-tarris*, *Orcos*, *Orcio*; toponyms *Orgueil* < **orko-ialon*, *Orsai* < **Orkaio-*, *Orçay* → 855 *Orciacus* etc.; Old Brittonic *Orcades* = Middle Irish *Innsi Orc* ‘Orkneys’, Middle Irish *orc* ‘piglet, young pig’ (Delamarre 2001, 205–06; Matasović 2009, 137); Germanic **farha-* > ?Old Norse *farri* ‘boar’; Old English *fearh* ‘piglet’, English *farrow*, Old High German *far(a)h* ‘pig’, dim. *farhilī(n)*, German *Ferkel* ‘piglet’ (de Vries 1962, 113); Lithuanian *paršas* ‘piglet, castrated boar’, Prussian *prastian* = corr. **parstian* or **parsistian* ‘piglet’ (Fraenkel I, 542); Slavic **porse*, *-ęte* ‘pig, piglet’ > Church Slavonic *prase*, *-ęte*, Bulgarian *prasé* ‘pig’, Serbo-Croatian *prāse*, Slovenian *prasè*, Slovak *prasa*, Czech *prase*, Upper Sorbian *proso*, Lower Sorbian *prose*, Polabian *porsq*, Kashubian *parsq* // *prosq*, Pomerian Slovincian *pārsq*, Polish *prosię*, Old Russian *porose*, Russian dial., Ukrainian *porosja*, Belorussian *parasjá* (Trubačev 1960, 61). There are two etymological attempts to explain this animal name: (i) Benveniste (1949, 89–90) derived the designation of a domestic pig **porko-* from IE **perk-* ‘motley’ (Pokorny 1959, 820–821). (ii) Nehring (1936, 113–14) interpreted **porko-* as ‘digger’, cf. Latin *porca* ‘ridge of soil between furrows’; German *Furche* ‘furrow’ etc., all from IE **perk-* ‘to dig up’ (Pokorny 1959, 821).

Chinese 豕 *bā* ‘(wild or female) pig’ < Late Middle Chinese **pa:* < Early Middle Chinese **pai/*pɛ:* (Pulleyblank 1991, 27) ~ Middle Chinese **pa* < Postclassic Chinese **pā* < Eastern Han Chinese **prā* < Western Han Chinese **prā* < Classic & Preclassic Old Chinese **prā* [*Shījīng*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0039 d). Schuessler (2007, 152): Middle Chinese **pa* < Later Han Chinese **pa* < Old Chinese **prā*. Baxter & Sagart (2014, 51, 223): Middle Chinese **pae* < Old Chinese **p^hra*. Comments: In Tocharian there are no traces of this animal term. In the case of its existence, one would expect A ⁺*park*, B ⁺*perke* < ⁺*pærkae*. Its hypothetical adoption would look like ⁺*prak* in Chinese, but the absence of the final velar cannot be explained. Maybe more promising could be an Iranian source. In most Iranian languages a regular continuant of IE **k* is *s*, also in this concrete etymon attested in Avestan and Khotanese. But in Old Persian it is *h* (*bata-* ‘100’, **dapa-* ‘10’), continuing as *-h-* in Middle Persian (*dh/dah/*) and Modern Persian (*dah*). Witczak tried to demonstrate that *h* was a regular reflex of Iranian **ś* < IE **k* also in Scythian (e.g. Ἀρια-πείθης [Herodot IV, 76, 78] < **ariā-paiśah-* ‘of Aryan colour = face?’, cf. Avestan *paēsah-* ‘Schmuck, Zierrat’, Vedic *pésas-* ‘shape, form, colour’ – see Witczak 1992a, 55). The hypothetical Scythian counterpart of Avestan *pərəsa-* and Khotanese *pāsa-* would probably look

like ${}^+par\theta a-$. It is thinkable to see here a source of Old Chinese $*pr\bar{a}/*pr\hat{a}/*p^{\acute{r}}a$ via a hypothetical intermediate stage $*parh$ (> early Old Chinese $*pra(h)$) with change $*\theta > *h$ analogous to the development from Old Persian to Middle Persian. A similar process may be proposed in the case of Chinese 鈇 $f\bar{u}$ & 斧 $f\check{u}$ “axe” and its hypothetical source in Scythian $*par(a)\theta u-$.

Note: Schuessler (2007, 152) mentions such Mon-Khmer forms as Wa-Lawa-Bulang $*bras$ “pig”, while Hmong forms of the type npa^t , $npua^t$ would have been borrowed from some earlier form of Chinese.

Lit.: Ulenbrook 1967, 540; Chang 1988, 37: IE + Chinese.

4. “axe”

Vedic $paraśu-$ “hatchet, axe; thunderbolt” [RV], Epic Sanskrit $parśu-$ [R], Pali & Prakrit $parasu-$ & $pharasu-$ “axe”; Ashkun $p\bar{o}s$, Kati $pe\acute{c}$ “large axe”; Parachi $paš\bar{o}$, Yazghulami $parus$, Khotanese acc.sg. $pa\dot{d}u$ “axe” < $*partu$ < $*para\theta u$, Ossetic $f\bar{a}r\bar{a}et$; Iranian > Common Tocharian $*parat^{\ddot{a}}$ > Tocharian A $porat$, B $peret$ “axe” (EWAI II, 87; Turner 1966, ## 7799h, 7949; Morgenstierne 1929b, 281; Id. 1974, 59; Abaev I, 451; Bailey 1979, 203; Adams 2013, 425; Tremblay 2005, 425). Witzak (1992a, 56) interpreted the t -forms as loans from Scythian $*par(a)\theta u-$.

Chinese 鈇 $f\bar{u}$ “axe” [Late Zhou] < Middle Chinese $*p\bar{u}$ < Postclassic Chinese $*pwo$ < Eastern Han Chinese $*pwa$ < Western Han Chinese $*pa$ < Classic & Preclassic Old Chinese $*pa$ [*Liji* “Record of Rites”, 5th-4th cent. BCE, with redaction in the 2nd cent. BCE] (Starostin, *ChEDb*; *GSR* 0101 e). Schuessler (2007, 242): Middle Chinese $*pju$ < Later Han Chinese $*pua$.

Chinese 斧 $f\check{u}$ “axe” < Middle Chinese $*p\acute{u}$ < Postclassic Chinese $*pw\acute{o}$ < Eastern Han Chinese $*pw\acute{a}$ < Western Han Chinese $*p\acute{a}$ < Classic Old Chinese $*p\acute{a}$ < Preclassic Old Chinese $*pa?$ [*Shijing*, 1050–600 BCE] (Starostin, *ChEDb*; *GSR* 0102 h-i). Schuessler (2007, 242): Middle Chinese $*pju^b$ < Later Han Chinese $*pua^b$ < Old Chinese $*pa?$. Comments: Vietnamese $b\acute{u}a$ “hammer” is an old loanword; regular Sino-Vietnamese is $ph\acute{u}$. Baxter & Sagart (2014, 100, 224, 381, fn. 11): Chinese 鈇 $f\bar{u}$ & 斧 $f\check{u}$ “axe” < Middle Chinese $*pyuX$ < Old Chinese $*p(r)a?$. Sino-Tibetan $*rpa$ > Karen nij^{31} - wa^{33} , $w\bar{a}^{33}$ “axe”, Garo rua , Dimasa roa (Benedict 1972, 174, n. 463, 78, 441; *CVST* I, 119).

Comments: A source of Old Chinese $*p(r)a?$ “axe” (Baxter & Sagart) and its possible counterparts like Garo rua “axe” ($*r-pa$) could be hypothetical Scythian $*par(a)\theta u-$ “axe” through intermediate stages $*par\theta-$ > $*pra\theta$ > $*prah$, similarly as in the case of Chinese 豕 $b\bar{a}$ “(wild or female) pig”. The adaptation of this cultural (military) term would have been realized before 600 BCE.

II. Tocharian and Iranian designations of metals in the light of etymology

A. Tocharian names of metals

The area of the Tarim Basin was relatively rich in deposits of ores of various metals. For example, in the Boshan (“White Mountains”) part of the Tianshan mountain range, north of Kuqa, the centre of the West Tocharians, copper, gold, iron, lead, tin, were exploited (Mallory & Mair 2000, 74). In cemeteries from Charwighul, north from Qarashähär, dated to c. 1000–400 BCE, bronze and iron knives, daggers and arrowheads were unearthed, further ornaments of gold, silver or iron, and also bronze horse-bits with parallels in the northern steppelands (Mallory & Mair 2000, 158–59). In the aristocratic burials dated to the 3rd and 2nd cent. BCE from the nearby locality Alwighul the deceased were accompanied by numerous golden ornaments and silver beads (Mallory & Mair 2000, 160). Near the modern city Qumul (Hami), northeast from Turpan, the so-called Yanbulaq (or Tianshanbeilu) culture was discovered. In its burials dated to 1000–700 (or 750–550?) BCE bronze and iron knives, arrowheads and ornaments were unearthed together with silver hairpins (Mallory & Mair 2000, 141; Liu & Chen 2012, 342 date the bronze artifacts to 2000–1550 BCE). The oldest iron knife from this locality dated to the 10th–9th cent. BCE, represents the oldest known iron artifact ever unearthed in Xinjiang. To the 9th cent. is dated a bi-metallic, bronze-iron toggle, discovered in the cemetery Yanghai near Turpan (Guo 2009, 108). For the Siba culture located along the Hexi corridor (Gansu province), south of the Qilian Mountains, the artifacts made of copper, bronze, silver and gold are typical objects found in burials. The golden earrings and silver nose rings are comparable only with their counterparts from Central Asia (Liu & Chen 2012, 335). The main route of new impulses in metallurgical technologies and motifs of ornaments from Central Asia in the Tarim Basin and further in China led along the Ili (Yili) River valley, where also deep copper mines were unearthed at Nurasay (Mallory & Mair 2000, 136; Guo 2009, 108).

In the Tocharian branch of the Indo-European language family the following five metal-names are known (in alphabetical order): copper, gold, iron, lead (or tin?), silver. On the basis of the detailed revision of existing etymologies some new etymological solutions are offered.

copper

1. The designation of “copper” is known only in Tocharian B, where the following forms are attested: nom. & acc.sg. *pilke* “copper”, adj. *pilkeṣṣe* nom. & obl.sg.m., *pilkeṣṣa* nom.sg.f., *pilkeṣṣana* nom.-obl.pl.f. “pertaining to copper” (Hilmarsson 1996, 130; Adams 1999, 387; Pinault 2000, 95; Adams 2013, 414):

/// *thitaṃ • klyauccamoṃ tāmraṃ • pilke • ā* /// [THT 529 b4]

/// *y-sāmnt rā pilke ene-e* /// [THT 340 b7]

– – *·au : ṣemem pilke mlo(ṣsa) – paukseṃ • at* /// [PK AS 19.3 a3]

<<https://www.univie.ac.at/tocharian/?pilke>>

/// *ki kaklawau pilkeṣṣe te päkṣä-* /// [IOL Toch 234 b4]

<<https://www.univie.ac.at/tocharian/?pilkeṣṣe>>

/// *vairuḍiṣṣa wmerṣṣa pilkeṣṣa läntaṣṣa kāwañṣa • orṣṣa • wī* ... [PK NS 95 b4]

<<https://www.univie.ac.at/tocharian/?pilkeṣṣa>>

2. In the light of internal etymology the word is derivable from the late IE starting-point **PelKo-* (Adams 2013, 414). Let us mention that the protoform **PilKo-* is also thinkable.

3. Etymology:

3.1. Usually the term has been derived from the verb *pālk-* “to burn”, hence the semantic starting-point would be “burning”¹⁴⁷ or “shining, brilliant” (Adams 2013, 414, 404), further from IE **b^hleg-* “to burn; shine” (Pokorny 1959, 124–125; Adams, *EIEC* 513; Schirmer, *LIV* 86–87). If this is the case, the starting-point should be defined with more precision as **b^helgo-*. Let us introduce all relevant continuants in other Indo-European branches:

3.1.1. Vedic *bhārgas-* n. “radiance, lustre, splendour, glory” [RV] (**b^helg-os-*); *bhīgavāṇa-* “shining, glittering” (MW 748, 765; *EWAI* II, 252).

3.1.2. Greek φλέγω “I burn (up)” [*Il.* 21.13], φλεγέθω “I burn (up), scorch; intr. ‘I blaze, flare up (of lightning, sun)’” [*Il.* 17.738, 21.358; Hes. *Th.* 846], φλέγμα n. “flame, fire, heat” [*Il.* 21.337]; φλεγμονή f. “fiery, heat” [Plut. 2.699E], φλεγύας ἀετός ξανθός, i.e. “fiery red or red-brown eagle” [Hes. *Sc.* 134]; φλόξ “flame or fire” [*Od.* 24.71], φλογμός “flame, blaze (as of lightning)” [Eur. *Hel.* 1162].

3.1.3. Latin *flagrō, -āre* “I am ablaze, burn” [Cicero], *flagrantia* “blaze, passionate glow” [Plautus], *flamma* “flame” [Naev.] < **flagmā*; Oscan dat.sg. *Flagiúi & Flagiúí* ‘Fulgurātōrī’ – an epithet of Iuppiter; further Latin *fulgō & fulgeō, -ēre*, perf. *fulsī* “I shine brightly” [Pac. & Lucil.], *fulgor, -ōris* “brightness; flash” [Lucr.], *fulgur, -uris* “flash of lightning”, but nom.sg. *fulgus* by Paul. ex. F., *fulmen (*fulgmen)* “lightning, thunderbolt”, all from the zero-grade *b^hlg-C-* vs. *b^hlg-V-* (de Vaan 2008, 224, 247).

3.1.4. Celtic: Middle Irish *im(b)lissen* gen. du. “iris of eyes” < **ambi-blig-s-* < **H₂tb^hi-b^hlg-s-* (Vendryes 1923, 431f; *DIL* I-99).

3.1.5. Germanic: Old High German *blecken/blecchen* “blitzen, glänzen, fulgere, coruscate; sichtbar, entblößt sein” [Notker] < **blakjan-*, *bleckazzōdi* n. “Blitz(strahl), fulgur” [Notker], *bleckunga* f. id. [gloss], Middle Dutch *blāken* “flammen, glühen” < **blakōn-*, Old English *blæcern, blacern* “Leuchter”, Old Icelandic *blakra* “blinken; flattern” < **blakrōjan-*; perhaps also Old High German *blah-*, Old Saxon *blak* “Tinte”, Old English *blæc* id., adj. “black” (“angebrannt”). It is tempting to add Old High German *bleh* n. (*a/az/iz*-stem) gl. “Blech, Goldblech, Amulett, brattea, lamina, phylacterium”, German *Blech*, Middle Low German *ble(c)k & bli(c)k*, Middle Dutch *blec & blic* “Blech”, maybe the Old Saxon hapax *blekkot* gl. ‘laminis’, correctly perhaps **blekkon*, dat.pl. from **blek* “Blech” (*EWAhD* II, 171–174, 154). These forms have been derived from **blika-* or **blikka-* (*EWAhD* II, 174), but the root vowel could also be **e* and its change into **i* might be realized in the *iz*-stem, i.e. the reconstructions **blekka-/blekkaz-/*blekkiz-* are also possible. In this case, “sheet metal” is compatible with the preceding forms.

3.1.6. Baltic: Latvian *balģans* “whitish”;

3.1.7. Tocharian AB *pālk-* 1) to burn; shine, be highlighted”; 2) “to see, look at, take heed of”¹⁴⁸, A *pālk*, B *pilko* “insight, view; look, glance”, A *polkāmts* “sidus, astrum” (Poucha 1955, 190), B *empalkatte ~ empalkaitte* “unworried, unheeding, unconcerned, carefree”; *pālkiye* “desert, waste” < **b^h(e)lgu-jo-* or *-H₂en-*; *pālkamo* “luminous, shining, bright”, *pālkaññetstse* “beautiful” (Adams 2013, 403–05, 414, 97).

3.1.8. The Middle West Iranian designation of “bronze”, attested in Parthian *plync /plinj/* “bronze” (*MPP* 275), borrowed into Armenian *plinj* “bronze”, further appears in Middle Persian

147 Cf. Baltic **uarja-* “copper” > Lithuanian *vārias*, var. *vāris* “copper”, adj. *varinis* “of copper”, compound *švitvaris* “brass” (“bright copper”), Latvian *varš* “copper, metal, ore”, Prussian *vargian* “copper” [*EV* 525] /*varjan/*, besides Prussian *auverus* “Metallschlacke” [*EV* 529], all from the verb **uerH₁-*, attested in Hittite *war-/ur-* “to burn”; Armenian *vařem* “zündē an”, *vařim* “brenne”; Lithuanian *virti* : *verdu*, Latvian *virt* : *veřdu* “kochen, siedēn, brandēn, brodeln, sprudelēn”, (Fraenkel 1962–65, 1199–1200, 1263); Old Church Slavonic *varb* “heat”, *varēti* : *variti* “to cook” (Kloekhorst 2008, 923–25; *LIV* 689; Pokorny 1959, 1166).

148 Puhvel (2011, 68–69) separates the homonym *pālk-* “to see, look at, take heed of” and connects it with Hittite *palkuiya-, palkuwai-* “to look to, look after, have regard for, appreciate” and Greek βλέπω “I look, regard”.

bryng^M, *blnc*^Z /*brinj*/ “bronze” (MacKenzie 1971, 20) = *brynng* /*bring*/ “bronze, brass” (MPP 111), continuing in Classical Persian *birinj*, *biranj* “copper” (Steingass 1892, 179). It may reflect proto-Iranian **bRnga-* / **bRngia-*¹⁴⁹. If this is the case, it is also derivable from the root **b^hleng-*, i.e. the formation of the root **b^hleg-* with the *n*-infix.

3.2. Alternatively, Tocharian B *pilke* “copper” is derivable from the root **b^hleig-* “to shine” > Old Norse *blikja* “erscheinen, glänzen, leuchten”, Old English *blīcan*, Old Saxon *blīkan* “glänzen”, Old High German *blīhhan* “bleich werden”; Old Saxon *bliksmo* “lightning”, Old High German *blic* “schnelles Ganzlicht, Blitz”; plus West Germanic **blika-* or **blikka-* “Blech” (EWAhd II, 174), if the root vowel was **i* (see 3.1.5.) | Lithuanian *blýškiu* : *blyškėti* “funkeln, schimmern” | Old Church Slavonic *blbštq* : *blbštati* “glänzen”, *bliskb* “Glanz”; Old Czech *blesk*, gen. *blsku* “lightning” < **blbšk* < **b^hlig-sk-o-* (Schirmer, *LIV* 89; Pokorny 1959, 89). These forms are compatible with the alternative West Iranian protoform **bRinga-* / **bRingia-*, “bronze” (see 3.1.8.).

3.3. With respect to phonetic differences it is tempting to think about independent borrowings from some third language. In principle, it could be Chinese, but the only metal-term similar to the analyzed Tocharian-West Iranian isogloss is Chinese 鉛 *bó* “folium gold”; late “platinum” < Middle Chinese **bāik* < Postclassic Chinese **bēk* < Han Chinese **brāk* < Classic & Preclassic Old Chinese **brāk*. With regard to the Old Chinese reconstruction beginning from Middle Chinese and the structure of the character 鉛, this metal-term should be connected with Chinese 白 *bái* “to be white, light, clear” < Middle Chinese **bāik* < Postclassic Chinese **bēk* < Han Chinese **brāk* < Classic & Preclassic Old Chinese **brāk*¹⁵⁰ (Starostin, *ChEDb*; *GSR* 0782 a-e) = **b^hrak* (Baxter & Sagart 2014, 65, 72, 107). Concerning semantics, cf. Hittite *parkui-* n. “bronze, brass”, from the adj. *parkui-* “bright, shiny; pure” (Puhvel 2011, 146–47).

3.4. Witczak (2009, 291–302) speculated about possibilities of connecting Tocharian B *pilke* “copper” with the series of metal-names in other Indo-European languages, namely Sanskrit *pāraśava-* “iron”; Middle Persian *pwl’wd* /*pōlāwad*/ “steel”; Mycenaean instr.sg. *pa-ra-ku-we* & *pa-ra-ke-we* designating a kind of metal or semiprecious stone used for decorating wooden objects; Hittite *ḫapalki-* n. “iron”; Lusitanian *pāлага* “a clot of gold”, dim. *pālacurna* “a small clot of gold; golden sand” [Pliny xxxiii 77].

Let us comment on these comparanda:

3.4.1. Sanskrit [lex.] *pāraśava-* m./n. «iron», adj. “made of iron”, is explainable as the *vṛd-dhi-*formation from *paraśú-* “hatchet, axe” [RV] (EWAI III, 315; II, 87; Turner 1966, #7799h). The cluster *-rś-* appears in the shortened epic form *parśu-* m. “axe” [R], continuing e.g. in Prakrit *pam-su-* “axe”, Oriya *pāūsi* “vegetable chopper”, Sinhalese *pihiya*, *pīhaya* “knife, chopper”, Nuristani: Ashkun *pōs*, Kati *peč* “large axe”, and borrowed in Parachi *pásō* (Turner 1966, #7947). The corresponding Iranian axe-names confirm the Indo-Iranian protoform **paraśu-* > Iranian **paraśu-* > Yazghulami *parus* “axe” (Morgenstierne 1974, 59); Southwest Iranian or Scythian **paraθu-* borrowed in Khotanese acc. *paḍu* “axe” (Bailey 1979, 203), Ossetic *færæet* “axe” (Abaev I, 451), and further in non-Iranian languages: Common Tocharian **peretä* > A *porat*, B *peret* “axe” (Ad-

149 Cf. Middle Persian prt.pf.pass. *grypt*, *gryft*, Persian *giriftan* “to take, seize” vs. Avestan *gərəβnāiti* “grabs, seizes, takes” = Vedic *gr̥bhñāti* (Hübschmann 1895, 145; Cheung 2007, 119–21; EWAI I, 505–06).

150 On the basis of comparison of Old Chinese 白 **brāk* “white” with South Kuki: Sho, Chinbok *bok*, Yawdwin *pok*; Kiranti **bü(k)*; Bodo-Garo: Garo *gibok* ~ *gipok*, Dimasa *guphu* < **g-phuk* “white” (Benedict 1972, 181; Matisoff 2003, 378–89), Peiros & Starostin reconstructed Sino-Tibetan **bhōk* “white” (*CVST* I, 12). Starostin (*ChEDb*) changed it to **piāk*, but he did not explain **-r-* in his own Old Chinese reconstruction beginning from the Han Era. Peiros (1998, 224) offered the alternative Sino-Tibetan reconstruction **(r-)bo:k*. But the Tibeto-Burman examples are relatively rare and their explanation as loanwords from some continuants of Mon-Khmer **kbo:k* “white, grey” (Shorto 2006, 151, #369a), e.g. Kuy *bua?* “white”; Stieng *bo:k* “white, gray”, could represent an alternative solution. The Chinese metal-name is probably connected with Mon-Khmer **(pə-)rak* “silver” > West Bahnaric **(pə-)rak* “silver” > Jaru, Brao, Nhaheung, Lavi *prak*, Juk *pra?* || Katuic **(pə-)ra?* “silver, money” > West Katuic: So *para?*^N “silver”, Bru *pra?*^N “silver, money”, Bru Van Keu *pra?* “money”, Sou *pəra?*, Kuay *pra?*^N “silver”, Ngeu *pla?*^N “silver” | East Katuic: Pakoh, Taojh, Katu, Kri, Triw, Chatong *pra?* “silver”, Dakkan *pra?* & *prak* id., Ngeq *pra?* “money, silver” (Peiros, *Etymological Austroasiatic Database*), and Austronesian **pilak* “silver” (Peiros 1998, 224).

ams 2013, 425); pre-Permic **partz* > Udmurt & Komi *purt* “knife” (*KESK* 233); Old Bulghar **parata-* > Chuvash *purdâ* “axe” (Joki 1973, 305). Indo-Iranian **paraću-* “axe” corresponds to Greek *πέλεκυς* “(double) axe, hatchet” [*Il.*] (Beekes 2010, 1166), Mycenaean *pe-re-ke-u* nom. sg. /*pelekeus/* & *pe-re-ke-we* /*pelekewes/* “axe-maker” or “carpenter” (cf. Aura Jorro 1993, 104–05); *pe-re-ku-wa-na-ka* [PY Va 15.2] (Furumark 1954, 53: /*peleku wanax/*; Puhvel 1956, 221: /*peleku-wanax/*), independently of a decision whether the term was inherited or borrowed.

3.4.2. Middle Persian *pwl'wd* /*pōlāwad/* “steel” (*MPP* 286), was borrowed into Armenian *p'olopat'*, *p'olovat'* “steel”, and it continues in Classical Persian *pulād* “steel” (Steingass 1892, 254). Witczak assumes their virtual Old Persian predecessor in the form **pāraθu-ūat-*. He seeks support in the following regular chain of changes: Old Persian *-rθ-* > Middle Persian *-hl-* > Modern Persian *-l-*, as in Persian *pul* “bridge”, Middle Persian *^zpwhl* /*puhl/* (MacKenzie 1971, 69; Nyberg 1974, 162), Old Persian **pṛθu-*¹⁵¹, but in Middle Persian *pwl'wd* /*pōlāwad/* there appears no *-hl-* and in Witczak’s reconstruction of Old Persian **pāraθu-ūat-* there is no cluster *-rθ-*. The expected cluster *-rś-* is also missing in Sanskrit *pāraśava-* m./n. “iron” [lex.], adj. “made of iron” [MBh], it appears only in the shortened epic form *parśu-* m. “axe” [R], continuing in Middle and Modern Indo-Aryan and Nuristani languages (see §3.4.1.). Middle Persian *pwl'wd* /*pōlāwad/* “steel” was more probably borrowed from a source of the type of Vedic *pāvīravat-* [RV, VS] or *pavīravat-* [AV] “armed with lance or a goad”, the adj. formed from the noun *pavīra* [Nir] “a weapon with a metallic point; lance, spear” (Korš¹⁵² 1912 apud Reichelt 1913[1914], 74; Schrader & Nehring II, 444), which itself is a derivative of *pavī-* m. “metallic point of a spear or arrow; tire of a wheel, esp. a golden tire on the chariot of the *Asvins* and *Maruts*” [RV, *Ait.Ār.*] (MW 611; *EWAI* II, 107).

3.4.3. Mycenaean instr.sg. *pa-ra-ku-we* & *pa-ra-ke-we* [PY Ta 642, Ta 714, Ta 715], adj. *pa-ra-ku-we-jo* [KN Sp 4451], together with Hesychius’ gloss βαρακίς · γλαύκινον ἰμάτιον, can be explained as an adaptation of the Semitic designation of “emerald”: New Babylonian *barraqtu* “emerald” : Babylonian *barāqu(m)* “to lighten, shine” (*CDA* 38–39), Jewish-Aramaic *brq?*, Syriac *bārqa*, Hebrew *bāreḡet* “emerald”, *bārəqat* “dark-green beryl”, all from the Common Semitic verb $\sqrt{b-r-q}$ “to shine, gleam” (*DRS* 86; *HAL* 162; Aura Jorro 1993, 82–83; Palaima & Sikkenga 1999, 603; Bartoněk 2003, 216).

3.4.4. Hittite *ḫapalki-* n. as the equivalent of Sumerian AN.BAR “iron” is known already in the Old Hittite period: *ḫapalki līpi[r]* “they licked the iron” [*KBo* XXIV 52, 6], later the gen.sg. *ḫapalkiyaš* is also attested: *mān-za-kan* ^{DU} ^{URUKU}.BABBAR-*tī* ^{DLAMA} ^{URUKU}.BABBAR-*tī* DINGIR. MEŠ *ḫapalkiyaš* [ŠĀ] É.MEŠ DINGIR. MEŠ *ŪL kuezqa maršanuanteš* “if you, Storm-god of *Ḫatti*, tutelary deity of *Ḫatti*, deities of iron in the shrines [are] not desecrated in any way” [*KUB* XVI 34 I 1–2]. The term has been connected with Hattic (gen.) *ḫa-pal-ki-an* [*KUB* 28.74 Rs.r.col.3’; *KUB* 28.75 II 8], *ḫa-pal-ki-ya-an* [*KBo* 37.1 I 13, 15, 23; *KBo* 37.3+*KUB* 28.87 Vs.2’, 7’; *KUB* 28.116 III 6’] ~ Hittite AN.BAR-*aš* [*KUB* 55.2 Rs. 4 & *KBo* 37.1 II 15, 23 respectively] (Soysal 2004, 179, 447–48). The same term appears in Hurritic *ḫa-pal-ki* & *a-pal-ki* (*KUB* XXIX 8 IV 13 & 20 respectively; cf. Laroche 1980, 88; Puhvel 3, 116–18), besides the rather bizarre variant *ahlipaki-*, attested in the Hittite texts [e.g. *IBoT* I 31 I 10; *KUB* XLII 75 Vs. 3 1 & 6], but with the Hurroid type of metathesis (Puhvel 3, 117). The Neo-Babylonian transcription *ḫabalginnu* / *ḫabalkinnu*¹⁵³ of this Anatolian metal-name is known from the so-called El Amarna tablets (*CAD* 6, 3). Usually, a primary source has been identified in Hattic (Puhvel 3, 117: ‘first attested in Hattic’). In Hattic the prefix *ḫa-* is actually very productive. It forms (i) deverbal nouns, e.g. *ḫa-nti-u*

151 The word is missing in the Old Persian lexical corpus. Maybe it is possible to find its reflex in the man’s name written in New Elamite cuneiform from Persepolis as *pīr-du-qa-na* which is interpreted as **pṛtu-kana-* “tunnel-digger” by Gershevitch (1969, 220). Other interpretations – see Hinz 1975, 194.

152 Korš, Theodor E. 1912. *Nekotoryja persidskija etimologii*. Moskva: Ottiski izъ ‘Drevnostej vostočnyx’, Tom 4.

153 1 *paṛru ša lišānšu ḫ[a]-b[a]l-ki-*i*-in-nu* “one dagger whose blade {is of} *ḫ*-metal [EA 22 i 32] variant *ḫa-bal-ki-nu* [EA 22 iii 7].

10 GI *ia-ka-a-tum ša ḫa-b[al-ki-ni]* “ten jakītu-arrowheads (?) of *ḫ*-metal” [EA 22 iii 49].

vs. \sqrt{nti} “to sit”; (ii) denominal nouns: *ḥa-p(a)raš-un* “leopard” (with the oblique ending *-un*) vs. Hittite *paršana-* id.; (iii) nouns from adjectives: *ḥa-šaḥ* “das Böse” vs. *šaḥ* “böse”; (iv) locative formations: e.g. *ḥa-ai-wai(-p-)* “in / nach unser Haus” vs. *wa_ail* “house” with the masculine marker *-il* (Soysal 2004, 179, 217, 299). But there is no known root of the type $\sqrt{palk^o}$ in Hattic, from which this metal-name could be derived. The same can be said about Hurrian. On the other hand, in Hittite there is the verb *palkuiya-*, *palkuwai-* “to look at, look after, have regard for, appreciate” [KUB 29.I III 5; KBo 25.123, 6], probably corresponding to Tocharian AB *palk-* 1) to burn; shine, be highlighted”; 2) “to see, look at, take heed of” (see above) (Adams 2013, 403–05, 414, 97). It is tempting to admit the semantic dispersion of the Hittite verb had originally also covered the meaning “to shine”, cf. e.g. German *blicken* “to look, gleam, shine”, or Old Church Slavonic *zbrěti* “to look, see” : *ozariti* “erleuchten”, *zaŕa* “Glanz, Morgenröte”, and Lithuanian *žerėti* “to shine, gleam” (Buck 1949, 1044; Fraenkel 1962–65, 1301). Accepting this semantic field, the root $\sqrt{palk^o}$, a hypothetical base of the Anatolian designation of “iron”, is explainable as a derivative of the same root $\sqrt{b^h elg-} / \sqrt{b^h leg-}$ “to burn, shine; see, look” as Tocharian *pilke* “copper”, West Iranian $\sqrt{bRngia-} / \sqrt{bRngia-}$ “bronze” and West Germanic $\sqrt{blekka-} / \sqrt{blekkaz-} / \sqrt{blekkiz-}$ “(golden) sheet”. It is possible to imagine that the originally Hittite metal-name $\sqrt{palki-}$ was adopted in Hattic and extended by the prefix *ḥa-*. This new formation would later have been spread throughout the whole of Anatolia, i.e. back into Hittite and also into Hurrian. Alternatively, *ḥapalki-* could be a purely Hittite compound, where the first syllable would be related to Palaic *ḥā-* “to be warm” < $\sqrt{H_2 eH_1}$ – (Kümmel, LIV 257). In this case it is possible to ascribe to $\sqrt{palki-}$ the primary meaning “copper-bronze” → “metal”, while the first component would describe the melting process differentiating the metallurgy of iron from that of copper. Let us mention that the melting temperature of iron, 1482÷1593 °C, is significantly higher than 1084 °C of copper.

gold

1. The Tocharian designation of “gold” is well-attested in both A and B languages, including derivatives and compounds:

A *wäs* sg.m. “aurum”, possessive adj. *wsāši* “aureus”, compounds *wsā-yok* “aureus” (= “aureae coloris”), *wsā-štām* “arbor aurea” [132 a5], *wsi-yats* “aurea cutis”, *wsāštār* “purus ut aurum” (Poucha 300–01, 314–15):

wäs nkiñc^a “aurum {et} argentum” [393 b6]

yok yāmu jambunāt wäss oki āštār lukšānu wsā yok ya(ts) [439 b2; 291 b8]

wsāši šul [256 b1]

rātram wsāluyāmpi wsā-yokām yatsyāmpi lānt sewāññ āmpi [144 a2]

wsi-yats kapšiññā nāskont [8 a6]

šām sewās yats tspānkāssi wsāštār ysārām ši... [311 b6].

B *yasa* nom.-obl.sg., gen. *ysāntse* “gold”, adj. *ysā-yok* “gold-like, golden” [THT 367, a3], lit. “of golden colour”, *ysāññe* “golden” [THT 237, a1]; *ysāšše* nom.-obl.sg.m., *ysāššene* loc.sg.m., *ysāšši* nom.pl.m., *ysāššana* nom.-obl.pl.f. “pertaining to gold, golden”; *yasnane* loc.sg. from the unattested nom.sg. \sqrt{yasna} “treasury” (Adams 2013, 524–25):

pañäkte śrāvastine mäskītār omte šaḍvarginta yasa ñkante wrākaññeṃ wmera makci priyeṃ tanāpati ... [PK AS 18A, a2]

... kraupāšša śikšapāt śānmya • k_uše šamāne yasa ñkantesa warñai naumiyenta šañtsa enkasträ [PK AS 18A, a3]

n yasa ram no palsko tākañc snai /// [THT 7, b1]

/// (56) (*snai*) *k(e)ś yasa wa(sa ekñi)nta : or(o)cce ti-* /// ... [THT 21, b1]

<<https://www.univie.ac.at/tocharian/?yasa>>

... *ynemane kau(c yāmu ūkt) naumiye(nta sa)m ysāšše cākkār akāsne ynemane orocce wrene wārnamane ...* [PK AS 17A, b6]

... *sālpamane ram no peñiyacce yaknesa kañcām ysāšše kwrakārne ūm(eñca) – nn· ...* [PK NS 19, b2]

/// *(mñcu)šk(em) eñku wace ūarsa ysāšše* /// [PK NS 355, a3]

/// *t· ysāšše 28 šle were po klešanma yaikoš ...* [THT 30, b2]

/// *tārc samudtār ysāšše ñ·* /// [THT 76, a5]

r ysāšše ścmāc kektse /// [THT 211, b5]

/// *ysāšše asā* /// [THT 611, a2]

/// *rpau kañ(c)ām ysāš(s)e* /// [THT 615, a5]

<<https://www.univie.ac.at/tocharian/?ysāšše>>

2. From a perspective of internal reconstruction the Tocharian forms are derivable from Common Tocharian **w'āsā* (Pinault 2008, 563; he mentions *-ā-* in compounds: A *wsā-yok*, B *ysā-yok*) ~ **w'āsā* f. < **(H)ues-eH₂-* (Adams 2013, 524–25), while Hackstein, Hiromi & Bross (2015, 74) reconstruct proto-Tocharian **w'əs-a* < **H₂ues-H₂*. The same protoform is preferred by Pinault (2008, 444–45).

3. From the point of view of etymology the term has traditionally been connected with the designation of “gold” attested in the Italic and Baltic branches (Pokorny 1959, 86–87; Huld & Mallory, *EIEC* 234; Beekes 2010, 1652). In spite of the same meaning, the Tocharian forms differ in the root ablaut (cf. §2). Let us analyze in detail all relevant forms:

3.1. Italic **ausom* n.: Latin *aurum* [*XII tab.*; Ennius], Sabine *ausom* “gold” [Paul. *ex. F. 9: aurum ... a Sabinis translatum putant, quod illi ausum dicebant*].

3.2. Baltic **ausas* m.: Old Lithuanian *ausas* [Bretkun], Lithuanian dial. *áusas*, standard *áuk-sas* with secondary *-k-* as in *úoksas* «hole» < **ōs-*: Latin. *ōs*, gen. *ōris*; acute perhaps from the derivative *áuksnas* «golden coin» < **aūsinas* (Smoczyński 2007, 33, 704; Fraenkel 1962–65, 25); Old Prussian *ausis* ‘golt’ [*Elbing Vocabulary* 523], i.e. «gold», acc.sg. *ausin* [*Enchiridion* 43.16] (Mažiulis 2013, 63).

3.3. Usually Armenian *oski*, dial. (e.g. Salmast) *voski*, “gold”, gen.-dat.sg. *oskwoy*, acc.sg. *oskis*, nom.pl. *oski-k'*, has been added. Patrubányi (1908, 278) derived it from the protoform **ausgijōs*, but the initial diphthong would have developed into Armenian *(h)ag^o*, cf. *aganim* & *haganim* “to put on clothes” < **H₂eū-* (Martirosyan 2010, 3). Discussing various possibilities of substratal origin, Martirosyan (2010, 533) thinks about pre-Armenian **əwoskiya-* (< **H₂uoskijo-?*). Olsen (1999, 441) derives it from **H₂us-tūjo-* with dissimilatory umlaut *u...i > o ... i*. Her idea offers an alternative scenario: **H₂us-H₂uo-* → **H₂usH₂ūjo-* > Early Armenian **(h)usgijō > oski*, applying these rules: (i) **H₂uo^o > Armenian go^o* as in *goy* “exists” < **H₂uose*; (ii) **-s+g- > -sk-*, cf. *askn* “precious stone of red colour” < **H₂H₂s-g-ŋ* (Martirosyan 2010, 221, 118–19); (iii) dissimilatory umlaut *u...i > o ... i* proposed by Birgit Olsen (l.c.).

3.4. In Greek there is no apparent reflex of this metal-name¹⁵⁴, but in Mycenaean there are hypothetical traces identified by Witczak (1992b, 90–91; 1994, 56–57; cf. also Huld & Mallory, *EIEC* 234–35; Irslinger, *NIL* 358). Witczak analyzes the ideogram **141 AURUM*¹⁵⁵ of the Linear script B (cf. Bartoněk 2003, 114, 130) as a ligature of two signs, proposing their reading *a₄-wo*, i.e. **āfōc* or *āfōc*. In September 2016 Professor Nikolai Kazansky (Sankt Petersburg) pointed out

154 The common Greek term χρυσός, known from Iliad and identified already in Mycenaean texts as *ku-ru-so*, was adopted from the Semitic designation of “gold”: Akkadian *hurāšu*, Ugaritic *hrš*, Phoenician *hrš*, Hebrew *hārūs* (Frisk II, 1122–23; Bartoněk 2003, 180, 195, 215).

155  See <https://en.wikipedia.org/wiki/Linear_B>.

that in the case of ligatures in the Linear script B both orders of the primary signs were possible. It means, the reading *wo-a₄* would also be thinkable.

3.5. In the Insular Celtic languages the original term for “gold” was replaced by Latin *aurum*, adopted as Old Irish *ór*, Middle Welsh *eur*, Welsh *awr*, Cornish *our*, Breton *aouer* “gold”, Old Breton *ourcalch* gl. ‘*aurichalcum*’ (Schrader & Nehring I, 404; Pedersen I, 211). But it is improbable to expect the total absence of a designation of “gold” in Celtic. At least in onomastics some traces should be found. There are many anthroponyms and toponyms derivable from the root **aus-*. It is difficult to accept that all are derived from Celtic **aus-os-* “ear” > Old Irish *au* id., Gaulish woman’s name *Su-ausia*, perhaps ‘{lady} with pretty ears’ (Matasović 2009, 48–49), although ‘{lady} with pretty golden {jewels}’ is also thinkable. The river-names¹⁵⁶ may (but need not) be formed from the verb **H₂eus-* “to scoop” (*LIV* 275–76). But the ethnonym *Ausetani* [Caesar, *BC* 1.60.2; Livy 21.23; 61.8; 29.2.2; 34.20.1; 39.56.1; Pliny, *NH* 3.22–23] from Hispania Tarraconensis and the name of their city *Ausa* [Ptolemy 2.6.69: Αὔσα], reflected on the Iberian coins as *aušescen* and *ausain* respectively, the latter one in Latin *Ausone* [Tarraco, *CIL* II 6110] (Hübner 1893, 30; Id., *RE* II.2, cc. 2556, 2558; Holder I, 297), probably are not motivated by “ears”, nor by “scooping”. Although this area has been ascribed to Iberians, there are also traces of Celtic proper names (Burdy 2016, 3).

3.6. There are attractive, although only hypothetical, cognates in Anatolian.

3.6.1. Hittite (NA⁴)*hušt(i)-* designated a material, which was flammable and strong (i.e. hard?), but it was possible to pound it (see Puhvel 1991, 411):

GIŠERIN YA.NUN LÀ *hūšzaš[-a]* *šamešiyazi* “cedar, butter, honey, and *h.* is burning” [*KBo* XI 14 I 19];

nu-k[an] *huštiš* GIM-an KALAG.G[A] KALAG.GA-as *ēsdu* “even as *h.* [is] strong, may he be strong!” [*KBo* XII 85 II 7–9];

NA⁴ZA.GIN NA⁴GUG NA⁴AŠ.NU₁₁.GAL *tepu dāi huštin* GIŠERIN GIŠSINIG *tepu dāi n-at-san* ANA^{DUG} *kuškušulli katta kūškuzzi* “takes a little bluestone, carnelian, and alabaster, takes a little *h.*, cedar, and tamarisk, and pounds them with a pestle” [*KBo* V 2 IV 20–23].

In the term Polvani (1988, 18–27) identified “amber”, the word vacillating between the root and *i*-stem [nom.sg.: *KBo* XI 14 I 19: *hūšza*, while *KBo* XII 85 II 7–9: *hūštiš*; acc.sg. *KUB* X 63 Rs. 10–11: *hūštan*, while *KBo* V 2 IV 20–23: *huštin*; instr.sg.: *KBo* XXIII 1 II 2–5: NA⁴*huštit* etc.]. Despite the existence of the Hurrian counterpart *hušti-* id. [*KUB* XLVII 10, 13; XLV 18 Vs. 15; *KBo* II 21, 12–13], Puhvel (1991, 411–13) sees here an inherited word, while Rieken (1999, 79–80) prefers its Hurrian origin. Its hypothetical connection with “gold” may be illustrated by one of designations of “amber”, recorded by Pliny¹⁵⁷, namely *chrŷsēlectrum* = Greek χρυσήλεκτρον “gold-coloured amber”. From the point of view of word formation it is the *t*-stem comparable e.g. with Hittite (TUG)*šašt(a)-* “lying down, sleep, reclining; bedding, bedroll, bed, place for lying down”, thematicized only in New Hittite, which is derived from the verb *šeš-/šaš-* “to lie down, fall asleep, sleep” (*CHD* Š, 306–10; Rieken 1999, 129–31; Kloekhorst 2008, 746–47). There are also denominal formations in *-t-*, e.g. *šaudišt-/šāwitišt-* “weanling” < **só-uetes-t-* “of this year” (Kloekhorst 2008, 739–40; Rieken 1999, 147–50). Semantically closer is Hittite *maišt-* n. “glow” < **mois-t-*, connected with *mišriwant-* “shining” (Rieken 1999, 137–39; Kloekhorst 2008, 542–43). The Hittite syllable *hūš-* can reflect both **H₂u-* & **H₂eu-*, cf. *huppar-* n. “bowl, pot, keg” <

156 E.g. *Ausa* – river by Aquileia in Friul; *Ausona* – flumen in Pago Lemovicino: in fluvio Ausonae [*Diplomata*, AD 631]; *Ausaua* – river Oos(e), a tributary of Kyll near Prüm [*Tabula Peutingeriana*]; *Ausoba* – river by Galway in West Ireland: Αὐσόβα ποταμοῦ ἐκβολοί [Ptolemy, 2.2.3] (Holder I, 298–299 with all sources).

157 [37.42] *appellantur aliquae et chryselectroae, in colorem electri declinantes, matutino tamen tantum aspectu.*

Plini Secundi: *Naturalis Historiae*, ed. Karl Friedrich Theodor Mayhoff. Leipzig: Teubner 1906.

<http://data.perseus.org/citations/urn:cts:latinLit:phi0978.phi001.perseus-lat1:37.42>

[37.43] “Though it has now altogether gone out of use for jewellery, there is a precious stone known as ‘chryselectrum’, the colour of which inclines to that of amber; but only when viewed by a morning light.”

Pliny the Elder: *The Natural History*, translated by John Bostock & H.T. Riley. London: Taylor & Francis 1855.

<http://data.perseus.org/citations/urn:cts:latinLit:phi0978.phi001.perseus-eng1:37.43>

**h₂upr* vs. Germanic **ufna*- “oven, furnace” (Puhvel 1991, 387–92; Kroonen 2013, 557), besides Hittite *huhha*- “grandfather”, Cuneiform Luvian *hūha*- id., Hieroglyphic Luvian *huha*- id., Lycian *χuge*- id. vs. Armenian *haw*, Latin *avus* id., Gothic *awo* “grandmother” respectively (Kloekhorst 2008, 364, 352–53). It means, Hittite *hušt(i)*- may reflect both **H₂us-t*- & **H₂eys-t*-. Its primary meaning could be “goldness”. Hawkins (1995, 95) thinks about a cognate in Hieroglyphic Luvian *hwi/a-sa-ti-sa* /*hwisti(ya)s(a)*/ “(that) of *hwisti*-”, identified in the inscription called Südburg:

§11. DEUS-*ní-zi/a* STELE REL-*i(a)-sa* *hwi/a-sa-ti-sa* *i(a)-zi/a-tá(-sa)*

§12. *wa/i-tá* STELE *pa-sa-*’ *hwi/a-sa-ti-sa* *i(a)-zi/a-tá(-sa)*

“(He) who has made the stele of HWISTISA for the gods”

let his stele be made of HWISTISA” (Hawkins 1995, 88–89, 95).

If this identification is correct, the Hieroglyphic Luvian word is derivable from **H₂ues-t*-.

3.6.2. In Hieroglyphic Luvian texts there is also another candidate:

Tünpi 1 (Hawkins 2000, 155–56)

§6 |*wa/i-*’ 1 ‘ARGENTUM’-*sa* 1 ‘SCALPRUM’*ma-na-sa* | 1 ‘SCALPRUM’*ma-na-sa-ha-na* (*419’)*wa/i-sa-ha-sa* “one mina of silver and one MANASAHAN (is) the WASHA.

Note: If the word *wa/i-sa-ha-sa* is in the gen.sg. as ‘ARGENTUM’-*sa*, the nom.sg. should be **washa*. It seems that **washa* had a meaning parallel to ‘ARGENTUM’.

Assur letters a-g (Hawkins 2000, 537, 551)

§27 | *á-pi-ha-wa/i-za* | (*420)*wa/i-sa-ha-sa* | REL-*za* | VIA-*wa/i-ni-ta*

“Why did they (?) send us WASHASA?”

Note: If the word of our interest represented a subject, the attested form would be the nom. sg. m./f. More probably, it could be acc.pl. n. of genitive adj. in *-asi-* or gen. (partitive) sg./pl. according to Hawkins.

Babylon 2 (Hawkins 2000, 395–96)

§4 *á-mu-pa-wa/i-tu* (*419’)*wa/i-sa-ha-i-za* *ku+ra/i+sà(-)ka-tara/i-hi²-ha* *i-zi-i-ha*

“and for him I made WASHAI(N)ZA and KURISKATARAHÍ”

Note: The transcription *wa/i-sa-ha-i-za* should reflect **washai(n)za* (Oettinger, p.c. May 2016), representing acc.sg. n. It designated a votive gift made for the Storm-god Tarhunzas.

Karkamiš A4a (Hawkins 2000, 152)

§11 (“PANIS.PITHOS”) *a-za-li-sa-pa-wa/i* DOMINUS-*na-ni* “*419”-*sa-ha-sa-DARE-mi-na*

“meal is to be given to the owner for the *washa*.”

Determining a more concrete semantics, it is necessary to take into account the following details describing **washa*-: (i) It is used in commercial transactions (Melchert 2015, 410). Yakubovich (2011, 261) extrapolates it as “contribution”. (ii) As a material it is used for fabrication of valuable gifts. (iii) It is a heavy material divisible into units of weight; (iv) It is parallel to ‘silver’. All these clues indicate that Common Luvian **washa*- could mean some ‘heavy and valuable metal’. Let us mention the specific weight of the following metals: Sn 7310 < Fe 7870 < Cu 8960 < Ag 10500 < Pb 11340 < Au 19320 [kg/m³]. The most weighty and valuable is apparently ‘gold’. If **washa*- really meant “gold”¹⁵⁸, it is necessary to ask for its origin.

There is an indirect witness about the meaning of the stem **washa*- in toponymy. Already in the Anitta text there are two cities, *Harkiuana*- [2BoTU 7 Vs. 17, 23] and *Wašhaniya*- [2BoTU 7 Vs. 19; further KUB VI 45 II 49; KBo VIII 29,2’,3’; KBo XII 140 Vs. 9] / *Ušhaniya* [KBo XII 53

158 Accepting this solution, Woudhuizen offers interpretation of the syntagm *wa/i-sa-ha-i-za* *ku+ra/i+sà* as “golden fleece” (p.c., Aug 29, 2016), cf. Hittite *kurša-*, *kurši-* c. “skin(-bag), fleece” (Puhvel 1997, 270–75).

Vs. 9', 12'] (Garelli 1965, 40; del Monte & Tischler 1978, 88–89, 477–78; Forliani 1979, 174, 185; Cornil 1990, 85: *KBo* XII 53 + *KUB* XLVIII 105 Ro 9, 12)

Vs. 17 ^{URU}*Ha[r-k]i-ú-na-an ḥa-an-ta-i-ši me-e-ḥ[u-ni]*
 Vs. 18 ^{URU}*[]-ma-an iš-pa-an-di [na-ak(-ki-it EL-QÉ)]*
 Vs. 19 ^{URU}*Uq-aš-ḥa[-an-n]i-an ḥa-an-ta-i-ši me-e-ḥu-n[i]*

Vs. 17 “Die Stadt Ḥarkiuna [...] während der Mittagshitze [
 Vs. 18 die Stadt [...] *ma* nahm ich in der Nacht mit [Ge]walt ein.
 Vs. 19 die Stadt Wašḥaniya während der Mittagshitze [“

[Edited and translated by Neu 1974, 10–11, 22]

<<http://titus.fkidg1.uni-frankfurt.de/didact/idg/anat/hethbs.htm>>

If *Ḥarkiuna* is derived from *ḥarki-* “white” or “silver”, is it possible to speculate about a similar motivation for *Wašḥaniya* too, i.e. about a colour or metal-name: gold(en) or copper?

3.6.2.1. The formally close forms appear in such Cuneiform Luvian words as *wašḥa-* “sacralized object”, *wašḥay(a)-* “sacralized”, *wašḥazza-* “sanctified, holy” (Melchert 1993, 263–64), which were applied already in Luvoid anthroponyms known from Old Assyrian texts, e.g. *Ku-ul-ša-wa-áš-ḥe-e* ‘sacred to Gulsa’, *Ma-li-a-wa-áš-ḥi* ‘sacred to Maliya’ (Yakubovich 2010, 220). Could the hypothetical metal name **washa-* have originally meant “sacred”? Probably yes, judging from the Sumerian designation of “silver”, *KUG* & *KU₃*, which meant 1. “silver, precious metal; money”; 2. “diadem, crown”; 3. “to cleanse, purify, make cultically pure”; 4. “shining, bright, white, clean, pure, precious”; 5. “sacred, holy” (Halloran 2006, 149). On the other hand, the sacral or noble epithet could also be motivated by the precious metal, cf. the role of the Latin adjectives *aureus* “golden, gilded, adorned with gold, with gilded horns (of a sacrificial victim), containing gold, gold-bearing, shining like gold, gold-coloured, bright yellow; of great excellence or beauty, splendid, golden”; as noun “a gold coin, sometimes called sovereign”, and *aureolus* “golden, gold-coloured; beautiful, lovely, brilliant, excellent”, as noun the name of “a golden coin” (*OLD* 216–17).

3.6.2.2. Another possibility is a cultural *Wanderwort*. Huld & Mallory (*EIEC* 234) quote Hurrian *ušḥi* “gold”, but now this word is transcribed *ušḥuni* & *išuhni* and interpreted as “silver” (Wegner 2007, 143, 227–28; Nozadze 2007, 412; Laroche 1976, 289), where *-ni* is the singular determining suffix (Wegner 2007, 62). In Hurrian another word for “gold” was identified, namely *ḥe/iar(i)-o-ḥḥe* (Wegner 2007, 54, 192, 195, 196, 197; Nozadze 2007, 156; Laroche 1976, 105: *ḥiyari*). Could the Hurrian designation of “silver” be connected with the hypothetical Luvian designation of “gold”? Probably yes, judging from the Sumerian designation of “gold”, namely *KU₃-SIG₁₇* “gold”¹⁵⁹, representing a compound of *KU₃* “silver” + *SIG₁₇* “yellow” (Halloran 2006, 148).

3.6.2.3. Alternatively a hypothetical candidate for a source could be sought in Hattic *wa_ašḥap* “Götter(schaft)”, the adj. in collective plural from the noun **šahap* “Gott(heit)”, attested in various other prefixal or suffixal extensions, e.g. *ašḥap^o*, *ešḥaw*, *ma(-)šahaw-uš*, ^D*Te-šḥap*, ^D*Katte-šḥawi_p*, etc. (Soysal 2004, 275, 305, 322, 410). Again, Sumerian offers a semantic parallel in ‘celestial’ connotation in *KUG-AN* “precious metal”, consisting of *KUG* “silver” & *AN* “heaven” (Halloran 2006, 150). On the other hand, some Hattic form as *wa_a-šḥaw-i* (Soysal 2004, 305, 896) might be a source of Cuneiform Luvian *wašḥay(a)-* “sacralized” and related forms.

3.6.2.4. Melchert (2015, 411) interprets Hieroglyphic Luvian *washa-* as “purchase, sale” *vel sim.* and analyzes it as an animate action noun in *-sha-*, formed from the verbal root preserved in Hittite *wāš-* “to buy”, *ušne-/ušniya-* “to sell” (cf. Kloekhorst 2008, 980: *wāši* “buys” < **uós-ei*). The only verbal counterpart may be the Tocharian suppletive preterite, A *wäs*, B *wasā* “(he) gave”. In other IE branches there are only the nominal derivatives, usually formed by the **-no-*

159 Earlier read as *ḡuškin* (Halloran 2006, 108).

suffix – **uos-no-*: Greek ὄνος m. “purchase price, buy”, Doric ὄνά, Aeolic ὄνω f. “purchase, purchase-charter”, with a denominal verb in Cretan ὀνέω “I offer for sale, sell”; initial **u-* is reflected in Laconic βόνημα · εἶρημα [Hesychius], cf. Attic ὄνημα n. “buy” (Beekes 2010, 1680); **ues-no-*: Armenian *gin*, gen. *gnoy* “purchase-price”; Latin *vēnum* “sale”, Marrucinian *uenalinam* acc.sg.f. “of the sale” (de Vaan 2008, 663); Old Russian *věno* “dowry”; ambiguous in vocalism is Vedic *vasná-* n. “price, value” [RV 4.24.9], *vásnya-* “precious, valuable” (Pokorny 1959, 1173; Kümmel, *LIV* 693). Different derivational models appear in Iranian: Khwarezmian *w’h* “price”, Sogdian: Buddhist *γw’kkr*, Manichaean *xw’qr /xwākar/* “merchant, trademan” < **uahā-kara-*, besides *wh’kr /wihākar/* id. < Middle Persian; Khotanese *bahoyšana-* “market” < **uaha-uāšana-*; Middle Persian: Zoroastrian *wh’k*, Manichaean *wh’g /wahāg/* “trading; value” (MacKenzie 1971, 86), Persian *bahā* “price”, Baluchi *bā kan-* “to sell”; Yidgha *hūγ* “debt”, Shughni *wāj* “duty, obligation” < **uahākā-*; Ossetic Iron *wæj*, Digor *wæjæ* “sale” < **uahja-* (Abaev IV, 67; Bailey 1979, 274; Benzing 1983, 634; Gharib 1995, ## 4295, 10688, 10045; Morgenstierne 1974, 89; *EWAI* II, 535). Indo-Iranian > Fenno-Ugric **wosa-* “ware; trade” > Finnish, Estonian *osta-*, Livonian *vostā* “to buy”; Saami of Lule *āsēs* “commerce; ware”, *āste-* “to buy”; Mari *uža* “price”, *wāžale-*, *užale-* “to sell”; Udmurt *vuz* “commerce, ware”, Komi *vuz* “commerce, sale; payment, tax”, *vuzes* “wares”; Mansi So. *wāta-qum* “merchant” : *qum* “man”, *wātel-* “to trade, deal” (Joki 1973, 298–99; *FUV* 119; *UEW* 585; Rédei 1986, 48–49; Katz 2003, 228). Related forms may also be found in Germanic: Old Norse *vara* “ware, article of merchandise”; Old English *waru*, Old Frisian *ware*, *were*, Middle Low German *ware*, German *Ware* “wares, goods”, if they are derived from **wazō* (Kluge 1999, 875). Melchert’s etymology implies this crucial question: Can the word for “gold”, reconstructed with the initial **H₂-*, be etymologically related to the verb “to buy” and its nominal derivatives expressing such meanings as “price, value, trade, wares”, reconstructed with the initial **u-*? The answer depends on reflexes in two diagnostic languages, Greek and Hittite. Their regular continuants of the initial laryngeal **H₂-* are *ā-* and *h-* respectively. Exceptional development is proposed for the sequences **H₂(u)o-*, changing into (a) Greek (*f*)*o-* and (b) Hittite (*w*)*a-*. The following examples should illustrate this rule, presupposed already by de Saussure and supplemented by Eichner for Anatolian (1980, 129, 146, fn. 69):

(a) Greek αὐδή “voice, sound, speech” vs. γοδόν · γοῖτα “sorcerer”, γοδᾶν · κλαίειν “to weep” (Hesychius; *γ* is frequently used by him for *φ*). Probably also the second component in the man’s name Ἡσί(φ)οδος has the same origin (Beekes 2010, 168).

(b) Hittite *wawarkima-* “door-hinge”, Hieroglyphic Luvian [Karkemish] CURRUS *wa/i+ra/i-za-ni/ní-ná/na* < **H₂uorg-* vs. Hittite *hurki-* “wheel” < **H₂urg-*; Hittite *wašt(a)-* “miss the mark; sin”, Cuneiform Luvian *wašta-* “sin” < **H₂uomst-*, cf. Greek ἀᾶται “to injure” < **āfātai* < **H₂uḡm-* (Melchert 1994, 49–50, 274; Tischler 2016, 407, 458; Kümmel, *LIV* 290–91).

Thus, both Hittite *wāš-* “to buy” and Proto-Greek **φόςνος* “purchase” are derivable from **H₂uós^o*. This conclusion would allow us to connect the words “to buy” with “gold”. Such a relation looks quite natural in the 1st mill. BCE, cf. e.g. Greek χρυσοφορεῖν¹⁶⁰ “to pay in gold”, but

160 ἢ τε σύγκλητος τῶν Ῥωμαίων εἰς τὰς τῆς θεοῦ τιμὰς φιλοτιμηθεῖσα τὰς μὲν πιστοτάτας τῶν κατὰ τὴν Σικελίαν πόλεων οὕσας ἑπτακαίδεκα χρυσοφορεῖν ἐδογματίσεν τῇ Ἀφροδίτῃ καὶ στρατιώτας διακοσίους τηρεῖν τὸ ἱερόν. καὶ περὶ μὲν Ἐρυκος εἰ καὶ πεπλεονάκαμεν, ἀλλ’ οὐδὲν οἰκειᾶν πεποιήμεθα τὴν περὶ τῆς θεᾶς

Diodorus Siculus: *Bibliotheca Historica*, Vol 1–2, ed. Immanuel Bekker, Ludwig Dindorf & Friedrich Vogel. Leipzig: Teubner 1888–1890.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0060.tlg001.perseus-grc1:4.83.7>>

“Indeed the Roman senate has so zealously concerned itself with the honours of the goddess that it has decreed that the seventeen cities of Sicily which are most faithful to Rome shall pay a tax in gold to Aphroditē, and that two hundred soldiers shall serve as a guard of her shrine.”

Translated by Charles Henry Oldfather

<http://penelope.uchicago.edu/Thayer/e/roman/texts/diodorus_siculus/home.html>

In this perspective it seems attractive to connect Germanic **gulpa-/gulda-* “gold” and **gelpan-/geldan-* “to pay, be worth something”, **gelda-* “tax, payment” (Pokorny 1959, 436; he thought about the *to*-present in Germanic).

is it possible in the Indo-European protolanguage, whose dispersion is dated to *c.* 4500¹⁶¹ BCE? Since this question must be solved in cooperation with archaeologists¹⁶², we leave it open.

4. If the Hieroglyphic Luvian word *washa-* really has something common with “gold”, it is necessary to explain its relation to other Indo-European designations of “gold” in perspective of word formation.

4.1. The first natural question is the internal structure. With respect to Common Tocharian **wǰäsā* f. < **uesā* < coll. **(H)ues-(e)H₂-*, it is legitimate to speculate about an analogous relation to Hieroglyphic Luvian *washa-*¹⁶³ as in Latin *rota* f. “wheel” < coll. **rot-eH₂-*, which is a base for the appurtenance-formation **rot-H₂-ó-*, continuing in Vedic *rátha-*, Avestan *raθa-* “wagon” (*EWAI* II, 429–30; Hajnal 1994, 94, fn. 29; Irslinger, *NIL* 575, 578).

4.2. It remains to explain a connection to Late {Brugmannian} Indo-European **a₂uso-* “gold”. It has been derived from the IE root **H₂ues-* “to become (morning) light” (Pokorny 1959, 86–87; Kümmel, *LIV* 292). This is applicable to pre-Tocharian **uesā* < **H₂ues-(e)H₂-*¹⁶⁴, and probably also for Hieroglyphic Luvian *washa-* < **H₂uos-H₂-o-* in agreement with Lex Eichner. But the traditional reconstruction **a₂uso-/H₂euso-* reflecting the Italic-Baltic isogloss “gold” is not safe either. Driessen (2003, 352–53) and independently Eichner (p.c.) mention that in the case of the full grade one would expect Lithuanian **a₂usas* with circumflex. The actually attested acute intonation implies the lengthened grade (‘Dehnstufe’), i.e. presence of a laryngeal. Driessen and Eichner offer an ingenious solution, the reduplicated form **H₂e-H₂uso-* (accepted e.g. by de Vaan 2008, 63; Irslinger, *NIL* 358–59; Sukač 2010, 108; Oettinger 2012, 244; Machajdíková 2014, 41–42; Hackstein, Hiromi & Bross 2015, 74).

4.3. The expected structure **H₂eHus^o* implicit in the Brugmannian reconstruction **a₂uso-* can alternatively be a result of compounding. It is possible to speculate about the compound **H₂e(H)-(H)us^o*, where the first component could be identified in Palaic *hā-* “to be warm” < **H₂eH₁-* (Kümmel, *LIV* 257) and the second one with the root **H₁eys-* “to burn” (Kümmel, *LIV* 245; Pokorny 347–48) in the zero grade, i.e. together **H₂H₁-H₁us-H₂-o-* with respect to Hieroglyphic Luvian *washa-*, which is also derivable from **H₂uos-H₂-o-*. The primary meaning could be “burnt¹⁶⁵ or smelted in warmth”, perhaps for contrast with the technology of cold-forging. The smelting technology was first applied to metallurgy of copper, as reflected e.g. in the Baltic designation of “copper”: **uarja-* > Lithuanian *vārias*, var. *vāris* “copper”, adj. *varinis* “of copper”, compound *švītvaris* “brass” (“bright copper”), Latvian *vaŗš* “copper, metal, ore”, Prussian *vargian* “copper” [*EV* 525] /*varjan*/, besides Prussian *auwerus* “Metallschlacke” [*EV* 529], all from the verb **uerH₁-*, attested in Hittite *war-/ur-* “to burn”; Armenian *vařem* “I kindle”, *vařim* “I burn”; Lithuanian *virti* : *vėřdu*, Latvian *virīt* : *vėřdu* “kochen, siedēn, brandēn, brodeln, sprudeln” (Fraenkel 1962–65, 1199–1200, 1263); Old Church Slavonic *varb* “heat”, *vbrēti* : *variti* “to cook” (Kloekhorst 2008, 923–25; *LIV* 689; Pokorny 1959, 1166). This solution, besides its artificial complexity, leads to the primary meaning “copper” rather than to “gold”.

161 Sergei Starostin (*Workshop on the chronology in linguistics*, Santa Fe 2004) dated this disintegration to 4670 BCE, applying his own variant of so-called ‘recalibrated glottochronology’. Later his son George Starostin in cooperation with Aleksei Kassian dated it to 4340 BCE, using their own modification of ‘recalibrated glottochronology’ (see Blažek 2007, 4; Starostin 2015, 568).

162 According to Mallory (*EIEC* 235) there are several cultural centres in the Eastern Balkans, where were unearthed golden artifacts dated to *c.* 4500–4000 BCE, namely the Varna cemetery in Bulgaria, the Gumelnița culture in Romania and the Tiszapolgár culture in Hungary.

163 But following Giusfredi (2010), Melchert (2015, 411) analyzes *washa-* as an animate action noun in *-šha-*.

164 Cf. Tocharian A *want/wānt*, B *yente* “wind” vs. Hittite *huwant-* id. < **H₂ueH₁nto-* or B *wās-* “to dwell” vs. Hittite *hwes-* “to live” < **H₂ues-* (A 546, 649–50).

165 Cf. Ossetic Iron *syzærīn/syzzærīn*, Digor *suȷærīnæ* “gold(en) < **suȷ(da)-zaraina-* < **suxta-zarānġa-* “burnt gold”, vs. Iron *syȷd*, Digor *suȷd* “burnt” < **suxta-*, cf. Avestan *suxta-* (Bailey 1974, 370; Abaev III, 188).

5. It is possible to speculate whether or not “copper” was a primary meaning of Common Luvian **washa-* and pre-Tocharian **uesā-*. There is at least indirect witness in Cuneiform Luvian ^{URUDU-}*wašhašša*[(-) [KUB XXXVIII, 1, iv 21], interpreted as “kupferner Gegenstand in Kultinventar” (Tischler 2001, 198 included this word in the Hittite lexicon). Pre-Tocharian **wesā-* has been supposed as a source of Samoyedic **wesä*¹⁶⁶ “iron, metal” (Joki 1973, 339–40; Janhunen 1983, 120; Napoľskikh 2001, 374–75; while Kallio 2004, 133 thinks about the opposite direction of borrowing) and Fenno-Ugric **waška/wäškä*¹⁶⁷ “copper, ore”, with semantic shift to “metal” or “iron” in some branches. In the final **-ka/*-kä* a stem determinative can be identified (cf. Collinder 1960, 257–58), to judge from Permic, where there are no traces of any velar extension (Napoľskikh 2001, 374). These difficulties in projecting the Fenno-Ugric forms into one common protoform may be caused by the fact that they represent a confusion of two originally different sources, pre-Tocharian **wusā* responsible for the front root vocalism and a hypothetical Indo-Iranian term **uas(i)ka-* “bronze axe”¹⁶⁸, responsible for the back vocalism. The Tocharian metal-term designating originally “copper” could also be a source of the following Turkic forms: Chaghatai *mis*, Turkmenian *mīs*, Uzbek *mis* & dial. (Bukhara) *miš*, New Uyghur & Taranchi *mis* “copper”, New Uyghur from Turfan also *mīs* “copper”, *mīškärčī* “copper-smith” (Le Coq 1910, 98), Kazakh & Karakalpak *mys* “copper” (the back *y* is strange), Kazań Tatar *bās* “brass with patina” (Räsänen 1969, 339; Rybatzki 1994, 217). With respect to the tendency *b- > m-* (e.g. Baraba Tatar *murut*, Turkmenian & Kazakh *murt* vs. Chaghatai, New Uyghur, Taranchi *burut* “Schnurrbart”, all from **bur-* “drehen” – see Räsänen 1969, 90), it is legitimate to think about primary **b-*. This conclusion would determine the vector of borrowing as Turkic > Persian and not vice versa. The Com-

166 Nenets *ješe* (O), *wese* (Lj.) “iron; money”, Enets *bese* “iron”, Nganasan *bása* “iron; metal”, Selkup *kezi* (Ta.), *kēzā* (Tur.), *kwez* (Ke.), *kwezi* (Ty.) “iron”, Kamas *baza*, *waza* “iron”, Koibal *bažé*; Motor *baže*; Taigi *beše* “iron” (Janhunen 1977, 175).

167 Finnic **waški* > Finnish *vaski*, gen. *vasken* “ore; copper, bronze”, Estonian *vask*, gen. *vaske* “copper, brass” | pSaami **vēškē* > Saami *vai ke -ik-* (N) “copper”, *vei hke* (L) “brass”, *vieske* (T), *vie šk* (Kld.), *via šk* (Not.) “copper” | pMordva **voškə* /**vaškə* > Mordva Erzya *uške*, *viškā*, Moksha *uskā* “wire, chain” | Mari *kərthi-waž* “iron ore”, *ši-waž* “silver ore” (KB), *ši-wož* (CK UJ) id. | Permic **veš* > Udmurt *az-veš* (S K G) “silver”; Komi *ez-šs* (S P) “silver” || Ugric **waška* > Hungarian *vas* “iron”; the metathetical variant **waksá* is probably a source of Khanty *wāy* (V), *wāχ* (DN), *ōχ* (O) “iron, metal; money” (> Mansi N *vāχ*, So. folkl. *woχ* “copper, iron”), while Mansi *āt-kūš* (TJ), *št-was* (KO), *at-waš* (P), *at-was* (So.), *oāt-khwēs* (K) “lead” stands close to the Permic forms (Napoľskikh 1997, 154–55 & 2001, 374; Collinder 1960, 97–98, 152, 409; Sammallahti 1988, 541; UEW 560, including the abbreviations of dialects).

168 Reconstructed on the basis of Vedic *vāšī-* f. “axe, adze, sharp knife or chisel as the weapons especially of Agni or Maruts and the instrument of Ṛbhus”, and Young Avestan *vāšī-* “Spitzmesser” (EWAI II, 548), which should represent the *vyddhi-*formation from an unattested form **vača-* (Carpelan & Parpola 2001, 127), corresponding to Osetic *was* “axe” (Abaev IV, 58 added assumed later loanwords in Finno-Ugric: Hungarian *véső* “chisel”, and Finnish *veitsi* “knife”; but they are derivable from **wejiči*, cf. Kallio 2006, 7). The velar extension appears in Khotanese *vaški* “a tool made of stone”, perhaps “stone knife” (Bailey 1979, 379). Let us mention that Lubotsky (2001, 312–13) includes **uāčī-* in the substratal lexicon possibly adopted from creators of the Bactria-Margiana Cultural Complex. Referring to the only source of the Ossetic word, viz. Miller 1903, 10, Lubotsky corrects the actually recorded form to *was* < **uāčī*. The semantic shift from names of weapons or tools to names of metals is not unique. The following two examples illustrate this semantic change:

(i) Middle Persian ²*pwl’pī* /*pōlāwad*/ (MacKenzie 1971, 69; Nyberg 1974, 162), ³*pwl’wd* /*pōlāwad*/ “steel” (MPP 286) > Armenian *polopat*, *polovat* “steel” (Hübschmann 1897, 231–32, #547) – borrowed from a source of the type Vedic *pāvīravat-* [RV, VS] or *pavīravat-* [AV] “armed with lance or a goad”, the adj. formed from the noun *pavīra* [Nir] “a weapon with a metallic point; lance, spear” (Korš 1912 apud Reichelt 1913[1914], 74; Schrader & Nehring II, 444), which itself is a derivative of *pavi-* m. “metallic point of a spear or arrow; tire of a wheel” [RV, AitĀr] (MW 611; EWAI II, 107).

(ii) Mordvinian Erzya *kšni*, *kšne*, Moksha *kšni* “iron” < **kərthā* (Keresztes 1986, 69) | Mari KB *kərthi*, U B *kürthō* id. < **kürthō* (Bereczki 1992, 25, #134) | Udmurt *kort*, Komi *kert* “(of) iron”; Permic > Ob-Ugric: Mansi N *kēr*, Khanty *kärt(a)* “iron” (UEW 653: Volgaic-Permian **kärts*). All < Iranian: Young Avestan *karati-* “knife”, Middle Persian ²*k’lt* [*kārd*] id., Classical Persian *kārd* id. (MacKenzie 1971, 49), Baluchi *kārč* “knife” < **kārti**, Kurdish *kēr(d)*; Sogdian *krt*, Yaghnobi *kort* id.; Khwarezmian *krc* id. < **kartijā-*; Pashto *čārā* “large knife, dagger” (NEVP 21); Yidgha *keṛo* “knife”, Sanglechi *kīl*, *kēl*, Wakhi *kōž* id.; Ossetic *kard* “knife, sword”, besides *kærdin* “to cut”. Tocharian B *kertte* “sword” is also of Iranian origin, similarly as later loanwords in Mari *kérde* “sabre” and Hungarian *kard* “sword” (Joki 1973, 273, #62; KESK 142; ESJ 4, 314–16).

mon Turkic protoform **bīs*¹⁶⁹ is explainable as an adaptation of Tocharian A *wās* sg.m. “gold”, maybe in its more archaic form **wīās* with respect to Tocharian B *yasa* and Common Tocharian **wīāsā* (Adams 2013, 524–25). The anticipated substitution of Tocharian A *w-* by Turkic **b-* has analogy e.g. in Kazañ Tatar *bizmān*, Kumyk, Balkar-Karachai *bazman* “weighing machine, balance” < Persian pl. *vazn-ān* < Arabic *wazn* id. (Räsänen 1969, 73).

6. Finally, it is possible to document the existence of language families, where “copper” and “gold” are designated by the same form from the point of view of etymology, i.e. they were originally interchangeable, apparently with regard to their yellow-red colour:

6.1. Lak *duk-ni* “brass”; originally a plural form; without the suffix *-ni* the root is attested in the old Archi loanword *duk* “brass, copper” | Lezghian **jiłːˈwa* “brass, copper” > Tabasaran *jif*, Agul *if*, Tsakhur *juxːˈwa* | West-Caucasian **ǰə* (~ *ǰːː*-) “gold” > Abkhaz *a-ǰə*, Abaza *ǰa-pš* id., where *-pš* means “red” < North Caucasian **riǰ(w)e* (NCED 953).

6.2. Proto-Dargwa **dabsːi* > Akusha *dubsi*, Chiragh *dabsːe* “copper, red copper” | Proto-Nakh **dašVb* > Chechen *deši*, Ingush *došuw* “gold” | Proto-Lezghian **jisˈV-r* > Tabasaran *jišur* “gold” | Proto-West Caucasian **rəšˈwa* (~ *d-*, *-šˈw-*) > Adyghe *dəš*, Kabardian *dəša* “gold” < North Caucasian **rěwčwi* (~ *-ř-*, *-ǎ-*, *-e*) (NCED 948–49).

6.3. Turkic: Old Turkic, Old Uyghur, Middle Turkic, Chaghatai *altun*, Taranchi *altyn*, Chuvash *ilttān* “gold” vs. Yakut *altan* “copper” (maybe via Mongolic *altan* “gold” < Turkic), all from Turkic **āl* “hochrot” and **toñ* > Chuvash *toj* “brass”, originally borrowed from Chinese 銅 *tóng*¹⁷⁰ “copper, brass, bronze” (Räsänen 1969, 14, 18, 488; Rybatzki 1994, 202–206; Dybo 2007, 67: with respect to the change **l-* > **d-* dated to the end of the Eastern Han era, around 200 CE, the adoption of this Chinese form could have been realized around this time). This would mean that the Turkic designation of “gold” was originally “red copper”.

7. The analyzed forms can be summarized as follows:

Collective **H₂ues-(e)H₂* > pre-Tocharian **uesā*;

Appurtenance-formation **H₂uos-H₂-o-* > Common Luvian **washa-*;

?Appurtenance-formation **H₂us-H₂-uo-* → **H₂usH₂uo-* > Armenian *oski* (if it is not an adaptation of the Luvian adj. **washaya-*);

Reduplication **H₂e-H₂us-(H₂-)o-* (or compound **H₂H₁- + H₁us-H₂-o-* > **H₂eʔusH₂o-?*) > (?Mycenaean-)Italic-(?Celtic-)Baltic **auso-*.

8. In the remaining Indo-European branches the designations of “gold” are formed from the root **ǵ^helH₃-* “yellow-green”, in Indo-Iranian extended by the suffix **-njo-*, in Germanic & Balto-Slavic **-to-*:

**ǵ^hlH₃-njo-* > Vedic *hīranya-*; Avestan *zaraniia-*, Old Persian *daraniya-* “gold”;

**ǵ^hlH₃-njo-* > (Late) Greek *χλουνός · χρυσός* [Hesychius];

**ǵ^hlH₃-ro-* > Phrygian *γλουρός · χρυσός, γλούρεα · χρύσεια* [Hesychius] ~ Greek *χλωρός* “green-yellow, yellowish”; the gloss was confirmed by the epigraphic evidence, the adj. *gloureos* from the Old Phrygian inscription unearthed near Afyon and dated to 4th-3rd cent. BCE (Brixhe 2004, 17);

169 Concerning the vocalism, cf. Common Turkic **gūr-* “to enter”, reconstructed on the basis of Turkmenian *gūr-*, Uyghur *kir-*, Kazañ Tatar *kər-* (Räsänen 1969, 271; EDAL 825).

170 Chinese 銅 *tóng* “copper, brass” < Middle Chinese **duŋ* < Late Postclassic Chinese **dwōŋ* < Middle & Early Postclassic Chinese **dōŋ* < Han Chinese **lōŋ* < Classic & Preclassic Old Chinese **Lōŋ* (Starostin, *ChEDb*; *GSR* 1176 d), cf. Chinese 彤 *tóng* “to be red” < Middle Chinese **doŋ* < Late Postclassic Chinese **d(h)ōŋ* < Middle & Early Postclassic Chinese **d(h)əuŋ* < Han Chinese **d(h)əuŋ* < Classic Old Chinese **d(h)ūŋ* < Preclassic Old Chinese **d(h)ūŋ* (~ *l(h)-*, ~ *l(h)-*) (Starostin, *ChEDb*; *GSR* 1008 e-f). Similarly, Pulleyblank 1991, 310: Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “copper” vs. Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “red”.

- *ǵ^hH₃-to- > Germanic *gulþa-/ *gulda- “gold” (Kroonen 2013, 194);
 *ǵelH₃-to- > Latvian *zēlts* “gold”, East Lithuanian *želtas* “golden”;
 *ǵolH₃-to- > Slavic *zolto “gold”.

iron

1. The designation of “iron” is known in both Tocharian languages, although in Tocharian A only as a derivative, the adj. *añcwāši* “of iron, ferrous”, allowing reconstruction of the noun **añcu* “iron” (DTA 6; Poucha 1955, 3). In Tocharian B besides the noun *eñcuwo* ~ *iñcuwo* “iron” also the derived adj. *eñcuwaññe* nom.-obl.sg.m., *eñcuwañña* nom.sg.f., is attested (Adams 2013, 84).

Illustrative examples (A)

prutkoṣ riyam añcwāṣṣām “imprisoned in the iron {obl.sg.f.} city” [340 a7]

Illustrative examples (B)

... *ma pälsko katkästrä su su orṣṣe eñcuwo* *II aikäruṣa ket pälsko snai säk* ...

[THT 255, b2]

<<https://www.univie.ac.at/tocharian/?e%C3%B1cuwo>>

... *säl(pa)mo (kälyi)tär-ne keksentsa : 73 laursa eñcuwaññe tarne räskre tsopyem-ne : käskaññitär-ne waiptär* ... [THT 22, b5]

/// (e)ñcuwaññe c- /// [THT 168.c, a1]

/// (e)ñcuwa(ññ)e /// [THT 168.d, a2]

<<https://www.univie.ac.at/tocharian/?eñcuwaññe>>

... *käwañša • orṣṣa • wī yamaṣlona eñcuwañña kwraiñña* • [PK NS 95, b4]

... *-keñc kekseñ kaccīyem-ne yāresa : oñkolm= eñcuwañña waltsanoy-n= āsta lykaške* :

[THT 22, b4]

<<https://www.univie.ac.at/tocharian/?eñcuwañña>>

2. Adams (2013, 85) reconstructs Common Tocharian **encuwān-*, but the internal reconstruction leads to a different protoform.

3. Etymology:

3.1. Poucha (1955, 3) thought about connection with Irish *ond*, *onn* “stone, rock”, Vedic *ádri-* “stone, rock, mountain” < **ond-/ *ñd-* (Pokorny 1959, 778). Mayrhofer (*EWAI* I, 65) added Old Persian **adri-* “mountain”, reconstructed on the basis of the oronym <arkdri->, if it reflected /ark-*adri-*/, cf. also ὄρος Παρβάδρης [Strabo, 11.14 on Armenia], probably Old Iranian **paru-adri-* “{mountain} of many rocks”, but he was skeptical concerning the Indo-Iranian – Irish comparison. Róna-Tas (1974, 502) developed this idea, projecting the adj. *añcwāši* into the compound **antu-ues*^o, where the first component should be a continuant of IE **ond-/ *ñd-* “stone” and in the second one (i.e. the adj. suffix) he saw Tocharian A *wäs* “gold”. But the finals A **-u* vs. B *-wo* reflect unambiguously ^o*u-ōn-/^ou-ān-*, cf. A *kāntu*, B *kantwo* “tongue” ~ Gothic *tuggo* id. (Van Windekens 1979, 39; Adams 2013, 147).

3.2. Bailey (1957, 55–57), followed by Tremblay (2001, 22, #35; 2005, 424), saw in Common Tocharian **encuwān* a borrowing from an early stage of Sakan, where on the basis of Khotan Saka *hīsšāna-* “steel” the protoform **ačūān-* was proposed by Tremblay. He explained the nasalization as spontaneous, maybe through anticipation of the second syllable, or transferred from the synonym **han-dāna-* “wrought metal, alloy”, continuing in Ossetic *ændan* “iron” and corresponding to Sanskrit [lex.] *saṃ-dhāna-* “foundry”. Khwarezmian *hnčw* “arrow-head” and *hnjw* “iron tip”, have to reflect this secondary nasalization and could be borrowed from the same source as the Tocharian designations of “iron”.

3.3. Inspired by German *Guß Eisen* “cast iron”, Van Windekens (1976, 146) analyzed the word as the compound of the intensive prefix and the verbal root **ǵ^heu-* “to pour” (Kümmel, *LIV* 179),

attested in Tocharian AB *ku-* “to offer a libation; pour”, cf. A pret. *śosām* “he poured” (Adams 2013, 190–91; *DTA* 146).

3.4. Pinault (2006, 184–89) offers to explain the Tocharian word “iron” with help of Vedic *aṃśu-* “stalk of the soma plant” (= ephedra), Young Avestan *qsu-* “a plant belonging to haoma-”, with respect to the fact that the marrow of soma-plant-stalks is of a red colour.

If none of Indo-European etymologies is convincing enough to solve all questions and the substratic version yields any determination of a hypothetical language-donor, it is legitimate to seek a source in non-Indo-European languages.

3.5. Schwartz (1974, 409) assumed a common, substratic, source **aśuwan-* for both Tocharian and Khwarezmian forms, but he did not determine the language-donor. With regard to later discussions, it is possible to speculate about the language of the Bactria-Margiana Archaeological Complex (BMAC).

3.6. Van Windekens (1964, 596) sought origin in Sino-Tibetan languages, quoting a counterpart in one of Naga languages of Assam, Empeo *en-dzu* “stone”. The cognates such as Khoirao *n-tau*, Kabui *tau*, Kwoireng *tā-tto*, Maram *-to* “stone”, indicate proto-Kuki **m-to* (Shafer 1974, 287, 311).

3.7. Naert (1965, 531) proposed as a source the Khanty designation of “steel”: (Konda) *jint-wax*, (Košelevo) *ont-wax*, (Krasnojarsk) *int-wax* etc. But this term is very probably borrowed from Mansi N *jēmtān* id. < Komi *jendon*, *jemdon* “steel” < Late Sarmatian, cf. Ossetic *ændon* id. (Abaev I, 156–57; Joki 1973, 249–50).

3.8. A possible candidate for a source could also be one of the Sino-Tibetan designations of “iron”, reconstructed as **śam*¹⁷¹ “iron”. It is attested in three branches: Lolo-Burmese **śam* > Old Burmese *sam*, *sam̄*, New Burmese *θā*, Akha *śm̄*, Lahu *śo*, Naxi Lijiang *śu*, Hani Mojiang *śu*, Jinuo, Yi Wuding *εε*, Yi Xide *śu du*, Lisu *xwō*, Ahi *hō*, Lolopho *hō* “iron” | Nungish: Rawang *śam*, dial. *śiam* “iron; sword”, Trung *čām* “iron” | Qiangic: Rgyarung *śom*, Daofu (= Horpa) *teo*, Namuyi *śu*, Lüsu *śu*, Sixing of Muli *śō*, Pumi of Jinghua *śā*, Ergong *teo*, Queyu of Yajiang *εā* id. etc., plus Tangut *śjon* “iron” (Benedict 1972, 53, 91; Shafer 1974, 359; Matisoff 2003, 255, 257; Kepping 1999, 237). A hypothetical source of the Tocharian-Khwarezmian isogloss could be reconstructed as **ʔaŋ-cu^(m)* or **ʔaŋ-cwo^(m)*, where the second component was a predecessor of such Lolo-Burmese forms as Lahu *śo*, Naxi Lijiang *śu*, Hani Mojiang *śu*, Jinuo, Yi Wuding *εε*, Yi Xide *śu du*, etc., or Qiangic forms as Daofu (= Horpa) *teo*, Namuyi *śu*, Lüsu *śu*, Sixing of Muli *śō*, Pumi of Jinghua *śā*, Ergong *teo* etc. In the first component the Sino-Tibetan nominalizing prefix can be identified, which is known e.g. in Lolo-Burmese languages: Burmese *ʔəʔim* “sheath” vs. *ʔim* “house”; Lahu *ə-śā* “meat” vs. *śā* “animal, game”; Bisu *ʔaŋ-fā* “meat” etc. In Bisu (Northern Thailand) the same prefix also forms adjectives, e.g. *ʔaŋ-pluŋ* “full”, *ʔaŋ-plán* “black” etc. (Benedict 1972, 121–23; Matisoff 2003, 108–09). The hypothetical formation **ʔaŋ-cu^(m)* or **ʔaŋ-cwo^(m)* would mean “of iron”. To demonstrate that the idea of adoption of this hypothetical Lolo-Burmese formation by Tocharians is really possible, it is necessary to prove some historical contacts between the Tarim Basin and Yunnan with adjacent regions, where the Lolo-Burmese populations lived and live till the present time. The Chinese historical annals bear witness to foreign people living in Yunnan, called 塞 *sāi*¹⁷². This ethnonym, ‘Saka’, had been used by Chinese historians to designate populations of Iranian origin from the Tarim Basin and partially from Central Asia too. The Chinese archaeologist Zhang Zengqi recognizes in bronze figures from Yunnan the ‘animal style’ typical for the Eurasian steppelands and Caucasoid features in the case of human figures. The drinking horns unearthed here are also characteristic e.g. for Scythians (Mallory & Mair 2000, 328–30). If

171 This metal-name can be connected with Sino-Tibetan **śim* “black, dark” > Garo *sim*, Dimasa *sim-ba* ~ *sum-ba*, gisim ~ *gusum* “black, blue, dark”, Lushai *thim* “dark(ness)” (Benedict 1972, 81, #380; Matisoff 2003, 271).

172 Chinese 塞 *sāi* & *sāi* “to block (up), stop up, shut; a pass, strait; to fill” < Late Middle Chinese **səək* < Early Middle Chinese **sək* (Pulleyblank 1991, 271) ~ Middle Chinese **sək* < Postclassic Chinese **sək* < Han Chinese **sək* < Classic & Preclassic Old Chinese **sək* (Starostin, *ChEDb*; Karlgren, *GSR* 0908 a; Bailey 1982, 7–8, 19).

these conclusions are correct, some Iranian (Saka?) tribes moved to Yunnan from the Tarim Basin during the 1st mill. BCE. With respect to their mobility they probably were able to keep the trade contacts with their homeland. It could be the same route which brought some names of exotic animals, e.g. “monkey”, to the Tocharians from Lolo-Burmese populations¹⁷³.

3.9. The Common Tocharian designation of “iron”, reconstructible as **æncwo* (cf. Tocharian A *kāntu*, B *kantwo* “tongue” < Common Tocharian **kāntwo* < **kāntwā* < **tānkwā* < **dŋghuā*, probably representing a merger of *ā*- and *ōn*-stems – see Hilmarsson 1986, 18, 151, 246), can represent an adaptation of the Chinese compound 暗鑄 *àn¹⁷⁴ zhù¹⁷⁵* “dark cast iron” < Middle Chinese **ʔəm teuā^h* < Han Chinese **ʔəm^h tso*. Alternatively, **æn-* > A *an-*, B *en-*, may be (i) the Tocharian intensive prefix continuing IE **H₁on-* “in” (cf. A *anapār/anaprä*, B *enepre* “in front of, in face of” – see *DTA* 8; Adams 2013, 89) or (ii) the negative prefix **ŋ-* (cf. A *añsār/añsār*{?}, B *eñcare* “disagreeable, unpleasant, unfriendly, unwelcome” < **eñcāncare* vs. *cāncare* / *ciñcare* “lovely, agreeable, charming, delightful, tender”, from the verb *cānk-* “to please” – see Adams 2013, 83, 272; Hilmarsson 1991, 180–81). In case (i) the formation “in cast iron” could perhaps express **{made}* of cast iron”. On the contrary in case (ii) the formation with the privative prefix would determine that it is not made of cast iron, i.e. it belongs to the ‘normal’ iron.

3.9.1. The Chinese word 鑄 *zhù* in its earlier shapes, i.e. Early Middle Chinese **teuā^h* or East Han Chinese **tso*, was probably borrowed into the Turkic languages: a) Karakhanid (11th cent.) *čodīn* “bronze” [Mahmud of Kashgar], Cumanish (14th cent.) *čoyun* “bronze” (Clauson) / “ore” (Rybatzki), Chaghatai (15th cent.) *čūjūn*, *čojīn* “unsmelted iron”, Ottoman Turkish *čoyan*, Uzbek, New Uyghur *čujan*, Turkmenian *čojun*, Crimea-Tatar, Karaim, Kumyk, Kirgiz *čojun*, Kazakh, Shor *šojun*, Taranchi, Kumandy *čōjūn*, Kazañ Tatar *čujyn* “cast iron”, Bashkir *sujīn*, while Azerbaijani *čudan*, *čudān* “cast iron” may be borrowed from Persian; b) Chaghatai *čūgen* “cast iron”, Turkish *čövgen*, Chuvash *čugun*, *čogon* “Guss-, Roheissen” (> Mari *čuyun*, *čuyōn*; Russian *ču-gun*, Ukrainian *ča(h)un* “cast iron”), besides Tatar *čögen* “gusseiserner Topf”, Karachai-Balkar *coğun* “kettle”, New Uyghur of Khotan *čögün* “gusseiserne Kanne” etc.; c) Oïrot, Teleut *čojyon* “der eiserne Topf, Teekanne”, Teleut *čōjgōn* “Teekessel”, Taranchi *čōjgūn* “eine eiserne Wasserkanne”; d) Teleut *čoj*, *šoj* “Gusseisen, Eisenerz”, Sagai *soj*, Soïot *šoj*, Kumandy *čōj* id., and Mongolic: Oirat *cōi*, Kalmyk *tsō* “Gusseisen, Erz” (*TMEN* III, 124–27; Räsänen 1969, 113; Clauson 1972, 403; Rybatzki 1999, 66–70; Adams 2013, 85). The formations a), b) represent adaptations of two various Chinese compounds with the common first component, namely Chinese 鑄 *zhù* “to cast (metal), casted, casting (metal)”. The second component is a) 銅 *tóng*¹⁷⁶; b) 鋼 *gāng*¹⁷⁷. The

173 The proto-Loloish compound **myok* “monkey” + **ko* “macaque rhesus”, still surviving in Akha *myo k’oe* (Bradley 1979, 296, ##23 & 26A), could represent a source of both the Chinese gloss 沐猴 *mùhóu* < Middle Chinese **mukɣaw* < Han Chinese **m(h)ōkgwā* < Classic & Preclassic Old Chinese **m(h)ōkgō* (*GSR* 1212 e & 113 g; Starostin 1989, 676, 605, 697; *ChEDb*; Pulleyblank 1991, 220 & 125) and proto-Tocharian **moko* > A *mkow-* (pl. *mkowañ* and *mkowy arāmpāt* “simiae figura”) and B *moko-* (dim. *mokomške*) “monkey” (cf. also Blažek 1984, 390–391; 1997, 236–37; 2011, 32–34).

174 Chinese 暗 *àn* “dark” < Middle Chinese **ʔəm* < Postclassic Chinese **ʔəm* < Han Chinese **ʔəm^h* < Classic Old Chinese **ʔəm^h* < Preclassic Old Chinese **ʔəms* (Starostin, *ChEDb*; Karlgren, *GSR* 0653 h). Cf. also the Vietnamese reading *ám*.

175 Chinese 鑄 *zhù* “to cast (metal), casted, casting (metal)” < Late Middle Chinese **tɕyā^h* < Early Middle Chinese **teuā^h* (Pulleyblank 1991, 415; Karlgren, *GSR* 1090 a’-d) < East Han Chinese **tso^c* < Old Chinese [bronze inscriptions of Western Zhou] **toh* (Schuessler 2007, 627) ~ **tu-s* (Baxter & Sagart, *Old Chinese Database* 2014).

176 Chinese 銅 *tóng* “copper, brass, bronze” < Middle Chinese **duŋ* < Late Postclassic Chinese **dwōŋ* < Middle & Early Postclassic Chinese **dōŋ* < Han Chinese **lōŋ* < Classic & Preclassic Old Chinese **Lōŋ* (*GSR* 1176 d; Pulleyblank 1991, 310; Yuan *thuy’* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “copper” vs. 彤 *tóng* “red” < Yuan *thuy’* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dawŋ*).

177 Chinese 鋼 *gāng* “steel, cast iron” < Middle Chinese **kāŋ* < Middle Postclassic Chinese **kāŋ* < Han Chinese **kāŋ* < Classic & Preclassic Old Chinese **kāŋ* (Starostin, *ChEDb*; *GSR* 0697 h; Schuessler 2007, 250, dates the appearance of the meaning “steel” to the Han period, in the text *Lièzī*). Cf. also Sino-Vietnamese *cū’o’ng*, Vietnamese reading *gang*. Derived from Sino-Tibetan **kāŋ* “hard, tense” > Old Chinese 剛 **kāŋ* “hard, strong”, besides 鋼 **kāŋ* “steel” | Kachin *kaj’* “to be stretched, tense, taut”.

compound c) may reflect an adaptation of Chinese 茶 *chá*¹⁷⁸ “tea”, maybe influenced by Russian *чай*, & 罐 (with variant 鑊) *guàn*¹⁷⁹ “jar, pot; can, bucket; flask (of sheet metal)”, or 罐 *guàn*¹⁸⁰ “cup; pot; jug, pitcher; flask”. In d) it seems, in the form **čoyin* (< **čōdīn*) the final *-*in* was reinterpreted as the 3rd person possessive suffix (cf. *TMEN* III, 124; Rybatzki 1999, 69–70).

In the cases a) and b) it is necessary to explain the change of the Chinese final *-*ŋ* into Turkic *-*n*. The final *-*ŋ* has been regularly changed into -*n*/*-m* in Chuvash, e.g. Common Turkic **jāŋ* “sleeve” vs. Chuvash *śan(ə)*, *śavnə* id., or Common Turkic **tāŋ* “identical, the same” vs. Chuvash *tan* id. (Räsänen 1969, 197, 478). The difference between Chinese *-*ā*- in **kāŋ* in comparison with Turkic **o/u/ü* in the last syllable of the form b) may be explained in a similar way: Turkic *-*ā*- has been changed into *o/u* in Chuvash, e.g. Common Turkic **sān* “number” vs. Chuvash *som*, *sum* id., or **sāriy* “yellow” vs. Chuvash *śurə* “white” (Räsänen 1969, 400, 403–04). This means that a language related to Bulghar-Chuvash could have been the mediator bringing the Chinese terms to the Turkic milieu.

Probably thanks to the Turkic mediation the terms a) & b) were spread to the languages of the Caucasus, where they appeared in Iranian: Ossetic Iron *cwajnag* “kettle of cast iron”, Digor *ciwan* “cast iron”, *cigon* “a small kettle of cast iron” (Abaev I, 318–19, 311); Kartvelian: Georgian *čoina*, Mingrelian *čuvani* & *čivani*, Chan *čiveni* & *čoyeni*, Svan *čweni* “cauldron”; East Caucasian: Ingush *čon* “cast iron”; Avar *čojen*; West Caucasian: Abkhaz *a-čiwān*, Abazin *čiwān*, Ubykh *čiwāna*, Adyghean *šiwān*, Kabardinian *šiwān* “cauldron” (Abaev I, 318–19; Klimov & Xalilov 2003, 115).

“lead” or “tin”

1. On the basis of the Tocharian B adj. *lāntašša*, corresponding to Pali *tipu-* “tin” or *sisā-* “lead”, the noun **lant* may be expected (Pinault 2000, 97–98; Adams 2013, 600).

The adj. appears in the list of materials of which bowls can be made [PK-NS-25b4^c):

/// *vairuḍiṣṣa wmerṣṣa pilkeṣṣa lāntašša kāwañṣa • orṣṣa • wī yamaṣlona eñcuwañña kwraiñña •*
<<https://www.univie.ac.at/tocharian/?PK%20NS%2095>>

Adams (l.c.) speculates about identification of the noun in formulation /// *mā lāntsa tašālyya* ///, which could be interpreted as “it is not to be placed on lead”, but also might not, how he admits.

2. Pinault (2000, 103) presents two main variants of internal reconstruction leading to IE starting-point, *(*H*)*l̥nT-* and *(*H*)*lunT-*.

3. Pinault (2000, 103–05) himself analyzes several etymologies:

3.1. Comparison with Baltic **al(H)ua-* > Lithuanian *álvas* “tin”, Old Lithuanian also “lead”, Latvian *álvs* m. & *álva* f. “tin”, Prussian *alwis* “lead”, besides *elwas* “cassiterite” | Old Church Slavonic *olovo* “lead”, Bulgarian *olóvo*, Macedonian *olovo*, Serbo-Croatian *òlovo*, Slovenian *ólovo* n. & *olov* m.; Slovak & Czech *olovo*, Upper & Lower Sorbian *woloj*, Pomerian Slovincian *uólów* & *uólój*, (Old) Polish *olów* m., dial. *olowo*, all “lead”; Belorussian *vólava*, Old Ukrainian *vólovo*, Ukrainian *ólovo*, Russian *ólovo* “tin” (Havlová, *ESJS* 10, 583–84). This Balto-Slavic isogloss (sometimes the all Baltic data are interpreted as Slavic loans) has been explained in various ways:

178 Chinese 茶 *chá* “tea” < Yuan **tʂʰa*’ < Late Middle Chinese **trɦa*: < Early Middle Chinese **drai/dre* (Pulleyblank 1991, 46) ~ Middle Chinese **ḍa* < Postclassic Chinese **dō* < Han Chinese **lā* < Classic & Preclassic Old Chinese **Lā* (Starostin, *ChEDb*).

179 Chinese 罐 *guàn* (with variant 鑊 *guàn*) “jar, pot; can, bucket; flask (of sheet metal)” < Late Middle Chinese **kuan*’ < Early Middle Chinese **kwan*^h (Pulleyblank 1991, 114).

180 Chinese 罐 *guàn* “cup; pot; jug, pitcher; flask” < Late Middle Chinese **kuan*’ < Early Middle Chinese **kwan*^h (Pulleyblank 1991, 114).

3.1.1. The most frequent is the solution based on West Germanic **elwa-* “yellow(-brown)”, implying the initial laryngeal **H₁-*, but no laryngeal after **-l*¹⁸¹, in contrary to the witness of the Baltic intonation indicating the *set*-root (cf. *EWAhD* II, 1060–62). For this reason Pinault (2000, 104) is skeptical concerning the “yellow”-etymology. Let us also mention that “lead” and “tin” are frequently characterized as “bright” (both) or “dark” vs. “white” respectively, but never “yellow” or “brown”. The idea of Mann (1984–87, 14) operating with Greek ἀλάος “not seeing, blind” [*Od.* 8.195], is not better, since it seems to be derived from the verb λάω “I see”.

3.1.2. Rybatzki (1994, 205) introduced as a possible candidate to explain the Balto-Slavic isogloss Classical Persian *āl*¹⁸² “reddish, bright” (Vullers 1855, 47: ‘subruber, subrubicundus; nitor coloris’), referring to Bailey (1954, 19) who saw in this Persian word a merger of two colour terms, **āla-* and **harda-* (> Avestan *harāda-*, *harāda-*, *harāta-* “red”, Khotanese *haryāsa-* “black”, Ossetic Digor *xæræ* “black”; cf. Bailey 1979, 469; Pokorny 1959, 910–11). However, it is difficult to localize in space and time the trajectory of the potential borrowing from Persian into (Balto-)Slavic, not to mention that the initial **h-/*x-* or **ā-* in the hypothetical Iranian language-donor would have been adopted as **x-* or **a-* in common Slavic.

3.1.3. Pinault (2000, 104–05) prefers his new solution, connecting the Tocharian B designation of “lead” or “tin”, i.e. the weak and flexible metals, with IE **lento-*, attested in Latin *lentus* “pliant, flexible; tough; sticky; slow” | Old Danish *lind* “soft, mild”, Norwegian *linn* “flexible, limber”; Old English *līðe* “soft, mild”, Old High German *lind(i)* “weak” | East Lithuanian *leñtas* “still, quiet, silent” (Pokorny 1959, 677).

3.1.4. Adams (2013, 600) mentions similarity of the Tocharian metal name with the Celto-Germanic isogloss represented by Middle Irish *lúaide* “lead” and West Germanic **lauda* “lead”: Old English *lēad*, English *lead*; Old Frisian *lād* “Gewicht”; Middle Dutch *loot*, Dutch *lood* n. “lead”; Middle Low German *lōt* “Blei, giessbares Metall, Metall(legierung) zum Lōten, aus Blei gegossenes Gewicht, Senk-, Richtblei”; Middle High German *lōt* st. n. “Blei, giessbares Metall; Schlaglot, Metallgemisch zum löten; Lot”, German *Lot* “plummet, solder”. These metal-names are compatible, if they are derived from a verbal root of the type **(H)leud^h-*, forming *n*-infix-present. In “Lexicon of Indo-European Verbs” there is only one root which is consistent with these conditions: **H₁leud^h-* “to rise, go up, grow” (Kümmel, *LIV* 248–49), also with continuant in Tocharian: A *lāc*, B *lac* “went out, left” < **H₁lud^h-é-t* (Pinault 2008, 601), besides causative forms in B *lāntās[k]em[n]e*, A *lantāskem* (Adams 2013, 598–600). But none of meanings of this verbal root or its derivatives offer any explanation of the studied metal-names.

3.1.5. If the meaning of **lant* was “tin”, it is possible to think about the *t*-derivative from the root **H₁leng^{uh}-* “to be light” {not heavy} (Kümmel, *LIV* 247–48; Pokorny 1959, 660–61). In Tocharian B there is a safe continuant in *lan̄k tse* “easy, light”, derivable from **H₁l̄ng^{uh}ut̄jo-*. The form **lant* may probably be derived from **H₁l̄ng^{uh}t̄^o*, cf. Germanic **linhta-* “light” > Gothic *leihts* id., Old Norse *létt* “light, easy; nimble, active”, Old English *līht*, *lēoht* “light, easy”, Old High German *līht* “easy” (Kroonen 2013, 339). The change **-nkt-* > *-nt-* is attested e.g. in Tocharian B *wāntalyi* “bow(-string)”, if it is related to Lithuanian *vingis* “bow, bend”, or Tocharian A *pānt* “fifth” < **penkt^o-*, while B *pin̄kte* id. probably represents the secondary restitution of the velar (Van Windekens 1976, 113, §342).

3.1.6. It is possible to think about a derivative of the root **leH₂u-/*leuH₂-* “to pour” (Kloekhorst 2008, 511–13; Kümmel, *LIV* 401; Pokorny 1959, 692), cf. Hittite *lāhu-/lahu-* “to pour;

181 Similarly Vedic *aruṇá-* “reddish” (if it is not derived from **H₁eru-* vs. **H₁reu-d^h(H₁)o-* “red”) and Tocharian B *yolyiye* “pale” < **H₁ēlu-jó-* (Adams 2013, 556).

182 This term, isolated within Iranian, is well-attested in Turkic: **āl* “red, scarlet” > Old Turkic [Orkhon], Old Uyghur *al*, Karakhanid *al* [Mahmud of Kashgar], Middle Turkic *al* “bright red” [Codex Cumanicus], Turkmenian *āl*, Turkish, Tatar, New Uyghur, Azerbaijani, Noghai, Bashkir, Gagauz, Karaim, Kumyk *al* “red” (Clauson 1972, 120–21; *TMEN* 2, 94–95). Benveniste (1960, 70) tried to demonstrate the inherited character of the Persian word, adding Middle Persian *āl-yonak* “of red colour”, plus the corresponding Old Persian compound reflected in the woman’s name Ἀλογοῦνη recorded by Ktesias (c. 400 BCE).

cast (objects from metal); (over)flow”, Cuneiform Luvian *lū-* “to pour”, *lā(h)un(a)i-* “to wash” | Armenian *loganam* “I bathe” | Greek *λούω* “I wash, bathe” [*Il.*] | Latin *lavō* “I wash, bath” | Irish *ló-chasair* “rain”; Middle Welsh *glau* id. If the fusing temperatures of the most frequent metals are compared, the lowest melting point is consistent with the cases of tin and lead: tin 232 °C < lead 327,5 °C < zinc 419,5 °C < silver 961 °C < gold 1063 °C < copper 1084 °C < iron 1482÷1593 °C. It is quite natural that this feature would serve to designate the metal. In principle, all names of “lead” or “tin” discussed above are derivable from this root:

Celtic-Germanic (or Celtic > Germanic) **lou_ud^ho-* “lead” < **lou_uH₂-d^hH₁o-* or **loH₂u-d^hH₁o-* “made molten”.

Baltic **al(H)ua-* < **H₂el-lH_uo-* “molten in flame”, where the first component **H₂el-* can be reconstructed on the basis of Sanskrit *alāta-* n. “fire-brand, coal” [MBh] | Latin *altāre* “Brandaltar”, *ad-oleō* “verbrenne”, Umbrian *urētu* ‘ad adolendum’ | Swedish *ala* “lodern, flammen” (Pokorny 1959, 28; Kümmel, *LIV* 262 includes these forms under the lemma “nähren, aufziehen”, seeking support in the Latin formulation *ignem alere*).

Slavic **olovo-* n. “lead” or East Slavic “tin” < **H₂el-lHo_uo-* or **H₂el-louHo-* of the same structure.

Tocharian B **lant* “lead” or “tin” < **lH₂u-nt^o* “melting”?

3.1.7. All preceding etymological attempts can be supported by some rational arguments, but none is convincing enough to exclude others. In this case it is legitimate to ask if there is any possibility of foreign origin. A promising source may be found in the Chinese expression 鉛鑄 *qiān zhù* “casted lead”, consisting of 鉛 *qiān*¹⁸³ “lead” < Late Middle Chinese **jyan* < Early Middle Chinese **jwian* (Pulleyblank 1991, 249) ~ Middle Chinese **jwen* < Late & Middle Postclassic Chinese **jwen* < Early Postclassic Chinese **zwen* < Eastern Han Chinese **zwan* < Western Han Chinese **lwan* < Classic Old Chinese **lwan* < Preclassic Old Chinese **lon* (Starostin, *ChEDb*) ~ **lon* or **jon* “lead” [*Shūjīng*] (Schuessler 2007, 424), and 鑄 *zhù* “to cast (metal), casted” < Late Middle Chinese **tʃyǎ* < Early Middle Chinese **teuǎ^h* (Pulleyblank 1991, 415) < Later Han Chinese **tʃo^c* < Old Chinese¹⁸⁴ **to^h* (Schuessler 2007, 627) ~ **tos*¹⁸⁵ (Starostin, *ChEDb*) ~ **tu-s* (Baxter & Sagart, *ChDb* 2014). With respect to the change **l-* > **z-* realized in the end of the 1st century BCE, the process of adoption of this term should be dated to the 1st cent. BCE or earlier. The source could be Western Han / Classic Old Chinese (1st-5th cent. BCE) compound **lwan-to^h* or its preclassic (6th – 10th cent. BCE) predecessor **lon-to^s/-tus*. The older possibility **lon-to^s/-tus* should have been borrowed into (still Common) Tocharian **læntæ* (à la Hilmansson) or **lëntë* (à la Ringe) > A **lant*, B **lente*. This means that Tocharian B **lant* seems to be borrowed from Tocharian A.

silver

B acc. *ñkante*, gen. *ñkantentse* “silver”, adj. acc.sg.m. *ñikañce*, nom.pl.m. *ñkañci* “silvern” (Adams 2013, 290; Peyrot 2008, 57 about the late forms with *ñi^o*).

A *nkiñc* “silver”

183 Pulleyblank (1991, 249) also mentions the Modern Chinese variant *yán*, whose initial is regular in contrary to *qiān* (cf. *GSR* 0229 c, where reconstructions **jwän* < **djwan* were proposed).

184 Known beginning from the bronze inscriptions of Western Zhou, 1050–770 BCE, see *GSR* 1090 a’-d’.

185 Starostin (*ChEDb*) did not reconstruct history of 鑄 *zhù* “to cast (metal), casted”, he only proposed its Preclassic protoform **tos*. But it is possible to expect the parallel development in the case of the close verb 注 *zhù* “to pour, flow to, conduct water; be led to” < Middle Chinese **čü* < Postclassic Chinese **čò* < Eastern Han Chinese **čoh* < Western Han Chinese **to^h* < Classic Old Chinese **to^h* < Preclassic Old Chinese **to(?)s* (Starostin *ChEDb*; cf. Schuessler 2007, 627; *GSR* #0129 c).

The designation for “silver” is known in both Tocharian languages:

1. The following forms, including derivatives, are attested:

A *nkiñc* “silver”

kusne niṣpal koprāñk-[pä]rsānt wäs nkiñc hār wrok ñe(mintu) [A303 b6]

“whose possession [is] *koprāñk-[pä]rsānt* (= ‘moon-stone’), gold, silver, necklace, pearl, jewels”
[translated by Melanie Malzahn, p.c.]

A *nkāñci* adj. “silvern”

vaiḍuri ṣim̄ oryo nkāñciṃ [A316 a4] (Poucha 1955, 157)

B acc. *ñkante*, gen. *ñkantentse* “silver”

yasa ñkante wrākaññeṃ wmera makci priyeṃ [Pelliot Koutchéen – nouvel séries – 18A-a2]

“they themselves were wearing jewels of gold, silver, and pearl” (Adams 2013, 290)

B adj. acc.sg.m. late *ñikañce*¹⁸⁶, nom.pl.m. *ñkañci*, acc.pl.m. *ñkañceṃ* ~ late *ñikañceṃ*, acc.sg.f. *ñkañcai*, nom.-acc.pl.f. *ñkañcana* “silvern”

ysāṣṣeṃ ñikañceṃ wmera

“gold and silver jewels” [109a4¹] (Adams 2013, 290; Tamai 2011, 151).

2. From the perspective of internal reconstruction, A *nkiñc* may reflect the noun in ^o*nt-ē(n)*¹⁸⁷ and *nkāñci* the adj. in ^o*nt-i-jo-* (Van Windekens 1979, 125). The termination of B acc. *ñkante* is derivable from Common Tocharian ^o*āntæ* < ^o*nto-*.¹⁸⁸ Mentioning the same derivational pattern as in IE ^{*}*Herǵnto-*,¹⁸⁹ Hilmarsson (1986, 202) speculated about the replacement of this old etymon¹⁹⁰ by a new term, perhaps borrowed from Old Chinese (cf. the discussion below), while the original termination remained preserved.

3. Etymological attempts in chronological order and their evaluation:

(a) Pisani (1942–43, 27): Derived from IE ^{*}*sneǵ^{uh}-* “snow”.

Ad (a): This seems to be a typical *Wurzeletymologie* without any support for its non-trivial semantic development. Such a semantic development is really known, however: Sanskrit [Manu] *heman-* “gold”, *haima-* “golden” is derivable from *himá-* “snow” (Turner 1966, ##14096, 14163; *KEWA* III, 607; *EWAI* III, 543–44). In Celtic it is possible to find the development from “white” to both “silver” and “snow”, e.g. Celtic ^{*}*arganto-* “silver” > Old Irish *argat*, Old Welsh *argant*, Welsh *arian(t)*, Cornish *argans*, Old Breton *arc’hant*, vs. ^{*}*argjo-* “snow” > Middle Welsh *eiry*, Welsh *eira*, Middle Breton *erc’h* id., with regard to Hittite *ḫarki-* and Tocharian A *ārki* “white” (Delamarre 2001, 46–47), but the opposite direction in semantic development, i.e. from “snow” to “white” and further to “silver”, is practically excluded in the case of the root ^{*}*sneǵ^{uh}-*, which was recognized in the Tocharian B adj. *śiñcatstse* “snowy” (Adams 2013, 689).

186 Peyrot (2008, 57): *i* in the first syllable of the late forms is epenthetic.

187 Hilmarsson (1986, 335) supposed the original nom.sg. in ^{*}*nts* and its later remodelling after the adjective oblique stem in ^{*}*ntjo-* > *ñc-*.

188 Cf. Tocharian A *pkānt* “separate” and B *pkante* “obstacle, hindrance; something put crosswise” < Common Tocharian ^{*}*p(ā)kāntæ* < ^{*}*b^hegnto-*, from the verb ^{*}*b^heg-* “to break” (Pokorny 1959, 114–15; Van Windekens 1976, 376 & 1979, 54; *LIV* 66; Adams 2013, 439).

189 E.g. Latin *argentum*, Celtic ^{*}*arganto-* (see §3), Hittite KÜ.BABBAR-*ant-*, Khotanese *ālsata*, etc. (Bailey 1979, 25; Puhvel 1991, 171; *NIL* 317–22).

190 He reconstructed a hypothetical, but unattested, Common Tocharian protoform ^{*}*ārkāntæ*. In reality the situation is more complex. Tocharian A *ārki*, B *ārkwī* ‘white’ reflect the original accusative ^{*}*H₂erǵu-ien-ṃ* with respect to the oblique forms: A nom.sg.f. *ārkiṃ*, obl.sg.f. *ārkinām*, B acc.pl.m. *arkwinām*, nom.sg.f. *arkwañña*, acc.sg.f. *arkwaññai*, nom.-acc.pl.f. *arkwina*, while the A nom.pl.m. *ārkyamś*, nom.-obl.pl.f. *ārkyant* are derivable from ^{*}*H₂erǵu-ion-t-* (*DTA* 45; Adams 2013, 53).

(b) Poucha (1955, 157): Related with Tocharian A *ñemi* “jewel” and Old Irish *níam* “Glanz”, Latin *niteo* “to shine” < **nej-* (Pokorny 1959, 760).

Ad (b): A typical *Wurzeletymologie*.

(c) Van Windekens (1960, 764): Compared with Ainu *nike* “light”.

Ad (c): The Ainu form *nike* “light” is probably identical to the form *nikéh* from the Raichishka dialect of Sakhalin. More archaic variants appear in the Hokkaido dialects: Soya *nikép*, Nayora, Saru *nipék*, Asahikawa *nipéki*, Bihoro *nupek*, Horobetsu, Yakumo, Obihiro *nupék* (Hattori 1964, 224). They indicate the metathesis *kéh/kép* < *pék*. For comparison with Tocharian “silver” only the first syllable **ni/*nu* remains. It is probably identical with the common Ainu word *ni* “wood (for fuel)” (Hattori 1964, 107). So, without any need to comment on the difficulties arising from the geographical and historical distance, this etymology can be discarded.

(d) Rahder (1963, 107) and Van Windekens (1976, 634): Borrowed from {Old} Chinese *ngiēn* “silver”, plus the Common Tocharian suffix **-ānte* typical for designating “silver” in some other IE branches (cf. Hilmarsson 1986, 202). Details see below.

(e) Witczak (1990, 47–48) tried to derive the Tocharian metal name directly from **H₂reġntom* via dissimilation through **(H₂)neġntom*.

Ad (e): Witczak mentions no example of analogical development. However, the same sequence appears e.g. in A *arkant-*, B *erKent-* “black, dark”, probably from **H₂rg^hont-* (Adams 2013, 101), and without any tendency to dissimilation.

Discussion of the etymology (d):

The Chinese etymology should be analysed in detail with respect to the identical meanings and very similar forms. The Chinese character 銀 “silver” is today pronounced *yín* according to standard Beijing pronunciation. The preceding forms are reconstructed in chronological order as follows:

14th cent. CE: *iān* (Starostin) = *jin*’ (Pulleyblank 1991, 373) according to *Zhongyuan yinyun* (1324 CE);

10th cent. CE: Late Middle Chinese **jin* (Pulleyblank 1991, 373);

822 CE: *jin* transcription in the Tibetan script (Coblin 1994, 364);

6th cent. CE: Early Middle Chinese (Pulleyblank 1991, 373) = Middle Chinese **jin* (Starostin 1989, 122; Baxter & Sagart 2014, 110) = “Ancient” Chinese **ngiēn* (Karlgren, 1923, 114, #312; *GSR* 0416k);

5th-3rd cent. CE: Postclassic Chinese **jin* (Starostin, *ChEDb*);

c. 400 CE: Old Northwest Chinese **jin* (Coblin 1994, 364);

3rd cent. CE: Proto-Min **jyn* ~ **juin* > Xiamen *gun*², Chaozhou *jiŋ*², Fuzhou *jiŋ*², Chaozhou *jiŋ*² (Schuessler 2007, 573; Starostin, *ChEDb*);

c. 200 CE – 200 BCE: Han Chinese **jran* (Starostin, *ChEDb*), while Schuessler (2007, 573; 2009, 326, #33–1) reconstructs Late Han Chinese **jin*;

c. 200 BCE – 500 BCE: Classical Old Chinese **jran* (Starostin, *ChEDb*);

c. 500 BCE – 1000 BCE: Preclassic Old Chinese **jran* (Starostin, *ChEDb*; Schuessler 2007, 573; Baxter & Sagart 2014, 110), while Karlgren (*GSR* 0416k) reconstructed “Archaic” Chinese **ngiēn*.

There are convincing cognates in other Sino-Tibetan languages,¹⁹¹ leading to the reconstruction of Proto-Sino-Tibetan **(d-)jul* (Benedict 1972, 15) & **d-jul* (Matisoff 2003, 415), **dngjiul* (Coblin 1986, 133), **ŋǎł* (*d-*, *r-*) (*CVST* V, 142, #523) = **jił* (*d-*, *r-*) (Starostin, *ChEDb*).

191 Written Tibetan *djul* ‘silver’, Caodeng, Daofu *rŋal*; Written Burmese *ŋwe* ‘silver’ < **ŋuy*; Achang *ŋui*, *ŋci*, *ŋu*,

The Chinese designation of “silver” was borrowed into neighbouring languages from various post-Han Chinese sources of the 1st mill. CE:

Middle Mongol *munḡu(n)* [Secret History of Mongols], Written Mongol *mōngūn* “silver” < Chinese 捫銀 *mén*¹⁹² *yín* “proved silver” < Late Middle Chinese **mun-ŋin* < Early Middle Chinese **mən-ŋin* (cf. *TMEN* I, §377; Rybatzki 1994, 213–16 with parallels in other Mongolic languages and loans in Tungusic and Turkic).

Sino-Korean *ŭn* “silver” (Kwōno Hyōgmyōn apud Rybatzki 1994, 215);

Sino-Japanese Kan-on *gin*, Go-on *gon* (Karlgren, 1923, 114, #312; Rybatzki 1994, 215);

Hmong-Mien **n^wiəŋ^A* “silver” (Baxter & Sagart 2014, 110; Castro, Flaming & Youliang 2012, 51), probably borrowed from a source close to Proto-Min **ŋuin*;

Daic,¹⁹³ where the term was borrowed apparently after disintegration of the Daic protolanguage and therefore a single protoform cannot be reconstructed.

From this perspective, the adaptation of the Chinese designation of “silver” in Tocharian seems quite legitimate. First of all, the borrowing would have had to occur after the simplification of the initial cluster **ŋr-* > **ŋ-* in Chinese, i.e. not earlier than the 3rd cent. CE with regard to the stratification of the development of Chinese as reconstructed by Starostin (*ChEDb*).¹⁹⁴ By that time both Tocharian languages had already separated.¹⁹⁵ Naturally, the adaptation of the Chinese word e.g. first into Tocharian A and its subsequent borrowing into Tocharian B is quite possible. More difficult to explain is the substitution of post-Han Chinese **ŋ-* as Tocharian A *nk-*, B *ñk-*, implying **n^hk-*, and not expected *ñk-* (cf. Adams 2013, 290). The Tocharian forms better resemble Hmong-Mien **n^wiəŋ^A* ‘silver’ (Baxter & Sagart 2014, 110), but for historical and geographical reasons any direct contact cannot be supposed. The most probable source of the Hmong-Mien word ‘silver’, Proto-Min **ŋuin*, stands already too far from the Tocharian words in both form and geographical position, originally located in the Fujian province in the south-eastern coast of China, opposite the island of Taiwan.

One can conclude that Chinese in any of its stages of development or in any of its historical dialects was not the source of the Tocharian designations for ‘silver’ (Lubotsky & Starostin 2003, 265–66 also expressed their doubts). The same can be said about other Sino-Tibetan cognates of the Chinese word “silver” as well as Chinese loanwords in non-Sino-Tibetan languages.

4. The negative evaluations of existing etymological attempts open the possibility for a new solution. The most probable source of borrowing seems to be the Sogdian designation of ‘silver’, namely the Manichean Sogdian feminine adj. *n^hktync*¹⁹⁶ “silvern, of silver”, vocalized as */nāk(ə)tēnč/*. Its masculine counterpart is *n^hktynny* */nāk(ə)tēnē/* (Gershevitch 1961, 190, §1273;

Zaiwa *ŋun*, Maru: Langsu *ŋci*; Bola *ŋø*; Leqi *ŋə*; Naxi: Yongning *ŋv*; Nusu *ŋuia*; Trung: Dulonghe *ŋül*, Nujiang *ŋuun*; Tsangla: Motuo *ŋoi*, Tilang *ngui*, Cuona *ŋy*; Tujia *ŋo, ŋa*; Bai: Dali, Bijiang *ŋi*; rGyalrong po-*ŋi*, pa-*ŋei*, po-*nge*; Qiangic: Qiang Mawo *ŋuə zi*, Qiang Taoping *ŋŋu*, Pumi Taoba *ŋō*, Pumi Jinghua *ŋāu*, Ergong *zŋən*, Muya *ŋu*, Queyu *ŋui*, Guiqiong *wū*, Ersu *ŋua*, Lusu *ŋu*, Namuyi *ŋu*, Shixing *hū, jū*; Xixia (= Tangut) *ŋwo*; North Naga: Konyak & Phom *ngin*; Nocte (= Namsangia) *ngun*, Wancho (= Banpara) *ngung*; Abor-Miri-Dafla: Bokar Lhoba *ŋī*; Damu *ŋy*; Tagin *anyi*, Milang *ün* (Matisoff 2003, 415; Gong 1995, 66; Shafer 1974, 36, 125, 429; Benedict 1972, 15, 173).

192 Chinese 捫 *mén* “to lay hands on, hold, stroke, touch; seek, test, examine” < Late Middle Chinese **mun* < Early Middle Chinese **mən* (Pulleyblank 1991, 211; Karlgren, *GSR* 0441 e).

193 Daic: Southwest: Siamese *ŋən*, Ahom *ngam*, Shan & White Tay *ŋin*, Lü *ŋim*, Khamti *ŋun*; Central: Lungchow *ŋin*, Nung *ngân*, Tho *ngən*, T’ien-pao *ŋan*; North: Po-ai *ŋan*, Wu-ming *ŋăn*, Dioi *gan*, Hsi-lin *ŋan*, T’ien-chow *ŋan* “silver” (Li 1977, 204, 206; Shafer 1974, 36, 429; Starostin 1989, 131).

194 It bears mentioning that Schuessler (2007, 573; 2009, 326, #33–1) reconstructs Late Han Chinese **ŋin*.

195 Glottochronological dating to 400 BCE according to Blažek & Schwarz 2011, 136–37; 20 BCE according to Starostin (2004, p.c.).

196 Similarly *zyrnynny* */zirnēnē/* m. vs. *zyrnync* */zirnēnč/* f. “golden”; *zrywnny* */zaryōnē/* m. vs. *zrywnc* */zaryōnč/* f. “green”; *’spnyny* */’(ə)spanēnē/* m. vs. *’spnynch* */’(ə)spanēnč/* f. “of iron” (Gharib 1995, ##11579, 11577; 11404, 11402; 1633, 1626; Gershevitch 1961, 161, 191).

Gharib 1995, ##5772, 5773; *MSB* 121). The other orthographic traditions preserve more a historical spelling: Buddhist *n'krt'yn'k / n'krt'yn'y / n'krtyn'km*. */nā-kṛtēnē/* vs. Sogdian script *n'krtynch* f. */nā-kṛtēnč, nā-k(ər)tēnč/* (Gharib 1995, ##5759, 5772). These adjectives are derived from the noun attested in Buddhist texts as *n'krt'k ~ n'krt'y ~ n'krtk /nākṛtel, /nākātēl, /nākārtel* “silver” (Gharib 1995, #5756), originally **nā-kṛtaka-* “undone” in the sense “uncoined”, which is a calque on Greek ἄσημος “without mark or token” (cf. Bailey 1979, 25), used as ἄσημος χρυσός “uncoined gold, bullion, or plate” [Herodotus IX, 41]; similarly ἄσημος χρυσίον, or ἄσημος ἀργύριον [Thucydides II,13; VI, 8]. The Greek term was adapted already in Old Persian *s^a-i-y^a-m^a-m^a / saiyamam/* or */siyamam/*¹⁹⁷; Bactrian *σῑμῑγγο* “made of silver” < *σῑμο “silver” + suffix -ῑγγο; adj. *σῑμῑνο* < *σῑμο “silver” + suffix **-aina-* (Sims-Williams 2007, 264); Manichean Middle Persian of Turfan *'sym /asēm/* “silver”, adj. *'symyn /asēmēn/* “of silver” (*MPP* 57), Zoroastrian Pahlavi *'sym /asēm/* “silver”, adj. *'symyn /asēmēn/* “silvern” (MacKenzie 1971, 12), Classical Persian *sīm* “silver”, adj. *sīmīn* (Steingass 1892, 717; Noeldeke 1892, 45; Horn 1893, 169, #764), Kurdish *zīw /zīw, zēw* “silver” (Cabolov 2, 530). Morgenstierne (1938, 249) explained Kurdish *z-* through the influence of *zar* “gold”. *Zazaki sīm* id. (Cabolov 2, 530) and *Parachi sīm* “silver, wire” (Morgenstierne 1929, 287) are probably of Persian origin.

5. The process by which the Sogdian feminine adjective *n'ktync /nāk(ə)tēnč/* ‘silvern’ was adapted to the phonotactic rules of Tocharian can be reconstructed as follows: */nāk(ə)tēnč/* > **n(ə)katenc* > **nkacāñc* > A **nkāñc* & B **ñkañc*^o. The haplological shortening has an analogy in e.g. B *eñcare* ‘disagreeable, unwelcome, unpleasant, unfriendly’ < **eñcāñcare* = the negative prefix **æñ-* + *cāñcare ~ ciñcare* ‘agreeable, lovely, charming, delightful’ (Van Windekens 1976, 121; Hilmarsson 1991, 180–81; Adams 2013, 83, 272).

Before the adaptation of the Sogdian designation of “silver” in Tocharian, a derivative of the IE colour term **H₂erǵ-* “white” really could have served for this designation of a metal. As at least an indirect witness, a hypothetical loanword in Chinese may serve: 鑿 *wù* “silver, silvered” < Middle Chinese **ʔok* < Late & Middle Post-Classical Chinese **ʔāk* < Early Postclassical Chinese **ʔāuk* < Han Chinese **ʔāuk* < Classic Old Chinese **ʔāuk* < Preclassical Old Chinese **ʔāk^w* (Starostin, *ChEDb*¹⁹⁸; Schuessler 2009, 196, #16–10); Middle Chinese **ʔuok* < Later (= East) Han Chinese **ʔouk* < **ʔāuk*; Karlgren, *GSR* 1141m: “Ancient” Chinese **uok* < “Archaic” Chinese [Shījīng; 1050–600 BCE] **ok* “silver”; later “to silver; gild, cover iron with molten metal of a more precious kind”). The spelling of foreign words and names borrowed or transcribed into Chinese was not uniform in the past. In the cluster *VRC* the liquid was frequently omitted, such as in the transcription of the Old Indic epic hero Arjuna: 阿¹⁹⁹順²⁰⁰那²⁰¹, *ā-shùn-nā* (or *nā*) in Modern Chinese < Middle Chinese **ʔā-śwìn-nā* < Postclassical Chinese **ʔā-śwìn-n(h)ān* (Starostin, *ChEDb*; cf. Pulleyblank 1962, 68, who quoted Karlgren’s “Ancient” Chinese transcription **-ā-dz̄ [juǎn-nā]* or Old Indic *suvarṇa-* ‘of a good colour, bright, golden, yellow’ [RV]; ‘name of a Deva-gandharva

197 Used in the inscription [A¹I] of Artaxerxes I, called Longimanus (465–425 BCE): *haya imam bātugara sēymam viθiyā karta* “who this silver cup was made in the house” [Skjærvø 2002, 140].

198 Starostin (l.c.) compared it with Written Tibetan *gag* “silver in bars, small pieces”, and reconstructed Proto-Sino-Tibetan **yāk^w* (~ʔ-) “silver” (*CVST* V, 38). Schuessler (2007, 516) connected it with Written Burmese *u^β* “to polish, make bright”.

199 Chinese 阿 *ē* & *ā* “slope” < Middle Chinese **ʔā* < Post-Classical Chinese **ʔā* < Eastern Han Chinese **ʔā* < Western Han Chinese **ʔāj* < Classic & Preclassical Old Chinese **ʔāj* (Starostin, *ChEDb*).

200 Chinese 順 *shùn* “to follow, agree; be agreeable, compliant; favourable” < Middle Chinese **śwìn* < Post-Classical Chinese **śwìn* < Eastern Han Chinese **śwānh* < Western Han Chinese **lwānh* < Classic Old Chinese **lwānh* < Pre-Classical Old Chinese **luns* (Starostin, *ChEDb*).

201 Chinese 那 *nā* & *nà* “which, what, that; there; so” < Middle Chinese **nā* < Postclassical Chinese **n(h)ān* < Han & Classic Chinese **n(h)ān* < Preclassical Old Chinese **n(h)ār*.

[MBh.] or a minister of Daśaratha' [R.]: 羞²⁰²桓²⁰³, *xiūhuán* in Modern Chinese < Middle Chinese **sjüywân* < Postclassical Chinese **s(h)jwōwān* (Starostin, *ChEDb*; Coblin 1983, 252 – he reconstructed Late Han Chinese **sjwγwan*).

It is possible to conclude that the inherited designation of “silver”, the derivative of IE **H₂erǵ-* “white”, probably existed also in Tocharian, besides Indo-Iranian, Greek, Italic and Celtic, and perhaps Anatolian, judging from the hypothetical borrowing in Old Chinese **āk^w* “silver”. The preceding Tocharian starting point should have ended in a velar in a labialized environment, i.e. one would expect that the following grammatical endings were regularly dropped. The most frequent extension of the Indo-European ‘silver’ words is in *-nt-* (see the table below). Together with the expected stem auslaut in *u/w* of the Tocharian model, it is possible to speculate about its reconstruction as **H₂erǵunts* > **ārku*²⁰⁴ or **H₂erǵunts* > **ārkwō*.²⁰⁵

The semantic reduction of the Tocharian etymological bundle “white-silver” to only the meaning “white” might have been caused by adaptation of the Sogdian term “silver”, namely its feminine adjective derivative *n'ktync /nāk(ə)tēnc̣/*. If this hypothesis is correct, there are some chronological implications. It was already said that Sogdian *n'krt'k* reflected **nā-krtaka-* “undone” in the sense “uncoined”, which is interpreted as calqued on Greek ἄσημος “without mark or token” (cf. Kent 1950, 209; Bailey 1979, 25), used as ἄσημος χρυσός “uncoined gold, bullion, or plate” [Herodotus 9.41]; similarly ἄσημος χρυσίον, or ἄσημος ἀργύριον [Thucydides 2.13; 6.8]. The Greek term was probably mediated to Sogdians by their southern neighbours, Persians. In the inscription [A^I] of Artaxerxes I, called Longimanus (465–425 BCE), the Old Persian adaptation of the Greek term appears in the form *s^a-i-y^a-m^a-m^a* [*sēyamam*]. Its continuation is also known from the Middle Iranian period: Middle Persian ^{MZ} *sym* [*asēm*] “silver”; Bactrian *σῖμυγο* “made of silver”, adj. *σῖμνο* (see above, §4). This means that the Iranian world knew the Greek term already in the 5th century BC. Its transfer to ancestors of the Sogdians could have been realized more or less immediately. In this case the borrowing of the Sogdian neologism by Tocharians might precede the disintegration of Common Tocharian, dated to 400 BCE (Blažek & Schwarz 2011, 131–37). If the transfer of the term to Sogdians was realized after the disintegration of Common Tocharian, Sogdian “silver” could have been borrowed first in Tocharian B and from it in Tocharian A or more or less immediately in both B and A from Sogdian merchants.

Table 1: Word-family “white, bright” & “silver”²⁰⁶²⁰⁷

“white, light, bright”	IE	“silver”	IE
OI. <i>arjī-</i>	* <i>H₂erǵi-</i>	OI. <i>rajatá-</i>	* <i>H₂erǵ-nt-ó-</i>
OI. <i>árjuna-</i>	* <i>H₂erǵu-no-</i>	Khot. <i>āljsata</i>	* <i>H₂erǵ-nt-o</i>
OI. <i>rjrá-</i>	* <i>H₂rǵ-ró-</i>	YAv. <i>ərəzata-</i> , ²⁰⁶ OP. <i>ardata</i>	* <i>H₂(e)rǵ-nt-o-</i>
Hi. <i>ħarki-</i>	* <i>H₂(e)rǵi-</i>	KÜ.BABBAR- <i>ant-</i> CL. <i>ħarraya-</i> ²⁰⁷	* <i>[H₂(e)rǵ]-nt^o</i> * <i>H₂(e)rǵ-oj-</i>

202 Chinese 羞 *xiū* “to offer food; fine food, delicacies; shame, disgrace” < Middle Chinese **sjü* < Postclassic Chinese **s(h)jwo* < Eastern Han Chinese **s(h)jwa* < Western Han Chinese **sñwa* < Classic Old Chinese **sño* < Preclassic Old Chinese **snho* (Starostin, *ChEDb*; cf. *GSR* 1076 h-j).

203 Chinese 桓 *huán* “to turn round, turn back” : (Yin); “to be pillar-like (Late Zhou); hesitate; a kind of willow” < Middle Chinese **γwān* < Postclassic Chinese **wān* < Han & Classic Old Chinese **wān* < Preclassic Old Chinese **wār* (Starostin, *ChEDb*; cf. *GSR* 0164 a-f).

204 Cf. A *špālu* “excellent”, acc.sg.m. *špālunt* < **ghebhōl-unt-s* vs. *-ount-m* (Van Windekens 1979, 61); B *keru* “drum”, if it is derivable from **kuorūnto* (Adams 2013, 209).

205 Cf. Hilmarsson 1986, 20.

206 Hilmarsson (1986, 173) considered an original spelling **arəzata-*, reflecting **H₂erǵnto-*.

207 Starke (1990, 424).

“white, light, bright”	IE	“silver”	IE
Hi. <i>arkuwaē</i> - “make a plea”	* <i>H₂orġu-je/o-</i>		
Gr. ἀργός	* <i>H₂rġ-[r]ó-</i>	Myc. <i>a-ku-ro</i> , Gr. ἄργυρος,	* <i>H₂(e)rġu-ro-</i>
Gr. ἄργυρος	* <i>H₂erġu-b^hH₂o-</i>	ἀργύριον > Mes. <i>argorian</i>	* <i>H₂(e)rġu-rġo-</i>
Gr. ἀργυρόεις	* <i>H₂erġi-no-<u>uent-</u></i>		
La. <i>arguō</i> “show” = “enlighten”	* <i>H₂erġu-je/o-</i>	La. <i>argentum</i> , Osc. <i>ara-getud</i>	* <i>H₂(e)rġ-nt-o-</i>
Ga. <i>argidam</i> ²⁰⁸	* <i>H₂erġi-d^o</i>	OIr. <i>argat</i> , OW. <i>argant</i> Clb. <i>arka^ato-beđom</i> “s. mine”	* <i>H₂(e)rġ-nt-o-</i>
Ga. <i>Argio-talus</i> “white-foreheaded”	* <i>H₂rġio-tHlu-</i>	Ga. <i>Argantomago[s]</i>	
Go. Ἀργίτα ²⁰⁹	* <i>H₂erġi-tā</i>		
Br. * <i>argio-</i> “snow”	* <i>H₂erġio-</i>		
Ga. <i>Arguenna silva</i> ²¹⁰	* <i>H₂erġu-</i>		
To. A <i>ārki</i> , B <i>ārkwī</i>	* <i>H₂erġu-ien-m</i>	OCh. * <i>āk^v</i> < To. * <i>ārkw/u^o?</i>	?* <i>H₂erġ-unt^s</i>
To. A pl.m. <i>ārkyamś</i> , pl.f. <i>ārkyant</i>	* <i>H₂erġu-ion-t-</i>		

Abbreviations: Av. Avestan, Br. Brittonic, Ch. Chinese, Clb. Celtiberian, CL. Cuneiform Luvian, Ga. Gaulish, Go. Goidelic, Gr. Greek, Ir. Irish, Khot. Khotanese, La. Latin, Mes. Messapic, Myc. Mycenaean, O Old, OI. Old Indic, Osc. Oscan, P. Persian, s. silver, To. Tocharian, W. Welsh, Y. Young.

Note

Rybatzki (1994, 207–08) proposes relationship of the Sogdian term with Khwarezmian *nqryk*, *nkrk-* ‘silver’ (Benzing 1983, 475); Pashto *nōqrā* (*RAS* 658), Ormuri *nōkra*, Parachi *nuqra*, Yidgha *nukrā*, Sanglechi *nok^rrē* (Morgenstierne 1938, 404; 51*), Shughni *nuqrā* (*RŠS* 215), Wakhi (Central, East) *nīqra*, (West) *nāqra* (*VJa* 228). However, this similarity is accidental. The term is of Persian origin, cf. Classical Persian *nuqra* ‘silver’ (Steingass (1892, 1419; Vullers 1864, 1336: ‘argentum’) = Modern Persian *noyre* ‘silver’ (*PDW* 810), likewise in the case of Baluchi *nuyra* (Gilbertson 1925, 606). The Persian word itself is borrowed from Arabic *nuqrat*, pl. *niqār* ‘molten gold or silver, molten ore, gold or silver coin’, from the verb *naqara* ‘to pierce through, excavate; carve in stone; whet the mill-stones’ (Steingass 1988, 1141). The Arabic form is also a source of borrowing of Turkish *nukra* ‘lump of smelted gold or silver’, New Uyghur (Turki) *noqrā* ‘silver or gold ingot or bar’, while Uzbek *nuqra* & *noqra* ‘silver’ and Moghol *nukhra* / *nukra* / *noqra* id. are more probably borrowed from Dari *noqra* id. (Rybatzki 1994, 208).

208 Magical formula by Marcellus of Bordeaux, cap. 12, 24 (Holder III, 682).

209 Ptolemy, II.2.1, today Bann, cf. OIr. *bán* ‘white’ (Holder I, 214, 343).

210 Today the Argonne region (Holder III, 683).

Conclusion

Analyzing the Tocharian designations of metals, the following conclusions may be formulated:

1) Two terms, “copper” and “gold”, were probably inherited from the Indo-European protolanguage. The possible Anatolian cognates indicate the early layer of the protolanguage, where these words designated the metals concerned.

2) It seems that Common Tocharian “silver” was borrowed from an ancestor of Sogdian or from historical Sogdian, depending on chronological scenario. In the first case it should have been realized by the end of the 5th century BCE, before disintegration of Common Tocharian, dated by us to *c.* 400 BCE on the basis of the recalibrated glottochronological test. In the latter case, the term could have been adopted from Sogdian merchants by West Tocharians which brought it to East Tocharians, all in the first centuries of the 1st mill. CE. This conclusion agrees with the fact that Tocharians used the silver originating from Central Asia (during the Han era in the Tarim Basin the silver mines were known only from Northwest, the locality 龜茲 *Guīzī*, see Golas 1999, 125, 127). In China silver was rare and for this reason e.g. copper, lead or golden coins were preferred for a long time (Golas 1999, 123, 133).

3) The inherited designation of “silver”, in both the literary Tocharian languages replaced by the Sogdian borrowing, could be preserved as an early loanword in Chinese. This hypothetical borrowing should have been realized before 500 BCE. Such a date agrees with the earlier chronology of adoption of the Sogdian word in the end of the 5th cent. BCE, which could have led to elimination of the meaning “silver” of Tocharian continuants of the root **H₂erǵ-*.

4) Among numerous etymological attempts trying to explain origin of designations of “iron” and “lead” in Tocharian, the Chinese etymologies seem to be most promising. With regard to chronology of sound changes in development of Chinese it is possible to estimate that the Chinese term “iron” was probably borrowed into Tocharian around the year 0 CE, while “lead” should have been borrowed earlier, before the 1st cent. BCE, maybe even before 500 BCE. Let us mention that “lead” was used in China already in the pre-Shang and Shang periods, while the oldest known lead-mines from the Tarim Basin are dated only to the Han era (Golas 1999, 93, 108). Iron metallurgy is younger in China, but in the 6th cent. BCE it was already widespread in many territories of China. It is important that iron casting was probably invented in China for the first time around the middle of the 1st mill. BCE. The iron mining in the Tarim Basin is dated only to the Han era (Golas 1999, 152, 153, 156).

B. Iranian names of metals

The Iranian metal terminology represents a complex system consisting of archaic inherited terms, besides recent borrowings from Greek, Indo-Aryan and Dardic, Burushaski, Turkic and Arabic. And in opposite directions, the Iranian designations of various metals were borrowed by neighbouring languages, e.g. Indo-Aryan, Tocharian, Chinese, Fenno-Ugric, Turkic, North Caucasian, Kartvelian, Syriac and Arabic. For this reason the terms are classified in four sets: A: Indo-European heritage; B: Indo-Iranian heritage; C: Iranian innovation; D: Borrowing from an identified source. The metal-names are arranged alphabetically, the synonyms begin from the most archaic ones (A, B) through innovative (C) to borrowings (D). The order of languages follows more or less the chronological and genealogical points of view:

I. Old: Avestan, Scythian, Sarmatian, Old Persian;

II. Middle: Middle Persian, Parthian, Sogdian, Bactrian, Khwarezmian, Khotanese;

III. Modern: Classical and New Persian, Sangisari, Baluchi, Kurdish, Ossetic, Yaghnobi, Parachi, Ormuri, Pashto, Pamir languages & Wakhi.

brass₁ – C

III. Ossetic Iron *būr*, Digor *bor* “brass” = “yellow” (ROS 232, 148; Abaev I, 271); cf. Middle Persian ^z*bwl* /*bōr*/ “reddish-brown” (MacKenzie 1971, 19), Persian *bōr* “red-brown; fox”; Sogdian *βwr* “blond”, Yaghnobi *vur* “brown, grey”; Khwarezmian *βwr* “grey”; Yidgha *vūr* “light red” etc., all from Iranian **baura-* (ESIJ 2, 152; Bailey 1974, 369; Horn 1893, 53, #243).

brass₂ – D

III. Persian *pītal* “brass”, *pātīl*, *pātīla*, “cauldron, kettle, pot (of copper or brass)” (Steingass 1892, 263, 228: Hindi origin); Baluchi *pital* “brass” (Gilbertson 1925, 83: < Hindi *pītal*).

IA: Borrowed from Indo-Aryan: Late Sanskrit *pītala-/pittala-* n. “brass”, adj. *pītala-* “yellow” [all lex.], Hindi *pītal* “brass”, etc., all from Sanskrit *pittá-* n. “bile” [AV] & *pīta-* “yellow” [GṛS] (Turner 1966, ##8184, 8230, 8233).

bronze₁ – A

II. Middle Persian ^M*bryng*, ^z*blnc* /*brinj*/ “bronze” (MacKenzie 1971, 20) = ^M*bryning* /*bring*/ “bronze, brass” (MPP 111), Parthian ^M*plync* /*plinj*/ “bronze” (MPP 275); ?Sogdian *brynz* “brass” (Henning apud Sundermann 1981, 168; Rybatzki 1994, 223; but Gharib 1995 does not cite it).

III. Classical Persian *birinj*, rare *biranj*, besides *piring*, “copper”, also “brass” (Vullers 1855, 227: “aes cyprium, orichalcum”; Steingass 1892, 179, 244); Kurdish *pirinjok* “copper” (Hüb-schmann 1895, 27, 232; 1897, 231, referring to the “Kurdish-French Dictionary” of A.A. Jaba).

Internal loanwords:

Horn (1893, 48, #208^{bis}) determined the Persian loans in Kurdish *birinj* “bronze” (Cabolov 1, 185), “brass” (RKS 294), Baluchi *brinj* “ore, copper, brass” (Gilbertson 1925, 83: *birinj*), Pashto *birinj* (RAS 53). From Iranian it is possible to add Shughni *birinj* “copper, bronze” (RŠS 41, 109), Sarikoli *birinj* (Morgenstierne 1938, 386), Wakhi (West) *bərañj*, (Central) *birinj* “brass, yellow copper” (VJa 187), Yazghulami *brandž*, Shughni *birindžin* “copper” etc. (Rybatzki 1994, 222).

External loanwords:

Middle Persian ^M*bryng*, ^z*blnc* /*brinj*/ > Kartvelian: Georgian *brinžao* “bronze” > Mingrelian *brinžao*, Laz *prinžī*²¹¹, Swan *brinžao* id. (Klimov & Xalilov 2003, 133).

Persian *birinj* > Turkic: Uzbek *birinž* “bronze”, Turkmenian *bürünč* “bronze, brass”, Azerbaijani *bürünž* “copper” (ibid.), Gagauz, {Osman} Turkish *pirinç* “brass” (Rybatzki 1994, 222–23; Räsänen 1969, 385: Osman *pirinč* “bronze”) > South Slavic: Bulgarian *perinč*, Serbo-Croatian

211 Let us mention that Laz *prinžī* stands closer to Kurdish *pirinjok* or Turkish *pirinč* in both phonetic form and geographical distance.

pirinač “brass” (Skok I, 217), and further West Caucasian: Abadzex *prindž-žeš* “brass”; East Caucasian: Tsaxur *pirindž* id. (Erckert apud Rybatzki 1994, 222).

(Persian >) Baluchi *brinj* “ore, copper, brass” > Dravidian: Brahui *brinj* “brass” (Bray apud Rybatzki 1994, 223).

Parthian ^M*plync* /*plinj*/ “bronze” > Armenian *plinj*, gen. *plnjoy* “copper (money), coin, ore, brass” (Hübschmann 1897, 231, #544); Kartvelian: Georgian *spilenzi* “copper” (> Swan *spilenž* id.), Mingrelian *linži* (Klimov & Xalilov 2003, 148–49); Semitic: Talmudic Aramaic *plyzʔ* “orichalc, brass”, Syriac *plizzā* {not ⁺*pelzā*} “bronze, brass” (Ciancaglini 2008, 233). Syriac is a source of Arabic and Persian *filizz*, *filazz*, *fuluzz*, “ore, metal in general; a kind of white brass of which kettles are made, tin” (Steingass 1892, 937).

On the other hand, Brockelmann (1895, 288) connected Persian *piring* and Syriac ⁺*parnog* ‘cyprum’ [PsC 9 7], but it should be a ghost-word and the correct form was *piruzağ* “sapphire”, cf. also Arabic *fayrūzağ* id., *firūzağ* “turquoise-stone”, borrowed from Persian *pīrōza* “a turquoise, a kind of blue gem”, which was derived from Middle Persian ^Z*pylwc*, ^M*pyrwz* /*pērōz*/ “victorious” (Ciancaglini 2008, 233; it was already Nöldeke, who expressed his doubts about Syriac ⁺*parnog*, followed by Hübschmann 1895, 175).

Etymology:

The West Iranian forms are derivable from **BRinga-/ *BRingia-*, where *B = b* or *p* and *R = l* or *r*. There are two possibilities of deeper reconstruction: (i) The root-vowel was really **-i-*. In this case the reconstruction can be projected into the proto-Iranian level. (ii) Alternatively, West Iranian **BRinga-/ *BRingia-* is derivable from proto-Iranian **BRnga-/ *BRngia-*, cf. Middle Persian prt.pf.pass. *grypt*, *gryft*, Persian *giriŋtan* “to take, seize” vs. Avestan *gərəβnāiti* “grabs, seizes, takes” = Vedic *grbhñāti* (Hübschmann 1895, 145; Cheung 2007, 119–21; *EWAI* I, 505–06). Horn (l.c.) connected Persian *birinj* with unclear Young Avestan *bərəjūia-* in *parō.bərəjūia-*, epithet of *aoniia-* “oven” [Vd 8.86] (Bartholomae 1904, 859–60: adj. without any determined meaning). Bailey (1979, 314) interpreted *parō.bərəjūia-* as “food-roasting”. Mayrhofer (*EWAI* II, 278) admitted in the Avestan form a counterpart of Vedic *bhṛjjāti* “will roast”, projecting them into the common Indo-Iranian root **b^hrg-*. This root is compatible with the variant (ii) **BRnga-/ *BRngia-*, determining *B* as Indo-Iranian **b^h*. The semantic difference is also not insuperable. The Parthian verb *bry-*, derivable from the same root (the Iranian verbal stem **brjā-*), preserves a more archaic meaning “to burn” (Cheung 2007, 23), frequently used as a base for various metal-names.

IE: There are external parallels determining the primary root **b^hleg-* “to shine; burn” (Pokorny 1959, 124–25; Schirmer, *LIV* 86–87) or **b^hlejg-* “to shine” (Pokorny 1959, 156–57; Schirmer, *LIV* 89). The following forms, semantically closest to the Iranian metal-names, are derivable from both:

Germanic **blika-* or **blikka-* > Old Norse *blik* “leuchtender Glanz, Gold(blech)”; Old High German *bleh* n. (-*a/az/iz*-stem) gl. “Blech, Goldblech, Amulett, brattea, lamina, phylacterium”, German *Blech*, Middle Low German *ble(c)k* & *bli(c)k*, Middle Dutch *blec* & *blic* “Blech”, maybe the Old Saxon hapax *blekkot* gl. ‘laminis’, correctly perhaps **blekkon*, dat.pl. from **blek* “Blech” (*EWA* II, 171–174, 154) | Tocharian B acc. *pilke* “copper”, adj. *pilkešse* “pertaining to copper” (Pinault 2000, 95).

Note: Persian origin is also probable for the common European term “bronze” attested in almost all modern languages, namely Romance (Middle Latin [1313] *brundium*, [1335] *bronzum*; Italian [14th cent.] *brónzo* > Spanish [1522] *bronce*, French [16th cent.] *bronze*; Venetianish *bronz* > Friulish *brond*); Germanic (Italian > German *Bronze*; French > English [1721] *bronze*); Slavic (German > Czech, Polish *bronz*, Ukrainian, Russian *bronzá*; Italian > Serbo-Croatian [16th cent.] *brūnza*, [17th cent.] *bronca*, today *brōmza* f., *brōmzo* n., dim. *brūnac*), further Albanian *brunts*, Middle Greek *μροῦνζος* (Schrader & Nehring I, 268–69; Lokotsch 1927, 132–33, #1657; Meyer-Lübke 1935, #1113). The difference in vocalism between Persian *birinj* and the European counterparts has been explained as follows:

Skok (I, 217) thought about contamination of the Persian term and the name of the port Brindisi, Latin *Brundisium* (originally perhaps of Messapic origin), according to Pliny [XXXIII, 45/130²¹²] known by its factories for processing bronze.

Kluge (1999, 137) supposed the (unattested) role of Arabic in mediation of the borrowing from Persian into Italian.

Mancini (1992, 49) speculated about a Persian dialectism of the type ⁺*burunz*. At least an indirect witness of existence of a similar form may be identified in Azerbaijani [Azeri] *bürünž*, which itself is of Iranian origin. During the Crusades the term could have been brought into Europe.

bronze₂ – C

III. Pashto *žar*, *žer* “bronze, brass” (*ARS* 484; *RAS* 53, 300), from *žar* “yellow” (*ibid.*).

bronze₃ – D

III. Persian *tūj* “brass, mixed metal” (Steingass 1892, 333; Vullers 1855, 477: “metallum ex aere flavo arte paratum”); Kurdish Kurmanji *t’ūnj*, *t’ūj* “bronze, brass” (Cabolov 2, 419).

External loanwords:

Persian > Arabic *tūğ* “bronze, brass” (Steingass 1988, 194).

Borrowed from Turkic: Middle Turkish *tūč* [Mahmud of Kashgar, 11th cent.; ibn Muhannā, 14th cent] “yellow metal (bronze or messing)”, Qumanic *tuč* “bronze” [Codex Cumanicus], Modern Uyghur *tūč* “brass, light alloy of copper”, Osman Karaim *duč* “brass, bronze”, Osman Turkish *tunč*, *tūnj* “bronze, ore”, Azerbaijani *tūnj* “bronze” etc. (*TMEN* IV, 275, #2007; Räsänen 1969, 499; Clauson 1972, 449; Rybatzki 1994, 225–26; Mudrak: pTurkic **tūhč*). The Turkic forms are probably derived from Chinese 銅仔 *tóngzǐ*²¹³ *zǐ*²¹⁴ < Late Middle Chinese **thəwŋ-tsz’* < Early Middle Chinese **dəwŋ-tsi’/tsi’* (Pulleyblank 1991, 310, 420) ~ Middle Chinese **dōŋ-cji* (Starostin, *ChEDb*). It seems, Late Middle Chinese dated around 1000 CE is the most probable donor-language.

bronze₄ – D

III. Ossetic *bronzæ* (*ROS* 46) < Russian *brónza* id.

copper₁ (ore) – A

I. Old Avestan *aiiah-* n. “(ordeal) ore” [Y 30.7²¹⁵, 32.7²¹⁶, 51.9²¹⁷], Young Avestan *aiiah-* n.

212 *Atque ut omnia de speculis peragantur in hoc loco, optima aput maiores fuerant Brundisina, stagno et aere mixtis.*
<http://penelope.uchicago.edu/Thayer/L/Roman/Texts/Pliny_the_Elder/33*.html>
“However, to finish our description of mirrors on the present occasion – the best, in the times of our ancestors, were those of Brundisium, composed of a mixture of stannum and copper.”

Translated by John Bostock, & H.T. Riley

<<http://data.perseus.org/citations/urn:cts:latinLit:phi0978.phi001.perseus-eng1:33.45>>

213 Chinese 銅 *tóng* “copper, brass, bronze” < Middle Chinese **duŋ* < Late Postclassic Chinese **dwōŋ* < Middle & Early Postclassic Chinese **dōŋ* < Han Chinese **lōŋ* < Classic & Preclassic Old Chinese **Lōŋ* (*GSR* 1176 d; Pulleyblank 1991, 310; Yuan *thunj’* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “copper” vs. 彤 *tóng* “red” < Yuan *thunj’* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dawŋ*).

214 Chinese 仔 *zǐ* “to carry, burden, sustain”; 子 *zǐ* “son, child” < Middle Chinese **cji* < Postclassic Chinese **cji* < Eastern Han Chinese **cǰ* < Western Han Chinese **cə* < Classic & Preclassic Old Chinese **cə* (*GSR* 0964 k; Starostin, *ChEDb*; Pulleyblank 1991, 420; Late Middle Chinese **tsz’* < Early Middle Chinese **tsi’/’tsi’*).

215 *kəhrpəm utaiiūtīs dadāt armaitiš qnmā aēšqm tōi ā aṇhaṭ yaθā aiiaṇhā ādānāiš pouruiō*
“{But} if one comes to it {existence} with power, good thought, and truth, then stability grants form {to one’s body}, right/mindedness {grants} breath, so that through their {the Daevas’} being fettered in iron, {existence} will be Thy prime one.”

216 *aēšqm aēnaṇḥam naēcī vīduuā aojōi hādrōiā yā jōiā sṇghaitē yāiš srāuuī x’aēnā aiiaṇhā yaēšqm tū ahurā irix-təm mazdā vaēdištō ahī*

“I sincerely declare myself {to be} not to all conscious of any {instance of} such crimes which are called ‘by violence’, for which one becomes notorious by the {ordeal of} glowing metal, {and} for which Thou, O Wise Ahura, knowest best the net assets.”

217 *yqm xšnūtəm rānōibiiā dāθβā āθrā suxrā mazdā aiiaṇhā xšustā aibī ahuuāhū daxštəm dāuuōi rāšaiieṇhē drəguuantəm sauuiiō ašauuanəm*

“metal”, adj. *aiiaṅhaēna-*, compound *aiiō.xšusta-* “geschmolzenes Metall (Eisen)” (Bartholomae 1904, 159, 162) > II. Middle Persian *’γwxšyst /ayōxšist/* “metal” (*MPP* 6).

IA: Vedic *áyas-* n. “copper, bronze” [RV], “iron” [ŚB] (*EWAI* I, 104), Pali, Prakrit *aya-*, Sinhalese *ya-* “iron” (Turner 1966, #590).

IE: Latin *aes*, gen. *aeris* n. “copper, bronze, brass; money”, *a(h)ēnus* “made of bronze, brazen”; Umbrian abl.pl. *ahesnes* ‘aenis’, Oscan acc.pl.n. *αιζνιω* “made of bronze” (de Vaan 2008, 27–28) | Germanic **aiza-* n. > Gothic acc. *aiz* “money, metal coin”, *aiza-smiþa* “coppersmith”; Old Norse *eir* “bronze, ore, copper”, Old English *ār*, English *ore*, Old Saxon *ēr*, Middle Dutch *eer*, Old High German *ēr* “bronze, ore” (Kroonen 2013, 16), all from **H₂ej-os*, obl. **Hej-es^o* | ?Tocharian B *aise* “cooking pot” (Schmidt 1999, 99–100: **ajso-* *’object from metal’). A hypothetical Anatolian counterpart could be identified in the term *ašiu(m)* used by Old Assyrian merchants for iron, perhaps of meteoritic origin (*AHW* I, 80; *CDA* 28), which they purchased in Southeast Anatolia in the beginning of the 2nd mill. BC. (cf. Landsberger 1950, 331: equivalent of KÜ.AN in parallel texts; Ivanov 1983, 91). The term has no cognates within Semitic, so it is legitimate to expect its borrowing in the original area, i.e. in Anatolia. Taking into account the Akkadian historical phonology, the term *ašiu(m)* reflects the skeleton *√’/h-š-y* (the final *-m* represents the so-called *mimation*, originally serving as a determinative; the preceding *u* indicates the nom. sg.). The expected Anatolian counterpart of late (non-Anatolian) IE **ajos* : **ajes-* could look like **(h)ayas-* or **(h)ayis-*, differing from pre-Assyrian *√’/h-š-y* only in the order of the second and third consonants, explainable via metathesis in Assyrian caused perhaps in process of adoption. More probable is an assumption of monophthongization already in an Anatolian source. So for Luwian, the most probable source from the point of view of geography, the monophthongization is typical, e.g. Cuneiform Luwian *ās(sa)-* “mouth” is derivable from **ājas-* with regard to Hittite nom.-acc, sg. *ayis*, dat.-loc. sg. *issi* “mouth” (Puhvel 1–2, 15–17). The same process is known in Hittite too, e.g. *ā-ri* “is hot”, *ā-anta* “are hot”, part. *ā-nt-* “warm, hot” vs. *e-nu-*, *i-nu-* “to make hot”, *ay-is(s)-* “to become hot”. It is apparent that the sequence **aya* is contracted in **ā* (Puhvel 1–2, 10–12; Kümmel, *LIV* 229 derives it from the rather enigmatic root **H₁aj-*, while Kloekhorst 2008, 164–66 operates with **H₁eH₃i-* / **H₁H₃i-*, but the absence of the laryngeal in Hittite is easier explainable from the *o*-vocalism, cf. Hittite *āppa* “behind, back” vs. Greek *ἀπό* “(away) from”, *ὀπισθεν* “behind, at the back” < **H₂ep^o* / **H₂op^o* – see Kloekhorst 2008, 194). Related may also be Greek *ιαίνω* “I (make) warm; delight; heal”. The root **H₂ej-/H₂oj-* “to be warm” (cf. Lehmann 1986, 22) explains the *s*-stem **H₂ej-os* : **H₂oj-es-* “made in warmth” > “copper”, later levelled in **aj-es-*. A similar semantic development is identifiable in Baltic **uarja-* “copper” which is derivable from **uerH₁-* “to burn, cook” (Kümmel, *LIV* 689; Pokorny 1959, 1166). The semantic difference between the meanings of *ašiu(m)* “iron” and late IE **ajes-* “copper (ore)” has analogy e.g. in Vedic, where the continuant of the same etymon, *áyas-*, meant originally “copper” and only later “iron” (Blažek 2010, 97–98). It is necessary to mention that iron-metallurgy probably developed in Anatolia and was first spread into neighbouring regions.

copper₂ – A

II. Middle Persian *lwd /rōy/* “copper, brass”, *lwdyn* [*ūyēn*] “{made of} copper, brazen” (MacKenzie 1971, 72), *’rwy /rōy/* “copper, brass”, adj. *rwyn* & *r’wyn /rōyēn/* “of copper” (*MPP* 303); Parthian *’rwd /rōδ/* “copper” (*MPP* 299);

Sogdian (Gharib 1995): *’rwd /rōδ/* “copper, brass” (#8568), *’rwdyn’k /rodēnē/* “(of) brass” (#8568), *’rwdynch /rodēnč/* f. “(of) brass” (#8569), *’rwdny(y) /rodnē/*, acc. *rwδnw*, pl. *rwδnyt* “(of) brass, (of) copper, brazen” (#8567) = *’rwdny* “made of copper, brazen” (*MSB* 169);

“Which satisfaction Thou apportionest by means of Thy red fire, according to balance, O Wise One, {by the ordeal} with molten **metal**, make that clear in {our} vital energies. To harm the deceitful one, Thou dost benefit the truthful one.”

[Translated by Humbach 1991]

III. Classical Persian *rôy* “aes vel stannum fusum” (Vullers 1864, 81), Modern Persian *ruy* “tin, bronze, brass” (*PDW* 371); Baluchi *rōd* “copper” (Horn 1893, 141, #635; Korn 2005, 378). Further Parachi *rū*, Ormuri *rō* “iron” (Morgenstierne 1929, 283).

External loanwords:

Parthian > Armenian *aroyr*, gen. *arowr* “brass” (Hübschmann 1897, 111, #76; Olsen 1999, 869) > Georgian *rvali* “copper, brass” (Martirosyan 2010, 716).

?Alanic **rauðja-?* > Hungarian *réz*, acc. *rezet* “copper”, similar to Daghestanian: Avar *rez* id. (Munkácsi 1901, 527, #304; *EWU* 1263; Katz 2003, 259), perhaps in contamination with Alanic predecessor of Ossetic *ærzæt* “ore” (Abaev I, 187–88) < **arzaθa-* (*ESIJ* 1, 231).

IA: Vedic *lohá-*²¹⁸ adj. “red, copper-coloured” [ŚrS], “made of copper” [ŚBr], m.n. “copper” [VS], “iron” [MBh], Pali *lōha-* “metal”, esp. “copper or bronze”, Prakrit *lōha-* “iron”, Gypsy *loa* “steel”, Sindhi *lohu* “iron”, Lahnda, Pañjabi *lohā*, Hindi *loh(ā)*, Oriya *lohā*, *luhā*, Assamese, Bengalese *lo* “iron”, Sinhalese *loho*, *lō* “metal, ore, iron”, Maldivian *ratu-lō* “copper” etc.; Dardic: Khowar *loh* “copper”; Nuristani: Waigali *loa* “steel” (Turner 1966, #11158; *EWAI* II, 484–85: Indo-Iranian **(H)rauðh-á-* < **H₁rouðh(o)-* “red metal”).

Etymology:

IE: Latin *raudus* [Lucil.], *rudus*, *rōdus*, *roudus* [Paul. ex. F.] “coins from bronze; rough piece, lump”; the varying vocalism and irregular reflex of **-d^h-* indicate a borrowing²¹⁹ (de Vaan 2008, 515) | Germanic **raudan-* > Old Norse *raudī* “red iron ore” > Finnish *rauta* “iron” | Slavic: Old Church Slavonic *ruda* “ore, metal” all from the root **H₁reudh-* “to be red”²²⁰ (Wodtko, *NIL* 580–84; Witzak 2000, 184). The relation to Sumerian URUDA/URUDU/URUD “copper, metal” (Halloran 2006, 303) remains open. Akkadian *erū(m)* “copper, bronze” has also been sometimes taken in account, but in Old Akkadian the more archaic forms *werūm* & *werium* (*AHw* 1495–96; *CDA* 438) were recorded, indicating a connection with Arabic *wariya* “to burn, blaze” (Steingass 1988, 1209). For this reason it cannot be derived from the Sumerian metal-name, as Zimmern (1915, 59) judged.

copper₃ – C

II. Khotanese *śā* “copper” (= Buddhist Sanskrit *tāmra-*, Tibetan *zaṅs*), *śāva-* “copper”, adj. “copper-coloured, red”.

Etymology:

Derived from the Iranian designation of the dark colour: Avestan *siiāuuā-*, Middle Persian ^M*sy*’w [syāw], ^Z*syd*’ [syā]. Persian *siyāh*, Middle Parthian of Turfan *sy*’w(g), Armenian lw. *sea*, gen. *seuoy*, Sogdian ^{Bš}’w, Yaghnobi *šōw*, Khwarezmian *s*’w, Ossetic Digor, Iron *sau* “black”, cf. Iron *sau st’ælf* “dark star”, Sanglechi *šūi*, Wakhi *šū*, *šū*, *šū* “black”, etc., further an Iranian loan in Khowar *šā*, and finally Vedic *śyāvā-* (Bailey 1979, 396, 397, 398; cf. Pokorny 1959, 540–41: IE **k₁ieṷ-*).

218 Huld (2012, 333) speculates about the possibility that Vedic *lohá-* “copper” is a calque on Iranian **rauda-*.

219 E.g. Kretschmer (1898, 212) speculated about Gaulish as a source. There are really several Continental Celtic proper names derived from **raudo-*: *Paūda* – city of Vaccaei on the Duero in Old Castilia [Ptolemy, 2.6.49]; *Citra Alpis in campis, quibus nomen erat Raudiis* in North Italy [Vell. 2.12.5] etc. (Holder II, 1083–84).

220 Vedic *rōhita-* = Avestan *raoiðita-* “red, reddish”, *rudhirá-* “red; bloody”, Khotanese *rrusta-* “red” = Sanskrit *loṣṭa-* n. “rust of iron” [lex.] | Mycenaean *e-ru-to-ro* [erut^hros], *e-ru-ta-ra* [erut^hrā] Greek ἐρυθρός “red” [II.], ἐρυθρός n. “redness” [Hp.] | Italic **roupo-* > Latin *rūfus* “red(-haired), tawny” [Plautus], Umbrian acc.pl.m./f. *rofu/rofa* id., besides **rupro-* > Latin [Ennius] *ruber* “red”, Umbrian acc.pl.m./f. *rufu/rufra* id. | Celtic **roudo-* > Old Irish *riúad*, Old Welsh *rud*, Welsh *rhudd*, Cornish, Old Breton *rud*, Breton *ruz* “red”; Gaulish PN *Roudus*, *Ande-roudus* | **rauda-* > Gothic *raups*, Old Norse *raudr*, Old English *rēad*, Old Saxon *rōd*, Old High German *rōt* “red”; **reuda-* > Gothic *ga-riups* “honorable”, Old Norse *rjōðr*, ags. *rēod* “red” | Lithuanian *raūdas* = Latvian *raūds* “reddish brown”; Lithuanian *rūdas* “brown-red” = Latvian *ruds* “reddish” | pre-Slavic **roud^ho-* > Old Czech *rudý*, Old Polish *rudý*, Russian dial. *rudój* “red”; **rud^hro-* > Russian-Church Slavonic *ръдръ* “gold-yellow”, Croatian *rdar*, Old Russian *redryj* “red(-yellow)”, besides Old Church Slavonic *ръдѣти се* “to blush, sich rōten” (Šarapatková, *ESJS* 13, 781–82, 788) | Tocharian A *rār*, B *ratre* “red”, A *rār-ārkyant* “red and white” (Pokorny 1959, 872–73).

copper₄ – C

III. Sangisari *zâ* “red copper” (DS 419).

Etymology:

Maybe related to Young Avestan *zaiia-* “weapon; tool, instrument” [e.g. Yt 10.132²²¹], adopted in Middle Persian *ʒydȳ /zay/* “weapon, instrument” (MacKenzie 1971, 98) and continuing in Classical Persian *zāi* “weapon” (Horn 1893, 301).

Note: The semantic shift from names of weapons to names of metals is not unique. There are several illustrative cases realized in the process of borrowing:

(i) Middle Persian *ʒpwl'p̄t /pōlāwad/* (MacKenzie 1971, 69; Nyberg 1974, 162), *ʒpwl'wd /pōlāwad/* “steel” (MPP 286) > Armenian *polopat, polovat* “steel” (Hübschmann 1897, 231–32, #547) – borrowed from a source of the type Vedic *pāvīravat-* [RV, VS] or *pavīrávat-* [AV] “armed with lance or a goad”, the adj. formed from the noun *pavīra* [Nir] “a weapon with a metallic point; lance, spear” (Korš 1912 apud Reichelt 1913[1914], 74; Schrader & Nehring II, 444), which itself is a derivative of *pavī-* m. “metallic point of a spear or arrow; tire of a wheel, esp. a golden tire on the chariot of the Aśvins and Maruts” [RV, AitĀr] (MW 611; EWAI II, 107).

(ii) Mordvinian Erzya *kšni, kšne*, Moksha *kšni* “iron” < **kərthā* (Keresztes 1986, 69) | Mari KB *kərthi*, U B *kürtñö* id. < **kürtñā* (Berezcki 1992, 25, #134) | Udmurt *kort*, Komi *kert* “(of) iron”; Permian > Ob-Ugric: Mansi N *kēr*, Khanty *kárt(ə)* “iron” (UEW 653: Volgaic-Permian **kärtz*). All < Iranian: Young Avestan *karəti-* “knife”, Middle Persian *ʒk'lt /kārd/* id., Classical Persian *kārd* id. (MacKenzie 1971, 49), Baluchi *kārč* “knife” < **kārti°*, Kurdish *kêr(d)*; Sogdian *krt*, Yaghnobi *kort* id.; Khwarezmian *krc* id. < **kartijā-*; Pashto *čārə* “large knife, dagger” (NEVP 21); Yidgha *keṛo* “knife”, Sanglechi *kīl, kēl*, Wakhi *kōž* id.; Ossetic *kard* “knife, sword”, besides *kærdin* “to cut”. Tocharian B *kertte* “sword” is also of Iranian origin, similar to later loanwords in Mari *kérde* “sabre” and Hungarian *kard* “sword” (Joki 1973, 273, #62; KESK 142; ESIJ 4, 314–16).

copper₅ – C

III. Ossetic Iron *ærx'i* (ROS 245), Digor *ærx* id. (Abaev I, 186).

External loanwords:

FU: Mari P B M UJ *vüryehe*, K *wəryeñə* “copper” < pMari **würyeñā* with *w-* after Mari B *wür* “blood” (Berezcki 1992, 90, #490) | Permian **ürgen* > Udmurt *irgon*, Komi *irgen* “copper” (KESK 329) > Mansi KU *äryən*, So. *äryin* id. (UEW 628: Mari-Permian **üryənz*). Their source could be a hypothetical Sarmatian adj. **ærxwinæ-* < **xruina-* “bloody {metal}”. Joki (1962, 150–53) offered an alternative hypothesis: an adoption of Sogdian *wyrn /yxwrn /γwrn* etc. [*wuxrn*] “blood” (Gharib 1995, #10016). The semantic motivation would be the same, but the phonetic closeness is higher.

Etymology:

Sköld (1925, 8) explained the term as the “metal of a bloody colour” from Iranian **xrū-* “blood”, cf. Young Avestan *xrū-* “blutiges, rohes Fleisch”, Old Avestan *xrūniia-* “Bluttat, blutige Misshandlung” (Bartholomae 1904, 539). Abaev (I, 186) accepted the phonetic side of this solution, but expressed doubts concerning semantics. But Cowgill (1986, 68, fn. 10), followed by de Bernardo Stempel (1987, 120–21; 1992, 93–94), interpret the Celto-Germanic isogloss **isarno-* “iron” < **(H)ēsH₂-no-* as a derivative of **(H)ēsH₂-* “blood”, i.e. “bloody metal”. If this solution is correct, the Germanic forms should have been borrowed from Celtic, because the Germanic continuant **isurno-* would be expected.

221 *hištaite aom vāṣahe miṅrahe vouru.gaoiiaoitōiš vazrəm srīrəm huniuixtəm sataṣtānəm satō.dārəm frauuaēyəm vīrō.niāncim zarōiš aiianhō frahixtəm amauuatō zaraniehe amauuastəməm zaiianqm vərəṅrauuastəməm zaiianqm* “Es befindet sich dort im Wagen des weite Fluren besitzenden Miθra die schöne gutgeschwungene Keule mit {ihren} hundert Buckeln {und} hundert Schneiden, {die} anprallend auf die Krieger niederstürzt, aus gelbem Metall gegossen, aus festem goldenem, die festeste der **Waffen**, die sieghafteste der **Waffen**” [Translated by Fritz Wolff].

copper₆ – D?

III. Classical Persian *mis* “copper”, *misīn* “made of copper” (Steingass 1892, 1224, 1241; Vullers 1864, 1174: “aes, cuprum”) = Modern Persian *mes* “(red) copper” (PDW 712).

Internal borrowings:

Persian > Mazanderani, Baluchi, Kurdish *mis* (Geiger 1892, 455, #166); Pashto *mis* (RAS 321), Parachi *mes*, Yidgha, Sarikoli *mis* “brass” (Morgenstierne 1938, 10*), Shughni *mis* (RŠS 108), Wakhi *mis* (VJa 221) “copper”, but by Morgenstierne “brass”. Geiger (1892, 455, #166) also mentioned Ghilaki *mirs* (Melgounof 1868, 198) and Yidgha *mirs* id. (Biddulph). Rybatzki (1994, 217) thinks that these forms are of North Caucasian origin: Avar *maχ* “iron, ploughshare” > Lak *maχ* (*muχ:a-*) “iron”, besides inherited *muḥ* “sickle” | Proto-Dargwa **meχ* > Akusha *meh* “iron”, Chiragh *mex* “iron, horseshoe”, Dargwa dialects: Kadar *mih*, Kubachi *miχ*, Tsudakhar *mex* “iron”, Urakhi *mirh*, Kaitag *meh* “iron; lock” (NCED 815). The only example with an unclear medial *-r-*, Urakhi *mirh*, may be explained from influence of Urakhi *murhi* “gold” (NCED 840). On the other hand, if Persian *mis* and its counterparts of the type Ghilaki and Yidgha *mirs* are really of Turkic origin, this *-r-* (if it is not only a mistaken record), should be explained from Turkic too. First of all, it is necessary to assume the metathesis analogical to Persian *ars*, Baluchi *als* “tear” vs. Avestan *asru-* id. (Geiger 1892, 400). The hypothetical predecessor of the *r*-forms, **mis-ir* (?), should be extended by the same suffix, which was analyzed in Common Turkic **bak-ir* “copper” vs. Balkar *bak-* “ausbereitetes Erz” or Salar *kaη-ur / -ur* “steel” vs. *kaη* id. < Chinese 鋼 *gāng* “steel, cast iron” < Middle Chinese **kâŋ* (Rybatzki 1994, 221).

External loanwords:

Dardic: Pashai *mis/məs/mes*, Dameli, Gawar-Bati, Khovar, Phalura, Tirahi *mis*, Tregumi *mīs*, Katarqala *mesīn* “copper” < Persian or Pashto *mis* “copper” (Fussman 1972, 129).

Daghestanian/Lezghian: Tsaxur, Kryts, Budux, Udin, Xinalug *mis* “copper” < Azerbaijani *mis* “copper” (Klimov & Xalilov 2003, 149).

Etymology:

In the Persian term and its Turkic counterparts (see below) Schrader & Nehring (I, 269) saw a source for such West Germanic forms as Middle High German *messe*, Swiss dial. *moesch*, Middle High German *messinc*, Middle Low German *messink* (> Late Old Norse *messing* – see de Vries 1962, 385), Old English *mæs(t)ling*, *mæslen*, perhaps via their West Slavic counterparts as Kashubic *mosoq* & *mosoż*, Polish *mosiqdz* (> Belorussian *mosenz*, Ukrainian *mosjáz*), Upper Sorbian *mosaz*, Lower Sorbian *mósez*, Czech *mosaz*, Slovak *mosadz*. But the West Slavic forms are apparently borrowed from the West Germanic form reconstructible as **massing*, while the most probable source of the West Germanic forms seems to be the ethnonym *Mossynoeci*²²² from northeastern Asia Minor, famous for their mastery of working this alloy according to Pseudo-Aristotle (cf. Kluge & Seebold 1999, 555).

Let us analyze the corresponding Turkic forms: Chaghatai *mis*, Turkmenian *mīs*, Uzbek *mis* & dial. (Bukhara) *miš*, New Uyghur & Taranchi *mis* “copper”, New Uyghur from Turfan also *mīs* “copper”, *mīskärčī* “copper-smith” (Le Coq 1910, 98), Kazakh & Karakalpak *mys* “copper” (the back *y* is strange), Kazañ Tatar *bəs* “brass with patina” (Räsänen 1969, 339; Rybatzki 1994, 217). Although they are not attested in Middle or Old Turkic texts, with respect to their geographical dispersion they can reflect an old lexeme. With respect to the tendency *b-* > *m-* (e.g. Baraba Tatar *murut*, Turkmenian & Kazakh *murt* vs. Chaghatai, New Uyghur, Taranchi *burut* “Schnurrbart”, all from **bur-* “drehen” – see Räsänen 1969, 90), it is legitimate to think about primary **b-*. This conclusion determines the vector of borrowing as Turkic > Persian and not vice versa. The Com-

222 (Pseudo-)Aristotle, *De mirabilibus auscultationibus*, Oxford: Clarendon Press 1909, §62: φασί τὸν Μοσύνοικον χαλκὸν λαμπρότατον καὶ λευκότατον εἶναι οὗ παραμυγνυμένου αὐτῷ κασσιτέρου ἀλλὰ γῆς τινοῦ γινομένης συνευομένης αὐτῷ “Men say that the copper of the Mossynoeci is very brilliant and white, no tin being mixed with it; but there is a kind of earth there, which is smelted with it.”

[translated by J.A. Smith & W.D. Ross]

mon Turkic protoform **bīs*²²³ is explainable as an adaptation of Tocharian A *wās* sg.m. “gold”, maybe in its more archaic form **wīās* with respect to Tocharian B *yasa* and Common Tocharian **wīāsā* (Adams 2013, 524–25), originally perhaps (also) “copper”. The anticipated substitution of Tocharian A *w-* by Turkic **b-* has analogy e.g. in Kazan Tatar *bizmān*, Kumyk, Balkar-Karachai *bazman* “weighing machine, balance” < Persian pl. *vazn-ān* < Arabic *wazn* id. (Räsänen 1969, 73).

It is possible to propose several alternative solutions:

(i) Akkadian source represented by the participle *mesû(m)*²²⁴, Assyrian *masiu(m)*, *mas’um* “washed, purified” (from the verb *mesû(m)*, Assyrian *masā’u(m)* “to wash, purify”), used for various metals, including “copper”: *me-su-ú*, glossed by Sumerian URUD-ĤU-LUĤ-ĤA “purified copper” (Halloran 2006, 303), Old Assyrian *eriam ma-si-am*, Nuzi *erû me-sú-ú* “purified copper” (AHw 647). Given the big chronological interval, how this word was borrowed through time remains to be explained (the distance between the neighbours Persia and Mesopotamia is insignificant).

(ii) Elamite source attested in New Elamite *mašip* “zinc” (EW 894), where the final *-p* may be interpreted as the plural suffix. The different metals “copper” and “zinc” are compatible in their common alloy, “brass”. And so only the question of the different root vowels remains to be explained.

(iii) Indo-Aryan origin on the basis of such forms as Sanskrit *māṣa-* m. “weight of gold” [Mn], “a copper coin” [Kaut], Gujarati *māṣo* “a weight of gold” (Turner 1966, 10098). From the point of view of semantics it is acceptable, but the substitution of the root vowel *ā* by *i* remains unexplained.

copper₇ – D

III. Baluchi *trāmā*, *trāmā* id. < Sindhi *trāmo*, Lahnda *trāmā* “copper” etc., all from Sanskrit *tāmra-* adj. “dark red; copper-coloured” [VS], n. “copper” [Kauś], the *vṛddhi*-formation from Vedic [RV 10.73.5] *tamrā-* “dark” (EWAI I, 627, 642; Turner 1966, ##5694, 5779; Gilbertson 1925, 147; Baluchi < Hindi *tāmra*, correctly *tāmṛā* “copper-coloured, dark red”).

copper₈ – D

III. Persian *šufr* “copper, brass” (Steingass 1892, 789), Kurdish *sifir* “copper” < Arabic *šifr* & *šufr* “yellow copper, bronze, gold” (Cabolov 2, 255; Steingass 1988, 584) and Hebrew *sēper* (HAL 767) < Akkadian *siparru(m)*, Nuzi *siperru* “bronze” < Sumerian ZABAR “bronze” (Zimmer 1915, 59; CDA 324; Halloran 2006, 309; ZI, ZE₂ “to cut, pare” + BAR “bright”).

copper₉ – D

III. Kurdish *pāxir/l*, *pāyir* “copper” < Azerbaijani *paxyr*, Turkish *baqyr* id. (Cabolov 2, 105; Rybatzki 1994, 220; Joki 1952, 80 and Räsänen 1969, 58 quote as a source doubtful Persian *baḥyr* “copper”).

copper₁₀ – D

III. Pashto *tāmba* (RAS 321) < Dardic: Phalura *tāmba*, Shina *tāmbā* “copper”, besides Prakrit *tāmba-*, Pali *tamba-* “red”, n. “copper” < Sanskrit *tāmra-* adj. “dark red; copper-coloured” [VS], n. “copper” [Kauś], the *vṛddhi*-formation from Vedic [RV 10.73.5] *tamrā-* “dark” (Turner 1966, #5779).

223 Concerning the vocalism, cf. Common Turkic **gūr-* “to enter”, reconstructed on the basis of Turkmenian *gūr-*, Uyghur *kir-*, Kazan Tatar *kər-* (Räsänen 1969, 271; EDAL 825).

224 It is tempting to identify the Akkadian source of the type *mēsu* “(Wasch?-)Gold” (AHw 647) also in the Dagheshanian designation of “gold”: Avar-Andian **mis[ur]-di* “gold” (**-di* is the adjectival suffix) > Avar *meséd*, Chada-kolob *mešéd*, Andi *misidi*, Akhvakh *mišidi*, Chamalal *misud*, Tindi *miseji*, Karata *mesed*, Botlikh *misidi*, Bagvalal *meser*, Godoberi *misidi*; Archi *misərttu* id. may reflect the more archaic form **miser-dV* | Lak *musi* id. | Dargwa **mursi* “gold” > Akusha *murhi*, Chiragh *muse*, Dargwa of Kubach *mute*, Urakhi *murhi*, Tsudakhar *mursi* / *musi* id. (Nikolaev & Starostin in NCED 840 reconstruct **mVlsē*, but the protoform **misur-* with the frozen plural suffix **-r-* seems more adequate).

copper₁₁ – D

III. Pashto (East) *taṭ*; cf. *taṭār* “coppersmith” (*ARS* 273; *RAS* 321), further Baluchi *taṭārā* “copper-smith” < IA: Sanskrit **thaṭṭha-* “brass”, reconstructed on the basis of Nepali *ṭhaṭṭar* “an alloy of copper and bell metal”, and Sindhi *ṭhāṭhāro* “brass worker” < Prakrit *ṭhaṭṭhāra-* < **ṭhaṭṭhakāra-* (Turner 1966, ##5491, 5493; Gilbertson 1925, 147: Baluchi < Sindhi).

copper₁₂ – D

III. Yidgha *loh* “copper” < Khowar *loh* “copper” (Morgenstierne 1938, 255; Turner 1966, #11158).

gold₁ – A

I. Avestan *zarañiia-* n. “gold” [e.g. Yt. 5.129²²⁵; 17.14²²⁶; Vd 8.87²²⁷, 14.11²²⁸], with variant *zarōna-* n. [Az 4²²⁹], adj. *zaranaēna-* [Yt. 5.123²³⁰] & *zarañiia-* [Yt. 5.78] “golden”, in compounds e.g. *zarənu-mani-* “with golden necklace” [Yt 14.33] (Bartholomae 1904, 1678–80, 1683;

Old Persian *daraniya-* n. “gold” [DSf 35–36²³¹];

Median **zarnamaniā* “with golden necklace”, **zarnakara-* “goldsmith”, reconstructed according to Elamite transcription of the woman’s name *Za-ir-na-ma-nu-ya* (= Avestan *zarənu-maini-*) and the term *za-ir-na-qa-ra* respectively (Hinz 1975, 277);

Scythian Ζαρίνα²³² ‘queen of Sacae²³³’ [Ktesias: *Persica*, fragment mediated by Diodorus Siculus, 2.34] = Ζαριναία [Nicolaus of Damascus] (Justi 1895, 382);

225 *yaθa kərətəm θbarštāi zrūne carəmə vāēnañtō brāzənta frəna ərazatəm zaranim.* “Bei richtiger Bereitung zur vorgeschriebenen Zeit strahlen die Felle auf die Beschauer Silber und **Gold**(glanz) in Fülle...”

226 *aēšqm ərazatəm zaranim nibərəθi ābərətā baraiti aiβitarābiiō haca danhubiiō vastrāasca kəšā bāmaniuuā.* “Ihnen schafft Silber {und} **Gold** der Schaffner in die Kammer und aus fremden Ländern prunkvoll gefertigte Kleider...”

227 *yō ātrəm pisraṭ haca zarahiiō.saēpāt* “Wenn einer aus der Schweißle, {worin} **Gold** geschweißt wird, Feuer {hinbringt}”

228 *kastrəm paitiš.hərəzəm vərəzaiiañtəm hakərət ərazatəm hakərət zaranim: dātarə gaēθanəm astuuaitinəm ašāum cuuaṭ yauuaṭ ərazatəm: āaṭ mraoṭ ahurō mazdā yaθa aspəhe aršnō pəraska dātarə gaēθanəm astuuaitinəm ašāum cuuaṭ yauuaṭ zaranim: āaṭ mraoṭ ahurō mazdā: yaθa uštrahe aršnō pəraska.*

“Einen Spaten {soll er} gießen für den wektätigen {Bauern}, ein Teil Silber, ein Teil **Gold**. ‘O Schöpfer {der stofflichen Welt, ašəhrwürdiger!} Wieviel Silber?’ Da sagte Ahura Mazda: ‘{Soviel} als der Wert eines Roßhengstes {ist}.’ ‘O Schöpfer {der stofflichen Welt, ašəhrwürdiger!} Wieviel **Gold**?’ Da sagte Ahura Mazda: ‘{Soviel} als der Wert eines Kamelhengstes {ist}.’”

229 *uruuaθō bauuāhi yazatanəm yaθa zarōnəm mašiiānəm* “Sei den Yazata so lieb, wie es das **Gold** den Menschen.” The vowel *a* was occasionally replaced by *ō* (Hoffmann & Forssman 1996, 64, §33).

230 *zaranaēnəm paiti dānəm vajuhi hištaite dražimnō arəduuī sūra anāhita zaθre vācim paitišmarəna auuaṭ manayha mainimna* “Das **goldene** Brusttuch haltend, steht die gute da, die gewaltige makellose Arədvī, sich nach der Stimme des Zaotar sehnd, folgendes im Sinne sinnend...” [Translated by Fritz Wolff 1910].

231 *daraniyam hacā Spardā utā hacā Bāxtriyā ābariya taya idā akariya* “The **gold**, which was made (worked) here, was brought from Sardis and Bactria.” [Skjærvø 2002, 85]

232 Βασιλεύσαι δὲ τότε τῶν Σακῶν γυναικαὶ τὰ κατὰ πόλεμον ἐζηλωκυῖαν καὶ τόλμη τε καὶ πράξει πολὺ διαφέρουσαν τῶν ἐν Σάκαις γυναικῶν, ὄνομα Ζαρίναν. “At that time the Sacae were ruled by a woman named **Zarina**, who was devoted to warfare and was in daring and efficiency by far the foremost of the women of the Sacae.” [Translated by C. H. Oldfather]

[http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Diodorus_Siculus/2A*.html]

“At that time a woman named **Zarinaia** ruled over the Saka who, admirable in matters of war, was far superior to the other women of the Saka in boldness and action.” [Translated by Nichols 2008, 78].

233 According to the witness of Herodotus [7.64], for the Persians the ethnonym *Sacae* was also used for Scythians: Σάκαι δὲ οἱ Σκύθαι περὶ μὲν τῆσι κεφαλῆσι κυρβασίας ἐς ὄξυ ἀπηγμένους ὀρθὰς εἶχον πεπηγυίας, ἀναξυρίδας δὲ ἐνεδεδύκεσαν, τόξα δὲ ἐπιχώρια καὶ ἐγχειρίδια, πρὸς δὲ καὶ ἀξίνας σαγάρις εἶχον. τοῦτους δὲ ἐόντας Σκύθας Ἀμυργίους Σάκας ἐκάλεον: οἱ γὰρ Πέρσαι πάντας τοὺς Σκύθας καλέουσι Σάκας.

[<http://data.perseus.org/citations/urn:cts:greekLit:tlg0016.tlg001.perseus-grc1:7.64.2>]

“The Sacae, who are Scythians, had on their heads tall caps, erect and stiff and tapering to a point; they wore trousers, and carried their native bows, and daggers, and also axes which they call “sagaris.” These were Amyrgian Scythians, but were called Sacae; that is the Persian name for all Scythians.”

[Translated by A.D. Godley]

[<http://data.perseus.org/citations/urn:cts:greekLit:tlg0016.tlg001.perseus-eng1:7.64.2>]

Sarmatian ζῖρν²³⁴ “ransom” [Lukianos: *Toxaris vel Amicitia*], originally probably *zarin “golden” (Abaev 1979, 310).

II. Middle Persian ^{Mzr}235 /zarr/ (MPP 384), Zoroastrian Pahlavi ZHB’ /zarr/, adj. ^{Zzlyn} /zarrēn/ (Nyberg 1974, 229–30), Parthian zrn /zarn/ “gold”, adj. zrnyn /zarnēn/ “golden” (MPP 384; Korn 2005, 380), plus Armenian lw. zarnavuxt “seiden”, originally “golddurchwebt” (Hübschmann 1897, 149–50, #227; Sogdian (Gharib 1995): ^{Mszyrn} /zirn / zern/ “gold” [#11566] = (MS 235) < *zarnya-, ^{Chzyn} /zīn / zēn/ “gold” [#11544], ^{Bzyrnyn’k} / ^{Bzyrnynyy} / ^{Bzyrn’yn’y} /zirnēnē/ “golden” [#11576], ^{Bzyrnync} / ^{Bzyrnynch} /zirnēnč/ f. “golden” [#11577]; Bactrian ζαρο “gold” < *zar(a) nya-, adj. ζαριγγο “golden” < *zar(a)naina-ka- (Sims-Williams 2007, 211); Khwarezmian zrnny, zn- (Benzing 1983, 717, 715); Khotanese ysīrra- “gold” (= Buddhist Sanskrit hema-, Tibetan gser) < *zīrna < *zarnīa- < *zaranīa- (Bailey 1979, 352–53);

III. Persian n. zarr, adj. zarrēn (Northwest Iranian loans), Sangisari zar (DS), Kurdish zêr (RKS 224), Ossetic Digor zæri(j)næ, Iron zærin “gold” < *zaraina- < *žaranaina-, frequently in compound: Iron syzærin/syžærin, Digor sužærinæ “gold(en) < *suž(da)-zaraina- < *suxta-žaranīa- “burnt gold”, cf. Iron syyd, Digor suyd “burnt, scorched” < *suxta-, cf. Avestan °suxta- (Bailey 1974, 370; Abaev III, 188), while Abaev (III, 190) reconstructed the primary compound *suxra-žaranīa- “red-golden”; Pashto sræzār “gold” : sūr “red”, zarin “golden” (RAS 228, 288), ziyar “brass”, Ormuri sūr-zār “gold” (Morgenstierne 1938, 26*).

Internal loanwords:

Baluchi zarr (but Baluchi of Makran zar “silver” (LSI X, 436), Yagnobi zar (Novák 2010, 203), Parachi zar “gold” (Morgenstierne 1929, 303: < Persian), Shughni zar(-at nax) (RŠS 81), Yidgha zer id. (Rybatzki 1994, 198).

External loanwords:

FU: Volgaic *serñä > Mordvinian *sīrñä (Keresztes 1986, 143): Erzya sīrñe, Moksha sīrñe “gold”, besides the derivatives in Moksha sīrñā, šeřāñ “copper, brass, silver” and perhaps a younger loan seře, šeře “copper, brass” | Mari K šörtñā “gold” (Bereczki 1992, 93) | pre-Permic *serñz-/*sarñz > Udmurt-Komi zarñi id. > Khanty DN sorñä, Mansi KU surāñ “gold” | Ugric *θaraña > Hungarian arany (1075 CE: acc. aranijat) “gold; money”; Mansi tarēñ, tarñe “copper”, Khanty V lōrñz “copper”, Vj. jorñi “copper, brass” (Joki 1973, 250, #8; UEW 843; EWU 44).

Persian > Turkic: Chaghatai zār “gold”, Turkish zer “gold; money, coin of any kind; yellow; light skinned”, Azerbaijani zār “gold”, Turkmenian zer “gold, golden”, Uzbek zar “gold”, New Uyghur zer “gold”, Tatar, Bashkir zār id., Kumyk zer, Kazakh, Kirgiz, Karakalpak zer “gold” (Rybatzki 1994, 198).

Baluchi > Brahui zar(r) “gold, money” (Bray apud Rybatzki 1994, 198).

Etymology:

The Indo-European designations of “gold” of this origin may be arranged according to derivational suffixes:

*ǵ^hlH₃-nīo- > Avestan zaranīia-, Old Persian daraniya- “gold”; Vedic hīraṇya-;

*ǵ^hlH₃-nūo- > Greek χλουνός · χρυσός [Hesychius];

*ǵ^hlH₃-to- > Germanic *gulpa-/*gulda- “gold” (Kroonen 2013, 194);

*ǵelH₃-to- > Latvian zēlts “gold”, East Lithuanian želtas “golden”;

*ǵolH₃-to- > Slavic *zolto “gold”.

234 καὶ οἱ μὲν Σαυρομάται διηρμένοι τοὺς ἄκοντας ὤρμησαν ἐπ’ αὐτὸν ὡς κατακεντήσοντες, ὁ δὲ ἐβόα τὸ ‘Ζῖρν.’ τοῦτο δὲ ἦν τις εἴπη, οὐκέτι φονεύεται ὑπ’ αὐτῶν, ἀλλὰ δέχονται αὐτὸν ὡς ἐπὶ λύτροις ἤκοντα.

[<http://data.perseus.org/texts/urn:cts:greekLit:tlg0062.tlg044.perseus-grc1>]

“The Sauromatae rushed upon him, and were about to transfix him with their raised javelins, when he raised the cry of *zīrin*. The man who pronounces that word is safe from their weapons: it indicates that he is the bearer of ransom, and he is received accordingly.”

[Translated by H. W. Fowler & F. G. Fowler; see <<http://www.sacred-texts.com/cla/luc/w13/w1305.htm>>].

235 Initial z- instead of expected *d- indicates a Northwest Iranian loan.

All from the root attested in Young Avestan *zari-* “yellow(ish), gold-coloured” [Yt 10.96²³⁶], Khotanese *ysar-* “to be reddish, yellow”; Vedic *hári-* “golden, yellow”, all from **ǵ^helH₃i-* or **ǵ^holH₃i-* (Bartholomae 1904, 1680; Bailey 1974, 370–73; 1979, 346; *EWAI* II, 805–06; Pokorny 1959, 429–33).

The laryngeal **H₃* is reconstructed on the basis of Greek *χλωρός* “right green, pale green, green-yellow, yellowish, pale” < **ǵ^hlH₃-ró-* (Beekes 2010, 1638–39), corresponding to Phrygian *γλουρός · χρυσός, γλούρεα · χρύσεια* [Hesychius]. There is the corresponding *i*-stem in Caland-system in Vedic *híri-śmaśru-* “gold-bearded” < **ǵ^hlH₃-i-* (*EWAI* II, 806).

gold₂ – D

III. Classical Persian *tilā & talā* “gold” (Vullers 1864, 545: “aurum rubrum”; Steingass 1892, 322) = Modern Persian *telā & talā* id., *talā* ‘i “golden” (*PDW* 497, 498).

Internal loanwords:

Baluchi *tilā* “gold” (Geiger 1892, 461, #271; *LSI* X, 436: Karachi dial. *tilāh*), Sangisari *tālā* (*DS*), Yaghnobi *tillō^h* (Novák 2010, 170), Pashto *tilā* (*RAS* 228), Ormuri *təla* id. & Parachi *təlā/til(l)a* id. (Morgenstierne 1929, 410 & 293), Yidgha *tīla* “copper”, Munji *tilā, telā, tillā* “gold” (Morgenstierne 1938, 255), Shughni *tillo* (*RŠS* 81), Sanglechi *tilā*, Wakhi *tilā, tillā* (Morgenstierne 1938, 415, 545).

External loanwords:

Turkish *telli* “mit Metall- (Gold-, Silber-)Fäden durchwirkt” (*TDW* 920), cf. *tel* “gold or silver thread woven into a tissue; a very long fringe of gold or silver, worn by ladies” (*TEL* 585), *tīlā* “gold prepared for writing or painting”, Turkmenian *tilla* “gold”, Karakalpak, Uzbek *tilla* id., Taranchi *tilla* “eine kokandische Goldmünze” etc. (Radloff III, c. 1386; Rybatzki 1994, 199).

Source:

Arabic *tallī* “glittering fabric with interwoven gold or silver threads” (Wehr 1979, 117) or *tīlā* quoted by Geiger 1892, 461, #271?

gold₃ – D

III. Persian *altūn* “gold, golden” < Chaghatai *altun*, Old Uyghur, Middle Turkic *altun*, New Uyghur, Taranchi, Azerbaijani, Kumyk *altun*, Chuvash *ilttān* “gold” (*TMEN* II, 112–13, #529; Clauson 1972, 131; Rybatzki 1994, 202–03), all from Turkic **āl²³⁷* “(bright) red” and **toń* > Chuvash *toj* “brass”, originally borrowed from Chinese 銅 *tóng*²³⁸ “copper, brass, bronze” (Räsänen 1969, 18, 488; Dybo 2007, 67: with respect to the change **l- > *d-* dated to the end of the Eastern Han era, around 200 CE, the adoption of this Chinese form could have been realized in this time). It means, the Turkic designation of “gold” was originally formed from “red copper”.

Internal loanwords:

Kurdish *altun* “gold” (*TMEN* II, 113).

236 *vazrəm zastaiia dražəmnō satafštānəm satō.dārəm frauuaēγəm vīrō.niiāncim zarōiš aiiānhō frahixtəm amauuatō zaraniihe amauuastəməm zaēnəm vərəθrauuastəməm zaēnəm* “In der Hand hält {er} die Keule mit {ihren} hundert Buckeln {und} hundert schneiden, {die} anprallend auf die Krieger niederstürzt; aus gelbem Metall gegossen, aus festem goldenem, die festeste der Waffen, die sieghafteste der Waffen”

[Translated by Fritz Wolff]

237 Turkic **āl* “red, scarlet”: Old Turkic (Orkhon), Old Uyghur *al*, Karakhanid *al*, Middle Turkic (Mahmud of Kashgar) *āl*, (Codex Cumanicus: “bright red”) *al*, Turkmen *āl*, Turkish, Tatar, Uighur, Azerbaijani, Noghai, Bashkir, Gagauz, Karaim, Kumyk *al* (Räsänen 1969, 14; Clauson 1972, 120–21; *TMEN* II, 94–95).

238 < Middle Chinese **duŋ* < Late Postclassic Chinese **dwōŋ* < Middle & Early Postclassic Chinese **dōŋ* < Han Chinese **lōŋ* < Classic & Preclassic Old Chinese **Lōŋ* (Starostin, *ChEDb*; GSR 1176 d), cf. Chinese 彤 *tóng* “to be red” < Middle Chinese **doŋ* < Late Postclassic Chinese **d(h)ōŋ* < Middle & Early Postclassic Chinese **d(h)ōŋ* < Han Chinese **d(h)ōŋ* < Classic Old Chinese **d(h)ōŋ* < Preclassic Old Chinese **d(h)ōŋ* (~ *l(h)-*, ~ *L(h)-*) (Starostin, *ChEDb*; GSR 1008 e-f). Similarly, Pulleyblank 1991, 310: Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “copper” vs. Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “red”.

Note: Thanks to the Turkic mediation the term was borrowed in many languages²³⁹ of various language families, collected by Doerfer in *TMEN* II, 113 and Rybatzki 1994, 202–03.

gold₄ – D

III. Yidgha *soworom* id. < Khowar *sōrom* (-*m* from *droxum* “silver”), Pashai *swāren*, Shumashti *suarin* “gold”, originally from the compound attested already in Vedic *su-vārṇa-* “of bright colour; golden” [RV], n. “gold” [AV], *saiúvarṇa-* “golden” [ŚrS], n. “gold” [MBh] (Morgenstierne 1938, 249; Turner 1966, #13519; Fussman 1972, 256–58).

iron₁ / steel – A

I. Avestan *hao-safnaēna-* adj. “of steel” [e.g. Yt 10.130²⁴⁰], indicating **hu-safna-* “steel”, lit. “good iron” (Bartholomae 1904, 1737).

?Old Persian **sanataka* in the New Elamite record 3 MA.NA *šá(?) -na(?) -ta-qa ... a-h kás-[za-ak]* “drei Pfund *sanataka* ... wurden hier geschmiedet” (*EW* 1131), where the second component could be identified in Old Persian **taka-*, known from the compound *takabara-* “petasos-bearing” (Kent 1950, 185; Skjærvø 2002, 164). The Greek term *πέτασος* designated a hat or metallic helmet. On the other hand, Old Persian *asā* in *asā dāruv* “ebony” [DSf 41–42²⁴¹], interpreted as “iron wood” by Benveniste (1930, 60), meant more probably “stony wood” (Kent 1950, 190) with the Median reflex of Iranian **ś* < IE **k̑*. The hypothetical Old Persian **sana-* would regularly reflect Iranian **šyana-*.

Sarmatian man’s name Ὀσπίναζος (Olbia: 2nd cent. CE), probably **Ὀσπίν-βαζος* < **aspaina-bāžu-* “with iron arm” (Abaev 1979, 282; Zgusta 1955, 315, #693) < **aspanaina-* “of iron”.

II. Middle Persian ^z*hyn /āhen/* (MacKenzie 1971, 6; Nyberg 1974, 32 recognized Pāzand *āhin* and Pahlavi *’syn /āsēn/* “iron”), ^M*hwn /āhun/* “iron” (*MPP* 35; Nyberg 1974, 32), Middle Parthian of Turfan *’swn /āsun-/* “iron” (*MPP* 56);

Sogdian (Gharib 1995) ^B*’spn’yn / (ə)spanēn/* “(of) iron” (#1624), ^B*’spn’yn’k / spn’yn’y / spnyn’k / (ə)spanēnē/* “(of) iron” (#1625), ^B*’spn’ynch / (ə)spanēnč/* f. “(of) iron” (#1626), ^B*’spnyn’y / ’spnyn’k / ’spnyny / (ə)spanēnē/* “(of) iron” (#1631), ^B*’spnyn’nk / əspanēnē/* “(of) iron” (#1664), ^B*’spn’yn’k / spnyn’k / spanēnē/* “(of) iron” (#8892), ^{Ch}*spyn-* [*spen / span / spān*], pl. *spynt’* “iron, chain, iron fetter” < **aspanya-* (#8921), ^{Ch}*sfnyq / sfanīk/* “iron, of iron” (#8737), ^{Ch}*spnyq [spanīk]* “(of) iron” < **aspanyaka-* (#8899), ^{M,Ch}*spnync’ / spanēnč/* “(of) iron” (#8902), besides ^M*’spnyny* “made of iron” (*MSB* 25).

Khwarezmian *’spny /əspanī/*, besides *sbny & spny* “iron”, *spnynk* “of iron” (Benzing 1983, 90, 571, 581)

Khotanese *hīśśana-* < **hu-šyāniā-* = Wakhi (y)īśn (Bailey 1979, 486–87).

III. In Modern Iranian languages there are at least four more or less different partial protoforms:

(i) **āθana-*: Persian *āhan* (Steingass 1892, 126; Herzenberg 2014, 25), Sangisari, Keshei *ohan*, Sede, Gazi, Shamirzadi, Kohrudi, Zefre *ohen*, Sivandi *ohon*, Kafroni *ohīn*, Vonishuni *oyen* “iron” (Cabolov 1, 454). The primary **-θ-* is a typical Old Persian continuant of Iranian **-ś-*, but not of Iranian **-šy-* which continues in Old Persian *-s-*.

239 Common Mongolic **altan* “gold” > Yakut *altan* “copper” and Tungusic: Negidal *altan* “copper”, but Nanai *altan* “gold”; Yeniseian: Arin *altyn’*, Assan, Kottish *altun* “gold”; Samoyedic: Kamas, Koibal *altin* “gold”; Ob-Ugric: Mansi *altēn*, Khanty of Tom *altun* “gold”; Kartvelian: Laz *altin*, *altuni* “gold”, Georgian *uzaltuni* “10 kopeykas”, *minaltuni* “silver rubl” (< Azerbaijani *üz altun & min altun* respectively); Arabic *’altūn* “fil d’or” (Dozy); Balkan Slavic: Bulgar *alten*, Macedonian *altan*, Serbian *aldum* “gold”; East Slavic: Old Russian (from 14th cent.) *altyn* “alte Rechenmünze von 6 Deñgi”.

240 *hištaite aom vāšahe miṅrahe vouru gaoiiaoitōiš hazayrēm cakušanqm haosafnaēnqm bitaēyanqm hukərətanqm* “Es befinden sich dort im Wagen des weite Fluren besitzenden Mithra ein Tausend **stählerner** wohlgefertigter zweischeidiger Wurfäxte...” [Translated by Fritz Wolff 1910].

241 *ardatam utā a²sā dāruv hacā Mudrāyā abariya* “The **silver** and the ebony were brought from Egypt.” [Translated by Skjærvø 2002, 104–05].

(ii) **āsana-/*āsuna-*: Talysh *ōsən* “iron” Semnani *ōsūn & āsōn*, Lasgardi *āsōn*, Sorhei *āsin*, Baluchi *āsin* (Collett 1983, 140: *āsin*, besides *āhin*; *LSI* X, 436–37: *āsin*, but Upper Sindh *āhan*), Kurdish Kurmanji *hāsin, ḥasin*, Sorani *āsin* “iron”, Zazaki *āsi(n)*.

(iiia) **spana-*: Ossetic Digor *æfsæn*, Iron *æfsæn* “iron”, in later Ossetic “plowshare”, adj. Digor *æfsæjnag*, Iron *æfsænag* (Abaev I, 480–81); Pamir group **spanja-*: Shughni *sipin*, Sarikoli *s(i)pin*, Ishkashim *špm*, Sanglechi *əspōn*, Khufi *sipun*.

(iiib) **ā-spana-*: Pašto *ōspana, ōspīna*, Waziri *yēspana*, Wanetsi *ōspəndə*; Munji *yūspən, yispən*, Yidgha *riispən* “iron”.

(iv) **hu-šūanja-*: Wakhi *(y)īšn* id., similarly as Khotanese *hīśśana-* (Bailey 1979, 486–87).

Internal loanwords: Persian/Tajik > Sangisari *āhen* (*DS*), Baluchi *āhin*, G{urani?} *vuhēn* (Horn 1893, 14, #53), Yaghnobi *ōhān* (Novák 2010, 121); Parachi *āhen*, Ormuri *āhīn, āin* (Morgenstierne 1929, 232, 387), Yidgha *āhenī*, Ishkashim *āhān* “iron”, Sanglechi *āhanīn* “made of iron” (Morgenstierne 1938, 31*, 380).

External loanwords:

Persian > Chaghatai, Khalaj *ahan* and Moghol *ahan* “iron” (Rybatzki 1994, 237).

Chinese 鑛鐵 *bīn tiě* “wrought iron” is attested first in the text called *Suishu*²⁴², ‘Book of Sui’, completed during the following dynasty, Tang, in 636 CE (Wagner 2008, 268–71 dated the adoption of the term in the 6th–7th cent. CE). The second word 鐵 *tiě* means “iron”²⁴³. Laufer (1915, 515, #85) recognized an Iranian origin of the first term 鑛 *bīn* < Middle Chinese **pjin* (Pulleyblank 1991, 38). A source may be identified in Sogdian ^{Ch}*spyn /spən/* < **aspanja-* “iron, chain, iron fetter” (Gharib 1995, #8921). Cf. also the forms of the Pamir languages: Shughni *sipin*, Sarikoli *s(i)pin*, Ishkashim *špm* “iron”, derivable from **spin* < **spanja-*.

Etymology:

Avestan **safna-* “iron”, reconstructed on the basis of the *vṛddhi*-formation in compound *hao-safnaēna-* adj. “of steel”, implying **hu-safna-* “steel”, lit. “good iron” (Bartholomae 1904, 1737). The Avestan word **safna-* probably represents a metathesized variant of the expected form **spana-*, reflecting pre-Iranian **šūana-*, cf. Sogdian **aspan-* (Buddhist adj. m. *’spn’yn’y*, f. *’spn’ynčh*, Manichaean *’spnyn(y)*, Christian *’spnynč, sfnyq*).

IE: With respect to the dark colour of “iron”, Bailey (1979, 486–87) offered a comparison with Greek κύαυος “lapis lazuli; copper sulfate, copperas; dark-blue enamel, blue glass” [*Il.*], cf. also Mycenaean *ku-wa-no* “smalt” (Beekes 2010, 793), and further Hittite *ku(wa)nnā-(n-)* “copper” (with determinative URUDU), “ornamental material” or “piece(s) or bead(s)” (with determinative NA₄) (Puhvel 4, 308–11). Danka & Witczak (1997, 362–63) reconstruct their common denominator together with the Iranian forms as **kūḡHo-*. Abaev (I, 481) assumed an alternative solution, seeking origin of **šūana-* “iron” in Young Avestan *spanah-* [Y 9.27] & *spānah-* [Yt 1.8] “Heiligkeit, sanctitas” *spanahuuant-* “heilig, sanctus” [Yt 1.8], Gatha Avestan *spāniiah-* “der heiligere” [Y 45.2], *spānta-* “heilig, sanctus” [29.7, 48.3, 51.16], superl. *spāništa-* “der heiligste” [Y 30.5, 43.2, 43.16 etc.] (Bartholomae 1904, 1612, 1618–23). Abaev judged that the “holy” character of “iron” was connected with its celestial origin (cf. Sumerian AN.BAR “(meteoritic) iron” = AN “sky” + BAR₆ “to shine; bright” (Halloran 2006, 19, 32). Tremblay (2004, 241) proposed the pre-Iranian starting-point as **ac-yan-* “pointed, acute” < **H₂ek-yan-*.

iron₂ – D

III. Classical Persian *tīmūr* “iron” (Steingass 1892, 344; Vullers 1855, 494: “ferrum”) < Turkic: Chaghatai *temür* “iron” (*TMEN* III, 666, #1012; Räsänen 1969, 473; Rybatzki 1994, 239–40) < Sanskrit *cīmara-* in *cīmara-kāra-* “coppersmith” [Saṃghāta-sūtra], but in the Chinese version

242 隋書 *Suishū* ‘Book of Sui’ is the official history of the Sui dynasty (581–618 CE).

243 It is projected into Late Middle Chinese **tʰiat* < Early Middle Chinese **tʰet* (Pulleyblank 1991, 308) = Middle Chinese **thiet* < Postclassic Chinese **thiēt* < Eastern Han Chinese **liāt* < Western Han Chinese **lʰjāt* < Classic & Preclassic Old Chinese **lʰūt* (Starostin, *ChEDb*).

translated as 鐵 *tiě* “iron”. The meaning “iron” also appears in Dardic: Pashai *čimār*, Shumashti *čimar*, Wotapuri, Gawar *čimār*, Kalasha *čimbar*, Bashkarik *čimer*, Torwali *čimu*, Phalura *čimar*, Shina *čimār* (> Burushaski Nagir-Hunza *čimar*), Kashmiri *č^amur^a*, Khowar *čúmur* (> Burushaski Nagir-Hunza *čhumár*, Yasin *čumár*); and Nuristani: Waigali *čimār*, Dameli *čimār(r)*, Ashkun *čimā*, *čimə*, Kati *čimé*, Prasun *zíme* id. (Turner 1966, #14496; *EWAI* III, 192; Berger 1998, 88, 101).

iron₃ – D

III. Classical Persian *čaudan* “cast metal” (Steingass 1892, 402), New Persian *čodan* “cast iron”, Dari *čōdan* id. (*TMEN* III, 124–27, 1149; Rybatzki 1999, 67).

Internal loanwords: Persian > Kurdish *čodan* “Gußeisen, gußeisener Kessel / Topf”, Pash-to *čudan* “cast iron”, Yazghulami *tšədan*, Yidgha *zəx-čidīn* “kettle” (> Burushaski *čidīn* “metal cooking-pot”), Ishkashim *čūdan* “cooking-pot” (Rybatzki 1999, 67).

?External loanwords: Persian > Azerbaijani *čudan*, *čudān* “cast iron” (Rybatzki 1999, 67).

Etymology:

The Persian term was probably borrowed from a Turkic source close to Ottoman Turkish *čoy-an*, Uzbek, New Uyghur *čujan* “cast iron” with respect to the final *-an*, but before the change **-ǰ- > -y-*. Only Mahmud of Kashgar had recorded a form with **-ǰ-*, namely Karakhanid (11th cent.) *čōdīn* “bronze”. In all later records only *-y-* or *-j-* appear (Azerbaijani *čudan*, *čudān* “cast iron” was probably borrowed from Persian): Qumanic (14th cent.) *čoyun* “bronze” (Clauson) / “ore” (Rybatzki), Chaghatai (15th cent.) *čūjūn*, *čojīn* “unsmelted iron”, Ottoman Turkish *čoyan*, Uzbek, New Uyghur *čujan*, Turkmenian *čojun*, Krym-Tatar, Karaim, Kumyk, Kirgiz *čojun*, Kazakh, Shor *šojun*, Taranchi, Kumandy *čōjūn*, Kazañ Tatar *čujyn* “cast iron”, Bashkir *sujīn* id. (Rybatzki 1999, 67). The Turkic forms themselves were also borrowed, from the Chinese compound 鑄銅 *zhù²⁴⁴ tóng²⁴⁵*, in the Early Middle Chinese reconstruction of Pulleyblank (c. 600 CE) **teuǎ^h-dəwŋ* (Rybatzki 1999, 70).

It remains to explain the change of the Chinese final **-ŋ* into Turkic **-n*. The final **-ŋ* has been regularly changed into *-n/-m* in Chuvash, e.g. Common Turkic **jāŋ* “sleeve” vs. Chuvash *śan(ǎ)*, *śavnǎ* id., or Common Turkic **tāŋ* “identical, the same” vs. Chuvash *tan* id., besides Chuvash *som*, *sum* “number” vs. Common Turkic **sān* (Räsänen 1969, 197, 478). This means that a language related to Bulghar-Chuvash could have been the mediator bringing the Chinese terms to the Turkic milieu.

iron₄ – D

III. Wakhi *tīš* “iron”? (Morgenstierne 1938, 546) – cf. Burushaski *tīš* “ploughshare of cast iron, brought from Kashgar” (Lorimer 1938, 354; quoting also Wakhi, he saw a source in Turki).

lead₁ – B

I. Young Avestan *sru-* n. “lead; vessel of lead” [Vd 9.14²⁴⁶; 16.6²⁴⁷] (Bartholomae 1904, 1649: ⁺*sruva-*, i.e. ⁺*sruua-*).

244 鑄 *zhù* “to cast (metal), casted, casting (metal)” < Late Middle Chinese **tšyǎ^h* < Early Middle Chinese **teuǎ^h* (Pulleyblank 1991, 415; Karlgren, *GSR* 1090 a -d¹) < East Han Chinese **tso^h* < Old Chinese [bronze inscriptions of Western Zhou] **to^h* (Schuessler 2007, 627) ~ **tu-s* (Baxter & Sagart, *ChDb* 2014).

245 銅 *tóng* “copper, brass, bronze” < Middle Chinese **duŋ* < Late Postclassic Chinese **dwōŋ* < Middle & Early Postclassic Chinese **dōŋ* < Han Chinese **lōŋ* < Classic & Preclassic Old Chinese **Lōŋ* (*GSR* 1176 d; Pulleyblank 1991, 310; Yuan *thuy¹* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ* “copper” vs. 彤 *tóng* “red” < Yuan *thuy¹* < Late Middle Chinese **thəwŋ* < Early Middle Chinese **dəwŋ*).

246 *gaomaēzəm pascaēta upaŋhəzəm aiiaŋhaēnəm vā srum vā: yezi srum paiti hiŋcāi graom aiiasōiš zaraθuštra nauua pixəm ādrəŋjaiōiš aom srum pauraua naēmāt ahe grauuaha* “Rindsurin {sollst du} dann in ein {Gefäß} aus Eisen oder Blei gießen; wenn ein Blei {gefäß} zum Begießen {da ist}, sollst du, o Zarathuštra, einem Rohrstock mit neun Knoten holen; du sollst das Blei {gefäß} vorn an diesem Stock befestigen.”

247 *x¹arəθəm frabarāt cinəm x¹arəθəm frabarāt cinəm yaom frabarāt aiiaŋhaēnəm vā srum vā nitəma xšaθra vairiia*

Old Persian **čubua-*, reconstructed according to Elamite transcription *šu-ib-maš* (Gershevitch apud Hinz 1975, 76, who prefers the reconstruction **čba-*);

Median **sr[u]βā-*, reconstructed on the basis of the personal name *Srby* known from the Aramaic transcription (Hinz 1975, 227; 76: primary Median **srubu-*).

II. Middle Persian ^z*sl(w)p /srub/* “lead”, adj. ^z*sl(w)yn /srubēn/* “leaden” (MacKenzie 1971, 77).

III. Classical Persian *usrub* “lead” (Steingass 1892, 57; Vullers 1855, 97: “plumbum”), Persian *surb* “lead”, Gabri *surop* (Horn 1893, 161, #728).

Internal loanwords:

Persian > Pashto *surup* = *srup/srəp* (RAS 651), Parachi *surb*, Sanglechi *sərb/sərb/sərv* (Morgenstierne 1938, 411, 34*), Wakhi (Central, East) *sirp*, (West) *sirb* “lead, tin” (VJa 258), South Baluchi *s(u)rup* “lead” (Gilbertson 1925, 381; Korn 2005, 131, 382).

External loanwords:

FU: Komi (Русско-коми разговорник, 18th cent.) *уупое* “lead”, perhaps **šyr-jš*, where Permic **veš* as the second component also appears in Komi *ez-jš* “silver”, *oz-jš* “tin”, Udmurt *az-veš* “silver”, *uz-veš* “tin” (KESK 319, 203).

Persian > Arabic *šusrub* & *šasrub* “lead” (Steingass 1988, 41).

Etymology:

Bailey (1979, 165) reconstructed Iranian **sruβa-*, adding the IA cognates via metathesis:

IA: Vedic *śubhrā-* adj. “bright, beautiful” [RV], “white” [Mn], “silver, crystal, rock salt”, *śubhrā-* “crystal, alum” [lex.], Prakrit *subbha-* “white”, n. “a kind of silver” (Turner 1966, #12539). Armenian *sowrb* “holy, clear” may be either a cognate or a borrowing from an unattested Northwest Iranian source (EWAI II, 647).

lead₂ – C

I. Old Persian **siča-* < **šuiθra-* “white”, reconstructed on the basis of the probable borrowing in Sanskrit *śīsa-* n. “lead”, adj. “leaden” [Vājasaneyi-Samhitā], *śīśaka-* m.n. “lead” [Yājñavalkya] (EWAI II, 734; KEWA III, 478), further continuing in Pali *śīsa-*, Prakrit *śīsa-* “lead”, Hindi *śīsā* (> Panjabi *śīsā*), Gujarati *śīsū*, Marathi *śīsē*, Oriya *sisā*, *śīsā*, Bengalese *sisā*, Assamese *xih*, Nepalese *siso*, Kumauni *śiso*, West Pahari *śīsō*, Sindhi *śīho* etc. (Turner 1966, #13445); Burushaski *śisk* “lead” was borrowed from a source of the type Sanskrit *śīśaka-* [Yājñavalkya] (Berger 1998, 396).

III. Kurdish *śīs* “weiss; Bleierz”, quoted in EWAI II, 734; KEWA III, 478, but it does not appear in Cabolov 2010. The meaning “white” is attested e.g. by Jaba 1879, 250.

Baluchi *śīs*, *śīhā* < Hindi *śīsā* or Sindhi *śīho* “lead”, besides Baluchi *sikkā* < Arabic *sikkiyy* “coined, stamped; dinar” (Gilbertson 1925, 381; Steingass 1988, 501).

lead₃ / tin – C

II. Middle Persian: ^z*lcyc*, ^M*rzyz /arzīz/* “tin, lead” (MacKenzie 1971, 11; MPP 53); Sogdian (Gharib 1995): ^M*rcyc /aržīž/* “tin, lead” (#1420) = ^M*rcyc* “lead; tin” (MSB 17).

III. Persian *arzīz* “tin”, distinguished by the attributes “white” from “black”, i.e. “tin” from “lead” respectively (Steingass 1892, 37: only “lead”; Horn 1893, 17, #68).

Internal loanwords:

Persian > Yidgha *arzīz* “lead” (Morgenstierne 1938, 192).

External loanwords:

Middle Persian > Armenian *arjij* “tin” (white), “lead” (black) (Hübschmann 1897, 111, #74).

Etymology:

“Worin soll er das Essen bringen, worin soll er das Bier bringen? In einem {Gefäß} aus Eisen oder aus Blei, die beiden mindestwertigen Metalle.“

[Translated by Fritz Wolff 1910]

Bailey (1979, 143) explained this metal-name with help of the IA root **ark-* “to shine”, attested e.g. in Vedic *árcati* “shines, is brilliant” [RV], *arka-* m. “ray, flesh of lightning” [RV], “crystal” [R], “copper” [lex.], *arcíṣ-* n. “ray of light, flame, light, lustre” [RV], Pali, Prakrit *akka-* “sun”, all from IE **H₁erk^h-* “to shine” (Bailey 1979, 8; Turner 1966, ##624, 635; *EWAI* I, 114–15). Related may be Middle Irish *erc* “sky”, *suairc* “pleasant; noble” < **su-erk^hi-* (Pokorny 1959, 340). Concerning semantics, Persian *saped-roy* “tin” (Steingass 1892, 653) = “white copper” implies the primary meaning was probably “tin”. Alternatively, Abaev (I, 187) and Rastorgueva & Edel’man (*ESIJ* 1, 231) speculate about connection with Iranian **arzáta-* “silver”, but without any details. This idea is attractive, e.g. the primary compound **arží(i)-čiča-* “looking like silver” can be thinkable, where the second component could be perhaps derived from the verb **čāi-* “to see, observe” (Cheung 2007, 28). Maybe more promising is the substratum solution, seeking a source in New Elamite *har-gi* “iron”, adj. *har-ki-ana* “of iron” (*EW* 627, 630), implying the metal-name */harki/*. In the final **-ič* the Middle Iranian diminutive suffix can be identified, cf. Middle Persian ^{2d}*hlyc*, ^M*dhryz* /*dahlīz*/, Persian *dahlīz* “portico” (Horn 1901, 181–82; MacKenzie 1971, 24), and the Sogdian suffix *-yc* for feminine nouns, e.g. *qwpwtyc* /*kupōtīč*/ “dove, pigeon” (*MS* 153, §1010; Gharib 1995, #5031). In Old Iranian, m. **-iča-* and f. **-ičī-* preceded them, cf. the Median man’s name **Zariča* (Hinz 1975, 277: Assyrian *za-ri-šu*) and Avestan woman’s name *Zairičī* [Yt 13.139] (Bartholomae 1904, 1681; Mayrhofer 1977, 104, ##411–412). It is possible to imagine the following scenario: Elamite */harki/* “iron” + Iranian diminutive suff. **-ič^o* > Middle Iranian **arčič* “little iron” = “tin/lead”. Thanks to various mediators this Elamite metal-name was probably borrowed into several other languages and language families:

Armenian *erkat* “iron; any tool or weapon made of iron” (Olsen 1999, 949: word of unknown origin; Tremblay 2004, 245: *erkat* < Georgian *rķina* “iron”; Huld 2012, 314, 334: derived from *erek* “dark” < **H₁reg^h-es-*);

Kartvelian : Georgian *rķina* “iron” (Klimov & Xalilov 2003, 140);

East Caucasian (1) **hilāgV*: Lezghian **hilak* “iron”: Rutul *hileg* / *jileg*, Tsakhur *jiwa*, Kryz *ilāng*, Budukh *jileg* id. | Tsezian **rig₁a*: Tsezi *reka* “key”, Khvarshi *leka* id., Inkhokvari *lika* “curved opener, key”, Bezhta *jiga* “key”, Gunzib *riga* id.; (2) **rʕēnqwi*: Lezghian **req* “iron”: Lezghin *raq*, Agul, Tabasaran *ruq* id. | Andian **rikan-ku* “key”: Akhwakh *rikan-λλi*, Karata *reḳun*, Andi *reḳul* id. etc. (*NCED* 490, 943). Probably borrowed in various times and through different intermediate languages.

Note 1: Bailey (1979, 143) added Ossetic Digor, Iron *ærɣæu* “lead” (cf. Miller III, 127; Herzenberg 2011, 214), Iron *ærɣon* “tin”, but Abaev (I, 177) knew only the form *ærɣæw* “nacre, mother-of-pearl”. Let us mention that Ossetic *ærɣæu* “lead” is better derivable from Iranian **grau-*: Young Avestan *gouru-*, ^o*γru-* “heavy”, Khotanese *ggarka-* “heavy”, Vedic *gárīyas-*: comparative to *gurú-* “heavy”, in compounds *gru-* (Bartholomae 1904, 514; Bailey 1979, 80; *EWAI* I, 490–91; *ESIJ* 3, 183).

Note 2: Sanskrit [lex.] *hrīku-* & *hlīku-* “tin” (*EWAI* III, 548; Tremblay 2004a, 238–39) resembles the preceding forms, but more probably its origin should be sought in Southeast Asia, namely in Daic languages: Daic **thriek* “tin” > Southwest: Lao *hiak*, Shan & Lü *hek*, White Tai *he*; Central: Lungchow *hik^{D1}*; North: Po-ai *liik*, T’ienchow *liek*, Dioi *thie*, Hsi-lin *diak* “tin” (Li 1977, 121, 124, 281).

lead₄ – C

II. Khotanese *daujsä* “lead” (metal) (= Buddhist Sanskrit *sīsa-*, Tibetan *ra-ñe*)

Etymology:

Probably **burnt* (metal) from **dāvačā-*, a virtual derivative of the verb **dauH-* “to burn”, continuing e.g. in Sogdian *prδ’w* “flame” (Cheung 2007, 67–68), and corresponding to Sanskrit *dunóti* “burnt”, *davathu-* “burning” (Bailey 1979, 165; cf. Pokorny 1959, 179–81).

lead₅ – C

III. Ossetic Digor, Iron *ærɣæu* “lead” (cf. Miller III, 127; Herzenberg 2011, 214; but Abaev I, 177 knew only the form *ærɣæw* “nacre, mother-of-pearl”).

Etymology:

Iranian **grau-*/**garu-*: Young Avestan *gouru-*, *°γru-* “heavy”, Khotanese *ggarka-* “heavy”, Vedic *gárīyas-*: comparative to *gurí-* “heavy”, in compounds *gru-* (Bartholomae 1904, 514; Bailey 1979, 80; *EWAI* I, 490–91; *ESIJ* 3, 183). The initial cluster would develop as in Ossetic *æryom* “heaviness, burden” < **grāma-*, Khwarezmian *γr'm* “Gewicht”, Baluchi *grām* “burden”, Vedic *grāma-* “village; multitude of men, troop” (Abaev I, 409–10; Benzing 1983, 290; *EWAI* I, 507–08).

lead₆ – D

III. Persian *ānuk* “lead; tin” (Steingass 1892, 113) < Arabic *ʔānuk* id. (Steingass 1988, 88) < Syriac *ʔānkā*, Hebrew *ʔanāk* “lead, tin” < Akkadian *anāku* “tin” < Sumerian **anagi*, reconstructed according to variants ANNA/NAGGA/NIGGI (Zimmern 1915, 59; *HAL* 71; Halloran 2006, 20, 186).

Loanwords:

FU: Ugric: Mansi *N ānēχ* “lead”, LO *ānāχ-ātwās* “tin” : *ātwās* “lead” (Joki 1973, 250) < Persian?

Note: Akkadian *anāku* “tin” > Hurrian *anagi* > Armenian *anag* “tin” (Olsen 1999, 949).

?Aramaic > Sanskrit *nāga-* n. “lead, tin” [Bhpr], Kashmiri *nāg* “lead” < **nāgga-*, Shina *nan* id. < **nānga-*? (Turner 1966, #7040; *EWAI* III, 285).

lead₇ – D

III. Persian *abār* “lead” (Herzenberg 2011, 201) < Arabic *ʔabār* < Aramaic *ʔab(b)ārā* “lead” < Akkadian *abāru(m)* “lead” < Sumerian A.GAR₅ / A.BÁR (*CDA* 2).

Note: Hebrew *šōperet* “lead”, Punic *šprt* (*HAL* 863) and Armenian *kapar* “lead” (Olsen 1999, 949 classifies this term as ‘word of unknown origin’) are probably of the same origin (Zimmern 1915, 59).

lead₈ – D

III. Persian *rašāš* “lead, tin” (Steingass 1892, 578), Kurdish *rūsās*, *rīsās* “lead” < Arabic *rašāš*, vulg. *rišāš* “lead; tin” (Steingass 1988, 416; Cabolov 2, 219).

lead₉ – D

III. Persian *qarqasūn* “lead” (Steingass 1892, 965; Vullers II, 722: “plumbum”), Tat *qurqušun* “lead”, Kurdish *qurqušūm* id., Zazaki *qurqušūn*, *qırqışūn*, *kurgušun* “copper” < Azerbaijani *qor-gošun* or Uzbek dial. *qoryašim* “lead”, besides Kypchak (13th cent.) *koryāšun*, Qumanic (14th cent.) *koryasin* id., etc. (Rybatzki 1994, 232–37; *TMEN* III, 452–54, #1466; Clauson 1972, 656–57; Räsänen 1969, 282: Turkic **koryalčyn* “lead” < Written Mongol *qorgalžin* id.).

Note: Tremblay (2004a, 238–48) speculated about a Middle Iranian source of this Turkic metal-name, reconstructing the pre-Turkic protoform **x(a)ry-ž(e)ryn*, where the second component should correspond to Sogdian ^{M,S}*zyrn /zirn /zern/* “gold” (Gharib 1995, #11566; *MS* 235) < **žarn-ya-*, while the first component had to reflect the lost Iranian term for “copper”, reconstructed by the author as **g^(h)arga-*, which should be compatible with Slavic **želězo*, Lithuanian *geležis* etc. “iron”. The idea is ingenious, but there are no analogical designations of “lead” based on “gold”.

lead₁₀ – D

III. Kurdish *gule* (*RKS* 607).

Etymology:

Probably it is identical with Kurdish *gul(l)a* “(gun) bullet” < Turkish *gulla* id. < Persian *gulūla* id. (Cabolov 2001, 401), related to Kurdish *gulūr* “ball”, and further to Vedic *glāu-* “bump” < **gleH-u-* (*EWAI* I, 511).

lead₁₁ – D

III. Ossetic Iron *zdi* (*ROS* 471), Digor *izdi* “lead” (Abaev IV, 308).

Etymology:

Abaev (IV, 308) explained it as a borrowing from a source of the type Written Mongol, Khalkha *zed* “copper; money distributed among lamas taking active part in a religious ceremony” (Lessing 1960, 1042, 1047), or Late Common Turkic **jez* “copper”, with its dental extension attested e.g. in Kirgiz: *žez* “copper” vs. *žezdūū* “covered by copper, of copper” (KRS I, 243). Abaev (IV, 308) also speculated about Khwarezmian *žyd* “silver” as a cognate, but it is correctly ‘*žyd* “silver (coin)”, and is related to Avestan *arəzata-* “silver” (Benzing 1983, 136). In the Daghestanian languages, the isolated form in Udi *zido(j)* “iron” (Klimov & Xalilov 2003, 140) should be taken in account.

silver₁ – A

I. Young Avestan *arəzata-*²⁴⁸ n. “silver” [Yt 5.129²⁴⁹; 17.14²⁵⁰], compounds, e.g. adj. *arəzatō. saēpa-* “wo{rin, -mit} Silber geschweisst wird” [Vd 8.88²⁵¹], adj. *arəzataēna-* [Y 10.17²⁵²; Vd 7.75²⁵³] (Bartholomae 1904, 352); Old Persian *ardata-* “n. “silver” [DSf 37–47²⁵⁴]; cf. also the anthroponym *Ir-da-ad-da* [R̥data] in Elamite transcription (Hinz 1975, 205).

II. Khotanese *ālsata-* “silver” (= Buddhist Sanskrit *rajata-*), var. *ājsa-* id., adj. *ājsīja*, compound *ālsā-gūne* = Buddhist Sanskrit *rajata-varṇa-* “silver-coloured”. From **ar(d)zata-* with the intrusive *-d-* as in *špuljei* “spleen” < **spr(d)zyaka-* (Bailey 1979, 25, 17; *ESIJ* 1, 231).

Khwarezmian ‘*žyd* “silver (coin)”, *fy’zy’dc / *fy’žy’dc / “versilbert”* (Schwartz 1970, 289; Benzing 1983, 136, 280).

III. Ossetic *ærzæt* “ore” (Abaev I, 187–88) < **arzaθa-* (*ESIJ* 1, 231); Yezdi *ālī* “money” < **ard*^o with final *-ī* after *tālī* “gold” (Benveniste 1930, 60; Kent 1950, 16, 171; originally recorded by Houtum-Schindler 1882, 74: *āli* “Geld”, *āli dādmūn* “bezahlen”).

External loanwords:

Alanic/Early Ossetic > Armenian *arcat* “silver” (Hübschmann 1897, 424, #56). Abaev (I, 188) also mentioned the North Caucasian parallels, reconstructible as **hērVcwī* “silver”²⁵⁵.

248 Hilmansson (1986, 172–73) seriously speculated about hypercorrection of the primary spelling **arəzata-*.

249 *yada kərətəm 9barštāi zrūne carəmə vāēnantō brāzənta frēna arəzatəm zaranim* “Bei richtiger Bereitung zur vorschriebenen Zeit strahlen die Felle auf die Beschauer **Silber** und Gold(glanz) in Fülle...”

250 *aēšqm arəzatəm zaranim nibərəθi ābərəta baraiti aiβitarābiiō haca danhubiiō vastrāšca kəšā bāmaniuuā*. “Ihnen schafft **Silber** {und} Gold der Schaffner in die Kammer und aus fremden Ländern prunkvoll gefertigte Kleider...”

251 *yō ātrəm pisraṭ haca arəzatō.saēpāt* “Wenn einer aus der Schweißē, {worin} **Silber** geschweisst wird, Feuer {hinbringt}”

252 *arəzataēna haca tašta zaranaēnəm aoi taxše* “Aus der **silbernen** Schale lasse ich {dich} in die goldene laufen”

253 *āaṭ yezi aṅhaṭ arəzataēniš* “aber wenn sie {die Schale} von **Silber** ist”

[Translated by Fritz Wolff 1910]

254 ³⁷*kāsaka haya kapautaka utā sikab³⁸ruš haya idā karta hauv hacā Sugudā aba⁴⁰riya*

“The blue glass (= lapis lazuli) and the carnelian, which has been made here, that was brought from Sogdiana.”

kāsaka haya axšaina hauv hacā Uvāraz⁴¹mīyā abariya haya idā karta

“The precious stone turquois, this was brought from Chorasmia, which was wrought here.”

ardatam utā a⁴²sā dāruv hacā Mudrāyā abariya

“The **silver** and the ebony were brought from Egypt.”

āra⁴³janam tayanā didā pištā ava hacā Yaun⁴³ā abariya

“The decoration with which the fortress has been painted, that was brought from Ionia.”

piruš haya idā karta hacā Kūs⁴⁴ā utā hacā Hidauv utā hacā Harauvat⁴⁵iyā abariya

“The ivory which was wrought here, was brought from Ethiopia and from Sind and from Arachosia.”

stūnā aθagainiya tayā id⁴⁶ā kartā Abirāduš nāma āvahanam Ūjaiy⁴⁷ hacā avadaša abariya

“The stone columns that have been made here were brought from Abirādu, a town in Elam.”

[Skjærvø 2002, 107, 189; translation: 104–05; Kent 1950 – <<http://www.avesta.org/op/op.htm#dsf>>]

255 P-Avar-Andi **ʔorci* > Avar *šarác*, Chadakolob *šarás*, Andian *orsí*, Akhvakh *arči / ači*, Chamalal *as*, Tindi *asi*, Karata *šarse*, Botlikh *arsi*, Bagvalal *as / ars* (Tlond.), Godoberi *šarsi* | pTsezian **ʔs(s)* (~ *h-*) > Khvarshi, Ink-hokvari *os* | Lak *arcu* | p-Dargwa > **ʔarc* > Akusha, Chiragh *arc*, Kubachin *ās* | p-Lezghian > **ʔars(a)* > Tabasaran, Agul, Archi *arsi* || p-West Caucasian **rV[š^w]Vnə* > Abkhaz *a-raznə*, Abaza *rəzna*; Adyghe *təžənə*, Kabardian *dəžən*, Ubykh *daš^wanə* id. (NCED 514–15).

IA: Vedic *rajatá-* “whitish, silver-coloured, silvery” [RV 8.25.22], e.g. in the compound *rajatām.hiranyam* “whitish gold” = “silver”, further corresponding to *árjuna-* “white, clear” [RV 6.9.1], “made of silver” [AV 4.37.4] and *ṛjrá-* “red, reddish, ruddy” (*EWAI* I, 253–54).

Etymology:

Derived from IE **H₂erǵ-* “to be white” (Wodtko, *NIL* 317–22; Pokorny 1959, 64–65) with the same suffix as Latin *argentum* “silver” [Naev.], Faliscan acc.sg.n. **arcentlom** “small silver coin”; Oscan abl.sg. **aragetud**, *arage* [“money” | Celtiberian **arkato-beðom** “silver mine”, besides woman’s name *Arkanta*; Gaulish place-name *Arganto-magus*; Old Welsh & Old Breton *argant*, Welsh *arian(t)*, Breton *arc’hant*, Cornish *argans*; Old Irish *argat* “silver” | Greek ἄργυρος “silver” : ἄργός “white” | Hittite *ḫargi-* n. = KÜ.BABBAR “silver”, Cuneiform Luvian *ḫarraja-* n. “silver”, attested in nom.-acc.pl. (with contraction of *-ja-*) *ḫaranza* [KUB XII 1 III 20’]; Hieroglyphic Luvian *ḫaraja-* “silver”, attested as nom.-acc.pl. ARGENTUM-*za*, gen.sg. ARGENTUM-*sa*, abl.sg. ARGENTUM-*ri-i*, while the primary meaning “white” is probably preserved in the reduplicated name of the mountain Mons Argaeus / Erciyas Dağı, recorded as MONS-*ti-na* DEUS.MONS *Ha+ra/i+ha+ra/i-i-na*, i.e. in nom. **arijatis Harhara(i)is* “snow-white mountain”, in the Hittite texts known as HUR.SAG *ḫar-ga-aš* [KUB XXIX 1 II 25] = HUR.SAG BABBAR [KBo II 7 Rs. 25; 13 Vs. 22, 26], i.e. “White Mountain” (Starke 1990, 424, fn. 1532 & 1533; Hawkins 2000, 484; del Monte & Tischler 1978, 88).

silver₂ – C/D

I. Old Persian *s^a-i-y^a-m^a-m^a* /*sēymam*/ [A¹I²⁵⁶] (Artaxerxes I Longimanus, 465–425 BCE)

II. Middle Persian ^M*sym* /*asēm*/ “silver”, adj. [’]*symyn* /*asēmēn*/ “of silver” (*MPP* 57), ^Z*sym* /*asēm*/ “silver”, adj. [’]*symyn* /*asēmēn*/ “of silver” (MacKenzie 1971, 12); Parthian *hsym* “silver” /*hasēm*/, adj. *hsymyn* /*hasēmēn*/ (Sundermann 1981, 161; Rybatzki 1994, 207; *MPP* 186); Bactrian σιμυγο “made of silver” < *σιμο “silver” + suffix -ηγγο; adj. σιμυνο < *σιμο “silver” + suffix *-aina- (Sims-Williams 2007, 264).

III. Persian *sīm* “silver”, adj. *sīmīn* (Steingass 1892, 717; Horn 1893, 169, #764; Noeldeke 1892, 15); Kurdish *zīv* / *zīw*, *zēw* “silver” (Cabolov 2, 530). Morgenstierne (1938, 249) explained Kurdish *z-* through the influence of *zar* “gold”.

Internal loanwords:

Persian *sīm* > Zazaki *sīm* (Cabolov 2, 530); Eastern Baluchi (Upper Sindh) *sēm* “silver” (*LSI* X, 436–37; Rybatzki 1994, 207); Parachi *sīm* “silver, wire” (Morgenstierne 1929, 287).

External loanwords:

Persian > Chaghatai *sīm* “silver”, Uzbek *sim*, New Uyghur (Khotan) *sim*, Turkish *sim*, in Osman also “(silver) coin, money” (Rybatzki 1994, 207).

?FU: Volgaic **šijä* “silver”: Mordvinian Erzya *šija*, Moksha *šijä* “silver” | Mari *šī* id. (Keresztes 1986, 141; Bereczki 1992, 93, referring to Serebrennikov as the first author of this explanation). But the initial **š* and missing *m* do not support this idea.

Etymology:

The Iranian forms are adapted from Greek ἄσημος “without mark or token” (cf. Kent 1950, 209; Bailey 1979, 25), used as ἄσημος χρυσός “uncoined gold, bullion, or plate” [Herodotus 9.41]; similarly ἄσημος χρυσίον, or ἄσημος ἀργύριον [Thucydides 2.13; 6.8]. Similarly Sogdian *n’krt’k* is calqué on ἄσημος (see below) and Sanskrit *rūpya-* adj. “well-shaped, beautiful; stamped, impressed” [Pāṇ], n. “silver” [Mn], is derived from *rūpá-* “form, shape, figure” [RV], in place of *rajata-* “silver” (Bailey 1979, 25).

256 *haya imam bātugara sēymam viṭiyā karta* “who this silver cup was made in the house”

[Skjærvø 2002, 140; he adds that ‘This inscription may be a fake, since Greek ἄσημος does not yet seem to have meant “silver” at this time’].

silver₃ – C

II. Sogdian (Gharib 1995) ^B*n'krt'k / nā-kṛte/* “(not coined) silver” (#5756; *MSB* 121); ^{B,S}*n'krtk-(w) / nā-kṛte, nāk(ar)taku/* “silver” (#5763), ^B*n'krt'yn'k / n'krt'yn'y / n'krty'n'k / nā-kṛtēnē/* “silvern” (#5759), ^M*n'ktyny / nā-k(ə)tēnē/* “of silver, silvern” (#5773; *MS* 190, §1273; *MSB* 121), ^S*n'krty'nch / nā-kṛtēnč, nā-k(ə)tēnč/* f. “silvern” (#5765), ^M*n'qtc' / nā-k(ə)tčā/* f. “silvern” (#5769), ^M*n'ktync / nā-k(ə)tēnč/* f. “silvern” (#5772).

Etymology:

The original protoform was **nā-kṛtaka-* “undone” in the sense “uncoined”, a calque on Greek ἄσημος “without mark or token” (cf. Kent 1950, 209; Bailey 1979, 25), used as ἄσημος χρυσός “uncoined gold, bullion, or plate” [Herodotus 9.41]; similarly ἄσημος χρυσίον, or ἄσημος ἀργύριον [Thucydides 2.13; 6.8].

silver₄ – C

III. Ossetic Digor *ævzestæ*, Iron *ævzīst* “silver” (Abaev I, 212–13).

Etymology:

1. Testen (2003, 100–03) proposes pre-Ossetic **a(r)z-vaistā-* < **arža-vahištā-* “silver-best” in compound with the same order of components as in the name of a mythical horse, Iron *Æfsury*, Digor *Æfsorq* < **afsorya* < **ašya-* “horse” + **ugra-* “powerful”. The loss of expected **r-* has analogy e.g. in Iron *xwyzdær*, Digor *xwæzdær* “better”, the comparative in **-tara-* from Iron *xærz* “very”, Digor *xwærz* (Abaev IV, 184).

2. The Ossetic term resembles Khwarezmian *ʾzyd* “silver (coin)”, which is a cognate of Avestan *arəzata-* “silver” (Benzing 1983, 136). In Ossetic the clusters of the type **-rC₁C₂-* have been simplified²⁵⁷ (cf. also Testen’s example above). With respect to this fact it is possible to derive Common Ossetic **æzvestæ* from a hypothetical compound **arz-βajsta-* “place of silver {deposit}” < **arz-βastja-*²⁵⁸, where the second component is really attested in Ossetic as *bæstæ* “place, area, land, world”, derivable from **upa-st(H)a-* as Sanskrit *upásthā-* m. “part which is under, lap, middle or inner part of anything” [RV] (Abaev I, 254–55; Cheung 2007, 360).

3. Abaev (I, 212–13) connected Common Ossetic **(æ)zvestæ* “silver” with Slavic **zvězda*, Lithuanian *žvaigždė* “star”, with regard to the semantic parallel in Georgian *vercxli* “silver” vs. *varsklavi* “star”. If the preceding etymology is correct, the Balto-Slavic isogloss represents a Sarmatian borrowing.

External loanwords:

FU: Probably the Sarmatian predecessor of the Ossetic term was borrowed into Permian as **üz-v3šk3:* Udmurt *azveš* “silver” (remodelled after *uzveš* “tin, lead”), Komi *ezis* id. (*KESK* 331–32; Rédei 1986, 38; Permian > Alanic, but authors of this idea are not able to explain the Permian first component **üz-*), while Hungarian *ezüst* “silver” was probably borrowed from a source chronologically closer to Ossetic, regarding common *-t(-)*. In *EWU* 346 the chain of borrowing Hungarian < Permian < Iranian is proposed.

silver₅ – C

III. Persian *zari saped* “silver”, lit. “white gold” (Steingass 1892, 613).

silver₆ – C

III. Pashto *spīnzār* = *spīn* + *(srə)zār* “white gold” (*RAS* 658; 38, 228), Ormuri *spū-zār* id. (Morgenstierne 1938, 51*), besides Pashto *spīna* “silver coin” (*NEVP* 75).

257 E.g. Georgian *marçqu-* “forest strawberry” was adopted in Ossetic Iron *mæčk'i*, Digor *mæcku* “cowberry” (Abaev II, 79), or Iron *xæzgūl*, Digor *xæzgol* “lover” < **xærz-gūl*, where the first component is *xærz-/xwærz-* “good-” (Abaev IV, 194), or Digor *ætdor* “quartz, flint” < **ært-dor*, lit. “fire-stone” (Abaev I, 191).

258 Iron *ī* ~ Digor *e* imply Iranian **aj*, cf. Iron *mīy*, Digor *mejæ* “cloud” < Iranian **majga-*. The same reflex originates thanks to epenthesis, e.g. Iron *mīdæg*, Digor *medæg(æ)* “in, inside; internal” < **medægæ* < **majdaka-* < **madja-ka-* (Abaev II, 117; 115).

silver₇ – D

II. Khwarezmian *nqryk*, *nkrk*- “silver” (Benzing 1983, 475).

III. Classical Persian *nuqra* “melted gold or silver; an ingot; gold or silver coin, money” (Steingass 1892, 1419; Vullers 1864, 1336: “argentum”), Modern Persian *noyre* “silver” (PDW 810).

Internal loanwords:

Persian > Mazanderani *nukré*, Gabri *nuqrya*, Ghilaki *nukuré*, Baluchi *nuqra/nugra/nuqra* “silver” (Geiger 1892, 456, #191; Gilbertson 1925, 606); Yagnobi *nuqra* (Novák 2010, 118); Pashto *nōqra* (RAS 658), Ormuri *nōkra*, Parachi *nuqra*, Yidgha *nukrá*, Sanglechi *nokʳē* (Morgenstierne 1938, 404; 51*), Shughni *nuqra* (RŠS 215), Wakhi (Central, East) *niqra*, (West) *nəqra* (VJa 228).

Borrowed from Arabic *nuqrat*, pl. *niqār* “molten gold or silver, molten ore, gold or silver coin”, derived from the verb *naqara* “to pierce through, excavate; carve in stone; whet the millstones” (Steingass 1988, 1141). The Arabic or Persian forms are also sources of borrowing of Turkish *nukra* “lump of smelted gold or silver”, New Uyghur (Turki) *noqra* “silver or gold ingot or bar”, while Uzbek *nuqra* & *noqra* “silver” and Moghol *nukhra* / *nukra* / *noqra* id. are more probably borrowed from Dari *noqra* id. (Rybatzki 1994, 208). Rybatzki (1994, 207–08) proposes relationship of Khwarezmian *nqryk*, *nkrk*- “silver”, Persian *nuqra* “melted gold or silver” with Sogdian ^{Bn}ʳkʳtʳk / *nā-kʳte* / “(not coined) silver”, but it is derivable from **nā-kʳtaka*- “undone” in the sense “uncoined”, a calque on Greek ἄσημος “without mark or token” (see above).

silver₈ – D

II. Middle Persian ^M*drhm* / *drahm* / “a silver coin; a drachm” < Greek δραχμή “silver coin” [Herodotus 7.144], besides “weight” [Theophrastus, *Od.* 17] (MacKenzie 1971, 27; Nyberg 1974, 65; Frisk I, 415–16).

III. Modern Persian *dir(h)am* “silver coin; weight (drachma)” (Steingass 1892, 514).

Internal loanwords:

Yidgha, Munji *droxom* “silver” < Khowar *droxum* id. (Morgenstierne 1938, 207; Fussman 1972, 71–73) < Nisa Documents *drakhma* & *trakhma* < Middle Persian ^M*drhm* / *drahm* / < Greek δραχμή “silver coin”.

External loanwords:

Middle Persian > Sanskrit [Pañcatantra] *dramma*- “a coin”, Prakrit *damma*- id., Hindi *dām* “copper coin, money, price”, *damrā* “gold, silver, riches” etc. (Turner 1966, #6622).

Middle Persian > Armenian *dram*;

Modern Persian > Arabic *dirham* > Turkish *dirhem* etc. (Frisk I, 415–16).

silver₉ – D

III. Persian *mūnkān* “silver” (Steingass 1892, 1349) < West Middle Mongol *mōngün* “silver”: *munngu(n)* (13th cent; ‘Secret History of Mongols’ by Haenisch), *müngün* (1381), Kalmyk *mōngn*, Khalkha *mōngö(n)* id. etc. (TMEN I, 510–11, §377; Rybatzki 1994, 213–16). This Mongolic metal-term was also borrowed in Tungusic and some Siberian Turkic languages too (ibid.).

Etymology: Mongolic < Chinese 捫銀 *mén*²⁵⁹ *yín*²⁶⁰ “proved silver” < Late Middle Chinese **mun-ŋin* < Early Middle Chinese **mən-ŋin* (cf. TMEN I, 510–11, §377).

silver₁₀ – D

III. Baluchi *chāndī* (Collett 1983, 158) < Kashmiri *cāndī*, Hindi *cāḍī* “silver” < Sanskrit *candrikā*- f. “moonlight”, adj. “splendour” [Kālid.], cf. *candrin*- “golden” [VS], all from Vedic *can-*

259 Chinese 捫 *mén* “to lay hands on, hold, stroke, touch; seek, test, examine” < Late Middle Chinese **mun* < Early Middle Chinese **mən* (Pulleyblank 1991, 211; Karlgren, GSR 0441 e).

260 Chinese 銀 *yín* “silver” < Late & Early Middle Chinese **ŋin* (Pulleyblank 1991, 373) ~ Middle Chinese **ŋin* < Postclassical Chinese **ŋin* < Han Chinese **ŋrən* < Classical & Preclassical Old Chinese **ŋrən* (Starostin, ChEDb; Karlgren, GSR 0416 k).

drá- “shining” [RV], “moon” [VS] (Turner 1966, ##4669, 4661); cf. also Khotanese *cadana-* “shining” (Bailey 1979, 98).

silver_{II} – D

III. Parachi *čhaṭai* “silver, rupie” is derived from *čhaṭō* “white” < Kashmiri *chot*“, obl. *chittē*, Lahnda, Pañjabi *ciṭṭā* “white”, Sindhi *ciṭo* “clear”; cf. also Nuristani: Waigali *čiṭṭa* “silver” – all from Vedic *śvitrá-* “white, whitish” [AV, TS] (Morgenstierne 1929, 245; Turner 1966, #12772; Fussman 1972, 73).

steel_I

II. Middle Persian ^z*pwl’pt* /*pōlāwad*/ “steel”, adj. *pwl’ptyn* /*pōlāwatēn*/ “{made} of steel, steely” (Henning 1947, 45; MacKenzie 1971, 69; Nyberg 1974, 162), ^m*pwl’wd* /*pōlāwad*/ “steel” (MPP 286)

III. Persian *pulād* “steel”, *pūlād* “the finest Damascus steel, which, with that of Qūm, is esteemed the best in the East, a sword; steel generally” (Steingass 1892, 254, 260; Vullers I, 384: “chalybs; gladius; clava” = “steel; sword; cudgel”).

Internal loanwords:

Persian > Baluchi *pulād*, *pūlāt* (Horn 1893, 75, #340); Kurdish *pūlā*, *pīlā* (RKS 655: *pola*), Pashto *pōlād* = *fulād* (RAS 697), Ossetic *bulat’*, *bolat’* (ROS 504: *bolat*), Shughni *pūlod* id. (RŠS 221).

External loanwords:

Middle Persian > Armenian *potopat*, *połovat*, Modern Armenian *połpat* “steel” (Hübschmann 1897, 231–32, #547).

Persian > Arabic *fūlād* & *fūlāt* “best steel” (Steingass 1988, 809); Turkic: Turkmen *pulat*, Taranchin, Azerbaijani *polat*, Kazakh *bolat*, Kumyk *bulat* “steel”; Kypchak > Russian, Ukrainian *bulát* (first the adj. *bulátnyj* in *Zadonščina* from the end of the 14th cent.). See Räsänen 1969, 387; Vasmer I, 238; Rybatzki 1999, 61.

Etymology:

Borrowed from a source of the type Vedic *pāvīravat-* [RV, VS] or *pavīrávat-* [AV] “armed with lance or a goad”, the adj. formed from the noun *pavīra* [Nir] “a weapon with a metallic point; lance, spear” (Korš²⁶¹ 1912 apud Reichelt 1913[1914], 74; Schrader & Nehring II, 444), which itself is a derivative of *paví-* m. “metallic point of a spear or arrow; tire of a wheel, esp. a golden tire on the chariot of the Aśvins and Maruts” [RV, AitĀr] (MW 611; EWAI II, 107).

Note: Witczak (2009, 298) speculates about the possibility of projecting Middle Persian *pwl’wd* /*pōlāwad*/ “steel” (MPP 286), continuing in Classical Persian *pulād* “steel” (Steingass 1892, 254), into virtual Old Persian ⁺*pāraθu-uat-*. He seeks support in the following regular chain of changes: Old Persian *-rθ-* > Middle Persian *-hl-* > Modern Persian *-l-*, as in Persian *pul* “bridge”, Middle Persian ^z*pwhl* /*puhl*/ (MacKenzie 1971, 69; Nyberg 1974, 162), Old Persian ^{*}*pṛθu-*²⁶², but in Middle Persian *pwl’wd* /*pōlāwad*/ there appears no *-hl-* and in Witczak’s reconstruction of Old Persian ⁺*pāraθu-uat-* there is no cluster *-rθ-*. The expected cluster *-rś-* is also missing in Sanskrit *pāraśava-* m./n. “iron” [lex.], adj. “made of iron” [MBh], which is explainable as the *vṛddhi*-formation from *paraśú-* “hatchet, axe” [RV] (EWAI III, 315; II, 87; Turner 1966, #7799h). The cluster *-rś-* appears only in the shortened epic form *parśu-* m. “axe” [R], continuing e.g. in Prakrit *pamsu-* “axe”, Oriya *pāūsi* “vegetable chopper”, Sinhalese *pihiya*, *pīhaya* “knife, chopper”, Nuristani: Ashkun *pōs*, Kati *peć* “large axe”, and borrowed in Parachi *páśō* (Turner 1966, #7947). The corresponding Iranian axe-names confirm the Indo-Iranian protoform

261 Korš, Theodor E. 1912. *Nekotoryja persidskija étimologii*. Moskva: Ottiski izb’ ‘Drevnostej vostočnyx’, Tom 4.

262 The word is missing in the Old Persian lexical corpus. Maybe it is possible to find its reflex in the man’s name written in New Elamite cuneiform from Persepolis as *pir-du-qa-na* which is interpreted as ^{*}*pṛtu-kana-* “tunnel-digger” by Gershevitch (1969, 220). Other interpretations – see Hinz 1975, 194.

**paraću-* > Iranian **paraśu-* > Yazghulami *parus* “axe” (Morgenstierne 1974, 59); Southwest Iranian or Scythian **paraθu-* borrowed in Khotanese acc. *paðu* “axe” (Bailey 1979, 203), Ossetic *færæt* “axe” (Abaev I, 451), and further in non-Iranian languages: Common Tocharian **parat*“*ä* > A *porat*, B *peret* “axe” (Adams 2013, 425); pre-Permic **partz* > Udmurt & Komi *purt* “knife” (KESK 233); Old Bulghar **parata-* > Chuvash *purdâ* “axe” (Joki 1973, 305).

steel₂

Ossetic *ændon* (Abaev I, 156–57).

External loanwords:

FU: Permic **andan* > Udmurt *andan*, Komi *jendon*, *jemdon*²⁶³ “steel” (KESK 99) > Mansi N *jěmtân*, all of late Sarmatian or Alanic origin, because the change *-*nT-* > -*d-*, regular in Permic, was not yet realized (Joki 1973, 249–50; Blažek 2005c, 178).

North Caucasian: Ingush *ondä* “steel”, Chechen *ondun* “hard, firm” | Dargin *šandan* “steel” | Ubykh *“ndän* “chisel; sharp” (Abaev I, 156–57).

Etymology:

Abaev (A I, 156–57) connected *ændon* with two Sarmatian personal names from the 3rd cent. CE, Ἀνδάνακος (= “of steel”), Ἀσπάνδανος (= “{having} horses of steel”), etc. (Zgusta 1955, 66, 327–28). Abaev also mentioned the term *andanik* for “steel”, used in various places of Persia according to the witness of Marco Polo (chapters 39 and 19). Abaev proposed the Iranian starting-point **ham-dāna-*, corresponding to Sanskrit *saṃdhāna-* “a foundery or place where metals are wrought or stored” [lex.], as Russian *uklad* “steel” : *klast’* “to put”, or Slovenian, Serbo-Croatian *nado* “steel” vs. *naditi* “to cover by steel”, derived from the same verbal root **d^heH₁-* “to put” as *saṃdhāna-* with its hypothetical Iranian counterpart, only with another prefix. Alternatively, Bailey (1979, 32) compared Ossetic *ændon* with Tocharian B *eñcuwo*, adj. *eñcuwaññe*, A adj. *añcwāši*, and Sogdian *’ynkwynč* “of steel” (this form is missing in Sogdian Dictionary of Gharib 1995), but the prehistory of the Tocharian forms probably does not allow us to connect them with Ossetic *ændon*.

tin₁ – B/D

II. Khotanese *tralo*, *ttralau* “tin” (= Buddhist Sanskrit *trapu-*, Tibetan *čhon-mo-ste*), adj. *ttralīnaa-* (Bailey 1979, 143).

Etymology:

Bailey (1979, 143) derived it from **tralāva-* < **trava-la-*, where the stem **trava-* had to be compatible with Vedic *trápu-* [AV], *trápuṣ-* [TS] “tin”, Pali *tipu-* id. < **t₁pu-*, Prakrit *taü(a)-* “lead”, Pañjabi *tū* “tin”, Oriya *ṭaü* “zinc, pewter” (Turner 1966, #5992), and further from the hypothetical root *(*s*)*tar-* “to shine”. Mayrhofer (*EWAI* I, 675) reconstructed the Indo-Iranian starting-point **trap-u-* “light (in weight)”, where the primary meaning “light (metal)” was reconstructed according to Southwest Iranian **çapu-ka-* > Middle Persian *zspwk* [*sabuk*], Persian *sabuk* “light, easy” (MacKenzie 1971, 73; Nyberg 1974, 173; but Bailey, l.c., did not agree). This solution is applicable to Khotanese *tralo*, *ttralau* “tin” too. Let us also mention Sanskrit *trapula-* “tin” [lex.], which could be directly a source of Khotanese *tralo*, *ttralau* “tin”.

tin₂ – C

III. Persian *saped-roy* “tin” (Steingass 1892, 653) = “white copper”.

tin₃ – D

III. Persian *tūtiyā* “tin” < Sanskrit *tuttha-* “blauer Vitriol, Kupfervitriol” [Kaut, Suśr], Nepali *tutho* “blue vitriol or sulphate of copper” (*EWAI* III, 249; Turner 1966, #5855).

Internal loanwords: Kurdish *tūtya* “tin”.

263 With -*m-* after *jem* “needle” (Joki 1973, 249).

External loanwords: Turkish *tutya*, Arabic *tūṭiyā* “tin” (Cabolov 2, 358). The borrowings into the European languages are collected by Lokotsch (1927, 165–66, #2120).

tin₄

III. Persian *qal’ī* “tin” (Steingass 1892, 985); Modern Persian *qal’* “tin” (*PDW* 578), Pashto *qala’i* (*RAS* 435), Ossetic *qala* “tin” (*ROS* 313), Baluchi *kalāi* (Geiger 1892, 452, #124), Kurdish *qela* “tin, brass” (*RKS* 412, 294), Wakhi *kalai* id. (Shaw) etc., all < Arabic *qalaṣiyy* “Indian tin (from the mine *qalṣ*, where it is found)” (Steingass 1988, 853), originally perhaps according to the name *Qualah* of the rich deposit of “tin” on the Malaccan Peninsula (Lokotsch 1927, 82, #1021; Rybatzki 1994, 231 has collected numerous parallels in Turkic, Mongolic, Kartvelian,).

tin₅

III. Persian *qazdīr* “tin” < Arabic *qazdīr* “tin, pewter” (Steingass 1892, 968; Id. 1988, 834) < Greek *κασσίτερος* [*Iliad*], Attic *καττίτερος*, “tin”, likewise Sanskrit *kastīra-* “tin” [lex.] (*EWAI* III, 79; Turner 1966, #2984), and Church Slavonic *kasiterъ* & *kositerъ* “stannum” [Leontius: *Vita S. Gregorii Agrigentium et Ioannis Eleemosynarii*] (Miklosich 1862–65, 284, 304), adopted in Bulgarian *kositro*, Serbo-Croatian *kòsiter*, *kositar*, Slovenian *kosíter*; Romanian *kositor* (Toporov 1980, 264). The question of etymology of the Greek root proper *κασσί-/καττί-* remains open. The traditional comparison to Vedic *kamsá-* “vessel made of metal, cup” [AV], *kāmsya-* “of brass” [ŚrSū], *kamsa-kāra-* “worker in white copper or brass” [BrahmaP], Pali *kamsa-* “bronze (dish)” (*EWAI* I, 285–86; Turner 1966, ##2576, 2987, 2989) and Prussian *kassoye* “brass” [Elbing Vocabulary: ‘Messing’] (Toporov 1980, 261–65) leads to *ad hoc* conclusions without any respect to historical and geographical connections. Maybe the reflection of Huld (2012, 330), who mentions the Greek suffix *-τερος* expressing the binary opposition, in *κασσίτερος* perhaps to *χαλκός* “copper” or to *μόλυβδος* “lead”, in combination with the idea of Tremblay (2004, 244), who deduced the meaning “copper” of the Elamite root **kasi-* on the basis of the following forms: Middle Elamite *qa-as-si-it-ri* “du als Schmiedender”, *qa-az-za-h-pi* “ich schmiedete für sie” (pl.), *qa-si-te* “metalworker”, New Elamite *qa-iz-za-qa* “es ist geschmiedet worden”, *kás-za-qa* “es ist geschmiedet worden”, *kás-zí-ra* “smith”, *kás-zí-pan* pl. “smiths” (*EW* 409, 411, 419, 447, 449, 450). It could be connected with the tradition of Elamite bronze artifacts, preceding the so-called Luristani bronzes (1000–650 BCE).

Conclusion

In the Iranian ‘metallic’ list, above, which is organized in alphabetical order, designations of 9 metals, or their alloys or modifications, have been analyzed: “brass” [2], “bronze” [4], “copper” [12], “gold” [4], “iron” [3], “lead” [11], “silver” [11], “steel” [2], “tin” [5], altogether 54 ‘metallic’ terms. In the case of inherited words, their cognates and etymologies are proposed. In the case of loanwords, their sources are sought, including intermediary forms to map the trajectories of borrowing. The most archaic is probably **ajah-*, Indo-Iranian **ajās-*, designating originally “copper” or “copper ore”, later “metal” in general or “iron” in later Vedic texts. The Latin and Germanic cognates confirm the primary meaning “copper (ore)”. Traces of this term in the Old Anatolian designation of “(meteoritic?) iron” mediated by Old Assyrian merchants allow us to think about a proto-language age of this term. It is only in the case of “copper” that this conclusion is in agreement with archaeological facts. The most probable etymology of the *s*-stem **H₂ej-es-*, based on the Hittite participle *ā-nt-* “warm, hot” vs. *e-nu-*, *i-nu-* “to make hot”, *ay-is(s)-* “to become hot”, and Greek *ιάίνω* “I (make) warm; delight; heal” (Puhvel 1–2, 10–12), indicates melting in the process of metallurgy. Similarly, Iranian **bring(i)a-* / **br̥ng(i)a-* “bronze”, together with Tocharian B *pilke* “copper” and Germanic **blik(k)a-* “(Gold)blech”, are etymologizable as “burnt” (or “shining”?) on the basis of the verbal roots **b^hleig-* or **b^hleg-*. The Iranian metal names **žaranja-*, **aržata-*, and **raūda-*, designating “gold”, “silver” and “copper” respectively,

originally expressed the colours $*\acute{g}^h H_3 njo-$ “yellowish”, $*H_2 er\acute{g}nto-$ “whitish” and $*H_1 rou\acute{d}^h o-$ “reddish” respectively, all neuters in congruence with the neuter of the *s*-stem $*H_2 ei-os / *H_2 oi-es^o$. The Iranian form $*(-)suan(i)a-$ could also have been a colour-attribute, namely “dark-blue”, applicable to both copper-compounds and iron too. The alternative semantic interpretation based on “holy” seems less probable, since it is not applicable to “copper”, the meaning of the Hittite cognate *kuwanna*.

Remarkable are the adaptations of the Iranian metal-terms in various Fenno-Ugric languages. These borrowings are limited only to some branches and in various quantities:

Mordvinian: “gold₁” – Σ 1;

Mari: “gold₁”, “copper₅” – Σ 2;

Permic: “gold₁”, “copper₅”, “lead₁”, “silver₄”, “steel₂” – Σ 4 or 5;

Ugric including Hungarian: “gold₁” – Σ 1;

only Hungarian: “copper₂”, “silver₄” – Σ 2.

The most wide-spread borrowing is apparently “gold”, attested in all these branches. But the partial protoforms cannot be projected into a single common protoform. In reality, they represent at least two distinct protoforms: a) Volgaic (Mordvinian-Mari) $*sern\acute{a}$ & Permic $*zar\acute{n}i-$ < $*sern\acute{a}3-$ / $*sar\acute{n}3-$; c) Ugric $*\theta ar\acute{a}na-$. The Volgaic & Permic protoforms are younger, because the second vowel is syncopated and the first vowel is unlauded, likewise in Middle Iranian languages. On the other hand, the Ugric protoform reflects the Old Iranian stage close to Avestan *zar\acute{a}n\acute{i}a-*. Let us mention that Volgaic $*s-$ ²⁶⁴ and Ugric $*\theta-$ ²⁶⁵ are regular continuants of older (Fenno-Ugric) $*s-$, which itself is a regular substituent of Old Iranian *z-* (but not of proto-Iranian $*z-$ or Indo-Iranian $*z-$). Volgaic-Permic “gold₁”, Mari-Permic “copper₅”, plus Permic “silver₄” and “steel₂”, probably represent the Sarmatian loanwords. The Hungarian terms “silver₄” and “copper₂” (?) were borrowed later from Alans. Uncertain remains the donor-languages of “lead₁” in Komi. It was probably a *Wanderwort* of Persian origin, likewise “lead₇” in Mansi. It is interesting that these metal-names do not appear in the Balto-Fennic and Saamic branches. But there is one metal-term common to all Fenno-Ugric branches: $*wa\acute{s}ka / w\acute{a}sk\acute{a}$ ²⁶⁶ “copper, ore”, with a semantic shift to “metal” or “iron” in some branches. The difficulties in projecting the Fenno-Ugric forms into one common protoform may be caused by the fact that they seem to represent a confusion of two originally different sources, pre-Tocharian $*ues\acute{a}$ responsible for the front root vocalism and a hypothetical Indo-Iranian term $*u\acute{a}ska-$ “bronze axe”²⁶⁷, responsible for the back vocalism. The situation of the Permic branch with 4–5 metal-terms of Iranian origin is comparable with Arme-

264 Cf. Mordvinian Erzya *sir\acute{e}*, Moksha *sir\acute{e}* “old” < $*ser\acute{a}$ < Iranian: Ossetic *z\acute{a}r/z\acute{a}r(w)\acute{a}* “old age”, *z\acute{a}rond* “old”, Pashto *z\acute{o}r*, f. *z\acute{a}ra* “old”, Avestan *zar\acute{a}ta-* id. (Joki 1973, 314, #141; NEVP 103; Abaev IV, 299, 304–05).

265 Cf. Hungarian *h\acute{e}t*, *het-* “7” with secondary *h-* after *hat* “6”; Khanty Trj. *\acute{a}p\acute{a}t*, Vj. *j\acute{a}w\acute{a}t* id. < Ugric $*\theta\acute{a}pt\acute{a}$ < Indo-Iranian or Indo-Aryan $*s\acute{a}pta$ “7” (Joki 1973, 313, #138).

266 Balto-Fennic $*wa\acute{s}ki$ > Finnish *vaski*, gen. *vasken* “ore; copper, bronze”, Estonian *vask*, gen. *vaske* “copper, brass” | pSaami $*v\acute{e}šk\acute{e}$ > Saami *v\acute{e}i'ke -ik-* (N) “copper”, *v\acute{e}i'hk\acute{e}* (L) “brass”, *v\acute{e}ške* (T), *v\acute{e}šk* (Kld.), *v\acute{a}šk* (Not.) “copper” | pMordva $*vo\acute{s}k\acute{a} / *va\acute{s}k\acute{a}$ > Mordva Erzya *u\acute{s}ke*, *vi\acute{s}k\acute{a}*, Moksha *u\acute{s}k\acute{a}* “wire, chain” | Mari *k\acute{a}rt\acute{n}i-wa\acute{z}* “iron ore”, *\acute{s}i-wa\acute{z}* “silver ore” (KB), *\acute{s}i-wo\acute{z}* (CK UJ) id. | Permic $*ve\acute{s}$ > Udmurt *az-ve\acute{s}* (S K G) “silver”; Komi *ez-j\acute{s}* (S P) “silver” || Ugric $*wa\acute{s}ka$ > Hungarian *vas* “iron”; the metathetical variant $*wak\acute{s}a$ is probably a source of Khanty *w\acute{a}y* (V), *w\acute{a}x* (DN), *\acute{o}x* (O) “iron, metal; money” (> Mansi N *v\acute{a}x*, So. folk. *wo\acute{x}* “copper, iron”), while Mansi *\acute{a}t-k\acute{u}\acute{s}* (TJ), *\acute{a}t-w\acute{a}s* (KO), *at-w\acute{a}s* (P), *at-w\acute{a}s* (So.), *o\acute{a}t-khw\acute{e}s* (K) “lead” stands close to the Permic forms (Napolskix 1997, 154–55 & 2001, 374; Collinder 1960, 97–98, 152, 409; Sammallahti 1988, 541; UEW 560, including the abbreviations of dialects).

267 Reconstructed on the basis of Vedic *v\acute{a}st-* f. “axe, adze, sharp knife or chisel as the weapons especially of Agni or Maruts and the instrument of R\acute{b}hus”, and Young Avestan *v\acute{a}st-* “Spitzmesser” (EWAI II, 548), which should represent the *v\acute{r}ddhi*-formation from an unattested form $*va\acute{c}a-$ (Carpelan & Parpola 2001, 127), corresponding to Osetic *w\acute{a}s* “axe” (Abaev IV, 58 added assumed later loanwords in Finno-Ugric: Hungarian *v\acute{e}s\acute{o}* “chisel”, and Finnish *veitsi* “knife”; but they are derivable from $*wej\acute{c}i$, cf. Kallio 2006, 7). The velar extension appears in Khotanese *va\acute{s}ki* “a tool made of stone”, perhaps “stone knife” (Bailey 1979, 379). Let us mention that Lubotsky (2001, 312–13) includes $*u\acute{a}c\acute{i}t-$ in the substratal lexicon adopted maybe from creators of the Bactria-Margiana Cultural

nian, where there are also 5 metal names of Iranian origin, probably adapted from three distinct donor-languages:

- (1a) Middle Persian ^Z*pwl'p̄t* /*pōlāwad*/ “steel” > Armenian *połopat*, *połovat* “steel”;
 (1b) Middle Persian ^Z*lcyc*, ^M*rzyz* /*arzīz*/ “tin, lead” > Armenian *arjij* “tin” (white), “lead” (black);
 (2a) Parthian ^M*plync* /*plinj*/ “bronze” > Armenian *plinj*, gen. *plnjoy* “copper (money), coin, ore, brass”;
 (2b) Parthian ^M*rwd* /*rōδ*/ “copper” > Armenian *aroyr*, gen. *arowr* “brass” > Georgian *rvali* “copper, brass”;
 (3) Alanic/Early Ossetic **arzaθ°* (attested as Ossetic *ærzæt* “ore”) > Armenian *arcat* “silver”.

Remarkable is the parallel double borrowing of the same metal-term into Kartvelian from two different Middle Iranian sources: Georgian *spilenzi* “copper” (> Swan *spilenž* id.), Mingrelian *linži* < {Armenian *plinj* “copper, brass, ore”? <} Parthian ^M*plync* /*plinj*/ “bronze”, and Georgian *brinžao* “bronze” < Middle Persian ^M*bryng*, ^Z*blnc* /*brinj*/ “bronze”.

Alanic **(h)andāna-* “steel₂” is a source of several North Caucasian designations of “steel” or tools from steel, and **raudja-* “copper” was probably borrowed into Avar (Daghestan) *rez* id., perhaps also under the influence of the Alanic predecessor of Ossetic *ærzæt* “ore”.

Probably still during the Achaemenid Empire the hypothetical Old Persian designation of “lead₂”, **siça-* (< **šuiθra-* “white”), whose real existence should be confirmed by Kurdish *sīs* “lead ore”, penetrated into Old Indic *sīsa-* n., *sīśaka-* m.n. “lead” and continuants in modern Indo-Aryan languages, plus Burushaski.

In the opposite direction, Old Indic *pāvīravat-* [RV, VS] or *pavīravat-* [AV] “armed with lance or a goad”, was adopted in Middle Persian as ^Z*pwl'p̄t*, ^M*pwl'wd* [*pōlāwad*] “steel₁” > Persian *pūlād* and further in many languages of the Near East, Caucasus and Central Asia.

Later and more numerous are metal-names borrowed into various modern Iranian languages from modern Indo-Aryan or Dardic languages: “brass₂”, “copper₇”, “copper₁₀”, “copper₁₁”, “copper₁₂”, “gold₄”, “iron₂”, “silver₁₀”, “silver₁₁”, “tin₁”, “tin₃”.

Relatively old are also two designations of “silver” of Greek origin (“silver₂” & “silver₈ {coin}”) and the Sogdian calque “silver₂” on “silver₃”, probably penetrating even into Tocharian.

The adoption of Sogdian ^{Ch}*spyn* /*spən*/ < **aspanja-* “iron, chain, iron fetter” into Middle Chinese **pjin* > Chinese 鑛鐵 *bīn tiě* “wrought iron” (鐵 *tiě* means “iron”) was realized in the 6th-7th cent. CE.

In the opposite direction, the Chinese metal-terms penetrated into Iranian (Persian) with Turkic mediation: “bronze₃”, “gold₃”, “iron₃”.

The most recent layers of loanwords in the Iranian metal terminology are metal designations borrowed from Arabic: “copper₈”, “gold₂”, “lead₆”, “lead₇”, “lead₈”, “silver₇”, “tin₄”, “tin₅”, usually adopted from older Near Eastern languages or Greek; Turkic: “bronze₃” < Chinese, “copper₆” < Tocharian?, “copper₉”, “gold₃” < {partially} Chinese, “iron₂”, “lead₅” (< Mongolic?); exceptionally also from Mongolic: “lead₁₁”, “silver₉” < Chinese. The opposite direction of borrowing from Persian is represented e.g. by “lead₁”, “silver₇”, “tin₃” into Arabic, and by “bronze₁” into Turkic.

There are still several unique cases: Ossetic “bronze₄” < Russian; Wakhi “iron₄” < Burushaski; Middle Persian & (or >) Sogdian “lead₃” / “tin” < Elamite?; Parthian “bronze₁” > Syriac.

Summing up: in the Iranian metal terminology the role of the Iranian civilization as a major cultural crossroad is reflected. This terminology has integrated archaic forms inherited from the Indo-European protolanguage with those borrowed from old cultural centres in the Near East and Mediterranean, India and China. And these forms are further redistributed in languages of

Complex. Referring to the only source of the Ossetic word, viz. Miller 1903, 10, he corrects the actually recorded form to *was* < **uāc°*.

the Caucasus, plus Armenian, Fenno-Ugric, Turkic, Tocharian, Chinese, Indo-Aryan, Syriac and Arabic languages.

Table 2: Metal-terms inherited from Indo-European

metal	Iranian	IA	IE cognates	IE	semantics	FU parallels
bronze ₁	*bring(i)a-/ *br̥ng(i)a-		Toch. B <i>pilke</i> copper Gmc. *blik(k)a- (Gold)blech	*b ^h leig- or *b ^h leg-	burnt or shining	
copper ₁ (ore)	*ajah-	áyas-	Lat. <i>aes</i> ; Gmc. *aiza-	*H ₂ eǵ-es-	melting {metallurgy}	
copper ₂	*rauda-	lohá-	ON. <i>raudī</i> ; Sl. *ruda	*H ₁ rouǵ ^h o-	red {ore}	?Hu. <i>réz</i> copper
gold ₁	*zaranja-	híranya-	Gr. χρουνός	*ǵ ^h H ₃ -n/t ^o	yellowish	Vo. *serñá Pe. *zarñi- Ug. *θaraña-
iron ₁	*(-)śuan(i)a-		Hit. <i>kuwanna</i> - copper Gr. κύανος enamel	*k ^h uǵHo-	dark-blue or holy?	
silver ₁	*arzata-	rajatá-	Lat. <i>Argentum</i>	*H ₂ erǵnto-	whitish	

Table 3: Metal-terms formed only in (Indo-)Iranian

metal	Iranian	parallels or protoforms	semantics	note
brass ₁	Os. <i>būr/bor</i> yellow	Ir. *baura-	brown	
bronze ₃	Psh. <i>žar, žer</i> < *zarita-	Av. <i>zairita</i> - yellow	yellow	
copper ₃	Kh. <i>śā(va)</i> - < *śiāua-	Av. <i>siiāuuu</i> - black, dark	dark	
copper ₄	Sang. <i>zâ</i> < *zaia-?	Av. <i>zaiia</i> - weapon	weapon	
copper ₅	Os. <i>ærx^wi/ærxi</i> < *xruina-?	Av. <i>xrūniia</i> - Bluttat	bloody	pMa. *würyeñâ Pe. *ürgen
lead ₁	*śru[ba]-	Skt. <i>śub^hrá</i> - bright, white; silver Arm. <i>sowrb</i> clear, holy	bright, clear	Ko. <i>uupoe</i> = *śjr-iś?
lead ₂	OP. *siça- < *śuiθra- Ku. <i>śis</i> lead ore	Skt. <i>śisa</i> - lead < OP.	whitish	
lead ₃ / tine	*arčič ^o	El. <i>harki</i> iron + Ir. dim. *-iča- or Ir. *arž[ata]- silver? or Skt. <i>arc</i> - to shine?	little iron? silver- like? shining?	
lead ₄	Kh. <i>daujsä</i> < *dāvačā-?	Ir. *daǵH- to burn	burnt	
lead ₅	Os. <i>ærγæu</i> < *grau- Iron <i>ærγon</i> tin	Av. <i>γru</i> - heavy	heavy	
silver ₃	Sgd. ^{Bn} *krt'k [nā-kṛte]	pSgd. *nā-kṛtaka- undone	uncoined	
silver ₄	Os. <i>ævzīst/ævzestæ</i>	Ir. *arž-upast(H)ia- silver- place	deposit of silver	Pe. *āzv3śk3 Hu. <i>ezüst</i>
silver ₅	Psh. <i>spīnzār</i> , Orm. <i>spū- zār</i>	Ir. *śuiθna-žarna-	white gold	

metal	Iranian	parallels or protoforms	semantics	note
steel ₂	* <i>ham-dāna-</i>	Skt. <i>saṃd^hāna-</i> place where metals are wrought	done together	Pe. * <i>andan</i> steel
tin ₂	Kh. <i>ttralau-</i> < * <i>trap[u]l^o</i>	Skt. <i>trápu(ṣ)-</i> & <i>trapula-</i>	light?	= unheavy

Abbreviations: Arm. Armenian, Av. Avestan, ^B Buddhist, ^{Ch} Christian, El. Elamite, FU Fenno-Ugric, Gmc. Germanic, Gr. Greek, Hit. Hittite, Hu. Hungarian, IA Indo-Aryan, IE Indo-European, Ir. Iranian, Kh. Khotanese, Ko. Komi, Ku. Kurdish, Lat. Latin, ^M Manichean, Ma. Mari, ON. Old Norse, OP. Old Persian, Orm. Ormuri, Os. Ossetic, p proto-, Pe. Permic, Psh. Pashto, ^S Sogdian script, Sang. Sangisari, Sgd. Sogdian, Skt. Sanskrit, Sl. Slavic, Toch. Tocharian, Ug. Ugric, Vo. Volgaic, ^Z Zoroastrian.

III. Traces of Indo-European place-names in the toponymy of Central Asia

In the tradition of Indo-European studies onomastics represents a highly valued discipline. Etymological analyses of proper names in languages which are insufficiently documented frequently offer substantial information about these languages. The most ambitious expectations have been connected with the etymological study of hydronyms, since river-names have been shown to be the most resistant to language replacements in a given territory. Already from the Palaeolithic, human migrations led their routes along rivers and in river valleys people found places to live. With the introduction of agriculture in the Neolithic the role of rivers was strengthened further. It is no surprise that some rivers were deified. From the point of view of its historical toponymy, especially hydronymy, Europe has been mapped better than any other continent. Thanks to rich ancient, Byzantine and medieval sources, it is usually possible to follow the development of individual toponyms during the last one or two millennia, exceptionally for longer periods, namely around the Mediterranean Sea, in the Near East, including Egypt (with oldest place-names of all, recorded already around the end of the 4th mill. BCE), Asia Minor and Elam/Persia/Iran, further the Indian subcontinent and China. Very well defined is the territory of Central Asia, where meet the limits of the geographical information of the ancient Mediterranean civilization, from west to east, and of the Chinese civilization, from east to west; both are dated to the 2nd cent. BCE. The most archaic source of our geographical knowledge of Central Asia is the Younger Avesta, although the identification of concrete toponyms frequently remains doubtful. In the present part we concentrate on geographical, historical and etymological analysis of toponyms, especially hydronyms, recorded in Greek, Latin and Chinese sources. If possible, these are supplemented by analysis of their chronologically oldest counterparts from the Younger Avesta and from their most recent successors of Turkic and Mongolic origin, which have usually been preserved till the present time.

A. Central Asiatic Hydronyms: Basins of the Aral Sea and Lake Balkhash

The first section of the toponymical Chapter focuses on the two biggest lakes of Central Asia, the Aral Sea and Lake Balkhash, and their biggest tributaries, the Amu Darya, Syr Darya, and Ili River.

Aral Sea

Surface area: 1960 – 68 000 km² (one lake), 1998 – 28 687 km² (two lakes), 2004 – 17 160 km² (four lakes), 2009 – 6 800 km² (three lakes; southeast part completely dried up and now is called *Aralkum*).

Turkic & Mongolic origin

Chaghatai *Aral dāñizi*, Kazakh *Aral teñizi*, Uzbek *Orol dengizi*, etc.

Etymology:

The second component designates “sea” in Turkic languages (< proto-Turkic **täŋgiŋ* “sea” – see discussion about *Deyi*, one of the Chinese names of the Balkhash lake, below). On the other hand, in the westernmost Mongolic language, Kalmyk, the lake is called *Arġ nūr*, i.e. “A. lake”, cf. Common Mongolic **naγur* > Written Mongol *naγur*, Middle Mongol *na’ur*, *nāwur* “lake”, *nāwor* “sea”, Khalkha *nūr*, Buriat *nūr*, Kalmyk *nūr*, Ordos *nūr*, Dagur *naur*, *naure*, Monguor *nūr*, *nōr* “lake”,

Oirat *nur* “lake, pond” (Poppe 1955a, 163; Ramstedt 1935, 258; Indjieva 2009, 160). The word *aral* usually means “island” in Turkic languages: Old Uyghur *aral* “island, thicket”, Chaghatai *aral* “island”, Kazakh *aral* “river island covered by bush”, Kirgiz, Nogai, Bashkir *aral* “island”, Uzbek *aral* id., Sary-Uyghur *ayal* id., Shor *aril* id. (*DTS* 50; Räsänen 1969, 23; *ESTJ* 1, 167). Turkic **aral* has been explained as a loanword from Mongolic (so e.g. Räsänen, l.c.): Written Mongol *aral* “island”, Middle Mongol *aral* id. (Secret History of Mongols; Muqqadimat al-Adab), Khalkha, Ordos, Shary-Yughur *aral*, Buryat *alar* (> Yakut *alar*), Kalmyk *arɿ*, Dongxian *aran*, Baoan *alər*, *arən*, Dagur *alla*, *aral*, Monguor *rāl*, *ral*, *arā(r)* (Lessing 1960, 48; Ramstedt 1935, 14, 15; *TMEN* 1, 119–20). But for the Turkic word there is a convincing internal Turkic etymology: Karakhanid (11th cent.) *ikkī kigī otrā arālādī* “he made peace between the two people”; also “he passed between them, or two things”; Chaghatai (15th cent.) *arala-* “to pass between two things; to act as mediator”, Osman Turkish (15th cent.) *arala-* “to separate (two people); to appear between (two things)”, formed from **āra* > Türkü (Orkhon, 8th cent.) *ekīn arā* “between the two” (Clauson 1972, 231; 196), Old Uyghur *ara*, Karakhanid *ara* (Mahmud of Kashgar) “space between”, Turkmen *āra* etc. (Räsänen 1969, 22; *TMEN* 2, 24; *ESTJ* 1, 162–64). The semantic motivation in designation of “island” resembles Indo-Iranian: Vedic *dvīpá-* “(river) island” [RV 1.169.3; 8.20.4], Young Avestan *duuaēpa-* “island” [Yt 5.81], originally **dwi-H₂pó-* “two-watered”, i.e. “with water on both sides” (*EWAIL*, 769). If the Turkic word **aral* has a convincing internal etymology, its Mongolic counterpart without internal etymology should have been borrowed from Turkic (cf. Poppe 1955, 38).

Chinese sources

Leizhu

The hydronym was identified in 雷轟 *léi²⁶⁸ zhù²⁶⁹* in the Chinese anonymous text 西河舊事 *Xi-he jiu-shi* (Wade-Giles: *Hsi-ho chiu-shih*) “Notes on Xi-he”, written before 500 CE (Pulleyblank 1962–63, 94; on *Xi-he jiu-shi* cf. Dubs 2010, 98, §104).

Etymology:

Projecting the limnonym into the earlier stages of the history of Chinese, the following two forms probably represent a maximum in age with respect to the time of recording:

- (i) Eastern Han Chinese **rhwājáh* (c. 200–0 CE) or
- (ii) Western Han Chinese **rhwājáh* (c. 0–200 BCE), both reconstructed by Starostin (*ChEDb*).

It is tempting to see here a transcription of Iranian **hrautah-* ntr. “river, stream, canal”:

(a) Young Avestan *θraotō.stāt-* “in Flüssen/Flüssen befindlich” [Y 71.9; 68.6], *θraotō.stac-* “in Flüssen laufend, fliessend” [Yt 13.10] (Bartholomae 1904, 800) < Indo-Iranian **srautas-tāč-* (Hoffmann & Forssman 1996, 108); Old Persian *rautah-* “river”, Parthian *rwd* “river, canal”, Middle Persian Manichaean *rwd* “river, canal” (*MPP* 299), Zoroastrian Pahlavi *lwt /rōd/* (MacKenzie 1971, 72; Nyberg 1974, 171: */rōt/*), Persian *rōd* “river”; Sogdian (Manichaean, Christian) *rw(w)t* “river” (Gharib 1995, #8600); Khotanese *rauvā* “stream” (Bailey 1979, 369–70). Concerning the concrete grammatical form, it is promising to think about the nom.-acc.pl. ntr. in **-āh*, giving Avestan *-ā*, e.g. *raocā* (Hoffmann & Forssman 1996, 155, §109). It would imply the meaning “streams, canals”, understandable in the case of the delta of the Amu Darya, consisting of numerous streams and canals at the time of the full extent of the Aral Sea. Alternatively, it is possible to think about the feminine **hrautiā*, corresponding to Sanskrit *srotyā-* f. “flowing water, a wave, surge, stream, river”, maybe in the loc.pl. in **-ahu*, as in Avestan *qzahu* or *ušahuua* (later one with postposition **-ā*, see Hoffmann & Forssman 1996, 156, §109). In this case the delta would be described as “at the place of canals” *vel sim*.

268 Chinese 雷 *léi* “thunder” < Late Middle Chinese **luaj* < Early Middle Chinese **lwaj* (Pulleyblank 1991, 185) ~ Middle Chinese **loj* < Postclassic Chinese **lhwāj* < Han Chinese **rhwāj* < Classic Old Chinese **rhwāj* < Preclassic Old Chinese **rhūj* (Starostin, *ChEDb*; *GSR* 0577 n-o). Comments: For **rh-* cf. Jianou *so*², Jianyang *sui*².

269 Chinese 翥 *zhù* “fly upwards, soar” [Late Zhou] < Late Middle Chinese **tʃiä / *tʃyā* < Early Middle Chinese **tʃiä* (Pulleyblank 1991, 415) ~ Middle Chinese **cò* < Postclassic Chinese **cò* < Eastern Han Chinese **cāh* < Western Han Chinese **tah* < Classic Old Chinese **tah* < Preclassic Old Chinese **tas* (Starostin, *ChEDb*; *GSR* 0045 o).

(b) Another possibility is represented by Avestan **ruθbar** “belly, entrails”, loc.pl. **ruθβō.huua** (Hoffmann & Forssman 1996, 153), with cognates in Sogdian (Buddhist, Manichaean) *rwβ / ruβ/* (Gharib 1996, #8553), Parthian *rwmb / rumb/* “mouth” (MPP 299), Munji *yīrv, yərv, yurv* “mouth”. It seems again, the loc.pl. reconstructible as **ruθuahu** “in the entrails” or “in the {river} mouths” could describe the delta, here concretely of the Amu Darya.

Dazewuya

In “Book of Han” (漢書 *Hànshū*) describing the events of the Former (or Western) Han dynasty from 206 BCE to 23 CE, which was finished by Ban Gu (班固) in 111 CE, the geographical term 大澤無崖 *dà zé wú yá* “the great marsh without a (further) shore” probably belonged to the Aral Sea (Hulsewé 1979, 130, fn. 318).

Greek and Roman sources

Oxia Palus

The first ancient author mentioning the existence of the Aral Sea was probably Polybius (c. 200–118 BCE) in his “Histories”. If he localized *Apasicae* between the rivers Oxus and Tanais, he apparently thought of the Oxus with its mouth into the Hyrcanian (= Caspian) Sea and Iaxartes. The mistaken identification of the Tanais instead of Iaxartes also implied the mistaken identification of its mouth into the Maiotis (Sea of Azov), but Polybius already knew about bodies of water other than the Hyrcanian (= Caspian) Sea:

10.48. οἱ δ’ Ἀπασιάκαι κατοικοῦσι μὲν ἀνὰ μέσον Ὀξου καὶ Τανάιδος, ὃν ὁ μὲν εἰς τὴν Ὑρκανίαν ἐμβάλλει θάλατταν, ὁ δὲ Τανάϊς ἐξίησιν εἰς τὴν Μαιωτίν λιμνὴν· εἰσὶ δ’ ἑκάτεροι κατὰ τὸ μέγεθος πλωτοί.

Polybius: *Historiae*, ed. Theodorus Büttner-Wobst after Ludovic Dindorf. Leipzig: Teubner, 1893–.
<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0543.tlg001.perseus-grc1:10.48>>

10.48. “The Apasiacae live between the rivers Oxus and Tanais, the former of which falls into the Hyrcanian Sea, the latter into the Palus Maeotis. Both are large enough to be navigable.”

Polybius: *Histories*, translated by Evelyn S. Shuckburgh. London – New York: Macmillan 1889.
<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0543.tlg001.perseus-eng1:10.48>>

Arrian (92–175 CE) in his *Anabasis* [3.29.2–3.] knew that the Oxus emptied into some big sea near Hyrcania. It is impossible to decide whether he thought this was the Caspian or Aral Sea:

ἐξίησι δὲ ὁ Ὀξος ἐς τὴν μεγάλην θάλασσαν τὴν κατὰ Ὑρκανίαν.

“The Oxus discharges its water into the great sea which is near Hyrcania.”

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.29.2>>

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.29.3>>

<https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_III/Chapter_XXIX>

Ptolemy [6.12.3] in the mid-2nd cent. CE already used the designation Ὠξειανὴ λίμνη. But he mistakenly proposed that one of {Sogdian} rivers flowed from {instead of into} this lake.

ἀφ’ ὧν ποταμοὶ διαρρέουσι συμβάλλοντες ἐκείνοις πλείους ἀνόνομοι,
ὧν εἷς ποιεῖ τὴν Ὠξειανὴν λίμνην,

ἧς τὸ μέσον ἐπέχει μοίρας ῥα με·

“From these mountains, several nameless rivers flow through {the country},

then uniting with those {Oxus & Iaxartes}.

one of these {nameless} rivers flows from the Oxia lake,

the middle of which is located in 111° 45°.”

Edition by C.F.A. Nobbe (1966) and Humbach & Ziegler (1998).

Translated by Humbach & Ziegler (1998).

Using the Latin name *Oxia palus*, Ammianus Marcellinus (330–395/400 CE) was the first to correctly determine that the mouth of the Iaxartes, i.e. his corrupted Araxates, was just in this lake and not in the Caspian Sea [23.6.59]:

Hinc Sogdiani agunt sub imis montium pedibus, quos appellant Sogdios, inter quos amnes duo fluunt navium capacissimi, Araxates et Dymas, qui per iuga vallesque praecipites, in campestram planitiem fluvii decurrentes, Oxiam nomine paludem efficiunt, late longeque diffusam.

“Next the Sogdiani dwell at the foot of the mountains which they call the Sogdii, through whose territories two rivers flow which are navigable by ships, the Araxates and the Dymas. These streams rush headlong over mountains and valleys into a level plain and form a lake, **Oxia** by name, which is both long and broad.”

Ammianus Marcellinus: *Rerum Gestarum*. With An English Translation. John C. Rolfe, Cambridge (Mass.): Harvard University Press – London: Heinemann 1935–1940.
 <<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-lat1:23.6.59>>
 <<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-eng1:23.6.59>>

Etymology:

See the section **Oxus**.

Iranian sources

Čaēčasta-

Probably the oldest witness about the Aral Sea appears in the Young Avesta, perhaps originating in the period 900–700 BCE:

Yašt 5.49 (cf. Yašt 9.21)

təm yazata /arša airiianəm daxiiunəm /
 “Ihr opferte der Held der arischen Länder,
xšaθrāi haṅkərəmō haosrauua / pasne varōiš caēcastahe /
 der Befestiger des Reiches, Haosravah, angesichts des Sees **Čaēčasta**,
jafrahe uruuāpahe / satəm aspanəm aršnəm /
 des tiefen mit der weiten Wasserfläche, hundert männliche Pferde,
hazaθrəm gauuəm / baēuuarə anumaiianəm /
 tausend Rinder, zehntausend Schafe.“

Yašt 5.50

ātaḥ hīm jaidiiat: / auuat āiiaptəm dazdi mē / vaṇuhi səuuīšte arəduuī sūre anāhite
 “Und er bat sie: ‘Diesen Erfolg schenke mir, o gute gewaltigste, o gewaltige makellose Arədvī’“

Yašt 9.22 (cf. Yašt 9.18)

dazdi mē vaṇuhi səuuīšte / druuāspe taḥ āiiaptəm /
 “Schenke mir, o gute gewaltigste Drvāspā, diesen Erfolg
yaθa azəm nijanāni / mairīm tūrīm fraṅrasiiānəm /
 dass ich den türischen Schurken Fraṅrasyan niederschlage,
pasne varōiš caēcastahe / jafrahe uruuīāpahe /
 angesichts des Sees **Čaēčasta**, des tiefen mit der weiten Wasserfläche.”

Nyāyišn 5.5 (cf. Sih rōčak 2.9)

āθrō ahurahe mazdā puθra / kauuōiš haosrauuaṅhahe /
 “den Ātar, den Sohn des Ahura Mazdāh, den Kavi Haosravah,
varōiš haosrauuaṅhahe / asnuuaṅtahe garōiš mazdadātahe /
 den See Haosravah, den mazdāhgeschaffenen Berg Asnvant,
caēcastahe varōiš mazdadātahe / kāuuaiieheca xʷarənaṅhō mazdadātahe /

den mazdāhgeschaffenen See Čaēčasta und die mazdāhgeschaffene kavische Herrlichkeit”
Translated by Fritz Wolff 1910.

The traditional identification of the lake Čaēčasta- with the Lake Urmia (surface area 6100 km² in 1995, but 2 366 km² in 2011; 1 278 and 1271 m above sea level respectively) in the provinces East & West Azerbaijan in northwest Iran (e.g. Justi 1864, 107; Id. 1868, 31, 120; Geiger 1882, 129; Bartholomae 1904, 572; Wolff 1910, 447; Reichelt 1911, 104, 286) is based on a more than problematic²⁷⁰ localization in *Bundahišn*:

*war ī čēčast andar ād\urbādagān*²⁷¹, *garm-āb, jud-bēš kū tis-iz gyānwar andar nē bawēd, u-š bun*
ō zrēh frāxwkard paywast ēstēd. [‘Indian Bundahišn’ 19, sent. 1].

“Der See **Caecasta** in Atunpatakan (hat) warmes Wasser, ist ohne Leben, in ihm ist kein lebendes Wesen; seine Wurzel ist mit dem Meere Vourukaša verknüpft.” [‘Bundehesh’, XXII/LV.11].

“Lake **Chechast** in Atarpatakan is of warm water, opposed to life, that is, there is nothing animate within it. Its source is connected with the Ocean Frakhvkart.” [‘Greater Bundahišn’, XII.3].

war ī husraw pad panjāh fras\ang <ī> *war ī čēčast* [‘Indian Bundahišn’ 19, sent. 10].

“Der See Haosravangha (liegt) 50 Parasangen vom See **Caecasta**.” [‘Bundehesh’, XXII/LVI.7].

“Lake Husrub is at a distance of four frasangs from Lake Chechast.” [‘Greater Bundahišn’, XII.13].

<http://titus.fkldg1.uni-frankfurt.de/texte/etcs/iran/miran/mpers/bundahis/bunda.htm?bunda019.htm>

German translation by Ferdinand Justi 1868.

English translation by Behramgore Tehmuras Anklesaria.

<<http://www.avesta.org/mp/grb12.htm#chap22>>

Aturpatakan or Atanpatakan, Greek Ἀτροπατηνὴ, also known as *Media Atropatene*, was the territory in present Iranian Azerbaijan, where Atropates, the former Achaemenid governor of all Media, founded an independent kingdom after the death of Alexander of Macedonia in 323 BCE. The only lake in this area is Lake Urmia. But the Avestan geography was concentrated on the eastern side of the Iranian world. The eastern shores of the Caspian Sea, perhaps *Vouru.kaša* in Avesta (cf. Geiger 1882, 50), could have represented the easternmost borderline. The inlet of the *Vouru.kaša*²⁷² sea called *Haosrauuh*²⁷³ had to have been 50 parasangs distant from the lake Čaēčasta according to Bundahišn (cf. above). The length measure parasang²⁷⁴ was used for various distances ranging from 2,4 km to 10 km. This means that this distance is also applicable to the Caspian Sea and Aral Sea. The northeastern Blue Bay (or Carevič Bay; today Mērtvuj {‘Dead’} Kultuk) of the Caspian Sea and the place called Kutan bulak on the western shore of the Aral sea, both on the 45th latitude, are only *c.* 270 km distant. This really means *c.* 50 parasangs, if the most frequent values 5,3 km (‘Attic measure’) or 5,7 km (‘Olympic measure’) are taken in account. The description of capture of the Turanian villain Fraṅrasyan (see Yašt 9.18–22) is apparently situated

270 Nyberg (1974, 54, 186) comments this identification: ‘No doubt a lake in Eastern Iran, but identified by the Western Zoroastrians with Lake Urmia.’

271 This form developed into the modern geographical term *Azerbaijan* (cf. Najari & Mahjoub 2015, 176).

272 Characterized by its “wide inlets” (Bartholomae 1904, 1429).

273 Yašt 19.56: *taṭ xʷarəṇō apatacaṭ / taṭ. xʷarəṇō. apa.hiḍaṭ: / aḍa hāu apayžārō buuaṭ / zraīianhō vouru.kašahe / vairiš yō haosrauuh nqma* “Er machte sich schwimmend an diese Herrlichkeit heran, diese Herrlichkeit lief fort, diese Herrlichkeit wich aus, und es entstand jener Abfluß des See *Vouru.kaša*, die Bucht, die Haosravah heißt.“

Translated by Fritz Wolff.

274 E.g. Strabo [11.11.5] recorded that according to some authors 1 parasang was 30 stadia, for others it was 40 or even 60 stadia. The most frequent variant was 30 stadia, corresponding to 5,3 or 5,7 km and called Attic or Olympic respectively (see below). <<https://en.wikipedia.org/wiki/Parasang>>

in his territory, i.e. the area of the Turanian tribes, localized by Geiger (1882, 194) from the eastern shores of the Caspian Sea to the Syr Darya.

In Middle Iranian traditions the toponym Čāēčasta was probably shifted to the Taškent oasis (Livshits 2007, 179), known in Parthian as *š šs[tn?]* /*Čāčestān/*, with the parallel Greek transcription Τσατσσηνης, both attested in the inscription on the Ka^aba-ye Zardošt in Naqš-e Rostam of the Sassanian king Šāhpuhr I, ruling in the period 240/42 - 270/72 CE (Tremblay 2004, 127). Cf. also Sogdian *c'c /Čāč/*, *c'c(y)ny /čāč(ē)nē/* ‘from Čāč, i.e. Taškent’ etc. (Gharib 1995, ##3117, 3118, 3119, 3120; Livshits 2007, 179).

Etymology:

The following etymological solutions have been proposed till the present time:

(a) Bartholomae (1904, 575) tried to explain the lake-name as “weißschimmernd”, proposing here an intensive reduplication from the root **cand-*, known from Khotanese *cadana-* “shining” (Bailey 1979, 98), and further Vedic *cāniścadat* “schimmernd” [RV 5.43.4], Sanskrit *cand-* “to shine, be bright” [Dhātupāṭha 3.31], *candrá-* “glittering, shining, having the brilliancy (said of gods, of water)” [RV 10.121.9] (*EWAI* I, 528–29).

(b) Rejecting Bartholomae’s solution as *ad hoc*, Gershevits (1974, 72) derives Čāēčasta- from **šaēčasta-* via regressive assimilation²⁷⁵, which should be a *ta*-abstract from the present participle **šaičant-*, all from the Iranian root **hajč-* > Avestan *haēc-* “to pour (out); irrigate”, *frašicinti* 3 pl. “to sprinkle, pour out”, Manichaean Middle Persian *pršynz-* “to flow through”, Parthian *šyxt* “to pour, flow, overflow; sprinkle”, Khotanese *hās-* “to wet, besprinkle”, *āššimgyā-* “pool”, Sogdian *šync* “to pour”, Khwarezmian *bync-* “to pour out, scoop (water)”, Persian *xēsāndan* “to soak, moisten” etc. (Cheung 2007, 127), further Vedic *sec-* “to pour (out) < IE **sejkʰ-* “to pour” (Pokorny 1959, 128). In agreement with the RUKI-law the change **h-* > **š-* after prefixes terminating in **-i* or **-u* is regular. In Iranian, this rule was generalized to all prefixes, but it is difficult to explain it in the noun, where are no traces of any prefix.

(c) Najari & Mahjoub (2015, 176, §3.3) think about a compound consisting of the poorly attested verbal root **kaj-/čaj-* (Awromani *kīāstáy/kīān-*, Kohrudi *kīnāda/kīn-* “to send”, Abyaneh *ājayā/ājey* “to approach” – see Cheung 2007, 229) and **kas-* “to look, appear” (Cheung 2007, 245). The primary meaning should be “showy flow”. There is no palatalized variant of the root **kas-* (with exception of secondary palatalized forms in some Pamir languages) and the semantic motivation of the hypothetical compound remains unintelligible. But the idea of a derivative from the verb **kas-* “to look” could be fruitful, e.g. it is applicable to a lake with see-through water or a lake with invisible shores (cf. the Chinese name *Dazewuya* discussed above). Naturally, it would remain to explain the first component.

(d) The following solution also assumes an old compound, maybe adopted into Avestan from another early Iranian dialect. It should consist of these components:

(i) **čaj-*: Khwarezmian *cy-* “to freeze”, Sangisari *čey-* id., Persian *čā(h)īdan/čay-*, Zazaki *čī-* “to become cold”, Mazanderani *čā-* “cold”, Abyaneh *čoyemūn* “a cold”, Yagnobi *ši-*, Yidgha *čīy-/čūy-* “to freeze”, Ormuri *cāk* “cold” (Cheung 2007, 39: **čīaH-/čīH-* “to freeze”);

(ii) **časta-*: Khotanese *tcesta-* “heaped up, accumulated”, var. *tčista-* “heaped, gathered” (Bailey 1979, 142; he compares it with Ossetic Digor *caendæ*, Iron *caend* “heap of stones”, *caend amad* “bank of a river”, where *amad* means “built, formed” – see Abaev I, 300, 49).

The compound should designate a lake which was “accumulated thanks to frost”, i.e. from frozen rivers, when they melted. It corresponds with the mythical time described in Vidēvdāt 2 (cf. also Geiger 1882, 46, who identified in *Arəduuī* the Oxus River):

275 In contrary, Nyberg (1974, 186) assumed a dissimilative change **č...č > š...č* in Pahlavi *šyck'n /Šēcīkān/* “belonging to **Šēc*, i.e. Lake Urmia, really written *Šz* < **Cēc*, abbreviated from *Cēcist*.”

§22. *āq̄t̄ aoxta ahurō mazdā yimāi: / yima srīra vīuuahana /
 auui ahūm astuuantəm ayəm zimō jahhəntu / yahmaṭ haca staxrō mrūrō ziiā: /
 auui ahūm astuuantəm ayəm zimō jahhəntu / yahmaṭ haca pauruuō snaodō vafra /
 snaēzāt / barəzištaēibiiō gairibiiō / baṣnubiiō arəduiā /*

§22. “Und es sprach Ahura Mazda zu Yima: ‘O schöner Yima, Vivahvantsproß! Über die böse stoffliche Menschheit sollen die Winter kommen, (und) infolgedessen der strenge verderbliche Winter(frost); über die böse stoffliche Menschheit sollen die Winter kommen, infolgedessen zunächst das Gewölk Schneemassen herschneien wird von den höchsten Bergen her bis zu Tiefen, (wie sie) die Arədvī (hat).”

§ 24. *parō zimō aētaṅhā dahūš aṅhaṭ bəratō vāstrəm / təm āfš pauruua vazaidiīāi /
 pasca vītaxti vafrahe / abdaca ida yima aṅuhe astuuaitē sadaiiāt /
 yaṭ ida pasəuš anumaiehe padəm vaēnāite*

§24. “Vor dem Winter pflegte dieses Land Grasweide zu tragen; darauf soll dann bei der Schneeschmelze Wasser in Massen fließen, und unbetretebar für die stoffliche Welt wird es hier erscheinen, o Yima, wo jetzt der Tritt des Schafviehs zu sehen ist.”

<http://titus.uni-frankfurt.de/texte/etcs/iran/airan/avesta/avest.htm>

Translated by Fritz Wolff 1910

Let us mention that according to *Anabasis* [3.28.9.] of Arrian (92–175 CE), Alexander of Macedonia had experience with the deep snow around the Oxus River:

ἀλλὰ Ἀλέξανδρος ἤλαυνεν οὐδὲν μείον, χαλεπῶς μὲν διὰ τε χιόνος πολλῆς καὶ ἐνδεία τῶν ἀναγκαίων, ἦει δὲ ὁμως. Βῆσσος δέ, ἐπεὶ ἐξηγγέλλετο αὐτῷ οὐ πόρρω ἤδη ὢν Ἀλέξανδρος, διαβάς τὸν Ὄξον ποταμὸν τὰ μὲν πλοῖα ἐφ’ ὧν διέβη κατέκαυσεν, αὐτὸς δὲ ἐς Ναύτακα τῆς Σογδιανῆς χώρας ἀπεχώρει.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.28.9>>

“But none the less did Alexander keep up the march, though with difficulty, both on account of the deep snow and from the want of necessaries; but yet he persevered in his journey. When Bessus was informed that Alexander was now not far off, he crossed the **river Oxus**, and having burnt the boats upon which he had crossed, he withdrew to Nautaca in the land of Sogdiana. “

https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_III/Chapter_XXVIII
The Anabasis of Alexander; or, *The history of the wars and conquests of Alexander the Great*,
 by Arrian,

translated by E. J. Chinnock. London: Hodder & Stoughton 1884.

Lake Balkhash

Surface 16 400 km² in 2000, but 17 400 km² in 1950; maximum depth 26 m.

Balkhash

The lake-name represents Kazakh *balqaş* “marshy area covered by humps”; further cf. Altai, Shor *palyaş*, Sagai *palyas* “clay” (Vasmer I, 116; Räsänen 1969, 60).

Chinese sources

Yibo

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), completed by Ouyang Xiu and Song Qi and their collaborators in 1060, the lake was called 夷撥 *yi²⁷⁶ bō²⁷⁷* < Middle Chinese **ji pwāt* <

276 Chinese 夷 *yí* “to be level” < Middle Chinese **ji* < Late & Middle Postclassic Chinese **jij* < Early Postclassic Chinese **zj* < Eastern Han Chinese **zaj* < Western Han Chinese **laj* < Classic & Preclassic Old Chinese **laj* (Starostin, *ChEDb*; *GSR* 0551 a-c). Comments: Used also for homonymous **laj* ‘name of non-Chinese tribes;

Late & Middle Postclassic Chinese **ijj pāt* < Early Postclassic Chinese **zij pāt* < Eastern Han Chinese **zāj pāt* < Western Han Chinese **lāj pāt*.²⁷⁷

Etymology:

The limnonym is apparently a compound. It seems that the second component, in the pre-Tang Chinese reconstruction **pāt*, may be identified with South Yeniseian **pat* “knee”: Arin *karam-pat* “elbow”, *patas* “knee”, Kottish *pul-patap* “metatarsus” (*pul* “foot, leg”), further related to Ket *baʔt* “joint, knee”, *bátij* pl. “joints of reindeer”, *batpul*⁵ (Imbatsk), pl. *batpuləŋ*^{5,6} “knee”, Yug *baʔt* “joint, knee”, *batpil*⁵, pl. *batpiliŋ*⁶ “knee” (a compound with **bul* “foot, leg”); cf. also Ket *bāt-kup*¹ “bend (of a river)” (Starostin 1995, 206: **baʔt*- “knee”; Werner 1, 108). Geographical names inspired by “knee” are not rare, e.g. the ancient city of Genua (of Ligurian origin?), today Genova, was probably named after the coastline of the Golfo di Genova, which actually resembles a knee; cf. Latin *genū* < **ġenu-* (Pokorny 1959, 380–81). If this is the case, it remains to determine the function of the first component. The lake resembles a leg with a bent knee, i.e. the walking leg. Such an interpretation allows us to explain the first component with help of Kottish *ijaj* “fortgehen / to go away; continue”, pret. *uijaj* (Castrén 1858, 200), perhaps related with *he-jaj* “to go”; further Assan *ujáha* “to ride on horse”, *pulán-ujáha* / *pulan-ajáha* “to walk” : *puláj* “feet”; Ket *ējeŋ*¹ / *ejjeŋ*⁵, Yug *ejij*¹ (Starostin 1995, 231: **hejVŋ* “to go”; Werner 1, 265–266). Less probable is identification of the first component with Ket *lájjeŋ* “neigen, beugen, biegen” (Werner 2, 11), based on the Western Han Chinese reconstruction **lāj pāt*, shifting chronology to the 1st–2nd cent. BCE.

Deyi

The lake was designated 得嶷 *dé*²⁷⁸ *yí*²⁷⁹ in the text 資治通鑑 *Zizhi tongjian* “Comprehensive mirror to aid in government”, completed by Sima Guang (司馬光) and his team in 1084 CE, when the events from the 7th cent. were described. The lake-name may be projected into Middle Chinese **təkij/i* (Pulleyblank) or **təkijj* (Schuessler).

Etymology:

There are several possible solutions, Iranian, Turkic, and Yeniseian:

(a) The first syllable could be compatible with the Iranian verb **tak-/tač-* “to flow, run”, cf. such nominal derivatives as Khotanese *tāka* “pool” < **tāka-ka-* vs. *tāja* “river” < **tāci-*, Sogdian *ty-* “stream”, Bactrian *taγo* “river-valley”, Pashto *tōe* “stream” < **tāka-*, Ossetic *tāx* id. (Cheung 2007, 372–74; Bailey 1979, 125, 121; Gharib 1995, #9566). But the primary meaning was apparently “stream” and the final part of the Middle Chinese reconstruction is difficult to explain from Iranian.

barbarian’ and **lāj* “be at rest, at ease, peaceful”; somewhat later also for **lāj* “rule, custom”. Vietnamese *lì* “level; motionless” is an archaic loan; regular Sino-Viet. is *dì*. Another old loan from the same source may be Viet. *lo’i* “to loosen, slacken, ease”. Vietnamese reading: *lì*. Shijing occurrences: 14.3. Sino-Tibetan **jāl* “straight, level, even” > Old Chinese 夷 **lāj* “level, even; equal”; Kachin *gəjan*¹ “straight, not bent or crooked”; Lushai *zal* “to be level, even or smooth (as road)” (CVST IV, 82).

277 Chinese 撥 *bō* “to dispose of, arrange, establish order” < Middle Chinese **pwāt* < Postclassic Chinese **pāt* < Han Chinese **pāt* < Classic & Preclassic Old Chinese **pāt* (Starostin, *ChEDb*; GSR 0275 d).

278 Chinese 得 *dé* *děi* *dāi* *dé* “to find, get, obtain; booty, bounty” < Late Middle Chinese **tāčk*, Early Middle Chinese **tək* (Pulleyblank 1991, 74) ~ Middle Chinese **tək* < Postclassic Chinese **tək* < Han Chinese **tək* < Classic & Preclassic Old Chinese **tək* (Starostin, *ChEDb*; GSR 0905 d). Comments: Another loan from the same source is Vietnamese *dự’o’c* “to obtain, get”. Vietnamese reading: *dác*. Schuessler (2007, 208): Middle & Eastern Han Chinese **tək* < Old Chinese **tək*. Sino-Tibetan **tək* “to obtain, get, gather” > Old Chinese 得 **tək* “to obtain, get” / Tibetan *gtog* (pl. *btog*) “to pluck off, gather, tear out”, *āthogs* (p., i. *āthogs*) “to take, seize, take up”; Burmese *nəuŋ-thak* “to seize (by force)”; Kiranti *[*tjək*] (CVST II, 139).

279 Chinese 嶷 *yí* (used in a name of the mountain 九嶷 *Jiǔyí*) < Late Middle Chinese **ŋi* < Early Middle Chinese **ŋi*/**ŋi* (Pulleyblank 1991, 366; GSR 0956 c) & *nì* “to stand firmly” < Late Middle Chinese **ŋičk* < Early Middle Chinese **ŋik* (Pulleyblank 1991, 224). Schuessler (2009, 97, §4–23) reads the character 嶷 as *yí* ‘a mountain name’ and *yí* ‘firmly’ and derived them as follows: *yí* < Middle Chinese **ŋji* < Eastern Han Chinese **ŋjiə* < Old Chinese **ŋjə*; *yí* < Middle Chinese **ŋjək* < Eastern Han Chinese **ŋjik* < Old Chinese **ŋək*.

(b) Another candidate could be Turkic **täŋgir* “sea” > Old Bulgharian **täŋgir*, reconstructed on the basis of the loan in Hungarian *tenger* “sea”, place name *Tengurdi* (AD 1152); Xakani by al-Kashgari (11th cent.), Old Uyghur (*Qutadyu bilig* from the 11th cent. in the Cairo ms. from the 14th cent.) *teŋiz* “sea”, Kypchak (13th cent.), Old Oghuz, Qumanic (14th cent.), Chaghatai (15th cent.) *teŋiz*, Old Osman (14th cent.) *deŋiz*, Turkish *deniz*, dial. also *deŋiz*, *deñiz*, *deyiz*, *deyiz*, Gagauz *deniz*, Azerbaijani *dəniz*, Karaim of Crimea, Tatar of Crimea, Kirgiz, Turkmenian, Uzbek, New Uyghur *deŋiz*, Bashkir *diŋgiz*, Kazan Tatar *dingəz* > Chuvash *tinəs*, Karaim of Galicia & Trakai *tengiz*, Kazakh, Karakalpak, Nogai *teŋiz*, Balkar *tengiz*, Oïrot *täŋis*, Altai, Teleut, Kumandin *teŋis*, Khakas *tiŋis* “sea”; a little different semantics appears in New Uyghur dial. [Jarring] *teŋgiz* “lake”, East Turkestani [Zenker] *tengiz* “river”, Kazakh (= Kirgiz by Radloff) *teŋiz* “Lake Balkhash” (Räsänen 1969, 474; *DTS* 552; Clauson 1972, 572; Sevortjan 1980, 194–95; *EWU* II, 1502). Doerfer (*TMEN* II, 207, §1192), reconstructing the protoform **täŋgyěř*, thought that the final **-ř* was originally the plural suffix. The forms without this final suffix were probably preserved in East Turkestani *tengi*, documented by Budagov and Zenker, and by al-Kashgari *tengġ*, i.e. *täŋ*, glossed by Arabic *gudur* “pool, brooks, rivers”. The suffixed form would designate “place of {many} waters”. The suffixless form **täŋgi* could be just the lake-name, which was transcribed in Middle Chinese of the 7th cent. as **täkŋi/i* or **täkŋji*. Let us mention that in Kazakh Lake Balkhash is simply called *Teŋiz*.

(c) A source of Middle Chinese designation **täkŋi/i* or **täkŋji* for Lake Balkhash could also be of Yeniseian origin, more exactly from a language preceding Kottish and Assan, languages extinct already in the 19th and 18th centuries respectively, when the following forms were recorded: Kottish *ür-tëg*, *ür-tëx*, pl. *ür-takŋ* “lake” (Castrén 1858, 203), Assan (Miller) *ur-tëg*, Arin (Miller) *kur-t'ü*, (Loskutov) *kur-tük* id. (Dul'zon 1961, 175; Toporov 1968, 297; Xelimskij 1986, 196). The first component corresponds to Kottish (Castrén) *ur* & *ür* “rain”, Assan *ur* (Miller) “rain”, Arin (Miller) *kur* “rain, humidity” (Dul'zon 1961, 165; Toporov 1968, 289; Xelimskij 1986, 189; Starostin 1995, 297). The same second component also appears in the Kott compound expressing “swamp”: *ol-tëg*, *ol-tëx*, *ol-tex*, pl. *ol-takŋ*. The first component *ol-* is more probably compatible with Ket & Yug *uʔl* “swamp, bog, mud” (Starostin 1995, 199) than with Yeniseian **ʔol* “grave, *hole”, as Starostin had it in his Yeniseian database. Assan (Klaproth) *ol-tegan* probably represents the same compound in plural, although Klaproth translated the word as “lake”. The Middle Chinese reconstruction **täkŋi/i* or **täkŋji* could reflect the proto-Kottish gen.pl. **tekŋi*, with the genitive ending in *-i*, serving also as a base for some other cases, namely dative, locative, ablative, cf. the declension of the words *tagai* “head” and *hús* “tent” (see Castrén 1858, 33–37):

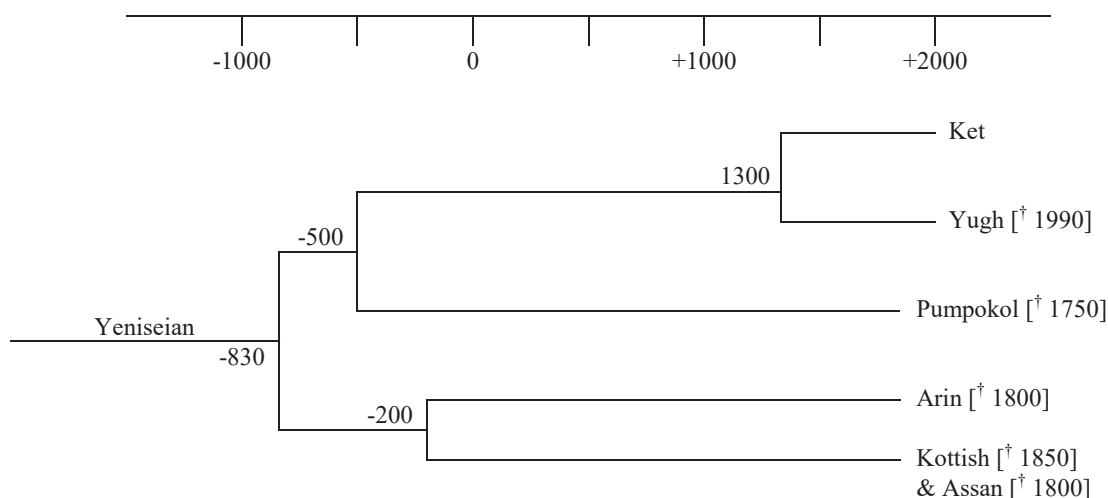
Table 4: Kottish nominal declension

	sg.	pl.	sg.	pl.
nom.	<i>tagai</i>	<i>tagaj-aŋ</i>	<i>hús</i>	<i>hu-ŋ</i>
gen.	<i>tagai</i>	<i>tagaj-aŋ-i</i>	<i>húc-i</i>	<i>hu-ŋ-i</i>
dat.	<i>tagai-ga</i>	<i>tagaj-aŋ-i-ga</i>	<i>húc-i-ga</i>	<i>hu-ŋ-i-ga</i>
loc.	<i>tagai-hât</i>	<i>tagaj-aŋ-i-hât</i>	<i>húc-i-hât</i>	<i>hu-ŋ-i-hât</i>
abl.	<i>tagai-ćaŋ</i>	<i>tagaj-aŋ-i-ćaŋ</i>	<i>húc-i-ćaŋ</i>	<i>hu-ŋ-i-ćaŋ</i>
instr.	<i>tagaj-ô</i>	<i>tagaj-aŋ-ô</i>	<i>húc-ô</i>	<i>hu-ŋ-ô</i>
com.	<i>tagaj-os</i>	<i>tagaj-aŋ-oś</i>	<i>húc-oś</i>	<i>hu-ŋ-oś</i>

The proto-Kottish form **tekŋi* “of lakes” could also be a source of the Turkic word **täŋi* discussed above. A deeper age of the Yeniseian forms is indicated by the cognates in the Ket branch: Ket *deʔ*, pl. *dëŋ*, Yug *deʔ*, pl. *deŋ*, Pumpokol pl. *dänniŋ* < Yeniseian **deʔG* “lake” (Starostin 1995, 219). The devoicing **d > t* is a regular change in the Kott branch, confirming the common heritage. The disintegration of the Yeniseian language family, estimated to c. 9th cent. BCE (G. Starostin – see the diagram), preceded the disintegration of the Turkic languages, dated to c. 100 BCE (A. Dybo and O. Mudrak).

Tree-diagram of classification of the Yeniseian languages in chronological perspective by Starostin 2014 (p.c.)

Tree-diagram 1: Yeniseian languages



Amu Darya / Oxus

Length 1415 from the confluence of the Wakhab/P(y)anj (1125 km) and Wakhsh/Surkhob (524/786 km), 2 539 km together with the Panj, 2743 km together with Wakhan Darya (220 km), the longest tributary of the Panj river; basin 534 739 km². Mouth: (originally) South Aral Sea; source: Pamir.

The present name of the river, *Āmū Daryā*, has been explained from the name of the medieval city *Āmul*, located where the old trade road from Khorasan to Transoxiana crossed the river. Later the city was also called *Čahar Joy / Čardžou*, today Türkmenabat²⁸⁰ (see Spuler 1989, 996). The second component, *daryā*, is the Persian word for “big river; sea”. It is a continuant of Middle Persian: Zoroastrian *dlyd’* (*p*), Manichaean *dry’b / drayā(b)*/ “sea” < Old Persian *drayah-* “sea” & *āp-* “water”. Related are Avestan *zraiiāh-* id., Parthian *zryh*, *zryy* “sea” (> Middle Persian: Zoroastrian *zl’h*, *zl’y*, Manichaean *zryh /zrēh/* > Persian *zarah*, *zirih*), Baluchi *zirā* “sea”, *zirih* “source, spring” (Horn 1893, 125, #561; MacKenzie 1971, 27, 99; Nyberg 1974, 232); Vedic *jrāyas-* “expanse, space, flat surface” [RV] (*EWAI* I, 606–07). The Persian form *daryā* was borrowed into some Iranian languages, where one would expect initial *z-*, e.g. Kurdish *deryā*, Baluchi *daryā*; Pashto *daryāb*, Yidgha *dāriyow* “river” indicate still a Middle Persian source (Horn, l.c.). The Persian form was also adopted into many Turkic languages: Chaghatai *dārja* “sea”, Karaim, Crimea-Tatar *dārja* “stream, river”, Kazakh *dārjā*, *dajra* “a big river” etc. (Räsänen 1969, 133).

The name *Gaiḥūn* used by al-Bīrūnī in the 11th cent. and by his followers writing in Arabic (Markwart 1938, 32) was inspired by the Biblical hydronym *Gihōn*, designating one of four rivers of the Garden of Eden [Gn 2.13].

Greek and Latin sources

Ὠξος

Polybius (c. 200–118 BCE)

10.48. οἱ δ’ Ἀπασιάκαι κατοικοῦσι μὲν ἀνὰ μέσον Ὠξου καὶ Ταναΐδος, ὧν ὁ μὲν εἰς τὴν Ὑρκανίαν ἐμβάλλει θάλατταν, ὁ δὲ Τανάϊς ἐξίησιν εἰς τὴν Μαιῶτιν λίμνην: εἰσὶ δ’ ἑκάτεροι

280 <https://en.wikipedia.org/wiki/Amu_Darya>.

κατὰ τὸ μέγεθος πλωτοί. καὶ δοκεῖ θαυμαστὸν εἶναι πῶς οἱ Νομάδες περαιοῦμενοι τὸν Ὅξον εἰς τὴν Ὑρκανίαν ἔρχονται πεζῇ μετὰ τῶν ἵππων. εἰσὶ δὲ δύο λόγοι περὶ τούτου τοῦ πράγματος, ὁ μὲν ἐπιεικής, ὁ δ' ἕτερος παράδοξος, οὐ μὴν ἀδύνατος. ὁ γὰρ Ὅξος ἔχει μὲν ἐκ τοῦ Καυκάσου τὰς πηγάς, ἐπὶ πολὺ δ' αὐξηθεὶς ἐν τῇ Βακτριανῇ, συρρεόντων εἰς αὐτὸν ὑδάτων, φέρεται διὰ πεδιάδος χώρας πολλῶ καὶ θολερῶ ρεύματι. παραγενόμενος δ' εἰς τὴν ἔρημον ἐπὶ τινὰς πέτρας ἀπορρῶγας ἐξωθεῖ τὸ ρεῦμα τῇ βίᾳ διὰ τὸ πλῆθος καὶ τὴν καταφορὰν τῶν ὑπερκειμένων τόπων ἐπὶ τοσοῦτον ὥστε τῆς πέτρας ἐν τοῖς κάτω μέρεσι πλεῖον ἢ στάδιον ἀφάλεσθαι τὴν καταφορὰν αὐτοῦ.

Polybius: *Historiae*, ed. Theodorus Büttner-Wobst after Ludovic Dindorf. Leipzig: Teubner, 1893–.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0543.tlg001.perseus-grc1:10.48>>

10.48. “The Apasiacae live between the rivers Oxus and Tanais, the former of which falls into the Hyrcanian Sea, the latter into the Palus Maeotis. Both are large enough to be navigable; and it seems surprising how the Nomads managed to come by land into Hyrcania along with their horses. Two accounts are given of this affair, one of them probable, the other very surprising yet not impossible. The Oxus rises in the Caucasus, and being much augmented by tributaries in Bactria, it rushes through the level plain with a violent and turbid stream. When it reaches the desert it dashes its stream against some precipitous rocks with a force raised to such tremendous proportions by the mass of its waters, and the declivity down which it has descended, that it leaps from the rocks to the plain below leaving an interval of more than a stade between the rock and its falls.”

Polybius: *Histories*, translated by Evelyn S. Shuckburgh. London – New York: Macmillan 1889.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0543.tlg001.perseus-eng1:10.48>>

Ὅξος & Ὀχος

Strabo (64 BCE – 19/24 CE), *Geographica* 11.11.5:

τοῦ δὲ Ὀχου ποταμοῦ πλησίον ὀρύττοντας εὐρεῖν ἐλαίου πηγὴν λέγουσιν: εἰκὸς δέ, ὥσπερ νιτρώδη τινὰ καὶ στύφοντα ὑγρὰ καὶ ἀσφαλτώδη καὶ θειώδη διαρρεῖ τὴν γῆν, οὕτω καὶ λιπαρὰ εὐρίσκεσθαι, τὸ δὲ σπάνιον ποιεῖ τὴν παραδοξίαν. ρεῖν δὲ τὸν Ὀχον οἱ μὲν διὰ τῆς Βακτριανῆς φασιν οἱ δὲ παρ' αὐτήν, καὶ οἱ μὲν ἕτερον τοῦ Ὀξου μέχρι τῶν ἐκβολῶν νοτιώτερον ἐκείνου, ἀμφοτέρων δ' ἐν τῇ Ὑρκανίᾳ τὰς εἰς τὴν θάλατταν ὑπάρχειν ἐκρῦσεις, οἱ δὲ κατ' ἀρχὰς μὲν ἕτερον συμβάλλειν δ' εἰς ἐν τὸ τοῦ Ὀξου ρεῖθρον, πολλαχοῦ καὶ ἐξ καὶ ἐπτὰ σταδίων ἔχοντα τὸ πλάτος. ὁ μέντοι Ἰαξάρτης ἀπ' ἀρχῆς μέχρι τέλους ἕτερός ἐστι τοῦ Ὀξου, καὶ εἰς μὲν τὴν αὐτὴν τελευτῶν θάλατταν, αἱ δ' ἐμβολαὶ διέχουσιν ἀλλήλων, ὡς φησι Πατροκλῆς, παρασάγγας ὡς ὀγδοήκοντα: τὸν δὲ παρασάγγην τὸν περσικὸν οἱ μὲν ἐξήκοντα σταδίων φασίν, οἱ δὲ τριάκοντα ἢ τετταράκοντα.

Strabo: *Geographica*, ed. A. Meineke. Leipzig: Teubner 1877.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-grc1:11.11.5>>

“It is said that on digging near the river **Ochus** a spring of oil was discovered. It is probable, that as certain nitrous, astringent, bituminous, and sulphurous fluids permeate the earth, greasy fluids may be found, but the rarity of their occurrence makes their existence almost doubtful. The course of the **Ochus**, according to some writers, is through Bactriana, according to others parallel to it. Some allege that, taking a more southerly direction, it is distinct from the **Oxus** to its mouths, but that they both discharge themselves (separately) into the Caspian in Hyrcania. Others again say that it is distinct, at its commencement, from the **Oxus**, but that it (afterwards) unites with the latter river, having in many places a breadth of six or seven stadia. The Iaxartes is distinct from the **Oxus** from its commencement to its termination, and empties itself into the same sea. Their mouths, according to Patrocles, are about 80 parasangs distant from each other. The Persian parasang some say contains 60, others 30 or 40, stadia.”

The Geography of Strabo, literally translated by H.C. Hamilton & W. Falconer. London: Bell & Sons, 1903.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-eng2:11.11.5>>

Ὀξος

Arrian (92–175 CE), *Anabasis*

[3.28.9.] ἀλλὰ Ἀλέξανδρος ἤλαυνεν οὐδὲν μείων, χαλεπῶς μὲν διὰ τε χιόνος πολλῆς καὶ ἐνδεία τῶν ἀναγκαίων, ἦει δὲ ὅμως. Βῆσσοι δέ, ἐπεὶ ἐξηγγέλλετο αὐτῷ οὐ πόρρω ἤδη ὢν Ἀλέξανδρος, διαβὰς τὸν Ὀξον ποταμὸν τὰ μὲν πλοῖα ἐφ’ ὧν διέβη κατέκαυσεν, αὐτὸς δὲ ἐς Ναύτακα τῆς Σογδιανῆς χώρας ἀπεχώρει.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.28.9>>

“But none the less did Alexander keep up the march, though with difficulty, both on account of the deep snow and from the want of necessaries; but yet he persevered in his journey. When Bessus was informed that Alexander was now not far off, he crossed the **river Oxus**, and having burnt the boats upon which he had crossed, he withdrew to Nautaca in the land of Sogdiana. “

<https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_III/Chapter_XXVIII>

[3.29.2–3.] αὐτὸς δὲ ἦγεν ὡς ἐπὶ τὸν Ὀξον ποταμὸν. ὁ δὲ Ὀξος ῥέει μὲν ἐκ τοῦ ὄρους τοῦ Καυκάσου, ἔστι δὲ ποταμῶν μέγιστος τῶν ἐν τῇ Ἀσίᾳ, ὅσους γε δὴ Ἀλέξανδρος καὶ οἱ ξὺν Ἀλεξάνδρῳ ἐπῆλθον, πλὴν τῶν Ἰνδῶν ποταμῶν: οἱ δὲ Ἰνδοὶ πάντων ποταμῶν μέγιστοὶ εἰσιν. ἐξίησι δὲ ὁ Ὀξος ἐς τὴν μεγάλην θάλασσαν τὴν κατὰ Ὑρκανίαν. διαβάλλειν δὲ ἐπιχειροῦντι αὐτῷ τὸν ποταμὸν πάντη ἄπορον ἐφαίνετο: τὸ μὲν γὰρ εὖρος ἦν ἐς ἕξ μάλιστα σταδίου, βάθος δὲ οὐ πρὸς λόγον τοῦ εὖρους, ἀλλὰ πολὺ δὴ τι βαθύτερος καὶ ψαμμώδης καὶ ῥεῦμα ὀξύς, ὡς τὰ καταπηγνύμενα πρὸς αὐτοῦ τοῦ ῥοῦ ἐκστρέφεσθαι ἐκ τῆς γῆς οὐ χαλεπῶς, οἷα δὴ οὐδὲ βεβαίως κατὰ τῆς ψάμμου ἰδρυμένα.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.29.2>>

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.29.3>>

“Then he marched towards the river **Oxus**, which flows from mount Caucasus, and is the largest of all the rivers in Asia which Alexander and his army reached, except the Indian rivers; but the Indian rivers are the largest in the world. The **Oxus** discharges its water into the great sea which is near Hyrcania. When he attempted to cross the river. It appeared altogether impossible; for its breadth was about six stades, and its depth was much greater than the proportion of its breadth. The bed of the river was sandy, and the stream so rapid, that stakes fixed deep into the bottom were easily rooted up from the earth by the mere force of the current, inasmuch as they could not be securely fixed in the sand.”

[3.29.6] περάσας δὲ τὸν Ὀξον ποταμὸν ἦγε κατὰ σπουδῆν, ἵνα Βῆσσον εἶναι ξὺν τῇ δυνάμει ἐπυθάνετο. καὶ ἐν τούτῳ ἀφικνοῦνται παρὰ Σπιταμένους καὶ Δαταφέρνου πρὸς αὐτὸν ἀγγέλλοντες, ὅτι Σπιταμένης καὶ Δαταφέρνης, εἰ πεμφθεῖη αὐτοῖς καὶ ὀλίγη στρατιὰ καὶ ἡγεμὼν τῇ στρατιᾷ, ξυλλήψονται Βῆσσον καὶ παραδώσουσιν Ἀλεξάνδρῳ: ἐπεὶ καὶ ἀδέσμῳ φυλακῇ φυλάσσεσθαι πρὸς αὐτῶν Βῆσσον.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:3.29.6>>

“After passing over the river **Oxus**, he {= Alexander} made a forced march to the place where he heard that Bessus was with his forces; but at this time messengers reached him from Spitamenes and Dataphernes, to announce that they would arrest Bessus and hand him over to Alexander if he would send to them a small army and a commander for it.”

<https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_III/Chapter_XXIX>

[4.15.7] αὐτὸς δὲ ἐπὶ τὸν Ὀξον τε ποταμὸν ἦει αἰθίς καὶ εἰς τὴν Σογδιανὴν προχωρεῖν ἐγνώκει, ὅτι πολλοὺς τῶν Σογδιανῶν ἐς τὰ ἐρύματα ξυμπεφυγένας ἠγγέλλετο οὐδὲ ἐθέλειν κατακοῦειν τοῦ σατράπου, ὅστις αὐτοῖς ἐξ Ἀλεξάνδρου ἐπετέτακτο. στρατοπεδεύοντος δὲ αὐτοῦ ἐπὶ τῷ ποταμῷ τῷ Ὀξῷ οὐ μακρὰν τῆς σκηνῆς τῆς αὐτοῦ Ἀλεξάνδρου πηγῆ ὕδατος καὶ ἄλλῃ ἐλαίου πηγῇ πλησίον αὐτῆς ἀνέσχε.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:4.15.7>>

“Alexander then returned to the river **Oxus**, with the intention of advancing into Sogdiana, be-

cause news was brought that many of the Sogdianians had fled for refuge into their strongholds and refused to submit to the viceroy whom he had placed over them. While he was encamping near the river **Oxus**, a spring of water and near it another of oil rose from the ground not far from Alexander's own tent."

<https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_IV/Chapter_XV>

[7.10.6] καταστρεψάμενον δὲ Οὐξίους τε καὶ Ἀραχωτοὺς καὶ Δράγγας, κεκτημένον δὲ καὶ Παρθυαίους καὶ Χορασμίους καὶ Ὑρκανίους ἔστε ἐπὶ τὴν θάλασσαν τὴν Κασπίαν, ὑπερβάντα δὲ τὸν Καύκασον ὑπὲρ τὰς Κασπίας πύλας, καὶ περάσαντα Ὀξον τε ποταμὸν καὶ Τάναϊν, ἔτι δὲ τὸν Ἰνδὸν ποταμὸν, οὐδενὶ ἄλλῳ ὅτι μὴ Διονύσῳ περαθέντα, καὶ τὸν Ὑδάσπην καὶ τὸν Ἀκεσίνην καὶ τὸν Ὑδραώτην,

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0074.tlg001.perseus-grc1:7.10.6>>

Flavii Arriani Anabasis Alexandri. Arrian. A.G. Roos. in aedibus B. G. Teubneri. Leipzig. 1907.

"the man who has subjugated the Uxians, Arachotians, and Drangians; who has also acquired the rule of the Parthians, Chorasmians, and Hyrcanians, as far as the Caspian Sea; who has marched over the Caucasus, through the Caspian Gates; who has crossed the rivers **Oxus** and Tanais, and the Indus besides, which has never been crossed by any one else except Dionysus; who has also crossed the Hydaspes, Acesines, and Hydraotes, "

<https://en.wikisource.org/wiki/The_Anabasis_of_Alexander/Book_VII/Chapter_X>

The Anabasis of Alexander; or, The history of the wars and conquests of Alexander the Great, by Arrian, translated by E. J. Chinnock. London: Hodder & Stoughton 1884.

Chinese sources

Wuhu

烏滸 *wū*²⁸¹ *hū*²⁸² 'Oxus' in "Book of Sui" (隋書 *Suishu*), describing the events of the Sui Dynasty (581–618), completed in 636; further "Old Book of Tang" (舊唐書 *Jiù Tángshū*), finished in 945; "New Book of Tang" (新唐書 *Xīn Tángshū*), first presented in 1060; "Comprehensive Examination of Literature" (文獻通考 *Wénxiàn Tōngkǎo*) from 1308 etc. (Maljavkin 1989, 240, fn. 485; Hulswé 1979, 116, fn. 271; 131, fn. 323; Chavannes 1903, 350). Taking in account the time of record, the river-name would have been adopted in the period of Postclassic Chinese as **ʔōhó* or Middle Chinese **ʔoxó* according to Starostin's reconstruction or Early Middle Chinese **ʔoxɔʔ* by Pulleyblank.

烏許 *wū xǔ*²⁸³ known from the "History of the Northern Dynasties" (北史 *Běishǐ*), completed by Li Yanshou (李延壽) in 643–659. With respect to the time of recording, the river-name was adopted in the period of Postclassic Chinese as **ʔōhó* or Middle Chinese **ʔoxó* according to Starostin's reconstruction or Early Middle Chinese **ʔxiǎʔ* by Pulleyblank.

281 Chinese 烏 *wū* "crow, raven; (raven) black" < Yuan **u* < Late Middle Chinese **ʔuǎ* < Early Middle Chinese **ʔo* (Pulleyblank 1991, 325) ~ Middle Chinese **ʔo* < Postclassic Chinese **ʔō* < Han Chinese **ʔā* < Classic & Preclassic Old Chinese **ʔā* (Starostin, *ChEDb*; *GSR* 0061 a-c). Comments: Later also attested in the sense "black as a crow" > "black, very dark". Vietnamese reading: *ô*. Shijing occurrences: 41.3.

282 Chinese 滸 *hū* "river bank" < Yuan **xu* < Late Middle Chinese **xuǎ* < Early Middle Chinese **xɔʔ* (Pulleyblank 1991, 127) ~ Middle Chinese **xó* < Postclassic Chinese **hó* < Han Chinese **hǎ* < Classic Old Chinese **hǎ* < Preclassic Old Chinese **sɲǎʔ* (Starostin, *ChEDb*; *GSR* 0060 k).

283 Chinese 許 *xǔ* "to promise, agree to, approve, confirm, permit; quantity; about" < Late Middle Chinese **xiǎʔ* / **xyǎʔ* < Early Middle Chinese **xiǎʔ* (Pulleyblank 1991, 348) ~ Middle Chinese **xó* < Postclassic Chinese **hó* < Han Chinese **hǎ* < Classic Old Chinese **hǎ* < Preclassic Old Chinese **sɲǎʔ* (Starostin, *ChEDb*; *GSR* 0060 i-j). Comments: Shijing occurrences: 54.3. Also read Mandarin *hū* < Middle Chinese *xó* < Old Chinese **sɲǎʔ*, in an onomatopoeic reduplication **sɲǎʔ-sɲǎʔ* "some kind of sound". Vietnamese reading: *hú* 'a. Schuessler (2009, 52, §1–30 i); Middle Chinese **xjwo* < Late Han Chinese **hia* < Old Chinese **hɲǎʔ*.

Fuchu

黼芻 *fū*²⁸⁴ *chú*²⁸⁵ ‘Oxus’²⁸⁶ recorded by Xuanzang (玄奘; 602–664) in his “Great Tang Records on the Western Regions” (大唐西域記 *Dà Táng Xīyù Jì*), describing the journey from China to India and back in 626–645 (Maljavkin 1989, 240, fn. 485). Cf. also “Journey to the West”²⁸⁷ (西遊記 *Xī Yóu Jì*) from the 16th cent. (Stein 1921, 63). The hydronym may be projected into Early Middle Chinese **puǎʔ t̚ʰuǎʔ* (Pulleyblank) or Middle Chinese **pǔchü* < Postclassic Chinese **pwóchwō* (Starostin).

Bocha

Two variants 博叉 *bó*²⁸⁸ *chā*²⁸⁹ and 薄叉 *bó*²⁹⁰ *chā* of the hydronym appear in the Chinese translation 阿毘達磨大毘婆沙論 *Apidamo da piposha lun* from the 5th cent. CE of the buddhist text *Abhidharma-mahāvibhāṣāśāstra*²⁹¹ from c. 150 BCE. In the 5th cent. CE these Chinese transcriptions were pronounced as **pākchiēj* and **bākchiēj* (Starostin) respectively.

284 Chinese 黼 *fū* “cloth or skirt embroidered with axe figures; узорчатый, яркий” < Yuan **fu* < Late Middle Chinese **fjyǎʔ/*fjuǎʔ* < Early Middle Chinese **puǎʔ* (Pulleyblank 1991, 100) ~ Middle Chinese **pǔ* < Postclassic Chinese **pwó* < Eastern Han Chinese **pwa* < Western Han Chinese **pa* < Classic Old Chinese **pa* < Preclassic Old Chinese **paʔ* (Starostin, *ChEDb*; *GSR* 0102 t).

285 Chinese 芻 *chú* “to cut grass for fodder, hay; grass cutters, grass gatherers” < Yuan **t̚ʰu* < Late Middle Chinese **t̚ʰuǎʔ* < Early Middle Chinese **t̚ʰuǎʔ* (Pulleyblank 1991, 59) ~ Middle Chinese **chü* < Postclassic Chinese **chwō* < Han Chinese **chwa* < Classic Old Chinese **chro* < Preclassic Old Chinese **chro* (Starostin, *ChEDb*; *GSR* 0132 a).

286 “In the middle of Jambudvīpa there is a lake called Anavatapta to the south of the Fragrant Mountains and to the north of the great Snowy Mountains; it is 800 li and more in circuit; its sides are composed of bold, silver, lapis-lazuli, and crystal; golden sands lie at the bottom, and its waters are clear as a mirror. The great earth Bodhisattva, by the power of his vow, transforms himself into a Nāga-rāja and dwells therein; from his dwelling the cool waters proceed forth and enrich Jambudvīpa (*Shen-pu-chau*). From the eastern side of the lake, through the mouth of a silver ox, flows the Ganges (*King-kia*) river; encircling the lake once, it enters the south-eastern sea. From the south of the lake, through a golden elephant’s mouth, proceeds the Sindhu (*Sin-to*) river; encircling the lake once, it flows into the south-western sea. From the western side of the lake, from the mouth of a horse of lapis-lazuli, proceeds the river **Vakshu** (*Po-tsu*), and encircling the lake once, it falls into the north-western sea. From the north side of the lake, through the mouth of a crystal lion, proceeds the river-Sitā (*Si-to*), and encircling the lake once, it falls into the north-eastern sea. They also say that the streams of this river Sitā, entering the earth, flow out beneath the Tsih rock mountain, and give rise to the river of the middle country (China).”

Translated by Samuel Beal 1884, 11–13.

287 A novel from the Ming dynasty ascribed to Wu Cheng’en (吳承恩; 1500/5–1580/85), about the legendary pilgrimage of the Tang Dynasty Buddhist monk Xuanzang (602–664) who traveled to the ‘Western regions’.

288 Chinese 博 *bó* “to be wide” < Middle Chinese **pāk* < Postclassic Chinese **pāk* < Han Chinese **pāk* < Classic & Preclassic Old Chinese **pāk* (Starostin, *ChEDb*; *GSR* 0771 a-c). Sino-Tibetan **pāk* “wide, long, ample” > Old Chinese 博 **pāk* “wide, ample”; Tibetan *āphag* “to rise, be raised; to grow longer, bigger”; Burmese *paŋʔ* “to lift, raise”; Kuki-Chin **pāk-*; Thankur *pak* “to be broad”; Bodo *bo* “to stretch, spread” (Luce 1981, 74; *CVST* I, 50–51).

289 Chinese 叉 *chā* “fork, bifurcation” [Han] < Middle Chinese **chǎ* & **chǎ* < Postclassic Chinese **chiēj* < Eastern Han Chinese **chiē* < Western Han Chinese **chē* < Classic Old Chinese **chrē* < Preclassic Old Chinese **chrē* ~ **shrē* (Starostin, *ChEDb*).

290 Chinese 薄 *bó* “to be thin” < Middle Chinese **bāk* < Postclassic Chinese **bāk* < Han Chinese **bāk* < Classic & Preclassic Old Chinese **bāk* (Starostin, *ChEDb*; *GSR* 0771 p). Comments: Pekingese has a colloquial reading *báo* and a more standard one: *bó*. Also means “to press, press on, suppress” (probably a semantic derivative: “to make thin”). For initial **b-* cf. Min forms: Xiamen, Chaozhou *poʔ*, Fuzhou *poʔ*, Jianou *poʔ*. Sino-Tibetan **pā* “thin” > Old Chinese 薄 **bāk* “thin”; Tibetan *ba-spu* “a little hair (*spu*)”, *phra* “thin, fine, minute”; Burmese *pah* < Lolo-Burmese **pax* “thin”; Kachin *phaʔ*, *čəphaʔ* “thin”; Lushai *pan* “thin (as paper), weak (as tea)”, Tiddim *pá* “thin” < Kuki-Chin **r-pa*; Lepcha *kā-ba* “a kind of cloth formed of single twist”; Yamphu *phāk*; Tsangla *ba-bo*; Bodo-Garo: Dimasa *ba-*, Garo *ba-*, Bodo *bá* “to be thin”; Rawang *ba-*, Trung *baʔ* (*CVST* I, 50; Shafer 1974, 49, 118; Benedict 1972, 19; Matisoff 1972, 181; Matisoff 2003, 440–41).

291 See Dignāga’s *Investigation of the Percept. A Philosophical Legacy in India and Tibet*, edited and translated by Douglas Duckworth, Malcolm David Eckel, Jay L. Garfield, John Powers, Yeshe Thabkhas, & Sonam Thakchoe. Oxford: University Press 2016, 123.

Buhe

The hydronym can also be identified in the Chinese transcription of the name of the country called *Wakhan*: 捕喝 *bū*²⁹² *hé*²⁹³ ‘country situated on the southern bank of the river *Wu-hu* (Oxus, today Amu Darya)’ according to Xu Song (徐松; 1781–1848), referring to the “Book of New Tang” (新唐書 *Xīn Tángshū*), finished during the Song dynasty in 1060 CE (Hulsewé 1979, 131, fn. 323). Around 1300 it was pronounced **p^(h)u xɔ* < Late Middle Chinese (c. 900) **p^huǎ xat* < Early Middle Chinese (c. 600) **bɔ^h xat* (Pulleyblank) or Middle Chinese **bòxât* (Starostin).

Buhuo

According to Xu Song there is also a variant of this choronym, 布豁 *bù*²⁹⁴ *huō*²⁹⁵ (Hulsewé 1979, 131, fn. 323). It can be projected into Late Middle Chinese **puǎ xuat* < Early Middle Chinese **pɔ^hxwat* (Pulleyblank) or Middle Chinese **pòxwât* (Starostin).

Etymology:

In the Greek sources, there are two variants, A. Ὠξος & B. Ὠχος, both transmitted by the same author, Strabo. The difference between ξ and χ cannot be explained as a misprint. The same difference characterizes the source-tributaries, the north Waxš²⁹⁶ (Vakhsh; today in Tajik Surkhob, Kirgiz Kyzyl-Suu) and south Waxāb (Vakhāb, in Tajik Panj).

Corresponding differences appear in the Chinese transcriptions (here in Starostin’s reconstruction from the Postclassic or Middle Chinese periods): A’. **bākchiēj* & **pākchiēj*, **pwočhwo*; B’. **ʔōhó* & **ʔōhó*, **bòxât* & **pòxwât*. Both sets lead to partial reconstructions, A. **uaxšu-*; B. **uaxu-* or **uahu-*. Markwart (1938, 32) interpreted **uaxšu-* as “wachsende, schwellende”, i.e. the derivative of the Iranian verb **uaxš-* “to grow”²⁹⁷, while the second form should be **uahu-* “good”²⁹⁸ according to Markwart (1938, 17, 34), with respect to the Middle Persian designation of the Oxus, *Wēh-rōt*, i.e. “good river” [cf. Bundahišn 52.11, 20; see Justi 1868, 29, 267]. Both of Markwart’s interpretations look probable, but they should be modified. Concerning **uaxšu-*, there is a more ‘hydronymical’ etymon:

Bactrian οαχαβο, οαχβο ‘name of the deified river Oxus or a river-god in general’ (Sims-Williams 2007, 243); αρδοχβο, αρδοχβα, ‘a goddess of fortune’, depicted on the reverse of the Kushan coins as Tyche (Fortuna). Later this picture was replaced by Lakṣmī, the Indic goddess of fortune, wealth and prosperity (Davary 1982, 161–62, 243–44);

292 Chinese 捕 *bū* “to seize” [Late Zhou] < Yuan **p^(h)u* < Late Middle Chinese **p^huǎ* < Early Middle Chinese **bɔ^h* (Pulleyblank 1991, 42) ~ Middle Chinese **bò* < Postclassic Chinese **b(h)ǒ* < Han Chinese **b(h)āh* < Classic Old Chinese **b(h)āh* < Preclassic Old Chinese **b(h)ās* (Starostin, *ChEDb*; *GSR* 0102 j). Comments: For **b* cf. Xiamen *pɔ⁶*, Fuzhou *puǒ⁶*, Chaozhou *pu⁴*.

293 Chinese 喝 *hé* “to yell, shout, cry (angrily)” [Late Zhou] < Yuan **xɔ* < Late Middle Chinese **xat* < Early Middle Chinese **xat* (Pulleyblank 1991, 122) ~ Middle Chinese **xât* < Postclassic Chinese **hât* < Han Chinese **hât* < Classic & Preclassic Old Chinese **hât* (Starostin, *ChEDb*; *GSR* 0313 k). Comments: Regular Sino-Vietnamese is *hât*, Vietnamese reading *hét*. The earliest attested usage of the character in the Han era is for Mandarin *yè* “to cry (with a constrained voice)” < Middle Chinese **ʔäj* < Old Chinese **ʔrāts*.

294 Chinese 布 *bù* “cloth” < Late Middle Chinese **puǎ* < Early Middle Chinese **pɔ^h* (Pulleyblank 1991, 42) ~ Middle Chinese **pò* < Postclassic Chinese **pǒ* < Han Chinese **pāh* < Classic Old Chinese **pāh* < Preclassic Old Chinese **pās* (Starostin, *ChEDb*; *GSR* 0102 j-1). Comments: Cf. 溥 **phā?* “to be vast, wide”, 鋪 **phā*, **pha* “spread out”, 誦 **pā?*, **phā?*, **phā?*s “big, large, increase”. Shijing occurrences: 58.1.

295 Chinese 豁 *huō* “empty; ravine, opening; to yawn” [Late Zhou] < Late Middle Chinese **xuat* < Early Middle Chinese **xwat* (Pulleyblank 1991, 135) ~ Middle Chinese **xwât* < Postclassic Chinese **hwât* < Han Chinese **hwât* < Classic Old Chinese **hwât* < Preclassic Old Chinese **h^wāt* (Starostin, *ChEDb*; *GSR* 0314 g).

296 First recorded as *Baxšū* by the Persian traveller Istaḥrī in the 10th cent. – see Markwart 1938, 53.

297 Iranian **uaxš-* “to grow” > Avestan *vaxš-* id., Middle Persian *whš-* /*waxš-* “to grow; blaze”, Parthian *wxš-* “to grow; be kindled, blaze”, Khotanese *huš(s)-* “to grow”, Sogdian *xwš-* “to grow (up), become full-grown”, Khwarezmian *wx* “to grow”, Bactrian *oax-* “to grow, increase” (Cheung 2007, 428–29).

298 Avestan *vohu-/vanhu-*, comp. *vahiiah-*, Zoroastrian Pahlavi *wyh /vēh/*, “better, good”, Persian *bih* “good”, Middle Persian of Turfan *why* “better”, Middle Persian of Turfan & Parthian of Turfan *whyg^r /wahygar/* “helpful, beneficent”, Khotanese *vau* “good, welfare”, Bactrian *oαμνο* ‘name of the second day of the month’ < **uahu-manah-*, cf. Middle Persian *Wahman* (Bailey 1979, 392; *MPP* 341; Sims-Williams 2007, 241).

Khotanese *baṣṣä* “streams”, *vaṣiḥa* “stream” (Bailey 1979, 273, 379);

Khwarezmian *wx*, gen. *y’wxy* “river”, besides the frozen form *Wxš*, recorded by al-Bīrūnī (973–1048), which had to belong to an angel, connected with waters, especially with the Oxus (Henning 1958, 115; Davary 1982, 244; Benzing 1983, 112, 657);

?Yidgha *baxšiyo* “stream” in *yāuyo baxšiyo* “a stream divided into many rivulets”; Iranian > Khovar *baš(ōy)* “minor channel of a river” (Morgenstierne 1938, 199: from **baxš-* “distribution, dividing”).

Onomastics:

Unidentified Iranian language from the Aramaic inscription from Laghmān (Afghanistan; the first half of the 3rd cent. BCE) *whšwprt*, i.e. **Vaxšu-frita-* “favoured by Vaxšu” (Harmatta 1999, 404);

Sanskrit *Vakṣu-* m. ‘Oxus’ in *vakṣvāśritāḥ* [first by the astronomer Varāha-mihira (505–587 CE): *Bṛhat Samhitā* S. 32, 32, v. I], *Vaṅkṣu-* [Mahābhārata 2.1840; 13.7648; Bhāgavata Purāṇa, P. 5.17.7] (BR VI, 616, 618; MW 911; KEWA III, 123; EWAI III, 452: reproduction of the Iranian hydronym).

All these forms are derivable from the verbal root attested in Young Avestan *vaxš-* “sprühen (vom Wasser, Feuer)” [Yašt 8.43], *vaxša-* m. “Besprühen, Benetzen” [Yašt 8.42] (Bartholomae 1904, 1338–39); Vedic *ukṣ-* “to sprinkle, moisten, wet” [RV, AV, ŚBr, MBh etc.] (MW 172; EWAI II, 486–87). These forms are easily explainable as the sigmatic derivatives of the root **uegʷ-* “to make wet” (Kümmel, LIV 662–63; Pokorny 1959, 1118): Greek *ὕγρός* “wet, moist, watery, fluid”; Latin *ūuēscō* “I become wet”, *ūvor* “moisture”, *ūvidus* “wet, soaked”; Middle Irish *fial* “urine” < **uogʷ-lo-*; Germanic **wakwa-* adj. “moist” > Old Norse *vokr*, Middle Dutch *wac*; **wakwōn-* > Old Norse *vokva* f. “moist”; **wakwjan-* > Old Norse *vokva*, *vekkje* “to pour”; Tocharian B conj. *ewkäm* “wird fließen lassen” < **oH₁-ugʷ-* (Hackstein 1995, 345–48).

Taking in account the fact that Iranian **-xš-* > Bactrian *χ*, Khwarezmian *-x/-x̄-* (cf. the reflexes of Iranian **uaxš-* “to grow”), the variant B. **uaxu-* (but not **uahu-*) is also explainable as a result of the specific dialect development **uax(x)u-* < **uaxšu-*. This rule also explains the place-name Wakhan, namely Tajik *Vaxon* / *Waxon* and Wakhi *Wux̄*, if they represent adoption of older **uax-u°* (< **uaxšu°*). In this case it is not necessary to introduce the alternative designation **Uahuī-* “good” (f.) of the Oxus (cf. Steblin-Kamenskij 1999, 6 versus Morgenstierne 1938, 433).

Hanlou

According to “History of the Northern Dynasties” (北史 *Běishī*), describing the period 386–581 CE, which was completed by Li Yanshou (李延壽) in 643–659, there was a big river in Central Asia, called 漢樓 *hàn²⁹⁹ lóu³⁰⁰*. Markwart (1938, 38) identified it with the Oxus.

Etymology:

(a) Markwart (l.c.) speculated about replacement of the first character in its name, assuming priority of the sign 濮 *pú³⁰¹*. Using the reconstructions of Pulleyblank and Schuessler respectively,

299 Chinese 漢 *hàn* “the Han river; Han river in the sky; the Milky Way; the Han Dynasty” < Late Middle Chinese **xan* < Early Middle Chinese **xan^h* (Pulleyblank 1991, 119) ~ Middle Chinese **xân* < Postclassic Chinese **hân* < Han Chinese **hānh* < Classic Old Chinese **hānh* < Preclassic Old Chinese **shāns* (Starostin, *ChEDb*; *GSR* 0144 c). Notes: Vietnamese reading: *hán*. Shijing occurrences: 9.1, 9.2, 9.3. Schuessler (2009, 253, §24–10 c): Middle Chinese **xân* < Late Han Chinese **han* < Old Chinese **hāns*.

300 Chinese 樓 *lóu* “storey, several-storeyed building” [Late Zhou] < Late Middle Chinese **ləw* < Early Middle Chinese **ləw* (Pulleyblank 1991, 199) ~ Middle Chinese **lAw* < Late & Middle Postclassic Chinese **ləw* < Early Postclassic Chinese **lōw* < Han Chinese **rAw* < Classic & Preclassic Old Chinese **rō* (Starostin, *ChEDb*; *GSR* 0123 k). Comments: Vietnamese reading: *lâu*. Regular Sino-Vietnamese is *lâu*. For **r-* cf. Xiamen, Chaozhou, Fuzhou *lau²*, Jianou *le²*. Schuessler (2009, 151, §10–29 b): Middle Chinese **ləu* < Late Han Chinese **lo* < Old Chinese **rō*.

301 Chinese 濮 *pú* ‘river name’ < Late Middle Chinese **pəwk* < Early Middle Chinese **pəwk* (Pulleyblank 1991, 243) ~ Middle Chinese **puk* < Late Han Chinese **pok* < Old Chinese **pōk* (Schuessler 2009, 161, §11–23).

the hydronym should look like **pəwkləw* in Early Middle Chinese (the end of the 6th cent. CE) and **poklo* in Late Han Chinese (1st-2nd cent. CE). According to Markwart, such a similar form had to represent a transcription of the predecessor of Middle Persian *wēh-rōt*. Although Chinese *p-* can be a substituent of Middle Persian *w-*, more problematic looks the substitution of Middle Persian *h* by Middle (and earlier) Chinese *k* and the absence of any final in earlier phases of Chinese, which would correspond to Middle Persian *-t*. In sum, this solution remains artificial.

(b) Let us return to the original record, 漢樓 *hànlóu*. Various scholars reconstruct its predecessors as follows: Pulleyblank: Early Middle Chinese **xan^hləw*; Starostin: Middle Chinese **xānləw* < Postclassic Chinese **hānləw* < Han Chinese **ḡānhwā*; Schuessler: Late Han Chinese **hanlo*. Let us try to etymologize it on the basis of Iranian. It could be a compound consisting of the following roots, **xan-* & **hrau-*:

(i) **xan-* “source” > Zoroastrian Middle Persian *h’n /xān/, h’nyk*, Manichaean Middle Persian *x’nyg /xānīg/* “source, spring”, Parthian *x’nyg* id. (*MPP* 363; Cheung 2007, 440);

(ii) **hrau-* “to flow” > Parthian *r’w-* “to pour off” /*rāw-*/, Khwarezmian *rw-* “to flow”, caus. *r’wy-* “to let (it) flow”, (+ **fra-*) *hlw-* “to drip; flow (of urine)”, caus. *hl’wy-* “to let it drip, drop”, Sogdian *rwš-* “to flow, stream” with *-š-* from the sigmatic aorist, cf. Sanskrit *asrauṣīt* [SB] “flowed” (*MPP* 293; Cheung 2007, 141–42). Further cf. Vedic [RV] *srávati* “flows, streams, gushes forth”, Sanskrit [MBh, R] *srava-* m. “flowing, streaming, a flow”, [MBh] *giri-sravā-* f. “mountain-torrent” (MW 1274, 355).

The meaning of this hypothetical compound could be a “source of flowing”, a probable language – Parthian (during the greatest extent of the Parthian empire in the 1st cent. BCE the Oxus formed its northeast borderline) or an earlier form of Khwarezmian (the Oxus represented a real axis of Khwarezm), where the word for “source, spring” was still preserved.

(c) Alternatively, a non-Indo-European origin of this hydronym cannot be totally excluded. A good candidate may be found in Yeniseian languages, formerly probably widespread in the steppe belt of Kazakhstan. Also in this case the hydronym is analyzable as a hypothetical compound, consisting of (a) **ʔän / *xän* “wave” & (b) **xur₁* “water” (in reconstructions of Starostin 1995):

(i) **ʔän* (~ **x-*) “wave” > Ket *ānbək^l*, pl. *ānbəkŋ^l* (Imbatsk); Kottish *en*, pl. *ēnaŋ* id. (Starostin 1995, 186. Werner 1, 267).

(ii) Yeniseian **xur₁* “water” > Ket *ūl*, Yug *ur*, Pumpokol *ul*; Kottish *ūl*; Ass. *ul*, Arin *kul* (Starostin 1995, 298; Werner 2, 378).

The compound consisting of these components may be identified in Yug, only in the opposite order (ii) + (i): *ullej*, pl. *ulāŋŋij* “wave” (Starostin 1995, 186).

The primary meaning of this hydronym, “wavy water”, is quite natural for a long river whose sources are situated in the Pamir Mountains, among the highest mountains in the world. Let us mention, that the oldest name of this river known from the Chinese sources, 媯水 *guī shuǐ* < Western Han Chinese **kwaj*, may represent the Chinese transcription of a predecessor of Khotanese *khuī* “waves”.

Gui(*shui*)

媯水 *guī³⁰² shuǐ³⁰³* by Sima Qian (司馬遷; 135/145–86 BCE) in his “Records of the Grand Historian” (太史公書 *Tàishǐgōng shū*), also known as the “The Scribe’s Records” (史記 *Shǐjì*),

302 Chinese 媯 *guī* ‘river name in the province Hubei; clan name’ [Late Zhou] < Late Middle Chinese **kyj* < Early Middle Chinese **kwiǎ/*kwi* (Pulleyblank 1991, 114) ~ Middle Chinese **kwe* < Postclassic Chinese **kwe* < Eastern Han Chinese **kwe* < Western Han Chinese **kwaj* < Classic Old Chinese **kwaj* < Preclassic Old Chinese **k^waj* (Starostin, *ChEDb*; *GSR* 0027 g-j). Schuessler (2009, 220, §19–6 g): Middle Chinese **kjwe* < Late Han Chinese **kyai* < Old Chinese **kwai*. Baxter & Sagart (*ChDb*, 2014): Middle Chinese **kjwe* < Old Chinese **C.q^w(r)aj*.

303 Chinese 水 *shuǐ* “water, river” < Late Middle Chinese **gyj* < Early Middle Chinese **cwi* (Pulleyblank 1991, 290) ~ Middle Chinese **śwí* < Late Postclassic Chinese **cwi* < Middle & Early Postclassic Chinese **c^wij* < Eastern Han Chinese **c^waj* < Western Han Chinese **twáj* < Classic Old Chinese **twáj* < Preclassic Old Chinese **tuj?*

see Markwart 1938, 1–2; Hulsewé 1979, 116, fn. 271. Dated to *c.* 90 BCE, from the point of chronology it is the oldest designation of the Oxus, appearing in the Chinese sources. Existing interpretations develop the idea of “good river”:

(a) Markwart (1938, 1–3) transcribed 媯水 as *wei-shui* and speculated about correspondence of the first component with Iranian **uahyū-* f. “good”, but the value *wei*, more exactly *wéi* & *wèi*³⁰⁴, belong to the phonogram 為 (*GSR* 0027 a).

(b) Pulleyblank (1962–63, 89–90) reconstructed the historical pronunciation of 媯 as follows: Middle Chinese **kjwe* < Han Chinese **kwā* < Old Chinese **kwāδ*. Accepting the position of Markwart, he also speculated that the real pronunciation of the hydronym was hidden in the phonogram 為, projected by him in Middle Chinese **hjiwe* < **hwā*. In contrary to Markwart, Pulleyblank also operated with the second component, 水 *shuǐ*, reconstructing its predecessors in Middle Chinese < **sjwi* < **θwāδ* < **θūδ*. He thought that the compound **hwā-θūδ* was pronounced in the standard dialect of Western Han Chinese as **wāhu*. Let us mention that three decades later he radically changed his reconstructions.

If the solution of Markwart, in spite of the effort of Pulleyblank, is not satisfactory, it is necessary to seek another solution. It could be again found in Iranian:

(c) Khotanese *khuī* “waves”, *khvī* “wave”, perhaps connected with *khavā* “foam” (Bailey 1979, 73, 75, 77), Avestan *kafa-* “foam; saliva”, Buddhist Sogdian *kwβ*, Khwarezmian dim. *kfwk*, pl. *kfwc* “foam”, Middle Persian *kp /kaf/*, Persian *kaf* “foam” etc. (*ESIJ* 4, 166). Relatives appear only in the Indo-Aryan languages: Sanskrit [Up] *kapha-* “phlegm, watery froth or foam in general”, Prakrit *kapha-*, *kabha-*, *kaha-* id., Sinhalese *kaba* “gummy secretion in the eyes” (Turner 1966, #2756; *EWAI* I, 303). The designation of a river motivated by its waves or foam belongs to most natural. Let us mention that Lubotsky (2001, 311) and Witzel (2015[2017], 159) identify in Indo-Iranian **kap^ha-* a substrate origin. On the other hand, Burrow (1955, 26–27) tried to connect the Indo-Iranian term with its hypothetical Uralic counterparts: Vepsian *kobe* “wave, foam”; Hungarian *hab* “foam, snow” and Kamasin *kōwū?* “foam”. Although this comparison looks attractive, every word is of different origin: Vepsian *kobe*, gen. *kobēgen*, *kopken* “wave, foam”, together with Mari (KB) *wüt-ko*, (U) *wüt-kowo* “wave” : *wüt* “water”; Udmurt *gī* id.; Komi (V Ud.) *gī*, (I) *gī* id., are derivable from Fenno-Permian **kupz* “wave” (*UEW* 676). Hungarian *hab* “foam; snow” must be derived from Uralic **kumpa* “wave”, cf. Khanty *χump* “wave” etc. (*UEW* 203). Finally, Kamasin *kōwū?*, *kōbük* “foam” was borrowed from Turkic **kōbük* “foam” (Helimski 1997, 288–89, #561; Räsänen 1969, 291). Thus only Fenno-Permian **kupz* can be compared with Indo-Iranian **kap^ha-*, but the different root vowels should be explained.

(Starostin, *ChEDb*; *GSR* 0576 a-c). Comments: Middle Chinese *ś-* is irregular; a clear indication of **t-* is given by Min forms: Xiamen *cui³*, Chaozhou, Fuzhou *cui³*. Sino-Tibetan **tujH* “water” > Lolo-Burmese: Achang *ti* “water”; Kachin *mādi¹* “to be wet”; Lushai *tui* < Kuki-Chin **Dui* “water”; Lepcha *dā* “a pond, a lake, stagnant water”; Kiranti **dhi*; Bodo-Garo: Dimasa *di* “water”, Bodo *bidāy*, Garo *tši*, Banpara *ti*; Rawang *thi*; Kanauri *ti*; Vayu *ti*; Magari *di*; Pwo, Sgaw *thi* (*CVST* II, 146–47; Shafer 1974, 48, 442; Benedict 1972, 45, 134; Matisoff 2003, 194, 451, 471: **m-t(w)i* ~ **m-twəy* “water, fluid”, **ti(y)* “water” (two protoforms are proposed without comment, but it seems much more probable that we deal with a single root here).

304 Chinese 為 *wéi* & *wèi* “to act as, be; make, do” < Late Middle Chinese **yj* < Early Middle Chinese **wiǎ*/*wi* (Pulleyblank 1991, 320) ~ Middle Chinese **we* < Postclassic Chinese **we* < Eastern Han Chinese **we* < Western Han Chinese **waj* < Classic & Preclassic Old Chinese **waj* (Starostin, *ChEDb*; *GSR* 0027 a-e). Schuessler (2009, 220, §19–6 a): Middle Chinese **jwe* < Old Northwest Chinese **ue* < Late Han Chinese **wai* < Old Chinese **wai*. Baxter & Sagart (2014, 83, 107, 121, 269): Middle Chinese **hjwe* < Old Chinese **ǵ^w(r)aj*. Sino-Tibetan **q^w[i]āj* (~ **ǵ^w*) “to make; divide, distribute” > Old Chinese 為 **waj* “to make, do, act”; Tibetan: *bgjid* “to make, to manufacture; to do, to act”, *bgji-ba* “action, deed”; ? *ji-n* “to be”; Burmese *wij* “to divide, to distribute” (*CVST* V, 156). Notes: Vietnamese reading: *vi*. An **-s*-derivative from the word is Old Chinese **waj-s*, Middle Chinese *wè*, Mandarin *wèi* “for, on behalf”; cf. also Vietnamese *vì*, *vị*. For initial **w-* cf. Min forms: Middle Chinese *we* vs. Xiamen, Chaozhou, Fuzhou *ui²*; Middle Chinese *wè* vs. Xiamen *ui⁶*, Fuzhou *oi⁶*, Jianou *üe⁶*. Shuowen defines the character as “female monkey”. Although this meaning is not attested in older literature, it may be compared to Sino-Tibetan **q^wāj* reflected in Kachin *woi* “monkey”; Moshang *vi-sil*; Rawang *əwe*; Trung *a-koi*; Kadu *kwe* id. (*CVST* I, 125; Benedict 1972, 68).

Iranian sources

Arəduuī (Sūrā Anāhitā)

[V. 7.16]

*arəduuī nāma āpa / spitama zaraθuštra / hā mē āpō yaoždadāiti /
hā aršnaṃ xšudrā / hā xšaθrināṃ garəβa / hā xšaθrināṃ paēma.*

“Das Wasser namens Arədvī, o Spitama Zaraθuštra, das macht mir die Wasser vollkommen, das die Samenflüssigkeiten der Männer, das der Weiber Mutterleiber, das der Weiber Milch.”

[Yt. 1.21]

nəmō ape dāitiiaiiā / nəmō arəduiiā āpō anāhitaiiā.

“Verehrung vor dem Wasser der Dāityā, Verehrung vor dem **makellosen Wasser Arədvī**”

[Y. 65.4]

*yaozənti vīspe karanō / zraiiā vouru.kašaiia / ā vīspō maidiio yaozaiti /
yaṭ hīs aoi fratacāiti / yaṭ hīs aoi fražgaraiti / arəduuī sūra anāhita.:
yejhe hazanṛəm vairiianāṃ / hazanṛəm apayžāranāṃ.:
kasciṭca aēšqam vairiianāṃ / kasciṭca aēšqam apayžāranāṃ /
caθbarə.satəm aiiarə.baranāṃ / huaspāi naire barəmnāi.*

“Es geraten alle Ufer in dem Meer Vouru.kaša in Aufregung, die ganze Mitte wallt auf, wenn zu ihnen herzufließt, wenn zu ihnen herzuströmt die **gewaltige makellose Arədvī**, die tausend Abflüsse (ist) vierzig Tagesrite (lang) für einen Reitersmann, (der) gut zu Roß (ist).”

Translated by Fritz Wolff 1910.

Etymology:

Probably related are forms in the Pamir languages: Shughni, Bajui *rard-* : *ruxt* “to dig, excavate, hollow out”, Khufi, Roshani *rard-* : *ruxt* “to demolish, scatter” < **fra-rd-* (Morgenstierne 1974, 68); Vedic *ard-* “to move, be moved, be scattered” : 3pl. imper. *rdantu*, 3pl. impf. *ārdan*; *ārdra-* “wet, moist, damp”, continuing in (i) Pali *adda-* “wet, slippery”, Prakrit *adda-* “wet; cloud, rain”, Sinhalese *ada* “wet”, Sindhi *ādroko* “moist”; Dardic: Kashmiri *odur* “moist”, Tirahi *atere* “wet”, Torwali *až* id., Shina *ázū* id.; (ii) Pali *alla-* “wet”, Bashkarik *all*, *āl* “wet”, Hindi *ālā* “damp” etc. (Turner 1966, #1340; *EWAI* I, 119–20). Further possible relatives: Greek ἄρδω (or with *ā-* after Herodian?) “I irrigate, water” [Pindar], ἄρδμός “watering place” etc. (Pokorny 1959, 334).

Zaravshan

Length 877 km; basin 17 700 km². Mouth: formerly Amu Darya, now sands by the city Panjakent and Lake Karakul; source: Pamir.

Persian sources

Zaravšan

The most recent name of the river, the Persian compound *Zar-afšān*, means the “dispersing gold”, cf. *zar* “gold” & *afšān* “dispersing, scattering, diffusing”, from the verb *afšāndan* “to disperse, scatter, diffuse, strew, sprinkle, shed” (Steingass 1892, 612 & 83).

Suyd

The alternative name of this river simply meant “Sogdian”, as described by Le Strange (1905, 461): ‘The province of Sughd, the ancient Sogdiana, may be taken as including the fertile lands, lying between the Oxus and Jaxartes, which were watered by two river systems, namely the Zarafshān, or Sughd river, on which Samarqand and Bukhārā stood, and the river which flowed by the cities of Kish and Nasaf.’ Let us repeat the definition of the lemma *suyd* by Steingass (1892, 683): “bent with age; low-lying ground where rain-water collects; name of a pleasant land in the province of Samarqand”.

Greek sources

Δῆμος

The first information about this hydronym was mediated by Ptolemy (*c.* 100 – *c.* 170) in the mid-2nd cent. CE [6.12.3]. According to him, the Dymas was a tributary of the Iaxartes:

καὶ ἄλλοι δὲ δύο ἀπὸ τῆς αὐτῆς ὄρεινῆς, ἀφ' ἧς καὶ ὁ Ἰαξάρτης, φερόμενοι·
καλεῖται δὲ καὶ ἡ ὄρεινὴ Κομηδῶν· συμβάλλουσι δὲ θάτεροι τῷ Ἰαξάρτη·
ὀνομάζεται δὲ ὁ μὲν ἕτερος αὐτῶν Δῆμος / Δήμιος / Δύμιος,
οὗ αἱ μὲν πηγαὶ ἐπέχουσι μοίρας _ ρκδ μγ
ἢ δὲ πρὸς τὸν Ἰαξάρτην ποταμὸν συναφῆ _ . ρκγ μζ

Two further {rivers} pour down from the same mountainous region as the Iaxartes –
it is called the mountain area of the Komedai – to flow into that river.

The name of one of these {two tributaries} is the Dymus.

The sources of which are in 124° 43°

where it joins with the Jaxartes 123° 47°

Edition by C.F.A. Nobbe (1966) and Humbach & Ziegler (1998).

Translated by Humbach & Ziegler (1998).

Ammianus Marcellinus (330–395/400 CE) wrote about the river Dymas as a parallel stream besides the Araxates, i.e. probably Iaxartes. Both the streams had to empty into the Lake of Oxia, i.e. probably the Aral Sea [23.6.59]:

Hinc Sogdiani agunt sub imis montium pedibus, quos appellant Sogdios, inter quos amnes duo fluunt navium capacissimi, Araxates et Dymas, qui per iuga vallesque praecipites, in camp-estrem planitiem fluvii decurrentes, Oxiam nomine paludem efficiunt, late longeque diffusam.
“Next the Sogdiani dwell at the foot of the mountains which they call the Sogdii, through whose territories two rivers flow which are navigable by ships, the Araxates and the **Dymas**. These streams rush headlong over mountains and valleys into a level plain and form a lake, Oxia by name, which is both long and broad.”

Ammianus Marcellinus: *Rerum Gestarum*. With An English Translation. John C. Rolfe, Cambridge (Mass.): Harvard University Press – London: Heinemann 1935–1940.

<<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-lat1:23.6.59>>

<<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-eng1:23.6.59>>

The hydronyms Δῆμος (with the manuscript variants Δήμιος & Δύμιος) of Ptolemy and *Dymas* of Marcellinus Ammianus apparently designated the stream parallel to the Iaxartes. Taking in account the information of Marcellinus Ammianus about mouths of both rivers, Iaxartes and Dymas, emptying into the Oxia Palus, i.e. the Aral Sea, it is possible to speculate that the Dymas was used by Marcellinus instead of the Oxus, if Dymas, as its upper stream, was substituted. If it was the same river as Πολυτίμητος described by Strabo [11.11.5] (cf. Holt 1989, 22), both hydronyms denote the present Zaravshan. For this river it is characteristic that it terminates in sands between Panjakent and Lake Karakul, not too far from the Amu Darya. A similar sandy mouth was described for the Πολυτίμητος by Strabo (see below).

Etymology:

(a) Humbach & Faiss (2012, 40) try to explain the hydronym with help of Vedic *dhūmá-* “smoke, vapour, mist”. Such a semantic motivation is quite natural, cf. e.g. the Smoky River in Alberta, 492 km long tributary of the Peace River. It is possible to add the Iranian counterpart in Khotanese *dumā* “smoke” (Bailey 1979, 161; Cheung 2007, 68) and maybe Ossetic Iron *dymyn*, Digor *dumun* “to smoke; blow (up)”, perhaps contaminated with the verbal root **damH-* “to blow, swell” (Cheung 2007, 56).

(b) Alternatively, it can be etymologized with help of Iranian **dumba-* “tail” > Avestan *duma-*, Khotanese *dumaa-*, Manichaean Sogdian *δwm* id. etc. (*ESIJ* 2, 479–81; Bailey 1979, 161). The river could really resemble the tail of the Oxus / Amu Darya. More probable is comparison with a tail of some animal, cf. e.g. the 309 km long Otter Tail River (and lakes Otter Tail Lake and Otter Tail) in Minnesota.

If the form Δῆμος is primary, it is possible to think about the Iranian starting-point **dāmā-*, while the Hellenized form **Dēm°* regularly changed into **Dīm°*, which could be recorded as Δῶμος & *Dymas*. The form **dāmā-* is etymologizable at least in two ways:

(c) Iranian **dāmā-* “net” > Sogdian: Manichaean *δ’m’*, Buddhist *δ’m’y*, Christian *d’m’y* / *dām(ā)* / “net”; Khotanese *dāma-* “bond”, *dāma-* “tie, knot”; Zoroastrian Middle Persian *d’m* / *dām* / “net, snare, trap”, etc.; further Vedic *dāman-* “string, cord, rope, fetter”, from the verb *dā-* “to bind” = Avestan *dā-* id. (Cheung 2007, 47; *ESIJ* 2, 444–45; Gharib 1995, #3395; MacKenzie 1971, 24; MW 475). Since the river really branches into numerous arms and channels around Samarkand, the comparison to a net is quite adequate.

(d) Iranian **damH-* “to swell, blow” > Avestan *dādma’niia-* “blowing (up)”; Buddhist Sogdian *δm’s* “to swell”; Khwarezmian *δm’s-* “to become fat, strong”, Khotanese *dam-* “to blow”, *uysdem-* “to cool, extinguish”; Parthian *dm-* “to blow, breathe”, *dm’s* “to swell up” etc.; further cf. Vedic *dham-* “to blow” (Cheung 2007, 55–56; *ESIJ* 2, 316–21; *LIV* 153). The expression “swelling river” is natural for rivers fed from mountain snow and glaciers, whose level grows after the summer thaw.

Πολυτίμητος

In the beginning of the 1st cent. CE Strabo [11.11.5] wrote about the Central Asiatic river Polytimetus, referring to the man called Aristobulus. Important are two notices, the river waters the whole country, but finally is absorbed in sand.

τὸν δὲ διὰ τῆς Σογδιανῆς ῥέοντα ποταμὸν καλεῖ Πολυτίμητον Ἀριστόβουλος, τῶν Μακεδόνων τοῦνομα θεμένων, καθάπερ καὶ ἄλλα πολλὰ τὰ μὲν καινὰ ἔθεσαν τὰ δὲ παρωνόμασαν: ἄρδοντα δὲ τὴν χώραν ἐκίπτειν εἰς ἔρημον καὶ ἀμμώδη γῆν καταπίνεσθαί τε εἰς τὴν ἄμμον, ὡς καὶ τὸν Ἄριον τὸν δι’ Ἀρίων ῥέοντα.

Strabo: *Geographica*, ed. A. Meineke. Leipzig: Teubner 1877.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-grc1:11.11.5>>

“Aristobulus calls the river, which runs through Sogdiana, **Polytimetus**, a name imposed by the Macedonians, as they imposed many others, some of which were altogether new, others were deflections from the native appellations. This river after watering the country flows through a desert and sandy soil, and is absorbed in the sand, like the Arius, which flows through the territory of the Arii.”

Strabo: *The Geography of Strabo*. Literally translated by H.C. Hamilton & W. Falconer. London: George Bell & Sons 1903.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-eng2:11.11.5>>

<http://penelope.uchicago.edu/Thayer/L/Roman/Texts/Curtius/7*.html>

Curtius Rufus [7.10.1–3]

Sogdiaua regio maiore ex parte deserta est: octingenta fere stadia in latitudinem vastae solitudines tenent. Ingens spatium rectae regionis est, per quam amnis – Polytimetum vocant incolae – fertur. Torrentem eum ripae in tenuem alveum cogunt, deinde caverna accipit et sub terram rapit. Cursus abscon diti indicium est aquae meantis sonus, cum ipsum solum, sub quo tantus amnis fluit, ne modico quidem resudet humore.

Curtius Rufus, Quintus: *Historiae Alexandri Magni*, ed. by Edmund Hedicke. Leipzig: Teubner 1908.

<<http://data.perseus.org/citations/urn:cts:latinLit:phi0860.phi001.perseus-lat1:7.10.3>>

“The region of Sogdiana is for the greater part deserted; desert wastes occupy a width of 800 stadia. It extends straight on for a vast distance, through which flows a river which the natives call **Polytimetus**. This is at first a torrent, since its banks force it into a narrow channel, then a cavern receives it, and hurries it off under the ground. Its hidden course is revealed only by the noise of the flowing waters, since the soil itself under which so great a river flows does not exude even a slight moisture.”

Quintus Curtius with an English translation by John C. Rolfe, books VI-X.
Cambridge (Mas.): Harvard University Press – London: Heinemann 1946, reprint 1976.

<<http://www.attalus.org/info/curtius.html>>

Etymology:

The Greek word πολυτίμητος means “highly honoured; at a high price, very costly”. But in the case of the Central Asiatic river-name, it seems to be only an *interpretatio Graeca*, based on similarity with the original river-name. Assuming the metathesis πολυτίμητος < *πολυτημίτος and replacement of ι by υ to get a meaningful Greek formation, it can be etymologized with help of the Iranian prefix **pari-* “around, by” and the verb **tam(H)-* > Parthian *t'm-* “to choke”; Khotanese *ttāmā* “fatigue”, *pātem-* “to confound”, participle *pātaunda-*; Manichaean Sogdian *pt'm* “unconscious”, *t's'δ* “tired”; Khwarezmian *prc's-* “to become tired”; Persian *tāsīdah* “tired, emaciated”; Iranian > Armenian *partasim* “I become tired”; further cf. Vedic *tamī-* “to become exhausted”, *timita-* “still, quiet” [Rāmāyaṇa]; “wet” [lexicographs] (Cheung 2007, 376–77; Bailey 1979, 125; MW 447; *EWAI* I, 626; *LIV* 624). The starting-form would probably be the feminine form **pari-tām-a'tī* of the participle **pari-tām-ant^o*, which served as a model for the Greek transcription. The hypothetical meaning “exhausted” could describe the situation, when the river did not reach the main stream of the Oxus.

Chinese sources

Nami

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), completed by Ouyang Xiu and Song Qi and their collaborators in 1060, this river was called 那密 *nǎ/nà/ná³⁰⁵ mi³⁰⁶* (Chavannes 1903, 133, 136–39, 348; Marquart 1898, 6; Markwart 1938, 162–63, fn. 2).

Etymology:

(a) In the Middle Chinese reconstruction the hydronym looked like **na'mit* or **na^hmit* (Pulleyblank) ~ **nāmit* (Starostin) ~ **nāmjet* (Schuessler). Markwart (1938, 162–63, fn. 2) speculated

305 Chinese 那 *nǎ* & *nà* “to be rich”; later “this, that; so”; *nǎ* “which, what, how”, *ná* “many, much” < Late Middle Chinese **na'* < Early Middle Chinese **na'/*na^h* (Pulleyblank 1991, 221) ~ Middle Chinese **ná* < Postclassic Chinese **n(h)ān* < Han Chinese **n(h)ān* < Classic Old Chinese **n(h)ān* < Preclassic Old Chinese **n(h)ār* (Starostin, *ChEDb*; *GSR* 0350 a). Schuessler (2009, 215, §18–12 a): Middle Chinese **ná^c* < Late Han Chinese **na^c*. Notes: In oldest texts the character is used only with the meaning “to be rich” (sometimes within a compound 猗那 **?ār-nār* id.). The pronominal meaning (at first only interrogative) appears only during Late Zhou – as a synonym for 奈 **n(h)āts* “so what?” (q.v.). Later, during Wei (220–265 CE), the character is used for a (probably related) interrogative **n(h)ā* > Middle Chinese *ná*, Mandarin *nuō* (colloq. *nǎ*) “how, what”. Finally, since Tang demonstrative usage is witnessed: Middle Chinese *nà*, Mandarin *nuò* (colloq. *nà*) “that”. The standard Sino-Vietnamese reading is *nā*; *này* may be an old loanword, or else may be just a rather universal pronominal stem (in Vietnamese cf. also *nó* “he”, *nọ* “other”). Sino-Tibetan: Old Chinese (late) 那 **nāj* “that”; Kachin *naŋ⁴* “here”, *niŋ⁴* “thus, in this manner”; Kiranti **na-*; Karen **nV* “that”, Kanauri *nū*, Phom (Konyak) *ni*, Kham *nō* “that”.

306 Chinese 密 *mì* “to be quiet; frequent, dense; close; secret” < Late Middle Chinese **mit* < Early Middle Chinese **mit* (Pulleyblank 1991, 213) ~ Middle Chinese **mit* < Postclassic Chinese **mhīt* < Eastern Han Chinese **mhrət* < Western Han Chinese **mhrjət* < Classic & Preclassic Old Chinese **mhrīt* (Starostin, *ChEDb*; *GSR* 0405 p-q). Schuessler (2009, 304, §29–41 p): Middle Chinese **mjet* < Old Northwest Chinese **mit* < Later Han Chinese **mit* < Old Chinese **mrīt*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **mit* < Old Chinese **mri[t]*. Cf. Baxter 1992, 777: Old Chinese **mrjit*. Comments: Used also for a homonymous **mhrīt* “to be dense”; later used usually with the meaning “quiet > secret, conceal”. Cf. also Vietnamese *mịch* “quiet, calm”, which may be an older loan from the same source. For **mh* cf. Jianou *mi⁷*. Vietnamese reading: *mật*.

about the hydronym motivated by the city-name, namely by the {unattested} Sogdian compound *nw'y/nwyy-myδn /nawē-mīθan/* “new city” (cf. Gharib 1995, ##6155, 6188, 5605), which had to belong to the city of Bukhara.

But the Chinese transcription could bring more archaic information about the original form of this hydronym. For the Late Han era it is possible to reconstruct the hydronym as (b) **nājmhṛət* or (c) **n(h)āmhrət* according to Starostin.

(b) The variant **nājmhṛət* leads to a hypothetical Iranian compound **nājma-hraūtah-* “half-river” or “side-river”, perhaps with relation to the main river Amu Darya / Oxus:

(i) Avestan *naēma-* “half; side”; Manichaean Middle Persian *nym /nēm/* “half”, *nymrwc /nēm-rōč/*; Parthian *nymwrz /nēm-rōč/* and Bactrian *νημο-* in *νημοροσο* “south” < **nājma-raūčah-*, lit. “half-day”; Sogdian *nym /nēm/, nym(y) /nēmē/* “half”, *nymyδ /nēm-mēθ/* “noon; south”; Khwarezmian *nym-* “half”, *nym(y)k* “half”; cf. Vedic *nēma-* “one, several”, *nēma ... nēma* “the one .. the other”, later also “half” (Bartholomae 1904, 1035; *MPP* 253; Sims-Williams 2007, 139; Gharib 1995, ##6260, 6274, 6281; Benzing 1983, 484–85; MW 569; *EWAI* II, 56).

(ii) Avestan *θraotō.stāt-* “in Fluss-läufen befindlich”; Old Persian *rauta(h)-* “river”, Middle Persian: Manichaean *rwd*, Zoroastrian *hwt /rōt/* “river, canal”, Parthian *rwd* “rivers”; Christian Sogdian *rwt* “river” etc.; cf. Vedic *srótas-* “river, stream, torrent, current or bed of a river”, besides *srutí-* f. “stream” (Cheung 2007, 140–41; MW 1274; *EWAI* II, 784).

(c) The variant **n(h)āmhrət* allows one to speculate about the compound **namb-hraūtah-* “moisture-river”, i.e. the river bringing a moisture (i) or **nam-hraūtah-* “bent-river”, i.e. the river with bends (ii):

(i) Zoroastrian Middle Persian *nmb* “moisture”, Persian *namīdan* “to grow moist”, Kurdish *num* “dampness”, Pashto *nūmd* “wet”, Shughni *nāmb* “moisture, humidity”, Sarikoli *nom* “wet, moist” etc. (Cheung 2007, 276).

(ii) Avestan *nəm-* “to bend”, Manichaean Middle Persian *'n'm-* “to remove, drive away, go away”; Khotanese *panam-* “to bend” < **pati-nam-*, *hanem-* “to bend down” < **fra-nam-*; cf. also Vedic *nam-* “to bend (oneself), bow” (Cheung 2007, 280; *EWAI* II, 14; *LIV* 453f).

But for Chinese transcriptions of foreign proper names the metathesis of *m* and liquid is also possible³⁰⁷. Taking in account this possibility, there are still two alternatives, (d) **nājrmhət* and (e) **n(h)ārmhət*. These forms are compatible with derivatives of two quasi-homonymous Iranian verbal forms:

(d) **ni-* “down” + **ram-* “to go, move” > Manichaean Middle Persian *nyr'm-, nr'm-* “to cast down, throw down” < **ni-rām-*, passive participle *nyr'pt /nirapt/* < **ni-ramta-*, besides *'hr'm-* “to lift up, raise” < **fra-rām-*; Parthian *'hr'm-* “to lift up, raise” < **fra-rām-*, *n(y)r'm-* “to hold back, restrain, suppress”; Khotanese *narām-/nerām-/nirām-* “to go out” < **ni-rām-*, passive participle

307 There is an analogical case of metathesis in Chinese transcription of the name of the oasis-city Merw on the Silk Road, today known as Mary in Turkmenistan, mediated by the text 後漢書 *Hòu Hànsū* “Book of the later Han”, compiled by the historian Fan-ye (398–445 CE). The place-name is of Iranian origin, cf. Old Persian *Marguš*, Parthian *mrg*, Manichaean Sogdian *mrγ /Marγ/*, besides *mrw-rwd* “Marv river” /*Marw-rūd/* (Gharib 1995, ##5430, 5477). Its Chinese transcription 木鹿, in modern Beijing pronunciation *mùlù* (cf. Chavannes 1907, 177), may be projected into Early Middle Chinese **mawklawk* (Pulleyblank 1991, 220, 201) or Middle Chinese **mukluk* < Late Postclassic Chinese **mhwōklwōk* < Early Postclassic Chinese **mhōklōk* < Han Chinese **mhōkrōk* (Starostin, *ChEDb*). Similarly the Chinese transcription 都密 *dōumì* of the toponym Tarmita (cf. Lévy 1933, 27; Tarn 1940, 89–90) from “Book of Later Han” (後漢書 *Hòu Hànsū*; about the period 6–189 CE, but compiled only in the 5th cent.), present Termez in Uzbekistan (see Pulleyblank 1962–63, 124), reconstructible in Eastern Han Chinese as **tāmhrət* < pre-Han Chinese **tāmhrít* (Starostin 1989, 465); cf. 都 *dōu* & *dū* “capital city, outer city, settlements outside of city wall” < Late Middle Chinese **tuə* < Early Middle Chinese **tə* (Pulleyblank 1991, 81) ~ Middle Chinese **to* < Postclassic Chinese **tō* < Han Chinese **tā* < Classic & Old Chinese **tā* (Starostin, *ChEDb*; *GSR* 0045 e-g’).

naranda-/niranda- “issued” < **ni-ram-ant*^o, *t(t)rām-* “to cross over” < **ati-rām-*, past participle *ttranda-*, *parām-* “to grasp, understand” < **pati-rām-*; Kurdish Kurmanji *rāv-*, Sorani *rāv-* “to run away, flee”, Gurani *rāmā-* id., Parachi *ram-* “to go round” (Cheung 2007, 312; *MPP* 253; Bailey 1979, 175, 359; Emmerick 1968, 40, 49, 214–15). The primary form serving as a model for the Chinese transcription could be reconstructed as **ni-ram-a’tī* (with epenthesis), the feminine to the participle **ni-ram-ant*^o “gone down or out, issued”, cf. Avestan *bərəzant-* “high” vs. f. *bərəza’tī-* (Bartholomae 1904, 959–60; Hoffmann & Forssman 1996, 147–48, §105). The Avestan-like form would not have been adopted into Chinese, but rather a form in which changes typical for Middle Iranian languages had been realized. It would be possible to extrapolate such a form as **narmet vel sim.*

(e) Another possibility is represented by the root **Hram-* “to be quiet” (ii) with the negation **nā-* (i):

(i) Avestan *na*, Sogdian *n’*: Buddhist *n’* ”z’yt “non-birth”, Christian *n’* *šyrwyzwyty* “enemies”; Khotanese *na* “not”, *na-ānaha* “not moistened”, Pashto *na* etc. (Bailey 1979, 171–72).

(ii) Buddhist Sogdian *wyr’m-* “to calm, set at rest” < **yi-(H)rām-*, Parthian *r’m* “peace”, Persian *ārāmīdan* “to become calm” etc. (Cheung 2007, 191; *LIV* 252). The primary model for the Chinese transcription could again be the feminine participle, now in negation: **nā-(H)ram-a’tī-* “restless, disturbed” *vel sim.*, describing the violent stream of the river in its upper part in the Pamir.

Syr Darya / Iaxartes

Length 2 212 km, together with Naryn 3019 km; basin 402 760 (or 462 000) km². Mouth: North Aral sea; origin: confluence of the Naryn (807 km) and Kara Darya (177 km). Source: Tian Shan Mountains.

Sīr Daryā

Iranian, Turkic, or Mongolic origin

The hydronym *Sīr* is known only from the 16th cent. A century later, the form *Sīr Tengizi*³⁰⁸ “Sea of Sīr”, was used by Abu al-Ghazi Bahadur Khan, historian and ruler of Khiva, for the Aral Sea.

Etymologizing this river-name, there are several possibilities:

(a) Sogdian *psyr’mdyy* “cooling, freezing” (*pa-sīr/sēr-āmandē* < **apa-šār(a)ja-*), Yaghnobi *ósīr-/ósēr-/ósīrta* “to freeze, chill” (**ā-šārja-*), Wakhi *sīr* “cold” (**šāra-*), Sarikoli *soř* “frozen” (**šārjaka-*), Khwarezmian *srY-* “to become cold, freeze”, Ossetic Iron *sælyn*, Digor *sæln* “to freeze” (**šārja-*), Parthian *wys’r-* “to cool off” (Cheung 2007, 337; Gharib 1995, #7466; Morgenstierne 1974, 75; Steblin-Kamenskij 1999, 325; 48, §86: Wakhi *ī* < **ā*). A source of the hydronym *Sīr* should be sought in an Iranian language spoken north of the Pamir Mountains around 1500, where the development **šārja-* > **sīr*^o is expectable. Good candidates may be Sogdian and Yaghnobi. Some transitional dialect in the dialectal, geographic and chronological sense could really have been a donor-language. This solution agrees with interpretation of the hydronym Ἰαζάρτης as “ice-cold”.

(b) Turkic: (i) Chaghatai *sirq-* “to flow slowly”, Turkmenian *sīrīq-* “to flow (down)”, Turkish dial. *sirk-* “to flow out”, Karakalpak *sīrqi-* “to strain moisture”, Chuvash *sārāx-* “to absorb moisture” etc. (*ESTJ* VII, 422–23); (ii) **sīr* > Chuvash *šāra-* “to smelt”, Karakhanid, Middle Turkish, Tatar, Gagauz *sīz-* “to ooze, melt”, in Turkish & Turkmenian only “to ooze”; cf. also Soiot *syrya* “to pour out to bottom” (Räsänen 1969, 419–20; *ESTJ* VII, 394).

(c) Mongolic: Written Mongol *siri-* “to smelt (ore), melt”, Khalkha *šire-* “to melt”, Kalmyk *šir-* in *širχə* “schmelzen, giessen (von Metallen), *širūlχə* “giessen (Metalle)” (Lessing 1960, 717; Ramstedt 1935, 360–61).

308 <https://en.wikipedia.org/wiki/Syr_Darya>

The solutions (b) & (c) more or less express the same process of “melting, thawing”, as the hydronym *Zhenzhu*, analyzed below as a Chinese transcription of the originally Iranian river-name.

Greek & Latin sources

Ἰαξάρτης

The ancient authors recorded the name and other geographic information about the river called *Iaxartes* relatively lately. The first was probably Strabo (64 BCE – 19/24 CE) in his *Geographica* 11.11.5:

τοῦ δὲ Ὀχου ποταμοῦ πλησίον ὀρύττοντας εὐρεῖν ἐλαίου πηγὴν λέγουσιν: εἰκὸς δέ, ὥσπερ νιτρώδη τινὰ καὶ στύφοντα ὑγρὰ καὶ ἀσφαλτώδη καὶ θειώδη διαρρεῖ τὴν γῆν, οὕτω καὶ λιπαρὰ εὐρίσκεισθαι, τὸ δὲ σπάνιον ποιεῖ τὴν παραδοξίαν. ρεῖν δὲ τὸν Ὀχον οἱ μὲν διὰ τῆς Βακτριανῆς φασιν οἱ δὲ παρ’ αὐτὴν, καὶ οἱ μὲν ἕτερον τοῦ Ὀξου μέχρι τῶν ἐκβολῶν νοτιώτερον ἐκείνου, ἀμφοτέρων δ’ ἐν τῇ Ὑρκανίᾳ τὰς εἰς τὴν θάλατταν ὑπάρχειν ἐκρῦσεις, οἱ δὲ κατ’ ἀρχὰς μὲν ἕτερον συμβάλλειν δ’ εἰς ἐν τὸ τοῦ Ὀξου ρεῖθρον, πολλαχοῦ καὶ ἕξ καὶ ἑπτὰ σταδίων ἔχοντα τὸ πλάτος. ὁ μὲντοι Ἰαξάρτης ἀπ’ ἀρχῆς μέχρι τέλους ἕτερός ἐστι τοῦ Ὀξου, καὶ εἰς μὲν τὴν αὐτὴν τελευτῶν θάλατταν, αἱ δ’ ἐμβολαὶ διέχουσιν ἀλλήλων, ὥς φησι Πατροκλῆς, παρασάγγας ὡς ὀγδοήκοντα: τὸν δὲ παρασάγγην τὸν περσικὸν οἱ μὲν ἐξήκοντα σταδίων φασίν, οἱ δὲ τριάκοντα ἢ τετταράκοντα.

Strabo: *Geographica*, ed. A. Meineke. Leipzig: Teubner 1877.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-grc1:11.11.5>>

“It is said that on digging near the river Ochus a spring of oil was discovered. It is probable, that as certain nitrous, astringent, bituminous, and sulphurous fluids permeate the earth, greasy fluids may be found, but the rarity of their occurrence makes their existence almost doubtful. The course of the Ochus, according to some writers, is through Bactriana, according to others parallel to it. Some allege that, taking a more southerly direction, it is distinct from the Oxus to its mouths, but that they both discharge themselves (separately) into the Caspian in Hyrcania. Others again say that it is distinct, at its commencement, from the Oxus, but that it (afterwards) unites with the latter river, having in many places a breadth of six or seven stadia.

The *Iaxartes* is distinct from the Oxus from its commencement to its termination, and empties itself into the same sea. Their mouths, according to Patrocles, are about 80 parasangs distant from each other. The Persian parasang some say contains 60, others 30 or 40, stadia.”

The Geography of Strabo, literally translated by H.C. Hamilton & W. Falconer. London: Bell & Sons, 1903. <<http://data.perseus.org/citations/urn:cts:greekLit:tlg0099.tlg001.perseus-eng2:11.11.5>>

Pomponius Mela in his book *De chorographia* finished around 43 CE [3.5.6]:

Cyrus et Cambyses ex radicibus Coraxici montis vicinis fontibus editi [et] in diversa abeunt, perque Hiberas et Hyrcanos diu et multum distantibus alveis defluunt, post non longe a mari eodem lacu accepti in Hyrcanium sinum uno ore perveniunt. Iaxartes et Oxos per deserta Scythiae ex Sugdianorum regionibus in Scythicum exeunt, ille suo fonte grandis, hic incursum aliorum grandior, et aliquamdiu ad occasum ab oriente occurrens iuxta Dahas primum inflectitur, cursuque ad septentrionem converso inter Amardos et Pesticos os aperit. <<http://latin.packhum.org/loc/929/1/0#2>>

Pomponii Mela de Chorographia Libri Tres, ed. Gustavus Parthey. Berlin: Nicolai 1867

<<https://ia902309.us.archive.org/15/items/pomponiimelaede00partgoog/pomponiimelaede00partgoog.pdf>>

“Cyrus & Cambises, springing out of the foot of the next hill which is called *Coraxus*, run two sundrie waies, & passing on a great while through *Iberia* and *Hyrcania* in channels farre distaunt, afterward being receyued into one Lake, not farre from the Sea, they runne out into the *Hyrcanian* Bay, both at one mouth. *Iaxartes* and *Oxos* passe into the *Scithian* Bay, out of the Countries of the *Sogdianes*, from the Desartes of *Scithia*: *Iaxartes* being great from his verie spring, and *Oxo*

becomming greater by the falling of other Riuers into him, who kéeping his course a whyle from the East into the West, turneth aside first among the *Dahanes*, and taking his course into the North, openeth his mouth betwéene the *Amards*, and *Pesikes*.”

<<http://quod.lib.umich.edu/e/eebo/A07401.0001.001/1:5.5?rgn=div2;view=fulltext>>

The vvorke of Pomponius Mela, the cosmographer, concerninge the situation of the world wherein euery parte, is deuided by it selfe in most perfect manner, as appeareth in the table at the ende of the booke. A booke right plesant and profitable for all sortes of men: but speciallie for gentlemen, marchants, mariners, and trauellers, translated out of Latine by Arthur Golding Gentleman. London: Charlewood 1585, p. 76.

“Le Cyrus et le Cambyse, issus de deux sources voisines au pied du mont Coraxique, se séparent ensuite et coulent longtemps, à une grande distance l’un de l’autre, à travers l’Ibérie et l’Hyrcanie; puis, se réunissant dans un même lac, non loin de la mer, ils se jettent dans le golfe Hyrcanien par une même embouchure. L’Iaxartes et l’Oxus viennent de la Sogdiane, à travers les déserts de la Scythie, se perdre dans le golfe Scythique: le premier est considérable par lui-même; le second l’est encore plus, mais il emprunte une partie de ses eaux à des fleuves tributaires. Après avoir parcouru un assez long espace d’orient en occident, il se détourne un moment vers les Dahes, puis, remontant vers le nord, il va se jeter dans la mer entre les Amardins et les Paesices.”

Translated by Louis Baudet 1843.

<<http://remacle.org/bloodwolf/erudits/mela/livre3.htm#V>>

In the 6th book of his Γεωγραφικὴ Ὑφήγησις, i.e. “Geographical Guidance”, Ptolemy (100–168/170 CE) brought a relatively rich description of this river, based on information of Marinus of Tyre (70–130 CE). Marinus owed his knowledge about the country of the Seres to Titianus of Macedonia, also called Maes. He was the son of a merchant who had sent his commercial agents into Serike, cf. Ptolemy 1.11.6–7).

Plutarch (46–120 CE) in his biography of Alexander the Great uses the variant Ὀρεξάρτης [45.4]: παραμείνασαν οὐκ ὀλίγον χρόνον, ὅμως οὐκ ἐπαύετο χρώμενος ἑαυτῷ πρὸς τοὺς κινδύνους ἀφειδῶς, ἀλλὰ καὶ τὸν Ὀρεξάρτην διαβάς ποταμόν, ὃν αὐτὸς ᾔετο Τάναϊν εἶναι, καὶ τοὺς Σκύθας τρεψάμενος ἐδίωξεν ἐπὶ σταδίους ἑκατόν, ἐνοχλούμενος ὑπὸ διάρροιας.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0007.tlg047.perseus-grc1:45.4>
Edit/Annotate Passage>

“Nevertheless, he did not cease exposing himself to dangers without stint, nay, he actually crossed the river **Orexartes** (which he himself supposed to be the Tanaïs), put the Scythians to rout, and pursued them for a hundred furlongs, although he was suffering all the while from diarrhoea.”

Plutarch: *Alexander*, in: *Plutarch’s Lives*, with an English translation by Bernadotte Perrin. Cambridge (Mass.): Harvard University Press – London: Heinemann 1919.

<<http://data.perseus.org/citations/urn:cts:greekLit:tlg0007.tlg047.perseus-eng1:45.4> Edit/Annotate Passage>

Araxates

Ammianus Marcellinus (330–395/400 CE) correctly determined that the mouth of the Iaxartes, i.e. his corrupted Araxates, was in *Oxia palus*, i.e. the Aral Sea, and not in the Caspian Sea [23.6.59]: *Hinc Sogdiani agunt sub imis montium pedibus, quos appellant Sogdios, inter quos amnes duo fluunt navium capacissimi, Araxates et Dymas, qui per iuga vallesque praecipites, in camp-estrem planitiem fluvii decurrentes, Oxiam nomine paludem efficiunt, late longeque diffusam.* “Next the Sogdiani dwell at the foot of the mountains which they call the Sogdii, through whose territories two rivers flow which are navigable by ships, the **Araxates** {Iaxartes} and the Dymas. These streams rush headlong over mountains and valleys into a level plain and form a lake, Oxia by name, which is both long and broad.”

Ammianus Marcellinus: *Rerum Gestarum*. With An English Translation. John C. Rolfe, Cambridge (Mass.): Harvard University Press – London: Heinemann 1935–1940.
 <<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-lat1:23.6.59>>
 <<http://data.perseus.org/citations/urn:cts:latinLit:stoa0023.stoa001.perseus-eng1:23.6.59>>

Ἰρήχ

The form Ἰρήχ was recorded by Zemarchus (Ζήμαρχος) who visited Göktürks in Sogdiana in 569–571 as an envoy of the Byzantine emperor Justin II, in the frame of the Byzantine-Turkic co-operation with control of the Silk Road, meant to eliminate the Persians' dominance. Zemarchus' experiences were preserved thanks to the Byzantine historian Menander Protector (Μένανδρος Προτήκτωρ). Marquart (1898, 6) connected the hydronym with Turkic *Öjök*.

Chinese sources

Yaosha

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), completed by Ouyang Xiu and Song Qi and their collaborators in 1060, in passages describing events from the mid-8th cent., the river was called 藥殺 *yào³⁰⁹ shā³¹⁰* (cf. Chavannes 1903, 140, 377; Bretschneider 1888, 56). Projecting the hydronym to the Middle Chinese level, these variants are reconstructed: **jiakṣait/*jiakṣe:t* (Pulleyblank) ~ **jakṣät* (Starostin) ~ **jiakṣät* (Schuessler) ~ **yaksreat* (Baxter & Sagart). Just the reconstruction of Baxter & Sagart remarkably corresponds with the Greek form Ἰαξάρης.

Etymology:

There are several etymological possibilities

(a) **aiṣa-sar(H)ta-* > **iaksart^o?*

(i) **aiṣa-* > Avestan *aēxa-* «ice, freeze»; Khwarezmian *ʾyx /ēx/* & *yxx /yēx/*, Sogdian *yxn(w)* «ice», Buddhistic Sogdian *γυδγν /yiḍxan/* «glacier» < **yixdan* < **aiṣa-dāna-*, Yaghnobi *ix, ex*, Parachi *ix* «ice», Sanglechi *yax, yex* «freeze», ?Wakhi *yix, ix* «ice» (or from **aiṣa-*?), Ossetic *ix / ex* «ice, hail», Classical Persian *yax* «ice» etc. (*ESIJ* I, 141–42; Gharib 1995, #11097). The form Ἰρήχ recorded by Zemarchus in the 6th cent. CE can reflect this first component with the meaning “icy”.

(ii) **sar(H)ta-* > Avestan *sarāta-* “cold”; Khotanese *sāḍa-* “cold”; Sogdian *srt(y)* id.; Khwarezmian & Parthian *srd* id.; Zoroastrian Middle Persian *slt /sard/* “cold”, Manichaean Middle Persian *srd^g /sardāg/* “cold(ness)”, Persian *sard*, Baluchi *sārt*, Kurdish *sar* “cold” (Cheung 2007, 336–37).

The compound **aiṣa-sar(H)ta-* would designate a river with “ice-cold” water, which is natural for a stream fed from glaciers of the Tian Shan Mountains. It also correlates with interpretation

309 Chinese 藥 *yào* “to give medicine, cure; medicinal herb, medicine” < Late & Early Middle Chinese **jiak* (Pulleyblank 1991, 363) ~ Middle Chinese **jak* < Late & Middle Postclassic Chinese **jak* < Early Postclassic Chinese **zauk* < Eastern Han Chinese **zauk* < Western Han Chinese **lauk* < Classic Old Chinese **lauk* < Preclassic Old Chinese **lak^w* (Starostin, *ChEDb*; *GSR* 1125 p). Note: Vietnamese reading: *du ‘o’ c*. Sino-Tibetan **lāk^w* “to heal” > Old Chinese 藥 **lak^w* “to give medicine, cure”; Burmese *kjak* “to heal, cicatrize (of a wound)”. Schuessler (2009, 207, §17–8 p): Middle Chinese **jiak* < Old Northwest Chinese **iak* < Late Han Chinese **jak* < Old Chinese **jauk*. Baxter & Sagart (2014, 78): Middle Chinese **yak* < Old Chinese **m-r[e]wk* “medical plant”.

310 Chinese 殺 *shā* “to kill” < Late Middle Chinese **ša:t* < Early Middle Chinese **ṣait/*ṣe:t* (Pulleyblank 1991, 273) ~ Middle Chinese **ṣät* < Postclassic Chinese **ṣät* < Han Chinese **ṣät* < Classic & Preclassic Old Chinese **srāt* (Starostin, *ChEDb*; *GSR* 0319 d-e). Comments: The character also has a Late Zhou reading Mandarin *shài* “to wound; to diminish” < Middle Chinese **ṣäj* < Old Chinese **srāt-s*. Schuessler (2009, 237, §21–29 de): Middle Chinese **ṣät* < Old Northwest Chinese **ṣät* < Late Han Chinese **ṣat* < Old Chinese **srāt*. Baxter & Sagart (2014, 74, 271–72, 395–96): Middle Chinese **sreat* < Old Chinese **s<r>at*. Sino-Tibetan **sāt* “kill” > Old Chinese 殺 **srāt* “to kill”; Tibetan *gsod* “to kill”; Lolo-Burmese **satx* > Burmese *sat* “to kill”; Kachin *gəsət³* “to kill, to murder”; Lushai *that* “to kill”; Kiranti **séi*; Boro-Garo: Boro *thät*, Dimasa *thai*, Garo *so?ot*; Moshang *tat*; Kham *sat*; Kham *saj^l*; Kanauri *sad-*; Rgyarung *-sad*; Trung *sat^l*; Mikir *dəyhét*; Thankur *kəthət* (Simon 1929, 18; Shafer 1974, 436, 410; Benedict 1972, 27; Matisoff 1972, 202; *CVST* IV, 98).

of the limnonym *Čaēcasta-* < **čaj-časta-* “accumulated thanks to frost”, i.e. from frozen rivers, when they melted, presented above in the section **Aral Sea**.

In the 14th cent. the Persian historian and geographer Ḥamd-Allāh Mustawfī of Qazwīn described situation as follows: ‘River *Šayhūn* (Iaxartes). This is of *Mā-warā-n-nahr* (Transoxiana), and this province is named *Mā-warā-n-nahr* (Arabic “What is beyond the River”) because to the west of it flows the Iaxartes, and thus from either side it is regarded as the Land beyond the River. The people of the country called the Iaxartes by the name *Gul Zaryūn*. It rises among the snow, then its stream passes Khujand and Fanākat, and finally reaches the Khwārezm Lake (Aral). This river too, like the Oxus, freezes so hard in winter that at many places caravans cross on the ice. The length of this river is 80 leagues.’ (Le Strange 1919, 209–10). According to M. Blochet, quoted by Le Strange (1919, 210, fn. 1), ‘...this would mean in Mongol “the cold, or fresh, river”. *Gul*, otherwise *Gūl* or *Gueul*, primarily meaning a “lake”, is, like the Persian *Daryā*, applied to any great stream. *Zaryūn* is the Mongol *serikūn* (with the *k* elided, as in *hūlāū* for *hūlāgū*), meaning “cold, agreeably fresh and pleasant”. The name *Gul Zaryūn*, however, does not appear to be mentioned by any other authority.’ The really attested Mongolic lexical data are as follows: Mongolic **seriyūn* “cool, fresh” > Written Mongol *serigūn*, Middle Mongol *seri’un*, Khalkha, Kalmyk, Ordos *serūn*, Buriat *herūn*, Dagur *serūn*, Shary-Yoghur *sörūn*, Monguor *sarin*, *sarəŋ* id. (Lessing 1960, 691; Ramstedt 1935, 326). It is apparent that Middle Mongol *seri’un* is closest to the form *Zaryūn*.

(b) **(H)axša-θra-* > Alanic **axsarta-*

(i) **axš-* > Ossetic Iron *æxsyn*, Digor *æxsun* “to throw, shoot”, Sogdian *βr’xš* /*fra-axša-* (MacKenzie) “to shoot from bow” (Gharib 1995, #2687: compared it with Ossetic *rāxsin*; correctly Iron *raxsyn* “to throw out, shoot at” < **fra-(H)axš-*, see Cheung 2007, 171; Abaev I, 221–22; Bailey 1979, 13 compared it with Khotanese *ah-* “to throw, shoot”, Avestan *aŋhiieiti* : *astar-* “shooter”).

(ii) Ossetic *ærtæx* “dew”, *ærtax* “drop”, Khotanese *tte* “drops of water”, *ttraha* “draught (of liquid)”, Sogdian *”p’ynčh tryh* “drop of water”, Pashto *trai* “small stream, mill-race”, Ormuri *tr-*, Parachi *ter-* “to drink”, Persian *tar* “wet” (Abaev I, 180; Bailey 1979, 143–44; Cheung 2007, 383–84 connects the forms with the meaning “to drink” with the root **tarš-* “to be thirsty”).

The hypothetical Alanic compound **axsarta-* would mean “throwing drops of water”. The metathesis **-θr-* > **-rt-* is typical only for the Sarmatian/Alanic-Ossetic³¹¹ group within Iranian. The presence of Alans in Central Asia is well-documented in the Chinese sources. In “Book of the Later Han” (後漢書 *Hòu Hànhshū*), documenting the history of the Han dynasty from 6 to 189 CE, there appears information about the change of the name of the kingdom Yancai, located northwest of Sogdiana. During 25–55 CE the name was replaced by 阿蘭聊 *ā³¹² lán³¹³ liáo³¹⁴*. In another historical text, “A Brief History of Wei” (魏略 *Wèi lüè*), written by Yu Han, an official of the state Wei, in 239–265 CE, the new name of this kingdom is divided into two: 阿蘭 *ālán* and 聊 *liáo*. Accepting the idea that the record from “Book of the Later Han” represents a mixture of the names of two states, the name of our interest is only 阿蘭 *ā-lán*. It has been connected with the

311 The ‘Sarmatian metathesis’, **-Cr-* > **-rC-*, is documented in the North Pontic onomasticon at least from the end of the 1st cent. CE, the date of a man’s name from Olbia Πουρθακης < Iranian **puθra-* “son”. Later in the Tanais city there was recorded a man’s name motivated by the same Iranian word, Φουρτας, dated to 228 CE. It already resembles Ossetic Digor *furt*, Iron *fyrt* “son” (Zgusta 1955, 135, §185; 167, §249).

312 Chinese 阿 *ā*, *ā* “slope, hill, shore, angle, bending” < Middle Chinese **ʔā* < Postclassic Chinese **ʔā* < Eastern Han Chinese **ʔā* < Western Han Chinese **ʔāj* < Classic & Preclassic Old Chinese **ʔāj* (Starostin, ChEDb; GSR 0001 m).

313 Chinese 蘭 *lán* “orchid” < Middle Chinese **lān* < Postclassic Chinese **lān* < Han Chinese **rān* < Classic & Preclassic Old Chinese **rān* (Starostin, ChEDb; GSR 0185 n). Comments: In Early Zhou attested only within the compound 菀蘭 **wān-rān* “Metaplexis stauntoni”. The meaning “orchid” is attested since Late Zhou.

314 Chinese 聊 *liáo* “to will, wish that” < Middle Chinese **liəw* < Postclassic Chinese **liəw* < Eastern Han Chinese **riəw* < Western Han Chinese **rjəw* < Classic & Preclassic Old Chinese **rīw* (Starostin, ChEDb; GSR 1114 u).

ethnonym *Alani* [Lucan, *Bellum Civile* 8.223; Pliny, *Naturalis Historia* 4.25] or Ἀλανοί [Flavius Josephus, *De bello Judaico libri vii*, 7.7.4], Ἀλανοὶ Σκύθαι [Ptolemy, 3.15.3] (see Alemany 2000, 13; 98–101), located in the North Caucasus and North Pontic areas in the 1st and 2nd cent. CE. The reconstructed developments of Chinese confirm this idea: 阿蘭 *ālán* < Postclassic Chinese {3rd–5th cent. CE} **ālān* < Eastern Han Chinese {9–220 CE} **ārān* < Western Han Chinese {206 BCE–9 CE} **ājīrān* according to Starostin (*ChEDb*). Schuessler (2009, 211, §18.1m; 246, §23–7n) reconstructs for the characters 阿蘭 the Late (Eastern) Han Chinese reading **ʔa* < **ʔai* & **lan* respectively. It is possible to conclude that the pronunciation of the name of the tribal state 阿蘭, in reconstructions by Starostin and Schuessler respectively, was **ārān* or **ʔalan* in the beginning of the 1st cent. CE, which could reflect an older pronunciation **ājīrān* or **ʔailan* in the 1st cent. BCE. In Ossetic folklore there is attested the ethnonym *Allon*, derivable from the proto-Iranian gen.pl. **ariānām* “of Aryans” or the adj. **āriāna-* (Abaev I, 47–48; Alemany 2000, 3–4). Summing up, the reconstruction **ʔailan* of pronunciation of the Chinese transcription by Schuessler reflects the typical Sarmatian change **-rj-* > **-lj-* (perhaps with epenthesis known from Ossetic too, cf. *īnnæ* & *annæ* “other” < Iranian **a'nīa-* & **anīa-*; Abaev I, 545), while Starostin’s reconstruction **ājīrān* precedes this change.

(c) Taking in account the form Ὀρεξάρτης recorded by Plutarch, it is possible to speculate about the following compound:

(i) Yaghnobi *ráska* & *rázka* “right = dexter” (Novák 2010, 141; cf. Iranian **Hraz-* “to direct, be straight” by Cheung 2007, 196–98), ?Ossetic Iron *raxīz*, Digor *raxež* “right = dexter” < **rask-xīz-*, cf. Shughni *xēz*, Rushani *xīz* id. etc. (Abaev II, 353–54).

(ii) *(*H*)*ar(a)θna/i-* “elbow” > Avestan *arəθna-* “elbow”, *frārāθni.drājah-* “length of one cubit”; Old Persian *arašni-* “cubit”, Zoroastrian Middle Persian *’lšn*, Manichaean *’ryšn /ārišn/* “cubit”, Buddhistic Sogdian *’r’ynč*, Christian Sogdian *’rynč /ārinč/* (> Zoroastrian Middle Persian *’lnc /āranj/* “elbow”), Khwarezmian *RNcyc*, *rycc*, *ryjč* “Unterarm, Elle” (Benzing 1983, 559, 565), Khotanese *arnīñe* adj. “of the elbow”, Ossetic Digor *cæng-ærinæ*, Iron *ærm-ærin* “cubit”, Wakhi *brət* “elbow” < **dūi-araθn°*, *arāt* “cubit”, cf. Pazand *arəθ* (Bailey 1979, 8; *ESIJ* 1, 214). The hypothetical compound **razk-araθ(n)-* “right elbow” would reflect a big bend of the river, one near the city Taškent (Toshkent), second by the city Khujand. The river really resembles a bent arm of a person looking to the east. Although the proposed semantic motivation is transparent and attractive, unresolved problems remain: initial vowel (prothesis before *r-*?), metathesis of the sibilant and velar, loss of *-n-*.

(d) Rather surprising can seem the etymological attempt based on a hypothetical Tocharian³¹⁵ compound, consisting of these components:

(i) Tocharian AB *yäks-* “to embrace (of lovers); entangle (of lianas)”, with the derivative *yek-snar* adv. “all around” (Adams 2013, 535–36, 545).

(ii) Tocharian B *ārte* “river branch” or “(raised) aqueduct / feeder canal” (Adams 2013, 54–55) assumes an Iranian source close to Khufi {Pamir} *ardān* “embankment between irrigation canal and field”, *ardōn* “opening in this embankment for letting water between flow into the field”, *wūrō* “irrigation canal carried across the unevenness of the country on top of a stone causeway”, or “bank” (Sims-Williams 2007, 194; as a source he prefers a *δ*-variant of Bactrian *αρλο* “side,

315 In the 123rd chapter of the chronicle *Shiji* (史記 *Shiji* “The Scribe’s Records” by Sima Qian, completed c. 94 BCE), we can read the notes of Zhang Qian, the ambassador of the Han dynasty, from his travel to the land Daxia, i.e. Bactria, to inform the Emperor Wu in 126 BCE.: “The nation of *Yuezhi* (月支 *Yuèzhī*) originally lived in the area between the Qilian mountains and the city of 敦煌 *Dunhuang*, but after their total defeating by the *Xiongnu* tribes (= Huns), they moved far to the west behind 大宛 *Dawan/Dayuan* (= Ferghana), where invaded and dominated people of the land 大夏 *Daxia* (= Bactria) and founded settlement of their king on the northern bank of the river *Gui*” (cf. Lin 1998, 476). One of components of the tribal confederation called *Yuezhi* were probably ancestors of Tocharians.

bank of a ditch” < *arda-, cf. Young Avestan arəda- m. “side”, adj. “half-”, arədah- n. “side”). The whole compound would mean “embracing banks” *vel sim*. It represents an accurate description in the Ferghana Valley in eastern Uzbekistan, especially in its western narrow part, where the Syr Darya leaves the valley after the confluence of the Naryn and Kara Darya.

Niluoqiti (cf. Pulleyblank 1962–63, 94–95: Middle Chinese **nei-la-khye-tei*)

The river-name 崑羅跂蹄 *ní*³¹⁶ *luó*³¹⁷ *qí/qǐ*³¹⁸ *tǐ*³¹⁹ appears in the anonymous text 西河舊事 *Xihe jiushi* (Wade-Giles: *Hsi-ho chiu-shih*) “Notes on Xi-he”, written before 500 CE. Pulleyblank (1962–63, 94) tried to demonstrate that it belongs to the ancient Ἰαζάρτης, today known as Syr Darya. According to him, his Middle Chinese reconstruction **yeilakhyetei* from 1962 more or less reflects just the form Ἰαζάρτης. Using his Early Middle Chinese reconstruction from 1991, the hydronym would have had to look very similar: **yejlāk^{hi}(ǎ)^hdej*. There is only a slight difference in the Middle Chinese reconstruction of Schuessler (2009): **yeilāk^{hi}jiediei*. But the hydronym was undoubtedly recorded in the pre-Tang times. Combining the reconstruction of Schuessler and Starostin, the Eastern Han (c. 200 CE – 0) form can be reconstructed as **yerāk^{hi}iede/diē*. If we admit the syllable metathesis or mistaken change of order of the characters 羅 and 跂, easily caused, when recording the foreign and long proper name, the primary form of this hydronym could look like **nek^hierādē* in the beginning of the 1st mill. CE. With respect to the fact that the foreign proper names in **ia-* were transcribed by characters, whose reading from the Middle Chinese period and earlier has been reconstructed with the initial **ŋ*³²⁰, this conjectured form of the hydronym corresponds syllable by syllable to the Greek transcription Ἰαζάρτης, naturally without the final sigma and with substitution of ξ by Middle Chinese **k^h*. If the language-donor was of Iranian provenance, one would expect the corresponding cluster *-kš-*, which has been preserved in most of Old and Middle Iranian languages. The exceptions are Khwarezmian, Bactrian and Khotanese, where **-kš-* was changed into *-x-*, *-χ-*, *-šš-* respectively: e.g. Iranian **baxš-* > Avestan *baxš-* “to divide, have a share”, Middle Persian *bxš-/bhš-* “to divide, apportion”, Parthian *bxš-* “to divide, distribute, bestow”, Sogdian *βxš-* id., *’nβxš* “to divide”, vs. Khwarezmian *βx-* “to give, bestow, share”, *m/nβx-* “to share”, Bactrian *βαχ-* “to give away”, *αμβαχ-* (**ham-baxš-*) “to give away, distribute”, Khotanese *būšš-* “to give, distribute”; or **uaxš-* > Avestan *vaxš-* “to grow”, Middle Persian *whš-* “to grow; blaze”, Parthian *waxš-* “to grow; kindle, be kindled, blaze”, Sog-

- 316 Chinese 崑 *ní* “kind of cicada” < Late Middle Chinese **ŋijaj* < Early Middle Chinese **ŋej* (Pulleyblank 1991, 223; GSR 0873 n). Schuessler (2009, 123, §7–11): Middle Chinese **ŋiei* < Eastern Han Chinese **ŋe* < Old Chinese **ŋé*.
- 317 Chinese 羅 *luó* “bird-net; gauze; basket with square bottom” < Late Middle Chinese **la* < Early Middle Chinese **la* (Pulleyblank 1991, 2002) < Middle Chinese **lā* < Postclassic Chinese **lā* < Eastern Han Chinese **rā* < Western Han Chinese **rāj* < Classic Old Chinese **rāj* (Starostin, *ChEDb*; GSR 0006 a). Schuessler (2009, 215, §18–10): Middle Chinese **lā* < Eastern Han Chinese **la* < Old Chinese **rāi*. Comments: Regular Sino-Vietnamese is *la*; Vietnamese *lā* is a colloquial loan with the meaning “fine silk” (one of the meanings of the word in later periods in Chinese is ‘silk woven like a net, thinly woven silk’). An older loan from the same source is Viet. *lu’ó’i* “net”. Vietnamese reading: *là*. For **r* cf. Xiamen, Chaozhou *lo*², Fuzhou, Jianou *lo*². Baxter & Sagart (2014, 269–70): Old Chinese **rāj*.
- 318 Chinese 跂 *qí* & *qǐ* “to stand on tiptoe and look” < Late Middle Chinese **k^hji* < Early Middle Chinese **k^hjiš^h/k^hji^h* (Pulleyblank 1991, 247; GSR 0864 g). Schuessler (2009, 120, §7–3): Middle Chinese **k^hjie^{B/C}* < Old Northwest Chinese **k^hie* < Eastern Han Chinese **k^hie^{B/C}* < Old Chinese **khe?* or **kheh*.
- 319 Chinese 蹄 *tí* “animal’s foot, hoof” < Late Middle Chinese **thij* < Early Middle Chinese **dej* (Pulleyblank 1991, 305) ~ Middle Chinese **diej* < Postclassic Chinese **diēj* < Eastern Han Chinese **diē* < Western Han Chinese **dē* < Classic & Preclassic Old Chinese **dē* (Starostin, *ChEDb*; GSR 0877 h). Schuessler (2009, 123, §7–12): Middle Chinese **diei* < Eastern Han Chinese **de* < Old Chinese **dē*. Comments: For **d* cf. Xiamen *tue*², Chaozhou *toi*², Fuzhou *tā*², Jianou *tai*².
- 320 E.g. 業波羅 *yè bō luó* < Middle Chinese **ŋiappala* (Pulleyblank 1962–63, 93) ~ Early Middle Chinese **ŋiappala* (Pulleyblank 1991, 364, 40, 202) ~ Middle Chinese **ŋəppwālā* < Late Postclassic Chinese **ŋəppālā* (Starostin, *ChEDb*), recorded by Song Yun (宋雲 *Sòng Yùn*) during his journey for Buddhist manuscripts in India and back during 518–522 CE, as transcription of *Yavana* (‘Ionian’), the alternative name of Gandhara. Another example could be the ethnonym 月氏 *Yuèzhī* < Middle Chinese **ŋiwat-cje* (Pulleyblank 1962–63, 93) < Early Middle Chinese **ŋuat-teiā/tei* (Pulleyblank 1991, 388, 404) (GSR 0306 a; 0867 a) < Han Chinese **ŋwat-te* (Starostin 1989, 452). It should transcribe the same ethnonym as Greek Ἰάτιοι, mediated by Ptolemy from Marinus (1st cent. CE).

dian $xwš-$ “to grow (up), become full-grown” vs. Khwarezmian $wx-$ “to grow”, Bactrian $oax-$ “to grow, increase”, Khotanese $huš(s)-$ “to grow” (Cheung 2007, 19–20; 428–29). This means that a source of the Chinese transcription of the river designated as Ἰαξάρτης by Greeks beginning with Strabo could have been Bactrian, used as a written language at that time, or an early form of Khwarezmian. Alternatively, the hydronym 崑羅跣 *niluóqí/qǐtí*, in its Late Han pronunciation $*\eta r\check{a}k^h iede/di\bar{e}$, can reflect Plutarch’s variant Ἰορξάρτης and Ammianus Marcellinus’ *Araxates* (cf. Pulleyblank 1962–63, 94).

Leyuete & Leyueni

In “Book of {Former} Han (漢書 *Hànshū*), describing the period from 206 BCE to 23 CE, which was written by Ban Biao, his son Ban Gu, and finished by his sister Ban Zhao in 111 CE, §96A, there is some information about the winter territory of the rulers of Kangju (康居 *kāngjū*³²¹ *jū*³²²; Hulswé 1979, 124–25; Pulleyblank 1962–63, 94: ‘summer territory’), called 樂越 歷 *lè*³²³ *yuè*³²⁴ *tè*³²⁵ or 樂越 匿地 *lè yuè nì*³²⁶ *dì*³²⁷. Let us compare reconstructions of the historical pronunciation of all characters according to various scholars:

- 321 Chinese 康 *kāng* “to be at ease, have peace of mind; be prosperous, healthy; tranquility, peace; prosperity” < Middle Chinese $*khāŋ$ < Old Han-Preclassic Chinese $*khāŋ$ (Starostin, *ChDb*).
- 322 Chinese 居 *jū* “to stay at, remain, dwell; part” < Middle Chinese $*kō$ < Postclassic Chinese $*ko$ < Han-Preclassic Chinese $*ka$ (Starostin, *ChDb*).
- 323 Chinese 樂 *lè* “to be pleasant, delighted, happy, glad; to enjoy” < Middle Chinese $*lāk$ < Late & Middle Postclassic Chinese $*lāk$ < Early Postclassic Chinese $*lāuk$ < Han Chinese $*rāuk$ < Classic Old Chinese $*rāuk$ < Preclassic Old Chinese $*rāk^w$ (Starostin, *ChEDb*; *GSR* 1125 a). Comments: Shijing occurrences: 1.3. For initial $*r-$ cf. Chaozhou *lak*⁸, Fuzhou *lok*⁸. There also exists a synonymous Middle Chinese reading $*\eta\check{a}w$ < Han Chinese $*\eta r\check{a}wh$ < Preclassic Old Chinese $*\eta r\check{a}k^w$ s (with prefixed $*\eta-$). The character also has a reading *yuè* < Middle Chinese $*\eta\check{a}uk$ < Han Chinese $*\eta r\check{a}uk$ < Preclassic Old Chinese $*\eta r\check{a}k^w$, cf. also loan in Vietnamese *nhạc* “music” (which is the original meaning of the graph); for initial $*\eta-$ cf. Min forms: Xiamen *gak*⁸, Chaozhou *gau*⁸, Fuzhou *nok*⁸. Schuessler (2009, 207, §17–8 a): Middle Chinese $*lāk$ & $*\eta\check{a}u^c$ < Later Han Chinese $*lak$ & $*\eta\check{a}u^c$ < Old Chinese $*r\check{a}uk$ & $*\eta r\check{a}ukh$, besides *yuè* < Middle Chinese $*\eta\check{a}k$ < Later Han Chinese $*\eta\check{a}k$ < Old Chinese $*\eta r\check{a}uk$. Baxter & Sagart (2014, 297): Middle Chinese $*lak$ “joy, enjoy” & $*ng\check{a}ewk$ “music” < Old Chinese $*[r]’awk$ & $*[ŋ]’rawk$.
- 324 Chinese 越 *yuè* “to go on, go beyond, transgress” < Middle Chinese $*wət$ < Late & Middle Postclassic Chinese $*wət$ < Early Postclassic Chinese $*wat$ < Han Chinese $*wat$ < Classic & Preclassic Old Chinese $*wat$ (Starostin, *ChEDb*; *GSR* 0303 e). Schuessler (2009, 241, §22–5 e): Middle Chinese $*jwət$ < Late Han Chinese $*wat$ < Old Chinese $*wat$. Baxter & Sagart (*ChDb* 2014): Middle Chinese $*hjwət$ < Old Chinese $*[g]’wat$. Comments: Vietnamese reading: *vát*. Another colloquial loan from the same source is Vietnamese *vu* ‘*t*’ “to surpass, go beyond”. Standard Sino-Vietnamese is *việt* (this word is also used in the shortened name of *Vietnam* = “Trans-south”). For $*w-$ cf. dialectal forms: Xiamen *uat*⁸, Chaozhou *uek*⁸, Fuzhou *ok*⁸, Meixian *jat*⁸. Sino-Tibetan $*q’āt$ “to pass, traverse” > Old Chinese 越 $*wat$ “to transgress; pass over to”; Tibetan *rgjud* “to pass through, traverse”; Kachin *kot*⁸ “to step or pass over”; Kiranti *khwat* “to go” (Luce 1981, 31; *CVST* V, 158).
- 325 Chinese 歷 *tè* “evil” < Middle Chinese $*thak$ < Postclassic Chinese $*th\check{a}k$ < Eastern Han Chinese $*\eta\check{a}k$ < Western Han Chinese $*s\eta\check{a}k$ < Classic Old Chinese $*s\eta\check{a}k$ < Preclassic Old Chinese $*snh\check{a}k$ (Starostin, *ChEDb*; *GSR* 0777 o). Schuessler (2009, 71, §2–30 o): Middle Chinese $*t^h\check{a}k$ < Late Han Chinese $*t^h\check{a}k$ < Old Chinese $*nh\check{a}k$. Baxter & Sagart (*ChDb* 2014): Middle Chinese $*thok$ < Old Chinese $*\eta\check{a}k$.
- 326 Chinese 匿 *nì* “to conceal; what is concealed, secluded” < Middle Chinese $*\eta ik$ < Postclassic Chinese $*\eta ik$ < Han Chinese $*\eta\check{a}k$ < Classic & Preclassic Old Chinese $*nr\check{a}k$ (Starostin, *ChEDb*; *GSR* 0777 l-m). Comments: Vietnamese reading: *n\check{a}c*. For $*n$ cf. Fuzhou *nik*⁸, Chaozhou *nek*⁸. Schuessler (2009, 71, §2–30 l): Middle Chinese $*\eta\check{a}k$ < Late Han Chinese $*\eta ik$ < Old Chinese $*nr\check{a}k$ < $*r-n\check{a}k$. Baxter & Sagart (*ChDb* 2014): Middle Chinese $*nr\check{a}k$ < Old Chinese $*nr[\check{a}]k$. Sino-Tibetan $*(r-)\eta ik$ “hide, conceal” > Old Chinese 匿 $*nr\check{a}k$ “to conceal”; Tibetan *brnogs* “to hide, conceal”; Burmese *hnauk* “to penetrate, dive into” (Bodman 1980, 130; Peiros & Starostin 1977, 218; *CVST* II, 31–32).
- 327 Chinese 地 *dì* “earth, ground, country, position, place” < Middle Chinese $*di$ < Postclassic Chinese $*dh\check{e}$ < Eastern Han Chinese $*l\check{h}eh$ < Western Han Chinese $*Lh\check{a}jh$ < Classic Old Chinese $*Lh\check{a}jh$ < Preclassic Old Chinese $*Lh\check{a}js$ (Starostin, *ChEDb*; *GSR* 0004 b’). Schuessler (2009, 214, §18–9 b’): Middle Chinese $*di^c$ < Late Han Chinese $*di^c$ < Old Chinese $*draih$. Baxter & Sagart (2014, 109): Middle Chinese $*dijH$ < Old Chinese $*[l]’ej-s$. Comments: Vietnamese reading: *d\check{a}*. Middle Chinese $*di$ is irregular ($*d\check{e}$ would be normally expected). Another irregularity is the Siamese loan *dh\check{e}*, pointing to proto-Tai $*d-$ and rather Old Chinese $*Laj-s$ than $*Lh\check{a}j-s$. Sino-Tibetan $*\lambda\check{a}j$ “earth, ground” > Old Chinese: 地 $*Lh\check{a}js$ “earth, ground”; Tibetan *gzi-ma* “ground, floor”; Lolo-Burmese $*ml\check{a}j$ > Burmese *mr\check{a}j* “earth, ground”; Kuki-Chin $*\eta-lei$ > Lushai *lei* “earth, ground, the world”; Mikir *mili* ~ *meli* “sand bank”; Trung *m\check{a}^3-li^2* “earth”; Manyak *m(\check{a})li* (*CVST* III, 55; Shafer 1974, 24, 184; Benedict 1972, 44). This character was probably used in its Chinese sense “country” etc. and not as a syllable value.

Pulleyblank (1962–63, 94): Old Chinese **h̥lauk h̥wat nhik/nl̥ik* // **ŋlauk h̥wat nhik/nl̥ik*. He mentioned that the sign 越 was glossed by 歲 *sui*³²⁸ in *Shiming* (釋名 *shì míng* “explanation of names” – a dictionary of c. 1500 glosses, usually dated to 200 CE). With regard to it, he modified his reconstruction to **h̥lauk shwāts nhik/nl̥ik* // **ŋlauk shwāts nhik/nl̥ik*.

Starostin (*ChEDb*, 2005): Han Old Chinese **rāuk wat sŋāk/ŋək* // **ŋrāwh wat sŋāk/ŋək* // **ŋrāuk wat sŋāk/ŋək* < Preclassic Old Chinese **rāk^w wat snhāk/nrək* // **ŋrāk^ws wat snhāk/nrək* // **ŋrāk^w wat snhāk/nrək*.

Schuessler (2009): Later Han Chinese **lak wat t^hək* // **ŋau^C wat t^hək* // **ŋək wat t^hək* < Old Chinese **rāuk wat nhāk* // **ŋrāukh wat nhāk* // **ŋrāuk wat nhāk*.

Baxter & Sagart (2014): Old Chinese **[r]^sawk [g]^wat nr[ə]k* // **[ŋ]^srawk [g]^wat nr[ə]k*.

For the pre-Han time, it is possible to extrapolate a ‘mean value’ **(ŋ)rauk(s)watnrik* → **(ŋ)raiks(w)artnik*? The main difference from the Chinese transcriptions in labial consonants or labial vowels consists in the anlaut. Probably it reflects the initial **(h)ra-* < Iranian **fra-* “before, in front of”. Such a development is typical e.g. for Khwarezmian, where this prefix is attested in five (!) variants: *r-* (*rxyz-* “aufkommen, entstehen” < **fra-haiž-*) and *h-* (*hβr-* “to give” < **fra-ba-ra-*), besides *fr-* (*frdr* “better” < **fratarā-*), *f-* (*(^o)fsyd* “pure” < **fra-šuxta-*), *š-* (*špy-* “grob mahlen, schroten” < **fra-piša-*) – see Édeľman (2008, 16–21). The variants *r-* & *h-* were probably preceded by one common form **hr-*, symmetrically as in development of Iranian **θr-* > *hr-* (*hrδys* “13”), besides *Vr-* (*(^o)rcy’d* “one third”), *š-* (*šy* “3”, *šyš* “30”) – see Édeľman (2008, 19). The final **-nik* could be identified in the derivational suffix known from Khwarezmian, e.g. *krc’nyk* “Messerschneide” : *krc* “Messer”, *xwfyŋk* “Heerhaufe” : *(^o)xwβy* “sich drängen”, *δrwk’nyk* “kränklich” : *δrwk* “krank” etc. (Benzing 1983, 360, 689, 259), known also in Sogdian: Buddhist *βγ’n’yk*, Manichaean *βγ’nyk*, Christian *by’nyq* “divine” : *βγ-* “god”, Parthian *bg’nyg* “divine” < **bagānīk* < **baganāiaka-* (Livšic & Xromov 1981, 437; *GMC* 158, §1042). Summing up, the pre-Han Chinese transcription **(ŋ)rauk(s)watnrik* may reflect the hypothetical early Khwarezmian adj. **hra-yēx-sart-nik* “belonging to **hra-yēx-sart*”, which should mean the area “in front of **yēx-sart*”, i.e. the “ice-cold {river}”. Plutarch’s variant *Ορεξάρτης* and Ammianus Marcellinus’ *Araxates* seem to be a transcription of **hra-yēx-sart^o*.

Zhenzhu

The river 真珠 *zhēn³²⁹ zhū³³⁰* “true pearl” was mentioned in “Book of {Old} Tang” {舊}唐書 {*Jiù*} *Tángshū*, compiled by Zhao Ying (趙瑩) and his team in 941–945 CE (Chavannes 1903, 9, 140, 148, 365). For the beginning of the Tang era its Middle Chinese pronunciation may be reconstructed as **cínčü* < Postclassic Chinese **cínčwo* < Eastern Han Chinese **cínčwa* (Starostin). Although this Chinese river-name is easily understandable as the river of “true pearls” in Chinese, it is very probable that it represents a reinterpretation of an originally non-Chinese hydronym on the basis of homonymy. A promising candidate could be a compound consisting of a derivative

328 Chinese 歲 *sui* “year; Jupiter” < Middle Chinese **sjwèj* < Late & Middle Postclassic Chinese **sjwèj* < Early Postclassic Chinese **sjwéš* < Han Chinese **syaś* < Classic Old Chinese **syaś* < Preclassic Old Chinese **swhats* (Starostin, *ChEDb*; *GSR* 0346 a-e. Comments: Middle Chinese **sjwèj* is irregular (normally **xwəj* would be expected).

329 Chinese 真, simplified in 真, *zhēn* “true, real, sincere” [Late Zhou] < Middle Chinese **cín* < Postclassic Chinese **cín* < Eastern Han Chinese **cən* < Western Han Chinese **tjən* < Classic & Preclassic Old Chinese **tin* (Starostin, *ChEDb*; *GSR* 0375 a). Vietnamese reading: *chân*. Sino-Tibetan **[ti]n* / **[ti]ŋ* “true” > Old Chinese 真 **tin* “true, real” / Tibetan *bden* “to be true” / Kachin *tej²* “to be true” (*CVST* II, 127).

330 Chinese 珠 *zhū* “pearl” < Middle Chinese **čü* < Postclassic Chinese **čwo* < Eastern Han Chinese **čwa* < Western Han Chinese **twa* < Classic & Preclassic Old Chinese **to* (Starostin, *ChEDb*; *GSR* 0128 e).

from the Iranian verb **či-nu-/-nau-* “to collect”³³¹ (present stem) & noun attested in Sogdian *c’w* “flow, tide” n. (Gharib 1995, #3162), together perhaps **činuat-čāw-* “collecting tides”, about the river bringing floods after the thawing mountain snow.

Note: With regard to Old Turkic *Jinčü ögüz*, the calque on this Chinese river-name 眞珠 *zhēn zhū* “true pearl”, Marquart (1898, 6) offered the Iranian interpretation **yaxša-arta-* “pearl-true”, but there is no evidence for the meaning “pearl” for **yaxša-* in Iranian languages.

Humbach & Faiss (2012, 41) see in the first component the Iranian counterpart of Sanskrit *yakṣá-* “wonderful thing”, later “ghost, spirit”. But there is an Iranian cognate probably only in Yagnobi *yaxš-* “to be visible”, ?Khotanese *pyašta-* “manifest, visible, variable” (Bailey 1979, 251; *KEWA* III, 1).

Ili River

The river is 1439 km long (with the Tekes river) and its basin is 140 000 km². The Ili River proper, originating in the confluence of the Kunges (or Künes) and Tekes rivers, is 1001 km long. The mouth of the Ili River is a big delta (c. 8000 km²) draining into the southwestern part of Lake Balkhash.

Turkic sources

Ili

In the 11th cent. the river-name *Ili* was mentioned by Mahmud of Kashgar in his *Dīwānu l-Luġat al-Turk* (1072–1074 CE).

Chinese sources

Yili

In the “Transcribed record of the western regions” (西域同文志 *Xīyù tóngwénzhì*), completed in 1782, the river-name was transcribed as 伊犁 *Yili*

Yile he

In “Records on Western Countries” (西域錄 *Xīyù lù*) by Yelü Chucai (耶律楚材 *Yēlǜ Chǔcái*; 1190–1244; the Confucian scholar of Kitan origin, administrator and advisor in the court of Genghis Khan and his son Ögedei), and in the “History of Yuan” (元史 *Yuán Shǐ*), compiled in 1370 during the Ming dynasty under supervision of Song Lian (1310–1381), the hydronym was recorded as 亦勒河 *yì³³² lè³³³ he*. Its reading in the Yuan era was reconstructed by Pulleyblank as **ji³³² ləj³³³*

331 Avestan *caii-* “to heap up, gather”, pres. *vī-cinaoŋ* “scheidet voneinander”, part. pres. *cinuuant-* “der (die Brücke zum Jenseits) aufschichtet”, Middle Persian *cyn-/čīn-* “to gather, collect”, Parthian *cyn-* “to gather, collect”, Sogdian *wcn-* “to choose, select”, Khwarezmian *m/wcn-* “to collect, gather” etc.; further cf. Sanskrit *cinóti* “to arrange in order, heap up, pile up, collect, accumulate” (Lipp, *LIV* 378–79; *ESIJ* 2, 205–210; Cheung 2007, 26–27).

332 Chinese 亦 *yì* “also, furthermore, then, and” < Yuan **ji* < Late & Early Middle Chinese **jiak* (Pulleyblank 1991, 370) ~ Middle Chinese **jek* < Postclassic Chinese **zhjek* < Eastern Han Chinese **zhiak* < Western Han Chinese **lhiak* < Classic & Preclassic Old Chinese **lhiak* (Starostin, *ChEDb*; *GSR* 0800 a-c). Schuessler (2009, 71, §2–27a) reconstructs Middle Chinese **jiäk* < Late Han & Old Chinese *jak*. Comments: The graph is originally a drawing of two armpits, being homophonous with 掖 “armpit”. Old Chinese **lh* is reflected irregularly as Middle Chinese *j-*; aspiration is revealed by Min reflexes, Xiamen *iaʔ*, Chaozhou *ia⁶* (reflecting **lhiak-s*). Sino-Tibetan **lāk* “great, big, more” > Old Chinese: 奕 **liak* “great”, 亦 **lhiak* “also, furthermore, and”; Tibetan *lhag* “more, beyond”; Burmese *hlaʔ* “very; affix of intensification”; Kachin *niŋ-la* “great, important”; Lushai *leʔ* “again, then” (Shafer 1974, 76; *CVST* III, 8).

333 Chinese 勒 *lè* “reins, to rein in, bridle; hip, rib; to engrave; restrain, compel” < Yuan **ləj* < Late Middle Chinese **ləǎk* < Early Middle Chinese **lək* (Pulleyblank 1991, 184) ~ Middle Chinese **lək* < Postclassic Chinese **lək* < Han Chinese **rək* < Classic & Preclassic Old Chinese **rək* (Starostin, *ChEDb*; *GSR* 0928 f-g). Schuessler (2009,

̀. This pronunciation dated to *c.* 1300 CE can represent a continuation of the Late Middle Chinese pronunciation of 伊麗, reconstructed by Pulleyblank as **ʔjiliaj`* to *c.* 900 CE.

Yili

In both “Old Book of Tang” (舊唐書 *Jiù Tángshū*; compiled by Zhao ying and Liu Xu in 941–945) and “New Book of Tang” (新唐書 *Xīn Tángshū*; compiled by Ouyang Xiu and his team in 1060) appears the record 伊麗 *yi li*³³⁴ (later the character 麗 was simplified as 丽). From the point of view of chronology the appropriate layer is Middle Chinese: **ʔajliɛj* (Starostin) ~ **ʔiliei* (Schuessler) ~ **ʔjiliaj`* < **ʔjilej^h* (Pulleyblank) ~ **ʔjilejH* (Baxter & Sagart).

Yilie

In “Book of Han” (漢書 *Hànshū*) describing the events of the Former (or Western) Han dynasty from 206 BCE to 23 CE, finished by Ban Gu (班固) in 111 CE, the hydronym is attested for the first time as 伊列 *yi lie*³³⁵. Similarly in “Old Book of Tang” (舊唐書 *Jiù Tángshū*; compiled by Zhao ying and Liu Xu in 941–945) and “New Book of Tang” (新唐書 *Xīn Tángshū*; compiled by Ouyang Xiu and his team in 1060). The pronunciation in Late Han according to Schuessler should be **ʔiliat*, Starostin reconstructed the same form **ʔajrhat* for both Late (Eastern) and Early (Western) Han Chinese.

Etymology:

(a) If the hydronym was really recorded in the time when the liquid **-r-* still preceded the later **-l-*, there is a promising Yeniseian etymology: a compound consisting of (a) Ket *ēje^l*; pl. *ejəŋ^s*, Yug *ēj^l* “island”; in compound Ket *ei-tu*, pl. *ejəŋ tunəŋ* (Castrén) “Flussbusen” / “bay, backwater” ~ Kottish *hau-tu* “Flussbusen” (Castrén) (Starostin 1995, 230: **h[e]j-* “island” & Id., 1995, 288: **tu* “bay, backwater”; Werner 1, 272 <**eje*> & Werner 2, 309: **tu*); also Arin *ji-khuj* (Miller) “Yenisei”; (Loskutov) *i-kai* “river”, where the second component is derived from **quk* (~ *χ*) “river (Yenisei)” > Ket *qūk*, Yug *xuk* (Starostin 1995, 265; Werner 2, 140), and (b) Proto-Yeniseian **raʔt* (~ *-c,-č*) “beaver” > Ket *láʔt*, pl. *lát^s* (Starostin 1995, 267). The compound **h[e]jraʔt* would designate a river with islands, characteristic by beavers. The beavers are and were really widespread in the Kazakhstan-Tuvina-Mongolia-Xinjiang borderland³³⁷.

If the older **-r-* was already changed into **-l-*, i.e. Schuessler’s Late Han reconstruction is taken in account, the Yeniseian etymology remains possible, the initial Ket *l-* could be easily substituted as Chinese *li-*.

110, §5–21f): Middle Chinese **lak* < Late Han Chinese **lak* < Old Chinese **rək*. Comments: For **r* cf. Xiamen *lik^s*, Chaozhou *lek^s*, Fuzhou *lek^s*.

334 Chinese 麗 *li* “to be beautiful; to attach, assign; paired, parallel; big amount” < Late Middle Chinese **liaj`* < Early Middle Chinese **lej^h* (Pulleyblank 1991, 189) ~ Middle Chinese **liej* < Postclassic Chinese **liɛj* < Eastern Han Chinese **riēh* < Western Han Chinese **rēh* < Classic Old Chinese **rēh* < Preclassic Old Chinese **rēs* (Starostin, *ChEDb*; *GSR* 0878 a-b). Schuessler (2009, 126, §7–21a): Middle Chinese **liei* < Late Han Chinese **le* < Old Chinese **rēh*. Baxter & Sagart (*ChDb*): Middle Chinese **lejH* < Old Chinese **[r]’e-s*. Comments: For **r* cf. Xiamen *le^s*, Chaozhou *li^t*, Fuzhou *la^s*.

335 Chinese 伊 *yī* “personal equational copula: it is, they are; he, she, it, they” < Late & Early Middle Chinese **ʔji* (Pulleyblank 1991, 365) ~ Middle Chinese **ʔji* < Late Postclassic Chinese **ʔji* < Middle & Early Postclassic Chinese **ʔij* < Han Chinese **ʔjəj* < Classic & Preclassic Old Chinese **ʔij* (Starostin, *ChEDb*; *GSR* 0604 a-c). Schuessler (2009, 278, §26–13): Middle Chinese **ʔi* < Late Han Chinese **ʔi* < Old Chinese **ʔi*. Baxter & Sagart (2014, 289): Middle Chinese **ʔij* < Old Chinese **ʔij*. Comments: Vietnamese reading: *y*. Sino-Tibetan **ʔi* “this” > Old Chinese 伊 **ʔij* “this”; Burmese *i* “this”; Lushai *i* “this”; Kiranti **ʔè* (*CVSTV*, 4–5).

336 Chinese 列 *liè* “row, rank, order; to arrange in a row” < Late & Early Middle Chinese **liat* (Pulleyblank 1991, 193) ~ Middle Chinese **let* < Postclassic Chinese **lhet* < Han Chinese **rhat* < Classic & Preclassic Old Chinese **rhat* (Starostin, *ChEDb*; *GSR* 0291 a). Schuessler (2009, 235, §21–25a): Middle Chinese **ljät* < Late Han Chinese **liat* < Old Chinese **rat*. Comments: For **rh-* cf. Jianou *lie^t*. Vietnamese reading: *liệt*.

337 Halley, D., Rosell, F. & Saveljev, A. 2012. Population and Distribution of Eurasian Beaver (Castor Fiber). *Baltic Forestry* 18(1), 168–175.

<[http://www.balticforestry.mi.lt/bf/PDF_Articles/2012-18\[1\]/Halley_2012%2018%20\(1\)_168_175.pdf](http://www.balticforestry.mi.lt/bf/PDF_Articles/2012-18[1]/Halley_2012%2018%20(1)_168_175.pdf)>

(b) But there is also an alternative solution, based on the Tocharian word for “gazelle”:

A *yäl**, loc.sg. *ylam*, possessive adj. *ylem* (Poucha 1955, 243, 251);

B *yal*, nom.pl. *ylyi*, acc.pl. *ylam*, gen.pl. *ylamts* (Adams 2013, 523: **H₁eli-*).

Just the form of the gen.pl. *ylamts* (cf. Pinault 2008, 500 about this case ending) could have been transcribed in the Late Han Chinese as **?iliat*.

The later transcription 伊麗 *yī lì* (“Old Book of Tang”) < Middle Chinese: **?jəljie* (Starostin) ~ **?iliei* (Schuessler) ~ **?jiliaj`* < **?jilej^h* (Pulleyblank) ~ **'jijlejH* (Baxter & Sagart).

These forms are more or less identical and may be identified with the Tocharian B nom.pl. *ylyi* “gazelles” < **H₁el-*ej*-es* (cf. Pinault 2008, 498). For support of the ‘gazelle’-etymology it is possible to refer to one of the source-streams of the Ili River, Tekes River, whose name is explainable as Uyghur *tekä*³³⁸ *su*³³⁹ “billy goat’s water”, cf. the hydronym *Tekesu* “billy goat’s water” in Kazakhstan (Konkašpaev 1963, 112).

Note: One of two source-tributaries of the Ili river is the Kunges river. It is tempting to see in its name traces of the Turkic designation of “beaver” (as in *Kunduz*, 420 km long, left tributary of Amu Darya): Middle Turkic, Chaghatai *kunduz*, Turkish, Gagauz, Azerbaijani, Kirgiz, Uzbek, Modern Uyghur *kunduz*, Kazakh, Karakalpak, Nogai *kundyž*, Kazan Tatar *kündyž*, Bashkir *kündüž*, Tuvin, Tofalar *xundus*, Altai, Teleut, Sagai *kumdos*, Uyghur dial. *kumdos*, Shor *qaydus*, Chuvash *čantär* id., in Turkish, Bashkir, Kirgiz, Nogai, Tofalar “otter” (*ESTJ* 6[2000], 146–47; *TMEN* 3, 522–24, §1534). The substitution of the Turkic cluster *-nd-* with *-ng-* could have been caused by Chinese adaptation, cf. Chinese 葉爾羌河 *Yèěrqiang hé* ‘Yarkand river’ (Xinjiang).

(c) According to Adil Arup³⁴⁰, the hydronym Ili has to be explainable as the Uyghur word *il* “hook”, resembling the river’s geographical shape. But the stream of the Ili River is more or less straight in the western direction, and only the lower stream flows in a northwestern direction. The only exception is one of its source-streams, the Tekes River, flowing to the east before its confluence with the Kunges River, together forming the Ili River; this means that the Tekes and Ili after the confluence really form the big bend. Let us also mention that Modern Uyghur *il-* means “to hang”. Only the derivative *ilmek* expresses “hook” (*ESTJ* 1, 343–46). It means that this solution is also untenable and the turkicized form *Ili* likely represents an adaptation of the older river-name, whose Tocharian origin remains as the most probable solution.

(d) In the “Transcribed record of the western regions” (西域同文志 *Xiyu tongwenzhi*), completed in 1782, the river-name 伊犁 *Yīlì* was etymologized as an adaptation of ‘Dzungarian’ 伊勒 *Yīlè*, i.e. Mongolic Oirat. There are relatives in other Mongolic languages: Written Mongol *ile* “clear, manifest, perceptible, visible, distinct, obvious, open(ly), public(ly), overtly, in reality” (Lessing 1960, 404), Middle Mongol *ile*, *ilä*, Khalkha *il*, Buryat *eli*, Kalmyk *il^p*, *il^p* “offen, vor den Augen, bar; auf der Hand, klar, bereit, bekannt” (Ramstedt 1935, 206), Ordos *ile*, *ele* id., but the primary meaning of this Common Mongolic word was “clear” in the sense “self-evident”. It does not seem to be a typical semantic motive for a river-name. On the other hand, there is probably a more promising candidate in the Mongolic languages: Written Mongol *ili* “a young deer, fawn”, Middle Mongol *ele’ut* “a kind of camel”, Khalkha *il*, Buryat *eli*, Kalmyk *il^p* “neugeborenes Hirschkalb; Ili Fluss”. Cf. also Written Mongol *ilgi* “chamois leather”, Khalkha *ileg*, *ilgen*, Kal-

338 Proto-Turkic **teke* “he-goat, billy goat” > Old Uyghur *teke*, Karakhanid *teke* (Mahmud of Kashgar), Middle Turkic *teke*, Turkish, Gagauz, Oirat, Sary-Yughur, Kirgiz, Karakalpak, Turkmenian, Nogai, Balkar, Kumyk *teke*, Karaim *teke*, *tege*, Tuva *de’ge*, *te*, Tofalar *te’he*, Uyghur, Kazakh *tekä*, Khalaj, Azerbaijani, Bashkir, Tatar *täkä* (also “ram”), Uzbek *taka*, Chuvash *taga* (also “ram”) (Räsänen 1969, 470; Clauson 1972, 477).

339 Proto-Turkic **sib* “water” > Old Turkic: Orkhon *šub*, Old Uyghur *sub*, *suw*, Karakhanid [Mahmud of Kashgar] *suw*, Middle Turkic *su*, Turkish, Gagauz, Karaim, Kazakh, Azerbaijani, Salar, Uyghur, Sary-Yughur *su*, Kirgiz, Oirat, Balkar *sū*, Uzbek, Turkmen *suw*, Kumyk, Karakalpak, Khalaj, Nogai *suw*, Tatar *siw*, Bashkir *hiw*, Khakassian, Shor, Tuvin, Tofalar *suŷ*, Yakut & Dolgan *ū*, Chuvash *šiv* (Räsänen 1969, 431; *TMEN* 3, 281–82; Clauson 1972, 783–84).

340 Ili atalghusi heqqide (“Etymology of Ili”), Journal of Ili Darya 2007, cited according to <https://en.wikipedia.org/wiki/Ili_River>.

myk *ilgŋ* “Ziegenleder” (Lessing 1960, 407; Ramstedt 1935, 206–07). This animal-name more or less exactly corresponds to its hypothetical Tocharian predecessor in both the form and semantics.

Didi

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), completed by Ouyang Xiu and Song Qi and their collaborators in 1060, the river is called 帝帝河 *dì³⁴¹ dì hé*. The hydronym, in the Tang era reconstructible as Middle Chinese **tiējtiēj* < Postclassic Chinese **tiējtiēj* < Eastern Han Chinese **tiēhtiēh*. The root of this hydronym could perhaps be a derivative of the Iranian verb **taH(i)-* “to flow, stream, melt” > Khotanese *attāyā* “unpolluted”, Ossetic Iron *tajyn*, Digor *tajun* “to melt, thaw”, ?Pashto *toy*, *tōe* “spilt, overflowed”, further probably Avestan *taṭ.āp-* “with flowing water”, Khwarezmian *t’sy-* “to melt” etc. (Abaev III, 222–23; Cheung 2007, 375), but its reduplicated form is strange.

It seems more promising to seek its origin in Yeniseian. There are even several possible etymological solutions:

(a) Cf. Pumpokol pl. *tataŋ* “river (fluvius)”, “brook (amnis)”, related to Ket *śēs*, South Ket pl. *śas⁴*, Yug *ses*, pl. *sa.^hs*; Kottish *šēt*, pl. *šati* “river, brook”; Assan *šet* “river (fluvius)”, “brook (amnis)”; Arin *sat* “river (fluvius)” (Starostin 1995, 271: **ses* “river”; Werner 2, 191 <**set* / **tet*>). It is not excluded that the hydronym was in reality a compound, where the second component could be identified in Ket *ēje¹*; pl. *ejəŋ⁵*, Yug *ēj¹* “island”; in compound Ket *ei-tu*, pl. *ejəŋ tunəŋ* (Castrén) “Flussbusen” / “bay, backwater” ~ Kottish *hau-tu* “Flussbusen” (Castrén) (Starostin 1995, 230: **h[e]j-* “island” & Id., 1995, 288: **tu* “bay, backwater”; Werner 1, 272 <**eje*> & Werner 2, 309: **tu*); also Arin *ji-khuj* (Miller) “Yenisei”; (Loskutov) *i-kai* “river”, where the second component is derived from **quk* (~ *χ*) “river (Yenisei)” > Ket *qūk*, Yug *xuk* (Starostin 1995, 265; Werner 2, 140). In this case the hydronym would mean “river with islands”. It is characteristic especially for the delta of the Ili River.

(b) Kottish *t’ūt*, pl. *t’ātŋ* “Taimen (fish)” (Castrén 1858, 219), further related to Ket *təʔt*, pl. *tətn⁵*, Yug *təʔt*, pl. *tətn⁵* id. (Starostin 1995, 291: **tVʔt* “a k. of fish (таймень)”; Werner 2, 282 **t^hoʔt* / **t^hət* “Weisslachs”). Cf. Samoyed: Selkup *tut*, *tuti* “crucian; Cyprinus carassius” (< Uralic **totke*?; see UEW 532). Again, the compound with Yeniseian **h[e]j-* “{river with} island(s)” (see above) is not excluded. In this case the hydronym would mean “river with islands, where taimen fish lives”.

(c) **toj-* “arm of river” > Ket *tōj*, pl. *tojaŋ* (Castrén 1858, 177), Kureika *tōji¹*, pl. *tōjeŋ⁵*, Yug *tōj*, pl. *tōjeŋ⁵* (Starostin 1995, 287; Werner 2, 283 **t^hojə*), plus Kottish *t’e* / *t’i*, pl. *t’ikŋ* / *t’ekŋ* “Rand”, related to Ket *tiʔ*, pl. *tīŋ*, Yug *tiʔ*, pl. *tīŋ* “Randseil, Bogensehne” (Castrén 1858, 218–19; Starostin 1995, 285: **tiʔ* “string (of net); bow-string; edge”; Werner 2, 267, 317). The compound could designate the “rim of the arm of river”.

(d) **ti* “down, below” > Ket *tī* “coming from upstream” (= “flowing downwards”), *tī-ya^{5,6}* “downstream”; Yug *tī* “coming from upstream”; *tīgəj* “down”; *tī:r* “lowland (of river)”; Kottish *t’iga* “downwards” (Starostin 1995, 286; Werner 2, 311–13), plus **toj-* “arm of river” (Castrén 1858, 177; Starostin 1995, 287; Werner 2, 283; see above). The compound would designate a “river branching into arms on the lower stream”, i.e. in the north, cf. Ket *tīl* / *tīyal* “on the lower stream (of the Yenisei); north(ern)” (Werner 2, 312).

341 Chinese 帝 *dì* “a God, divine king, deceased king, emperor” < Late Middle Chinese **tiaj* < Early Middle Chinese **tejh* (Pulleyblank 1991, 76) ~ Middle Chinese **tiēj* < Postclassic Chinese **tiēj* < Eastern Han Chinese **tiēh* < Western Han Chinese **tiēh* < Classic Old Chinese **tiēh* < Preclassic Old Chinese **tiēks* (Starostin, *ChEDb*; *GSR* 0877 a-d). Note: Shijing occurrences: 47.2. Sino-Tibetan: Tibetan *the* “celestial gods of the Bon religion” (Coblin 1986, 164).

Conclusion

Summing up, in the area defined by the basins of the Aral Sea and Lake Balkhash and in the time before the spread of Turkic, the hydronyms of Iranian origin predominate, but there are also traces of Yeniseian and Tocharian presence.

B. Central Asiatic Hydronyms II: Tarim Basin

The Tarim River is the longest inland stream in the territory of the People's Republic of China. Its length is 2030 km (also 2137 km or 2437 km from Yarkand Laskaimu to Taitema lake and even 2750 km to the Lop Nur Lake), the area of its basin is 198 000 km². The river is called Tarim from the confluence of the Yarkand River (970/996 km), flowing from the southwest, with Yarkand's western tributary the Kashgar River (765 km), and the Aksu River (282 km), flowing from the north. The biggest south tributary of the Tarim is the Hotan River (Khotan-Darya; 290/806 km), but with the exception of snow-thawing in summer this river is dry and its riverbed serves as a route for transportation between north and south of the Tarim Basin. From these four main source-streams the richest in water is the shortest one, the Aksu River, giving *c.* 3/4 of all waters of the Tarim. This river-system is endorheic, it empties into the Lop Nur lake (Mongolic the 'Lob lake', Chinese 罗布泊 *Luōbùbó*), today practically a dried up salty depression, but during the 20th cent. it was still existing as a lake with an area of 3100 km² in 1928, 2400 km² in 1930–31.

The hydronyms are arranged more or less chronologically, from most recent to oldest ones, dependent on their appearance in written sources.

Tarim

Mongolic origin

Ergigüü yol

The six-language dictionary of geographical names of the West, (*Qinding*) *Xiyu tongwen zhi* (欽定) 西域同文志 “(Imperially Endorsed) Dictionary of Languages in the Western Territories”³⁴², presented to the throne in 1763, and known from the Qing xylograph³⁴³ from the era Qianlong (1736–1795), has recorded the following series of names of the Tarim river:

Written Mongol *Ergigüü yol*;

Oirat (recorded in so-called Clear Script *Todo üzüg*) *Ergüü yol*, plus its transcription in Chinese characters 額爾勾 *Eergou* with notice that it is the spoken Mongolic language of Dzungaria;

Turkic (Modern Uyghur): *Ärkül ghol* لوغ لؤكرا;

Manchu *Erguu gool*;

Tibetan *er gu'u go'ul*;

Chinese *Eergouguole* 額爾勾果勒.

Only in the Mongolic languages the hydronym gives a sense: “turning river”. It is supported by witness of Li Daoyuan, who informed us in *Shuijingzhu* 水經注 “Commentary to the river classic” already in the 6th cent. that *Bei bo he* 北波河 “Northern waving river”, i.e. Tarim (see the section Chinese origin), turned to the east and its stream was south of the state Qiuci 龜茲國. This means that the Turkic, Manchu, Chinese and Tibetan forms are only transcriptions of the Mongolic term.

The Chinese transcription *Eergou guole* (額爾勾果勒) appeared also in the text “Illustrated treatise on the imperial Western territories”³⁴⁴ (西域圖志 *Xiyu tu zhi*) finished in 1762 and revised in 1782 during the Qing dynasty (1644–1911).

342 <http://www.chinaknowledge.de/Literature/Science/xiyutongwenzhi.html>.

343 Newly published in Beijing: Zhongyang minzu xueyuan yinshuachang 1984. *Juan* 6, fol. 14v-15v.

344 <http://www.chinaknowledge.de/Literature/Science/xiyutuzhi.html>

Best informed was Xu Song 徐松 (1781–1848) in his compendium “Waterways of the Western Regions”³⁴⁵ (西域水道記 *Xiyu shuidao ji*), collected in 1815–1816, and newly published by Zhu Yuqi (朱玉麒, Beijing: Zhonghua shuju 2005).

Xu Song wrote that the *Eergou* River originated after the confluence of the Aksu River (*Akesu he* 阿克蘇河) and Keriyä river (*Kelediyaha* 克勒底鴉河), when flowed in the north from the area *Bugusikongguoeerguo* 布古斯孔郭爾郭. As soon as the Eergoule passed the city of *Shayaer* 沙鴉爾, in the east from it changed into the *Talimu he* 塔里木河, i.e. in the Tarim River. Xu Song also identified the *Eergou* river with the *Sihun* river, known from the Tang annals.

Turkic origin

Tarim

The hydronym *Tarim* was mentioned and convincingly explained already by the founder of Turkic lexicology, Mahmud of Kashgar³⁴⁶ (1005–1102) in his “Compendium of the languages of the Turks”³⁴⁷ from 1072–74:

(i) ‘*Tarim* is the name of a large river which flows from the Moslem country to Uyghur and there sinks into the sand.’

(ii) ‘*Tarim* is the name of a place on the frontier of Uyghur near Kucha (龜茲 *Qiūcǐ*); a river flows through it. The river is called by the same name.’

(iii) ‘The word *tarim* means “branches of a river which flows into swamps and quicksands”.’

(Mahmud of Kashgar cited after Clauson 1972, 548–49)

The form *tarim* is derivable from the verb attested in Karakhanid *tar-* “to go apart, scatter, spread”, Tatar *tar-* id., and Turkish *darga-*, Turkmen *darya-*, Yakut *taryā-* id.; Karakalpak, Kirgiz, Bashkir, Khakas *tarba-*, Uzbek *tarvaj-* “to branch, be forked”, with nominal derivatives like Chuvash *torat* “branch”, besides Uyghur, Kazakh, Kirgiz, Karakalpak, Bashkir, Tatar, Kumyk *tarmaq* “branch” (*EDAL* 3, 1356–57; Räsänen 1969, 463; he adds Modern Uyghur *tarim* “Verzweigung des Flusses”).

The place-name *Tarim* is also not limited to Xinjiang. There is the dry riverbed called *Tarim-darya* in the Sarykamysh delta of the Amu Darya river in Turkmenistan (Murzaev 1984, 544).

Modern Chinese 塔里木河 *Tǎlǐmù Hé* represents a transcription of the Turkic hydronym *Tarim*. The geographer Xu Song (徐松; 1781–1848) in “Waterways of the Western Regions”³⁴⁸ mentioned other variants in spelling: *Talimu* (塔里母 *tǎ³⁴⁹ lǐ³⁵⁰ mǔ³⁵¹*), *Telimu* (特里木 *tè³⁵² lǐ³⁵³*), *Tielimu* (鐵力木 *tiè³⁵⁴ lì³⁵⁵ mù*), quoting the usual translation “cultivable land”.

345 http://idp.bl.uk/pages/collections_ch.a4d

346 Maḥmūd ibnu ʿI-Ḥussayn ibn Muḥammad al-Kāshgārī. <https://en.wikipedia.org/wiki/Mahmud_al-Kashgari>

347 *Dīwānu l-Luġat al-Turk*.

348 西域水道記 *Xiyu shuidao ji*, 1819, collected in 1815–1816.

349 Chinese 塔 *tǎ* “tower, pagoda, Buddhist tower” < Middle Chinese **thâp*, cf. Vietnamese *tháp*, borrowed from Sanskrit *stūpa* (*GSR* 0676c).

350 Chinese 里 *lǐ* “village, neighborhood, community” < Middle Chinese **li* < Postclassical Chinese **li* < Han Chinese **rǎ* < Classic Old Chinese **rǎ* < Preclassical Old Chinese **rǎʔ* (Starostin, *ChEDb*).

351 Chinese 母 *mǔ* “mother” < Middle Chinese **mǎw* < Late & Middle Postclassical Chinese **mǎw* < Early Postclassical Chinese **mǎw* < Han & Classic Old Chinese **mǎ* < Preclassical Old Chinese **mǎʔ* (Starostin, *ChEDb*).

352 Chinese 特 *tè* “male animal, bull” < Middle Chinese **dʌk* < Postclassical & Han Chinese **dhāk* < Classic & Preclassical Old Chinese **dhāk* (*GSR* 0961 |h; Starostin, *ChEDb*).

353 Chinese 木 *mù* “tree” < Middle Chinese **muk* < Late Postclassical Chinese **mhwōk* < Middle & Early Postclassical Chinese **mhōk* < Han Chinese **mhōk* < Classic & Preclassical Old Chinese **mhōk* (Starostin, *ChEDb*).

354 Chinese 鐵 *tiě* “iron” < Middle Chinese **thiet* < Postclassical Chinese **thiēt* < Eastern Han Chinese **liāt* < Western Han Chinese **liāt* < Classic & Preclassical Old Chinese **liāt* (Starostin, *ChEDb*).

355 Chinese 力 *lì* “sinew; strength, force, power” < Middle Chinese **lik* < Postclassical Chinese **lik* < Han Chinese **rāk* < Classic & Preclassical Old Chinese **rāk* (Starostin, *ChEDb*).

Chinese origin

In the pre-Tang Chinese texts there are several various names of the Tarim River.

In “Commentary to the River Classic”³⁵⁶ (水經注 *shuǐ jīng zhù*) two purely Chinese designations appear (Mau-Tsai 1969, 157–58):

Bei he & Bei bo he

北河 *běi*³⁵⁷ *hé*³⁵⁸ “North river” (§2.9b); also 北波河 *běi bō*³⁵⁹ *hé* “North waving river“;

Da he & Xi yu da he

大河 *dà*³⁶⁰ *hé*¹¹ “Big river” (§2.10b); also 西域大河 *xī yù*³⁶¹ *dà hé* “Big river of the Western regions³⁶³” (Bičurin 1953, 76–77).

Possible Tocharian origin

Jishi, Jishu & Jishou

Three variants of apparently a non-Chinese name are also attested in pre-Tang chronicles (see Mau-Tsai 1969, 160, 240):

計式 *jì shì* (魏書 *Wèishū*³⁶⁴ 102, 4a);

計戍 *jì shù* (北史 *Běishī*³⁶⁵ 97, 6a);

計首 *jì shǒu* (ibid.).

Various scholars (in chronological order) reconstruct the historical pronunciation of these signs for various chronological levels in more or less similar way:

356 The “Commentary to the river classic” (水經注 *shuǐ jīng zhù*) originated on the basis of the text “The river classic” (水經 *shuǐ jīng*) – an ancient Chinese geographical book describing the course of rivers. The original classic had been written by Sang Qin (桑欽) during the Three Kingdom period 三國 (220–280 CE), the commentary by Li Daoyuan (酈道元) during the Northern Wei period (北魏; 386–534 CE). In 527 Li Daoyuan was assassinated by the rebel Xiao Baoyin (蕭寶夤). For his commentary, Li Daoyuan did not only have the necessary geographical experience from his profession when he was inspecting canals, dykes and rivers, but he also studied a lot of old and contemporary books on geography. The original *Shuijing* only dealt with 137 rivers, and Li Daoyuan added so much information about other rivers that the *Shuijingzhu* can not deal with as a commentary but is in fact a book of its own. It is twenty times as large as the old *Shuijing* and discusses the geographical course and the cultural background of 1 252 rivers and creeks.
<<http://www.chinaknowledge.de/Literature/Science/shuijingzhu.html>>

357 Chinese 北 *běi* “north” < Late Middle Chinese **puǎk* < Early Middle Chinese **pǎk* (Pulleyblank 1991, 31) ~ Middle Chinese **pʌk* < Postclassic Chinese **pǎk* < Han Chinese **pǎk* < Classic & Preclassic Old Chinese **pǎk* (Starostin, *ChEDb*; *GSR* 0909 a).

358 Chinese 河 *hé* “river; the Yellow River” < Late Middle Chinese **xhá* < Early Middle Chinese **ya* (Pulleyblank 1991, 122) ~ Middle Chinese **yá* < Postclassic Chinese **yā* < Eastern Han Chinese **yā* < Western Han Chinese **yā* < Preclassic Old Chinese **ghāj* (Starostin, *ChEDb*; *GSR* 0001 g). Note: The original meaning was “ford”.

359 Chinese 波 *bō* “wave” < Late Middle Chinese **pua* (Pulleyblank 1991, 40) < Early Middle Chinese **pa* ~ Middle Chinese **pwa* < Postclassic Chinese **pā* < Eastern Han Chinese **pā* < Western Han Chinese **pāj* < Classic and Preclassic Old Chinese **pāj* (Starostin, *ChEDb*; *GSR* 00251).

360 Chinese 大 *dà* [dà] [tài] “to be great, big” < Late Middle Chinese **tha*, **thaj* < Early Middle Chinese **da*, **daj* “big, great” (Pulleyblank 1991, 69) ~ Middle Chinese **dāj* [**thāj*] < Late & Middle Postclassic Chinese **dhāj* < Early Postclassic Chinese **dhās* < Han Chinese **dhās* < Classic Old Chinese **dhāc* < Preclassic Old Chinese **dhāts* [**thāts*] (Starostin, *ChEDb*; *GSR* 0317 a).

361 Chinese 西 *xī* “west” < Late Middle Chinese **siaj* < Early Middle Chinese **sej* “west” (Pulleyblank 1991, 329) ~ Middle Chinese **siej* < Postclassic Chinese **sān* < Han Chinese **sān* < Classic Old Chinese **sān* < Preclassic Old Chinese **sār* (Starostin, *ChEDb*; *GSR* 0594 a).

362 Chinese 域 *yù* “boundary, region, territory” < Late Middle Chinese **yǎk* < Early Middle Chinese **wik* “boundary; region, territory” (Pulleyblank 1991, 385) ~ Middle Chinese **fiuk* < Postclassic Chinese **whik* < Han Chinese **whak* < Classic & Preclassic Old Chinese **whak* (Starostin, *ChEDb*; *GSR* 0929 e).

363 Chinese 西域 *xī yù* “Western Regions” – Han Dynasty term for regions beyond Yumen Pass [玉門關 *yù mén guān*].

364 魏書 *wèi shū* “Book of Wei”, is a classic Chinese historical text compiled by Wei Shou from 551 to 554, and is an important source describing the history of the Northern Wei and Eastern Wei from 386 to 550.

<https://en.wikipedia.org/wiki/Book_of_Wei>

365 北史 *běishī* “History of the Northern Dynasties” is one of the official Chinese historical works in the Twenty-Four Histories canon. It covers the period from 386 to 618 CE.

<https://en.wikipedia.org/wiki/History_of_the_Northern_Dynasties>

計 *jì* “to draw lines, calculate, compute, reckon, count; plan (n.)” [Late Zhou]:
 < ‘Ancient’ Chinese **kiei* (*GSR* 1241a);
 < Late Middle Chinese **kjiaj* < Early Middle Chinese **kej^h* (Pulleyblank 1991, 142);
 < Middle Chinese **kejH* < Old Chinese **keps* (Baxter 1992, 546);
 < Middle Chinese **kiej* < Late & Middle Postclassic Chinese **kiēj* < Early Postclassic Chinese **kiēs* < Han Chinese **kiās* < Classic Old Chinese **kīc* < Preclassic Old Chinese **kīps*. Cf. also Sino-Vietnamese *ké*; further Vietnamese *kê* “to enumerate, count; tell, narrate” (probably borrowed from the same source) (Starostin, *ChEDb*);
 < Middle Chinese **kiei^c* < Old Northwest Chinese (c. 400 CE) **kēi* < Late Han *kei^c* < Old Chinese **kīh* (Schuessler 2009, 276, §26–3);
 < Middle Chinese **kejH* < Old Chinese **k’ij-s* (Baxter & Sagart, *ChDb* 2014).

式 *shì* “rule, pattern, style, (to use as a) model/norm; to use, make use of”
 < ‘Ancient’ & ‘Archaic’ Chinese **šjək* (*GSR* 0918 f);
 < Middle Chinese **syik* < Old Chinese **hljik* (Baxter 1992, 788);
 < Late Middle Chinese **šjək* < Early Middle Chinese **ɛik* (Pulleyblank 1991, 285);
 < Middle Chinese **šik* < Postclassic Chinese **šik* < Eastern Han Chinese **śək* < Western Han Chinese **lək* < Classic & Preclassic Old Chinese **lək* (Starostin; *ChEDb*);
 < Middle Chinese **šjək* < Old Northwest Chinese **šik* < Late Han Chinese **šik* < Old Chinese **lhək* (Schuessler 2009, 109, §5–16 f);
 < Middle Chinese **syik* < Old Chinese **lək* “pattern” (Baxter & Sagart, *ChDb* 2014).

戍 *shù* “to guard, be stationed at a military outpost (to secure allied or enemy territory; garrison”
 < ‘Ancient’ Chinese **šju* (*GSR* 1243c);
 < Late Middle Chinese **šjā*/**šyā* < Early Middle Chinese **ɛuā^h* (Pulleyblank 1991, 288);
 < Middle Chinese **šju^c* < Old Northwest Chinese (c. 400 CE) **śuo* / proto-Min **tšio^c* < Late Han Chinese *(*t*)*śo^c* < Old Chinese **hjo^h* (Schuessler 2007, 473 & 2009, 151, §10–26);
 < Middle Chinese **šyuh* < Old Chinese **[ŋ]o-s* (Baxter & Sagart, *ChDb* 2014).

首 *shǒu* “head; leader; (to be) first”
 < ‘Ancient’ Chinese **šjəu* < ‘Archaic’ Chinese **šjōg* (*GSR* 1102a-c);
 < Middle Chinese **šyuwX* < Old Chinese **hlju?* (Baxter 1992, 788);
 < Middle Chinese **śəw* < Late & Middle Postclassic Chinese **śəw* < Early Postclassic Chinese **śiw* < Eastern Han Chinese **śəw* < Western Han Chinese **ləw* < Classic Old Chinese **lú* < Preclassic Old Chinese **slu?*. Cf. further Sino-Vietnamese *thu*, besides Vietnamese *sp* “cranium, skull” (Starostin; *ChEDb*);
 < Middle Chinese **šjəu^b* < Late Han Chinese **śu^b* < Old Chinese **lhu?* (Schuessler 2009, 177, §13–38 a);
 < Middle Chinese **šyuwX* < Old Chinese **lū?* (Baxter & Sagart, *ChDb* 2014).

For the first component, common to all three variants, there are several more or less possible explanations on the basis of Tocharian B, depending on chronology of adaptation:

- (i) *kāy*- “to open wide” ~ A *śewiññ*- “to yawn” (Adams 2013, 162);
- (ii) *keše*³⁶⁶ “fathom, arm-span” ~ A *kaš* id. (Adams 2013, 213);

366 A *kaš*, B *keše* “fathom, arm-span” (Adams 2013, 213) < Iranian **kaša-*, attested in Avestan *kaša-* “armpit”, ?Khotanese **kaša-* “belt”, Sogdian *p-kšy* “side”, Zoroastrian Pahlavi *dast-kaš* “hands under arms”, Middle Persian of Turfan *dst-kš* “respectfully”, New Persian *kaš*, Shughni *bi-juž* “armpit” (**api-kaša-*), Wakhi *kal* = New Persian *kalk* “side under armpit”; Sanskrit *kakṣā-*, *kakṣyā-* “girdle, girth” (Bailey 1979, 56). Concerning the relation between “fathom” and “arm” in Iranian, cf. e.g. Sogdian *wβ^z* < **ui-bāzu-*, Ossetic *ivaz(n)/ivaz(n)æ*, Pashto *wāzə* “fathom” vs. Avestan *bāzu-* “arm”, Khotanese *bāysu-*, Sogdian Buddhist *β^zkh*, Manichaean *β^z*, Zoroastrian Pahlavi *bāzūk*, New Persian *bāzū*, *bāhū*, Baluchi *bāzk*, Ossetic Digor *bazug*, Iron *bazyg* id.; Iranian > Armenian

(iii) *kaice* “trough; tub” (Adams 2013, 213).

The component 𠵹 *shì*, derivable from Late Middle Chinese **šiǎk* < Early Middle Chinese **cik* by Pulleyblank (1991, 285) or from Middle Chinese **sík* < Postclassic Chinese **sík* < Eastern Han Chinese **śak* by Starostin (*ChEDb*), can be identified with Tocharian B *cake*, pl. *ckenta* “river” < Common Tocharian **cák^wē* (Ringe 1996, 42, 103) ~ **cākæ* < **ték^wos* (Pinault 2008, 423, 444), alternatively **tekos* or **tekont^o* ntr. (Adams 2013, 267). The adaptation of the hydronym should have been realized in some pre-Tang period, i.e. the Chinese form had to precede the Middle Chinese level. That is why Postclassic Chinese **sík* or Eastern Han Chinese **śak* may reflect the unattested, but expectable Tocharian A **cāk³⁶⁷*. The whole compound is acceptable for all three hypothetical Tocharian candidates for the first components:

(i): Late & Middle Postclassic Chinese **kiēj* + **sík* ← Tocharian B *kāy-* & *cake* “wide-spread {spilling} river”;

(ii): Eastern Han Chinese **kiēś* + **śak* ← Tocharian B *keše* & *cake* “river with arms”;

(iii): Eastern Han Chinese **kiēś* + **śak* ← Tocharian B *kaice* & *cake* “river of {many} troughs”.

All three hypothetical solutions agree with the real hydrological situation of the Tarim river: numerous arms and frequently dry riverbeds or troughs, but sometimes spilt by masses of water.

More difficult is identification of the alternative components 戍 *shù* and 首 *shǒu*. The latter word, reconstructible in Late & Middle Postclassic and Eastern Han Chinese as **śáw*, may be perhaps connected with Tocharian A *sāwe* “magnus, grandis”, used as the suppletive plural to the sg. *tsopats* id. (Poucha 1955, 320; Van Windekens 1976, 475), or better with its unattested Tocharian B counterpart. In this case only the compound *kaice* & *sāw^o* “{river of a} big trough” makes sense, especially with respect to one of the Chinese names of the Tarim, namely 大河 *dà hé* “Big river”, attested in the text *Shuijingzhu* from the Northern Wei period (see above).

The component 戍 *shù*, derivable from Early Middle Chinese **euǎ^h* by Pulleyblank (1991, 288), or from Old Northwest Chinese (c. 400 CE) **śuo* < Late Han **(t)śo^c* by Schuessler (2007, 473 & 2009, 151, #10–26), may be identified with Tocharian B *tso* “bas-ventre” (Pinault 2008, 486) = “abdomen” (Adams 2013, 812). The semantic motivation resembles the Young Avestan hydronym *Guda-* ‘Name einer Abzweigung, eines Seitenarmes der *Raṅhā*’ [Yt 15.27]: *təm yazata ... kərəsāspō upa Gudəm apayzārəm Raṅhaiiā*. Bartholomae (1904, 524) etymologized this hydronym with help of Sanskrit *gudā-* m. “an intestine, entrail, rectum, anus” [VS; TS; ŚBr; Kauś], pl. f. *gudās* “bowels” [RV X, 163.3; AV; ŚBr, VS] (MW 358).

Chihe

In “Geographical Records” (地理志 *Dilǐ zhì*) of “New Book of Tang” (新唐書 *xīn tángshū*), finished in 1060 during the Song dynasty, the hydronym 赤河 *chì³⁶⁸ hé*, i.e. “Red River” appears. It can be identified with the Tarim River (Mair & Fangyi 2013, 9–11). Although the designation “Red river” is quite frequent³⁶⁹ among hydronyms, it is possible to speculate about adaptation of

bahouand & *bahouband* “fathom” (Bailey 1979, 277; *ESIJ* 2, 161–63).

367 In Tocharian A a corresponding cognate is not attested, but the form **cāk* is expectable, cf. A *sāk* vs. B *śak* “10” < **dek^m* or A *sām* vs. B *sana* “wife” < **g^oenā* (Van Windekens 1976, 16, 475–76). The vowel conventionally written as *ā* in this context resembles the Slavic soft ier *ь*, including the alternation with the zero-reflex (cf. A *śkānt*, B *śkante* “tenth”) and palatalizing effect.

368 Chinese 赤 *chì* “to be red” < Late Middle Chinese **t^hiajk* < Early Middle Chinese **te^hiajk* (Pulleyblank 1991, 57) ~ Middle Chinese **chék* < Postclassic Chinese **khjek* < Han Chinese **khiak* < Classic & Preclassic Old Chinese **khiak* (Starostin, *ChEDb*; cf. *GSR* 0793 a: ‘Ancient’ Chinese **t^hiäk*). Schuessler (2009, 2–24 a): Middle Chinese **t^hjäk* < Old Northwest Chinese **t^hek* < Late Han Chinese **t^hak* < Old Chinese **k-lhak*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **tsyhek* < Old Chinese **[t-q^h](r)Ak* “red”.

369 The upper stream of the Kashgar-Darya / Kāshkār He is called Kyzyl Su / Kizilsu He, i.e. common Turkic “Red water”. The following typical ‘Red river’-names represent various distant territories: *Red River* (Texas, Oklahoma, Arkansas, Louisiana) – 2 189 km, 169 890 km², mouth in the Mississippi; *Kızılırmak*, in Turkish “red river” (Turkey) – 1355 km, 77 100 km², mouth in the Black Sea; *Sông Hồng*, in Vietnamese “red river” (Vietnam) – 1 149 km,

the originally non-Chinese river-name here, outside of the area of the spoken Chinese in the Tang era. The Middle Chinese pronunciation of the sign 赤, independently of its author (cf. **tš'jäk* {Karlgrén} = **tš^hjäk* {Schuessler}, **tš^hiajk* {Pulleyblank}, **čhek* {Starostin}, **tsyhek* {Baxter & Sagart}), resembles Tocharian B *cake* “river” or its predecessor in Common Tocharian **cäkä* (Pinault 2008, 423, 444) ~ **cäk^wë* (Ringe 1996, 42, §16; 74, §32; 102, §46; 151, §60). If this solution is correct, the river-name 赤河 *Chihé* from the “Geographical records” of “New Tang History” would represent the Tocharian word “river” accompanied by its Chinese translation. It agrees with hydronymical nomenclature described in “Book of the Later Han” (後漢書 *hòu hàn-shū*), covering the history of the Eastern Han dynasty from 6 to 189 CE, which was compiled by Fan Ye et alii during the Liu Song dynasty in the 5th cent. For the dominant river of the region the simple Chinese appellative 河 *hé* “river” was used (Chavannes 1907, 168–69). It seems, it was a direct translation of the Tocharian name of the main stream. The ‘River’ had two sources, one in 蔥嶺 *cōng líng* “Onion range”, i.e. in the Pamir (see below), the second in the south in neighbourhood of Hotan³⁷⁰ (和田), i.e. the Hotan He today. These facts indicate that the river originating in confluence was the Tarim.

Zhuojujia

Xuanzang (玄奘; 602–664), a Chinese Buddhist monk and traveller, recorded the name of the city of Yarkand³⁷¹, Chinese 莎車, simplified 莎车 *Shā³⁷²chē³⁷³* (< Eastern Han Chinese³⁷⁴ **šā-ka*, motivated by the ethnonym *Saka* – see Lurje 2009), and its river as 斫句迦 *zhuó³⁷⁵ jù³⁷⁶ jiā³⁷⁷* (Chavannes 1903, 123, fn. 1). The Middle Chinese reading of the first two characters **teiakkuä^h* in reconstruction of Pulleyblank, or **čakkü* by Starostin, resemble the proto-Tocharian reconstruction **cäk^wë* “river” of Ringe. The final component reconstructed as **kia* or **kai* by Pulleyblank for the time around 600 CE can perhaps be connected with Tocharian A *koy-*, B *koyñ* “mouth” (DTA 164–65; Adams 2013, 216: proto-Tocharian **koyǔ-*). The toponym in the Middle Chinese reconstruction **teiakkuä^h-kai* projected into Common Tocharian **cäk^wë-koy* would mean “mouth of a river”. Although there is no mouth of any bigger tributary of the Yarkand river in the area of the Yarkand oasis (the *Tiznap He* is only a parallel stream), there are many arms of the Yarkand river forming an inner delta, which could be called “mouth”. It was probably first a city or oasis name and after it the river name too.

143 700 km², mouth in the Gulf of Tonkin; *Baloué*, in Manding “red river” (Mali) – 500 km, 65 000 km², mouth in the Bakoy river.

370 From the Han Dynasty until the Tang Dynasty (or later) called Yutian (于阗, or 于寔, or 於闐), in Kharoṣṭhī script *Khotana-* (3rd cent.), later in Brahmi script *Hvatāna-*, in Buddhistic Hybrid Sanskrit *Gaustana-*, *Kustana* or *Yūttina* (Bailey 1979, 502–03) <https://en.wikipedia.org/wiki/Kingdom_of_Khotan>.

371 *Yārkānd* means “city on the steep shore” in New Uyghur (see Räsänen 1969, 188, 252).

372 Chinese 莎 *shā* & *suō* “a kind of locust” < Late Middle Chinese **ša*: < Early Middle Chinese **šai/*še*: (Pulleyblank 1991, 273) ~ Middle Chinese **šq* < Postclassic Chinese **šā* < Eastern Han Chinese **šā* < Western Han Chinese **šāj* < Classic & Preclassic Old Chinese **srāj* (Starostin, *ChEDb*; *GSR* 0016 f).

373 Trad. 車, simplified 车, *chē* “chariot, carriage” < Middle Chinese **kō* < Postclassic Chinese **ko* < Han Chinese **ka* < Classic Old Chinese **ka* < Preclassic Old Chinese **k(l)a* (Starostin, *ChEDb*; *GSR* 0074 a-d). Note: Shijing occurrences: 24.1, 37.3, 39.3, 41.3, 58.2, 58.4. Vietnamese reading: *xa*.

374 First documented in 後漢書 *Hou Hanshu*, “Book of the Later Han”, covering the history of the Eastern Han dynasty from 6 to 189 CE, which was compiled by Fan Ye et alii during the Liu Song dynasty in the 5th cent.

375 Chinese 斫 *zhuó* “to cut, hack, chop” [Late Zhou] < Late Middle Chinese **tšiak* < Early Middle Chinese **teiak* (Pulleyblank 1991, 419) ~ Middle Chinese **čak* < Postclassic Chinese **čak* < Eastern Han Chinese **čak* < Western Han Chinese **tak* < Classic & Preclassic Old Chinese **tak* (Starostin, *ChEDb*; *GSR* 0795 k; Schuessler 2007, 631: Old Chinese **tauk?*).

376 Chinese 句 *jù* “sentence, clause” [Han] < Late Middle Chinese **kyä* < Early Middle Chinese **kuä^h* (Pulleyblank 1991, 165) ~ Middle Chinese **kü* < Postclassic Chinese **kwō* < Han Chinese **kwah* < Classic Old Chinese **koh* < Preclassic Old Chinese **kos* (Starostin, *ChEDb*; *GSR* 0108 a-b). Comments: Vietnamese reading *câu* is colloquial (regular Sino-Vietnamese form is *cú*) – probably under the influence of another reading of 句, Middle Chinese **k₁w*.

377 Chinese 迦 *jiā* “Buddha, Buddhism”; transcription character for Sanskrit *ka*, *kā* < Late Middle Chinese **kia* < Early Middle Chinese **kia* or **kai* (Pulleyblank 1991, 143).

Luan

Li Daoyuan {酈道元 *Lǐ Dàojuán*} (427/469–527), a geographer living during the Northern Wei Dynasty (386–534) and the author of “Commentary on the Water Classic” (水經注 *shuǐ jīng zhù*), used the name 亂 *luàn*³⁷⁸ for the river Zhubin (注賓 *zhù bīn*; see below). It was probably an arm of the Tarim River emptying into the lake of Lop Nur. The hydronym in Postclassic Chinese **lwǎn* (Starostin) or Old Northwest Chinese **luan* (Schuessler) reconstructions is explainable as an adaptation of Tocharian B *lāñe* f., acc. *lāñ*, pl. *lāñi*, “flood” (Adams 2013, 594). The Chinese reconstructions, datable to c. 200–400 CE, may anticipate one of possible etymologies of the Tocharian word, based on comparison with Lithuanian *vilnis*, Latvian *vilnis* “wave” (**u̯Hni-*) & *vilna*, Old Church Slavonic *vlъna*, Old Russian *vъlna*, Russian *volná* etc. (ESJS 18, 1073), and Albanian *valë* id. (**u̯Hnā-*), besides Old High German *wella* id. (Germanic *wellō-* < **u̯elHnā*) (Pokorny 1959, 1140–43; Kümmel, LIV 676: **u̯elH-*). With regard to the ablaut pair **u̯Hn^o* vs. **u̯elH^o*, the protoform **ule/oHni-* (Adams 2013, 594), which should precede the Tocharian forms, seems to be fully acceptable.

Probable Iranian origin

Zhubin

In his “Commentary on the Water Classic” (水經注 *Shuijingzhu*), Li Daoyuan {酈道元 *Lǐ Dàojuán*} (427/469–527), mentioned the river 注賓 *zhù bīn*, which may be identified with the Tarim River³⁷⁹ or some of its arms emptying into the lake of Lop Nur. In this hydronym only the first character is connected with “water”, 注 *zhù* means “to conduct water, pour; be led to, flow to”, while the second character 賓 *bīn* means “visitor, guest; subjects”. In such a case it is probable that the Chinese name represents an adaptation of an originally non-Chinese hydronym. In historical projection the river-name 注賓 *zhù³⁸⁰ bīn³⁸¹* had the form **cōppjin* in Postclassic Chinese (c. 200–500 CE) and **cōhpjən* in the Eastern Han Chinese (c. 0–200 CE). A hypothetical source could be of Iranian origin. In Khotan Saka there are promising candidates for both components: *tcā* & *tcāta*³⁸² “pool, lake” and *painā*³⁸³ “liquid”, derived from *pyau* “swelling, overflowing” (Bailey 1979, 138–39; 248, 252; Cheung 2007, 290). Alternatively, the language-donor could also be Parthian, although the continuant of the second component is not known in this language till the present time. The proposed compound would mean “lake-filling” with respect to this role of the Tarim river in relation to the Lake of Lop Nur (at least in some periods).

378 Chinese 亂 *luàn* “to rebel, make trouble; disorder” < Middle Chinese **lwǎn* < Postclassic Chinese **lwǎn* < Han Chinese **rwānh* < Classic Old Chinese **rwānh* < Preclassic Old Chinese **rōns* (Starostin, *ChEDb*; *GSR* 0180 a-c). Comments: Used also for a homonymous **rōn-s* “to cross a river”. Sino-Vietnamese *loan*, Vietnamese reading: *lãn*. Another colloquial loan from the same source is Vietnamese *lộn*, “to confuse, confound, mixed”. For **r-* cf. Xiamen *luan⁶*, Chaozhou *luēj⁷*, Fuzhou *luaj⁶*, Jianou *luij⁶*. Sino-Tibetan: Old Chinese 亂 **rōns* “disorder, confusion”; Tibetan *hrul* “ragged, tattered, raggedness; ruins”; Burmese *rwij* “to chop, cut”; Kachin *run²* “to pull down, to raze or demolish”. Schuessler (2009, 272, §25–33 a): Middle Chinese **lwǎn^c* < Old Northwest Chinese & Later Han Chinese **luan* < Old Chinese **rōns*.

379 According to Li Daoyuan, ‘The river {Zhubin} flows east into the lake, which is situated north of the kingdom of Lou-lan.’ (Giles 1932, 829). Cf. also Stein 1921, 325.

380 Chinese 注 *zhù* “to conduct water, pour; be led to, flow to” < Middle Chinese **cù* < Postclassic Chinese **cò* < Eastern Han Chinese **cōh* < Western Han Chinese **toh* < Classic Old Chinese **toh* < Preclassic Old Chinese **to(?)s* (Starostin, *ChEDb*; *GSR* #0129 c).

381 Chinese 賓 *bīn* “visitor, guest; subjects” < Middle Chinese **pin* < Postclassic Chinese **pin* < Han Chinese **pjən* < Classic & Preclassic Old Chinese **pin* (Starostin, *ChEDb*; *GSR* #0389 a-f).

382 Other relatives: Avestan loc.sg. *čāti*, Sogdian *^Bc’t /čāt* “well”, Khwarezmian *c’t* “well”; Middle Persian *^Zc’h /čāh* “pit, well”, Parthian *č’h /čāh* id.; Munji *čūy(o)* “pit for grain”, Wakhi *čot* “pool, pond, water tank”, Ossetic Iron *cad*, Digor *cadæ* “lake”; Baluchi: West *čāt*, East *čāθ* “well”, Sangisari *čev* id. (*ESIJ* 2, 252; Bailey 1979, 138–39; MacKenzie 1971, 21; Benzing 1983, 214; *MPP* 123).

383 Other relatives: Parachi *phyō* “wet” vs. Sanskrit *pīna-* “swelling, swollen, full, round, thick, large, fat, fleshy” : *payⁱ* “to swell, overflow, be exuberant, abound, increase, grow”, *pyai-* “to make overflow” (Bailey 1979, 248, 252; Cheung 2007, 290: **paiH-*; MW 629–30, 652; *EWAI* II, 83).

Sihun

In “Geographical Records” (地理志 *Dili zhi*) of “New Tang History” (新唐書 *Xin Tangshu*), finished in 1060 during the Song dynasty, the Tarim River was called *Sihun he* 思渾河 (cf. Chavannes 1903, 9; but on p. 13 he thought about identification with Kashgar Darya / Kāshkār He, the west tributary of the Tarim). Although the meaning of the character 渾 *hún*³⁸⁴ is “muddy, dirty, impure”, i.e. compatible with designations of water-courses, it is not possible to say the same about the first component 思 *sī*³⁸⁵ “to think, think of, long for, ponder, brood”. Such a situation indicates that the hydronym represents an adaptation of an originally non-Chinese river-name. Its Middle Chinese reconstruction **sji-hwon* corresponds to Khotan Saka components *śī-* + *vañi* “white streams”, cf. *śī-* in the compound *śī-phīsa-* “white”, besides *śśīta-* id. and *vañi* pl. “streams” ~ Vedic *avāni-* “stream” (Bailey 1979, 399–400; 373). The full Khotanese form *śśīta-* may be a pattern for Sanskrit *Śītā-* (lit. “cold” in f.), the name of the Yarkand River, one of the main tributaries-sources of the Tarim River (Chavannes 1903, 123). In the Tang annals [唐書 *Tángshū* 221, a, p. 9 v°; compiled in 941–945 CE] the river was called 徒多 *tú*³⁸⁶ *duō*³⁸⁷. Chavannes (1903, 124, fn. 4) corrected the first character in the river-name to 徙 *xǐ*. The whole hydronym should be 徙多 *xǐ*³⁸⁸ *duō*, in the Early Middle Chinese pronunciation **si'ta* (Pulleyblank) or *°tā* (Starostin). Let us mention that the most watery source-tributary of the Tarim River is *Aksu*, in New Uyghur “white or clear water”. An alternative candidate for the first component is Khotanese *siyatā-* “sand”, with shortened forms *syatā* and *syē*. Just some of these reduced forms could create the compound with Khotanese *vañi* pl. “streams”, expressing probably “stream(s) in sand” *vel sim*.

Note: Albert Herrmann in his lemma *Oichardes* (1937, c. 2101) used for the foreign name of the Tarim River in the Tang annals the reading *Szu-yün* and proposed that it was misprint for *En-yün*. Really, the sign 渾 *hún* can be mistakenly interchanged for 渾 *yùn* “thick inside” [Tang], (also a surname) < Middle Chinese **ʔún* (Starostin), and similarly the sign 思 *sī* can be easily replaced by the sign 恩 *ēn* “to be kind; favour, grace, benevolence” (O. Srba, p.c.) < Middle Chinese **ʔan* (Starostin). Herrmann speculated about the primary reading *Öniyun*. But at present it is no reason to change the reading *Sihun*.

Οιχάρδης & Βαύτισος

In the mid-2nd cent. CE Ptolemy [6.16.3] mediated information of Marinus³⁸⁹ of Tyre (70–130) about Serike, i.e. China, especially about its northwestern part in contemporary borders. Ptolemy

384 Chinese 渾 *hún*, with the variant 混, “muddy, dirty, impure” (Starostin; *ChEDb*) < Middle Chinese **hwon* < Eastern Han **guan* < Old Chinese **gün* (Schuessler 2007, 290; he also mentions the meaning “sound of running water” recorded by Xunzi in the 3rd cent. BCE) ~ Old Chinese **[g]ʷ[u]r* “chaotic” (Baxter & Sagart *ChDb* 2014; cf. *GSR* 0458b).

385 Chinese 思 *sī* “to think, think of, long for, ponder, brood” < Middle Chinese **sji* < Postclassic Chinese **sji* < Eastern Han Chinese **sjə* < Western Han Chinese **sə* < Classic & Preclassic Old Chinese **sə* (Starostin; *ChEDb*; *GSR* 0973 a: explanation of graph uncertain); similarly Baxter & Sagart (*ChDb* 2014): Middle Chinese **si* < Old Chinese **[s]ə*.

386 Chinese 徒 *tú* “walk on foot, footmen, footsoldiers; follower, adherent” < Late Middle Chinese **tʰuə* < Early Middle Chinese **do* (Pulleyblank 1991, 311) ~ Middle Chinese **do* < Postclassic Chinese **dhə* < Han Chinese **dhā* < Classic & Preclassic Old Chinese **dhā* (Starostin, *ChEDb*; *GSR* 0062 e-f).

387 Chinese 多 *duō* & *duó* “be much, many, all the...” < Late & Early Middle Chinese **ta* (Pulleyblank 1991, 85) ~ Middle Chinese **tā* < Postclassic Chinese **tā* < Eastern Han Chinese **tā* < Western Han Chinese **tāj* < Classic & Preclassic Old Chinese **tāj* (Starostin, *ChEDb*; *GSR* 0003 a-c). Sino-Tibetan **tajH* > Burmese *taj* “very”; Kachin *the?* “and”; Lushai *te?* “much, very much”; Lepcha *tí* “to be great, be large, be big, be grand, be noble”; Mikir *the* “big”; Rawang *the*; Gurung *tha* “great” (Benedict 1972, 66).

388 Chinese 徙 *xǐ* “to move towards, change house” < Late Middle Chinese **szʷ* < Early Middle Chinese **siəʷ*/**siʷ* (Pulleyblank 1991, 331; *GSR* 0871 a-e) < Eastern Han Chinese **se?* (Schuessler 2007, 525) < Old Chinese **se* ~ Old Chinese **[s]ajʷ* (Baxter & Sagart *ChDb*, 2014).

389 §6. Αὕτη μὲν γὰρ καὶ ὑπὸ τοῦ βασιλέως τῆς χώρας διηγύσθη μετὰ προνοίας ὡς εἰκὸς οὐ τῆς τυχοῦσης καὶ εὐδιεινῆ οὔσα παντάπασιν· ἡ δ' ἀπὸ τοῦ Λιθίνου Πύργου μέχρι τῆς Σήρας ἐπιδέχεται χειμῶνας σφοδρούς· ὑποπέπτωκε γὰρ ἐξ ὧν αὐτὸς ὑποτίθεται τοῖς δι' Ἑλλησπόντου καὶ Βυζαντίου παραλλήλοις, ὥστε καὶ διὰ τοῦτο πολλὰς ἀνοχὰς

mentioned two rivers, which should have been located in the Tarim basin (their old identification with the biggest Chinese rivers is apparently wrong).

Διαρρέουσι δὲ δύο μάλιστα ποταμοὶ τὸ πολὺ τῆς Σηρικῆς, ὃ τε **Οἰχάρδης**,
οὗ ἢ μὲν πρὸς τοῖς Αὐζακίοις πηγὴ ἐκτέθειται, ἢ δὲ πρὸς τοῖς
Ἀσμιραίοις ὄρεσιν

ἐπέχει μοίρας ροδ̄ μζ L ‘

“For the most part two rivers all told flow through Serike. One of them is the
Oichardes. Its source by the Auzakia Mountains {at 153° 51’} is indicated above.

Another {source} lies by the

Asmiraeis mountains at 174° 47’ 30’

ἢ δὲ ὡς ἐπὶ τὰ Κάσια ὄρη ἐκτροπῆ

ἐπέχει μοίρας ρξ̄ μθ L ‘

The branch of the river towards the Casia Mountains lies at 160° 49’ 30’

ἢ δὲ ἐν τούτοις πηγὴ ρξᾱ μδ̄ δ’

and its {third} source lies in these {mountains} at 161° 44’ 15’

καὶ ὁ καλούμενος **Βαύτισος** ποταμὸς,

οὗ καὶ αὐτοῦ ἢ μὲν πρὸς τοῖς Κασίοις ὄρεσι πηγὴ

ἐπέχει μοίρας ρξ̄ μγ

And the other river is called **Bautisus**,

this, too, has a source by the Casius mountains,

at 160° 43’ ”

Edition by C.F.A. Nobbe (1966) and Humbach & Ziegler (1998).

Translated by Edward Luther Stevenson (1932) and Humbach & Ziegler (1998).

Οἰχάρδης [Ptolemy 6.16.3]

The river-name is attested in several variants depending on manuscript: Οἰχορδας, Οἰχάρδος, Οἰχάρδης. Other variants are *Chartis* by Ammianus Marcellinus (Humbach & Ziegler 1998, 204, fn. 1) and *Echara* in one of the Kharoṣṭhī documents (Herrmann 1937, c. 2101). Humbach & Fraiss (2012, 51) try to explain the hydronym as a compound consisting of components corresponding to Middle Persian *wēh* “good” and *Ard* “Fortune”, and similarly Avestan *vanhu-* m., *vanhī-* f. “good”, comp. *vahiiāhī-* “the better one”, and *aši-* “fortune”. The “good” river is known e.g. from Avesta, namely *Vanhi*³⁹⁰ [Yašt 8.2]. Both the components appear together in the Avestan syntagm (acc.) *Van’hīm Ašīm* “good reward” [Yasna 43.5]. But such a river name would be very atypical, not only among Indo-Iranian hydronyms but in general. For this reason it seems useful to try to find a more ‘hydronymical’ etymology of this hydronym. The initial Oi- can reflect the

δεῖν γίνεσθαι τῆς πορείας· καὶ γὰρ δι’ ἐμπορίας ἀφορμὴν ἐγνώσθη·

§6. “For this journey was completed by the king of the country with no lack of forethought and undoubtedly in calm conditions. That journey from the Stone Tower to Sera had in addition the season of violent winter weather, for it happens to lie on the same parallel as that of the Hellespont and Byzantium. With the result that there must have been many deviations to hinder this journey. And because trade in merchandise would have been the reason for the journey.”

§7. Μάην γὰρ φησί τινα τὸν καὶ Τιτιανὸν, ἄνδρα Μακεδόνα καὶ ἐκ πατρὸς ἔμπορον, συγγράψασθαι τὴν ἀναμέτρησιν οὐδ’ αὐτὸν ἐπελθόντα, διαπεμψάμενον δὲ τινας πρὸς τοὺς Σήρας. Ἔοικε δὲ καὶ αὐτὸς ἀπιστεῖν ταῖς τῶν ἐμπορευομένων ἱστορίαις·

§7. “For he said that a certain man from Macedonia called Maes, also known as Titian, a son of a merchant, wrote down the details and measured out the journey, not himself having traversed it but sending certain others to Sera. It seems that he himself does not trust the reports of the merchants.”

Translated by Louis Francis (1994)

<<http://www.reshistoriaantiqua.co.uk/Ptol2.htm>>

390 *arəmtca pərəθu zraiiāhəm / vanuhīmca dūrāt frasrutqm*

“und das sich über weite Wasserflächen erstreckende Wasser und die weitberühmte Vanhvī”

Translated by Fritz Wolff (1910).

Iranian prefix **ui-* with analogous transcription as in Sauromatian Οιορπάτα, glossed by Herodotus [4.110] as ἀνδροκτόνοι, “man-killers” (about Amazons), with explicit explanation: οἰὸρ γὰρ καλέουσι ἄνδρα, τὸ δὲ πατὰ κτείνειν, where οἰὸρ reflects Iranian **uirā-* “man” (Humbach & Fraiss 2012, 12). The root of the hydronym, **-χαρδ-*, could be connected with one of the Iranian verbal roots or their derivatives:

(i) **xar-* “to go pass” > Sogdian *xr-* “to walk”, *xyr-* “to go (out), go away”, *xryth* /*xartēh*/ “passed, gone” (Gharib 1995, ##10622, 10874), Khwarezmian *x’r-* “to pass, go past”; Kurdish *her-* “to go”; Parachi *har-* “to be lost”, Ossetic Iron *xærd*, Digor *xærdæ* “(upward) slope”, Shughni *nixarθ-* caus. “to sink, fall into ruins” (Cheung 2007, 443–44). The formation **ui-xar-* with the dental extension parallel to Shughni could mean “passed away” = “disappeared”. This designation of a river really that actually “disappears”, at least sometimes, under its sands seems quite natural.

(ii) **xard-* (a) “to defecate”; (b) “to make muddy” > (a) Khwarezmian *pCXRd* “dung, excrement”, New Persian *payxāl* “excrement” (both from **pati-xard*°), Pashto *xarəl*, Shughni *šarδ-*, Roshani, Bartangi *širδ-*, Sariqoli *šarδ-*, Yazghulami *xawδ-*, Yaghnobi *xird-* “to defecate”; (b) New Persian *xard* “muddy place” (borrowed from a source, where Iranian **-rd-* is preserved, e.g. Sogdian), Pashto *xər* “muddy, turbid, dirty brown”, Shughni *šarθk* “building clay, plaster, putty”, Yidgha *xəlarγo* “wet clay, mud, bog” (Cheung 2007, 444). The meaning (a) could lead to expression that the river in this condition was foul-smelling. The designation of a river or lake motivated by their stink is nothing unique. Not too far from the Tarim basin, in Eastern Kazakhstan, there is the lake called *Sasıq köl* (600–736 km²), lit. “stinky lake” (cf. Old Uyghur, Middle Turkish *sasyγ*, Chaghatai *sasik*, Taranchi / Modern Uyghur *sesik* “stinky” – see Räsänen 1969, 406). The *Stink River*, a left tributary of the Stony river in Alaska, has a quite transparent name. However, more probable (because it is more ‘hydrological’) seems to be the semantic motivation (b). There are numerous river- and lake-names formed from the designation of “mud”³⁹¹. Even if this interpretation is correct, the final semantics of this hydronym is determined by the prefix **ui-*. Sometimes it bears the fortifying function, e.g. Avestan *dab-* “to deceive”, Parthian *db* “trick, deception” vs. *wdyfs-* “to be deceived”, Middle Persian *wyd(y)b* “to deceive, delude”, Christian Sogdian *wyd’b* “harm” (Cheung 2007, 42–43). But this prefix can also change the meaning to its opposite, e.g. Avestan *bar-* “to bring, carry” vs. 3 pl. med. *vī-barən* “to separate, split, divide” (Cheung 2007, 6–7) or Sogdian *dryt-/jyt-* “to keep, hold” vs. *wjxs-* “to be separated” < **wi-žaxs-* < **wi-draxs-*; Yazghulami *wərciθ-* “to be untied” (Gharib 1995, #11338, 11548; 10050, 3583; Cheung 2007, 76).

Summing up, the prefix **ui-* is understandable in the case of the verb **xar-* “to pass”, where it leads to the form **ui-xartēh* “passed away”, which is expectable in Sogdian and also explains the final syllable in Οιχάρδης. The prefix **ui-* together with the verb **xard-* could express (a) “very stinky river”, perhaps in opposition to the *Bohuan* & Βαύτισος “fragrant river”, more probably than “unstinky river”. The alternative (b) **ui-xard-* refers again more probably to “very muddy river”, especially in the lower stream, than to “mudless river”. It is very tempting to connect this interpretation with the Chinese hydronym 思渾河 *Sīhún he* belonging probably to the Tarim (cf. Chavannes 1903, 9), known from “Geographical Records” (地理志 *Dili zhi*) of “New Tang History” (新唐書 *Xīn Tángshū*), finished in 1060 during the Song dynasty. The character 渾 *hún* means “muddy, dirty, impure” (see above).

391 E.g. in the nearby area, Kazakhstan, there are *Batpak-karasu* “muddy black river”, *Batpak-köl* “muddy lake”; *Saz-bulak* “muddy spring”, *Saz-köl* “muddy lake” (Konkašpaev 1963, 30, 97), and also the third biggest Asiatic lake *Balkhash* (16 400 km² in 2000, but 17 400 km² in 1950), representing Kazakh *balqaš* “marshy area covered by humps”, Altai, Shor *palyaş*, Sagai *palyas* “clay” (Vasmer I, 116; Räsänen 1969, 60). In Lithuania e.g. *Bāl-upis* & *Bal-ùpis* “muddy river”, *Bāl-ažeris* “muddy lake”: *balà* “mud, marsh”; *Pēlk-upis*, *Pelk-upjys* & *Peļk-upis*: *pēlkē* “marsh, mud” (Vanagas 1981, 56, 253). In USA e.g. the *Muddy River* in Nevada, formerly a tributary of the Virgin River, whose name is a translation of the originally Paiute name *Moapa* “muddy”; *Muddy River* in Massachusetts, a tributary of the Charles River, etc. In China e.g. *Bainihe* (白泥河 *bái ní hé*) “white mud river”, a tributary of the Liuxi he, which is the tributary of the Pearl River (珠江 *Zhū Jiāng*) emptying into the South China Sea.

Βαύτισος ποταμός

The hydronym Βαύτισος is traditionally derived from a hypothetical compound **Bhauṭesa-*, consisting of Sanskrit *īśa-*, “ruler”, and *Bhauṭa-*, the sanskritized self-designation *Bod.ba* of Tibetans (Tomaschek 1899, 174–76). The compound **Bhauṭesa-* should mean “ruler of the Tibetans” (Humbach & Faiss 2012, 50). This solution is weak for several reasons. The river-name of the type “ruler of ...” is very atypical. And “ruler of the Tibetans” in the case of the river very probably identical with the Tarim or some of its tributaries is still more difficult to accept, if the Tibetans are and were not typical inhabitants of shores of the Tarim River. It is necessary to seek another solution, based on languages really spoken in the Tarim basin. The hydronym is known in three variants depending on manuscripts, besides Βαύτισος also Βαῦτης and Βαύτις (Humbach & Ziegler 1998, 204, fn. 13). Taking in account the tendency to narrow *ē* to *ī* in Hellenic Greek, it is quite realistic to reconstruct the primary form of the hydronym as **Βαῦτησος*. In this case it is possible to identify the first component with Khotanese *būtte* “gives scent, smell”, *bū* “incense, perfume” or the root of *būhana-* “name of a scented plant” (Bailey 1979, 296, 301), and the second component with Khotanese *ttāja* “stream, river” (Bailey 1979, 125). The whole compound is reconstructible as **bauḍa/i-* or **bauḥa/i-* & **tāci-* “fragrant river”, probably expressing the fact that on the shores of this river grew plants with an aromatic smell. For this solution there are supporting arguments in Ptolemy’s text proper and in phytogeography of the region. One of three sources of the Bautisos River should have been in the Casius mountains (Κάσια ὄρη) according to information of Marinus mediated by Ptolemy. This oronym has been connected with the name of the Kashgar city (and subsequently river): Sogdian *k’š*, Parthian *k’š* ‘Kashgar’³⁹², plus Sogdian *γr-y/w* “mountain” (Gharib 1995, ##4668, 4168; Humbach & Faiss 2012, 49). In this case, the Kashgar River should be identical with this tributary rising in the Casius mountains. The true source of the Kashgar River is situated in the Pamir mountains, called in Chinese 蔥嶺 *cōng lǐng*³⁹³, i.e. “Onion range”, already from the era of the Later Han (Chavannes 1907, 168–69). One of the first Europeans crossing the Pamir mountains (1857), the Russian traveller Semionov, described the broad glades on the south slopes, where grew an unclassified kind of onion, later named *Allium semenovi*³⁹⁵.

This solution demonstrates that the river-name *Bohuan* (撥換), with reference from the Tang annals (7th-10th cent. CE), and Βαύτισος ποταμός, recorded by Marinus apud Ptolemy in the end of the 1st cent. CE, represent two variants of the same etymon, the adj. **bauḥanā-* “fragrant” and compound **bauḍa/i-* or **bauḥa/i-* & **tāci-* “fragrant river” respectively, although they probably do not belong to the same river. But the wild onion is typical not only for the Pamir range, but also for the Tian Shan (天山, *Tiānshān* “heavenly mountains”), where the source of the Qara yulghun dāryasi is.

These conclusions are well-compatible with the hypothesis of de la Vaissière (2009, 533) that Βαύτισος and Ουχάρδης represent the same river. We judge that Βαύτισος refers to one of the source-tributaries of the Tarim, the Kashgar-Darya / Kāshkār he, rising in the Pamir mountains, called by Marinus apud Ptolemy Κάσια ὄρη, perhaps analyzable as “Onion mountains” with help of the Iranian languages from the Pamir, and in Chinese 蔥嶺 *Cōng lǐng*, i.e. “Onion range”, known from the era of Later Han (both 1st-2nd cent. CE). On the other hand, Ουχάρδης should

392 Beginning of Alexander von Humboldt, this oronym has been connected with the Turkic **kās* “jade, nephrite” (Räsänen 1969, 240; Clauson 1972, 669b-670a). But this mineral was more probably named after the city of Kashgar than vice versa (cf. Herrmann 1917, 2261–63).

393 Chinese 蔥 *cōng* “onion” < Middle Chinese **chuy* < Late Postclassic Chinese **shwōy* < Middle & Early Postclassic Chinese **shōy* < Han Chinese **shōy* < Classic & Preclassic Old Chinese **shōy* (Starostin, *ChEDb*; *GSR* 1199 g-h).

394 Chinese 嶺 *lǐng* “mountain ridge” [Han] < Middle Chinese **lēj* < Postclassic Chinese **lhēj* < Han Chinese **rhēj* < Classic Old Chinese **rhēj* < Preclassic Old Chinese **rhej?* (Starostin, *ChEDb*; Pulleyblank 1991, 197).

395 <http://depts.washington.edu/silkroad/texts/weilue/notes1_3.html>

designate the Tarim river in its lower stream, before its estuary into the marshy Lop Nur Lake, called already in the 2nd cent. BCE 鹽澤 *Yanze* “Salt Marsh”.

It remains to determine the languages of origin of the analyzed hydronyms. In the case of the *Bohuan* & Βαύτιςος it was probably some earlier stage of the Saka language, most likely a predecessor of Tumshuqese and not Khotanese with respect to closer geographical proximity of Kashgar to Tumshuq in comparison with the distance between Kashgar and Khotan. More complex is the question of determination of the language of origin of the hydronym Οἰχάρδης. In the case of its “missing” etymology the proposed protoform **ui-xartēh* “passed away” indicates Early Sogdian. In the case of the solution (b) based on the verb **xard-* it could have been a common proto-language of the Shughni-Yazghulami subcluster within the Pamir languages, existing between the 1st cent. BCE and 7th cent. CE according to our glottochronological classification, or the donor-language mediating the presence of the word *xard* “muddy place” in New Persian (maybe Sogdian).

Karayulgun He / Qara yulghun dāryasi

Bohuan

Xu Song in his “Waterways of the Western Regions” (*Xiyu shuidao ji* 西域水道記), collected in 1815–1816, writes that according to “Commentary to the river classic” (*Shuijingzhu* 水經注) by Li Daoyuan (酈道元 or 酈道元; 466–527), from the Wei Dynasty, the Northern river (*Beihe* 北河), i.e. Tarim, flows to the east through the Gumo Kingdom (姑墨国), waters of the Gumo river (*Gumo chuan shui* 姑墨川水) empty into it. Xu Song explains that in the Tang era the Gumo river is called *Bohuan* (拔換), while in the time of Xu Song it is *Aerbate he* (阿爾巴特河) or *Achahala he* (阿察哈喇河). The source of the Bohuan river is located in the mountains *Mazaergou shan* (瑪咱爾溝) north of the city of Aksu. The river Bohuan flows around the Salty mountains (*Yanshan* 鹽山) and further is oriented to the south. Finally it is missing in the desert, in contrary to the situation described by Li Daoyuan more than 1200 years ago. This description is probably applicable to the Karayulgun He / Qara yulghun dāryasi (in New Uyghur “Black tamarind river”), the stream flowing parallel with the Aksu river, finishing in the sands c. 50 km northeast of the Aksu city (see *GCh* 141–42).

The hydronym *Bohuan* is written 撥換 *bō³⁹⁶ huàn³⁹⁷*, where only the second character, bearing a meaning “to dissolve; powerful (about the water-stream)”, is compatible with water-terminology. In this case it is again probably an adaptation of a non-Chinese hydronym. Taking in account the Middle Chinese pronunciation according to Starostin, the form **pwātxwān* corresponds to the reconstructed form **bauθanā-*, probably preceding the really attested Khotanese *būhana-* “plant name”, glossed by Buddhistic Sanskrit *musta(ka)-*, *abda-* “scented grass, Cyperus rotundus” and Tibetan *gla-sgay*. Maybe related are Ossetic Digor *bodæn* “garlic”, if the following chain of changes was realized: **baudanā-* > **baudanā-* > **bauθanā-* > *būhanā-*, formed by the suffix **-anā-* (Bailey 1979, 301) like Sogdian *βwδn* /*βōdan*/ “scented” (Gharib 1995, #2894). All are derived from the root **baud-* “to smell, perfume” > Young Avestan *hqm baod-* “to smell”; Middle Persian (Manichean) *bwy-*, (Buddhistic) *bwd-* /*bōy-*/ “to smell”, Parthian *bwy-* “to be fragrant”, Old Khotanese *bū(d)-* “to be fragrant”; Sogdian *βwδ-* “to perfume, smell”, Khwarezmian *m/ bw-* *zy-* “to smell, sniff on”; New Persian *bōy* “smell, scent”, Baluchi *bōd* “smell”, Zazaki *boy*, Kurdish *bō* “smell”, Ossetic Iron *bud*, Digor *bodæ* “fragrance, incense, scent”, Iron *æmbudyn*, Digor *æmbodun* “to smell”, Yaghnobi *vūd* “smell”, Parachi *b(u)hām* “smell” (Abaev I, 264; Cheung 2007, 15–16; *ESIJ* 2, 138–45).

396 Chinese 撥 *bō* “to dispose of, arrange, establish order” < Middle Chinese **pwāt* < Postclassic Chinese **pāt* < Han Chinese **pāt* < Classic & Preclassic Old Chinese **pāt* (Starostin; *ChEDb*).

397 Chinese 換 *huàn* “to disperse, dissipate, dissolve; powerful (about the water-stream)” < Middle Chinese **xwān* < Postclassic Chinese **hwān* < Han Chinese **wānh* < Classic Old Chinese **wānh* < Preclassic Old Chinese **swāns* (Starostin; *ChEDb*).

Hotän River / Khotan-Darya

The Hotän River or Khotan-Darya (290/806 km, 43 600 km²) originates in confluence of the Yurungkash (“white jade”) and Karakash (“black jade”), both rising in the Kunlun Mountains. The common stream, usually called according to the city or state of Khotan, empties into the Tarim River only after the snow-thawing in summer.

Probable Iranian origin

Hulu

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), compiled by the team led by Ouyang Xiu and Song Qi, which completed the text in 1060, there was mentioned the river 胡盧 *hú*³⁹⁸ *lú*³⁹⁹ in the territory of the state Khotan (cf. Chavannes 1903, 9). According to geographical description it could be the lower stream of the Hotän River (和闐河 *Hétián Hé*). The record from the Tang era indicates Middle Chinese pronunciation, reconstructed by various scholars as follows: Early Middle Chinese **ɣɔlɔ* (Pulleyblank) ~ Middle Chinese **ɣolo* (Starostin) ~ **ɣuoluo* (Schuessler) ~ **hulu* (Baxter & Sagart). It is tempting to identify here the Khotanese word *ggūla* “clay” < **gdā*, cf. Middle Persian *gl /gil/*, Persian *gil* “clay” etc. (Bailey 1979, 88; *ESIJ* 3, 284). I.e. the hydronym would mean a river bringing “clay” or with shores of “clay”.

Keriyä River

The Keriya River (today in Uyghur *Keriyä*; Chinese 克里鴉 *Keliya*) is 519 km long, with the basin 7 358 km². Its source is located in the Kunlun Mountains, the river finishes in sands of the Taklamakan desert, approximately between the 39th and 40th latitudes. In the past it was a southern tributary of the Tarim River, for the last time from the 16th till the beginning of the 19th cent., and already in the Western Han era (Yang et al. 2002, 164).

Keriyä he / Keriyä dūryasi

The contemporary Uyghurized name, in Chinese transcription 克里鴉 *kèlǐyā*, can represent a simplification of the hydronym *Kelediya*. But there are also other possibilities. The river may be called after the city of the same name, *Keriyä* (Yutian). And a primary source could be Arabic *qarya(t)* & *qirya(t)* “village, hamlet, town” (Steingass 1988, 833), adopted also into Osman Turkish *karjā* “ein grosses Dorf” (Radloff II, c. 195; Räsänen 1969, 238). Alternatively, the city name may be motivated by New Uyghur *qēri* “old” < Common Turkic **Kari* (*ESTJ* 5, 311–12; Clauson 1972, 644; *TMEN* 3, 440).

398 Chinese 胡 *hú* “dewlap; interrogative adverb, why?; designation of northwest tribes” < Late Middle Chinese **xhuǎ* < Early Middle Chinese **ɣɔ* (Pulleyblank 1991, 126) ~ Middle Chinese **yo* < Postclassic Chinese **ɣō* < Han Chinese **ɣā* < Classic & Preclassic Old Chinese **ghā* (Starostin, *ChEDb*; *GSR* 0049 a’). Schuessler (2009, 46, §1–1 a’): Middle Chinese **ɣuo* < Late Han Chinese **gɔ* < Old Chinese **gā*. Baxter & Sagart (*ChDb*, 2014): Middle Chinese **hu* < Old Chinese **[g]ʰa* “foreigners in the north”.

399 Chinese 盧 *lú* “food vessel; hound; black; cottage, house; lance shaft” < Late Middle Chinese **luǎ* < Early Middle Chinese **lɔ* (Pulleyblank 1991, 199) ~ Middle Chinese **lo* < Postclassic Chinese **lā* < Eastern Han Chinese **rā* < Western Han Chinese **rā* < Classic & Preclassic Old Chinese **rā* (Starostin, *ChEDb*; *GSR* 0069 d). Schuessler (2009, 56, §1–51 d): Middle Chinese **luo* < Late Han Chinese **lɑ* < Old Chinese **rā*. Baxter & Sagart (*ChDb*, 2014): Middle Chinese **lu* < Old Chinese **[r]ʰa*. Comments: The meaning “vessel” is attested only since Han (although it is no doubt original and is given by Shuowen). For **r*- cf. Min forms: Xiamen *lɔ*², Chaozhou *lou*², Fuzhou, Jianou *lu*². During Zhou the character is attested only as a loan for several homonymous words: **rā* “hound; black; cottage, house; lance shaft”.

Kelediya

First the form 克勒底鴉河 *Kelediya he* was recorded in the administrative history called “Comprehensive investigations of the imperial government based on literary and documentary sources” (*Huangchao wenzian tongkao* 皇朝文獻通考) compiled under the supervision of Xi Huang (嵇璜) and Liu Yong (劉墉) between 1747 and 1784, i.e. during the Qing era. The river had to determine the east border of the old state Khotan (和田 *Hétián*). The western border was shared with the Yarkand state, the northernmost area was adjacent to the mouth of the Aksu River into the Tarim River, the southern border was formed by the Southern mountains. With respect to relative late record of the hydronym 克勒底鴉河 *ke⁴⁰⁰ le⁴⁰¹ di⁴⁰² ya⁴⁰³*, it may be projected into the preceding phases of development of Chinese as follows: Late Middle Chinese **k^həkləktiej’?ja*: < Early Middle Chinese **k^həkləktej’?ai/?e*: (Pulleyblank) ~ Middle Chinese **khəkləktiej’ə* < Eastern Han Chinese **khəkrəktəj’rā* (Starostin) ~ Middle Chinese **k^həkləktei’ə* < Late Han Chinese **k^həkləktei’ə* (Schuessler). The hydronym could consist of three components, all explainable from Khotanese and related languages:

(i) **khāka-* > Khotanese *khāhā-* “spring, fountain, well”, Sogdian (Manichaean) *x’x*, (Buddhistic) *γ’γyk*, Yazghulami *xēx* “water; river”, Munji *xūya* “spring, source”, Yidgha *xūyo*, Wakhi *kök*, *kīk*, Sarikoli *kauk*, Ormuri *xākə*, Zoroastrian Pahlavi *hh /xāx/*, besides Avestan *xā-*, Pashto *warxa* “field channel” < **fra-xā-* (Bailey 1979, 74; *ESIJ* 4, 215–16).

(ii) Khotanese *-laka-* nominal suffix (Bailey 1979, 370)

(iii) Khotanese *attāyā* “unpolluted”, Ossetic Iron *tajyn*, Digor *tajun* “to melt, to thaw”, ?Pashto *toy* “spilt, overflowed” (if it is not derived from **tāka-*?), Young Avestan *taṭ.āp-* “with flowing water” (Cheung 2007, 375: **taH-* “to flow, stream, melt”).

The primary semantics of the river-name probably could be “melting source” (or alternatively “polluted source”). The source of the Keriya River is really situated among the glaciated mountains. If still older (Han Chinese) reading of the character 鴉 is applied, the last component 底鴉 should be reconstructed as **tāj’rā* < **tāj’rā*. It resembles Khotanese *ttaira* “peak” (Bailey 1979, 133). In this case the river-name would mean “{the river} with a spring on the peak”.

Jiandeli

In “New Book of Tang” (新唐書 *Xīn Tángshū*), compiled under the leading of Ouyang Xiu and Song Qi (1044–1060), i.e. in the Song era, the river Keriya was called 建德力 *Jiandeli* (cf. Chavannes 1903, 127, 311). Various scholars reconstruct the historical pronunciation of used

400 Chinese 克 *kè* “to be capable, predominate; to conquer, vanquish; be able, can, be willing” < Late Middle Chinese **k^həək* < Early Middle Chinese **k^hək* (Pulleyblank 1991, 173) ~ Middle Chinese **khək* < Postclassic Chinese **khək* < Han Chinese **khək* < Classic & Preclassic Old Chinese **khək* (Starostin, *ChEDb*; *GSR* 0903 a-g). Schuessler (2009, 107, §5–1 a): Middle Chinese **k^hək* < Late Han Chinese **k^hək* < Old Chinese **k^hək*.

401 Chinese 勒 *lè* “reins; hip, flank, rib; to force; to bind; to cut in stone” < Late Middle Chinese **ləək* < Early Middle Chinese **lək* (Pulleyblank 1991, 184) ~ Middle Chinese **lək* < Postclassic Chinese **lək* < Han Chinese **rək* < Classic & Preclassic Old Chinese **rək* (Starostin, *ChEDb*; *GSR* 0928 f-g). Comments: For **r* cf. Xiamen *lik⁸*, Chaozhou *lek⁸*, Fuzhou *lek⁸*. Schuessler (2009, 110, §5–22 f): Middle Chinese **lək* < Late Han Chinese **lək* < Old Chinese **rək*.

402 Chinese 底 *dǐ* “bottom, root, base, end” < Late Middle Chinese **tiəj’* < Early Middle Chinese **tej’* (Pulleyblank 1991, 75) ~ Middle Chinese **tiej* < Postclassic Chinese **tēj* < Han Chinese **tēj* < Classic Old Chinese **tēj* < Preclassic Old Chinese **tēj’* (Starostin, *ChEDb*; *GSR* 0590 c). Comments: Also used for a homonymous **tēj’* “to stop, obstruct”. Schuessler (2009, 278, §26–14 c): Middle Chinese **tiei^b* < Late Han Chinese **tei^b* < Old Chinese **tī?*. Sino-Tibetan *diəIH* “bottom” > Old Chinese 底 **tēj’* “bottom”, 抵 **tēj’* “root, base”; Tibetan *mthil* “bottom, floor”; Kiranti **dh[ä]IV* (Coblin 1986, 47; *CVST* II, 123). The Chinese form may be alternatively compared with Lushai *tāi* “the lower part of abdomen, the waist”, cf. also *tai* “the lower extremity of the bowels, the rectum”.

403 Chinese 鴉 *yā* “crow” [Late Zhou] < Late Middle Chinese **ja*: < Early Middle Chinese **?ai/*?e*: (Pulleyblank 1991, 354) ~ Middle Chinese **?a* < Postclassic Chinese **?ā* < Eastern Han Chinese **?rā* < Western Han Chinese **?rā* < Classic & Preclassic Old Chinese **?rā* (Starostin, *ChEDb*; *GSR* 0037 h). Note: A *-r*-infix variant of 烏 **?ā* “crow”. Schuessler (2009, 52, §1–34 h): Middle Chinese **?a* < Late Han Chinese **?a* < Old Chinese **?rā*.

characters as follows: 建德力 *jiàn*⁴⁰⁴ *dé*⁴⁰⁵ *lì*⁴⁰⁶ < Late Middle Chinese **kian* *tə̀ðkliäk* < Early Middle Chinese **kian^htəklik* (Pulleyblank) ~ Middle Chinese **kjəntəkljək* < Late Han Chinese **kiantəklik* (Schuessler) ~ Middle Chinese **kəntəklik* < Han Chinese **kanhtəkrək* (Starostin) ~ Middle Chinese **kjonHtoklik* (Baxter & Sagart). The hydronym probably consists of three components explainable with help of Khotanese and related languages:

(a) Khotanese *kanā-* “drop (of water)” (Bailey 1979, 51); cf. Wanji *kayn* “spring”, Pashto *činá* f. “spring, fountain” < **kanjā*, Kurdish & East Baluchi *kānī* “spring” (*NEVP* 20).

(b) Khotanese **taha* < **taxya*, past participle passive from *ttajs-* “to flow” (Emmerick 1968, 38; Bailey 1979, 121; Cheung 2007, 372–74), expectable in analogy to *paha* “cooked, refined” < **paxya-*, from *pach-* “to be cooked, refined” vs. *pajs-* “to cook” (Emmerick 1968, 63), similar to Sanskrit *pakvá-* “cooked, roasted”, formed from *pācyate* “is cooked” vs. *pācati* “cooks”, or *takvá-* “quick”, formed from *tak-* “to rush, hurry” (MW 575, 431). The following nominal derivatives of the Iranian verb **tak-/tač-* “to run, flow” designate the water-courses: Khotanese *ttāja* “stream, river” < **tāči-*, *ttākā-* “place of flowing to” besides *ttāka-* < **tāka-kā-* (Bailey 1979, 125), Avestan *apō.taka-* “water-course” [Yt. 10.38], *tači.āp-* “flowing water” [V. 6.26], Bactrian *ταγο* “river valley”, Sogdian obl. *tyyh* “stream”, Ossetic *tæx* “fast flowing stream, rapid”, Waziri *tōi*, *tōi* “mountain torrent”, Parthian *rwdyst’g*, Zoroastrian Pahlavi *lw(t)st’k /rōstāg/*, Persian *rōstā* “river-bed; district, province” (*NEVP* 84; Gharib 1995, #9566; Abaev III, 284; MacKenzie 1971, 72).

(c) Khotanese *līka-* ‘adjectival adjunct to participles’ (Bailey 1979, 371).

The compound could mean “quick {flowing} drops of water”.

Chärchän He / Cherchen Darya

Length 500–600 km, basin 6000–7000 km². Source: Arka-tagh; mouth: Tarim in Karaboran, the southwest bay of the Lop Nur Lake (cf. <<http://www.theodora.com/encyclopedia/c/cherchen.html>>).

Chärchän He / Cherchen Darya

The hydronym is motivated by the name of the city of Chärchän. It was probably transformed from the name of the old state Shanshan (鄯善 *Shàn shàn*), see Mallory & Mair 2000, 81. Schuessler (2009, 256–57, §24–25 a) reconstructs its predecessors in Late Han Chinese **džan^c-džan^b* ‘Cherchen’ < **Jarjan*. It could represent a transcription of the Prakrit compound *jara-* “old” & *jana-* “people” (cf. Turner 1966, ##5145.1 & 5098). A similar motive may be identified in the name of the city of 杆泥 *Yúni* (see below), only in an Iranian language. Alternatively, with respect to Starostin’s reconstruction of reading of the sign 善 *shàn*⁴⁰⁷, it could be explained as an adapta-

404 Chinese 建 *jiàn* “to establish, set up, erect” < Late Middle Chinese **kian* < Early Middle Chinese **kian^h* (Pulleyblank 1991, 147; *GSR* 0249 a) ~ Middle Chinese **kən* < Late & Middle Postclassic Chinese **kən* < Early Postclassic Chinese **kàn* < Han Chinese **kanh* < Classic Old Chinese **kanh* < Preclassic Old Chinese **kars* (Starostin, *ChEDb*; *GSR* 0249 a). Schuessler (2009, 253, §24–8 a): Middle Chinese *kjən^c* < Late Han Chinese **kian* < Old Chinese **kans*. Baxter & Sagart (2014, 274): Middle Chinese **kjonH* < Old Chinese **[k]a[n]-s*. Comments: During Late Zhou era used also for a homonymous name of a constellation (Sagittarius).

405 Chinese 德 *dé* “inner strength, virtue, quality: character, personality, personal ability, authority, good/bad intentions” < Late Middle Chinese **tə̀ðk* < Early Middle Chinese **tək* (Pulleyblank 1991, 74) ~ Middle Chinese **tək* < Postclassic Chinese **tək* < Han Chinese **tək* < Classic & Preclassic Old Chinese **tək* (Starostin, *ChEDb*; *GSR* 0919 k-1). Schuessler (2009, 109, §5–12 k-1): Middle Chinese **tək* < Old Northwest Chinese **tək* < Late Han Chinese **tək* < Old Chinese **tək*. Baxter & Sagart (2014, 10–11, 380, 385): Middle Chinese **tok* < Old Chinese **tək*. Note: Vietnamese reading: *dú’c*.

406 Chinese 力 *lì* “sinew; strength, force, power” < Late Middle Chinese **liək* < Early Middle Chinese **lik* (Pulleyblank 1991, 189; *GSR* 0928 a) ~ Middle Chinese **lik* < Postclassic Chinese **lik* < Han Chinese **rək* < Classic & Preclassic Old Chinese **rək* (Starostin, *ChEDb*; *GSR* 0928 a-b). Schuessler (2009, 110, §5–21): Middle Chinese **ljək* < Late Han Chinese **lik* < Old Chinese **rək*. Baxter & Sagart (2014, 91, 163, 230): Middle Chinese **lik* < Old Chinese **k.rək*. Comments: Vietnamese reading: *lú’c*. In Vietnamese cf. also an earlier colloquial loan: *sú’c* “strength, force”. For **r-* cf. Min forms: Xiamen *lar^s*, Chaozhou *lak^s*, Fuzhou *lik^s*, Jianou *li^s*.

407 Chinese 善 *shàn* “to be good, be good at, do well” < Middle Chinese **žén* < Postclassic Chinese **ž(h)én* < Eastern

tion of the hypothetical compound **jharadhārā-* “flowing spring”, cf. Sanskrit *jharant-* “flowing down” & *dhāra-* “stream”, Prakrit *jharai* “drops, falls” & *dhāra-* “spring water” (Turner 1966, ##5347, 5346, 6788). This solution more or less corresponds with interpretation of another name of this river, 阿耨達 *ānōudá*, on the basis of the verb *anūd-* “to wet along” (see the following section).

Anouda

In his “Commentary to the Water Classic (水經注 *Shuijingzhu*) the geographer Li Daoyuan (酈道元 *Lì DàoYuán*; 427/469–527 CE) mentioned the river 阿耨達 *ā⁴⁰⁸ nòu⁴⁰⁹ dá⁴¹⁰*. Chavannes (1905, 537, 566) identified it with the river Chärchän He / Cherchen Darya. The Postclassic Chinese reconstruction by Starostin is **ʔānə̀wd(h)āt* < Late Han Chinese **ʔānwāhd(h)āt*, while Schuessler reconstructs Old Northwest Chinese [c. 400 CE] **ʔanaukdat*, Late Han Chinese **ʔanoda* or **ʔanoukdat*. It could be an adaptation of Sanskrit *anudaká-* “waterless” [RV 7.50.4] or *anūdaka-* “aridity” [Rāmāyāṇa 1.20.16], maybe in the abl. in *-at*, or a derivative of the verb *anūd-* “to wet along” [Kāṭh], i.e. *anu* “along” & *√ud-* “to wet, spring (water), flow”, e.g. the participle *undāt* [RV 2.3.2] (MW 41, 183). At first sight both interpretations seem contradictory, but both could be true. The river Chärchän He / Cherchen Darya does not flow all year round and its condition is very arid. On the other hand, when flowing it moistens the whole area along its shores. Let us mention that the river flowed in the territory of the Kroraina (today Krorän) state, in Chinese transcription 樓蘭 *Lóulán*⁴¹¹, later called as Shanshan (鄯善 *Shànshàn*). The city of Loulan was its easternmost border, to the west was the city of Niya (尼雅遺址 *Niyǎ Yizhǐ*), known as 精絕 *Jīngjué*⁴¹² in the Han era and *Caḍota* in the local Middle Indic language, called Niya Prakrit. It was written in the *Kharoṣṭi*-script and used for administrative purposes.

Khaidu River

Length 560 km. Mouth: Lake Bostan / Baghrash; Source: Tian Shan.

Han Chinese **ʒ(h)án* < Western Han Chinese **d(h)án* < Classic Old Chinese **d(h)án* < Preclassic Old Chinese **d(h)arʔ* (Starostin, *ChEDb*; *GSR* 0205 a-c). Comments: Vietnamese reading: *thiệ̣n*. Sino-Tibetan: ?Tibetan *méhor* “pretty, beautiful”.

408 Chinese 阿 *ē, ā, à* “slope, hill, shore, angle” < Middle Chinese **ʔā* < Postclassic Chinese **ʔā* < Eastern Han Chinese **ʔā* < Western Han Chinese **ʔāj* < Classic & Preclassic Old Chinese **ʔāj* (Starostin, *ChEDb*; *GSR* 0001 m). Comments: Also read *hē* and *ā* (*hē* as a loan for 訶, *ā* as a transcription syllable) in Modern Chinese. During Late Zhou used also for a homonymous **ʔāj* “pillar, ridge-pole”. Shijing occurrences: 54.3, 56.2. Schuessler (2009, 211, §18–1 m): Middle Chinese **ʔā* < Late Han Chinese **ʔa* < Old Chinese **ʔai*.

409 Chinese 耨 *nòu* “to hoe, to weed” [Late Zhou] < Middle Chinese **nə̀w* < Late & Middle Postclassic Chinese **nə̀w* < Early Postclassic Chinese **nə̀w* < Han Chinese **nwāh* < Classic Old Chinese **nōh* < Preclassic Old Chinese **nōks* (Starostin, *ChEDb*; *GSR* 1223 f). Comments: For **n* cf. Xiamen *no⁶*, Chaozhou *nou⁶*, Fuzhou *naü⁶*, Jianou *ne⁶*. Schuessler (2009, 159, §11–17 f): Middle Chinese **nə̀w^c* < Late Han Chinese **no^c* < Old Chinese **nōkh*, while the variant of this character, 耨 *nòu* “hoe” (*GSR* 1223 e), is reconstructed as Middle Chinese **nuok* < Old Northwest Chinese **nouk* or **nauk* < Late Han Chinese **nouk* < Old Chinese **nūk* by Schuessler (2009, 159, §11–17 e). Pulleyblank (1991, 227) reconstructs the Early Middle Chinese pronunciation **nə̀w^b*, but admits the variant **nawk* too.

410 Chinese 達 *dá* “to break through (as growing grain); penetrate, come through; be born; communicate; come forward, become prominent” < Middle Chinese **dāt* < Postclassic Chinese **d(h)āt* < Han Chinese **d(h)āt* < Classic & Preclassic Old Chinese **d(h)āt* (Starostin, *ChEDb*; *GSR* 0271 b-c). Comments: Also read *tà* “to go to and fro” < Middle Chinese *thāt* < Old Chinese **thāt*. Schuessler (2009, 233, §21–14 b): Middle Chinese **dāt* < Late Han Chinese **dat* < Old Chinese **dāt*.

411 Eastern Han Chinese **rwārān* (Starostin).

412 Eastern Han Chinese **cejɛŋʒ(h)wat* < Western Han Chinese **cejɛŋʒ(h)wat* (Starostin). It seems to be the Han Chinese transcription of the Middle Indic city name.

Mongolic origin

Khaidu

Xaidu-gol “isolated river”, cf. Kalmyk *χād^og gol*, identified as ‘ein Fluss im Tienschangebiet’, consisting of *χād^og* “immer nur derselbe, immer nur einer, allein” & *gol* “Fluss, Flusstal, Flussbett; Mitte, mittlere Teil; innere” (Ramstedt 1935, 179, 149); further Written Mongol *qay-idag* “lone, single, isolated” & *goul* “river, river bed; valley; large lake”, Khalkha *xajda & gol* id. (Lessing 1960, 912 & 362; Hedin 1967, 45); in modern Chinese transcription 开都河 *Kāidū Hé*.

Chinese origin

Liusha

According to the popular novel “Journey to the West” (西遊記 *Xī yóu jì*) from Wu Cheng’en, first printed in 1592 and inspired by travels of Xuanzang (602–664), the river was called “flowing sands river” (流沙河 *Liúshā Hé*).

Iranian origin

Dan

In the “New Book of Tang” (新唐書 *Xīn Tángshū*), compiled by the team led by Ouyang Xiu and Song Qi, which completed the text in 1060, the river was called 淡 *dàn*⁴¹³ (cf. Chavannes 1903, 6, 362). If the Middle Chinese pronunciation of the hydronym is taken in account, i.e. **dam^h* (Pulleyblank) ~ **dām* (Starostin) ~ **dām* (Schuessler) ~ **damX* (Baxter & Sagart), it is possible to think about one of two Iranian etymologies:

(a) Iranian **dāmā-* “net” > Sogdian: Manichaean *δ’m’*, Buddhist *δ’m’y*, Christian *d’m’y* / *dām(ā)* / “net”; Khotanese *dāma-* “bond”, *dīma-* “tie, knot”; Zoroastrian Middle Persian *d’m* / *dām* / “net, snare, trap”, etc.; further Vedic *dāman-* “string, cord, rope, fetter”, from the verb *dā-* “to bind” = Avestan *dā-* id. (Cheung 2007, 47; *ESIJ* 2, 444–45; Gharib 1995, #3395; MacKenzie 1971, 24; MW 475). Along the lower stream of the river there are really several branches and parallel streams (e.g. Höhrin Hebran), so that the term “net” is quite adequate.

(b) Iranian **damH-* “to swell, blow” > Avestan *dāδma’niia-* “blowing (up)”; Buddhist Sogdian *δm’s* “to swell”; Khwarezmian *δm’s-* “to become fat, strong”, Khotanese *dam-* “to blow”, *uys-dem-* “to cool, extinguish”; Parthian *dm-* “to blow, breathe”, *’dm’s* “to swell up” etc.; further cf. Vedic *dhamⁱ-* “to blow” (Cheung 2007, 55–56; *ESIJ* 2, 316–21; *LIV* 153). The expression “swelling river” is natural for rivers fed from mountain snow and glaciers, whose level grows after the summer thaw.

Kongque He / Könchi Darya

Length 550 km (or 786⁴¹⁴ km). Mouth: {formerly} Lake Lop Nur and Tarim River; Source: Lake Bostan / Baghrash.

413 Chinese 淡 *dàn* “thin, bland, insipid; liquid, of sweet-water” < Late Middle Chinese **tham* < Early Middle Chinese **dam^h* ~ Middle Chinese **dām* < Postclassic Chinese **d(h)ām* < Han Chinese **l(h)ām* < Classic Old Chinese **l(h)ām* < Preclassic Old Chinese **l(h)ām?* (Starostin, *ChEDb*; *GSR* 0617 o). Schuessler (2009, 350, §36–14 o): Middle Chinese < **dām^h* < Late Han Chinese **dam* < Old Chinese **lām?*, **lāms*. Baxter & Sagart (*ChDb* 2014): Middle Chinese **damX* < Old Chinese **[l]ām?*. Sino-Tibetan **lVmH* “sweet, tasty, saltless” > Old Chinese 淡 **lām?* “insipid”; **lhēm* “sweet”; Kachin *phram^l* “to taste (of spices)”; Lushai *thlum* “sweet, taste sweet”; Lepcha *kljam*, *khjam* “to be sweet, be pleasant to the taste”; Kiranti **lēm*; Manang *lim* (Benedict 1972, 75; Bodman 1980, 99).

414 [https://de.wikipedia.org/wiki/Konqi_\(Fluss\)](https://de.wikipedia.org/wiki/Konqi_(Fluss)).

Chinese form

Kongque He

The Chinese hydronym 孔雀河 *kǒng*⁴¹⁵ *què*⁴¹⁶ *hé* means “Peacock River”. It is probably only a phonetic reinterpretation of the Uyghur name *Könchi Darya* (see below).

Turkic form

Könchi Darya

The Uyghur name *Könchi Darya* has been interpreted as “Tanner’s River” (Hedin 1967, 49). It is formed by the suffix **-či* of *nomina agentis* from the word attested e.g. in Middle Turkic *kōn* “ungegerbte Haut”, Turkmen *kōn*, Kazakh *kōn* “buntes Leder”, Kazan Tatar *kün* “Leder”, Osman *gōn* “gegerbtes Leder”, Kumyk *gōn* “Leder” (Räsänen 1969, 290).

Tocharian origin?

Both the Uyghur and Chinese hydronyms could reflect a reinterpreted pre-Turkic or pre-Chinese river-name. In Middle Chinese the hydronym should have been pronounced as **kʰəwŋʹ tsiak* (Pulleyblank) ~ **khūŋcjak* (Starostin). It is tempting to speculate about Tocharian B *kents* “goose” & *cake* “river” (Adams 2013, 207; 267), but the vowels in the first syllable seem incompatible. Alternatively, it is tempting to think about a derivative of the B verb *kuk-* “to tire, exhaust” or expressing “some kind of downward motion” (Malzahn 2010, 598; Adams 2013, 191) as the first member. Both the semantic motivations are acceptable for this river, flowing from the Bostan Lake with altitude 1048 m into the {former} Lop Nur Lake with altitude *c.* 770 m, whose arms connecting the Tarim may be rightfully designated as “exhausted”. If it was the case, the derivative could be formed by the *n*-suffix, perhaps as *yakne* “way, manner” < **ueḡʰno-*. Thus the hypothetical Tocharian B compound **kukne-cake* would be transcribed in Middle Chinese as **khūŋcjak*.

Lakes

Lop Nur Lake

The Lop Nur Lake (Chinese 罗布泊 *Luōbùbó*), today practically a dried up salty depression, but during the 20th cent. a still existing lake of the area 3100 km² in 1928, 2400 km² in 1930–31.

415 Chinese 孔 *kǒng* “to be great, much, very much, very; hollow, hole, cavity” < Late Middle Chinese **kʰəwŋʹ* < Middle Chinese **kʰəwŋʹ* (Pulleyblank 1991, 174) ~ Middle Chinese **khūŋ* < Late Postclassic Chinese **khwōŋ* < Middle & Early Postclassic Chinese **khōŋ* < Han Chinese **khōŋ* < Classic Old Chinese **khōŋ* < Preclassic Old Chinese **khōŋʔ* (Starostin, *ChEDb*; *GSR* 1174 a-b). Notes: A later meaning (attested since Han and apparently reflected in colloquial Vietnamese *hồ ng*) is ‘hollow, hole, cavity’ (cf. 空 **khōŋ*). Regular Sino-Vietnamese is *khō`ng*. Vietnamese reading: *hồ`ng*. Shijing occurrences: 10.3. Sino-Tibetan: **Kaŋ* (~ **Q-*) “like, be satisfied” > Tibetan *skañ* “satisfaction”; Burmese *khaŋ* “to be attached to, like”; Lepcha *kuŋ* “to agree, to accord with; to be proper”; ?Old Chinese 孔 **khōŋʔ* “to be great, much, very”.

416 Chinese 雀 *què* “sparrow / *Passer montanus*” < Middle Chinese **tsiak* < Middle Chinese **tsiak* (Pulleyblank 1991, 263) ~ Middle Chinese **cjak* < Late & Middle Postclassic Chinese **cjak* < Early Postclassic Chinese **cjauk* < Han Chinese **cjauk* < Classic Old Chinese **ceuk* < Preclassic Old Chinese **čekʷ* (Starostin, *ChEDb*; *GSR* 1122 a-b). Schuessler (2009, 208, §17–13 a): Middle Chinese **tsjak* < Later Han Chinese **tsiak* < Old Chinese **tsiauk*. Comments: Shijing occurrences: 17.2. For Old Chinese **c-* and *-a-* can also be reconstructed (there are no rhymes and hsieh-sheng connections for the word) – but the reconstruction **čekʷ* seems preferable because the word is written as 爵 (**čekʷ*) in Late Zhou. Initial *q-* in Mandarin is unclear. The regular Sino-Vietnamese reflex is *tu`ó`c*; *chóc* is used in the compound *chim chóc* “birds” (note that 雀 is also used as a general name for all small birds in Early Chinese). Vietnamese reading: *chóc*. Sino-Tibetan **čekʷ* “sparrow, small bird” > Old Chinese 雀 **čekʷ* “sparrow”; ?Burmese *chak-rak* “starling”; Kiranti **cik*; Trung *pí-čí?*, Anong *cha* “bird”, etc.

Nafubo

The oldest known form for the Lop Nur area was probably mediated by the traveller Xuanzang (602–664) who used the name 納縛波 *nà⁴¹⁷ fú⁴¹⁸ bō⁴¹⁹* for the kingdom Lou-lan (樓蘭 *lóu⁴²⁰ lán⁴²¹*; see Stein 1921, 321). In the Middle Chinese reconstruction of Pulleyblank the toponym should look as **napbuakpa* and according to Starostin **napbwakpwā*, both representing the time around 600 CE. The interpretation of this place-name is difficult. Very probably it is a corrupted compound or a whole syntagm, whose components could be perhaps identified in the following concrete Iranian lexemes: **nab-* (cf. Pashto *naw* “moisture, humidity”, Sogdian *nβt’k*, *nβtyy* “moist” – see Cheung 2007, 276) + **apa-* “without” (cf. Bactrian αβαβγο “waterless”; see Davary 1982, 146; Sims-Williams 2007, 181) + **āpaka-* “water” (Sogdian *’pyk* adj. “of water”, Ormuri *wōk* “water”, Wakhi *yupk*, Munji *yōwga*, Ishkashimi *vek*, Sanglechī *vēk* id.; *ESIJ* I, 312). The whole formation together perhaps meant “marsh without water” in a Middle Iranian language close to Bactrian or to some partial protolanguage of a part of the Pamir languages.

Note: Matsuda (apud Christopoulos 2012, 20–21) tried to explain the toponym *Nafubo* as transliteration of Sogdian *Navapa* “new water” (*nwyw/nw’y/nw’k(w)/nwc* “new” & *’p* “water”). But he did not take in account that the place name recorded in the 6th cent. CE should be read in adequate, i.e. Early Middle Chinese, pronunciation.

Puchang

In *Hanshu*⁴²² finished in 111 CE the lake was called 蒲昌海 *Pū⁴²³chang⁴²⁴ hai⁴²⁵* “Sea of abundant reeds” and its size was estimated from 300 to 400 *li*, i.e. 120–160 km, in length and breadth (cf. Bičurin 1953, 34), indicating the area overcoming 10 000 km². The authors (and their readers) believed the lake was joined with the Yellow River through an underground channel. Thus, for long time the Tarim River was taken to be one of the sources of the 黃河 Huang He, i.e. the

417 Chinese 納 *nà* “bring in, take in, put into; bring in tribute; bring in reports; receive, accept” < Late Middle Chinese **nap* < Early Middle Chinese **nəp/*nap* (Pulleyblank 1991, 221) ~ Middle Chinese **nap* < Postclassical Chinese **nəp* < Han Chinese **nəp* < Classic & Preclassical Old Chinese **nəp* (Starostin, *ChEDb*; *GSR* 0695 h). Comments: For **n* cf. Xiamen *lap^s*, Chaozhou *nap^s*, Fuzhou *nak^s*, Meixian *nap^s*. Vietnamese reading: *nap*.

418 Chinese 縛 *fú* “to fasten, tie, wrap, bind” [Late Zhou] < Late Middle Chinese **fijyak/*fjak* < Early Middle Chinese **buak* (Pulleyblank 1991, 98) ~ Middle Chinese **bwak* < Postclassical Chinese **bwak* < Eastern Han Chinese **bwak* < Western Han Chinese **bak* < Classic & Preclassical Old Chinese **bak* (Starostin, *ChEDb*; *GSR* 0771 m). Comments: For **b* cf. Xiamen, Chaozhou *pak^s*, Fuzhou *puok^s*. Regular Sino-Vietnamese is *phoc*. Besides Vietnamese, cf. other Austric data: South Bahnaric **pək* ‘bundle’, Mon *buik* ‘encircle, put around’, Tai *phu:k* ‘tie’ which suggest the Austric origin of the Chinese word. Vietnamese reading: *buộc*.

419 Chinese 波 *bō* “wave” < Late Middle Chinese **pua* < Early Middle Chinese **pa* (Pulleyblank 1991, 40) ~ Middle Chinese **pwā* < Postclassical Chinese **pā* < Eastern Han Chinese **pā* < Western Han Chinese **pāj* < Classic & Preclassical Old Chinese **pāj* (Starostin, *ChEDb*; *GSR* 00251) ~ Old Chinese **p’aj* (Baxter & Sagart 2014, 197, 269, 381). Sino-Tibetan parallels: Tibetan *rba* “wave”.

420 Chinese 搜 *lóu* “to pull, drag; search out” [Late Zhou] < Middle Chinese **lɔw* < Late & Middle Postclassical Chinese **lōw* < Early Postclassical Chinese **lōw* < Han Chinese **rōw* < Classic & Preclassical Old Chinese **rō* (Starostin, *ChEDb*; *GSR* 0123 d).

421 Chinese 蘭 *lán* “orchid” < Middle Chinese **lān* < Postclassical Chinese **lān* < Han Chinese **rān* < Classic & Preclassical Old Chinese **rān* (Starostin, *ChEDb*; *GSR* 0185 n). Comments: In East Zhou attested only within the compound 芄蘭 **wān-rān* ‘Metaplexis stauntoni’. For **r-* cf. Xiamen *lan²*, Chaozhou, Fuzhou *lan²*, Jianou *luinj²*. The meaning “orchid” is attested since Late Zhou. Vietnamese reading: *lan*.

422 漢書 *Hànshū* “Book of Han” or “History of the Former Han”, is a history of China finished in AD 111, covering the Western, or Former Han Dynasty (plus the short Xin Dynasty) from 206 BC to 23 AD. The work was composed by Ban Gu, a court official, with the help of his twin brother Ban Chao and their sister Ban Zhao, continuing the work of their father, Ban Biao. <https://en.wikipedia.org/wiki/Book_of_Han>

423 Chinese 蒲 *pú* “cattail / *Typha latifolia*; reed” < Middle Chinese **bō* < Postclassical Chinese **bhō* < Han Chinese **bhā* < Classic & Preclassical Old Chinese **bhā* (Starostin; *ChEDb*).

424 Chinese 昌 *chāng* “to be splendid, prosperous” < Middle Chinese **chaj* < Postclassical Chinese **chaj* < Eastern Han Chinese **chaj* < Western Han Chinese **thaj* < Classic & Preclassical Old Chinese **thaj* (Starostin; *ChEDb*). Schuessler (2007, 180) reconstructs Eastern Han Chinese **tshaj* < Old Chinese **thaj*.

425 Chinese 海 *hǎi* “sea” < Middle Chinese **xǎj* < Late Postclassical Chinese **hwǎj* < Middle & Early Postclassical Chinese **hwǎ* < Han Chinese **mǎ* < Classic Old Chinese **mǎ* < Preclassical Old Chinese **smǎ?* (Starostin; *ChEDb*).

Yellow River. In the time of recording, the Eastern Han era, the lake-name should have been pronounced as **bhāc̣haŋ*. It is tempting to speculate about adaptation of some formation based on Tocharian A *pāts*, B *patsa* “bottom” (Adams 2013, 387), more or less corresponding to the interpretation of Western Han name **lamlāk* ~ A *lyām-lak* “lake bottom” (see below), e.g. A *pāts sne-āk* “bottom without end”⁴²⁶ (on the syntagm *sne-āk* – see *DTA* 23), or a derivative of the same type as A *štānk*, B *stānk* “palace” (Adams 2013, 776), if it was formed from the verb **steH₂*- “to stand” as Sanskrit *sthāna*- “house, dwelling”, besides “standing, staying; place, room” etc. from the verb *sthā*- “to stand, stay, remain” (MW 1262–63).

The present name *Lop Nur* has also its fascinating history, which was mapped by Stein (1921, 320–21). The word *nur* means “lake, pond” in the language of Xinjiang Oirats (Indjjeva 2009, 160). It is the Common Mongolic lexeme⁴²⁷.

Mīrzā Haidar (1500–1551) in his description of the deeds of Vais Khan, a Moghul, from the 16th cent. mentioned ruins of two large towns, Lob and Katak (cf. Stein 1921, 319–20). In the time of Marco Polo’s travels, i.e. 13th cent., the town of Lop was still a flourishing city. Marco Polo also wrote about the Province of Lop and Desert of Lop⁴²⁸. Stein judged that the town of Lop is identical with the present city of Charkilik / Ruoqiang. In the time of Tibetan dominion of this area, i.e. from the last third of the 8th cent. to the second half of the 9th cent., the place-name *Nob* appeared relatively frequently. Stein (1921, 322) thought that it represented the same geographical term. There were two localities called *Nob-tshed* ‘Great Nob’ and *Nob-tšung* ‘Little Nob’, corresponding to present Charkilik and Mīrān respectively. In the earlier Chinese texts they were called 邑新 *yì xīn* “new city” and 杼泥 *yú⁴²⁹ ní⁴³⁰* respectively, the latter one also known as 東古城 *dōng gǔ chéng*⁴³¹ “eastern old city” (Stein, 1921, 322, 326). The city name 杼泥 *Yúni* gives no sense in Chinese (“muddy cup”?!). More probably it is the pre-Chinese place-name. Its Middle Chinese reconstruction by Starostin, **hūniej*, resembles the Iranian word for “old”, attested in Young Avestan *hana*- m., *hanā*- f. (Bartholomae 1904, 1769). Other traces of this term in Iranian appear only in onomastics, e.g. Old Persian **Hana-maθa*- “old-great” in the Elamite transcription *an-na-ma-sa* or **Hana-jīrauka* “seit alters lebhaft, rasch” (cf. Avestan *jīra*- “lebhaft”) in the Assyrian transcription *ḥa-na-zī-ru-ka* (Hinz 1975, 114–15), and ‘Sarmatian’ or ‘Scythian’ man’s and woman’s names from Panticapaeum (east Crimea by the Kerch Strait) *Χανακῆς* and *Χανικα* respectively (Zgusta 1955, 167, §250; 207, §337).

426 In “Book of Han” (漢書 *Hànshū*) there was used a similar expression probably for the Aral Sea: 大澤無崖 *dà zé wú yá* “the great marsh without a (further) shore” (Hulsewé 1979, 130, fn. 318).

427 Common Mongolic **nayur* > Written Mongol *nayur*, Middle Mongol *na’ur*, *nāwur* “lake”, *nāwor* “sea”, Khalkha *nūr*, Buriat *nūr*, Kalmyk *nūr*, Ordos *nūr*, Dagur *naur*, *naure*, Monguor *nūr*, *nōr* “lake” (Poppe 1955, 163), Oirat *nur* “lake, pond” (Indjjeva 2009, 160).

428 “And there is nothing which doesto mention in our book; so we will go forward and will tell you of a province which has Lop to name. And at end of these five days marches one finds a city also, which is named Lop, which is at the end of the great desert, Lop is a great city which is at the end of the desert, from which when one departs one enters into the very great desert which is called the desert of Lop, and it is between sun-rising and the Greek wind. And this city belongs to the rule of the great Kaan, . . .” (Moule & Pelliot 1938, 148).

429 Chinese 杼 *yú* “bath tub; big cup, large vessel” [Late Zhou] < Late Middle Chinese **yǎ* < Early Middle Chinese **wuǎ* (Pulleyblank 1991, 381) ~ Middle Chinese **hū* < Late Postclassic Chinese **who* < Han Chinese **wha* < Classic & Preclassic Old Chinese **wha* (Starostin, *ChEDb*; *GSR* 0097 i).

430 Chinese 泥 *ní* “mire, mud, clay; to plaster” < Late Middle Chinese **niaj* < Early Middle Chinese **nej* (Pulleyblank 1991, 223) ~ Middle Chinese **niej* < Postclassic Chinese **nāj* < Han Chinese **nāj* < Classic & Preclassic Old Chinese **nāj* (Starostin, *ChEDb*; *GSR* 0563 d) ~ Old Chinese **nāi* or **nī* (Schuessler 2007, 398) ~ Old Chinese **C.n[əj]* (Baxter & Sagart, *ChDb* 2014). Comments: For **n*- cf. Min forms: Xiamen, Chaozhou *nī²*, Fuzhou *nā²*, Jianou *nai²*. Also read **n(h)āj?*, Middle Chinese *niej*, Mandarin *ní* “be plentiful, numerous”. Standard Sino-Vietnamese is *nē*. Vietnamese reading: *nê*.

431 Translated as “wall; city wall; city; to fortify” (Pulleyblank 1991, 54; *GSR* 0818 e).

Yunze

According to the Han Chinese historical text *Shiji*⁴³² finished in the end of the 2nd cent. BCE, the lake was named 鹽澤 *yan*⁴³³ *ze*⁴³⁴ “Salt Marsh”. Although “Salt Marsh” is undoubtedly an adequate description, it is tempting to analyze the form **lamlāk* reconstructible for the Western Han era, when it was recorded for the first time. It resembles Tocharian A *lyām*, B *lyam* “lake” and Tocharian A *lak* “bottom (of a river)”, B *leke* “bed” (Adams 2013, 614, 607–08), together “lake bottom” in the language preceding Tocharian A, appositely describing the drying lake, whose bottom has been denuded.

Bostan (Baghrash) Lake

Surface area: 886.5 km² -1380 km²; depth: 16 m.

Turkic origin

Baghrash

New Uyghur *Baghrash Kōli*. Cf. Chaghatai *bayur-dak*, Mamluk Turkish (Abū Ḥayyān al-Ghar-nāī: *Kitāb al-Idrak li-Lisān al-Atrāk*) *bakurdak* “throat, gullet” (Räsänen 1969, 55). The final *-aš* may be identified with Taranchi *aša* “to eat”, Chaghatai *aš-la* “to eat and drink”, *aša-t* “to feed” etc. (Räsänen 1969, 29; Clauson 1972, 253, 256). The compound could designate “fed through a throat”. The throat may again represent the mouth of the Kaidu river (开都河 *Kāidū Hé*; Mongol *Xaidu-gol*). If this is the case, both limnonyms, Bositeng and Baghrash, express more or less the same fact – the lake is fed by its main tributary.

Iranian origin

Bositeng

The lake was localized by Chinese already in the Tang era, but probably without its local name (Chavannes 1903, 112, fn. 4; 312). The geographer Xu Song (徐松; 1781–1848) in his compendium “Waterways of the Western Regions”⁴³⁵ (西域水道記 *Xiyu shuidao ji*) collected in 1815–1816, had recorded 博斯騰湖 *bó*⁴³⁶ *sī*⁴³⁷ *téng*⁴³⁸ *hú* (Maljavkin 1989, 184, fn. 296), cf. also

432 史記 *Shiji* “Scribe’s records”, originally 太史公書 *Tàishīgōng shū* “Records of the Grand Historian”, is a monumental history of ancient China and the world finished around 109 BC by the Han dynasty official Sima Qian after having been started by his father, Sima Tan, Grand Astrologer to the imperial court. The work covers the world as it was then known to the Chinese and a 2500-year period from the age of the legendary Yellow Emperor to the reign of Emperor Wu of Han in the author’s own time.

<https://en.wikipedia.org/wiki/Records_of_the_Grand_Historian>

433 Chinese 鹽 *yán* “salt” < Middle Chinese **jem* < Late & Middle Postclassic Chinese **jem* < Early Postclassic Chinese **žem* < Eastern Han Chinese **žam* < Western Han Chinese **lam* < Classic Old Chinese **lam* < Preclassic Old Chinese **lam* (~ **-em*) (Starostin, *ChEDb*). Baxter & Sagart (2014, 107; 386, fn. 31) reconstruct Old Chinese **[gr] [o]m*.

434 Chinese 澤 *zé* “a marsh; to enrich, benefit; lake, water surface; to irrigate, wet” < Middle Chinese **dāik* < Postclassic Chinese **d(h)āk* < Eastern Han Chinese **lāk* (~ **lh-*) < Western Han Chinese **lāk* (~ **Lh-*) < Classic & Preclassic Old Chinese **L(h)āk* (Starostin, *ChEDb*). Baxter & Sagart (2014, 109) reconstruct Old Chinese **fRak*.

435 http://idp.bl.uk/pages/collections_ch.a4d

436 Chinese 博 *bó* “to be wide, broad” < Late Middle Chinese **pak* < Early Middle Chinese **pak* ~ Middle Chinese **pāk* < Postclassic Chinese **pāk* < Han Chinese **pāk* < Classic & Preclassic Old Chinese **pāk* (Starostin, *ChEDb*; *GSR* 0771 a-c). Sino-Tibetan: Tibetan *āphag* “to rise, be raised; to grow longer, bigger”; Burmese *paŋ?* “to lift, raise”; Kuki-Chin **pāk-*; Thankur *pak* “to be broad”, Bodo *bo* “to stretch, spread” (Luce 1981, 74; *CVST* I, 50–51).

437 Chinese 斯 *sī* “a near demonstrative: this, he, she, it, they” < Late Middle Chinese **sz* < Early Middle Chinese **siā/*si* ~ Middle Chinese **sje* < Postclassic Chinese **sje* < Eastern Han Chinese **sje* < Western Han Chinese **se* < Classic & Preclassic Old Chinese **se* (Starostin, *ChEDb*; *GSR* 0869 a-b). The basic meaning of the character was “to lop off” (*Shijing* 141,1), but it is more commonly used for the homonymous pronoun **se* “this”; later also for *sì* “completely” < Middle Chinese *sjè* < Old Chinese **se-s*. Sino-Tibetan: Burmese *sañ* “this, that”, Kachin *šij?* “thus or this”; *šī?* “he, she, it” (*CVST* IV, 115–16).

438 Chinese 騰 *téng* “to rise, overcome” < Late Middle Chinese **thəŋ* < Early Middle Chinese **dəŋ* (Pulleyblank

Chaghatai *Bostang*. The (Early) Middle Chinese reconstruction leads to **paksidəŋ*/**paksiǎdəŋ* by Pulleyblank and **pâksjedəŋ* by Starostin. This form is interpretable on the basis of Alanic, continuing in Ossetic: Digor *faxs* “side, hip, slope of mountain” and *dongon* “by the river”, where *-gon* is the grammaticalized word *kom* “mouth, opening” (Abaev I, 426; 369; 598), originally perhaps “on the side of the mouth of the river”. The most probable river would be the dominant tributary of this lake, the Kaidu He or Khaidu Gol (see above), long 560 km, or the 550 long river Kongque He (孔雀河 *Kǒngquè Hé* “Peacock River”; probably only a sound reinterpretation of the Uyghur name *Könchi Darya* “Tanner’s River” – see Hedin 1967, 49), which leads the waters of the lake through the Iron Gate Pass (鐵門關 *Tiěmén Guān*) to the south into the {former} Lake Lop Nur, and by one arm also into {the river-bed of} the Tarim River.

Barköl Lake

Surface area: 140 km². The lake is located on the southeastern edge of the Dzungarian Basin, far east of the Tarim Basin. It is included here for the possibility of the Tocharian etymology of its name from the Later Han Dynasty.

Pulei

First the name of this lake located north of Hami (Kumul) appeared in “Book of the Later Han” (後漢書 *Hòu Hànsū*) in the history of the Eastern Han dynasty from 6 to 189 CE, which was compiled by Fan Ye et alii during the Liu Song dynasty in the 5th cent. The lake-name mentioned in the year 123 CE was written with the characters 蒲類 *pú*⁴³⁹ *lèi*⁴⁴⁰ (Chavannes 1907, 162). With respect to the first attestation of this limnonym in 123 CE it is necessary to take in account its reconstruction in Han Chinese, **bhā-rwās*, or even Classic Old Chinese **bhā-rwāc* (both according to Starostin). Seeking a source of this place-name in some of languages spoken in the beginning of the first mill. CE in this region, it seems, Tocharian B *wrätstse* “having water” (cf. Adams 2013, 627) could be a good candidate. The adj. form *wrätstse* was syncopated from **wārätstse*, cf. B *war* “water”, pl. *wranta* < **wārāntā* (Pinault 2008, 440). The common Tocharian **wārä* “water” has been derived from **udr^o*. The adj. **wārätstse* is immediately derivable from **wārūtstse* and further from **udrutjo-*. The presumption of existence of the *u*-stem explains better the correspondence of A *wär* vs. B *war*, since the protoform [†]*udrom* proposed by Adams (2013, 628) would lead to B [†]*ware*. The *u*-stem in the word-family **ued-* “water” with the *r*-extension was recognized in Hittite *watt(a)ru-* “spring, source” < **uodru-* (Irslinger, *NIL* 706, 708, referring finally to Eichner⁴⁴¹). The substitution of **w* by Chinese **b(h)* is attested e.g. in the Chinese transcription of the name of country called *Wakhan*: 捕喝 *bū*⁴⁴² *hé*⁴⁴³ ‘country situated on the southern bank of the

1991, 304) ~ Middle Chinese **dəŋ* < Postclassic Chinese **dhəŋ* < Eastern Han Chinese **lhəŋ* < Western Han Chinese **Lhəŋ* < Classic & Preclassic Old Chinese **Lhəŋ* (Starostin, *ChEDb*; *GSR* 0893 v). Comments: The word can be connected etymologically with 揚 **Ləŋ* “to lift, raise”. For **Lh-* cf. Xiamen *thij*², Chaozhou *thej*².

439 Chinese 蒲 *pú* “cattail (*Typha latifolia*), reed” < Middle Chinese **bo* < Postclassic Chinese **bhō* < Han Chinese **bhā* < Classic & Preclassic Old Chinese **bhā* (Starostin, *ChEDb*; Pulleyblank 1991, 242; *GSR* 0102 n’; Schuessler 2007, 418 reconstructs East Han Chinese **ba* < Old Chinese **bā*). Comments: For **bh* cf. Chaozhou *phu*²; Vietnamese reading: *bô*.

440 Chinese 類 *lèi* “be up to standards, good; class, category” < Middle Chinese < **lwi* < Late & Middle Postclassic Chinese **lwij* < Early Postclassic Chinese **lwis* < Han Chinese **rwās* < Classic Old Chinese **rwāc* < Preclassic Old Chinese **ruts* (Starostin, *ChEDb*; Pulleyblank 1991, 186; *GSR* 0529 a; Schuessler 2007, 347 reconstructs East Han Chinese **luis* < Old Chinese **rus*).

441 In his letter from Sept 10, 2016, Prof. Heiner Eichner kindly explained his present position: Hittite *wattaru-* was adopted from Luvian, where the development from **uodru-* was quite regular. The vowel *a* between the dental and *r* is an anaptyctic vowel, similarly as in Luvian *immari-* “field” vs. Hittite *gemra-* etc.

442 Chinese 捕 *bū* “to seize” [Late Zhou] < Middle Chinese **bò* < Postclassic Chinese **b(h)ò* < Han Chinese **b(h)āh* < Classic Old Chinese **b(h)āh* < Preclassic Old Chinese **b(h)ās* (Starostin, *ChEDb*; *GSR* 0102 j’). Comments: Modern 3rd tone is irregular. For **b* cf. Xiamen *pɔ̃*⁶, Fuzhou *puõ*⁶, Chaozhou *pu*⁴.

443 Chinese 喝 *hé* “to yell, shout, cry (angrily)” [Late Zhou] < Middle Chinese **xāt* < Postclassic Chinese **hāt* < Han Chinese **hāt* < Classic & Preclassic Old Chinese **hāt* (Starostin, *ChEDb*; *GSR* 0313 k). Comments: Regular

river *Wu-hu* (Oxus, today Amu Darya)' according to Xu Song, referring to 新唐書 *Xīn Tángshū*, i.e. 'New Tang history'⁴⁴⁴, §221B.2a (Hulsewé 1979, 131, fn. 323).

Note: Pulleyblank (1962–63, 219) reconstructed the Old Chinese form of the lake-name as **bah-lwə̄(t)s* and speculated about possibility that it reflected Common Turkic **bars* "tiger, panther".

C. Central Asiatic oronyms: Qilian, Kunlun, Pamir Mountains

From the point of view of stability of place-names the following empirically established sequence is roughly valid: river-names > mountain-names > ethnical names > names of places of settlement and of countries. This is natural, since rivers and mountains were always important for orientation, but the shores of rivers were usually inhabited, while mountains were not as attractive. Central Asia is rather exceptional in regard to the height above sea level where permanent settlements exist. On the Tibetan upland plain, bordered by the Qilian and Kunlun mountain ranges in the north, just as in the Hindukush and Pamir, people live on a level equal to the highest peaks of the Alps. Continuity of settlement, independent of language replacements, is *conditio sine qua non* for preservation of place-names in general. In this section three oronyms are analyzed, the Qilian and Kunlun, originally probably designating the same mountain range on the border of the Chinese provinces Gansu and Qinghai, and the Pamir, separating the Turanian lowland with great endorheic lakes like the {former} Aral Sea and Lake Balkhash, and, from another endorheic area, the Tarim Basin with streams directed to the {former} lake Lop Nur. It is significant that all these oronyms (or alternative names in the case of the Pamir) can be etymologized as Indo-European, namely Tocharian, Iranian, perhaps also Indo-Aryan. In the case of the Qilian / Kunlun it is probably the easternmost known border of pre-modern presence of Indo-Europeans, in this case both Iranians and Tocharians.

Qilian

The Qilian Mountain Range (Chinese 祁連山 *Qílián Shān*; Wade–Giles: *Ch'í-lien² Shan¹*) is also known as 南山 *Nan Shan*, i.e. "Southern Mountains", since they lie south of the Hexi Corridor. The Qilian Range is a northeastern outlier of the Kunlun Mountains, forming the border between the Qinghai and Gansu provinces of northern China⁴⁴⁵.

This oronym is attested in two Han historical texts, *Shiji*⁴⁴⁶ [110.0246.2, 123.0267.2], finished around 109 BCE, and *Hanshu*⁴⁴⁷ [§§ 94A.0597.2, 96B.0607.2], finished in 111 CE. We are informed here that the meaning of this oronym is connected with "heaven" in the language of Xiongnu, the steppe tribal confederation.

Sino-Viet. is *hát*, Vietnamese reading *hét*. The earliest attested usage of the character (Han) is for **rāts*, Middle Chinese. *ʔǎj*, Mandarin *yè* "to cry (with a constrained voice)".

444 Finished during the Song Dynasty in 1060 CE.

445 <https://en.wikipedia.org/wiki/Qilian_Mountains>

446 史記 *Shiji*, i.e. "Scribe's records", or 太史公書, *Tàishǐgōng shū*, i.e. "Records of the Grand Historian", is a monumental history of ancient China and the world, finished around 109 BC by the Han dynasty official Sima Qian after having been started by his father, Sima Tan, Grand Astrologer to the imperial court.

<https://en.wikipedia.org/wiki/Records_of_the_Grand_Historian>

447 漢書 *Hànshū*, i.e. "The Book of Han", also known as "History of the Former Han", is a history of China finished in 111 CE, covering the Western, or Former Han dynasty from the first emperor in 206 BCE to the fall of Wang Mang in 23 CE. It is also called the "Book of Former Han". The work was composed by Ban Gu, a court official, with the help of his sister Ban Zhao, continuing the work of their father, Ban Biao.

<https://en.wikipedia.org/wiki/Book_of_Han>

Etymology:

(a) Pulleyblank (1966, 20) thought about the Yuezhi origin of this name, seeking a Tocharian etymology for his Middle Chinese reading **gijlĕn* or the variant 祈連 **giəylĕn*, but without any positive result. He ascribed this to the absence of a Tocharian word for “heaven” in the known lexicon. But such terms are known: Tocharian A *ākās*, B *akāse* < Buddhist Hybrid Sanskrit *ākāśa-*; and A *eprer*, B *e(p)prer* ~ *iprer* < **mb^hro-* + coll. **-r* (Adams 2013, 2; 70). But apparently neither of these can be connected with **gijlĕn*.

(b) Mair (1991, 932) proposed a connection between the hypothetical Tocharian antecedent of *Qilián* and Latin *caelum* “heaven”. The Latin word is not isolated, since there are probable cognates in Welsh *coel* “presage, omen”, Old Breton *coel* “priest”, Gothic *hailag* “holy”, Prussian *kailūstiskan* “health”, Old Church Slavonic *cělъ* “whole, healthy” (de Vaan 2008, 81), all from **kH₂ejl-* or **keH₂il-*. The expected Tocharian counterpart is reconstructible as A **kel^o* ~ B **kail^o*, cf. A *we*, B *wai* “2” f. < **dyeH₂i* (Van Windekens 1976, 50).

(c) Lin (1998, 478–80) tries to identify the sought after source in Tocharian A *klyom*, B *klyomo* “noble”, which is derivable only from **kleumon-* (Adams 2013, 250). This would mean, however, that the anlaut **kil^o* necessary for palatalization in Chinese proposed by Lin, is excluded. And vice versa, the initial **kil^o* would have caused palatalization in Tocharian, and this is not the case either. His examples illustrate the really dropped vowels, A *tpar* “high” vs. B *tapre*, ‘Kroraina’ *tipara* id. < **d^hubro-*, or A *ktsets* “finished”, B *ktsaitstse* “old”, ‘Kroraina’ *kitsaits* “old” < **kätsaits^o*, cf. Sanskrit *kṣiṇāti* “destroys”, Greek *φθίω* “perish” (Adams 2013, 296, 263).

(d) None of these attempts are convincing enough to be accepted without new questions. A more promising key was offered by Anna Dybo (2007, 95), who had recognized here Iranian traces, if chronologically deeper levels of Chinese are taken in account. The Chinese record 祁連 *qi⁴⁴⁸ lián⁴⁴⁹*, projected in Middle Chinese **gijlen*, in Han Chinese as **gjəjran* and in Classic & Preclassic Old Chinese as **gijran* according to Starostin (*ChEDb*) and as **[g]rij[r]a[n]* by Baxter & Sagart (2014, 137). The variant 祈⁴⁵⁰連, also *qilián* in Modern Mandarin, reflects Middle Chinese **gijlen* < Han & Classic Old Chinese **gərran* < Preclassic Old Chinese **gərran*. Dybo (2007, 95) mentions the similarity of Classic & Preclassic Old Chinese **gijran* and the Iranian word for “mountain”, namely Avestan *gairi-* “mountain(s), mountain range”, Khotanese *g(g)ara-*, *ggari-* “mountain”, etc. This is indeed an attractive idea, to identify the oronym with the appellative “mountain(s)”, although at first sight there is nothing heavenly. Let us first summarize the Iranian data:

Old Iranian: Young Avestan *gairi-* “mountain(s), mountain range” (Bartholomae 1904, 513–14): nom.sg. *gairiš*, acc.sg. *gairīm*, abl.sg. *garōišt*, loc.sg. *gara*; nom.pl. *garaiiō*, acc. pl. *gairiš*, gen.pl. *gairinəm*, dat.pl. *gairibiūō* (Hoffmann & Forssman 1996, 133–35).

Middle Iranian: Bactrian *γαιο*, *geiro*, adj. *γαιογιο* “of the {region} Gar = mountains”, compound *γαιογιο-σταν* “land of the mountaineers” < **gari-čija-ka-* (Sims-Williams 2007, 207; *NEVP* 32); Khotanese *g(g)ara-*, *ggari-* “mountain”, loc.sg. *gāra*, nom.pl. *ggari*, gen.pl. *ggariṇu*, *garāṇu*, *garām*, loc.pl. *ggaruwo* & *garvā*, instr.pl. *garyā*, cf. *[ga]rānu rrundā* “king of mountains” ~ Buddhist Sanskrit *giri-indra* (Bailey 1979, 80); Sogdian ^{BMC}*γr-* /*γar/* “mountain”, nom. sg. *-y/-w*, acc.sg. *-w*, abl.sg. *-’*, loc.sg. *-y’*, obl.sg. *-y(h)*, nom.pl. *-t’*, *-tt’*, *-th*, gen.pl. ^B*γr’* *n γwt’w*

448 Chinese 祁 *qí* “to be great, large, numerous” < Middle Chinese **gji* < Late Postclassic Chinese **gji* < Middle & Early Postclassic Chinese **gijj* < Han Chinese **gjəj* < Classic & Preclassic Old Chinese **gij* (*ChEDb*; *GSR* 0553 i). Note: For **g-* cf. Xiamen, Fuzhou *ki²* (Chaozhou *khi²* is secondary).

449 Chinese 連 *lián* “to go one after another; troop” < Middle Chinese **len* < Postclassic Chinese **len* < Han Chinese **ran* < Classic & Preclassic Old Chinese **ran* (*ChEDb*; *GSR* 0213 a) = **[r]a[n]* “connect in a row” by Baxter & Sagart (*ChDb*, 2014). Comments: Also written as 漣 (with a narrowed meaning: “to be dripping continuously”). Standard Sino-Vietnamese is *liên*. For **r-* cf. Xiamen *li²*, Chaozhou, Fuzhou *lieŋ²*, Jianou *liŋ²*. The original reading of the character was **ran²* “a kind of carriage” (→ 輦 *liǎn* < Middle Chinese **lén*), attested in Later Zhou.

450 Chinese 祈 *qí* “to pray, wish” < Middle Chinese **gij* < Postclassic Chinese **gin* < Han Chinese **gan* < Classic Old Chinese **gan* < Preclassic Old Chinese **gər*. For **g-* cf. Xiamen, Fuzhou *ki²* (Chaozhou *khi²* is secondary). (*ChEDb*; cf. *GSR* 0443 o on the variant of the character).

/yrān-xutāw/ “god of mountains”, cf. ^Bγwt’w “king, master, lord”, ^Bγrcyk /yarčik/ “of mountain, mountaineer” (Gharib 1995, ##4168, 4171, 4244, 4464; Gershevitch 1961, 180, §1189: “king of mountains”); Khwarezmian γrcyk, pl. γrcyc “mountain” (Benzing 1983, 293); Parthian γr /yar/, Middle Persian gʷ /gar/ (MacKenzie 1971, 35).

Modern Iranian: Yaghnobi γar “mountain; pass”; Pashto γar “mountain”, pl. γrə & γrūna, adj. γaranáy “of the hills, mountain-” (NEVP 32); Ormuri of Logar girí, Kaniguram grí “mountain”, Parachi gir / ger “stone”; Munji γār “stone, hill, pass”, Yidgha γar “hill, mountain”, Yazghulami γār, pl. γarāθ “stone, rock, rocky top of a mountain”, Shughni žīr, Khufi žær, Rushani, Bartangi žēr, Oroshori žīr, Sarikoli žer “stone”, Sanglechi yer, yīr, yīr “stone”, Wakhi γar id.; Luri, Bahtiari gar “mountain”, Kurdish gir, girik “hill, hillock, elevation”, Gurani gir “hill” (ESIJ 3, 191; Cabolov 1, 384).

It seems that both variants of the Han & pre-Han Chinese transcription are closest to the form of the gen.pl., known from Avestan *gairinqm*, Khotanese *ggariṇu*, *garāṇu*, *garām*, Sogdian ^Bγr”n /yrān/. There are no traces of the Avestan final *-qm* and Khotanese *-u* in the Chinese transcriptions. The hypothetical Iranian predecessor of the Chinese transcriptions 祈連 and 祁連 should look like **gāran* or **gijran*, respectively. The form **gāran* resembles Sogdian ^Bγr”n /yrān/, earlier probably /yarān/. The form **gijran* could reflect an archetype close to Khotanese *ggariṇu*, but with a metathesis of the vowels, caused perhaps in the process of adaptation. It remains to answer, why just the gen.pl. was adopted in Chinese? It seems to have been shortened from a longer syntagm of the type Khotanese [ga]rānu rrundā⁴⁵¹ “of king of mountains” ~ Buddhist Sanskrit *giri-indra* (Bailey 1979, 80) or Buddhist Sogdian γr”n γwt’w /yrān-xutāw/ “god of mountains”, cf. γwt’w “king, master, lord”, (Gharib 1995, ## 4171, 4244, 4464; Gershevitch 1961, 180, §1189: “king of mountains”). If “king of mountains” was the name of a mountain, e.g. the eponymous Qilian Shan peak (at 5547 m the highest peak of the main range), which was an object of worship, e.g. as a residence of gods (a textbook example is the Greek Olympus), the heavenly connotation of this enigmatic oronym is understandable.

Kunlun

In the pre-Qin Chinese sources⁴⁵² the the Qilian Range was called 崑⁴⁵³崑⁴⁵⁴ *Kūnlún*⁴⁵⁵ or 崑山 *Kūnshān* (Lin 1998, 481). This oronym may be projected into pre-Han time as Classic Old Chinese **kwānrwān*.

451 Khotanese *rre* “king, lord, possessing power”, acc.sg. *rrumdu/rrundu*, gen.sg. *rrundā*, abl.sg. *rrundānu*, nom.pl. *rrunde*, gen.pl. *rrundānu / rrundīnu / rrundunu*, instr.pl. *rrundyau*, in later language nom.sg. *r(r)e*, *rai*, gen.sg. *rrudi/rāda/rūda/rūda*, instr.sg. *rrumdā*, nom.pl. *rrumdi*, gen.pl. *rrumdām/rrumdānā/rrāmdānā*, instr.pl. *raudyām*; Tumshuqese *riḏe* “king” (Bailey 1979, 368: nom.sg. *rre* < **rūānh* < **rānh*, obl. *rund* < **rūant* < **rānt*; concerning etymology cf. Khotanese *vara-* “strong, excellent”).

452 In the letter addressed to Zhao Huiwen-wang (趙惠文王; 299–266 BCE), king of the Zhao State, known from ‘Chronicles of the Zhao State’ of the 記史 *Shiji*, finished 109 BCE, there is written: ‘The jade of the Kun mountains could not be obtained any longer by the king of the Zhao State, if the Qin State sent its army across the Gouju mountains to occupy the area near the Hengshan mountains’ (see Lin 1998, 481).

Cf. also <<http://www.chinaknowledge.de/History/Zhou/rulers-zhao.html>>

453 The sign 崑, variant 崑, is a combination of 山 *shān* “mountain” and 昆 *kūn* “elder brother; 1) старший брат; 2) потомок, потомство; 3) масса, толпа; вместе; 4) впоследствии, потом; 5) похожий” < Middle Chinese **kon* < Postclassic Chinese **kwān* < Han Chinese **kwān* < Classic Old Chinese **kwān* < Preclassic Old Chinese **kūn* (Starostin, *ChEDb*; Pulleyblank 1991, 179; *GSR* 0417 a-b; c: 崑崑 ‘the Kunlun mountain range’).

454 Chinese 崑 *lún* in 崑崑 ‘the Kunlun mountain ridge’ < Middle Chinese **lon* < Postclassic Chinese **lwān* < Han Chinese **rwān* < Classic Old Chinese **rwān* < Preclassic Old Chinese **rūn*; For **r* cf. Xiamen *lun*², Chaozhou, Fuzhou *luy*². (Starostin, *ChEDb*; *GSR* 0470 h-i). A more primitive, although recorded later, form of the character is 侖 *lún* “to think, ponder” [Han] < Middle Chinese **lwin* < Postclassic Chinese **lwin* < Han Chinese **rwān* < Classic Old Chinese **rwān* < Preclassic Old Chinese **run* (Starostin, *ChEDb*; *GSR* 0470 a).

455 Now this oronym is used for 3000 km long mountain range extending from the Pamir in the west to Qinghai in the east. The Qilian Range is a part of this mountain chain.

Etymology:

It is tempting to identify the components with Tocharian A **kärwañ* “rock, stone”, attested in the loc.pl. *kärwamsam* “on the rocks” (*DTA* 135), B *kärweñe* “stone”, coll. “rock” (Adams 2013, 176), and Tocharian A *wäl*, obl. *lānt*, B *walo*, gen. *lānte* ~ *lānti*, acc. *lānt* “king” (Adams 2013, 631). Their predecessors would have looked like **kärwæn^o* & **wālōn⁴⁵⁶*. In the process of adaptation to the Chinese monosyllabic word-pattern this compound would have been shortened to **krwænwlōn* and further simplified⁴⁵⁷ to **kwænRwōn*, and finally with following *ō*-umlaut⁴⁵⁸ to **kwōnRwōn*. The primary semantics “king of rocks” as a name of some holy mountain, maybe a residence of gods, is compatible with the hypothetical Iranian follower “king of mountains” and preserves the heavenly connection of this mountain. Concerning syntax, the word order in Tocharian was the same as in Khotanese: Tocharian B *ylamts walo* “king of the gazelles” (Adams 2013, 631).

This conclusion agrees with the heavenly connotation of stones or rocks preserved in several Indo-European traditions (cf. Reichelt 1913, developing the idea of ‘stony heaven’):

Vedic *ásman-* usually means “stone” or “rock” (MW 114). In some contexts this word represents a thunderbolt (i.e. meteoritic stone or iron?) thrown from heaven:

tvám āyasám prāti vartayo gór divó ásmānam úpanītam řb^hvā [RV I.121.9]

“Ingenious, you {Indra} rolled back from the cow the **metallic stone of heaven**, which had been brought nearby”

[translated by Jamison & Brereton]

indrāsomā vartáyataṃ divás páry agnitaptéb^hir yuvám ásmahanmab^hiḥ [RV VII.104.5]

“Indra and Soma, make it roll from **heaven**. With fire-heated (weapons) that smite like **stones**“

[translated by Jamison & Brereton]

At least in one case the interpretation “heaven” seems more probable than “rock” (cf. Mayrhofer, *EWAI* I, 137), although “rock” is preferred in all modern translations:

svàr yád ásmann ad^hipá u ánd^ho ,b^hi mā vāpur dṛśáye ninīyāt [RV VII.88.2]

“So might he bring-Lord also of the darkness-the light in **heaven** that I may see its beauty!” (Griffith)

“Die Sonne, die im **Felsverschluß** ist und die Finsternis möge mir der Oberaufseher vorführen, um das Schauspiel zu sehen.” (Geldner)

“Солнце, которое в **скале**, и мрак пусть верховный защитник приведет ко мне, чтоб я увидел чудо.” (Elizarenkova)

456 Cf. Lubotsky 1994, 69. He concludes this innovative form replaced older **w’alan* (p. 71). Pinault (2008, 512) reconstructs **w’ālān* on the basis of A *wlām-* and B **yālai-*, used in compounds.

457 The loss of *-r-* in sequence of *r...r* is not expectable in Tocharian, cf. e.g. AB *krāmār* “weight”, but Malzahn (2014, 90) assumes the dissimilation *r...r > r...n* in development of A *śorki* “fear”. Similarly B *kronkše* “bee” may perhaps be derived from the compound **kṛH₂sru-kṛH₂ken-*, lit. “hornet (of) honey” (Adams 2013, 235 proposes the internal reconstruction **kṛH₂snukuken-*). From history of Chinese the simplification of the initial cluster **krw-* is known from the post-Han era: 麋, variant 麋, *jūn* “waterdeer” < Middle Chinese **kwin* < Postclassical Chinese **kwin* < Han Chinese **krwæn* < Classic Old Chinese **krwæn* < Preclassical Old Chinese **krūn* (*ChEDb*; Pulleyblank 1991, 169; *GSR* 0485 d-e) or 纶 *guān* “kind of turban” < Middle Chinese **kwān* < Postclassical Old Chinese **kwān* < Han Chinese **krwān* < Classic Old Chinese **krwān* < Preclassical Old Chinese **krūn* (Starostin 1989, 710; Pulleyblank 1991, 113; *GSR* 0470e). On the other hand, *-r-* could be lost already in Tocharian B, cf. the form *kāwañša*, nom.sg.f. of the adj. in *-šše* from *kärweñe* “stone, rock” in the text PK NS 95 b4: *vairuḍiṣša wmeršša pilkešša lāntašša kāwañša • oršša • wī ...* (Pinault 2000, 82, 94–95).

<<https://www.univie.ac.at/tocharian/?pilkešša>>

458 Cf. Hilmarsson 1986, 42–50. A good illustration is his example in Tocharian A *šokyo* “very (much), extremely” < Common Tocharian **šækwō* < instr.sg. **sēk^o* or abl.sg. **sēk^oōd* (p. 49).

“When the sun is in the **rock** and darkness is master, may he lead me to see his wondrous form”

[Jamison & Brereton]

In the Iranian languages the situation is symmetrically opposite. The meaning “heaven” is almost universal, while the meaning “stone” is preserved only fragmentarily:

Young Avestan *asman-* “heaven” vs. *asmana-* “stony, of stone” (Bartholomae 1904, 207–08, 220–21):

asmanəm yazamaide | *zəm huḍāhəm yazamaide* [Yasna 16.6]:

“den Himmel verehren wir; die guttätige Erde verehren wir” [Wolff 1910, 45]

zəmcā asmanəmcā yazamaidē | *vātəmcā daršīm mazdadātəm yazamaidē* |
taērəmcā haraiθiīā bərəzō yazamaidē | *būmīmcā vīspācā vohū yazamaidē*. [Yasna 42.3]

“Die Erde und den Himmel verehren wir;
und den kühnen *mazdāh*geschaffenen Wind verehren wir;
und den Gipfel des *Haraitī*-Gebirges verehren wir;
die Erde und alles Gute verehren wir” [Wolff 1910, 71]

vīḍāraēm zaraθuštra | *aom asmanəm* | *yō usca raoxšnō frādərəsrō* |
yō iməm zəm āca pairica buuūua | *mənaiən ahe* | *yaθa vīs + aēm* |
yō hištaitē maniiu stātō | *handraxtō dūraēkaranō* | *aiiaḡhō kəhrpa xʷaēnahe* |
raocahinō aoi θrišuuua [Yašt 13.2]

“Durch ihre Pracht und Herrlichkeit stütze ich, o Zarathuštra, den **Himmel** dort, der in der Höhe licht, strahlend (ist), der die Erde hier von allen Seiten, man könnte meisen wie ein Haus, umgibt, fernbegrenzt, anzusehen wie lohendes Metall, nach (allen) Dritteln (der Erde) leuchtend.“

[Wolff 1910, 230]

nizbaitēmi zəm ahuraḍātəm | *āpəm mazdadātəm* | *uruuarəm ašəonīm* |
nizbaitēmi zraiiō vourukašəm | *nizbaitēmi asmanəm xʷanuuaḡtəm* [Vidēvdāt. 19.35]

“Ich rufe herab die *ahura*geschaffene Erde, das *mazdāh*geschaffene Wasser, die *ašə*heilige Pflanze; ich rufe herab das Meer *Vouru.kaša*; ich rufe herab den lichten **Himmel**, ..“

[Wolff 1910, 431]

asmanaca hāuuana āiiese yešti | *aiiaḡhaēnaca hāuuana āiiese yešti* [Yasna 22.2]

“und zu verehren hole ich her die **steinerne** Kelterpresse;
und zu verehren hole ich her die metallene Kelterpresse.” (Wolff 1910, 54)

Old Persian *asman-* “heaven“:

baga vazarka Auramazdā haya avam asmānam adadā [DSe, i.e. Darius’ empire list from Susa]

“a great god is Ahuramazdā, who put in its place yonder **sky**”

[see Skjærvø 2002, 64; <http://www.livius.org/aa-ac/achaemenians/DSe.html>]

baga vazarka Auramazdā haya imām būmim adā haya avam asmānam adā haya martiyam adā haya šiyātīm adā martiyahayā haya Dārayavaum xšāyaθiyam akunauš aivam parūnām xšāyaθiyam aivam parūnām framātāram [DE 1–11, i.e. Darius’ inscription from Gandj Nameh]

“Ahuramazdā is the great god, who put in its place this earth, who put in its place that **heaven**, who put in his place man, who put in its place happiness for man, who made Darius king, one king over many, one commander of many.”

[see Skjærvø 2002, 80; http://www.livius.org/ga-gh/gandj_nameh/gandj_nameh_darius.html]

Middle Persian *'sm'n*, *'sm'n /asmān/*, Parthian *'sm'n*, *'sm'n /asmān/*, Sogdian *sm'n / (a)smān/*, Khwarezmian *'sm*, *'sym* “heaven, sky”. Classical Persian *āsmān* “heaven” is probably a source of numerous modern West Iranian forms and some counterparts in Pamir languages of the same meaning. An important exception may be Wakhi *s(ə)mán* “pyramid of stones”, preserving the ‘stony’-meaning (*ESIJ* 1, 239–40).

In Greek there is known the cognate ἄκμων which usually means “anvil” (e.g. Il. 18.274, Od. 8.274; Hdt. 1.68). In his *Theogony* [720–725] Hesiod apparently described the meteoritic stone or iron:

⁷²⁰τόσσον ἔνερθ' ὑπὸ γῆς, ὅσον οὐρανός ἐστ' ἀπὸ γαίης: ⁷²¹τόσσον γάρ τ' ἀπὸ γῆς ἐς Τάρταρον ἠερόεντα. ⁷²²ἐννέα γὰρ νύκτας τε καὶ ἡμέατα χάλκεος ἄκμων ⁷²³οὐρανόθεν κατιῶν δεκάτη κ' ἐς γαῖαν ἵκοιτο: ⁷²⁴ἐννέα δ' αὖ νύκτας τε καὶ ἡμέατα χάλκεος ἄκμων ⁷²⁵ἐκ γαίης κατιῶν δεκάτη κ' ἐς Τάρταρον ἵκοι.

“..as far beneath the earth as heaven is above earth; for so far is it from earth to Tartarus. For a brazen anvil falling down from heaven nine nights and days would reach the earth upon the tenth: and again, a brazen anvil falling from earth nine nights and days would reach Tartarus upon the tenth.”

[edited and translated by Hugh G. Evelyn-White, 1914]

This interpretation is confirmed by Hesychius, who collected the alternative explanations: ἄκμων · οὐρανός, ἢ σίδηρον, i.e. “heaven; iron” (cf. Beekes 2010, 52). Reichelt (1913, 26) added the witness of Eustathius: ὁ τοῦ Κρόνου πατήρ Ἄκμων ἐκαλεῖτο, ἀπὸ τῆς τοῦ οὐρανοῦ φασιν ἀκαμάτου φύσεως.

Germanic **hemina-* > Gothic *himins*, Old Norse *himinn* m. “heaven” vs. **hamara-* > Old Norse *hamarr* m. “crag, precipice; hammer” (Kroonen 2013, 220, 206–07; Reichelt 1913, 25).

Another example may be the name of the Slavic ‘Thunder-god’, attested in Old Bulgarian *Porunъ* – a counterpart of Zeus in the Old Bulgarian version of *Alexandreis*, added to the translation of *Chronographia* of Ioannis Malalas (Niederle 1924, 99); Slovak *Paron*, *Parom* “devil” (in curses), cf. the expression *Peronova strela ho zabila* “Perun’s arrow killed him” (Niederle 1924, 97), Polabian *peréndan* “Thursday” < **perunjъ dъnъ* “Perun’s day” = German *Donnerstag*, cf. also Old Bavarian *pherintag* ‘Friday’ (Lehr-Splawiński & Polański 1962, 502–503), Kashubian *parón* “evil ghost” (*SEK* 4, 23–24); Old Russian *Perunъ* (Vasmer 3, 246). There are corresponding appellative counterparts: Slovak *perún*, Czech dial. (Laško) *pěrun* “thunder”, Upper Sorbian *pjerun* ‘Piorunowa strzałka’ = “Perun’s arrow”, i.e. “lightning”, Polish *piorun* “thunder”, dial. *pierun* “lightning”, Kashubian *p’orun*, *p’orën*, Belorussian *piarún*, Ukrainian *pérún*, *pérum*, *périm* “thunder”, Russian arch. dial. (Lomonosov, Deržavin, Batjuškov) *perún* “lightning” (Vasmer 3, 246; Machek 1968, 445; Lehr-Splawiński & Polański 1962, 502–503; *SEK* 4, 167; *ESUM* 4, 357). Gamkrelidze & Ivanov (1984, 614–15) connect the Slavic forms with Albanian *Perën-di* “heaven; god” and the words for “rock” or “mountain” in some other Indo-European branches: Hittite *peru*, obl. *perun*^o “rock, cliff, boulder”⁴⁵⁹ < **peruṛ* // **peruṛ^o* / **perun^o* (Eichner 1973, 75; Kloekhorst 2008, 668–69), plus the deified ‘Rock’ *Perunas* who gave birth to a son of the god Kumarbi in the Song about Ullikummi; Vedic *párvata-* m. “mountain(-range), height, hill, rock” [RV], *parvatī-* f. “rock, stone” [TS], *Párvatī-* ‘name of the daughter of Himavat and wife of Śiva’ [Up]; Young Avestan *pauruātā-* f. “mountain-range, mountains” < **péruṣ-t^o* (*EWAI* II, 99). Janda (1997, 24–39) supplements the Avestan material, reinterpreting the syntagm *druca pauruūqna* [Yašt 19.85, 19.99] as “Gehölz und Gestein”. He reconstructs the hypothetical nom.

459 Hittite ntr. ^{NA4}*pé-e-ru* nom.-acc., com. ^{NA4}*pé-(e)-ru-na-aš* nom., ^{NA4}*pé-ru-na-an* acc., ^{NA4}*pé-ru-na-aš* gen., ^{NA4}*pé-e-ru-ni* dat.-loc., etc. (*CHD* II, 314).

sg. as **pauruuarə* and assumes the adj. *pauruuaniiā-* [hapax attested only in Yašt 9.26] is of the same origin.

Pamir

Pamir & Pamer

The oronym *Pamir* was probably used for the first time already by the Chinese traveller and Buddhist monk Xuanzang (玄奘 *Xuánzàng*; 602–664) in his report “Great Tang Records on the Western Regions” (大唐西域記 *Dà Táng Xīyù Jì*) describing his journey to India (629–645), namely in the record 波謎羅 *bō⁴⁶⁰ mī⁴⁶¹ luó⁴⁶²* (Chavannes 1903, 163; de Humboldt 1843, 18, 374; on p. 402 he mentioned the record *Pamer* of Marco Polo from 1277). It reflects Early Middle Chinese **pamej^hla* (Pulleyblank) ~ Postclassic Chinese **pāmiējlā* < Eastern Han Chinese **pāmiāj^{rā}* (Starostin) ~ Old Northwest Chinese **pamēila* < Late Han Chinese **paimēila(i)* (Schuessler). The oronym should be connected with the forms *Pāmīr*, *Pāmér*, ascribed to Wakhi and Shughni and translated as “Eisfeld, öde und Frostwinden ausgesetzte Hochebene” by Tomaschek (1880, 755). The same origin is apparent for Burushaski: *phamér* “Hochweide mit sehr viel Gras; Pamir” (Berger 1998, 322) ~ *paṃ ‘ē·r*, *paṃe·r* “upland pasture; Pamir” (Lorimer 1938, 284).

Etymology:

Any deeper etymology remains unclear. The idea of Eugène Burnouf (1801 – 1852) about the Sanskrit syntagm *upa Meru* “under the {holy mountain} Meru”, popularized by Alexander von Humboldt (de Humboldt 1843, 390, fn. 1), remains practically the only attempt to etymologize this oronym. The Pamir Mountains are located on the trajectory of the spread of Buddhism into China. Let us mention that e.g. in Mahābhārata the oronym Meru was used to designate the highland in the north of the Himālaya (MW 833).

Jiyi

According to “New Book of Tang” (新唐書 *Xīn Tángshū*), compiled by the team led by Ouyang Xiu and Song Qi, who completed the text in 1060, there was also an alternative name of the “Onion Range”, namely 極疑 *jí⁴⁶³ yí⁴⁶⁴*.

460 Chinese 波 *bō* “wave” < Late Middle Chinese **pua* < Early Middle Chinese **pa* (Pulleyblank 1991, 40) ~ Middle Chinese **pwā* < Postclassic Chinese **pā* < Eastern Han Chinese **pā* < Western Han Chinese **pāj* < Classic & Preclassic Old Chinese **pāj* (Starostin, *ChEDb*; *GSR* 0025 l). Schuessler (2009, 217, §18–6 l): Middle Chinese **pwā* < Old Northwest Chinese **pa* < Late Han Chinese **pai* < Old Chinese **pāi*. Sino-Tibetan **Pāj* “wave” > Old Chinese 波 **pāj* “wave, surge”; Tibetan *rba* “wave” (Gong 1995, 62; *CVST* I, 93–94).

461 Chinese 謎 *mí* “riddle, enigma” [Tang] < Late Middle Chinese **mjiaj* < Early Middle Chinese **mej^h* (Pulleyblank 1991, 213) ~ Middle Chinese **miej* < Postclassic Chinese **miēj* < Han Chinese **miāj* < Classic & Preclassic Old Chinese **mij* (Starostin, *ChEDb*). Schuessler (2009, 285, §26–39): Middle Chinese **miei^c* < Old Northwest Chinese **mēi* < Late Han Chinese **mei^c* < Old Chinese **mih*. Comments: For **m-* cf. Xiamen *me²*; most Min forms (Chaozhou *mí⁴*, Fuzhou *me⁶*, Jianou *mí⁶*) reflect **mij-s*.

462 Chinese 羅 *luó* “bird-net; to collect, gather; spread” < Late Middle Chinese **la* < Early Middle Chinese **la* (Pulleyblank 1991, 203) ~ Middle Chinese **lā* < Postclassic Chinese **lā* < Eastern Han Chinese **rā* < Western Han Chinese **rāj* < Classic & Preclassic Old Chinese **rāj* (Starostin, *ChEDb*; *GSR* 0006 a). Schuessler (2009, 215, §18–10 4): Middle Chinese **lā* < Northwest Chinese **lā* < Later Han Chinese **lā(i)* < Old Chinese **rāi*. Comments: Vietnamese reading: *lā*. Regular Sino-Vietnamese is *la*; Vietnamese *lā* is a colloquial loan with the meaning ‘fine silk’ (one of the meanings of the word in later periods in Chinese is “silk woven like a net, thinly woven silk”). An older loan from the same source is Vietnamese *lu ói* “net”. For **r* cf. Xiamen, Chaozhou *lo²*, Fuzhou, Jianou *lo²*.

463 Chinese 極 *jí* “to reach the end, come to, attain; highest point, ridge-pole, limit; extremity, extremely, exceedingly; attainment, center, middle point, correctness” < Late Middle Chinese **khiǝk* < Early Middle Chinese **gik* (Pulleyblank 1991, 139) ~ Middle Chinese **gik* < Postclassic Chinese **gik* < Han Chinese **gək* < Classic & Preclassic Old Chinese **gək* (Starostin, *ChEDb*; *GSR* 0910 e-f). Baxter & Sagart (*ChDb* 2014): Middle Chinese **gik* < Old Chinese **[g](r)ək*. Comments: For **g* cf. Xiamen, Fuzhou *kik⁸*, Chaozhou *kek⁸*, Jianou *ki⁸*. Shijing occurrences: 54.4, 58.4. Vietnamese reading: *cū ‘c*. Sino-Tibetan: cf. Lolo-Burmese **khak* “reaching its peak; expensive (in price)”; Manipuri *kok* “head” (*CVST* V, 43).

464 Chinese 疑 *yí* “to be suspicious, doubt” < Late Middle Chinese **ji* < Early Middle Chinese **ji* (Pulleyblank 1991, 366) ~ Middle Chinese **ji* < Postclassic Chinese **ji* < Han Chinese **jə* < Classic & Preclassic Old Chinese **jə*

Etymology:

(a) Chavannes (1903, 124, 335) kept the literal interpretation “{montagnes} du doute extrême”. This seems to be a typical *Volksetymologie* or *Gelehrtetymologie*.

(b) Taking in account the deepest reconstruction by Baxter and Sagart, namely *[g](r)ək[ŋ](r)ə, in its maximum, i.e. *grəkŋrə, it is possible to think about a Chinese transcription of a compound consisting of components close to Khotanese *ggrī* “held, raised”, from *grīh-* “to lift”, and *g(g) ara-* “mountain”, loc.sg. *gīra* “in the mountain”, nom.pl. *ggari* & *ggare* (Bailey 1979, 80, 83, 92). The hypothetical compound **grīh-gari* “raised mountains” could be transformed via **grīhgri* into **grīyri* vel sim. Interesting is that among meanings of the character 極 *jí* there are “highest point, limit; extremity, extremely, exceedingly”. It could correspond with Khotanese *ggrī* “raised”.

(c) Less probable, although more attractive, is the hypothetical Sogdian compound consisting of *γry* “mountain” + *kβrδh* “leeks” (Gharib ##4168, 4695), i.e. “mountain of leeks”, corresponding to Chinese 蔥嶺 *cōng líng* “onion range”. It remains to be demonstrated whether or not Sogdian **γarikaβarδ*^o could have been transformed into **grəkŋrə*.

(d) Finally, there is also a non-Indo-European alternative, Burushaski of Nagir *γáyar*, pl. *γáyarīy* “a bitter plant, probably nettle”. In Burushaski “nettle” and “onion” are perceived as very close, cf. Burushaski of Hunza *γású* “onion”, in pl. also “nettles”, Yasin *γású* “onion” vs. *γásúsi* “nettle” (Berger 1998, 165, 173).

Congling & Κάσια ὄρη

The Chinese designation of the Pamir Mountains, 蔥嶺 *cōng líng*⁴⁶⁵, i.e. “Onion range”, is known already from the era of the Later Han, documented in “Book of the Later Han” (後漢書 *Hòu Hànshū*), compiled by Fan Ye in the 5th cent. (cf. Chavannes 1907, 168–69). It is quite natural to suppose the Chinese designation of this mountain range is more or less a calque on the pre-Chinese oronym, recorded by Ptolemy as Κάσια ὄρη [6.16.]:

Διαρρέουσι δὲ δύο μάλιστα ποταμοὶ τὸ πολὺ τῆς Σηρικῆς, ὃ τε Οἰχάρδης,
οὗ ἡ μὲν πρὸς τοῖς Αὐζακίοις πηγῇ ἐκτέθειται, ἡ δὲ πρὸς τοῖς
Ἀσμιραίοις ὄρεσιν
ἐπέχει μοίρας ροδ μζ L´

Two rivers flow through the greater part of Serica: the Oechardes,
a source of which in the Auzaciis mountains has been described,
and another in the Asmiraeis mountains
in 174° 47° 30´

ἡ δὲ ὡς ἐπὶ τὰ Κάσια ὄρη ἐκτροπῇ ρξ μθ L´
one from the Casius mountains flows into it in 160° 49° 30´

ἡ δὲ ἐν τούτοις πηγῇ ρξα μδ δ´
the source of which in these mountains is in 161° 44° 15

καὶ ὁ καλούμενος Βαύτισος ποταμὸς,

(Starostin, *ChEDb*; GSR 0956 a). Baxter & Sagart (*ChDb* 2014): Middle Chinese **ngi* < Old Chinese *[ŋ](r)ə. Comments: For **ŋ* cf. Xiamen *gi*², Chaozhou *ŋi*², *gi*², Fuzhou *ŋi*². Vietnamese reading: *nghi*. Vietnamese also has a more archaic loanword from the same source: *ngò*¹. Also read Middle Chinese **ŋik* “to fix on, settle, stand firm” < Old Chinese **ŋ(h)ək*. Sino-Tibetan **ŋik* “to stand, stick up” > Old Chinese 疑 **ŋ(h)ək* “to fix on, settle; stand still, stop, 疑 **ŋ(h)ək* “to stand firmly”; Burmese *ŋauk* “to project, stick up or out” (*CVSTV*, 141).

465 Chinese 蔥 *cōng* “onion” < Middle Chinese **chuŋ* < Late Postclassic Chinese **shwōŋ* < Middle & Early Postclassic Chinese **shōŋ* < Han Chinese **shōŋ* < Classic & Preclassic Old Chinese **shōŋ* (Starostin, *ChEDb*; GSR 1199 g-h).

466 Chinese 嶺 *líng* “mountain ridge” [Han] < Middle Chinese **léŋ* < Postclassic Chinese **lhéŋ* < Han Chinese **rhéŋ* < Classic Old Chinese **rhéŋ* < Preclassic Old Chinese **rheŋ*? (Starostin, *ChEDb*; Pulleyblank 1991, 197).

οὗ καὶ αὐτοῦ ἡ μὲν πρὸς τοῖς **Κασίοις** ὄρεσι πηγὴ
 ἐπέχει μοίρας ρξ μῦ
 and the river Bautisus, as it is called,
 the source of which is in the **Casius** mountains,
 in 160° 43°

Edition by C.F.A. Nobbe (1966) and Humbach & Ziegler (1998).
 Translated by Edward Luther Stevenson (1932) and Humbach & Ziegler (1998).

Etymology:

(a) A meaningful solution can be found in the Iranian languages of the Pamir: Yazghulami *gamš* “wild onion without a bulb {дикий лук без луковицы}”, Tajik dial. of Darwaz *kamč* “*Allium rubiginosum*” (Steblin-Kamenskij 1982, 73). The predecessor of Κάσια could have been the adj. **kamšja-*, assimilated to **ka(š)šja-*. On the other hand, Paxalina (1983, 124) derived the Yazghulami word from the protoform **k̥mšā*, but the alternative **karmšā* is also thinkable. They should have been derived from proto-Iranian **k̥mušā* or **karmušā* respectively (with *-š-* < **-s-* following *-u-* according to the *RUKI-law*) < IE **krémH₂us*, gen. **k̥mH₂óus* “wild onion / garlic” (Adams & Mallory, *EIEC* 620; Pokorny 1959, 580–81: **kerm(u)s-* / **krem(u)s-*; in both sources the Iranian data are omitted – see Blažek 2003, 192 on details). Although the internal Iranian evidence is limited to the only Pamir language, Yazghulami, plus the Pamir substratum in Tajik, there is external evidence bearing witness that the phytonym was originally more widespread in Iranian, if it was borrowed into Fenno-Ugric: Udmurt S *kumjz* “Knoblauch / *Allium sativum*”, URS *kumjz* “wild garlic”; Komi P *komjz* “Lauch / *Allium*”, PO *ku-miç* “перо лука, зеленый лук” | Mansi P *košəm* “eine zwiebelartige wildwachsende Pflanze, deren Stengel und Wurzel als Suppenwürze gebraucht werden; Zwiebel”, LO *χōśman* id.; Hungarian *hagyma*, dial. *hajma* “Zwiebel, Lauch”, *fok-hagyma* “garlic / *Allium sativum*” (Collinder 1960, 142, 411; *UEW* 164: **kočmz* ~ **kačmz* “zwiebelartige Pflanze”, but for Permian the protoform **kom(V)čz* should be reconstructed, which corresponds to the Iranian counterparts better than the reconstruction of Collinder and Rédei).

One of the first Europeans crossing the Pamir mountains (1857), the Russian traveller Semionov, described the broad glades on the south slopes, where grew an unclassified kind of onion, later named *Allium semenovi*⁴⁶⁷.

(b) Substratal origin cannot be excluded either. The Burushaski language from the Hindukush was a substratum in the Iranian languages from the Pamir too, especially of Wakhi. A good candidate may be Burushaski of Hunza *yaśú* “onion”, in pl. also “nettles”, Yasin *yaśú* “onion” vs. *yaśúsi* “nettle”, plus the substrate form *kaśú* in the Dardic language Shina (Berger 1998, 173).

467 <http://depts.washington.edu/silkroad/texts/weilue/notes1_3.html>

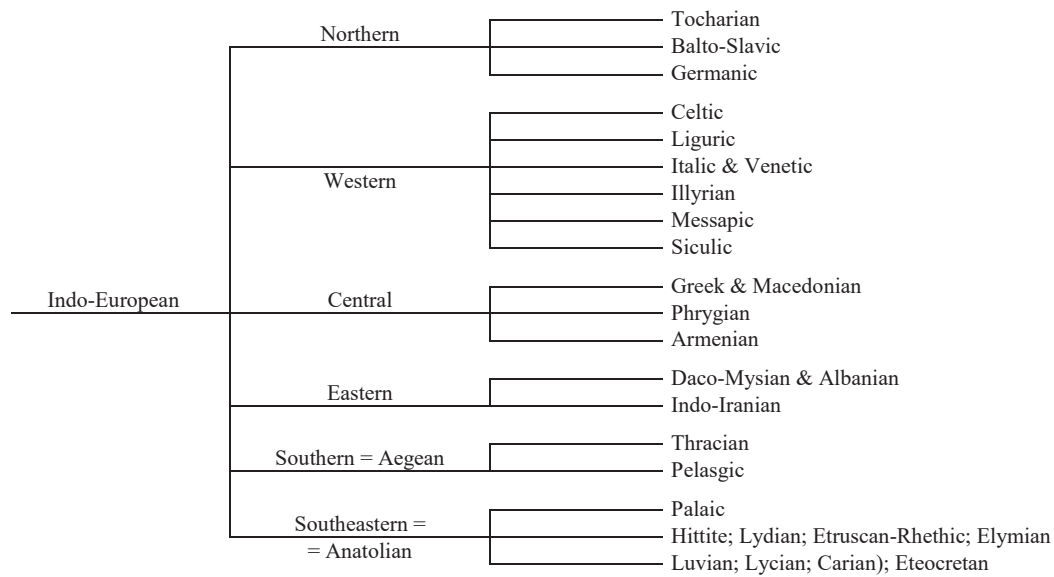
IV. On internal and external classification of Tocharian and Iranian

A. Position of the Tocharian and Indo-Iranian within the Indo-European language family

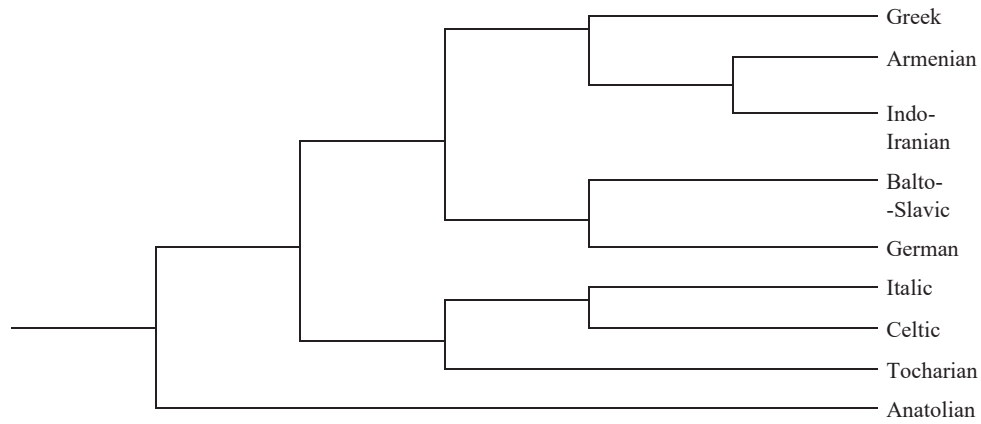
The following six diagrams represent various models of classification of the Indo-European language family, published in the last *c.* 35 years. The first three models are qualitative, based on more or less intuitive evaluations of phonological, morphological and lexical isoglosses. The latter three models are quantitative, based on lexicostatistical tests applied to specifically chosen wordlists. The diagrams are ranked chronologically according to the year of publication, documenting views of distinguished Indo-Europeanists on development and mutual relations of Indo-European languages:

1. Qualitative models

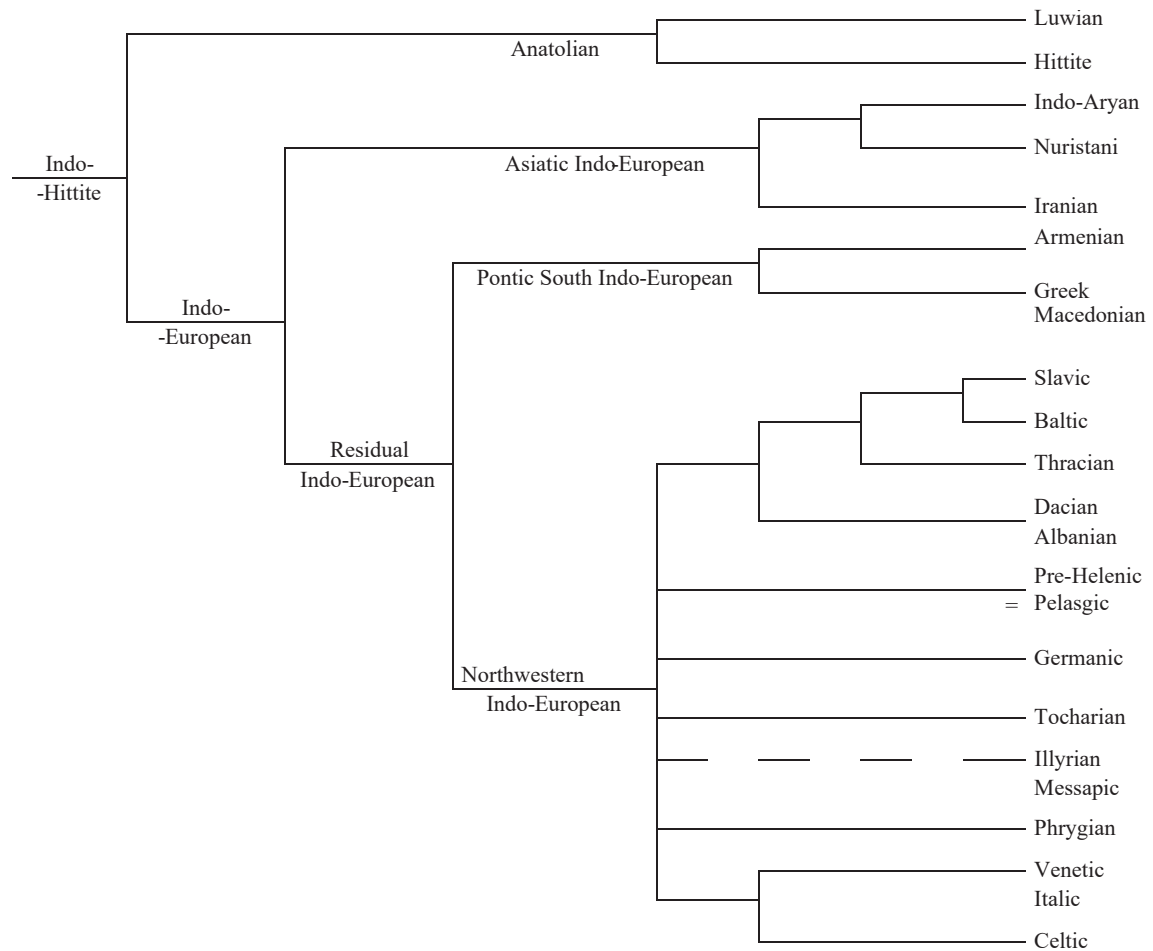
Tree-Diagram 2: Indo-European classification according to Georgiev (1981, 363)



Tree-Diagram 3: Indo-European classification according to Gamkrelidze & Ivanov (1984, 415)

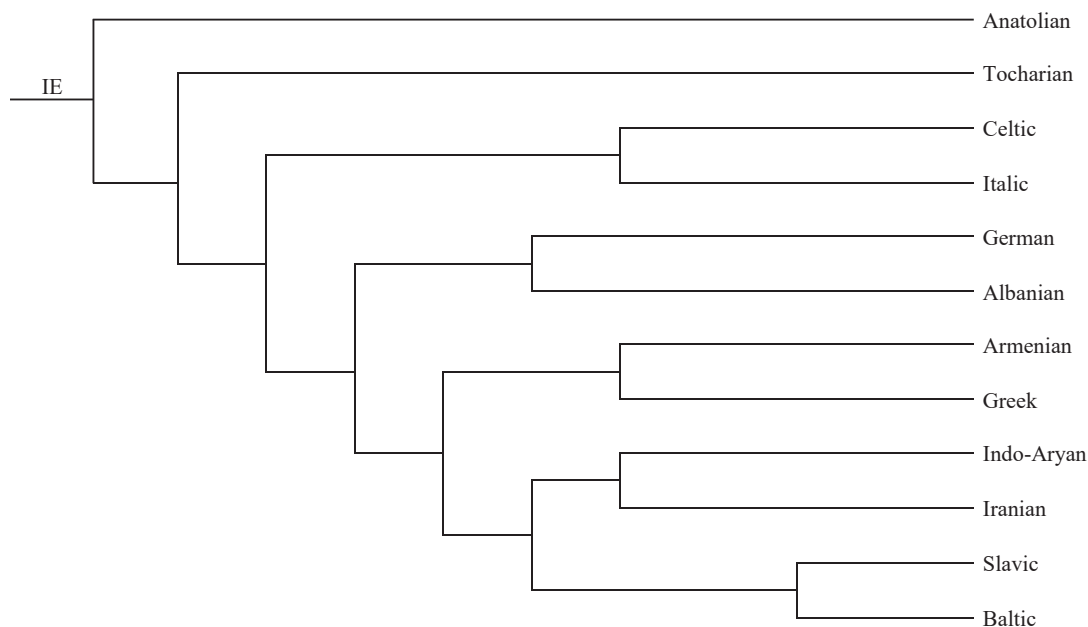


Tree-Diagram 4: Indo-European classification according to Hamp (1990)

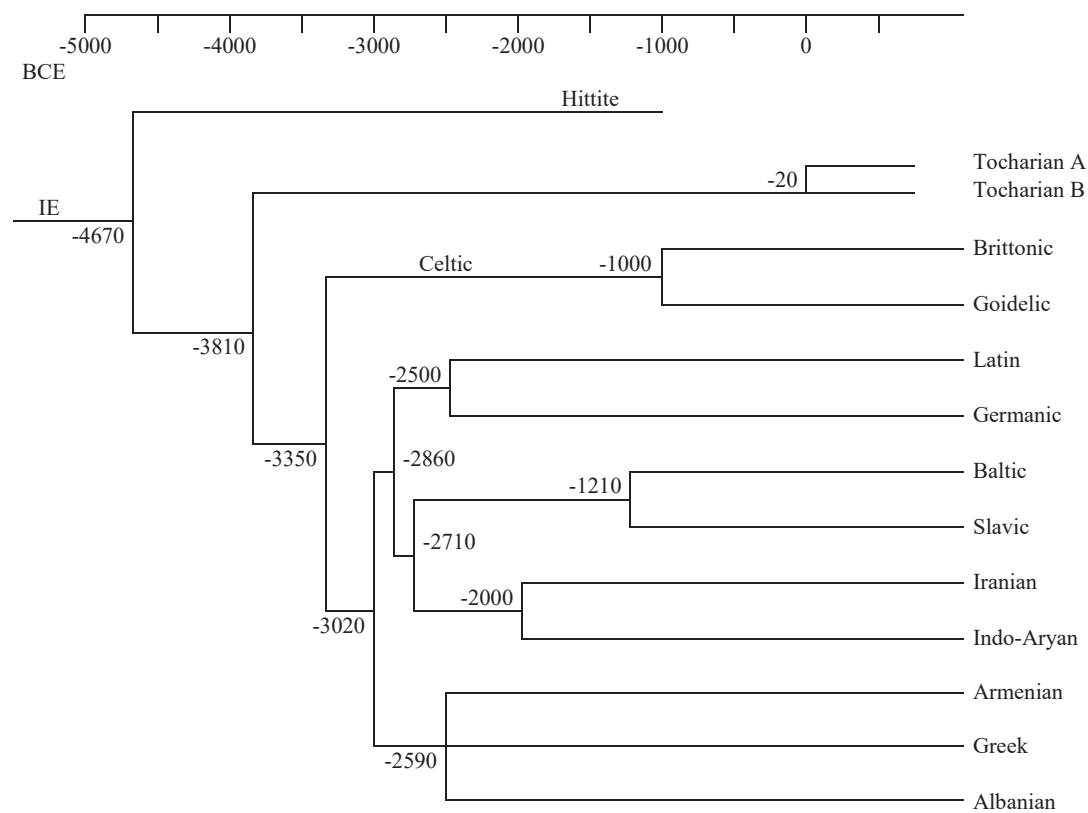


2. Quantitative models

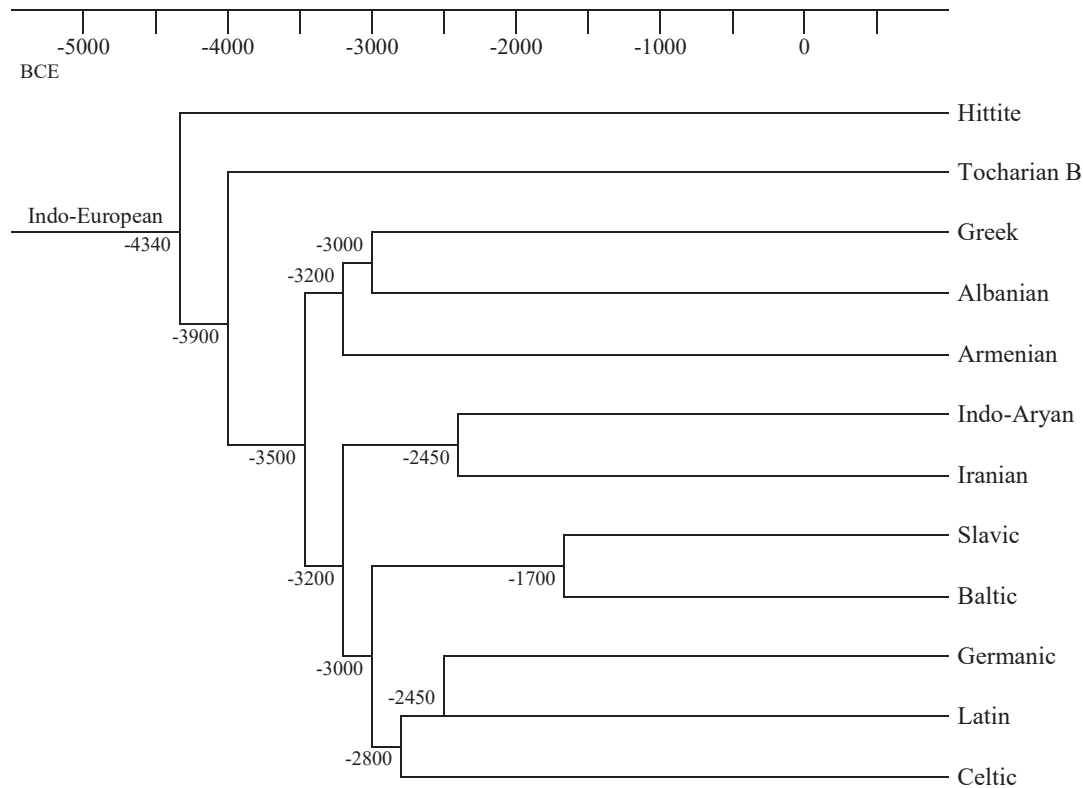
Tree-Diagram 5: Indo-European classification according to Ringe, Warnow & Taylor (2002, 87)



Tree-Diagram 6: Indo-European classification according to Starostin (2004).



Tree-Diagram 7: Indo-European classification according to G. Starostin & A. Kassian (p.c., 2010), published by G. Starostin 2015, 568–69.



3. Discussion of results

Fifty percent of the Indo-Europeanists cited (5, 6, 7) agree in the conclusion that Tocharian is a branch separated from the Indo-European dialect continuum as the second after the separation of the Anatolian branch. It is symptomatic that all these models are based on the quantitative approach. In principle, the result of Gamkrelidze & Ivanov (3) may be interpreted in the same way. Georgiev (2) ranked Tocharian in the so-called Northern Bloc, represented by Germanic and Balto-Slavic languages. Hamp (3) accents the vicinity of Germanic and Tocharian. Two models (5, 6) out of six find the closest relatives of Indo-Iranian in Balto-Slavic, in one case it is a common node connecting Balto-Slavic with Western European branches (7). Thus again the quantitative models prefer to classify Indo-Iranian together with Balto-Slavic, while other models are quite incompatible in this regard.

B. On separation of Tocharian A and B in perspective of chronology

1. Methodological base

A purpose of the present section is to estimate a chronology of disintegration of both literary Tocharian languages, eastern A and western B. For this reason the so-called ‘recalibrated glottochronology’ developed by Sergei Starostin (1989a, 1999) is applied. The procedure consists in careful etymological analysis of the standard 100-word-list defined already by Morris Swadesh

(1952, 1955). After elimination of borrowings the proportion of inherited cognates to all un borrowed word-pairs from both the languages is established. The final figure will be projected into the chronological scale, recalibrated by Sergei Starostin.

Wordlist 1: Tocharian

	A	B	Etymology
1. all	<i>pont- & pu-k</i>	<i>po, pont-</i>	* <i>pōn(k)ts</i> ; cf. Gr. πᾶς, παντο- id.
2a. ashes	<i>tor</i>	<i>taur</i>	< Tk. * <i>tōr</i> dust; cf. also Yakut <i>tor</i> smut (LS 259; EDAL 1465); comparison with R. <i>dur</i> fatuity, Br. <i>dura</i> stagger (* <i>d^houuro-</i>) is semantically not persuasive
2b. ashes	<i>twe</i>	<i>tweye</i>	* <i>d^huo(H)jo-</i> from IE <i>d^heu(H)-</i> to blow, smoke, cf. Lit. <i>dujà</i> fine dust, Kh. <i>duya-</i> dusty
3. bark		<i>enmetre</i>	* <i>H₃tm(H₃)-o-tro-</i> *material for cutting in; cf. Gr. ἐντέμνω I engrave
4. belly	<i>kāts</i>	<i>kātso</i>	* <i>g^hōt-jōn-</i> ; cf. Goth. <i>qīpus</i> abdomen, bosom
5a. big	<i>šāw-</i>		cf. A <i>šāw-</i> , B <i>šāy-</i> live (#64b; problematic is the comparison with OI. <i>śāvas-</i> power)
5b. big	<i>tsopats</i>		* <i>d^hēubo-tjo-</i> deep; cf. Goth. <i>diups</i> id.; zero grade is in A <i>tpār</i> high < * <i>d^hubro-</i>
5c. big		<i>orotstse/wr^o</i>	* <i>uru-(e)H-tjo-</i> , cf. CLuv. <i>ura-</i> great, HLuv. MAGNUS- <i>ra/i-</i>
5d. big		<i>trekte</i>	* <i>d^hrog^h-to-</i> (original possibly “firm”); cf. OI. <i>d^hhyati</i> he makes firm
6. bird		<i>hwāsa šlyamñana</i>	cf. <i>luwo</i> animal
7. bite		<i>tsāk-</i>	* <i>dēnk^h-(nā-)</i> , cf. Gr. δάκνω I bite, OI. <i>dāsati</i> he bites
8. black	<i>arkant-</i>	<i>erkant-</i>	* <i>H₃g^h-ont-</i> , cf. OI. <i>rājanī-</i> night, Arm. <i>erek</i> evening, Goth. <i>riqis</i> darkness
9. blood	<i>ysār</i>	<i>yasar</i>	* <i>H₃ésH₃ōr</i> , cf. Hit. <i>ēšhar</i> id.
10a. bone	<i>āy</i>	<i>āy</i>	* <i>H_{2/3}ést-jo-?</i>
10aa. bone		pl. <i>āsta</i>	* <i>H_{2/3}ést-ā-</i> ; cf. Hit. <i>hastāi-</i> bone
11. breast	<i>pāššām</i>	<i>pāšcane</i>	* <i>psteno-</i> , cf. OI. <i>stānā</i> breast, Av. <i>fštāna-</i> , Arm. <i>stin</i> , Gr. στηνίον · στῆθος
12a. burn	<i>tsāk-/tsak-</i>	<i>tsāk-/tsek-</i>	* <i>d^heg^h-</i> ; cf. OI. <i>dāhati</i> he burns, Alb. <i>djek</i> , Lit. <i>degù</i> I burn
12b. burn	<i>pālk-</i>	<i>pālk-</i>	* <i>b^hlg-</i> ; cf. Lat. <i>fulgeō</i> I blaze, Gr. φλέγω I burn
13. claw	<i>maku</i>	pl. <i>mekwa</i>	* <i>sm^h-H₃nog^huā-</i> ; cf. Hit. <i>sankuwai-</i> < * <i>sananku-</i> , Arm. <i>elowngn</i> id. < * <i>enong-</i> < * <i>sem-H₃ong^h-</i> , Gr. μῶνυξ single-hoofed < * <i>sm^h-H₃nog^h-u-</i>
14. cloud	<i>tārkār</i>	<i>tarkār</i>	* <i>d^hrg^hru-</i> , Cf. Lit. <i>dārga</i> rainy weather, OR. <i>padoroga</i> stormy weather
15. cold	<i>k₁raš/krošš-</i>	<i>krošce</i>	* <i>krustōn</i> , acc. * <i>krustén-η</i> , cf. Gr. κρυστάλλος ice, OHG. <i>hroso</i> id.
16. come	<i>kum-</i>	<i>kām-</i>	* <i>g^hem-</i> ; cf. OI. <i>gāmati</i> he walks, Goth. <i>qiman</i> come, Lit. <i>gemù</i> : <i>gimti</i> be born
17a. die	<i>wāl-/wal-</i>		* <i>welH₃-</i> ; cf. Hit. <i>walahzi</i> he beats, HLuv. <i>wa/i-la-</i> decease
17b. die		<i>sruk-/srauk-</i>	* <i>streug-</i> , cf. ON. <i>strjúka</i> go away, Gr. στρεύγομαι I am exhausted
18. dog	<i>ku</i>	<i>ku</i>	* <i>kúwōn</i> ; cf. Hit. <i>kuwan-/kun-</i> id., Gr. κύων, gen. κυνός id.
19a. drink	<i>yok-</i>	<i>yok-</i>	* <i>H₃ēg^h(^h)-</i> , cf. Hit. <i>eku-/aku-</i> id.
20. dry	<i>āsar</i>	<i>asāre</i>	AB <i>ās-</i> dry, cf. Lat. <i>āreō</i> I am dry, <i>āridus</i> dry < * <i>H₃ēs-</i>
21. ear	<i>klois</i>	<i>klautso</i>	* <i>kloyti-H₃ōn-</i> ; cf. OI. <i>śrúti-</i> hearing, OIr. <i>cluas</i> ear
22. earth	<i>tkaṃ</i>	<i>keṃ</i>	* <i>d^hg^hom-</i> ; cf. Hit. <i>tēkan</i> , dat.-loc. <i>taknī</i> id., Gr. χθών id.
23a. eat	<i>šwā-</i>	<i>šwā-</i>	* <i>g^hieuH-</i> chew; cf. P. <i>jāvidan</i> , OHG. <i>kiuwan</i> , OCS. <i>žbvatī</i> id.
23b. eat	<i>tāp-</i>	<i>tāpp-</i>	* <i>dap-u-ā-</i> ; cf. Latv. <i>daps</i> banquet
24. egg			
25. eye	<i>ak, du. ašām</i>	<i>ek</i>	* <i>H₃ok^h</i> , du. * <i>-iH₃</i> ; cf. Lit. <i>akis</i> , pl. <i>aki</i> , OCS. <i>oko</i> , du. <i>oči</i>

	A	B	Etymology
26. fat n.	<i>šälyp</i>	<i>šalype/šalywe</i>	* <i>sélpo-</i> , cf. Gr. ἔλπος (Hes.) oil, Alb. <i>gjalpë</i> butter, OHG. <i>salba</i> salve
27. feather		pl. <i>paruwa</i>	* <i>p(e)ruā</i> , cf. OCS. <i>pero</i> id. : <i>perǫ</i> I fly
28. fire	<i>por</i>	<i>pūwar</i>	* <i>peH₂ur</i> ntr. : * <i>peH₂uōr</i> coll.; cf. Hit. <i>pahhu(wa)r</i> , Gr. πῦρ id.
29. fish		<i>laks</i>	<i>loksi-</i> ; cf. ON. <i>lax</i> , Lit. <i>lāšis</i> , R. <i>losós</i> , Os. Digor <i>læsæg</i> salmon
30a. fly v.	<i>plu-</i>	<i>plu-</i>	* <i>ple₂-</i> swim, soar; cf. Gr. πλέ(φ)ω I float, OCS. <i>plujǫ</i> I swim
30b. fly v.	<i>säl-</i>	<i>säl-</i>	* <i>sel-</i> move fast; cf. Lat. <i>saliō</i> I leap
31. foot	<i>pe</i>	<i>paiyye</i>	* <i>pēds</i> or * <i>podǫ-</i> ; cf. Lat. <i>pēs</i> or Av. <i>paidā</i> , Gr. πῆζα id.
32. full	<i>ypic/ywic</i>	<i>ite</i>	A * <i>γ(n)-wic</i> < acc. * <i>en-ūitem</i> ; B * <i>ūito-</i> ; cf. OHG. <i>wīt</i> , ON. <i>wíðr</i> wide
33a. give	<i>e-</i>	<i>ai-</i>	* <i>H_aei-</i> , cf. Hit. <i>pāi-</i> give, Lyc. <i>ije-</i> buy, HLuv. <i>iyasa-</i> id., Gr. ἀίνυμαι I take
33b. give		Imp. <i>pete</i>	* <i>po-doH₃-</i> ; cf. Hit. <i>pēda-</i> bear
33c. give	<i>wās</i> : PP <i>wawu</i>	<i>wasa</i> he gave	* <i>us-(ā-)</i> < * <i>ues-</i> buy; cf. Hit. <i>wāsi</i> he sells (LIV 693)
34a. good	<i>krant-</i>	<i>krent-</i>	* <i>g^urH_a-ont-</i> ; cf. Lit. <i>gēras</i> good; or * <i>krH₂ont-</i> ; cf. OIr. <i>carae</i> friend
34aa. good		<i>kartse</i>	* <i>g^urH_a-to-</i> ; cf. OI. <i>gūrtā-</i> , Lit. <i>gīrtas</i> , Lat. <i>grātus</i> dear, all from * <i>g^uerH_a-</i> praise
34b. good	<i>kāsu</i>		* <i>ko(m)-H₂su^o</i> *very good, cf. OI. <i>sú kam</i> , Hit. <i>šu-uš-kan</i> (LIPP 2, 300, 431) or * <i>k^o-H₂su^o</i> *that which is good (cf. DTA 122)
35. green	<i>motarci</i>	<i>motartstse</i>	* <i>mod^hrtǫ-</i> ; cf. Slavic * <i>modrъ</i> blue, Hit. <i>āntara-</i> id.
36a. hair	<i>šāku</i>		* <i>dēkūā</i> ; cf. Kh. <i>dasa-</i> filament, OI. <i>dašā-</i> thrum, Got. <i>tagl</i> hair
36b. hair	<i>yok</i> (hair; colour)	<i>yok</i> , pl. <i>yākwa</i>	(B: hair; wool; colour) < * <i>jā/ēku</i> ; cf. OI. <i>yāšu-</i> pubic hair
36c. hair		<i>matsi</i>	* <i>metǫ-</i> , cf. Latv. <i>mats</i> , pl. <i>matī</i> hair(s)
37. hand	<i>tsar</i>	<i>šar</i>	A: * <i>g^hesēr-</i> ; B: * <i>g^hesér-ṛ-</i> ; cf. Hit. <i>kissar-</i> id.
38a. head	<i>špāl</i>	(<i>špālu</i> excellent)	* <i>g^heb^hōl</i> or * <i>g^heb^hā lom</i> ; cf. OHG. <i>gebal</i> , Gr. κεφαλή id.
38b. head	<i>lap</i>		* <i>lob^ho-</i> ; cf. Gr. λόφος scruff of animal
38c. head		<i>āšce</i>	* <i>H_aekst-en-</i> : * <i>H_aek-</i> sharp, pointed; cf. Gr. ἀκτή headland, steep bank
39. hear	<i>klyos</i>	<i>klyaus-</i>	* <i>klēus-</i> ; cf. OI. <i>srōšati</i> he hears, OCS. <i>slušati</i> & <i>slyšati</i> , Lit. <i>klausyti</i> hear
40a. heart	<i>āriñc</i>	<i>arañce</i>	* <i>H₂eH₂(e)ri-</i> ; cf. Hit. <i>ḥaḥhari-</i> , <i>ḥaḥriš-</i> lungs, midriff, Lat. <i>rēnēs</i> kidneys, Celt. * <i>āren-</i> kidney > Welsh <i>arenn</i> , <i>eirinn</i> , OIr. <i>áru</i> , gen. <i>árann</i>
40b. heart	(<i>kri</i> will)	pl. <i>kāryāñ</i>	* <i>k^hrdjā</i> , cf. Gr. καρδία, OIr. <i>cride</i> heart
41. horn	(<i>kror</i> crescent of moon)	<i>krorīyai</i>	* <i>kreH₂ur</i> or * <i>k^hrH₂sru-</i> , cf. Hit. <i>karāwar</i> id. or Myc. <i>ono-karaor</i> = /oino-krāhōr/ unicorn
42. I	<i>nās</i> m. / <i>ñuk</i> f. < * <i>ñāku</i>	<i>ñās/ñis</i>	acc. * <i>H₂mege</i> crossed with nom. * <i>H₂eḡō</i> > * <i>yāku</i> ; ñ- < * <i>m(ā)ñā</i> < gen. * <i>mene</i> ; cf. Hit. <i>ūg</i> : <i>ammug</i> , Goth. <i>ik</i> : <i>mik</i>
43a. kill	<i>ko-</i>	<i>kau-</i>	* <i>kāu-</i> ; cf. OSaxon <i>hauwan</i> , Lit. <i>kāuti</i> beat, pound
43b. kill	<i>sruk-</i>		cf. B <i>sruk-/srauk-</i> die (#17b)
44. knee	du. <i>kanweṃ</i>	du. <i>keni</i>	* <i>gonu-</i> ; cf. Hit. <i>gēnu-</i> , Gr. γόνυ id.
45a. know	<i>knā-</i>	(<i>nān-</i> appear)	* <i>gneH₃-</i> ; cf. OI. <i>jānāti</i> he knows < * <i>gnH₃-neH₃-</i>
45b. know	<i>kārs-</i>	<i>kārs-</i> pres. <i>šārsāsk-</i>	* <i>k^hrs-</i> : ON. <i>horskr</i> , OEng. <i>horse</i> intelligent, OHG. <i>horse</i> quick, sharp in understanding, <i>hurscan</i> accelerate, Goth. <i>and-hruskan</i> to question; all from IE * <i>kers-</i> move quickly (cf. Cz. <i>bystrý</i> quick → quick witted)
45c. know	(<i>eš</i> attendance)	<i>aik-</i>	* <i>H_aeik-</i> possess, cf. Goth. <i>aih</i> , <i>aigum</i> id., have, OI. <i>īse</i> he is master (of something)
46. leaf	<i>pält</i>	<i>pilta</i>	coll. * <i>b^hlH₂tōs</i> , cf. OHG. <i>blat</i> id.
47a. lie	<i>klis-/kles-</i>	(<i>klānts-</i> sleep)	* <i>klmH₂-s-</i> ; cf. OI. <i>klām(y)ati</i> he is tired, <i>klānta-</i> tired
47b. lie	(<i>lake</i> = B <i>leki</i> bed)	<i>lyäk-</i>	* <i>leg^h-</i> ; cf. Got. <i>ligan</i> id., OIr. <i>laigid</i> he lies, he lies down

	A	B	Etymology
48. liver		wästarye	*ud-trjo-; cf. Gr. ὕστρος stomach, ὕστερα bosom; OI. udāra- abdomen, Lat. uterus bosom
49. long	pärkär	pärkare	*b ^h rġ ^h -rō-; cf. Hit. parku-, Arm. barjr high
50. louse		päršeri/päršere	< Tk. *bürče flea, cf. Chuv. pä ^w rza (LS 261)
51a. man	onk	eñkwe	*ñk _u - mortal, cf. OIr. éc dead < *ñku- : *nek- kill, die > AB näk-destroy; be lost, disappear; cf. Lat. necō : necāre kill
51b. man	ātäl		*at(i)-al-; cf. OHG adal noble
52a. many	māk	māka	*ñġH _a - (> *m ₂ ġ ^h -?) : *megōH _a cf. OI. mahā- : máhi n. big = Gr. μέγα id., Arm. mec id., Hit. mekki- plentiful, Alb. madh great
52b. many	kāštär		*ks-tro-/ā-; cf. A kaś, B keś sum, count, number < *kaesca < *kos-tē(i)
53a. meat	šwāl		sr. šwā- eat (#23a)
53b. meat		pl. mīsa	*mema (pl. of ntr. *mema); cf. Goth. mimz id.
54. moon	mañ	meñe	*meH ₁ nē(n/s/t?); cf. Goth. n-stem mena id.
55. mountain	šul	šale	*seluo-; cf. Lat. silva forest
56. mouth	ko, loc. koyam	koyam	A šew- / B kāy- gape, open mouth < *ġ ^h eH ₁ i(u)- / *ġ ^h oH ₁ (i)-; cf. Lat. hīscō I open mouth, OCS. zējō : zijati id.
57. name	ñom	ñem	*H ₁ nēm ₂ ; cf. Arm. anown, Gr. ὄνομα, Alb. emër/emën
58a. neck	kñuk		*gneugo-; cf. MHG. knock neck or *kneig ^{uh} o-; cf. Goth. hneiwan bend
58b. neck		kor	*kuH ₁ ; cf. Gr. κύαρ eye of needle, hole of ear; Av. sūra-, Arm. sor hole
58c. neck		krāñi	*kr ₂ H ₂ snijom; cf. OI. śīrśān- head, Gr. κρᾶνίον vertex
59. new	ñu	ñ(u)we	*neuo-; cf. Hit. newa-, Gr. νέος id.
60a. night	wše	yšīye	*uesjā-H ₁ en- lit. “veiled”, cf. Lat. vesper, Gr. ἕσπερος evening < *that, what is in shroud : Hit. waspa- clothes; shroud (Katz 2000, 69–93)
60b. night		kāstwer at night	*g ^h sp- <i>uor</i> ; cf. OI. kšāp-, Av. xšap(ar)-, xšafn-: xšapan-, Hit. ispant-night
61. nose	pl. malañ	pl. meli	*(s)melo-; cf. MEng. smell smell
62. not	mā	mā	*mē; cf. Arm. mi, Gr. μη, Alb. mos id.
63. one	sas m. / sām f.	še m. / sana & somo	*šēms / *šmīā ; cf. Gr. εἷς / μία
64a. person	napem		< Iran.: Av. nāfah- relationship, family, Sgd. Bud. n’β people, clan
64b. person	(šoṃ youth)	šauṃo	from šāw-/šāy- live < *ġ ^h ieH ₃ -u-e/o-; cf. OI. jīvati, Lat. vīvere live
64c. person	oñi < *onkñi	eñkwañne	see #51a
64d. person		onolme	*ān(H)-olmo- : *ān(H)- < *H ₁ enH ₁ - breathe, cf. B anāsk- id., inhale
65. rain n.	swase	swese	*suH ₃ -oso-; cf. AB su- rain, Gr. ὕει it rains, Prus. soye rain
66. red	rtār	ratre	*H ₁ rud ^h ō-; OI. rudhirā-, Gr. ἐρυθρός id.
67a. road	yme	ymīye	*H ₁ eim ₂ -ā-H ₁ en-
67b. road	ytār	ytārye	*H ₁ itōr; cf. Hit. itar, Lat. iter id.
68a. root	tsmār		AB tsām- grow < *dem(H ₁)-; cf. Lyd. tam- build, Gr. δέμω I build
68b. root		witsako	< Iran. *uaitiāka-, cf. Os. Iron wīdag, Digor wedagā id.
69. round	akritār		*(s)kritro-; cf. Lit. āpskritas, Latv. skritulys id.
70. sand	wāryāñc	warañce	pToch. *wār-wāñce < *(H)uōru- : B yare gravel < *(H)uero-; cf. ON. aurr sand blended with clay, OIr. úr soil, clay
71. say	weñ-	weñ-	*uond-je/o- : OI. vāndate he celebrates *uokn-je/o- : OHG. giwahanan note
72. see	lāk-/lyāk-	lāk-/lyāk-	*luk- blaze in suppletion with *leġ- collect → WGmc. *lōkōjan look
73a. seed	sāryām Saat sārm Same pl. sārmtu	sārm, pl. sarmana	*s ₂ īā-: AB sāry- plant < *soH ₁ -r-, cf. Lat. serere : serō : seruī & serī id. *sōrm ^o

	A	B	Etymology
73b. seed	<i>śāktālyi</i>	<i>śāktālye</i>	AB <i>kāt-(nā-)</i> strew; cf. Lit. <i>kėsti</i> : <i>kečiù</i> diffuse, dispel
73c. seed		<i>šaiweñña</i>	* <i>seH₁i-<u>uon</u>-iā</i> : * <i>seH₁-</i> to sow, cf. Goth. <i>saian</i> id., OCS. <i>sejō</i> I sow
74a. sit	<i>l(y)ām- / lam</i>	<i>l(y)ām-/l(y)ām-</i>	* <i>lemb-</i> ; cf. OI. <i>lāmbate</i> he hangs (on), Eng. <i>limp</i>
74b. sit	<i>šām-</i>	<i>šām-</i>	* <i>sed-m-</i> or * <i>H₁s-em-</i>
75a. skin	<i>yats</i>	<i>yetse</i>	* <i>H₁ēd-so-</i> : Gmc. * <i>ēsa-</i> dead meat, bait (Kroonen 2013, 119)
75b. skin	<i>kāc</i>		* <i>kūt-ē(i)</i> : obl. <i>-i-m</i> ; cf. ON. <i>húð</i> , Lat. <i>cutis</i> id.
75c. skin		<i>ewe</i>	* <i>H₁ou-es-</i> : * <i>H₁e_u-</i> clothe, shoe; cf. Hit. <i>unu(wa)-</i> decorate; OCS. <i>ob-ujō</i> I shoe
76. sleep	<i>klis- / kles-</i>	<i>klānts-</i>	cf. #47
77a. small	<i>lykāly / lyākly-</i>	<i>lykaške</i>	* <i>H₁lig-</i> ; Gr. <i>ὀλίγος</i> small, few, Alb. <i>lig</i> bad, evil, poor
77b. small	<i>mkāto</i>		* <i>m₂klo-</i> ; cf. Hit. <i>maklant-</i> thin, Lat. <i>macer</i> : <i>macilentus</i> thin
78. smoke n.			
79a. stand	<i>kāly-</i>	<i>kāly-</i>	* <i>k₁H₁-je/o-</i> ; cf. Lit. <i>kėlti</i> raise up : <i>kilti</i> raise oneself up
79b. stand	<i>stām-</i>	<i>štām-</i>	* <i>st₁m-</i> : * <i>steH₂-</i> stand as * <i>g^um-</i> : * <i>g^ueH₂-</i> go // * <i>st₁m^h-</i> establish
80. star	<i>šre</i>	<i>šciryē</i>	* <i>H₂(H)ster-</i> ; cf. Hit. <i>hasterza</i> , Gr. <i>ἀστήρ</i> id.
81a. stone	<i>kāna-</i>		* <i>Kunjā-</i> ; cf. Hit. <i>kunkunuzzi-</i> sort of stone (diorit?)
81b. stone	<i>pāreṃ,</i> perl. ° <i>enā</i>		* <i>pōr-en-</i> ; cf. Hit. ntr. <i>pēru</i> , com. <i>perunas</i> rock, OI. <i>pārvata-</i> mountain, Av. <i>pauruuatā-</i> mountain range < * <i>peru₁t-</i> , OIr. <i>airne</i> stone
81c. stone		<i>kārweñe</i>	* <i>g^urH₁uon-en-</i> : * <i>g^ureH₁en-</i> > OI. <i>grāvan-</i> stone for pressing of soma
82. sun	<i>kom</i>	<i>kaum</i>	< Tk. * <i>gün</i> sun, day, cf. Chuv. <i>kon</i> day (LS 257; EDAL 553), rather than from virtual IE. * <i>kauni-</i> ; cf. Gr. <i>καῦμα</i> burning heat (of sun) : <i>καίω</i> I burn < * <i>ka₁iō</i>
83. swim		<i>nāsk-</i>	* <i>(s)neH₁-</i> ; cf. OI. <i>snāti</i> he baths; Lat. <i>nāre</i> swim
84. tail		<i>pākā-</i>	* <i>pukā-</i> ; cf. OI. <i>púccha-</i> id. < * <i>puk-sko-</i> , Goth. <i>fauho</i> fox (EIEC 563)
85a. that .	<i>saṃ</i> m. : <i>sām</i> f.	<i>su</i> m. : <i>sā_u</i> f.	A * <i>sono-</i> m. : * <i>sā-m^o</i> f. / B * <i>so+u</i> m. : * <i>sā+u</i>
85b. that	<i>tām</i> ntr.	<i>tu</i> ntr.	A * <i>tu-m</i> < * <i>to(d)+u-m^o</i> / B * <i>to(d)+u</i>
86a. this	<i>sās</i> m. : <i>sās</i> f.	<i>se</i> m. / <i>sā</i> f.	A * <i>su-so</i> < * <i>so+u-so</i> : * <i>sā-s^o</i> / B * <i>so</i> m. : * <i>sā</i> f.
86b. this		<i>seṃ</i>	B * <i>so-n^o</i>
86b. this	<i>tāš</i> ntr.	<i>te</i> ntr.	A * <i>tu-se</i> < * <i>to(d)+u-se</i> / B * <i>tod</i>
87. thou	<i>tu</i>	<i>t(u)we</i>	* <i>tuHóm</i> ; cf. OI. <i>t(u)vám</i>
88. tongue	<i>kāntu</i>	<i>kantwo</i>	* <i>dn^gh₁uā-</i> ; cf. OLat. <i>dingua</i> , Goth. <i>tuggo</i> id.
89. tooth	<i>kam</i>	<i>keme</i>	* <i>gomb^ho-</i> ; cf. OI. <i>jāmbha-</i> , Gr. <i>γόμφος</i> id.
90. tree	<i>štām</i>	<i>stām</i> , pl. <i>stāna</i>	* <i>steH₂-sm₁</i> , pl. * <i>steH₂-smn-ā-</i> ; cf. Gmc. * <i>stamma-</i> trunk
91. two	<i>wu</i> m. / <i>we</i> f.	<i>wi</i>	A * <i>d₁uō(u)</i> m. / * <i>d₁uoi</i> ntr. : B * <i>d₁uoi</i> ntr.
92a. walk	<i>i-</i>	<i>i-</i>	* <i>H₁éj-mi</i> I walk : * <i>H₁i-mé</i> we walk; cf. OI. <i>emi</i> : <i>ima</i>
92aa. walk	<i>ya-</i>	<i>ya-</i>	* <i>H₁éj-je/o-</i> ; cf. #92a
92b. walk	<i>kālk- / kalk-</i>	(<i>kalāk-</i> follow)	A: * <i>k^ul-K-</i> B: * <i>k^uolH-K-</i> ; cf. OI. <i>cārati</i> he moves : <i>cāritum</i> : <i>cūrti-</i>
92c. walk		<i>mās-</i>	* <i>mus-(ā-)</i> : AB <i>mus-</i> move < * <i>me₁s-</i> ; cf. Hit. <i>maus-</i> : <i>mu-</i> fall
93a. warm	<i>omāl</i>	<i>emalle</i>	* <i>H₁ṃ-m₁(-i)o-</i> ; cf. Icel. <i>molla</i> be hot
93b. warm	<i>sāt</i>	(<i>satāsk-</i> expire)	
94. water	<i>wār</i>	<i>war</i>	* <i>udrom</i> (Adams) or loc. * <i>udr₁</i> (Normier); cf. Alb. <i>ujë</i> id. < * <i>udrjā</i> ; Gr. <i>ὕδρις</i> bucket
95. we	<i>was</i>	<i>wes</i>	* <i>uos</i> (from crossing of IE. nom. * <i>uej-</i> and obl. * <i>nos</i>); cf. Hit. <i>wēs</i> , Got. <i>weis</i>
96. what	<i>kuc</i>	<i>k_uce</i>	* <i>k^uu-tóm</i> = acc. from <i>kus</i> / <i>k_use</i> who (#98)
97. white	<i>ārki,</i> pl. <i>ārkyānc</i> m. / <i>ārkyant</i>	<i>ārkwī</i>	* <i>H₂er₁-u-i-n^o</i> , pl. * <i>H₂er₁-u-<u>ion</u>-t-</i> ; cf. Hit. <i>harki-</i> id.
98. who	<i>kus</i> , acc. <i>kuc</i>	<i>k_use</i> , acc. <i>k_uce</i>	* <i>k^uu-só</i> ; cf. Alb. <i>kush</i> id.; acc. * <i>k^uu-tóm</i>

	A	B	Etymology
99. woman	<i>k_uli</i>	<i>kl(y)ñye</i>	* <i>ǵleH₂ui-H₂en-</i> *daughter-in-law/spouse; cf. CS. <i>zǝlvna</i> , Gr. <i>γάλας</i> husband's sister
100. yellow		<i>tute</i>	* <i>d^hūto-</i> ; cf. OI. <i>dhūta-</i> stirred, P. <i>dūd</i> fume; OEng. <i>dýp</i> fuel, tinder (Ho 82), Cz. <i>doutnat</i> smoulder : IE. * <i>d^heuH₂-</i> fume; to semantics cf. OI. <i>dhūmrá-</i> & <i>dhūmala-</i> fume's coloured, russet : <i>dhūmá-</i> fume (Pok 261–62)

Note: The underlined words indicate identified loanwords.

2. Lexicostatistical analysis and its discussion

Missing items

A: 3, 6, 7, 24, 27, 29, 41, 48, 50, 78, 83, 84, 100.

B: 24, 69, 78.

Loanwords: 2a, 50, 64b, 68b, 82.

K = Number of the incomplete or quite missing pairs and semantic units attested only as loans: 3, 6, 7, 24, 27, 29, 41, 48, 50, 69, 78, 82, 83, 84, 100; in all 15.

L = Number of complete unborrowed pairs: $L = 100 - K = 85$.

M = Number of the semantic units, if the A and B counterparts are etymologically distinct ('non-cognates'): ## 5, 17, 38, 47, 53, 58, 75, 81; in all 8.

N = Number of lexical correspondences: $N = L - M = 77$

R = Share of preserved lexical correspondences due to all complete pairs: $R = N / L = 77 / 85 = 0.906$.

If Tocharian A and B were contemporary living languages, we could conclude that they diverged about 1050 years ago, i.e. they should have separated during the 10th century CE. But these languages are dead and known only from literary – even asynchronic – tradition. It is difficult to express the age of Tocharian texts by a single date. It can be only a statistical average: Tocharian A to 700 CE and Tocharian B to 600 CE. Then there are two strategies of calculation of the time of their divergence. According to Swadesh's method we subtract the time of divergence (i.e. 1050 years) from an arithmetic mean of dates of recording of both languages, i.e. from the fictive average 650 CE. The result 400 BC seems quite realistic. Starostin's approach is different. Starostin uses the projection of historically documented languages to the present. The time space of 1300 years separates language A (700 CE) from the present and 1400 years separates language B (600 CE). The corresponding coefficients of preservation are $p_A = 0.925$; $p_B = 0.913$. In relation to the present, the proto-language common to A and B would have the following share of preservation of the basic lexicon $c = R \cdot p_A \cdot p_B = 0.906 \cdot 0.913 \cdot 0.925 = 0.765$ (about the method see Burlak & Starostin 2005, 163). This result corresponds to the date *c.* 200 CE (thus just before the end of the Han dynasty, 220 CE, when the Chinese influence spread to the area of the Tocharian people). We can add that according to Starostin's calculation, Tocharian A and B differentiated about 20 BCE (Dybo 2006, 782–83). But details of this calculation were not published. Let us compare these results with estimations of other scholars, which were summarized by Mallory (2015, 7):

Lane (1966, 232): The period of independent development of Tocharian A and B should be on the order of 500 to 1000 years.

Schmidt (1985, 765): '... die Spaltung des Gemeintocharischen in die beiden uns bekannten Dialekte West- und Osttocharischen mit den Mitteln der Glottochronologie – bei aller gebotenen Vorsicht – etwa in das erste nachchristliche Jahrhundert datieren läßt ...'

Ringe (1995, 439): The period of Common Tocharian is estimated at about 'a millennium or so before the date of earliest documents'.

Lubotsky (1998, 380): ‘Even by reconstructing Proto-Tocharian, we presumably cannot reach beyond the 4th century BCE.’

Pinault (2002, 245): The phonetic and morphological differences between Tocharian A and Tocharian B ‘presupposes separate development during at least five centuries, which would take us back to approximately the beginning of our era for the Common Tocharian stage.’

Carling (2006, 60): Tocharian A and B were still not separate in the time of adoption of earliest Bactrian and Khotanese borrowings, dated by the author to the beginning of the 1st cent. CE.

Adams (2006, 388): The dissolution of Proto-Tocharian might have occurred ‘in the mid to late second millennium BCE’.

Summing up, there are three chronological estimations for the Tocharian disintegration:

(a) Long – 1500 – 1100 BCE (Adams).

(b) Middle – 5th – 4th cent. BCE (Lane, Ringe, Lubotsky, Blažek & Schwarz).

(c) Short – around the year 0 (Schmidt, Pinault, Starostin, Carling).

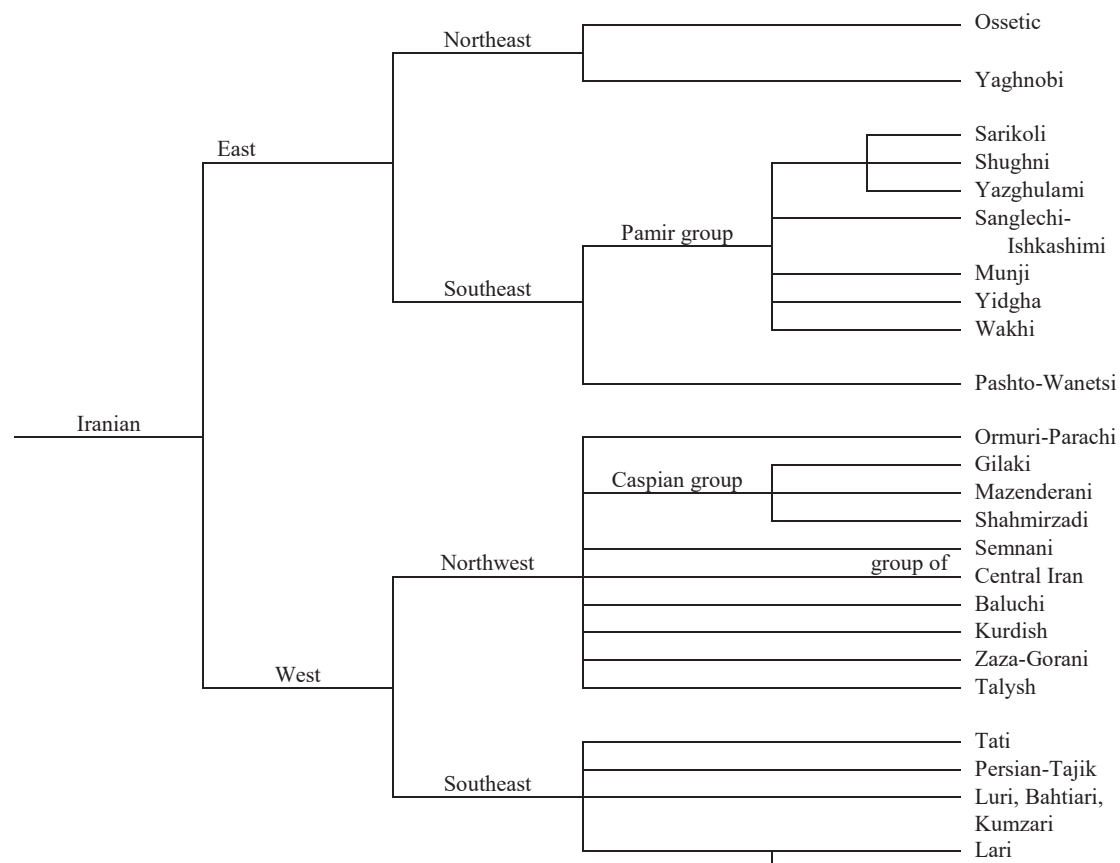
Let us mention that Schmidt’s reference to application of glottochronology means the traditional method developed by Morris Swadesh. Its results are systematically younger than the expected results, confirmed by historical data, if they are at our disposal. For comparison, the results of Čejka (1972) and Vollmer (apud Tischler 1973) lead to the dating the disintegration of Common Slavic to *c.* 1000 and 1050 CE respectively. Applying the recalibrated glottochronology, the dating is shifted to the 6th cent. CE (Novotná & Blažek 2007, 194–96, 201). Using an analogical time span to correct Schmidt’s dating, we also come to the ‘middle chronology’. It also allows us to explain Tocharian B *yentuke* ‘Indian’, adj. *yentukaññe*, from Late Akhaemenid **hinduka-*. The ‘short’ chronology assumed by Carling and Pinault (he said ‘at least five centuries’) is based especially on analysis of Iranian and Indo-Aryan borrowings. We do not know the exact chronology of adoptions of these loans, on the one hand, and of phonetic laws, when they operated. Let us mention the adoption of the name of Charlemagne (or of his grandfather Charles Martel) into Slavic as **korljb* ‘king’ during the 8th century CE (Pronk-Tiethoff 2013, 111–12). The fact that the word is used in all Slavic languages does not imply its adoption before disintegration of Common Slavic. It only implies that sound rules, namely metathesis of liquids in Southwest Slavic vs. pleophony in East Slavic, were still living. Concerning the chronology of adoption of the name *Buddha-* into Tocharian (A *ptāñkät*, B *pa(ñ)ñäkte/pudñäkte*), it is useful to mention the words of Kim (1999, 118, 120): ‘... Buddha lived from *c.* 563 – *c.* 483 BCE, the speakers of pre-Proto-Tocharian must have first heard his name no earlier than the 5th or 4th cent. BCE’ and ‘... we can with great probability also assign {its} borrowing to sometime after the 5th cent. BCE.’ We may add that the adoption of this name could have been realized a long time before the first Buddhist missions were sent into the Tarim Basin. On the other hand, Adams’ arguments leading to the very deep dating of the separation of the ancestors of Tocharian A and B, are based on the example of small differences between Albanian from the Balkans and from Southern Italy, separated *c.* 500 years ago. But this should be supplemented by more adequate examples from the point of view of the time interval of disintegration, e.g. very conservative Icelandic vs. modern continental Scandinavian languages, separated *c.* 1100 years ago. Summing up, the ‘mean value’ leading to the ‘middle chronology’ dating the separation of ancestors of Tocharian A and B to *c.* 400 BCE seems to be satisfactory.

C. On classification of the Iranian languages

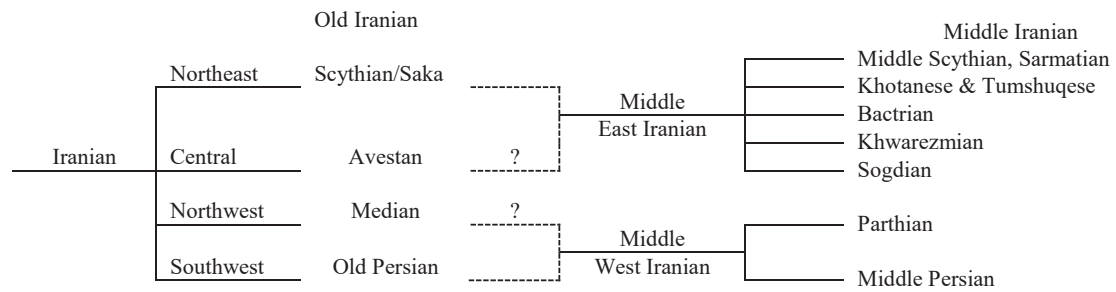
The genealogical classification of related languages implies arranging them in a hierarchic structure that expresses their mutual interrelationship. The easier and more frequent approach operates with a conclusion that languages A and B are more closely related than languages A and C. It is based on shared phonological and morphological features, inherited from a common protolanguage, and it is even applicable to fragmentarily described or relic languages. Relatively frequently geographical distribution plays a supplementary role in this qualitative approach, although this offers no unambiguous information about relationship of languages. The second, quantitative, approach usually operates with statistical evaluation of the inherited lexicon; it has been called lexicostatistics. Still more ambitious is the method called glottochronology. On the basis of lexicostatistic analysis it aims to correlate its results with absolute chronology. Naturally, both approaches may be combined. Let us first introduce the main models of classification of the Iranian languages, obtained by all the approaches described above.

1. Qualitative models

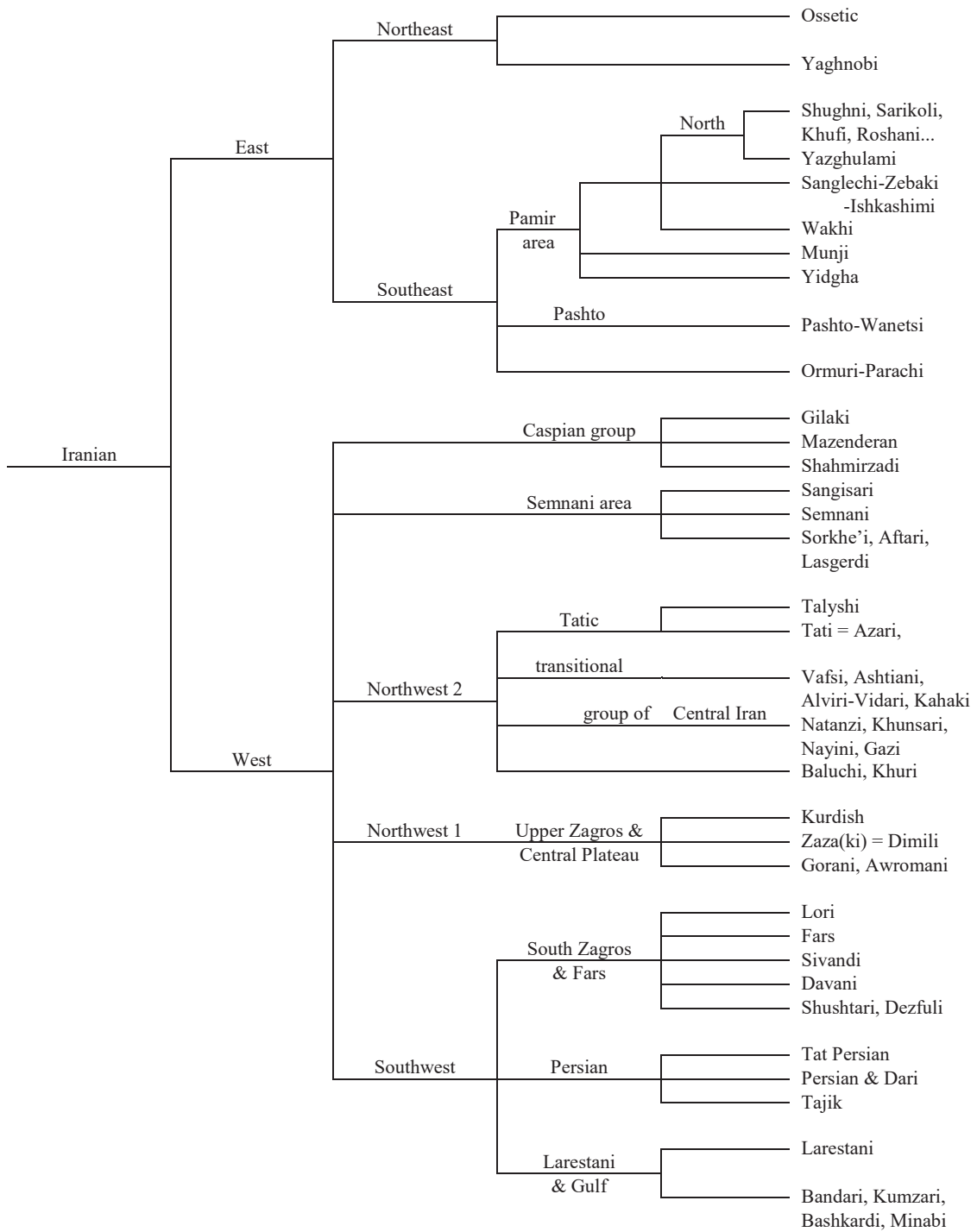
1.1. The modern Iranian languages have been traditionally classified into west and east branches, both with north and south subbranches (see e.g. *Ethnologue*₁₈), depicted in **Tree-diagram 8**:



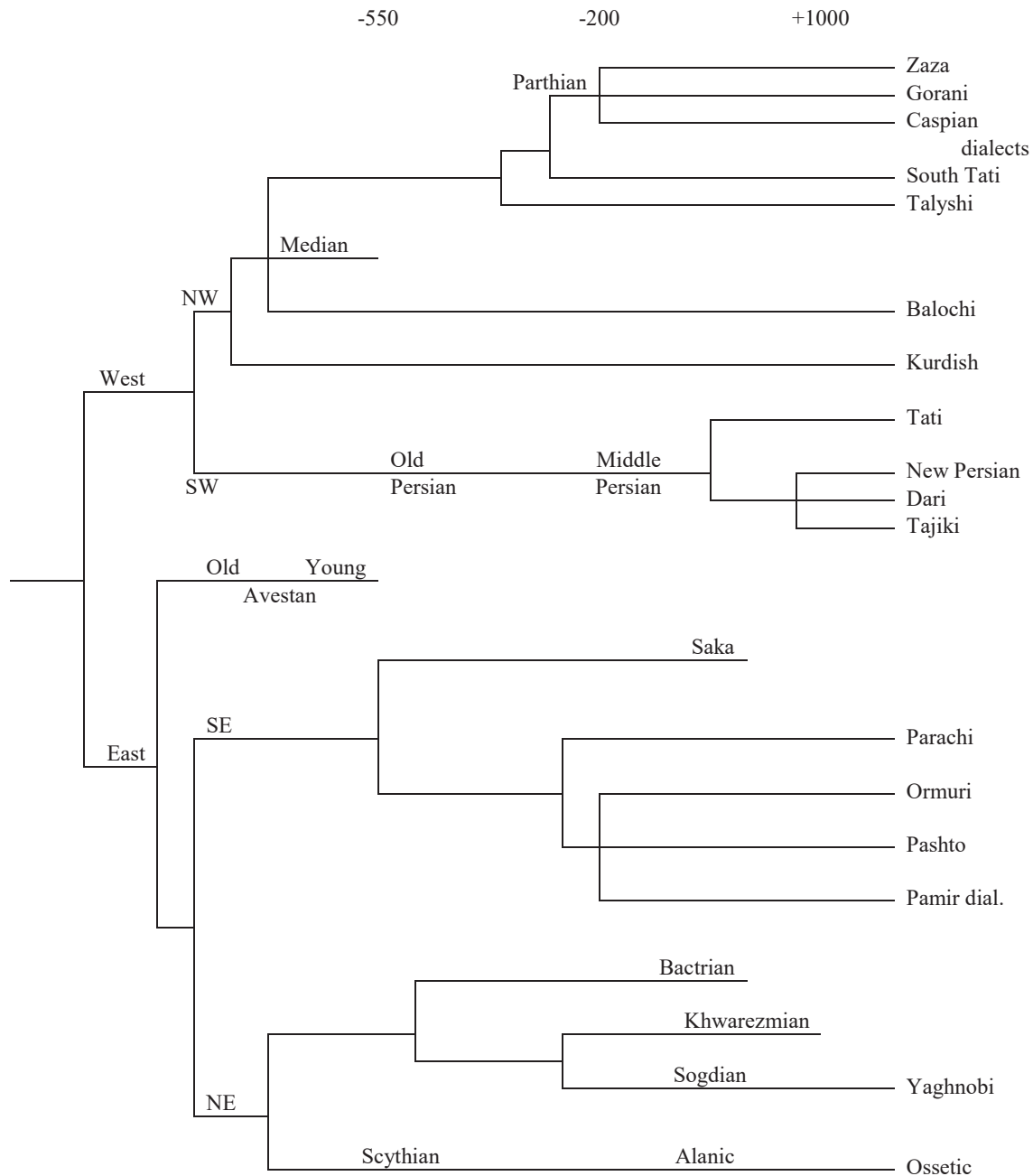
1.2. This arrangement is in principle kept even in the most recent compendium on the Iranian languages (Windfuhr 2010, 12–15), whose three sequential models of classification for old, middle and modern stages of development of the Iranian languages are summarized in **Tree-diagram 9**:



1.3. Classification of the New Iranian languages (Windfuhr 2010, 12–15) in **Tree-diagram 10**:



1.4. Jost Gippert⁴⁶⁸ develops the traditional model of classification of the Iranian languages, where Old and Middle Iranian languages form an integral part of his **Tree-diagram 11**:



1.5. Combining phonological and morphological isoglosses in his dissertation, Novák (2013, 32) divides the Eastern Iranian languages into five more or less parallel subbranches. Very important is his consideration about hypothetical secondary ‘Pamirization’ of Wakhi, originally perhaps more closely connected with the Saka dialects, and Munjī-Yidghā, originally perhaps more closely related to Pashto. His model of the East Iranian classification also rejects the Northeast vs.

468 <<http://titus.fkidg1.uni-frankfurt.de/didact/idg/iran/iranstam.htm>>

Southeast dichotomy, see **Tree-diagram 12**:

East Iranian	Northern or Scythian	Scytho-Sarmatian dialects, Ossetic, Sogdian, Yaghnōbī
	Northeastern or Saka	Saka dialects, maybe Wakhī
	Central or Pamir	Yazghulāmī, Shughnī-Rōshānī, Ishkāshmī-Sanglēc̄hī, ?Munjī-Yidghā, ?Wakhī
	South or Pathān	Pashtō & Waṇetsī; maybe Munjī-Yidghā & Sarghulāmī
	Southeast	Ōrmuṛī & Parāchī

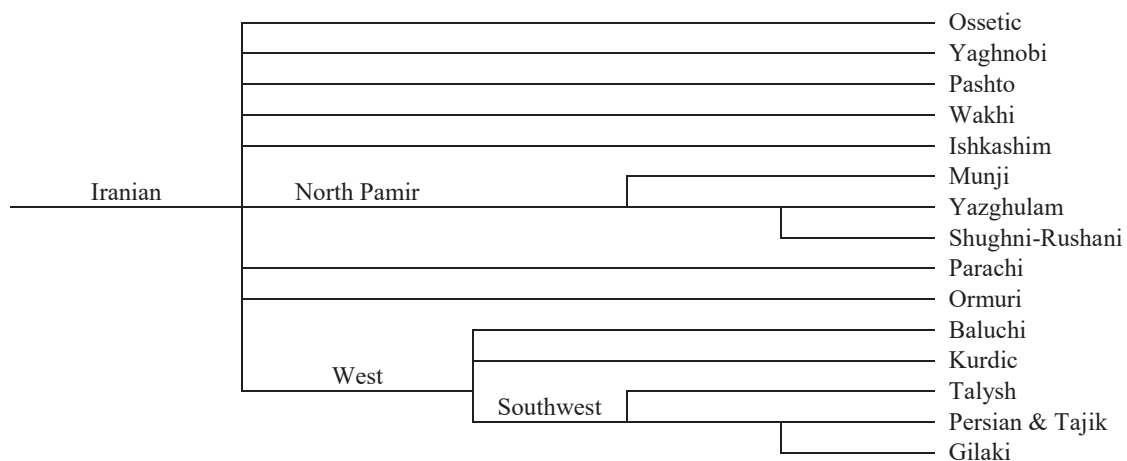
1.6. The attractive question of descendants of the Middle Iranian languages among the modern languages is not answered unambiguously. It seems that Modern Persian is safely a continuant of Middle Persian (Skjærvø 2010, 196). Less secure is an analogous role of Baluchi as a descendant of Parthian (Korn 2005, 323–330 prefers a transitional position between Northwest and Southwest Iranian), Yaghnobi as a descendant of Sogdian (cf. Yoshida 2010, 327 about differences) or Wakhi as a continuant of Khotanese & Tumshuqese Saka. Quite hypothetical is a similar relation between Sangesari and Khwarezmian (Windfuhr 2010, 15).

2. Quantitative models

Traditional models of classification of the Iranian languages are based on qualitative observation of common features in phonology and morphology, combined with geographical distribution of languages. If the quantitative approach based on lexicostatistics is applied, the results are different. First of all, the west vs. east dichotomy must be abandoned (recently Korn 2016 formulates an attractive idea on Central Iranian subbranch represented by Bactrian, Parthian and Sogdian; it is compatible with our final model, where these language lines are neighbours). In all quantitative models the so-called western branch is apparently younger than the eastern one, and even its existence is doubtful.

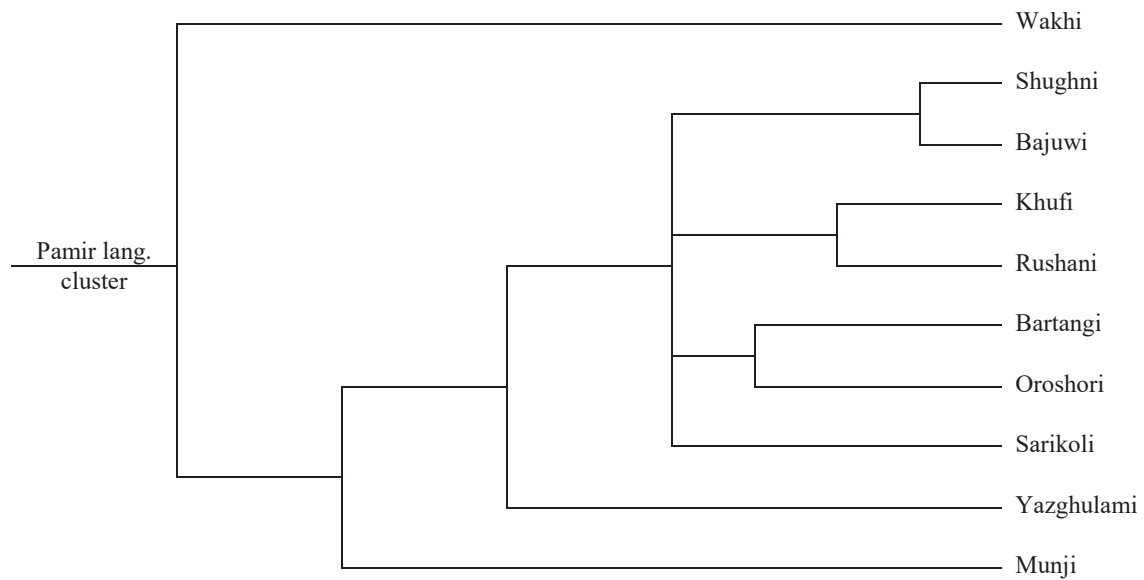
2.1. According to Jaxontov (2006) operating with the lexical data summarized in pioneering works of Sokolova (1967, 1973), the western branch was one of several coordinate branches:

Tree-diagram 13



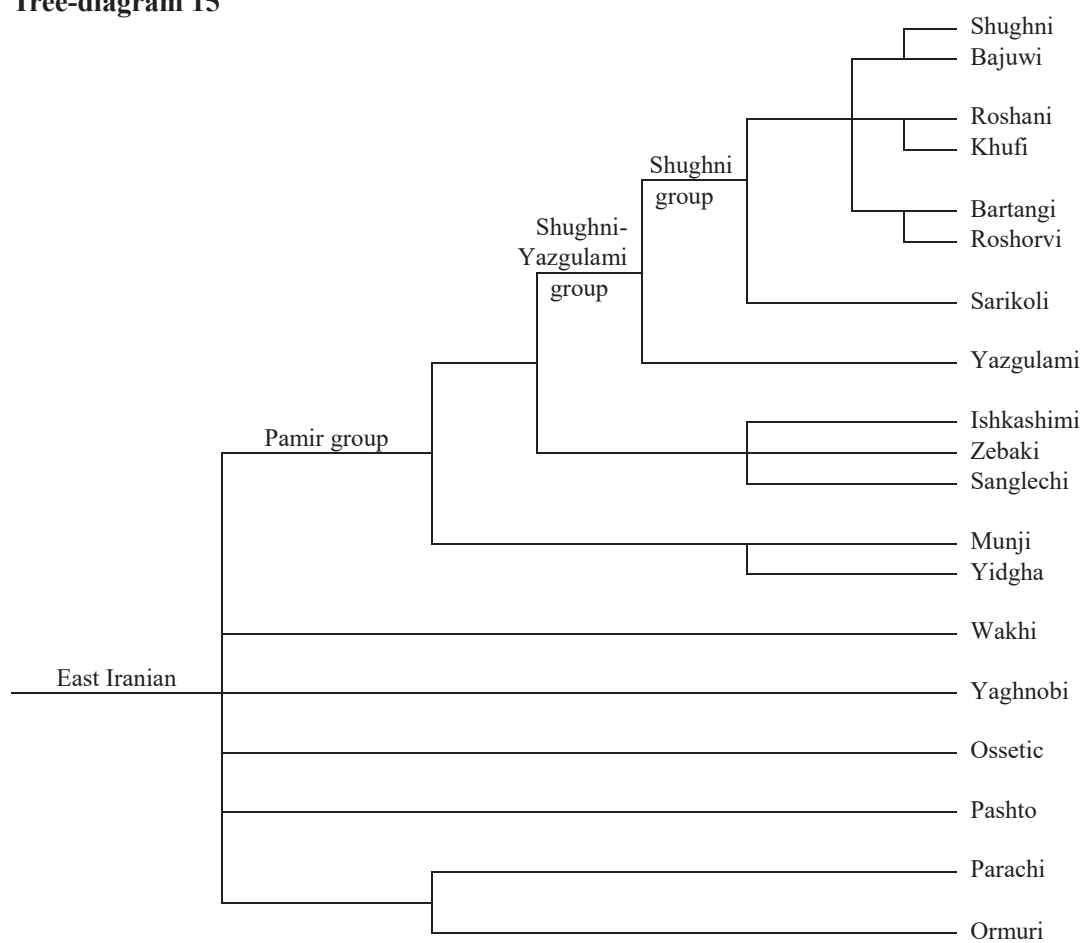
2.2. The classification of the Pamir languages (without Yidgha) by Sokolova (1967, 124 & 1973, 208–239) was also based especially on lexicostatistics:

Tree-diagram 14

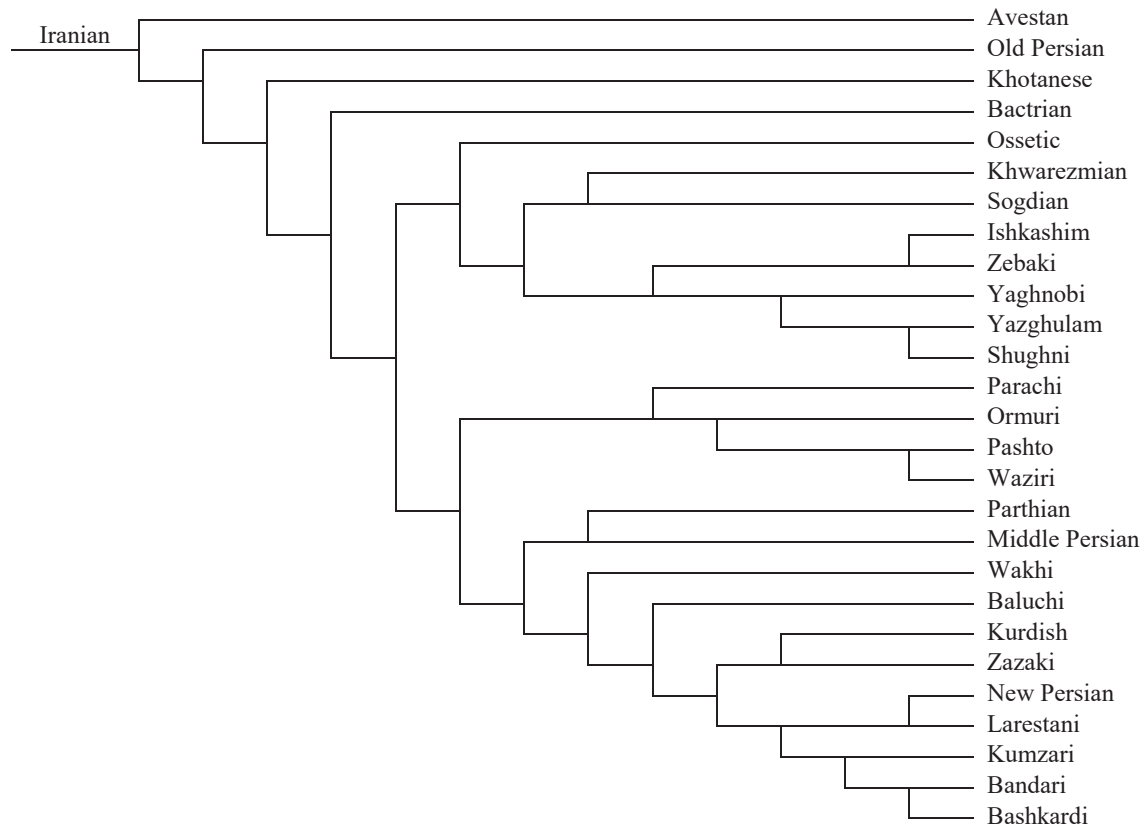


2.3. On the basis of phonological and morphological isoglosses, Wendtland (2009, 186) classifies the Pamir languages themselves and within the modern East Iranian languages in a way similar to Sokolova and Jaxontov respectively:

Tree-diagram 15

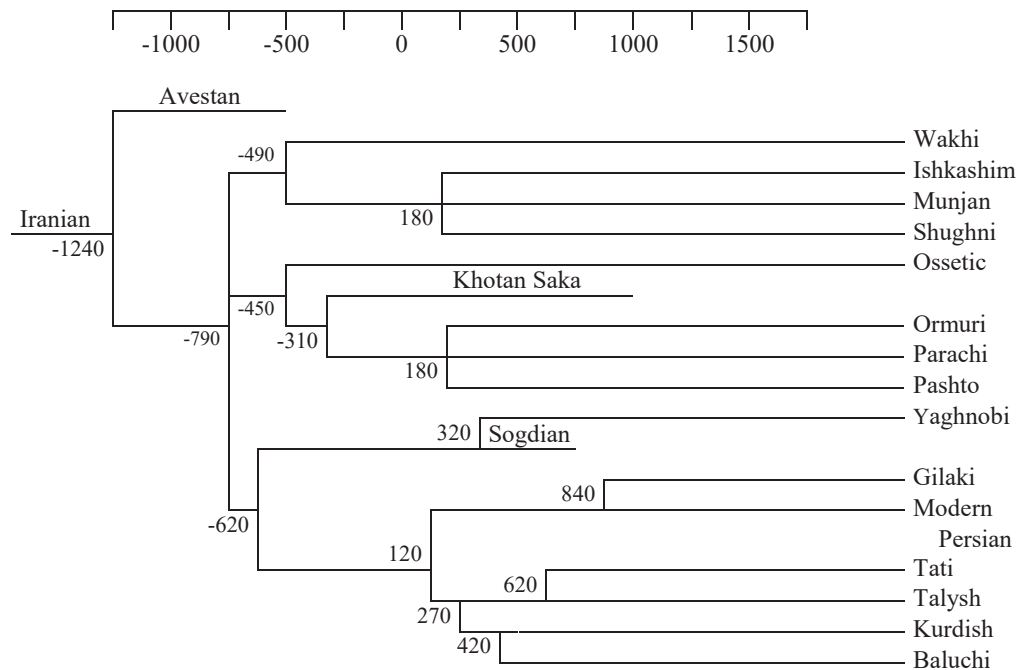


2.4. In his dissertation, Cathcart (2015, 52) presents a lexicostatistic classification of the 27 old, middle and modern Iranian languages, if loans are coded (**Tree-diagram 16**):



The most important result of Cathcart is the conclusion that only the West Iranian languages represent a coherent genealogical unit, while the so-called East Iranian languages are significantly more diverse.

2.5. The first attempt to classify the Iranian languages, applying recalibrated glottochronology, was realized by the team headed by Sergei Starostin (2004). It is important that Avestan and two Middle Iranian languages, Sogdian and Khotan Saka, were included (**Tree-diagram 17**).



3. A new model of classification of the Iranian languages

The following new attempt at the genealogical classification of the Iranian languages consists of six partial lexicostatistical studies, concentrated on selected groups of the (Indo-)Iranian languages and their mutual relations:

- 3.1. East Iranian I: Pashto, Parachi, Ormuri, Yaghnobi, Ossetic (Iron & Digor).
- 3.2. East Iranian II – Pamir languages: Munji, Yidgha, Yazghulami, Shughni, Ishkashim, Wakhi.
- 3.3. West Iranian: Persian (& Tajik), Sangisari, Baluchi, Kurmanji Kurdish, Zazaki.
- 3.4. Mutual relations of the groups I-III.
- 3.5. Middle Iranian: Middle Persian, Parthian, Sogdian, Khwarezmian, Khotanese, Bactrian, and their relations to modern Iranian languages and Avestan.
- 3.6. Avestan versus Sanskrit and Avestan versus Nuristani.

Ad 3.1. Statistics of results of the lexicostatistic comparison of five selected East Iranian languages:

3.1.1. Loanwords and missing items (underlined):

Pashto: 7, 10, 52; Σ 3.

Parachi: 3, 5, 6, 8, 10, 29, 34, 35, 52, 55, 56, 58, 69, 73, 75, 77, 83; Σ 17.

Ormuri: 4, 6, 7, 11, 27, 30, 32, 46, 52, 53, 64, 69, 73, 77, 78, 83, 90; Σ 17.

Yaghnobi: 2, 3, 5, 6, 11, 14, 20, 27, 29, 30, 41, 46, 48, 52, 54, 65, 69, 70, 75, 80, 83, 90, 100; Σ 23.

Ossetic Iron & Digor: 3 bark, 15 cold, 32 full, 35 green, 37 hand; Σ 5.

3.1.2. Survey of mutual cognates:

Pashto vs. Parachi: cognates: 4, 9, 13/2, 14, 16, 17, 18, 20, 21, 23, 24, 26, 27, 28, 30, 33, 37, 28, 39, 40, 41, 42/2, 43, 44, 45, 46, 49, 50, 54, 57, 59, 60, 62, 63, 65, 68, 70, 74, 76, 78, 80, 84/2, 86, 87, 88, 91, 92, 93, 94, 95, 98, 99, 100; share of cognates: $51.5/82 = 62.80\%$.

Pashto vs. Ormuri: cognates: 5, 9, 13/2, 14, 17, 18, 20, 21, 23, 24, 31/2, 33, 34, 35, 37, 38, 40, 41, 42, 43, 44, 45, 47, 48, 50, 51, 53/2, 54, 55, 57, 59, 60, 62, 63, 65, 66, 67, 70, 72, 74, 79, 80, 82, 85, 86, 87, 88, 91, 93, 94, 95, 97, 98, 100; share of cognates: $52.5/82 = 64.00\%$.

Pashto vs. Yaghnobi: cognates: 4, 9, 13/2, 14, 17, 18, 20, 21, 23, 26, 32, 37, 38, 42/2, 44, 47, 49, 50, 55, 57, 59, 60, 62, 63, 67, 71, 72, 73, 74, 76, 79, 81/2, 82, 84, 85, 86, 87, 88, 91, 94, 95, 97, 98; share of cognates: $40.5/75 = 54.00\%$.

Pashto vs. Ossetic Iron: cognates: 2/2, 5, 6, 12, 13/2, 14, 17, 20, 21, 22, 23, 24, 28, 29, 33, 38, 40, 41, 42, 44, 45, 48, 50, 54, 57, 59, 60, 61/2, 62, 63, 65, 66, 68, 72, 74, 75, 76, 80, 82, 84, 86, 87, 88, 91, 85, 98, 99; share of cognates: $45.5/92 = 49.46\%$.

Pashto vs. Ossetic Digor: cognates: 2/2, 5, 6, 12, 13/2, 14, 17, 20, 21, 22, 23, 24, 28, 29, 33, 38, 40, 41, 42, 44, 45, 48, 50, 54, 57, 59, 60, 61/2, 62, 63, 65, 66, 68, 72, 74, 75, 76, 79, 80, 82, 84, 86, 87, 88, 91, 85, 98, 99; share of cognates: $46.5/92 = 50.54\%$.

Parachi vs. Ormuri: cognates: 1, 9, 13, 14, 16, 18, 19, 20, 21, 23, 24, 28, 31/2, 33, 37, 38, 40, 41, 42/2, 43, 44, 45, 50, 54, 57, 59, 60, 62, 63, 70, 72, 74, 80, 86, 87, 88, 91, 92, 93, 94, 95, 96, 98, 100; share of cognates: $43/72 = 59.72\%$.

Parachi vs. Yaghnobi: cognates: 9, 13, 18, 21, 23, 25/2, 31, 37, 38, 42, 44, 49, 50, 51, 57, 59, 60, 61, 62, 63, 74, 76, 84/2, 85, 86, 87, 88, 89, 91, 82, 94, 95, 96, 98; share of cognates: $33/67 = 49.25\%$.

Parachi vs. Ossetic Iron: cognates: 13, 14, 18, 20, 21, 23, 24, 31, 33, 36, 38, 40, 41, 42/2, 43, 44, 45, 50, 54, 57, 59, 60, 62, 63, 67, 74, 76, 80, 84/2, 85, 86, 87, 88, 89, 91, 92, 95, 96, 98, 99; share of cognates: $39/79 = 49.37\%$.

Parachi vs. Ossetic Digor: cognates: 13, 14, 18, 20, 21, 23, 24, 31, 33, 36, 38, 40, 41, 42/2, 43, 44, 45, 50, 54, 57, 59, 60, 62, 63, 67, 74, 76, 80, 84/2, 85, 86, 87, 88, 89, 91, 92, 95, 96, 98, 99; share of cognates: $39/79 = 49.37\%$.

Ormuri vs. Yaghnobi: cognates: 9, 10, 13, 17, 21, 23, 25/2, 31/2, 36, 37, 38, 42/2, 44, 47, 50, 55, 57, 58/2, 59, 60, 62, 63, 67, 72, 74, 76, 79, 86, 87, 88, 91, 92, 94, 95, 96, 97, 98; share of cognates: $35/69 = 50.72\%$.

Ormuri vs. Ossetic Iron: cognates: 10, 13, 14, 17, 20, 21, 23, 24, 25, 31/2, 33, 36, 38, 40, 41, 42, 44, 45, 48, 50, 54, 57, 59, 60, 62, 63, 65, 66, 72, 74, 80, 86, 87, 88, 91, 92, 95, 96, 98; share of cognates: $38.5/79 = 48.73\%$.

Ormuri vs. Ossetic Digor: cognates: 10, 13, 14, 17, 20, 21, 23, 24, 25, 31/2, 33, 36, 38, 40, 41, 42, 44, 45, 48, 50, 54, 57, 59, 60, 62, 63, 65, 66, 72, 74, 79, 80, 86, 87, 88, 91, 92, 95, 96, 98; share of cognates: $39.5/79 = 50.00\%$.

Yaghnobi vs. Ossetic Iron: cognates: 8, 10, 12, 13, 17, 18, 21, 23, 25/2, 31, 33, 36, 38, 39, 42/2, 44, 50, 57, 59, 60, 62, 63, 72, 74, 76, 78, 82, 84, 85, 87, 88, 89, 91, 92, 93, 95, 96, 98; share of cognates: $37/73 = 50.68\%$.

Yaghnobi vs. Ossetic Digor: cognates: 8, 10, 12, 13, 17, 18, 21, 23, 25/2, 31, 33, 36, 38, 39, 42/2, 44, 50, 57, 59, 60, 62, 63, 72, 74, 76, 78, 79, 82, 84, 85, 87, 88, 89, 91, 92, 93, 95, 96, 98; share of cognates: $38/73 = 52.05\%$.

Ossetic Iron vs. Ossetic Digor: non-cognates: 77 small, 83 swim; share of cognates: $93/95 = 97.50\%$.

Table 5: Mutual percentages of common cognates between six languages of East Iranian I

	Parachi	Ormuri	Yagnobi	Ossetic Iron	Ossetic Digor
Pashto	51.5/82 = 62.80%	52.5/82 = 64.02%	40.5/75 = 54.00%	45.5/92 = 49.46%	46.5/92 = 50.54%
Parachi		43/72 = 59.72%	33/67 = 49.25%	39/79 = 49.37%	39/79 = 49.37%
Ormuri			35/69 = 50.72%	38.5/79 = 48.73%	39.5/79 = 50.00%
Yagnobi				37/73 = 50.68%	38/73 = 52.05%
Ossetic Iron					93/95 = 97.5%

Tree-diagram 18: Results of the glottochronological analysis applied to East Iranian I

Diagram 18a is a result of the standard cladistic procedure:

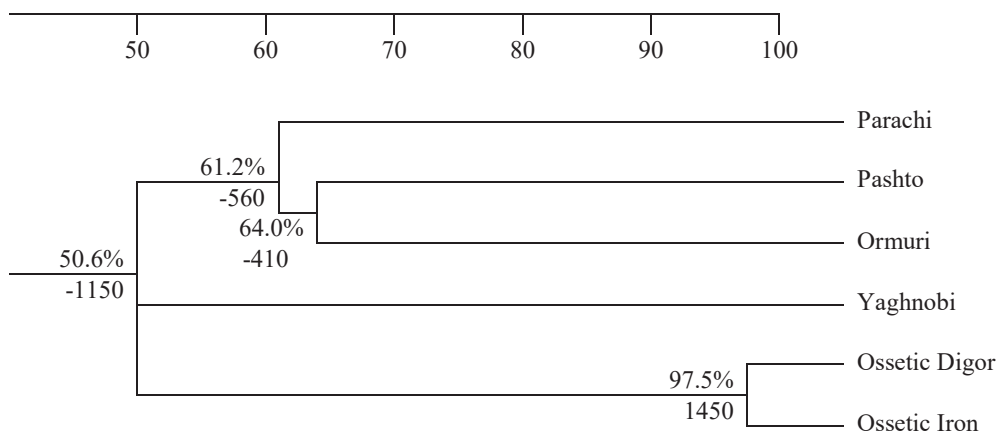
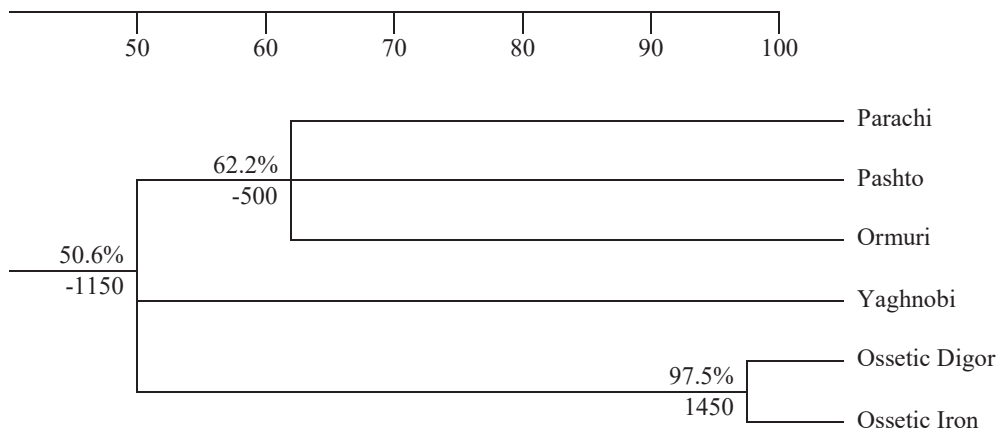


Diagram 18b approximates the Parachi, Pashto and Ormuri results into the same mean value:



Ad 3.2. Statistics of results of the lexicostatistic comparison of six selected Pamir Iranian languages:

3.2.1. Missing items and loanwords (underlined)

Munji: 3. bark, 6. bird, 13. claw, 15. cold, 46. leaf, 48. liver, 52. many, 64. person, 65. rain, 66. red; 69. round; Σ 11.

Yidgha: 3. bark, 15. cold, 32. full, 52. many, 64. person, 66. red, 69. round, 77. small, 93. warm; Σ 9.

Yazghulami: 2. ashes, 3. bark, 5. big, 11. breast, 15. cold, 24. egg, 29. fish, 32. full, 38. head, 46. leaf, 47. lie, 53. meat, 60. night, 64. person, 68. root, 70. sand, 71. say, 73. seed, 97. white; Σ 19.

Shughni: 3. bark, 5. big, 7. bite, 10. bone, 11. breast, 13. claw, 14. cloud, 20. dry, 24. egg, 29. fish, 32. full, 34. good, 38. head, 53. meat, 55. mountain, 60. night, 64. person, 65. rain, 71. say, 75. skin, 97. white; Σ 21.

Ishkashim: 5. big, 6. bird, 7. bite, 11. breast, 14. cloud, 15. cold, 22. earth, 26. fat, 27. feather, 28. fire, 29. fish, 38. head, 41. horn, 46. leaf, 47. lie, 48. liver, 54. moon, 60. night, 64. person, 65. rain, 66. red, 69. round, 70. sand, 77. small, 81. stone, 83. swim, 93. warm, 97. white; Σ 27.

Wakhi: 3. bark, 6. bird, 28. fire, 32. full, 38. head, 48. liver, 55. mountain, 61. nose, 64. person, 75. skin, 83. swim, 90. tree, 95. we, 96. what; Σ 14.

3.2.2. Survey of mutual cognates:

Munji vs. Yidgha: 1, 2, 4, 5, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 47, 49, 50, 51, 53, 54, 55, 57, 58, 59, 60, 61, 62, 63, 67, 68, 70, 71, 72, 73, 74, 75, 78, 79, 80, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 81/86 = 94.19\%$.

Munji vs. Yazghulam: 7, 9, 17, 20, 21, 22, 23, 25, 26, 27, 28, 31, 33, 34, 37, 39, 40, 41, 42, 44, 45, 49, 50, ?54, 55, 57, 59, 63, 67, 72, 74, 75, 78, 79, 80, 84, 85, 86, 87, 88, 89, 91, 92, 95, 96, 98, 99, 100; share of cognates: $n = 47.5/74 = 64.19\%$.

Munji vs. Shughni: 2, 9, 17, 21, 22, 23, 25, 26/2, 27, 28, 31, 33, 36, 37, 39, 40, 41, 42, 44, 45, 47, 49, 50, ?54, 57, 59, 63, 67, 68, 72, 73, 74, 78, 79, 80, 84, 85, 86, 87, 88, 89, 91, 92, 93, 95, 96, 98, 99/2, 100; share of cognates: $n = 47.5/72 = 65.98\%$.

Munji vs. Ishkashim: 2, 4, 9, 10, 16, 17, 21, 23, 24/2, 25, 31, 33, 36, 37, 40, 42, 44, 45, 49, 50, 51, 57, 59, 63, 72, 73, 74, 75, 78, 79, 80, 84, 85, 86, 87, 88, 89, 91, 92, 94, 95, 96, 98, 99, 100; share of cognates: $n = 44.5/70 = 63.57\%$.

Munji vs. Wakhi: 4, 7, 9, 10, 11, 17, 20, 21, 25, 29, 31, 33, 36, 37, 40, 41, 42, 49, 50, 54, 57, 63, 67, 68, 72, 73, 74, 78, 79, 80, 85, 86, 87, 88, 89, 91, 92, 94, 98, 100; share of cognates: $n = 40/79 = 50.63\%$.

Yidgha vs. Yazghulam: 7, 9, 17, 20, 21, 22, 23, 25, 27, 28, 31, 33, 34, 37, 39, 40, 41, 42, 44, 45, 49, 50, ?54, 55, 57, 59, 63, 67, 72, 74, 75, 78, 79, 80, 81, 84, 85, 86, 87, 88, 89, 91, 92, 95, 96, 98, 99, 100; share of cognates: $n = 47.5/76 = 62.50\%$.

Yidgha vs. Shughni: 2, 9, 17, 21, 22, 23, 25, 27, 28, 31, 33, 36, 37, 39, 40, 41, 42, 44, 45, 46, 69, 50, ?54, 57, 59, 63, 67, 69, 72, 73, 74, 78, 79, 80, 81, 84, 85, 86, 87, 88, 89, 91, 92, 95, 96, 98, 99/2, 100; share of cognates: $n = 47/73 = 64.38\%$.

Yidgha vs. Ishkashim: 2, 4, 9, 10, 13, 16, 17, 21, 23, 24/2, 25, 31, 33, 36, 37, 40, 42, 44, 46, 49, 50, 51, 57, 59, 63, 72, 73, 74, 75, 78, 79, 80, 84, 85, 86, 87, 88, 89, 91, 92, 94, 95, 96, 98, 99, 100; share of cognates: $n = 46.5/70 = 66.43\%$.

Yidgha vs. Wakhi: 4, 7, 9, 10, 11, 13, 17, 20, 21, 25, 26, 29, 31, 33, 36, 37, 40, 41, 42, 46, 49, 50, 54, 57, 63, 65, 67, 68, 72, 73, 74, 75, 78, 79, 80, 81, 85, 86, 87, 88, 89, 91, 92, 94, 98, 100; share of cognates: $n = 46/79 = 58.45\%$.

Yazghulam vs. Shughni: 9, 16, 17, 18, 21, 22, 23, 25, 26/2, 27, 28, 30, 31, 33, 36, 37, 39, 40, 41, 42, 43, 44, 45, 48, 49, 50, 52, 54, 56, 57, 58, 59, 61, 62, 63, 66, 67, 69, 72, 74, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, 98, 99/2, 100; share of cognates: $n = 62/72 = 86.11\%$.

Yazghulam vs. Ishkashim: 9, 17, 18, 19, 21, 23, 25, 30, 31, 33, 37, 40, 42, 43, 44, 45, 49, 50, 57, 58, 59, 61, 62, 63, 72, 74, 75, 76, 78, 79, 80, 84, 85, 86, 87, 88, 89, 90, 91, 92, 95, 96, 98, 99, 100; share of cognates: $n = 45/65 = 69.23\%$.

Yazghulam vs. Wakhi: 7, 9, 16, 17, 20, 21, 25, 30, 31, 33, 37, 40, 41, 42, 49, 50, ?54, 56, 57, 58, 62, 63, 67, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 85, 86, 87, 88, 89, 91, 92, 98, 100; share of cognates: $n = 41.5/71 = 58.45\%$.

Shughni vs. Ishkashim: 2, 9, 12, 17, 18, 21, 23, 25, 30, 33, 36, 37, 40, 42, 43, 44, 45, 46, 49, 50, 57, 58, 59, 61, 62, 72, 73, 74, 76, 78, 79, 80, 84, 85, 86, 87, 88, 89, 90, 91, 92, 95, 96, 98, 99/2, 100; share of cognates: $n = 45.5/62 = 73.39\%$.

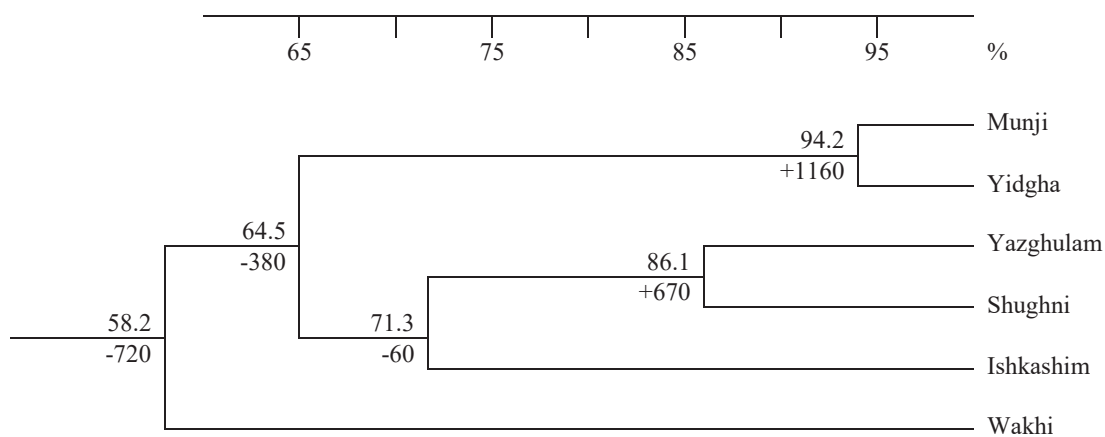
Shughni vs. Wakhi: 9, 12, 17, 21, 25, 30, 33, 36, 37, 40, 41, 42, 43, 46, 49, 50, ?54, 57, 58, 62, 67, 68, 72, 73, 74, 76, 77, 78, 79, 80, 81, 82, 85, 86, 87, 88, 89, 91, 92, 98, 100; share of cognates: $n = 40.5/71 = 57.04\%$.

Ishkashim vs. Wakhi: 4, 8, 9, 10, 12, 13, 17, 19, 21, 25, 30, 31, 33, 36, 37, 40, 42, 46, 49, 50, 54, 57, 58, 62, 63, 68, 72, 73, 74, 75, 76, 78, 79, 80, 85, 86, 87, 88, 89, 91, 92, 94, 98, 100; share of cognates: $n = 43.5/65 = 66.92\%$.

Table 6: Mutual percentages of common cognates between six Pamir languages

%	Yidgha	Yazghulam	Shughni	Ishkashim	Wakhi
Munji	81/86 = 94.19%	47.5/74 = 64.19%	47.5/72 = 65.98%	44.5/70 = 63.57%	40/79 = 50.63%
Yidgha		47.5/76 = 62.50%	47/73 = 64.38%	46.5/70 = 66.43%	46/79 = 58.23%
Yazghulam			62/72 = 86.11%	45/65 = 69.23%	41.5/71 = 58.45%
Shughni				45.5/62 = 73.39%	40.5/71 = 57.04%
Ishkashim					43.5/65 = 66.92%

Tree-diagram 19: Results of the glottochronological analysis applied to the Pamir languages (Table 6)



Ad 3.3. Statistics of results of the lexicostatistic comparison of six chosen selected Iranian languages:

3.3.1. Missing items (underlined> and loanwords

Persian: 44, 50, 81, 88, 97, 100; Σ 6.

Tajik: 22, 44, 50, 81, 88, 97, 100; Σ 7.

Sangisari: 4, 6, 35, 40, 52; Σ 5.

Baluchi: 9, 10, 13, 27, 29, 30, 32, 33, 35, 41, 48, 54, 55, 56, 63, 64, 67, 69, 83, 93, 97, 100; Σ 22.

Kurdish: 4, 40, 44, 56, 63, 79; Σ 6.

Zazaki: 3, 7, 8, 14, 48, 70; Σ 6.

5.3.2. Survey of mutual non-cognates:

Persian vs. Tajik: non-cognates: 26, 77; share of cognates: $n = 91/93 = 97.84\%$.

Persian vs. Sangisari: cognates: 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 26, 27, 28, 29, 30, 31, 33, 36, 37, 38, 39, 41, 42/2, 43, 45, 46, 47, 48, 48, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 66, 67, 69, 70, 72, 73, 74, 75, 76, 78, 79, 80, 82, 83, 84, 85, 86, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 73.5/89 = 82.58\%$.

Persian vs. Baluchi: cognates: 6, 7, 8, 11, 12, 15, 16, 17, 19, 20, 21, 23, 25, 26, 28, 31, 36, 37, 38, 40, 42, 43, 45, 47, 49, 51, 53, 57, 59, 60, 61, 62, 65, 66, 70, 72, 73, 74, 75, 76, 78, 79, 80, 82, 84, 85, 86, 87, 89, 90/2, 91, 94, 95, 96, 98, 99; share of cognates: $n = 55.5/74 = 75.00\%$.

Persian vs. Kurdish: cognates: 1, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 27, 28, 29, ?30, 31, 33, 36, 37, 38, 42/2, 43, 45, 46, 48, 49, 51, 53, 54, 57, 59, 60, 62, 66, 67, 70, 71, 72, 73, 74, 75, 76, 78, 80, 82, 84, 85/2, 86/2, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 61/89 = 68.54\%$.

Persian vs. Zazaki: cognates: 1, 6, 7, 9, 10, 11, 13, 15, 16, 17, 19, 20, 21, 23, 25, 27, 28, 29, 30, 31, 33, 36, 37, 38, 39, 40, 42/2, 43, 45, 46, 49/2, 51, 53, 54/2, 55, 57, 59, 60, 62, 63, 65, 66, 67, 72, 73, 74, 75, 76, 78, 80, 82, 83, 84, 85/2, 86, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 62/88 = 70.45\%$.

Tajik vs. Sangisari: cognates: 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 26, 27, 28, 29, 30, 31, 33, 36, 37, 38, 39, 41, 42/2, 43, 45, 46, 47, 48, 49, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 63, 66, 67, 68, 69, 70, 72, 73, 74, 75, 76, 77, 78, 79, 80, 82, 83, 84, 85, 86, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 74.5/88 = 84.66\%$.

Tajik vs. Baluchi: cognates: 7, 8, 11, 12, 15, 16, 17, 19, 20, 21, 23, 26, 28, 31, 36, 37, 38, 40, 42, 43, 45, 47, 49, 51, 53, 57, 59, 60, 61, 62, 65, 66, 70, 72, 73, 74, 75, 76, 77, 78, 79, 80, 82, 84, 85, 86, 87, 89, 90/2, 91, 94, 95, 96, 98, 99; share of cognates: $n = 54.5/73 = 74.66\%$.

Tajik vs. Kurdish: cognates: 1, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 23, 25, 26, 27, 28, 29, ?30, 31, 33, 36, 37, 38, 42/2, 43, 45, 46, 48, 49, 51, 53, 54, 57, 59, 60, 62, 66, 67, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 80, 82, 84, 85/2, 86/2, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 63/88 = 71.59\%$.

Tajik vs. Zazaki: cognates: 1, 7, 9, 10, 11, 13, 15, 16, 17, 19, 20, 21, 23, 25, 26, 27, 28, 29, 30, 31, 33, 36, 37, 38, 39, 40, 42/2, 43, 45, 46, 49/2, 51, 53, 54/2, 55, 57, 59, 60, 62, 63, 65, 66, 67, 68, 72, 73, 74, 75, 76, 78, 80, 82, 83, 84, 85/2, 86, 87, 89, 91, 93, 94, 95, 96, 98, 99; share of cognates: $n = 62/87 = 72.41\%$.

Sangisari vs. Baluchi: cognates: 7, 8, 11, 12, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 31, 36, 37, 38, 42/2, 43, 44, 45, 49, 50, 51, 54, 57, 59, 60, 61, 66, 70, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 84, 85, 86, 87, 88, 89, 91, 92, 94, 95, 96, 98, 99; share of cognates: $n = 55.5/74 = 75.00\%$.

Sangisari vs. Kurdish: cognates: 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 23, 24/2, 25, 27, 29, 30/2, 31, 33, 36, 37, 38, 42, 43, 45, 46, 47, 48, 49, 50, 51, 53, 54, 57, 59, 60, 66, 67, 68, 70, 72, 73, 74, 75, 76, 78, 80, 81, 82, 84, 85/2, 86/2, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 65/90 = 72.22\%$.

Sangisari vs. Zazaki: cognates: 9, 10, 11, 13, 15, 16, 17, 20, 21, 23, 24/2, 25, 27, 29, 30, 31, 33, 36, 37, 38, 42, 43, 44, 45, 46, 49/2, 50, 51, 53, 54/2, 55, 57, 59, 60, 63, 66, 68, 72, 73, 74, 75, 76, ?77, 78, 80, 85/2, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 58.5/89 = 65.73\%$.

Baluchi vs. Kurdish: cognates: 5, 7, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24/2, 25, 28, 31, 36, 37, 38, 42/2, 43, 45, 46, 47, 49, 50, 51, 53, 57, 59, 60, 62, 66, 70, 72, 73, 74, 75, 76, 78, 80, 81, 82, 84, 85/2, 86/2, 87, 88, 89, 91, 92, 94, 95, 96, 98, 99; share of cognates: $n = 54/74 = 72.97\%$.

Baluchi vs. Zazaki: cognates: 9, 10, 11, 13, 15, 16, 17, 20, 21, 23, 24/2, 25, 27, 29, 30, 31, 33, 36, 37, 38, 42, 43, 44, 45, 46, 49/2, 50, 51, 53, 54/2, 55, 57, 59, 60, 63, 66, 68, 72, 73, 74, 75, 76, ?77, 78, 80, 85/2, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 52.5/73 = 71.92\%$.

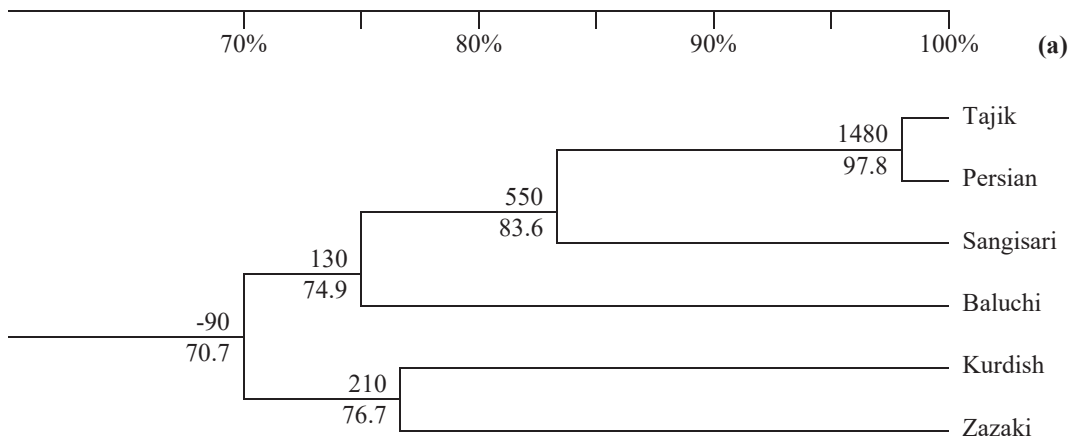
Kurdish vs. Zazaki: cognates: 1, 2, 5, 9, 11, 13, 15, 17, 18, 20, 21, 23, 24, 25, 26, 27, 28, 29, ?30, 31, 32, 33, 35, 36, 37, 41, 42, 43, 45, 46, 49/2, 50, 51, 52, 53, 54/2, 57, 59, 60, 62, 64, 66, 67, 68, 72, 73, 74, 75, 76, 77, 78, 80, 82, ?84, 85, 86/2, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 67.5/88 = 76.70\%$.

Table 7: Mutual percentages of common cognates between six West Iranian languages

%	Tajik	Sangisari	Baluchi	Kurdish	Zazaki
Persian	91/92 = 97.84%	73.5/89 = 82.58%	55.5/74 = 75.00%	61/89 = 68.54%	62/88 = 70.45%
Tajik		74.5/88 = 84.66%	54.5/73 = 74.66%	63/88 = 71.59%	62/87 = 72.41%
Sangisari			55.5/74 = 75.00%	65/90 = 72.22%	58.5/89 = 65.73%
Baluchi				54/74 = 72.97%	52.5/73 = 71.92%
Kurdish					67.5/88 = 76.70%

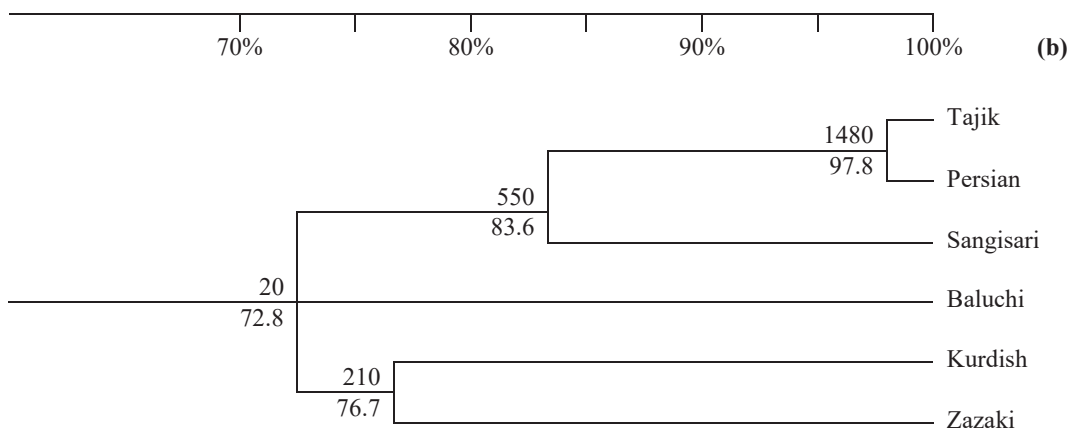
Tree-diagram 20: Results of the glottochronological analysis applied to the West Iranian languages (a) If the gradual cladistic procedure based on averages of percentages of common cognates is applied, the result is depicted in diagram a:

Tree-diagram 20a

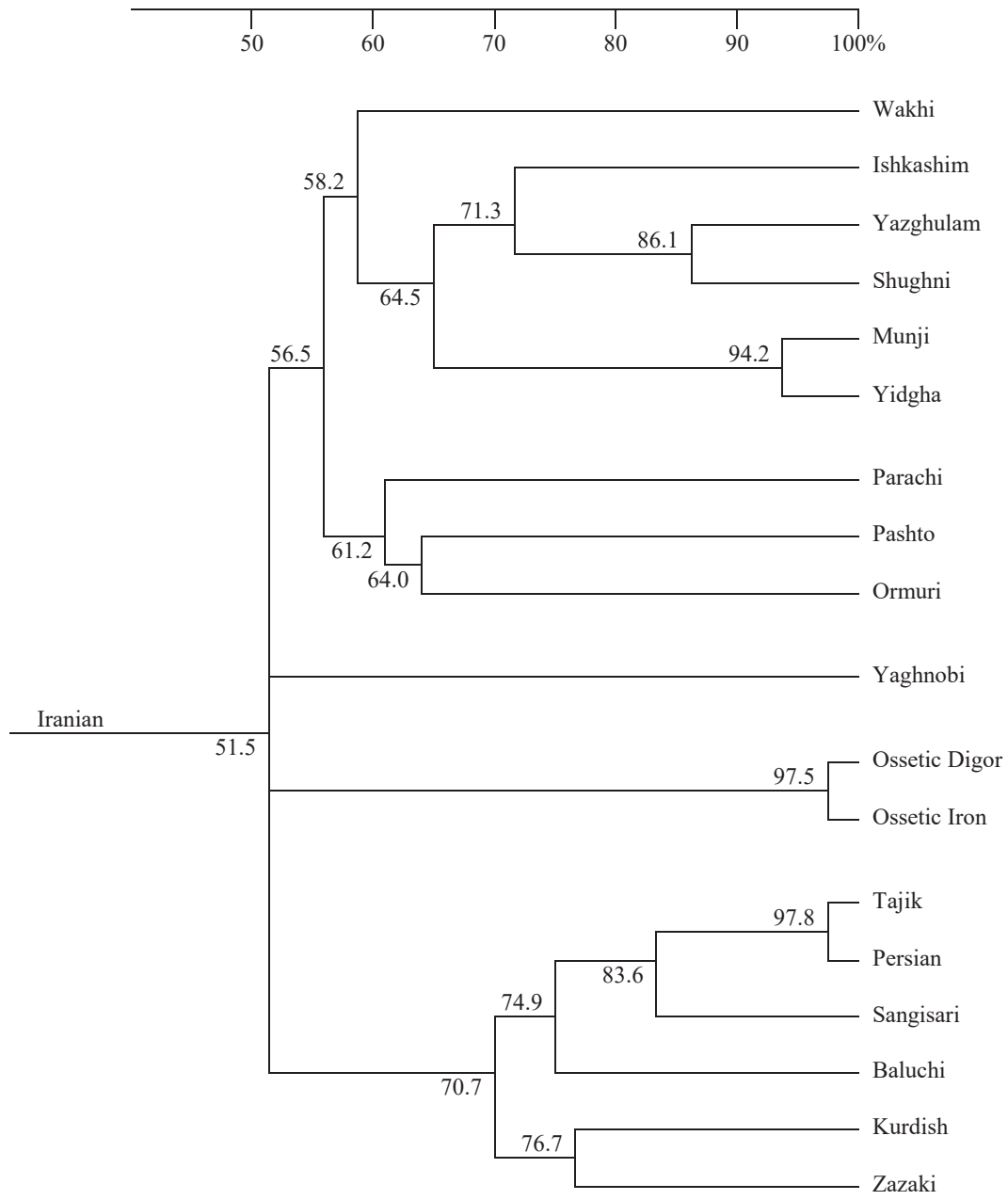


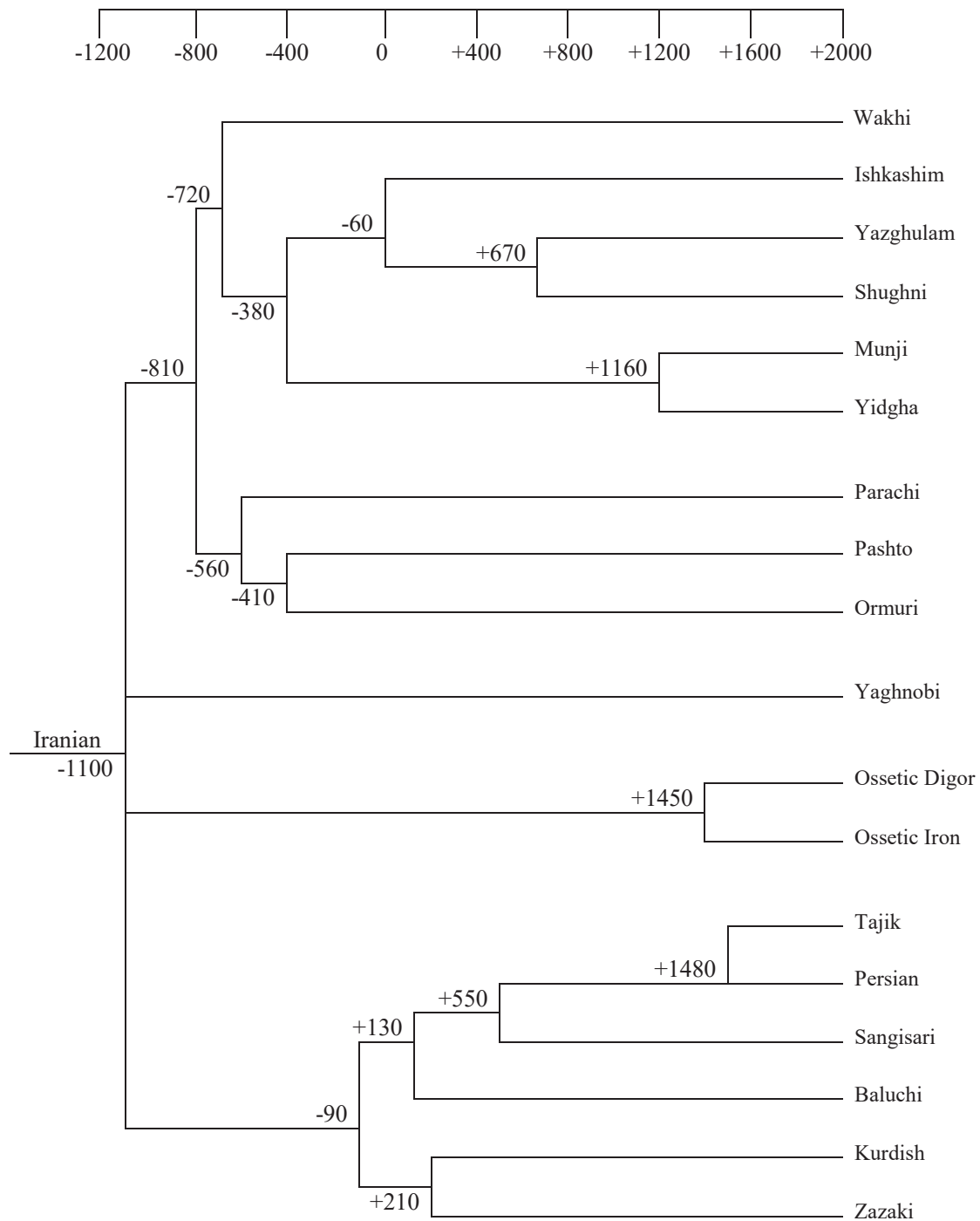
(b) But with respect to the high number of loanwords in the 100-word-list (22%), the Baluchi percentage of cognates shared with Persian (plus Tajik and Sangisari) could be higher than the real value. The percentages 70.7% and 74.9%, expressing the shares of common isoglosses for all studied West Iranian languages and for the Baluchi with Sangisari-Persian-Tajik respectively, differ only by 2.1% from the mean value 72.8%. This 2.1% represents 1–2 items among cognates, which is why the projection of chronology of the West Iranian dialect continuum in this mid level may represent an acceptable approximation (b):

Tree-diagram 20b



Tree-diagram 21: Classification of 18 modern Iranian languages based on percentages of common cognates



Tree-diagram 22: Classification of 18 modern Iranian languages projected in the time scale

Ad 3.5. Statistics of results of the present glottochronological comparison of five well-described Middle Iranian languages, plus Bactrian (first version was discussed in Blažek 2013):

Note: Only the lexical correspondences conforming to the sound rules are taken in account as cognates. Namely, the following Middle Persian lexemes do not agree with phonetic laws established for this language:

1. *wysp*^M, *wsp*^Z/*wisp*/ „all“, 22. *zmyg*^M, *zmyk*^Z/*zamīg*/ „earth“, 35. *zlgwn*^Z/*zargōn*/, *hwzrgwn*^M/*hu-zargōn*/ „green“, 44. ‘*šnwg*^M/*išnūg*/, *z’nwk*^Z/*zānūg*/ „knee“, 50. ‘*spyš*^M/*išpiš*/, *spyš*^Z/*spiš*/ „louse“, 56. *zpl*^L daev. /*zafar*/ „mouth“, 81. *sng*^Z „stone“, 82. *myhr*^M, *mtr*^Z/*mihr*/ „sun“, 88. ‘*zw*ⁿ/*izwān*/, ‘*wzw*ⁿ/*uzwān*/ „tongue“, 97. ‘*spyd*^M, *spyt*^Z /(*i*)*spēd*/ „white“, 100. *zlt*^Z /*zard*/ „yellow“.

3.5.1. Missing items and loans

Middle Persian: 44, 50, 88, 100; Σ 4.

Parthian: 2, 3, 11, 13, 24, 26, 27, 41, 48, 50, 66, 69, 100; Σ 13.

Sogdian: 3, 41, 48, 70; Σ 4.

Khwarezmian: 48, 64, 68, 79; Σ 4.

Khotanese: 7, 30, 50, 83; Σ 4.

Bactrian: 2, 3, 4, 6, 7, 8, 9, 10, 12, 13, 14, 15, 20, 21, 24, 25, 26, 27, 29, 30, 31, 35, 36, 37, 38, 40, 41, 43, 46, 47, 48, 49, 50, 53, 56, 61, 64, 65, 66, 68, 69, 70, 74, 75, 76, 78, 79, 80, 83, 84, 88, 89, 90, 93, 96, 97, 100; Σ 57.

3.5.2. Survey of shared cognates

Middle Persian vs. Parthian: 1, 4, 5, 6, 7, 8, 10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 42/2, 43, 45, 46, 47, 49, 51, 52, 53, 54, 55, 57, 58, 59, 60, 62, 63, 64, 65, 67, 68, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 85, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 98, 99; share of cognates: $n = 77.5/85 = 91.18\%$.

Middle Persian vs. Sogdian: 1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 26, 27, 28, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 42/2, 45, 46, 47, 51, 52, 53, 54, 55, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 69, 72, 73, 74, 75, 76, 77, 79, 80, 82, 83, 84, 85, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 98; share of cognates: $n = 75.5/92 = 82.07\%$.

Middle Persian vs. Khwarezmian: 1, 2, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 26, 27, 28, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 42/2, 45, 46, 47, 51, 52, 53, 54, 55, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 69, 72, 73, 74, 75, 76, 77, 79, 80, 82, 83, 84, 85, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 98; share of cognates: $n = 57.5/92 = 62.50\%$.

Middle Persian vs. Khotanese: 1, 2, 6, 9, 10, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 25, 26, 27, 31, 32, 33, 37, 38, 39, 40, 41, 42/2, 43, 45, 46, 47, 48, 49, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 65, 67, ?69, 70, 72, 73, 74, 75, 76, 77, 79, 80, 84, 86, 87, 89, 90, 91, 92, 93, 94, 95, 96, 98; share of cognates: $n = 68/93 = 73.12\%$.

Middle Persian vs. Bactrian: 1, 5, 16, 17, 23, 28, 32, 33, 33, 34, 39, 42/2, 45, 51, 54, 55, 57, 59, 60, 62, 63, 67, 71, 72, 73, 77, 82, 85/2, 86, 87, 91, 92, 94, 95, 98, 99; $n = 34/43 = 80.95\%$.

Parthian vs. Sogdian: 1, 6, 8, 9, 10, 12, 14, 15, 16, 17, 20, 21, 23, 25, 28, 30, 31, 32, 35, 36, 37, 38, 39, 40, 42, 44, 45, 46, 47, 51, 53, 54, 55, 56, 57, 59, 60, 61, 62, 63, 64, 65, 67, 68, 72, 73, 74, 75, 76, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98; share of cognates: $n = 70/86 = 81.40\%$.

Parthian vs. Khwarezmian: 1, 5, 6, 8, 9, 10, 14, 15, 16, 17, 20, 21, 22, 23, 25, 28, 31, 34, 37, 38, 39, 40, 41, 42, 43, 44, 46, 47, 51, 54, 55, 57, 59, 60, 61, 62, 63, 65, 67, 70, 71, 72, 74, 75, 78, 80, 81, 84, 87, 88, 90, 91, 93, 94, 95, 96, 97, 98; share of cognates: $n = 58/84 = 69.04\%$.

Parthian vs. Khotanese: 1, 6, 9, 10, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23, 25, 31, 32, 37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49, 53, 54, 55, 57, 59, 60, 61, 62, 63, 65, 67, 68, 70, 72, 73, 74, 75, 76, 77, 79, 80, 81, 84, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98; share of cognates: $n = 64/84 = 76.19\%$.

Parthian vs. Bactrian: 1, 5, 16, 17, 22, 23, 28, 32, 33, 39, 42, 44, 45, 51, 54, 55, 57, 59, 60, 62, 63, 67, 72, 73, 81, 82, 85/2, 86, 87, 91, 92, 94, 95, 98, 99; $n = 34.5/42 = 82.14\%$.

Sogdian vs. Khwarezmian: 1, 2, 4/2, 6, 8, 9, 10, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 33, 34, 36, 37, 38, 39, 40, 42, 44, 45, 47, 49, 50, 51, 54, 55, 57, 58, 59, 60, 61, 62, 63, 65, 72, 73, 74, 75, 80, 81, 82, 84, 85/2, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96, 97, 98, 100; share of cognates: $n = 70.5/93 = 75.81\%$.

Sogdian vs. Khotanese: 1, 2, 4/2, 6, 9, 10, 12, 13, 14, 15, 16, 17, 20, 21, 22/2, 23, 25, 26, 27, 29, 32, 33, 34, 36, 37, 39, 40, 42, 44, 45, 46, 47, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 65, 68, ?69, 72,

73, 74, 75, 76, 77, 80, 81, 84, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100; share of cognates: $n = 71.5/92 = 77.72\%$.

Sogdian vs. Bactrian: 1, 5, 16, 17, 18, 23, 28, 32, 34, 39, 42, 44, 45, 51, 54, 55, 57, 59, 60, 62, 63, 72, 73, 77, 81, 82, 85, 86, 87, 91, 92, 94, 95, 98; $n = 34/43 = 79.07\%$

Khwarezmian vs. Khotanese: 1, 2, 4, 5, 6, 9, 10, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 27, 29, 31, 33, 36, 37, 39, 40, 41, 42, 43, 44, 46, 47, 49, 54, 55, 57, 58, 59, 60, 61, 62, 63, 65, 66, 67, ?69, 70, 72, 74, 75, 80, 81, 84, 87, 88, 90, 91, 93, 94, 95, 96, 97, 98, 100; share of cognates: $n = 63.5/92 = 69.02\%$.

Khwarezmian vs. Bactrian: 1, 11, 13, 16, 17, 18, 22, 23, 28, 34, 39, 42, 44, 45, 51, 54, 55, 57, 59, 60, 62, 63, 67, 72, 81, 86, 87, 91, 94, 95, 98; $n = 31/43 = 72.09\%$.

Khotanese vs. Bactrian: 1, 16, 17, 22, 23, 32, ?34, 39, 42, 44, 45, 54, 55, 57, 59, 60, 62, 63, 67, 72, 73, 81, 86, 87, 91, 92, 94, 95, 98; $n = 28.5/43 = 66.28\%$.

Table 9: Mutual percentages of common cognates between six Middle Iranian languages

%	Parthian	Sogdian	Khwarezmian	Khotanese	Bactrian
Middle Persian	$77.5/85 = 91.18\%$	$75.5/92 = 82.07\%$	$57.5/92 = 62.50\%$	$68/93 = 73.12\%$	$34/42 = 80.95\%$
Parthian		$70/86 = 81.40\%$	$58/84 = 69.04\%$	$64/84 = 76.19\%$	$34.5/42 = 82.14\%$
Sogdian			$70/93 = 75.27\%$	$71.5/92 = 77.72\%$	$34/43 = 79.07\%$
Khwarezmian				$63.5/92 = 69.02\%$	$31/43 = 72.09\%$
Khotanese					$29.5/43 = 66.28\%$

3.5.3. Chronology of epigraphic or literary documents of studied languages

Middle Persian: 3rd – 7th cent. & 9th – 10th cent. CE; mid: 600 CE (Sundermann 1989a, 138–39).

Parthian: 2nd cent. BCE – 3rd cent. CE (Arsakids) & 3rd – 4th cent. CE (Sassanids); mid: 100 CE (Sundermann 1989b, 116).

Sogdian: 4th – 10th cent. CE; mid: 600 CE (Yoshida 2010, 280–81).

Khwarezmian: 11th – 14th cent. CE; mid: 1200 CE (Durkin-Meisterernst 2010, 336–38).

Khotanese: 7th – 10th cent. CE; mid: 800 CE (Emmerick 2010, 378).

Bactrian: 2nd – 3rd cent. CE; mid: 200 CE (Sims-Williams 1989, 231).

3.5.4. Results of the glottochronological analysis

In the case of asynchronously attested languages it is necessary to modify the calculations of partial disintegrations. Morris Swadesh offered a virtual chronological level, determinable as an arithmetical average of the chronological levels of the compared languages. This easy correction gives the following virtual chronological levels (without Bactrian):

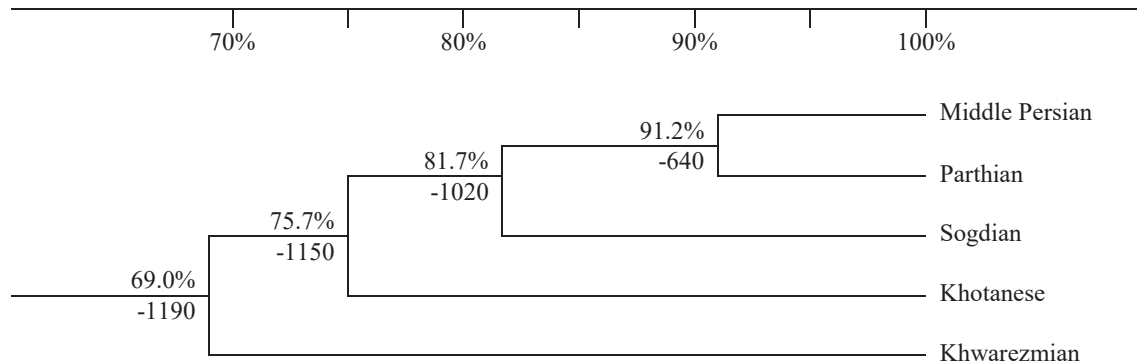
Middle Persian & Parthian: $(600 + 100)/2 = 350$ CE, minus 990 years of divergence = 640 BCE.

{Middle Persian & Parthian} & Sogdian: $(350 + 600)/2 = 475$ (480^{round off}) CE, minus 1500 years of divergence = 1020 BCE.

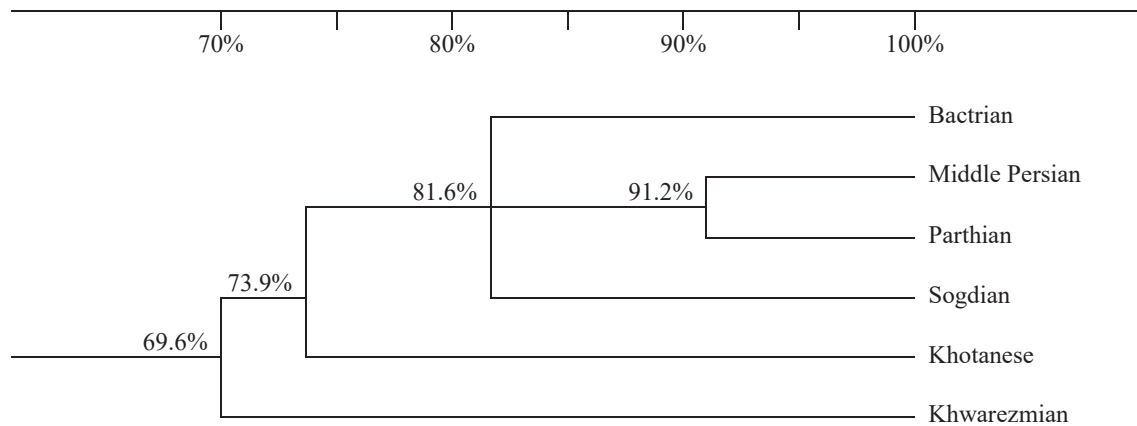
{Middle Persian & Parthian & Sogdian} & Khotanese: $(480+800)/2 = 640$ CE, minus 1790 years of divergence = 1150 BCE.

{Middle Persian & Parthian & Sogdian & Khotanese} & Khwarezmian: $(640 + 1200)/2 = 920$ CE, minus 2110 years of divergence = 1190 BCE.

If the incomplete Bactrian lexical data are not taken in account, these results lead to **Tree-diagram 23**:



If Bactrian is included, the topology of **Tree-diagram 24** based on percentages is in principle the same, only the Bactrian branch is added:



3.5.5. Discussion of results in the chronological perspective

Quite different are results and topology of the diagram including Bactrian, if the results are projected in the time scale:

Middle Persian & Parthian: $(600 + 100)/2 = 350$ CE, minus 990 years of divergence = 640 BCE.

{Middle Persian & Parthian} & Sogdian: $(350 + 600)/2 = 475$ (480^{round off}) CE, minus 1500 years of divergence = 1020 BCE.

{Middle Persian & Parthian & Sogdian} & Bactrian: $(480+200)/2 = 340$ CE, minus 1500 years of divergence = 1160 BCE.

{Middle Persian & Parthian & Sogdian & Bactrian} & Khotanese: $(340 + 800)/2 = 570$ CE, minus 1870 years of divergence = 1340 BCE.

{Middle Persian & Parthian & Sogdian & Bactrian & Khotanese} & Khwarezmian: $(570 + 1200)/2 = 885$ (880^{round off}) CE, minus 2080 years of divergence = 1200 BCE.

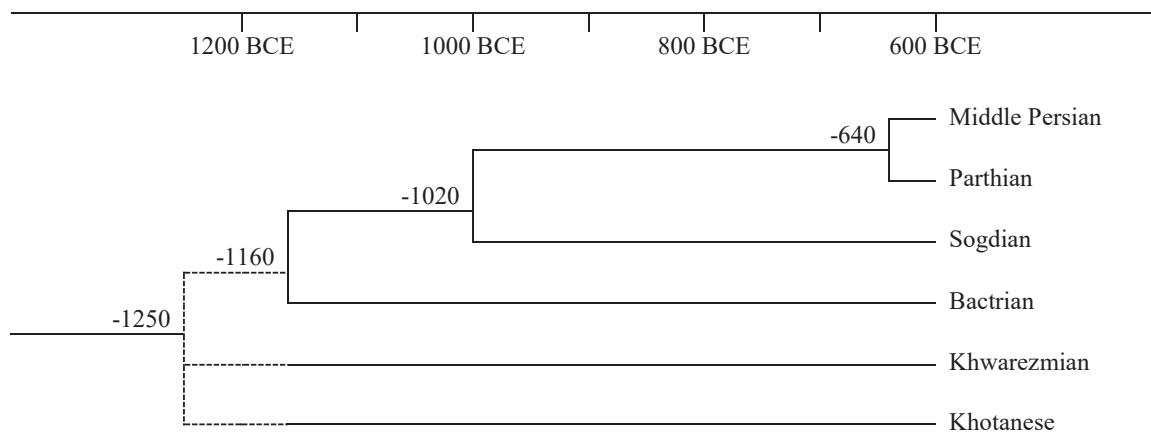
If Khotanese and Khwarezmian change their positions in the chain, the results are more or less symmetrically opposite:

{Middle Persian & Parthian & Sogdian & Bactrian} & Khwarezmian: $(340 + 1200)/2 = 770$ CE, minus 2080 years of divergence = 1310 BC.

{Middle Persian & Parthian & Sogdian & Bactrian & Khwarezmian} & Khotanese: $(770 + 800)/2 = 785$ (780^{round.off}) CE, minus 1950 years of divergence = 1170 BC.

Uncertainty in positions of Khotanese and Khwarezmian may be solved by approximation, as the arithmetical average of the four final results for both languages: $(1200 + 1340 + 1310 + 1170)/4 = 1255 = 1250^{\text{round of BCE}}$, or simply the 13th century. After this step the tree diagram projected in the time scale may be depicted as follows:

Tree-diagram 25



The dating separation of Parthian and Middle Persian to 640 BCE corresponds to the time when Median tribes were united under their rulers Deioces (700–647 BCE) and his son Phraortes (647–625 BCE) according to the witness of Herodotus⁴⁶⁹ [I.101–102]. The unification of some tribes meant their separation from other tribes, independently of their ethnic and linguistic relations. On the other hand, this conclusion should be compatible with chronology of disintegration of modern West Iranian languages, dated to the beginning of the 1st cent. BCE (see section C above). It is well-described that the Old Persian of royal inscriptions was quite saturated with Median features. During the Achaemenid Empire (549–330 BCE) the process of integration was undoubtedly even stronger, in the case of spoken languages, so that it was possible to speak about ‘West Iranian koine’ (Schmitt 1989, 83–84). Only a new territorial expansion during the Parthian Empire ruled by Arsacids (247 BCE – 224 CE) probably stimulated a new disintegration of the reintegrated West Iranian continuum in the 1st cent. BCE.

469 Δηϊόκης μὲν νυν τὸ Μηδικὸν ἔθνος συνέστρεψε μόνον καὶ τοῦτον ἤρξε: ἔστι δὲ Μήδων τοςάδε γένεα, Βοῦσαι Παρητακηνοὶ Στρούχατες Ἀριζαντοὶ Βούδιοι Μάγοι. γένεα μὲν δὴ Μήδων ἐστὶ τοςάδε. Δηϊόκεω δὲ παῖς γίνεται Φραόρτης, ὃς τελευτήσαντος Δηϊόκεω, βασιλεύσαντος τρία καὶ πενήτηκοντα ἔτη, παρεδέξατο τὴν ἀρχήν, παραδεξάμενος δὲ οὐκ ἀπεχρᾶτο μόνων Μήδων ἄρχειν, ἀλλὰ στρατευσάμενος ἐπὶ τοὺς Πέρσας πρότοισι τε τοῦτοισι ἐπεθήκατο καὶ πρώτους Μήδων ὑπηκόους ἐποίησε.

“Deioces, then, united the Median nation by itself and ruled it. The Median tribes are these: the Busae, the Paretaceni, the Struchates, the Arizanti, the Budii, the Magi. Their tribes are this many. Deioces had a son, Phraortes, who inherited the throne when Deioces died after a reign of fifty-three years. Having inherited it, he was not content to rule the Medes alone: marching against the Persians, he attacked them first, and they were the first whom he made subject to the Medes.”

Herodotus: *The Histories*, with an English translation by A. D. Godley.

Cambridge: Harvard University Press. 1920.

<http://data.perseus.org/citations/urn:cts:greekLit:tlg0016.tlg001.perseus-grc1:1.101.1 & 102.1>

<http://data.perseus.org/citations/urn:cts:greekLit:tlg0016.tlg001.perseus-eng1:1.101.1 & 102.1>

3.6. The following step consists of comparison of the tested Middle and Modern Iranian languages. For completeness, Avestan was also included in this comparison. The first task is identification of the modern languages, which could be continuants of the concrete Middle Iranian languages. Above the following hypotheses were mentioned:

Middle Persian → Modern Persian (Skjærvø 2010, 196).

Sogdian → Yaghnobi (cf. Yoshida 2010, 327 about differences).

Parthian → Baluchi (Korn 2005, 323–330: transitional position between Northwest and Southwest Iranian).

Parthian → Zazaki, Gorani, Caspian dialects (Gippert – see above).

Khotanese & Tumshuqese Saka → Wakhi (Windfuhr 2010, 15).

Khwarezmian → Sangisari (Windfuhr 2010, 15).

From these cases only the continuants of Middle Persian and Sogdian in Modern Persian and Yaghnobi respectively can be confirmed. The result 93.62% between Middle Persian and Modern (Colloquial) Persian corresponds to *c.* 1200 years of development in the evolutionary line of one language. The lexical data used for Modern Colloquial Persian were collected around 1900 (Phillott 1914). The result 700 CE is very close to our arbitrary dating 600 CE of Middle Persian approximated in this study, and the first known texts in Early Modern Persian (in Hebrew script) are dated to the middle of the 8th cent. CE (Lazard 1989, 263). This means that this lexicostatistical test also confirms that Modern Persian is a direct continuation of Middle Persian. In the case of Sogdian and Yaghnobi the situation is rather different. The share 85.26% of the tested core lexicon corresponds to 1930 years of development in the line of one language, i.e. the ancestors of Yaghnobi and Sogdian should have separated around 20 CE, if the average date of Yaghnobi lexical data was approximated to 1950. A very similar result is obtained, if Yaghnobi and Sogdian are analyzed as two separated languages. The share 85.26% corresponds to 1320 years of divergence of two languages. The virtual mid date for Sogdian and Yaghnobi is $(600 + 1950)/2 = 1275$ CE. Thus, this calculation leads to the dating to 45 BCE. It is possible to conclude that the ancestors of Yaghnobi and Sogdian separated around 10 BCE, if the arithmetical average of both sets of data is used. This separation immediately preceded the first Sogdian coin legends of the early centuries of CE and first real texts called ‘Ancient Letters’, written in the early 4th cent. CE (Yoshida 2010, 280).

3.7. Fundamental is the question of chronology of the hypothetical protolanguage common for Middle and Modern Iranian languages, and Avestan and Modern Iranian languages.

Table 10: Middle Iranian & Avestan vs. Modern Iranian – chronological limits

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	Avestan
t	600 CE	100 CE	600 CE	1200 CE	800 CE	200 CE	800 ^y /1100 ^G BCE
$\tau = (t + 2000)/2$	1300 CE	1050 CE	1300 CE	1600 CE	1400 CE	1100 CE	600/450 CE
\emptyset	61.9%	64.5%	63.2%	57.0%	59.9%	68.6%	68.1%
Δ	2460	2330	2400	2730	2570	2130	2160
$T = \tau - \Delta$	1160 BCE	1280 BCE	1100 BCE	1130 BCE	1170 BCE	1030 BCE	1560/1710 BCE

Symbols:

t ... average date of attestation;

τ ... virtual mid-date approximating the asynchronical languages (2000 CE approximates the present);

Δ ... time interval of divergence of two languages;

T ... absolute chronology of disintegration;

G ... Gatha / Y ... Young Avestan.

The average value is 1145 BCE (or 1118 BCE without the rather deviant Parthian), rounded off 1150 BCE, with the span ± 130 years covering all values. This result excellently agrees with the chronology of disintegration of the Middle Iranian languages, estimated to 1250 BCE, including Bactrian, or to 1190 BCE without Bactrian.

Table 11: Middle Iranian vs. Avestan – chronological limits

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	Avestan
t	600 CE	100 CE	600 CE	1200 CE	800 CE	200 CE	800/1100 BCE
$\tau_1 = (t - 800)/2$	100 BCE	350 BCE	100 BCE	200 CE	0 CE	300 BCE	
$\tau_2 = (t - 1100)/2$	250 BCE	500 BCE	250 BCE	50 CE	150 BCE	450 BCE	
\emptyset	86.4%	84.1%	80.4%	69.6%	81.5%	81.4%	
Δ	1260	1380	1560	2090	1500	1510	\emptyset [rounded off]
$T_1 = \tau_1 - \Delta$	1360 BCE	1730 BCE	1660 BCE	1890 BCE	1500 BCE	1810 BCE	1660 BCE
$T_2 = \tau_2 - \Delta$	1510 BCE	1880 BCE	1810 BCE	2040 BCE	1650 BCE	1960 BCE	1810 BCE

It is necessary to mention the high score common for Avestan and Middle Persian. It is explainable as a result of the literary influence of the Zoroastrian texts. If the Middle Persian data are excluded, the average values shift to 1718 & 1868 BCE for Young and Gatha Avestan respectively, rounded off 1720 & 1870 BCE.

Table 12: New Iranian vs. Middle Iranian vs. Avestan – mutual percentages of cognates

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	Avestan
Munji	51/85 = 60.00%	52/80 = 65.00%	57/87 = 65.52%	53.5/87 = 61.49%	53/85 = 62.35%	31.5/42 = 75.00%	57.5/85 = 67.65%
Yidgha	54/87 = 62.07%	52/80 = 65.00%	57/88 = 64.77%	56.5/88 = 64.20%	56/87 = 64.37%	29.5/40 = 73.75%	58.5/87 = 67.24%
Yazghulami	43/77 = 55.84%	43.5/72 = 60.42%	44.5/79 = 56.33%	45.5/79 = 57.59%	44/77 = 57.14%	28/37 = 75.68%	50/78 = 64.10%
Shughni	42/75 = 56.00%	44/70 = 62.86%	46/76 = 60.53%	45.5/76 = 59.87%	46/76 = 60.53%	25.5/36 = 70.83%	48/75 = 64.00%
Ishkashim	46/69 = 66.67%	45.5/65 = 70.00%	48/72 = 66.67%	42.5/71 = 59.86%	46.5/71 = 65.49%	24/35 = 68.57%	48/70 = 68.57%
Wakhi ¹	40.5/82 = 49.39%	39/74 = 52.70%	44/83 = 53.01%	41/83 = 49.40%	44.5/82 = 54.27%	16.5/38 = 43.42%	47.5/82 = 57.93%
Pashto	63/93 = 67.74%	56.5/84 = 67.26%	67/93 = 72.04%	57/93 = 61.29%	61.5/93 = 66.13%	25.5/42 = 60.71%	66.5/92 = 72.28%
Parachi	51/79 = 64.56%	47.5/71 = 66.90%	50/80 = 62.50%	46.5/79 = 58.86%	47/80 = 58.75%	25.5/37 = 68.92%	51.5/81 = 63.58%
Ormuri	50.5/79 = 63.92%	47.5/73 = 65.07%	47/79 = 59.49%	46.6/80 = 58.13%	49/82 = 59.76%	25.5/39 = 65.38%	54.5/80 = 68.13%
Yaghobi	47.5/75 = 63.33%	47/73 = 64.38%	66.5/78 = 85.26%	44.5/76 = 58.55%	43/75 = 57.33%	24.5/39 = 62.82%	50/75 = 66.67%
Ossetic Digor	53.5/91 = 58.79%	48.5/83 = 58.43%	55/92 = 59.78%	49.5/91 = 54.40%	50.5/91 = 55.49%	26/42 = 61.90%	56.5/92 = 61.41%
Persian	88/94 = 93.62%	65/82 = 79.27%	60.5/90 = 67.22%	45.5/90 = 50.56%	54/91 = 59.34%	27.5/41 = 67.07%	61.5/89 = 69.10%
Sangisari	71.5/91 = 78.57%	59/82 = 71.95%	57/91 = 62.64%	46/91 = 50.55%	53/91 = 58.24%	28/42 = 66.47%	66/91 = 72.53%
Baluchi	56.5/75 = 75.33%	51/71 = 71.83%	48/76 = 63.16%	40/76 = 52.63%	44/76 = 58.33%	28.5/37 = 77.03%	56/75 = 74.66%
Kurdish	69.5/91 = 76.37%	54.5/81 = 67.28%	55.5/90 = 61.67%	46.5/91 = 51.10%	52.5/90 = 58.33%	29.5/42 = 70.24%	65.5/89 = 73.60%

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	Avestan
Zazaki	64.5/90 = 71.67%	57/83 = 68.67%	58.5/93 = 62.90%	50.5/91 = 55.49%	51.5/91 = 56.59%	27.5/43 = 63.95%	62.5/91 = 68.68%
Ø	618.9/10 ² = 61.9%	645.3/10 ² = 64.5%	885.2/14 ³ = 63.2%	854/15 = 57.%	898/15 = 59.9%	1028.3/15 = 68.6%	1022.2/15 = 68.1%
Avestan	79.5/92 = 86.41%	69/82 = 84.14%	74/92 = 80.43%	64/92 = 69.57%	75/92 = 81.52%	35/43 = 81.40%	-

Notes:

- 1) Results of Wakhi are an average of 12.1% (9.5% without Bactrian) lower, that is why these figures are not taken in account.
- 2) Results of the Modern Western Iranian are not taken in account, because they represent a later unity.
- 3) Results of Yaghnobi are not taken in account for its common origin with Sogdian.

3.8. Position of Wakhi

With the average score (58.2% with Ishkasim, 56.0% without Ishkashim, the southern neighbour of Wakhi) Wakhi is the weakest member of the ‘Pamir club’, where the Munji-Yidgha and Yazghulami-Shughni-Ishkashim subbranches share an average of 64.5% of the tested 100–word-list. On the other hand, relations of Wakhi with non-Pamir modern Iranian languages vacillate around 46.3%. This result corresponds to the time of divergence 3370 years, i.e. 1370 BCE. Rather different results are obtained from a comparison of Wakhi and Middle Iranian, plus Avestan:

Table 13: Wakhi vs. Middle Iranian & Avestan – chronological limits

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	Avestan
t	600 CE	100 CE	600 CE	1200 CE	800 CE	200 CE	800/1100 BCE
$\tau = (t + 2000)/2$	1300 CE	1050 CE	1300 CE	1600 CE	1400 CE	1100 CE	600 / 450 BCE
Ø	49.4%	52.7%	53.0%	49.4%	54.3%	43.4%	57.93%
Δ	3170	2970	2950	3170	2800	3560	2680
$T = \tau - \Delta$	1870 BCE	1920 BCE	1650 BCE	1570 BCE	1400 BCE	2460 BCE	2080/2230 BCE

In spite of the big dispersion of partial figures, the average values give quite consistent results:

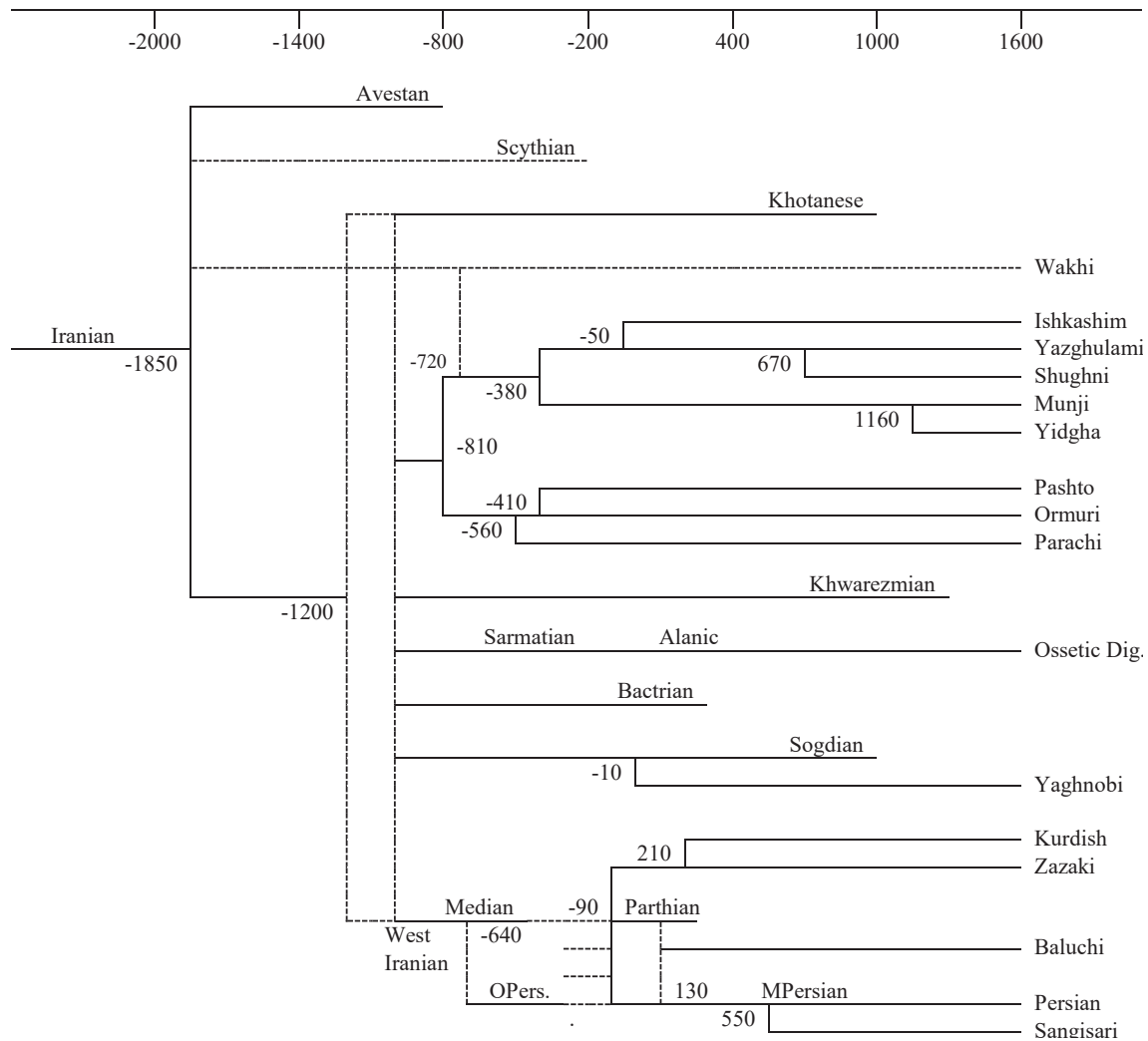
Wakhi vs. Middle Iranian: 1811.67 BCE, rounded off 1810 BCE

Wakhi vs. Middle Iranian + Young Avestan: 1850 BCE

Wakhi vs. Middle Iranian + Gatha Avestan: 1871 BCE, rounded off 1870 BCE.

3.9. These results are most compatible with the dating of separation of Middle Iranian from Gatha Avestan to 1810 BCE. It is possible to conclude that the disintegration of known Iranian languages began in the 19th century BCE, when the ancestors of Avestan, proto-Wakhi⁴⁷⁰, and the mainstream represented by the later Middle Iranian languages, crystalized. It is probable that there were also other components of this earliest dialect continuum preceding the disintegration, which were later assimilated by other languages, e.g. Scythian, and maybe Cimmerian. In its development the hypothetical proto-Wakhi came geographically close to Khotanese and finally was ‘Pamirized’. All these partial conclusions may be depicted in the same tree-diagram. The most difficult question, the mutual relations of the Middle Iranian languages in perspective of their relations to the modern Iranian languages, is solved as the ‘strip of uncertainty’, reflecting the time span 1200–1000 BCE (or more exactly 1250–1020 BCE), when most of divergencies should have been realized, but their hierarchy cannot be precisely determined.

470 The common Avestan-Wakhi score 57.9% is lower than the result 68.1% shared in average between Avestan and other Iranian languages. But there are remarkable common archaisms, e.g. Wakhi *nāy'd* “night” vs. Avestan *upo. naxtar-* “an die Nacht angrenzend”, or Wakhi *yirx̄, yərč̄* vs. Avestan *auruša-*, Ossetic *ūrs / ors* “white”.

Tree-diagram 26: Hypothetical development of Old, Middle & Modern Iranian languages

4. External relations of Avestan: Nuristani versus Vedic

The last task of this section is determination of the position of Iranian within Indo-Iranian, i.e. between Nuristani and Indo-Aryan, represented by their most archaic representatives: Vedic, dated to *c.* 1500–1200 BCE on the basis of the *R̥gveda* (Witzel 1995, 91, 98), with the mid-value 1350 BCE, and Avestan dated to *c.* 1100 BCE in the case of Gathas and 900–700 BCE in the case of the Younger Avesta (Skjærvø 1995, 160–62), the source of most of the lexical data, with the mid-value 950 BCE. These parameters give the following values (see also Blažek & Hegedūs 2012, 42–43):

(1) Vedic vs. (Old & Young) Avestan: 80.5% cognates within 100 semantic units, which means *c.* 1560 years of divergence. Taking in account the arithmetic average of the dating of Vedic and Avestan, 1350 BCE and 950 BCE respectively, as the starting point, we obtain $(1350+950)/2 = 1150$, i.e. 1150 BCE. Subtracting 1560 years of divergence from the ‘mean value’ 1000 BC, we come to the dating to 2710 BCE of separation of the ancestors of Vedic and Avestan, i.e. Indo-Aryan and Iranian protolanguages.

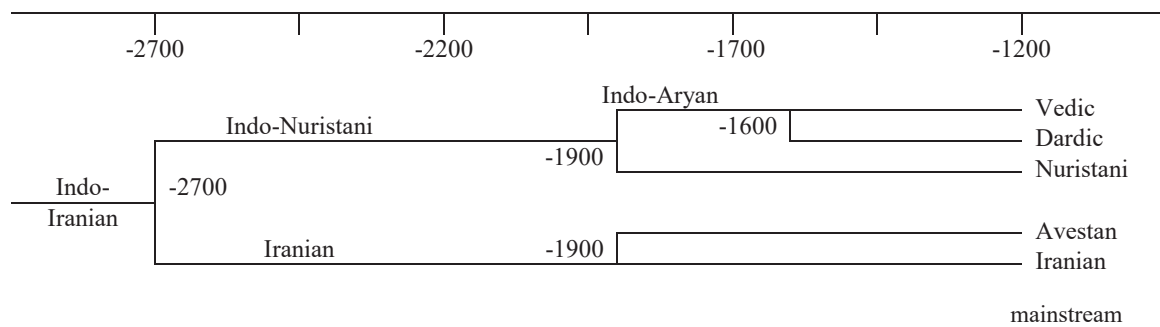
(2) Vedic vs. Nuristani (on average): 66.5% cognates within 100 semantic units, i.e. *c.* 2240 years of divergence. Subtracting 2240 years from the starting point *c.* 300 CE (arithmetic average of 1350 BCE for Vedic and *c.* 1950 CE for Nuristani), we come to the dating to 1940 BCE of separation of the ancestors of Vedic and Nuristani.

(3) Avestan vs. Nuristani (on average): 48.5% cognates within 100 semantic units, i.e. 3230 years of divergence. Subtracting 3230 years from the starting point *c.* 500 CE (arithmetic average of 950 BCE for Young Avestan and *c.* 1950 CE for Nuristani), we come to the dating to 2730 BCE of separation of the ancestors of Avestan and Nuristani.

The difference of only 20 years in the estimated date 2710 BCE of divergence of the ancestors of Vedic and Avestan and 2730 of divergence of ancestors of Avestan and Nuristani as compared to the 4700–year time interval to the present indicates *c.* 0.4% and is quite negligible. It is possible to conclude that the Iranian protolanguage left the Indo-Iranian dialect continuum around 2700 BCE (or at the end of the 28th cent. BCE).

It could be useful to add the result of Anton Kogan (2005, 174) who compared 7 Dardic languages with 11 modern Indo-Aryan languages in the lexicostatistical test. He found that the average share of common Dardic–Indo-Aryan cognates is 43.5%, which indicates that their divergence must have started around 1600 BCE.

These results are depicted in **Tree-diagram 27**:



D. Results of glottochronological classification in correlation with archaeological data

The linguistically established events in glottogenesis of the Indo-Iranian languages before 1000 BCE may correlate with the following archaeological data:

The Indo-Iranian disintegration (28th cent. BCE) corresponds to the beginning of the Poltavka culture (2800–2100 BCE) from the Mid-Volga and the Samara river valley. Its expansion to the east indicates its probable identification with ancestors of the Indo-Nuristani branch, while the proto-Iranian branch could be connected with the Culture of Early Catacomb Graves, dated to *c.* 2500–2100 BCE according to Parpola (2012, 138; *ibid.* he dated the Indo-Iranian disintegration to *c.* 2500 BCE, similarly G. Starostin: 2450 BCE – see below).

Let us repeat the comments on the Poltavka culture from the best-informed archaeologists in this field:

Anthony (2007, 306, 331, 386): “Poltavka herding groups moved east into the Ural-Tobol steppes probably between 2800 and 2600 BCE.”

Kuz'mina (2007, 350): “The sequence of cultures: Pit-grave {Yamnaya} → Poltavka → Timber-grave {Srubnaya} → Scythian”, referring to Russian archaeologists Krivcova-Grakova.

Mallory (*EIEC* {1997} 439–440: “.. it is seen then as a culture ancestral to some of the earliest archaeological reflections of what are generally presumed to be early Indo-Iranian cultures.”

The Mid-Volga location of the Indo-Iranian homeland may be supported by the role of the mythical river *Rasā*, known already from the *R̥gveda*, and its Avestan counterpart *Raṅhā* [Yašt 5.63, 5.81, 10.104, 14.29, 15.27; Vidēvdāt 1.19 etc.]. The form *Pā* recorded by Ptolemy [6.14.1–4] in the mid-2nd cent. CE very probably designated the Volga river in some of Iranian tribal dialects from the Pontic-Caspian steppes at the beginning of the first mill. CE. This identification is confirmed by the name of the biggest European river in Mordvinian, where in the dialect Erzya *rav(o)* means both “the Volga river”, and “sea, big water, flood during the spring thawing”, while in the dialect Moksha *rav(a)* means only “river”. The internal reconstruction leads to proto-Mordvin **rava/*raya/*raṅa* (Blažek 2005c, 171–72; the reconstruction **raya* is based on development of intervocal *-v-* in Moksha *pavaz ~ pavas* “god” < **payas* < Indo-Iranian **b^hagas*; the alternative **raṅa* may be supported by the parallel development in Moksha *ov(ə)* “son-in-law” < Fenno-Volgaic **wāṅe* (see Keresztes 1986, 106, 103). The protoform **raṅa* stands close to the Avestan hydronym *Raṅhā*.

Indo-Nuristani disintegration (20th cent. BCE) and Iranian disintegration (19th cent. BCE) may be correlated with the final phase of the Bactria-Margiana Archaeological Complex (BMAC) (2100–1800 BCE), when domesticated horses were introduced more intensively than as a trade commodity, as in the beginning of this originally horse-less culture (Anthony 2007, 427, 435). Around 2000 BCE Parpola (2012a, 249) assumes a beginning of the strong migrational wave leaving the area of the Sintashta culture from the southeast Urals, which had to bring to the South the horse-drawn chariots and wheel-shaped forts. He calls it Proto-Indo-Aryan I, and it can be identified with the Indo-Nuristani language unity. It is probable that both the Indo-Nuristani and early Iranian speakers absorbed from creators of the BMAC some cultural, technological and architectonic inspirations before their concurrent assimilation of this culture and its people, which probably originally spoke a non-Indo-European language (cf. Lubotsky 2001, 308; Witzel 2015[2017]). Their coexistence could have caused the disintegration of proto-Avestan and perhaps proto-Wakhi from the remaining Iranian mainstream, and the briefly preceding separation of Nuristani from the Indo-Nuristani dialect continuum (cf. Degener 2002, 116; Parpola 2012a, 249 sees here the influence of proto-Sakas).

The time of the multiple disintegration of the remaining Iranian dialect continuum around 1150 BCE could be connected with more widespread use of iron, which probably was introduced by bearers of the Yaz culture (1500–1100 BCE) in its late phase (Mallory, *EIEC* 653–54). Parpola (2012a, 245) ascribes the dominant role in the circle of the Yaz I-related cultures to Sakas, but admits that the Old Avestan Gathas could have originated in this milieu too. With respect to our glottochronological model we prefer to identify the iron-makers of the Yaz culture with speakers of Early Avestan.

E. Iranian wordlists

Wordlist 2: East Iranian I

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
1. all	<i>wāra</i>						cf. Av. <i>varəta</i> - ball, lump (Mo ₀₃ 92)
		<i>hu</i>	<i>ayēra</i>				* <i>harua</i> - (Mo ₂₉ 258, 388)
	<i>drast</i>						< P. <i>durust</i> , P. Kabuli <i>drast</i> (Mo ₀₃ 23)
		<i>harēi</i>	<i>(h)ar</i>				< P.
		<i>kull</i>	<i>kull</i>				< Ar.
				<i>hāma</i>			< T. <i>hamá</i> (AP 260)
				<i>yākay</i>			cf. <i>yak</i> 1 < T. (AP 365)
					<i>ægas</i>	<i>ægas</i> <i>igas</i>	* <i>a</i> -/* <i>yi</i> - <i>kās</i> - *not small (A 1, 119), cf. Hu. <i>egész</i> all
					<i>ænæqæñ</i>	<i>ænæγæñæ</i>	* <i>ana</i> (<i>u</i>)- <i>gan</i> - : <i>ænæ</i> without (A 1, 149; Bi 93, 116)
2. ashes	<i>īrē, ēr</i> Wn. <i>arē</i>				<i>ært-xutæg</i>	<i>ært-xotæg</i>	* <i>āθrja</i> -: Av. <i>āθriia</i> - * <i>aθra-xautaka</i> - = fire-cov- ering (Bi 119)
		<i>bhōγ</i>					< * <i>bahākā</i> - < * <i>b^hasākā</i> -, cf. OI. <i>bhasman</i> - (Mo ₂₉ 240)
			<i>yānak, yāk</i> < * <i>āsna</i> -				cf. OI. <i>āsa</i> - id. (Mo ₀₃ 413)
			<i>xākistār</i>	<i>xokistār</i>			P. <i>xākistar</i> (LNE 201)
					<i>fænik</i>	<i>funuk</i>	* <i>pasnuka</i> -: Av. <i>pasnu</i> - dust (Bi 93, 240)
3. bark	<i>xwar</i>						cf. Av. <i>x^rara</i> - (minor) wound (Mo ₀₃ 97)
	<i>postəkai^L</i>	<i>pūst</i>		<i>pust</i>			< MP. <i>pwst^{M,Z}</i> / <i>pōst</i> / “bark”; Av. <i>pasta</i> -, Sgd. <i>pwst(h)</i> / <i>pōst</i> / skin (M ₇₄ 62 & SK 262: lw.)
			<i>pāñi</i>				cf. Psh. <i>pāña</i> leaf (Mo ₂₉ 404)
					<i>çar</i>	<i>çaræ</i>	< Nakh: Chech. <i>çur</i> , Ing. <i>çor-g</i> (> Svan <i>çxwari</i> id.), maybe back-lw. of Os. <i>car(m)</i> (Bi 277–80)
4. belly	<i>lōray</i> (Mo ₀₃ 45)			<i>dāra</i>			* <i>udara</i> -: Av. <i>udara</i> -, Khw. <i>wōdyr</i> , Kh. <i>ūrā</i> -; cf. Sgd. <i>kδ^rr^k, qθ^rry</i> id. / <i>kaδ/θārē</i> /; OI. <i>kūdara</i> - (SK 151–52)
	<i>geða</i>						
	<i>xeta</i>	<i>xīṭ</i>					(Mo ₂₉ 301)
	<i>nas^L</i>		<i>nas</i> < Psh.				cf. Av. <i>nasu</i> - corpse (Mo ₀₃ 58)
		<i>aštaf</i>					* <i>staf</i> -, cf. OI. <i>stabh</i> - (Mo ₂₉ 237)
			<i>škamba</i>				P. <i>iškam(ba)/šikam</i> id. Prt. <i>‘šk/qmb /iškamb/</i> , MP. <i>‘šk/qmb^M /iškamb/</i> ; cf. Av. <i>skamb</i> - fasten, OI. <i>skambh</i> - id., make firm (K 349)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
			<i>dīm</i>				< IA.: Khovar <i>dīm</i> body, belly, Shina <i>dim</i> body, tree-trunk (Tu 5551)
					<i>g^wibīn</i>	<i>gubun</i>	(A 1, 528; Bi 137)
						<i>qæstæ</i>	cf. Toch. A <i>kāts</i> , B <i>kātsō</i> id.; Hu. <i>has</i> id. (A 2, 298; Bi. 262: contra)
5. big	<i>star</i>		<i>*stur</i>		<i>stūr</i>	<i>stur</i>	Av. <i>stūra-</i> , Kh. <i>stura-</i> strong, Mnj. <i>stur</i> big, MP. <i>sturg</i> wild, P. <i>sotorg</i> strong (Bi 216; Mo ₀₃ 76)
	<i>loy</i>						cf. Av. <i>hu-dāta-</i> well-built? (Mo ₀₃ 47 with doubts)
		<i>ghand</i>					< IA.: Torwali <i>gand</i> great, Lhd. <i>ghāṇ</i> big, much (Mo ₂₉ 253)
		<i>ferimān</i>					< P. <i>farāwān</i> , Kabuli <i>ferimān</i> (Mo ₂₉ 252)
		<i>γulū</i>					< P. <i>γulūw</i> exceeding bounds < Ar. (Mo ₂₉ 255)
				<i>kātta</i>			< T. <i>katta</i> < Uzb. <i>katta</i>
				<i>kalōn</i>			< T. <i>kalōn</i> , Prt. <i>kl'n</i> , <i>ql'n</i> < Bc. ? (LNE 170)
					<i>eyaw</i>	<i>iyaw</i>	< M/WrMong. <i>yeke</i> , Kalm. <i>ik^e</i> id.? (A 1, 411; Bi 154)
					<i>dingir</i>		< Tk. <i>tāngri</i> sky; god? (Bi 148)
6. bird	<i>marγə</i>	0	0	(<i>murγ</i> hen < T.; LN 110: hen; bird)	<i>marγ</i>	<i>marγ</i>	Av. <i>mərəγa-</i> , Sgd. <i>mry</i> , Khw. <i>'mγ</i> , Kh. <i>murā</i> , Prt. <i>mury</i> , MP. <i>murw</i> , P., T. <i>mury</i> (K 404)
				<i>jōndōr</i>			< T. <i>jōndōr</i> (LN 76; LNE 177)
				<i>parandā</i>			< P. <i>par(r)anda</i> bird (St 244)
7. bite	<i>dārəl</i>		0				< IA: Pnj. <i>dāhr</i> molar (Mo ₀₃ 23)
		<i>gas-</i>					* <i>gaz-</i> (Ch 117–18)
				<i>x^ššy-</i> : <i>x^ššasta</i>			* <i>xšau-</i> : Mnj. <i>axšōw-</i> , Wkh. <i>šūw-</i> , Ishk. <i>šāw-</i> chew (AP 359; Ch 454)
					<i>xæcīn</i>	<i>xwæcun</i>	* <i>hūaj-</i> , * <i>hūaxš-</i> : Arm. <i>xacnel</i> bite, Av. <i>pairiš-x^vaxta-</i> , OI. <i>svaj-</i> clasp (A 4, 152–54)
8. black	<i>tor</i>			(<i>tóra</i> dark)	(<i>tar</i> dark)	(<i>tar</i> dark)	* <i>tanθra-</i> < * <i>tansra-</i> : Av. <i>tqθra-</i> , Kh. <i>ttāra-</i> , Sgd. <i>t'r'k</i> dark (Bi 221; Mo ₀₃ 82)
		<i>paddō</i>					< IA.: Sindhi <i>pañḍu</i> whitish? (Tu 8051)
			<i>γrās</i>				(Mo ₂₉ 396)
				<i>šow</i> <i>šyó^h</i>	<i>saw</i>	<i>saw</i>	Av. <i>siiāuua-</i> dark, Sgd. <i>š'w</i> , <i>šw</i> / <i>šāw</i> , <i>šow</i> /, Ygh <i>šōw</i> , Khw. <i>s'w</i> , Os. <i>šāu</i> , Prt. <i>sy'w</i> / <i>syāw</i> /, MP. <i>sy'w^M</i> / <i>syāw</i> /, <i>syd^Z</i> / <i>syā</i> /, P. <i>siyāh</i> (Bi 209)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
9. blood	<i>wīna</i>	<i>hīn</i> <i>xūn</i>	<i>īn</i>	<i>wáxīn</i> <i>xun</i>			* <i>uahuna/i-</i> : Av. <i>vohuna-</i> , Kh. <i>hūnā-</i> , Khw. <i>hwny</i> pl. / <i>hūnī</i> /, Sgd. <i>ywxn-</i> / <i>yuxn</i> /, <i>γγwn(w)</i> / <i>y(ə)xun(u)</i> /, Prt. <i>gwxn</i> / <i>goxan</i> /, MP. <i>xwn</i> ^M , <i>hwn</i> ^Z / <i>xōn</i> /, P. <i>xūn</i>
			<i>šun, sun</i>				< IA.: OI. <i>šonā-</i> id. : <i>šona-</i> red (Mo ₂₉ 408)
					<i>tūg</i>	<i>tog</i>	* <i>tauka-</i> ; OI. <i>toka-</i> progeny (Bi 226; A 3, 310)
10. bone	<i>haḍ</i>	<i>haḍḍ</i>					cf. Pnj. <i>haḍḍ(ī)</i> , Sindhi <i>haḍu</i> (Gi 78; Mo ₀₃ 35)
			<i>stoyān</i>	<i>šiták</i>	<i>stæg</i>	<i>stæg</i>	* <i>astaka-</i> > Av. <i>ast-</i> , MP <i>'st(k)ʔ</i> / <i>ast(ag)</i> /, <i>'sth(w)ʔnʔ</i> / <i>astuxān</i> /, P. <i>hasta</i> & <i>ustux-</i> <i>ʔān</i> (SK 424; Bi 215)
11. breast	<i>tay</i> f. <i>tay</i> m. teat						* <i>taka-</i> flowing (milk) (Mo ₀₃ 84)
	Wn. <i>γwalūn</i> (f.)						cf. Av. <i>gaodana-</i> milk container (K 294, 399)
		<i>bar</i>					Av. <i>varah-</i> , MP. <i>wr</i> ^M , <i>wʔ</i> / <i>war</i> /, P. <i>bar</i> (H 44; K 99, 294, 399)
	<i>siná</i> ^L	<i>sīnā</i>					MP. <i>syn(k)ʔ</i> / <i>sēn(ag)</i> /, P. <i>sīna</i> ; cf. Av. <i>saēni-</i> top, peak (K 384)
		<i>sīz</i> f.					(Mo ₂₉ 289)
			<i>cīk</i> f.	<i>čič, čěč</i>			T. <i>čuč, čoč, jīj</i> (AP 238), P. <i>čučū</i> , cf. Kati <i>čuk</i> (Mo ₂₉ 390)
				<i>vūna</i> b., udder			cf. Khw. <i>δ'rk</i> ; OI. <i>ūdhar</i> , gen. <i>ūdhnah</i> udder (EWAI I, 240)
					<i>riw</i>	<i>rew</i>	* <i>raju-</i> (Bi 207; A 2, 414f)
12. burn	<i>swəl</i>			<i>suxs-</i> : <i>suxta</i>	<i>sūzīn</i>	<i>sozun</i>	Av. <i>suč-</i> , OI. <i>śuc-</i> (Bi 216–17; Mo ₀₃ 77)
		<i>thī-</i>					* <i>θay-</i> : Khw. <i>θ'w-</i> , Kh. <i>paṭh-</i> id. (B 202; SK 374), parallel to * <i>tap-</i> to warm up, heat: Av. <i>tap-</i> be hot, Kh. <i>ttav-</i> id., Sgd. <i>tft'y</i> / <i>taβdē</i> / to burn, P. <i>taftan</i> , <i>tābīdan</i> be hot, shine
			<i>bras-</i> in. <i>braz-</i> tr.				* <i>braH-</i> shine: Av. <i>brāz-</i> id., Khw. <i>'br'z-</i> burn (Ch 21–22)
13. claw	<i>nūk</i> (Mo ₀₃ 56: to Sgd. <i>nwk</i> , P. <i>nauk</i>)	<i>nōrk</i> < * <i>naxar-</i> , cf. OI. <i>nakhara-</i>	<i>naxk</i>	<i>náxna</i>	<i>nīx</i>	<i>nīx</i>	P. <i>nāxun</i> , MP. <i>nāxun</i> , Prt. <i>n(ʔ)wn</i> , Os. <i>nix</i> , Kh. pl. <i>nāhune</i> , Khw. <i>n'xn</i> (K 82, 294, 408; Bi 203–04)
14. cloud	<i>ōrə</i>	<i>aīr</i>	<i>yēwər</i> <i>abAr</i>	<i>abr</i>	<i>ævraγ</i>	<i>ævraγ</i>	Av. <i>aβra-</i> , MP. <i>'βr</i> ^M , <i>'bʔ</i> / <i>aβr</i> /, P. <i>abr</i> id., Kh. <i>ora</i> sky
	<i>wryaj</i>		<i>wriēj</i>				
	Wn. <i>γarzə</i>						
		<i>tam</i>					cf. Av. <i>tamah-</i> darkness, Ku. <i>tam</i> fog (Mo ₂₉ 294)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
				<i>tira</i>			< T. (AP 335)
					<i>miy</i>	<i>meγæ</i>	* <i>maiga-</i> : Av. <i>maēya-</i> , Sgd. <i>myγ /mēy/</i> , P. <i>mēy</i> ; OI. <i>meghá-</i> (H 226)
15. cold	<i>sor</i>			<i>sort</i>		<i>wazal</i>	Av. <i>sarata-</i> , Sgd. <i>srt /sart/</i> , Ygh. <i>sōrt</i> , Khw. <i>srd</i> , Kh. <i>sāda-</i> , Prt. <i>srd /sard/</i> , MP. <i>srd'g^M /sardāg/</i> , <i>slt^Z /sard/</i> , P., T. <i>sard</i> (K 189, 381) < WIr. * <i>yi-šār-</i> , cf. Prt. <i>wys'r</i> become cold (Bi 228–29) or to Lat. <i>gelidus</i> cold < * <i>gel-</i> (A 4, 60)
		<i>eštāwō</i>					Orosh. <i>šitō</i> , Srk. <i>š(i)tu</i> : Yazg. <i>šay-</i> freeze (Mo ₇₄ 79), Os. <i>syjyn</i> , Ygh. <i>ši-</i> id. < * <i>saiH-</i> ; OI. <i>šyā-</i> id., <i>šitā-</i> cold (Ch 329)
			<i>cāk</i>				* <i>čjaH-</i> : Maz. <i>čā</i> id. (Ch 39)
				<i>xūnūk</i>			< T. (AP 362)
16. come	<i>rasedól^l</i> ?Wn. <i>rās-</i>						
	<i>-yalai</i> < * <i>gataka-</i>	<i>āya</i>					Av. <i>ā-gata-</i> , Prt. <i>āyad-</i> (K 344; Ch 101)
	<i>rātlól^l</i> pres. <i>rā-jəm</i>						* <i>tač-</i> (Mo ₀₃ 81–82; Ch 373)
		<i>žē-</i> < * <i>ā-</i> <i>jāi-</i>	<i>z(ay)-</i> (Ef 74)				* <i>Haj-</i> > Av. <i>aē-</i> go, Kh. <i>hīs-</i> come (Mo ₃₀ 303; K 108–09, 142, 347; Ch 154–55)
				<i>vvoγ-</i>			cf. Sgd. <i>β'w-</i> reach, T. <i>biyó</i> (AP 349–50; Gh 2502)
					<i>cæwīn</i>	<i>cæwun</i>	* <i>čjau-</i> go: Av. <i>šiiuu-</i> , OP. <i>š(i)yava-</i> , Sgd. <i>šw-/šaw/</i> , Kh. <i>tsa-</i> , <i>tsv-</i> , Tu. <i>ccha-</i> , Bc. <i>ḥao(i)-</i> , Prt. <i>šw-/šaw-/</i> , MP. <i>šw-(dn)^M</i> , <i>šwb^Z-/šaw-/</i> , P. <i>šudan</i> ; OI. <i>cyav-</i> (Ch 41; SK 139; R 125; Bi 271)
17. die	<i>mṛal</i>	<i>mer-</i>	<i>mr-</i>	<i>mir-</i>	<i>marīn</i>	<i>marun</i>	* <i>mar-</i> : YAv., Kh. <i>mar-</i> , Prt. <i>mir-/murd-</i> (Ch 264; K 404)
18. dog	m. <i>spai</i> f. <i>spəy</i> Wn. <i>spā</i>	<i>^espō</i> , <i>^espaγ</i>	<i>^(ə)spuk</i> <i>spak</i>				* <i>šyākī</i> (Mo ₀₃ 75) * <i>šyāčī</i> : Wkh. <i>šač</i> * <i>šyāka-</i> : Median <i>σπάκα</i> , Prt. <i>'spg /ispag/</i> , MP. <i>sg^{M,Z} /sag/</i> , P. <i>sag</i>
		<i>kučuk</i>		<i>kūt</i>	<i>kīz</i>	<i>kui</i>	cf. Tkm. <i>gūjūk</i> dog, puppy (D 3, 630), but Zazaki <i>kutik</i> leads to Ir. * <i>kuta-</i> /* <i>kuī-</i> (R 4, 413): Sgd. <i>'kwt- /(<i>ə</i>)kut/</i> , <i>kwt / qwt /kut/</i> , Khw. <i>'kt</i> , Bc. <i>κοδο</i> (K 188, 391; LNE 177)
19. drink	<i>cašəl</i>						* <i>čaš-</i> (Mo ₀₃ 18)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
	<i>šūməl</i> (Mo ₀₃ 79)						* <i>čjam-</i> swallow: Av. <i>šam-</i> swallow, Khw. 's'my- drink, P. <i>āšām</i> id. (Ch 39–40)
	Wn. <i>γōz-</i>						
		<i>ter-</i>	<i>tr-</i>				* <i>tarš-</i> be thirsty (Ch 383–84)
		<i>šup kan-</i>					
			<i>xr-</i>				* <i>hūar-</i> (Ch 147–48) → eat
				<i>žav-</i> : <i>žáfta</i>			* <i>žīau-</i> : Psh. <i>žowəl</i> , T. <i>ǰovidán</i> , Bal. <i>ǰāyag</i> (AP 369)
					<i>n(i)wazīn</i>	<i>niwazun</i>	* <i>ni-ūāž-</i> , cf. Av. <i>niuuāzan-</i> anziehend; Sgd. 'w'z pond (Bi 203)
20. dry	<i>wuč</i> (Mo ₀₃ 86)	<i>ōškār</i> <i>hušku</i>	<i>wōkāš</i> <i>wyōk</i>	<i>xūšk</i>	<i>x'isšk</i> <i>xus</i>	<i>xuskaē</i>	Av. <i>huška-</i> & <i>hi(š)ku-</i> , Sgd. 'škw / (ə)šku/, Kh. <i>huška-</i> ; Prt. <i>hwšk / hušk</i> /, MP. <i>hwšk</i> - ^{M.Z.} / <i>hušk</i> /, P. <i>xušk</i> ; OI. <i>šuska-</i> (K 78, 414)
	<i>spor</i>						
	<i>tosand</i>						
				<i>qoq</i>			< T. <i>qōq</i> < Uzb. <i>qāq</i> (AP 280; LNE 210)
					<i>sūr</i>	<i>sor</i>	* <i>šaura-</i> : cf. MP. <i>sōr</i> salzig, Prt. <i>šwr-yn</i> , P. <i>šur</i> versalzen (Bi 217)
21. ear	<i>γwaž</i>	<i>gū</i> <i>gōš</i>	<i>gōī</i>	<i>γūš</i>	<i>qūs</i>	<i>γos</i>	* <i>gauša-</i> : Av. <i>gaoša-</i> , OP. <i>gauša-</i> , P. <i>gōš</i> , Sgd. <i>γwš / γōš</i> /, Khw. <i>γwx</i> , Kh. <i>gū</i> , <i>gguvγ-</i>
22. earth	<i>zmaka = mǰáka</i> ^L			<i>zamin</i>	<i>zæxx</i>	<i>zænxæ</i>	* <i>zam-ka-</i> (Bi 156): Av. <i>zam-</i> , Khw. <i>z(y)m</i> , Kh. <i>uysmä</i> , Bc. <i>ζαμυο</i> , <i>ζαμιο</i> ; MP. <i>zmyg</i> ^M , <i>zmyk</i> ^L / <i>zamīg</i> /
	<i>xāwra</i>						cf. Sgd. <i>xwrm / xrwm</i> soil, earth, Av. <i>pa-xruma-</i> firm (Gh 10633, 10751; Bi 258)
		<i>bhāγ</i>					cf. ashes
		<i>dharam</i>					< IA.: OI. <i>dharā-</i> earth : <i>dharmān-</i> supporter (Tu 6749, 6758)
			<i>bummā</i>				cf. Av. <i>būmi-</i> , P. <i>būm</i> (Mo ₂₉ 389; E 2, 134)
			<i>xāk</i>				* <i>āhaka-</i> , cf. OI. <i>āsa-</i> ashes or * <i>ājka-</i> , cf. Av. <i>āi</i> (K 156)
				<i>zoy</i>			Sgd. <i>z'y(h)</i> earth, ground (AP 369; Gh 11217, 11225)
23. eat	<i>xwarəl</i>	<i>xār-</i>	<i>xr-</i>	<i>xwar-</i> / <i>wxar-</i>	<i>xærīn</i>	<i>x'ærun</i>	* <i>hūar-</i> eat, consume (Ch 147): Av. <i>x'ar-</i> , Sgd. <i>γwr-</i> , <i>xwr-</i> / <i>xwar-</i> /, Khw. <i>x(w)r-</i> , Kh. <i>hvar-</i> , Bc. <i>χoap-</i>
		<i>wanǰēw-</i>					
24. egg	<i>hā</i> , dim. <i>hagáγ</i> ^L , Wn. <i>hōya</i> Wz. <i>γōwya</i>	<i>ēx</i>	<i>hanwalk</i> , <i>wulk</i> , <i>ōlk</i> < * <i>āūja-laka-</i>		<i>aik</i>	<i>aikæ</i>	* <i>āiā</i> > Khw. <i>y'k</i> , Kh. <i>āhā-</i> , MP. <i>x'yg</i> ^M <i>x'd(y)k</i> ^L / <i>xāyag</i> /, P. <i>xāya</i> ; ?Av. <i>aēm</i> (Mo ₀₃ 35; Mo ₂₉ 411)

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
			<i>supāl</i>				cf. P. of Afgh. <i>supāl</i> the white of an egg (Mo ₂₉ 406)
				<i>taxm</i> <i>tūxm</i>			cf. seed
25. eye	<i>starga</i> = <i>stārga</i> ^L Wn. <i>stārga</i>						* <i>stṛ-kā-</i> (Mo ₀₃ 77) → star
	(<i>liḏ</i> ^L eyesight)	<i>dīda</i> (Mo ₂₉ 248) < P. <i>dīda</i>					Av. <i>dīta-</i> , Prt. <i>dīd</i> , OI. <i>dhītá-</i> (K 79, 375) < * <i>dajh-</i> (Ch 48; E 2, 293)
		<i>tečh</i>		? <i>tišm</i>			(Bi 270)
			<i>cimī, cōm</i>	? <i>tišm</i> (Zaleman → A 1, 305) <i>čašm</i> (LN 24)	<i>cæst</i>	<i>cæstæ</i>	* <i>ča(š)š-man-</i> (R 2, 238) Av. <i>čašman</i> , P. <i>čašm</i> Orm. <i>cimi</i> , Sgd. <i>cšm</i> / <i>čašm</i> /, obl. <i>cmy</i> / <i>cym-</i> , Khw. <i>cm</i> , <i>jm</i> , Kh. <i>teč</i> , <i>tcai</i> & <i>tečiman-</i> (Bi 269–71; A 1, 304–05)
				<i>yūrda</i>			cf. Av. <i>gərəða-</i> socket, hollow (AP 259)
26. fat n.	<i>γwarṛ</i> ^L = <i>γwar</i> (Mo ₀₃ 33)			<i>rúyēn</i> <i>rúyīn</i>			< * <i>rwayn-</i> < * <i>rauyna-</i> : Av. <i>raoyna-</i> butter, Sgd. <i>rwyn</i> / <i>rōyn</i> /, Khw. <i>ryyn</i> , Kh. <i>rrūna</i> , P. <i>rawyan</i> (SK 297–98; R 106)
	<i>corb</i> (Mo ₀₃ 18)	<i>čārbī</i>					* <i>čarp(a)-</i> > Sgd. <i>crp</i> / <i>čarp</i> /, Kh. <i>tcār(b)a-</i> , P. <i>čarb</i> , Os. <i>carv</i> butter (E 2, 232f)
			<i>čixaṭ</i> <i>cxaṭ</i>				(Mo ₂₉ 392)
			<i>γuṭ</i>				cf. Psh. <i>γuṭ</i> , Wz. <i>γwuṭ</i> (Mo ₂₉ 396)
	(<i>pəy</i> milk)	(<i>pē/ī</i> milk)			<i>fw</i> < * <i>paṛjua-</i>	<i>few</i> < * <i>paṛjua-</i>	Av. <i>pīuuah-</i> , Kh. <i>pīā</i> , OI. <i>pīvas-</i> (K 103, 363; Bi 241)
					<i>soi</i>	<i>soinæ</i>	* <i>šāñja-</i> : cf. Av. <i>sanaṭ</i> er stieg auf? (Bi 214)
27. feather	<i>baṇa</i> (<i>pāna</i> leaf – see Mo ₀₃ 63)	<i>pōn</i>					* <i>parna-(ka)-</i> : Av. <i>parəna-</i> , Sgd. <i>prn</i> , Kh. <i>pārra-</i> , Khw. <i>pn</i> (Ch 295–96), MP. <i>pr</i> ^M / <i>parr</i> /, P. <i>parr</i> (H 293)
	<i>paxa</i>		<i>puxai</i>				< IA: Sindhi <i>pakh</i> ^u id. (Mo ₂₇ 62)
				<i>bol</i>			< T. (AP 232)
					<i>sis</i>	<i>ses</i>	? (Bi 213)
28. fire	<i>or</i> Wn. <i>auər</i>	<i>ár</i>			<i>art</i>	<i>art</i>	* <i>ātar-/*āθr-</i> (E 1, 318): Av. <i>ātarš</i> , Sgd. <i>’r rh</i> , <i>’tr</i> / <i>ātar</i> /, Khw. <i>’d(y)r</i> / <i>ādir</i> /, Kh. <i>ataro</i> , <i>aθšo</i> , MP. <i>’dwr</i> ^Z / <i>ādur</i> / & <i>’thš</i> ^Z / <i>ātaxš</i> /, P. <i>ātaš</i>
		<i>rhīnē</i>	<i>rūn</i> <i>rowən</i>				cf. Av. <i>raoxšnā-</i> (Mo ₂₉ 284)
				<i>olōu</i>			< T. <i>ōlōu</i> (AP 298; LNE 201)
					<i>zīng</i>	<i>zing</i>	(Bi 160–61)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
29. fish	<i>kab</i> (Mo ₀₃ 38)				<i>kæf</i>	<i>kæf</i>	Elran. * <i>kap</i> ^(b) <i>a-</i> : Bīrūnī <i>kyb</i> , Khw. <i>kb</i> , Sgd. <i>kp-</i> / <i>kap</i> /, Kh. <i>kava</i> ; OI. <i>kapanā-</i> Raupe? (SK 458; B 56; Bi 169)
	Wn. <i>kəžə</i>				<i>kæsaɡ</i>	<i>kæsaɡæ</i>	Ir. > Ge. <i>kašaqi</i> Hering; Hu. <i>keszeg</i> , Khanty <i>kaše</i> , Mansi <i>käsen</i> , all from Iran. * <i>kašāka-</i> , cf. OI. <i>kašaku-</i> Coix Barbata (Bi 167–69)
	<i>māháy</i> ^L	<i>māī</i>	<i>masō</i> <i>māhī</i>	<i>mahī</i>			* <i>matsja-</i> (R 87): Av. <i>masi-ia-</i> , Prt. <i>m'sy'g</i> / <i>māsyāg</i> /, MP. <i>m'hyg</i> ^M , <i>m'hyk</i> ^Z / <i>māhīg</i> /, P. <i>māhī</i> (LNE 176)
30. fly v.	<i>wurzedəl</i> (Mo ₀₃ 92)						* <i>uraj-</i> : Av. <i>uruuaj-</i> go forth; OI. <i>vraj-</i> to go (Ch 438)
	<i>āl-wəz-</i> / <i>-wat-əl</i>	<i>rhāz-</i>					* <i>uaz-</i> : Av. <i>vaz-</i> move, fly, Shug. <i>wāz-</i> swim : <i>rivāz-</i> fly * <i>fra-uaz-</i> : Av. <i>fra-uuaz-</i> , Sgd. <i>βrwz-</i> , <i>frwz-</i> / <i>frawaz-</i> /, Prt. <i>frwz-</i> / <i>frawaz-</i> /, MP. <i>prwz</i> ^M / <i>parwaz-</i> / (Ch 429–32; SK 303–04; Mo ₀₃ 94)
			<i>parr-</i>	<i>par(r)-</i>			T. <i>par(r)idān</i> (AP 302) < * <i>parn-</i> fly (Ch 297)
					<i>tæxīn</i>	<i>tæxun</i>	* <i>tač-</i> : Av. <i>tak-</i> flow, walk (Ch 372–74)
31. foot	<i>pšə</i> Wn. <i>špa</i>		? <i>pāš</i>				* <i>pāršnā</i> (du.?) heel: Av. <i>pāšna-</i> , Sgd. <i>pšn-</i> ; OI. <i>pāršni-</i> (Mo ₀₃ 67)
		<i>pā</i> , pl. <i>pānān</i>	<i>pārī</i> ? <i>pāš</i> <i>pāī</i> (Mo ₂₉ 403)	<i>pōda</i>	<i>fad</i>	<i>fad</i>	* <i>pād-</i> : Av. <i>pād-</i> , OP. <i>pāda-</i> , P. <i>pāy</i> , Sgd. <i>p'δ</i> / <i>pād</i> /, Khw. <i>p'δ</i> , <i>b'δ</i> , Kh. <i>pai</i> , pl. <i>pā</i> (R 113–14; Bi 237)
					<i>zæng</i>	<i>zængæ</i>	* <i>zangā-</i> : Av. <i>zanga-/zənga-</i> Knöchel, MP. <i>zang</i> id., OI. <i>jañghā-</i> Unterschenkel (Bi 155)
					<i>kax</i>	<i>kax</i>	cf. Bats <i>kok</i> , Chech.-Ing. <i>kog</i> ; Perm. * <i>kok</i> id. (Bi 172–74)
32. full	<i>pəŋ</i> (Mo ₀₃ 63)			<i>pūn(n)</i>			* <i>pŋna-</i> : Av. <i>pərəna-</i> , Sgd. <i>pwn</i> / <i>pūn</i> /, <i>pwrn</i> / <i>purn</i> /, Bc. <i>porri</i> , Prt. <i>pwr</i> / <i>purr</i> /, MP. <i>pwr</i> ^M , <i>pw</i> ^L / <i>purr</i> /, P. <i>purr</i> (Ch 295–96; AP 310)
	<i>bašpər</i>						* <i>api-us-pŋta-</i> , cf. Kh. <i>hambada-</i> full (Mo ₀₃ 16)
		<i>thar</i>					(Mo ₂₉ 293)
	<i>ḍak</i> ^L		<i>ḍāk</i> < Psh.				(Mo ₂₉ 393)
					<i>zag</i>	<i>izag</i>	* <i>mi-čāk-</i> , cf. Khw. <i>č'k</i> id. < P. <i>čāk</i> thick, healthy < Tk. (TMEN 1967, 25f; Bi. 149)
33. give	<i>ləl-</i> Wn. <i>l-</i>	<i>dah-</i>	<i>šīr-</i> < * <i>fra-dā-</i> (Mo ₂₉ 408)		<i>dættīn</i>	<i>dættun</i>	* <i>daH-</i> id. > Av. <i>dā-</i> * <i>daθa-</i> /* <i>dāta-</i> > Bc. <i>la(v)-</i> / <i>laδo</i> , Prt. <i>dh-</i> / <i>dah-</i> /, <i>d'd</i> , MP. <i>dy(y)-</i> ^M / <i>day-</i> /, <i>dh</i> ^Z / <i>dah-</i> /, <i>d'tn</i> ^Z / <i>dādan</i> / (Ch 43f)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
	<i>šandəl</i>						
		<i>baxš kan-</i>	<i>baš-</i>				cf. Av. <i>baxš-</i> (Mo ₀₃ 93)
				<i>tifár- : tīrāfta</i> , cf. Sgd. <i>δβr-</i> Chr. <i>tfr-</i>	<i>læværd</i>	<i>lævard</i>	pret. <i>*fra-bart^o</i> (Bi. 142) <i>*θvar-</i> < <i>*fvar-</i> < <i>*fra-ba- ra-</i> (AP 334)
34. good	<i>šə</i>		<i>šir(r)</i> <i>sir</i>				cf. Av. <i>srīra-</i> , comp. <i>srāi- ah-</i> , Prt. <i>šyr</i> , OI. <i>śrīra-</i> (K 386; Mo ₀₃ 98)
		<i>bakâr</i>					< P. (Mo ₂₉ 240)
		<i>kârī</i>					< P. of Afgh. (Mo ₂₉ 266)
	(<i>xož</i> m. <i>xwaža</i> f. sweet)		(<i>xwāš^(r)</i> sweet)		<i>xorz</i>	<i>x^warz</i>	cf. Av. <i>x^rarəzišta-</i> sweetest Khw. <i>xž(k)</i> good, Kh. <i>hvar- ra</i> sweet
				<i>nik</i>			cf. T. <i>nek</i> , Sgd. <i>nyk</i> (AP 293) < <i>*najba-ka-</i> (Gh 6257)
				<i>naγz</i>			cf. T. <i>naγz</i> < Sgd. <i>nγz-</i> id.? (AP 289; Gh 5951)
				<i>xūš</i>			< T.; cf. Sgd. <i>wγš-</i> joy(ful), <i>γwš-</i> rejoice (AP 363; Gh 775)
				<i>xub, xūb</i>			cf. T. <i>xub</i> & Sgd. <i>xwp, γwp</i> (AP 362; Gh 4407, 10739)
				<i>obadón</i>			T. <i>obodón</i> cultivated, well-arranged (AP 292)
					<i>zæbæx</i>	<i>zæbæx</i>	< Tk. <i>čap</i> + Ir. <i>*yahu-</i> (Bi 150–51)
35. green	<i>šīn</i>		<i>šīn</i>				<i>*axšaṇa-</i> : Av. <i>axšaēna-</i> , Kh. <i>āššeina-</i> , P. <i>xašēn</i> (Mo ₀₃ 79)
	(<i>sābə</i> greens - Mo ₀₃ 73)	<i>sābz, sauz</i> (Mo ₂₉ 289)		<i>sabz</i>			MP. <i>spz, sbz^z/sabz/</i> , P. <i>sabz</i> id. (DK 355); cf. Kh. <i>ysba</i> cane, reed, Psh. <i>sābuh</i> grass
				<i>kūpūta</i> <i>kabūt/d</i>			cf. Sgd. <i>kp^wwt</i> blue (AP 277) < T. <i>kabūd</i> (AP 268)
				<i>zarγūna</i> (arch.)			cf. Sgd. <i>zrγwn</i> vegetable, plant (LNE 204; LN 203)
					<i>çæx</i>	<i>çæx</i>	< Abaz. <i>čəx^w</i> , Kab. <i>čəx^w</i> blue (Bi 280)
36. hair	<i>weštə</i> Wn. <i>ūšt</i>						<i>*uγšija-</i> , cf. Av. <i>varəsa-</i> (Mo ₀₃ 94)
		<i>dōš</i>					<i>*dārša-</i> : Wkh. <i>δūrs</i> (Mo ₂₉ 251; E 2, 353–54)
	(<i>γūna</i> body hair, skin-color)	<i>gīno</i>			<i>q^wīn</i>	<i>γun</i>	<i>*gauna-(ka-)</i> (E 3, 240): Av. <i>gaona-</i> , Sgd. <i>γwn^wk^w</i> , <i>γwn^wy</i> <i>/γōnē/</i> , Khw. <i>γwnyk</i> , Kh. <i>ggūna-</i> id. (Bi 265)
		<i>mūi</i>					< T. <i>mūj</i> id.
		<i>jāl</i>					
			<i>dri</i> <i>d(ə)rə</i>	<i>dīrāu</i>	<i>ærdu</i>	<i>ærdo</i>	<i>*drau-</i> : Sgd. <i>zrw- /žō/</i> id. (E 2, 462; SK 296; Bi. 118)
				<i>pašm</i>			T. <i>pašm</i> fur; Os. <i>fæsm</i> , Mnj., Ishk. <i>pōm</i> id. (AP 304; A 1, 459)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
					<i>xil</i>	<i>xelæ</i>	cf. Tk. * <i>kil</i> id. (Bi 252–53)
37. hand	<i>lās</i> Wn. <i>lās</i> , pl. <i>lāstə</i>	<i>dōst</i> <i>dis</i>	<i>dest</i>	<i>dast</i>			* <i>dasta</i> :- OP. <i>dasta</i> -, MP. <i>dst</i> - ^{M,Z} / <i>dast</i> /, P. <i>dast</i> , Sgd. <i>dst</i> / <i>dast</i> -, Khw. <i>dst</i> , Kh. <i>dasta</i> -, vs. Av. <i>zasta</i> - < * <i>zasta</i> - (E 2, 371; SK 144)
				<i>yózna</i>			<i>yoz</i> - stretch, T. <i>yozidán</i> (AP 366)
					<i>kux</i>	<i>kox</i>	< Nakh: Chech. <i>kyg</i> , Ing. <i>ky(l)g</i> id. (Bi 176)
38. head	<i>sar</i>	<i>sōr</i> <i>sar</i>	<i>sar</i>	<i>sar</i>	<i>sær</i>	<i>sær</i>	Av. <i>sarah</i> - & <i>sāra</i> -, Sgd. <i>s'r</i> / <i>sār</i> /, MP. <i>sr</i> ^M , <i>sI</i> ^L / <i>sar</i> /, P. <i>sar</i> head (Bi 210–11)
		<i>kal</i>					< T., P. <i>kalla</i> id. (E 4, 189)
39. hear	<i>ārwedəl</i> <i>aur</i> - = <i>avredəl</i> ^L	<i>harw</i> -					* <i>har</i> :- cf. Av. <i>hauruua</i> - observe (Mo ₂₉ 260; Ch 129–30)
			<i>amar</i> -				* <i>hmar</i> :- Av. (<i>š</i>) <i>mar</i> - remember (Mo ₂₉ 387; Ch 137–38)
				<i>dūyūš</i> - < * <i>pa</i> - <i>ti-gauš</i> -; cf. Sgd. <i>ptywš</i> - (AP 249)	<i>qūsīn</i>	<i>iyosun</i>	* <i>yi-gauš</i> - (Bi 264); cf. * <i>ni-gauš</i> - > Sgd. <i>n(y)γ</i> 'wš- / <i>niyōš</i> /, Khw. (^o) <i>nyws</i> - < * <i>ni-gauš</i> -, Bc. <i>vγav</i> - / <i>vayav</i> -, MP. <i>ny(y)wš</i> - ^M , <i>n(y)dwš</i> - ^Z , / <i>niyō(x)š</i> -, P. <i>niyōšīdan</i> : <i>gōšīdan</i> , Av. <i>gūš</i> - hear < * <i>gauš</i> - (Ch 115–16)
40. heart	<i>zrə</i>	<i>zur</i>	<i>zli</i>	<i>dil</i>	<i>zærdæ</i>	<i>zærdæ</i>	* <i>zrdajā</i> - (Bi 155; R 110): Av. <i>zərədāiia</i> -, Khw. <i>zrz</i> , Kh. <i>ysāra</i> -, Sgd. <i>drjy(y)</i> , <i>drzy</i> / <i>dəržē</i> / < * <i>drjyaza</i> - < * <i>zrdajā</i> - Prt. <i>zirō</i> , MP. <i>dyl</i> ^{M,Z} / <i>dil</i> / OI. <i>hřdaya</i> -
41. horn	<i>škar</i> Wn. <i>šukār</i> (Mo ₀₃ 98)	<i>št</i> (Mo ₂₉ 289)	<i>sukar</i>		<i>siḳa</i>	<i>siwæ</i>	* <i>šrū</i> :- Av. <i>srū</i> -, <i>sruiā</i> - Khw. <i>šw</i> , Kh. <i>šū</i> , MP. <i>srwy</i> ^M / <i>srūy</i> /, <i>slwb</i> ^L / <i>srū</i> /, P. <i>surū(n)</i> (SK 350; Bi 218)
		<i>šāx</i>	<i>šāx</i>	<i>šox</i>			< P.
42. I	<i>zə</i>		<i>az</i>		<i>æz</i>	<i>æz</i>	* <i>azām</i> : Av. <i>azēm</i> , Sgd. 'zw / <i>azu</i> /, Khw. 'z, (n)'z, Kh. <i>aysu</i> , <i>aysā</i> , Bc. <i>ačō</i> , Prt. 'z / <i>az</i> /
	<i>mā</i>	<i>mun</i> , <i>ân</i>	<i>mun</i>	<i>man</i>	<i>mæn</i>	<i>mæn</i>	* <i>mana</i> (A 2, 90)
43. kill	<i>wa-žləl</i> Wn. <i>wezen</i> - (Mo ₂₇ 105)	<i>jan</i> - kill, beat (Mo ₂₉ 262)	<i>wazn</i> - <i>užnaw</i> -				* <i>jan</i> - id., slay, strike > Av. <i>gan</i> - / <i>jan</i> -, Kh. <i>jsan</i> - * <i>aḳa-jan</i> - > Khw. <i>wzn</i> (Ch 224–25)
		<i>mēr</i> -			<i>marīn</i>	<i>marun</i>	* <i>māraya</i> :- OI. <i>mārayati</i> (Bi 193)
		<i>ur</i> -					cf. Av. <i>arəduš</i> - Verletzung, Hieb (Mo ₂₉ 236)
				<i>kūš</i> - : <i>kūšta</i> -			* <i>kauš</i> :- Av. <i>kuš</i> - fight, <i>fra-kaoš</i> - kill, MP. <i>kwš</i> - struggle, kill (SK 138; Ch. 251)

	Pashto	Parachi	Ormuri	Yaghnoibi	Os. Iron	Os. Digor	etymological comments
				<i>t^uxoy-</i> : <i>t^uxásta</i>			cf. Sgd. <i>ptɣw'y-</i> : <i>ptɣwst-</i> kill (AP 339; Gh 7678, 7690)
44. knee	<i>zangūn</i> Wn. <i>zūng</i>	<i>zānū</i>	<i>zanṣ'ak</i> < * <i>zānu-θra-</i> <i>ka-</i> <i>zānū</i> < P.	<i>zonk</i> <i>zūnk</i>	<i>zonīg</i>	<i>zonug</i>	* <i>zānu-(ka-)</i> (R 93): Av. <i>žnu-/zānu-</i> , Sgd. <i>z'n'wk</i> / <i>zānūk</i> /, <i>jnwvq</i> / <i>žnuk</i> /, Khw. <i>z'nwk</i> / <i>zānūk</i> /, Kh. <i>ysānū</i> , Psh. <i>zangūn</i> , MP. 'šnwg ^M / <i>išnūg</i> /, <i>z'nwk^Z</i> / <i>zānūg</i> /, P. <i>zanū</i>
			<i>gēṇḍī</i>				
					<i>wærag</i>	<i>wærag</i>	Kh. <i>hurā</i> , OI. <i>ūru-</i> thigh, <i>ūru-parvan-</i> knee : Av. <i>var-</i> turn (A 4, 88; Ch 419: * <i>uar-</i>)
45. know	<i>pežandól^l</i>	<i>pān-</i>	<i>pazan-</i>	(<i>bīzón-</i> recognize)	<i>zonin</i>	<i>zonun</i>	(* <i>pati-</i> +) * <i>zanH-</i> id.: Av. (<i>paiti-</i>) <i>zān-</i> , Sgd. (<i>pt-</i>)' <i>z'n</i> , <i>z'n</i> /(<i>ā</i>) <i>zān</i> /, Bc. <i>ζāv-</i> , Prt. <i>z'n-</i> / <i>zān-</i> / MP. <i>d'n^{MZ}</i> / <i>dān-</i> /, P. <i>dānistan</i> (Ch 466–68; Mo ₀₃ 68)
	<i>pohedāl</i>						
				<i>γīrív-</i> : <i>γīrīfta</i>			* <i>grabH-</i> : Sgd. <i>γrb-</i> id., understand, Khw. <i>γby-</i> consider (Ch 120; AP 258)
						<i>fæsmærun</i>	cf. Sgd. <i>sm'r-</i> think, Kh. <i>šumār-</i> count; OI. <i>smar-</i> remember (Bi 240)
46. leaf	<i>pāṇa</i>	<i>pōn</i>					* <i>parna-(ka-)</i> : Khw. <i>pnc</i> pl. to * <i>pnk</i> , Kh. <i>pārra-</i> id., feather, Psh. <i>pāṇa</i> , pl. <i>pāni</i> leaf, Prt. <i>png</i> / <i>panag</i> /, OI. <i>parṇá-</i> id., feather (Mo ₂₇ 57; Mo ₀₃ 63)
	<i>paxa</i>		<i>puxa</i>				< IA: Sindhi <i>pakh^u</i> id. (Mo ₂₇ 62)
			<i>bārg</i>	<i>barg</i> (LN 12)			* <i>uarka-</i> : Av. <i>varāka-</i> , Sgd. <i>wrkr</i> / <i>warkar</i> /, Kh. <i>bāggara-</i> , Prt. <i>wrg</i> / <i>wargar</i> /, MP. <i>wlg^Z</i> / <i>warg</i> /, P. <i>barg</i> (H 47; R 107)
					<i>sif</i>	<i>sifæ</i>	cf. Av. <i>aiβi-sif-</i> hinstreichen, OI. <i>šiphā-</i> root, twig (Bi 221)
						<i>taffæ</i>	cf. Os. <i>taepæn</i> flat or from Adygh <i>thāp</i> leaf? (Bi 227–28)
47. lie	<i>camlāstəl</i> Wn. <i>cemul-</i> < * <i>ha-</i> <i>ca-ni-pasta-</i> <i>γazedəl</i>		<i>nw(astak)</i>	<i>nīpíd-</i> : <i>nīpīsta</i>			cf. Av. <i>ni-paiδiia-</i> , Sgd. <i>nypō-</i> : <i>npst-</i> (AP 293; Mo ₀₃ 49)
		<i>dugur-</i> <i>rhīz-</i>					
					<i>x^wišsīn</i>	<i>xussun</i>	* <i>huaf-s-a-</i> (Bi 259)

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
48. liver	<i>yina</i> < * <i>jaxnĭā-</i>	<i>jigar</i>	<i>jāš^r</i>	<i>jīgár</i>	<i>igær</i>	<i>igær</i>	* <i>iakar-</i> < * <i>iak₁(t)</i> : Av. <i>yākarā</i> , Kh. <i>gyagarrā</i> , Sgl. <i>yēyan</i> , MP. <i>ykl^l/jagar/</i> , P. <i>jigar</i> (Bi 161; Mo ₀₃ 100)
				<i>s^apūrda</i> <i>šīpūrda</i> l.; spleen			cf. Av. <i>spərəzan-</i> , Kh. <i>spul-jei</i> , MP. <i>spul</i> & <i>spurz</i> , P. <i>sipurz</i> , Yid. <i>spərza</i> spleen (EWAI 2, 196–97)
49. long	<i>ūžd</i> Wz. <i>wīžd</i> (Mo ₀₃ 8)	<i>bīštō</i>		<i>van(n)</i> (AP 342)			* <i>br̥za-</i> : * <i>barz-</i> be high * <i>br̥zaka-</i> (Ch 12) > Sgd. <i>brz</i> <i>/βərz/, brz'k</i> , Khw. <i>βzk</i> , Kh. <i>bulysa-</i> (SK 385; B 272, 299)
	(<i>lār̥ya</i> de- lay)		<i>drāy</i>		<i>dary</i>	<i>dary</i>	cf. Av. <i>darəga-</i> id. (K 373; E 2, 351; Bi 138; Mo ₀₃ 44)
50. louse	<i>spəžā</i> , <i>spaža</i> Wn. <i>zyānzi</i>	<i>ispō</i>	<i>spōt</i> <i>spūt</i>	<i>šīpūš</i> ~ <i>šūpūš</i> (cf. T. <i>šupūš</i>)	<i>sist</i>	<i>sistæ</i>	* <i>šuis-</i> : Av. <i>spiš-</i> , Sgd. <i>špšh</i> / <i>špiš</i> /, Khw. <i>sb'h</i> , <i>sp'h</i> <i>/spāh</i> /, MP. <i>špyš^m/ispiš</i> / <i>špyš^z/spiš</i> /, P. <i>šipiš</i> (SK 330; Bi 221)
51. man	<i>sarai</i>		<i>sađaiki</i> (Raverty; Mo ₂₉ 407) <i>sarai</i> < Psh.				* <i>sardaka-</i> ; cf. Av. <i>sarəšdiia-</i> gregalis, fellow, OI. <i>šardha-</i> host, troop (Mo ₀₃ 76)
	(<i>mēr̥ə</i> husband Mo ₂₉ 400) <i>mard^l</i>	<i>mēr</i>	(<i>māl̥t</i> husband Mo ₂₉ 400)	<i>mórti</i>			* <i>mart(i)ja-</i> : Av. <i>mašīia-</i> , Sgd. <i>mrt'y /marti</i> /, Khw. <i>mrc</i> , <i>mrj</i> , Bc. <i>μαρδο</i> , OP. <i>martiya</i> , MP. <i>myrd^m/merd</i> / <i>ml^l /mard</i> /, Prt. <i>mrd /mard</i> / < Nur.: Waigali <i>manaš</i> id. (Mo ₂₉ 272)
		<i>māneš</i>					
		<i>ādam</i>					
					<i>nælgo-</i> <i>jm-ag</i>	<i>nælgojm-</i> <i>ag</i>	* <i>narīa-</i> male + <i>kom</i> mouth (Bi 200–01)
52. many	<i>der^l</i>						< IA.: Lhd. <i>đher</i> id. (Mo ₀₃ 25)
		<i>đal</i>					< IA.: Pashai <i>đal</i> herd (Mo ₀₃ 252)
		<i>yalaba</i>		<i>yalbalá</i>			< P. <i>yalabat</i> multitude, Bakht. <i>qalava</i> very much (Mo ₂₉ 255)
	<i>zyāt^l</i>						< P. <i>ziyād</i> < Ar. <i>ziyād</i> in- crease (Mo ₀₃ 104)
		(<i>zut</i> very)	<i>zut</i>				< P. <i>zūd</i> quick? (Mo ₀₃ 303, 414)
				<i>yūlu</i>			cf. T. <i>yuli</i> often, thickly
				<i>bīssiyór</i>			< T. (AP 232)
				<i>azónčē</i>			< T. <i>az on čē</i> (AP 228)
				<i>olám</i>			< T. (AP 298)
					<i>biræ</i>	<i>be(w)ræ</i>	* <i>bajuar-</i> : Av. <i>baēuar-</i> , Kh. <i>byūrru</i> 10000 (Bi 131)
53. meat	<i>γwaša</i> < * <i>gauštra-</i>	<i>γūš</i> < Mnj. <i>γūš</i>	<i>gāka</i> < * <i>gāuakā-</i>	<i>gūšt</i>			* <i>gau-šti/a-</i> produced from bovine; cf. Kh. <i>ggūšta</i> , Psh. <i>γwaša</i> ; MP. <i>gws^l/gōšt</i> /, P. <i>gōšt</i> , Av. <i>gauu-</i> meat; cow (E 3, 212; Mo ₂₉ 394; Mo ₀₃ 33)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
				<i>yóta</i>			cf. Sgd. <i>y't'k</i> , <i>y'ty</i> ; also Uyg., Uzb. <i>et</i> , Kirg. <i>it</i> (AP 366)
					<i>ziza</i>	<i>ziza</i>	< Nakh: Bats <i>zizag</i> , Chechen <i>zizig</i> id. = Lallwort (Bi- 150)
					<i>fid</i>	<i>fid</i>	Av. <i>pitu-</i> , Sgd. <i>'pt-</i> /(<i>ə</i>) <i>pət</i> / id., Kh. <i>pə</i> flesh, Prt. <i>pyd</i> / <i>pid</i> /, MP. <i>pyt^M</i> , <i>p(y)t^Z</i> / <i>pit</i> / : OI. <i>pitú-</i> juice < * <i>paH-</i> to drink (Ch 289)
54. moon	<i>wažmaĩ</i> <i>spožmaĩ</i>						* <i>uaxša-māhī-kā-</i> growing m. * <i>spašsa-māhī-kā-</i> visible m. (Mo ₀₃ 75)
	<i>miyāst</i>	<i>mahōk</i>	<i>maryōk</i> < * <i>māh-rau-ka-mātau</i>	<i>mahtóp/b</i> < T. (AP 283)	<i>mæi</i>	<i>mæice</i> < * <i>māhja-</i> (Bi 193–94)	Av., OP. <i>māh-</i> , Prt. <i>m'h</i> / <i>māh</i> /, MP. <i>m'h^{MZ}</i> / <i>māh</i> /, P. <i>māh</i> , Khw. <i>m'h</i> , Bc. <i>ma(u)o</i> * <i>mās-ti-</i> : Kh. <i>māstā</i> , Psh. <i>miyāst</i> , Srk. <i>māst</i>
55. mountain	<i>γar</i>	(<i>gir</i> stone)	<i>girī, grī</i>	<i>γar</i>			* <i>gari-</i> mountain > Av. <i>gai-ri-</i> , Sgd. <i>γr-</i> / <i>γar</i> /, Khw. <i>γry-cyk</i> , Kh. <i>ga, garā-</i> , <i>ggari-</i> , Bc. <i>γapo, geiro</i> , Prt. <i>γr</i> / <i>γar</i> /, MP. <i>g^L</i> / <i>gar</i> / (E 3, 191–93)
		<i>dhār</i>					< IA.: Pashai <i>d(h)ār</i> , OI. <i>dhāra-</i> (Mo ₂₀ 248)
		<i>khandi</i>					< IA.: Shina <i>khān</i> , Sing. <i>kanda</i> (Mo ₂₀ 265)
			<i>kō</i>	<i>kā</i> (LNE 204)			* <i>kaup^ha-</i> : OP. <i>kaufā-</i> , Prt. <i>kwf</i> / <i>kōf</i> /, MP. <i>kwf^M</i> , <i>kwf^Z</i> / <i>kōf</i> /, P. <i>kōh</i> ; Av. <i>kaofa-</i> mountain ridge
					<i>xox</i>	<i>xonx</i>	* <i>hūānku-</i> , cf. Av. <i>fānku-</i> top, tip < Med.; cf. Danish <i>svank</i> Tal, Höhlung (Bi 255–57) (Mo ₂₇ 96)
56. mouth	<i>xūla</i> Wz. <i>xwula</i> (<i>šūṇḍ</i> lip)	<i>šōṇḍ</i>					< IA.: Tirahi <i>šūṇḍ</i> lip, OI. <i>šūṇḍa-</i> elephant's trunk (Mo ₂₉ 290; Mo ₂₇ 75)
			<i>dān</i>				< P. (Mo ₂₉ 392)
	(<i>paza</i> nose Wn. <i>pīza</i>)		<i>pōz, pyōz</i>				(Mo ₂₉ 405)
				<i>rax</i> (AP 312)			cf. Sgd. <i>ry'h</i> id. (Gh 8471)
					<i>kom</i>	<i>kom</i>	cf. Yazg. <i>kem</i> , Psh. <i>kūmai</i> Gaumen, Par. <i>kamā</i> Kehle, NP. <i>kām, kom</i> opening (Bi 169–70)
					<i>zix</i>	<i>zux ~ çux</i>	via metathesis to Sgd. <i>kwc'</i> id., beak (Bi 151; A 1, 526)
57. name	<i>nūm</i> Wn. <i>nōm</i>	<i>nām</i>	<i>nām</i>	<i>nom</i>	<i>nom</i>	<i>nom, non</i>	* <i>nāman-</i> : Av. <i>nāman-</i> , * <i>nāma-(ka-)</i> : Sgd. <i>n'm</i> / <i>nām</i> /, Khw. <i>n'm(y)k</i> , Kh. <i>nāma</i> , Bc. <i>vaμo</i> , MP. ^{MZ} , Prt. <i>n'm</i> / <i>nām</i> /

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
58. neck	<i>γāra</i> (Mo ₀₃ 32)		<i>gardan</i>				Sgd. <i>γrδ'k(h)</i> / <i>γarδāk</i> /, Khw. <i>γrδk</i> , Kh. <i>gadaa-</i> < * <i>gartaka</i> , MP. <i>grdn^M</i> , <i>gln^Z</i> / <i>gardan</i> /, P. <i>gardan</i> neck (H 201) – from * <i>gart-</i> turn (Ch 110–11)
	<i>warmež</i>						* <i>fra-mrž-</i> , cf. Av. <i>mərəzu-</i> , Ku., Zazaki <i>mil</i> (Mo ₀₃ 90)
					<i>bærzæi</i>	<i>bærzæi</i>	cf. Av. <i>bərəz-</i> high (Bi 129)
		<i>maṇḍō</i>					< IA.: Ashkun <i>mandä</i> , Pashai <i>manda</i> (Mo ₂₉ 272)
	<i>mayzai</i>						cf. <i>māzγə</i> marrow, brain, Av. <i>mazga-</i> (Mo ₀₃ 53)
			<i>makaṇḍäi</i>	<i>?káma</i> (AP 270)			vs. Ygh. <i>mak</i> top of the head (Xr 174; SK 230–31)
					<i>æfcæg</i>	<i>æfcæg</i>	cf. Ad.-Kab. <i>pæa</i> neck
					<i>ḱubal</i>	(<i>ḱobal^e</i> Kropf)	< P. <i>kapal</i> Hintern, Kruppe < Ar. <i>kafal</i> podex (Bi 175)
59. new	<i>nawai</i>	<i>nō</i>	<i>nūw</i> <i>nyōw</i>	<i>náva</i>	<i>nog</i>	<i>næwæg</i>	* <i>naua-ka-</i> : Khw. ⁽¹⁾ <i>nwk</i> , <i>nwyk</i> , Sgd. <i>nw'k(w)</i> / <i>nawāk(u)</i> /, <i>nwyγ</i> / <i>nawē</i> /, Bc. <i>vōγo</i> ; Prt. <i>nw'g</i> / <i>nawāg</i> /, MP. <i>nwg^M</i> , <i>nwk^Z</i> / <i>nōg</i> /
60. night	<i>špa</i>	<i>xawân</i>	<i>šō</i> <i>šyōu</i>	<i>xšap</i> <i>šab</i>	<i>æxsæv</i>	<i>æxsævæ</i>	* <i>xšapā-</i> : Av. <i>xšap(an)-</i> Kh. <i>ššavā-</i> , Sgd. <i>'γšp-</i> , <i>'xšp-</i> /(<i>ə</i>) <i>xšapā</i> /, Khw. <i>'x(y)b</i> , <i>xb</i> , Bc. <i>χαβ-</i> , Prt. <i>šb</i> / <i>šab</i> /, MP. <i>šb^M</i> , <i>šp^Z</i> / <i>šab</i> /
		<i>w(i)yâr</i>					< IA.: Pashai <i>wyāl</i> (Mo ₂₉ 298)
61. nose	<i>paza</i> Wn. <i>pīza</i>		(<i>pyūz</i> nose) <i>pōza</i> < P. <i>pazak</i> < Psh.		<i>finz</i>	<i>finz(æ)</i>	cf. Khw. <i>pncwk</i> snout (Bi 244: * <i>pinča-</i> ; E 3, 49–51: * <i>fuž-</i>) or Os. < Abazin <i>pənça</i> id.?
		<i>nēšt</i> < * <i>nāstī-</i> (Mo ₂₉ 277)		<i>nays</i> , <i>neš</i> , <i>nis</i> (AP 292)			cf. Sgd. (<i>n</i>) <i>ns</i> , <i>nyc</i> / <i>nēč</i> /, Khw. <i>n'c</i> , <i>n'j</i> < * <i>nāca</i> , Prt. <i>n'wc</i> / <i>nāwiž</i> / (B 190); Av. <i>nāh-</i>
		<i>damâγ</i>					< P. < Ar.
			<i>nīnī</i> , <i>neni</i>				* <i>ni-ūi-āna-</i> , cf. Av. <i>viiānai-iā</i> spirit, P. <i>bīnī</i> nose, OI. <i>vyānā-</i> (Mo ₂₉ 402; K 136; Ch 167)
62. not	<i>na</i>	<i>na</i>	<i>nok</i>	<i>na</i>	<i>næ</i>	<i>næ</i>	Av. <i>nōiūt</i> & <i>na</i> , Sgd. <i>n' /nā/</i> <i>n'y'</i> , <i>ny</i> / <i>nē</i> /, Khw. <i>n(y)</i> , Kh. <i>na</i> , <i>ni</i> , <i>ne</i> , Bc. <i>va(vo)</i> , Prt. <i>ny</i> / <i>nē</i> /, MP. <i>ny^M</i> / <i>nē</i> /, P. <i>na</i>
					<i>ma</i>	<i>ma</i>	* <i>mā</i> (Bi 191–92)
63. one	<i>yau</i>	<i>žu</i>	<i>šē</i> <i>so</i>	<i>ī</i> <i>yak</i>	<i>īw</i>	<i>ew</i>	* <i>aīya-(ka-)</i> > Av. <i>aēuua-</i> , Sgd. <i>'γw</i> , ⁽¹⁾ <i>γw</i> / <i>ēw</i> /, Khw. <i>'γw</i> , Bc. <i>ioγo</i> , Prt. <i>γw</i> / <i>ēw</i> /, MP. <i>'γw^M</i> / <i>ēw</i> /, <i>yk^M</i> / <i>yak</i> / <i>'ywk^Z</i> / <i>ēk</i> /, P. <i>-ē</i> vs. <i>yak</i>
64. person	<i>žawai</i>		0				cf. Av. <i>aošahuant-</i> mortal (Mo ₂₇ 107)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
	<i>nafár^l</i>	<i>nafar</i>		<i>nafár</i>			< P.
	<i>ādám^l</i>			<i>odám</i>	<i>adæjmag</i>	<i>adæjmag</i>	< P. <i>ādam</i> < Ar. <i>ʔādam</i> (SK 405)
	<i>insán^l</i>						
				<i>mardák</i> <i>mardám</i>			< T. (AP 284) < P. <i>mardúm</i> < * <i>mar-tija-taŭxman-</i> (LNE 173)
				<i>mórti</i>			* <i>mart(i)ja-</i> : Av. <i>mašīia-</i> , Sgd. <i>mrt'y /marti/</i> , Khw. <i>mrc, mrj</i> , Bc. <i>μαρδο</i> , OP. <i>martiya</i> , MP. <i>myrd^M /merd/</i> , <i>ml^l /mard/</i> , Prt. <i>mrđ /mard/</i> ; = 51. man
					<i>ūdgojmag</i>	<i>odgojmag</i>	cf. Os. <i>ūd / od</i> soul, spirit + <i>kom</i> mouth (Bi 231)
					<i>læg</i>	<i>læg</i>	cf. <i>Lakk Lak, Lak-zī</i> Lezgins in Ar. sources; Os./Al. > Hu. <i>legény</i> young man, soldier
65. rain n.	<i>wor = uryá^l</i>	<i>auγār</i> <i>γár</i>	<i>γōr</i>		<i>warin</i>	<i>warun</i>	* <i>uaHr-</i> : Av. <i>vār-</i> , Sgd. <i>w'r /wār/</i> , Khw. <i>w'r</i> , Kh. <i>bāra</i> , Psh. <i>wor</i> , Prt. <i>w'r'n /wārān/</i> , MP. <i>w'r'n^M, w'l'n^Z /wārān/</i> , < P. <i>bārān</i> (Ch 406f; Bi 229)
	<i>bārān</i>	<i>bārān</i>	<i>bārān</i>	<i>borón</i>			< P. <i>baršakāl</i> < WPahari <i>bāršāl</i> (Mo ₀₃ , 66)
	<i>b/pašakāl</i>						
66. red	<i>sūr</i>	<i>surkh(ō)</i>	<i>šūš</i> <i>sūš^r</i>	<i>surx</i>	<i>sīrx</i>	<i>surx</i>	Av. <i>suxra-</i> , MP. <i>swhr^M swhl^l /suhr/</i> , P. <i>surx</i> id., Kh. <i>suraa-</i> clean, OI. <i>šukr/lá-</i> white (Bi 220)
		<i>hīncakōi</i> : <i>čak-</i> drip					(Mo ₂₉ , 259)
				<i>kīmir</i> (AP 272)			Sgd. <i>krm'r</i> , MP <i>karmū^Z</i> (E 4, 392)
67. road	<i>lār</i>		<i>rāi</i> cf. Av. <i>raiθīia-</i> (Mo ₂₉ , 405)	<i>rot</i> (AP 314)			* <i>rāθa-</i> : <i>raθa-</i> carriage; cf. Av. <i>ra'θīia-</i> path, Sgd. <i>r'δ(h)</i> , <i>r'θ /rāθ/</i> , Prt. <i>r'h /rāh/</i> , MP. <i>r'h^M, Γs^Z /rāh/</i>
		<i>panān</i> cf. Av. acc. <i>pañtānəm</i> (Mo ₀₃ , 280)			<i>fændæg</i>	<i>fændæg</i>	* <i>pantā-(ka-)</i> & * <i>pantāh-</i> : Av. <i>panti-</i> & <i>paθ(ā)-</i> , Khw. <i>pnd'k, pyd'k</i> , Kh. <i>pada</i> , <i>pande</i> , Prt. <i>pnd'n /pandān/</i> , MP. <i>pnd^{M,Z} /pand/</i> (Bi 239)
						<i>nad</i>	from <i>nad / nad</i> schlagen (Bi 198)
68. root	<i>wex</i> (Mo ₀₃ , 93)	<i>γīx</i> <i>bīx</i>	<i>bēx</i>				* <i>uajx-</i> : Sgd. <i>wyγ(h)</i> , <i>wyx /wēx, wix/</i> , Kh. <i>bā(ga)</i> , <i>bāta-</i> , <i>bāvā-</i> , Prt. <i>wyx /wēx/</i> , P. <i>bēx</i>
		<i>kōrdi</i>					cf. Kati <i>kārū?</i> (Mo ₂₉ , 267)
	<i>wulý^l</i> Wn. <i>wīya</i>		<i>wuliē</i>		<i>wīdag</i>	<i>j/wedagæ</i>	* <i>uajti-</i> , * <i>uajtāka-</i> (Bi 232; Mo ₀₃ , 87)
			<i>myūcan</i>				

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
	<i>rēxa^l</i> <i>rixa^l</i>			<i>rīša</i> (AP 313)			P. <i>rēša</i> root, fibre H 142: P. <i>rēše</i> hair MP. <i>lyšk^z/rēšag/</i> root
	<i>munq^l</i> <i>nila^l</i>						
							Av. <i>uruθa-</i> growth (K 165)
69. round	<i>γunq</i>	-					cf. Av. <i>gundā-</i> ball of dough, P. <i>gunda</i> id. (Mo ₀₃ 31)
	<i>gārd^l</i>		<i>girdāi</i>				T., P. <i>gird</i> , MP. <i>gyrd^M, glt^Z/gird/</i> < * <i>gar-</i> turn, wind (Ch 104–05)
				<i>lūnda</i>			< T. <i>lūnda</i> (AP 283)
				<i>kūrsāk</i>			< T. <i>qursāk</i> (AP 277)
				<i>γīla</i>			cf. <i>γīl-</i> roll < T. <i>γēlīdān</i> (LNE 209; LN 58)
				<i>k^Mlūlá</i>			< T. <i>kulūlá</i> < P. <i>gulōla</i> (LNE 209)
					<i>tūmbīl</i>	<i>tumbul</i>	cf. OI. <i>tumba-</i> Flaschen-gurke (Bi 227)
70. sand	<i>šāga</i> Wn. <i>sāga</i> (Mo ₀₃ 78)	<i>seya</i>	<i>sigō</i>				* <i>sikatā-</i> : OP. <i>θikā</i> , Sgd. <i>šykth /sikt/</i> gravel, Khw. <i>cγ, jγ</i> sand, Kh. <i>siyatā-</i> , Prt. <i>sygd /sigd/</i> , MP. <i>sygd^{MD} /sigd/</i> vs. OI. <i>sikatā-</i> (AV) with <i>s-</i>
			<i>rēg</i>	<i>reg</i>			< T. (AP 313)
					<i>zmis</i>	<i>æzmesæ</i>	* <i>uz-majša-</i> < * <i>uds-mejks-</i> : Av. <i>mīas-</i> mischen (Bi 159)
71. say	<i>wayəl</i> Wn. <i>wāy-</i>			<i>wōv-</i> (LN 185)			* <i>uab/f-</i> : Av. <i>vaf-</i> sing, Sgd. <i>w^β- say</i> (AP 353; Mo ₀₃ 94; Ch 401)
	<i>lawdəl</i>				(<i>ūlæfin</i> breathe)	(<i>olæfun</i> breathe)	T. <i>luw kardan</i> speak (Mo ₇₄ 42), MP. <i>r^βb</i> Ruf; OI. <i>lapati</i> schwatzt (Bi 232–33)
		<i>jar-</i>					Av. <i>gar-</i> praise (Mo ₂₉ 262–63; E 3, 168f; Ch 107)
			<i>γuš-</i> <i>γwac-</i>				* <i>uac-</i> : Av. <i>vāc-</i> , Prt. <i>w^cc</i> id. (Ch 402–04)
					<i>zæyin</i>	<i>zæyun / ʒ^o</i>	cf. Av. <i>zaxšaθra-</i> Lästerwort, Prt. <i>zx-s</i> tönen, Psh. <i>žay</i> Laut, Stimme, Schrei (Bi 155)
72. see	<i>wīn-</i>		<i>jūn-</i> (Ef ₈₆ 74)	<i>wēn-</i> : <i>wēta</i>	<i>wīnin</i>	<i>winun</i>	* <i>uai(H)n-</i> : Av. <i>vaēn-</i> , Sgd. <i>wyn- /wēn/</i> , Khw. <i>wyn-</i> , <i>āvīda-</i> he sees < * <i>ā-vīnda</i> , Bc. <i>o(i)ṇv-</i> , <i>ov-</i> , Prt. <i>wy(y)n- /wēn/</i> , MP. <i>wy(y)n^{MZ} /wēn/</i> , P. <i>bīn-</i> ; OI. <i>ven-</i> look for (Ch 412–13; Bi 236–37)
	<i>līdəl</i>						Av. <i>dīta-</i> , Prt. <i>dīd</i> , OI. <i>dhītá-</i> (K 79, 375)
	Wn. <i>kās-</i>						Shug. <i>čes-</i> , Sgl. <i>kas-</i> , Av. <i>kas-</i> (Mo ₃₈ 399)
	<i>katəl</i>						
	<i>gorəl</i>						
		<i>bučh-</i>					< IA.: Tirahi <i>bīc-</i> (Mo ₂₉ 239)

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
		<i>dhōr-</i>	<i>juš-</i> < * <i>yi-</i> <i>dršja-</i> (Ef ₈₆ 74)				cf. Av. <i>dərəšta-</i> : <i>darəs</i> < * <i>darš-</i> (Mo ₂₉ 249; Ch 61–62)
		? <i>tul-</i> (Mo ₂₉ 294)					cf. Yidgha <i>tela-</i> seek?
73. seed	<i>toma</i> Wz. <i>tēmna</i> <i>tuxm</i> ^L	<i>tuxm</i>	0	<i>taxm</i> <i>tūxm</i>			* <i>tauxman-</i> : Av. <i>taoxman-</i> , Sgd. <i>tym</i> , <i>txm</i> / <i>təxm</i> /, <i>twxmy</i> /tu/oxmē/, Kh. <i>tīman-</i> , Bc. <i>τοχμανο</i> , Prt. <i>twxm</i> /tōxm/, MP. <i>twhm(g)</i> ^M , <i>twm</i> ^Z /tōhm(ag)/, P. <i>tuxma</i>
	<i>zanai</i> Wz. <i>zərai</i>						(Mo ₂₇ 102); cf. Lith. <i>žirnis</i> , OCS. <i>zrěno</i> grain
					<i>miggag</i>	<i>muggag</i>	cf. <i>mīg</i> / <i>mugā</i> sperma : Lat. <i>mūcus</i> Schleim (Bi 199–98)
					<i>tawinag</i>	<i>itawinag</i>	* <i>(yi-)tāy-</i> ; cf. Av. <i>tauuah-</i> strength, MP. <i>tuwān</i> id., Prt. <i>t'wg</i> strong (Bi 222)
74. sit	<i>nāstəl</i> Wn. <i>čī-n-</i> : <i>čī-nōst-</i> (Mo ₀₃ 59)	<i>nhīn-</i>	<i>n-</i> : <i>nastak</i>	<i>nid-</i> : <i>nīsta</i>	<i>bædin</i> (Bi 126)	<i>badun</i> < * <i>upa-had-</i> (A 1, 231)	* <i>ni-šizd/šād-</i> : * <i>had-</i> id. Av. <i>nišhīd°</i> : <i>nišāδ°</i> : <i>hiδ-</i> sit (down), Sgd. <i>n(y)st-</i> / <i>nist</i> /, <i>nyδ-</i> / <i>ni-hīda</i> /, Ygh. <i>nid</i> , <i>nīsta</i> , Khw. <i>nyθ</i> < * <i>ni-hida-</i> Kh. <i>nāšqd-</i> < * <i>ni-šādaya-</i> , Prt., MP. ^M <i>nšyd-</i> / <i>nišīd-</i> /, P. <i>nišastan/nišīn-</i> (Ch 126)
75. skin	<i>carman</i> < nom.pl. * <i>čarmāni</i>		<i>carmun</i> < Psh. (E 2, 231)	<i>čarm</i>	<i>carm</i>	<i>car(m)</i>	cf. Av. <i>čarəman-</i> , Sgd. <i>crmyh</i> , Khw. <i>črm</i> , Kh. <i>tcārman</i> , OP. <i>čarman-</i> , MP. <i>čarm</i> , P. <i>čarm</i> (Bi 268; Mo ₀₃ 18)
	<i>xwar</i>						cf. Av. <i>x'ara-</i> (minor) wound (Mo ₀₃ 97) – see 3. bark
	<i>post</i> ^K	<i>pūšt</i> <i>pūst</i> (Mo ₂₉ 281, 283)	<i>pōst</i> (Mo ₂₉ 405)	<i>pust</i> < T. <i>pūst</i> (AP 310)			* <i>paustā</i> (R 104) – also “bark”: Sgd. <i>pwst(h)</i> / <i>pōst</i> /, MP. <i>pwst</i> ^{MZ} / <i>pōst</i> /, P. <i>pōst</i> id. (H 75); cf. * <i>paus-</i> dress, cover (Ch 303)
		<i>xām</i>					< P. <i>xām</i> raw undressed (Mo ₂₉ 299)
			<i>wzΛn</i>				
76. sleep	<i>xob k.</i> ^L	<i>xōm bur</i> fall asleep < * <i>huaf-</i> <i>na-</i> (Mo ₂₉ 299)	<i>xau k.</i> < P. (Mo ₂₉ 412)	<i>ūfs-</i> : <i>ūfta</i> (AP 340)	<i>fīncəj k.</i> abl./instr. of <i>fīn</i> dream (Bi 244)	<i>funaj k.</i> abl./instr. of <i>fun</i> dream (Bi 244)	* <i>(a)u-</i> / <i>hufsa-</i> : * <i>huaf-</i> ; cf. Av. <i>hufsa-</i> , Sgd. <i>wβs-</i> , <i>w'βs-</i> / <i>uβs</i> , <i>ōβs</i> /, Kh. <i>hūs</i> , Prt. <i>xwsp-</i> / <i>xusp-</i> /, MP. <i>hwptn</i> ^Z /xuft/, <i>hwps-</i> ^Z /xuft/ (Ch. 145–47)
			<i>nw-astak</i> go to sleep lie down	<i>nīpid-</i> / <i>nīpīsta-</i> lie down to sleep			* <i>ni-pad-</i> (Ch 287) – cf. lie
77. small	<i>konkay</i> <i>kamkay</i>				(<i>k'</i>) <i>inæg</i> small in quantity)	(<i>kunæg</i> small in quantity)	* <i>kabna-</i> : Av. <i>kamna-</i> , Sgd. <i>kβn-</i> , Khw. <i>knb</i> (Mo ₀₃ 39; A 1, 606–07; E 4, 193–96)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
					<i>ḵannæg</i>		* <i>kañja-ka-</i> (A 1, 618); cf. Os. <i>ḵaddær</i> , Mnj. <i>kandær</i> smaller OI. <i>kanīna-</i> young (E 4, 220f)
	<i>wur</i>						< * <i>urta-</i> (Mo ₀₃ 92)
	<i>kučnáy⁺</i>						cf. P. <i>kūčak</i> , MP. <i>kwc(k)^z</i>
		<i>čīnō</i> (Mo ₂₉ 246)					< IA.: Shina <i>čūñū</i> m., <i>čūni</i> / <i>čīni</i> id. (Tu 4889)
			<i>zārī</i>				cf. P. <i>zār-</i> weak : Av. <i>zar-</i> grow old (Mo ₂₉ 414)
				<i>pūlla</i>			* <i>puθra-</i> : Av. <i>puθra-</i> , Kh. <i>pūra-</i> , Mnj. <i>pūr</i> son (AP 309; LNE 171f)
				<i>maydahák</i>			< T. <i>maidá</i> , Uzb. <i>máydá</i> (AP 283; LNE 172)
						<i>mingi(i)</i>	(Bi 196; A 2, 122)
					<i>giccil</i>	<i>giccil</i>	< Ge. <i>ḵvaçila</i> , Sv. <i>koçol</i> id. (A 1, 528; Bi 137)
78. smoke n.	<i>lū</i> <i>lugáy⁺</i> <i>duđ⁺</i>	<i>dhī</i> (Mo ₂₉ 248)	<i>lugai</i> <i>dūd</i>	<i>dūd</i>			* <i>dūta-(ka-)</i> : Khw. <i>ḵwd</i> , Prt. <i>dwd</i> / <i>dūd</i> /, MP., P. <i>dūd</i> (R 94; Ch 68; SK 164; Mo ₀₃ 42; LNE 201)
	<i>dund</i>						< IA.: Pnj. <i>dhund</i> (Mo ₀₃ 22)
				<i>pazd</i> <i>pa(y)st</i>	<i>fæzdæg</i>	<i>fæzdæg</i>	cf. Sgd. <i>pzt</i> smoke (AP 304; Gh 8398; A 1, 467)
						<i>q^wæcæ</i>	< Andi <i>ḵḵwaj</i> , Avar <i>ḵḵuj</i> id. (Bi 263)
79. stand	<i>daredəl</i>		<i>dar-</i>				< IA.: Sindhi <i>dharaṇu</i> put (Mo ₀₃ 23)
	<i>walār k.^L</i>						* <i>aḡa-/*ḡi-darta/i-</i> , cf. Av. <i>dar-</i> hold (Mo ₀₃ 87)
	<i>šta</i>	(<i>ušt-</i> rise - Mo ₂₉ 236)	<i>ašt-</i>	<i>ušt-</i>	(<i>stīn</i> rise)	<i>istun</i> < * <i>hišta-</i> (Bi 162–63)	* <i>staH-</i> : Av. <i>stā-</i> id., set, Kh. <i>stā-</i> , Prt. '(y)št- /išt- /, MP. 'yst- 'dn ^M 'st' tn ^z /ēstādan/, cf. Bc. <i>stado</i> entstand (Ch 358)
		<i>apā</i> standing					* <i>ā-pāda-</i> (Mo ₂₉ 234)
					<i>læwwīn</i>	<i>læwun</i>	* <i>ra(m)b-</i> (SK 398; Ch. 184; Bi 188; A 2, 37–39)
80. star	<i>storai</i>	<i>estēč</i> <i>sitāra</i>	<i>starrak</i> <i>sitāra</i>	<i>sitōra</i>	<i>štālī</i>	(<i>æ</i>) <i>štalu</i>	* <i>stāraka-</i> : Sgd. 'st' r' k, 'stry /(<i>ə</i>)stārē/, Khw. 'st' rk, Kh. <i>stāraa-</i> , Psh. <i>stōrai</i> , Orm. <i>starrak</i> , Prt. 'st' rg / <i>astārag</i> /, MP. 'st' rg ^M , st' lk ^z /(<i>i</i>)stārag /, 'str ^M / <i>astar</i> /, stl / <i>star</i> /, P. <i>sitāra</i> vs. Av. <i>star-</i> (Bi 216)
81. stone	<i>kāṇay</i>						* <i>karna-ka-</i> , cf. Rosh. <i>čāwn</i> steep slope (Mo ₀₃ 39)
	<i>sīāja</i> Wn. <i>sāzə</i>			<i>sañk</i> <i>saṅg</i>			* <i>aśā-čī-</i> (Mo ₀₃ 77) * <i>aśanga-</i> : Av. <i>asāṅga-</i> , Sgd. <i>sng</i> , <i>snk</i> , <i>snq</i> / <i>sang</i> / Khw. <i>snk</i> , Kh. <i>saṅga-</i> , Bc. <i>asagge</i> , Prt. 'sn(n)g / <i>asang</i> /, MP. <i>sng^z</i> (R 47)

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
	<i>tīža</i>						* <i>tixšā-</i> : Av. <i>tigra-</i> , <i>tiži-</i> ^o (Mo ₂₇ 85)
	<i>zγar</i>						
	(<i>γar</i> , pl. <i>γrūna</i> / <i>γrā</i> mountain Mo ₀₃ 32)	<i>gir</i>	(<i>girī</i> hill)				* <i>gari-</i> mountain > Av. <i>gairi-</i> , Sgd. <i>γr-</i> / <i>γar</i> /, Ygh. <i>γar</i> , Khw. <i>γrycyk</i> , Kh. <i>ga</i> , <i>garā-</i> , <i>ggari-</i> , Bc. <i>γapo</i> , <i>geiro</i> , Prt. <i>γr</i> / <i>γar</i> /, MP. <i>g^l/gar/</i> : Shug. <i>žīr</i> stone (E 3, 191–93; SK 187)
			<i>gap</i>				cf. Par. <i>gapār</i> fireplace : <i>ār</i> fire (Mo ₂₉ 254, 395)
					<i>dūr</i>	<i>dor</i>	* <i>daura-</i> : Kh. <i>dūra-</i> clod, stone (Bi 144–46)
82. sun	Wn. <i>mīr</i>		<i>mēšr</i>				* <i>miθra-</i> : YAv. <i>miθra-</i> god of contract; Sgd. <i>myr</i> / <i>mē/īr</i> / sun, Bc. <i>miiro</i> , <i>miri</i> , <i>miuro</i> , <i>meiro</i> , Psh. <i>myēr</i> , Prt. <i>myhr</i> / <i>mih</i> /, MP. <i>myhr^M</i> , <i>mt^r^Z</i> / <i>mih</i> /
	<i>nwar</i> = <i>lmar^L</i>			<i>xur</i>	<i>xūr</i>	<i>xor</i>	* <i>h(u)uar-</i> /* <i>h(u)uan-</i> : Av. <i>huuarə</i> / <i>x'an-</i> , Sgd. <i>γwr</i> , <i>xwr</i> / <i>xwar/xur</i> /, <i>γwyr</i> ; <i>xwyr</i> / <i>xuwər/xōyr</i> / Khw. <i>'x(y)r</i> , <i>xyr</i> , MP. <i>xwr^M</i> , <i>hw^l/xwar</i> /, P. <i>xor</i> (E 3, 438f; SK 426)
	<i>γarma</i>						see 93. warm
		<i>ruč</i>					* <i>raučah-</i> (Mo ₂₉ 283)
			<i>tōa/tūwā/toawī</i>	<i>ōfiōb</i> < T. (LNE 196)			cf. P. <i>āf-tāb</i> id. : <i>tāb</i> light, Av. <i>tap-</i> heat (Mo ₀₃ 410)
83. swim	<i>lāmbó</i> <i>vahā^L</i>	0	0	0			cf. Av. <i>napta-</i> damp, Sgd. <i>nmb</i> dew, P. <i>nam</i> moisture (Mo ₀₃ 57)
	<i>gərzedā^L</i>						
				<i>ōbbōzīyi</i> <i>karak</i>			< T. <i>ōbbōzī kardan</i> , P. <i>ābbāzī</i> = <i>āb</i> water + <i>bāzī</i> game (LNE 192)
					<i>lenk k.</i>		cf. Lith. <i>leņgvas</i> light (Bi 189)
				(<i>sīnóy-</i> wash AP 321)	(<i>æxsīn</i> wash)	<i>nake k.</i> (Bi 198)	* <i>snaH-</i> : Sgd. <i>sn'y-</i> wash, bathe / <i>snāy</i> /, Os. <i>najun</i> bath, Prt. <i>sn'c</i> / <i>snāž-</i> /, MP. <i>'šn'z^M</i> , <i>šn'c-ytn^Z</i> / <i>išnāz-</i> /, P. <i>šinā(w)</i> ; * <i>fra-snāja-</i> : Sgd. <i>fsn'y-</i> / <i>f(a)snāy</i> /, Kh. <i>haysnāta-</i> washed (Ch 348; A 2, 151f)
84. tail	<i>lām</i> (Mo ₀₃ 43)	<i>dum(b)</i> (Mo ₀₃ 249–50: < P.?) <i>?dōyund</i>	<i>dumb</i>	<i>dūmb</i> <i>dūym</i> <i>dum</i> (AP 249–50)	<i>dīmæg</i>	<i>dumæg</i>	* <i>dumba-(ka-)</i> (E 2, 479f): Av. <i>duma-</i> , Sgd. <i>δwm(ph)</i> / <i>δum(b)</i> /, Khw. <i>δwm</i> , Kh. <i>dumaa-</i> , Os. <i>dumāg</i> , Prt. <i>dwmb</i> / <i>dumb</i> /, Bal. <i>dumb(ak)</i> , MP. <i>dwmbg^M</i> , <i>dwm(b)^Z</i> / <i>dumb(ag)</i> /, P. <i>dum</i>
		<i>dēra</i>					
			<i>likīē</i>				
			<i>lakaṇḍim</i>				

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
					<i>kudi</i>	<i>kudi/kode</i>	< Ge. <i>kudi</i> id. (Bi 175–76)
85. that	<i>ha-γa</i>		(<i>h</i>) <i>afō</i>				Av. <i>ha-</i> , OI. <i>sa-</i> (Mo ₀₃ 35; E 3, 298–99)
	<i>ho-γa</i>			<i>ax</i> (AP 227)			* <i>hay</i> : OAv. <i>huuō</i> , YAv. <i>hāu</i> , OP. <i>hauv</i> , Prt. <i>hw /hō/haw/</i> , Sgd. <i>ʿγw, xw(w) /xō/</i> ; cf. OI. <i>a-sāu</i> (Mo ₀₃ 35)
		<i>ō, hō</i>		obl. <i>āwē, aū</i> (AP 227)	<i>ūci</i> cf. OP. <i>avaš-ēiy</i> (Bi 237)	<i>oci</i>	* <i>aua-</i> : OP. <i>ava-</i> , Av. <i>auua-</i> ; acc. OP. <i>avam</i> , Av. <i>aom</i> , Sgd. <i>w- /ō, ū/ ww / (a)wu/</i> , Bc. <i>oo</i> (E 1, 274–75)
				<i>ay-</i>		<i>ei</i> (Bi 164, 235)	* <i>a/ijam</i> this: Av. <i>aiiām</i> , Sgd. <i>ʿmʿ /əma/</i> , <i>yw /yu/</i> , Kh. <i>ma-</i> , <i>mai</i> , <i>mū</i> , Bc. <i>eiμo, amo</i> , <i>(i)eiō</i> , Prt. <i>ʿym /im/</i> , MP. <i>ʿym^M, ʿm^Z /im/</i> ; OI. <i>ayām</i> (SK 433; E 1, 103–05; Bi 164)
86. this	<i>ai</i>	<i>ē, hē</i> < gen. * <i>ahja</i> (E 1, 64)	<i>a</i> < gen. * <i>ahja</i> (E 1, 64)	<i>iš</i> < * <i>aiša-</i> <i>it</i> < * <i>ajta-</i> (AP 264)	<i>a</i>	<i>a</i>	* <i>a/ijam</i> : OP. <i>iyam</i> , Av. <i>aiiām</i> , Sgd. <i>ʿmʿ /əma/</i> , <i>yw /yu/</i> , Kh. <i>ma-</i> , <i>mai</i> , <i>mū</i> , Bc. <i>eiμo, amo</i> , <i>(i)eiō</i> , Prt. <i>ʿym /im/</i> , MP. <i>ʿym^M, ʿm^Z /im/</i> ; OI. <i>ayām</i> ; acc. * <i>imam</i> : Av. <i>iməm</i> , OP. <i>imam</i> , Sgd. <i>mw /mu/</i> ; OI. <i>imám</i> (SK 433; E 1, 103–05) gen. * <i>ahja</i>
	<i>dā^l</i>				<i>ai</i>	<i>aiæ</i>	* <i>ajta-</i> : Shug. <i>yid</i> (Mo ₀₃ 22)
			m. <i>hō</i> f. <i>hā</i>				Av. <i>ha-</i> , nom. m. <i>hō</i> , f. <i>hā</i> , OI. <i>sa-</i> (Mo ₀₃ 35; E 3, 298–99)
				<i>in</i>			< T. (AP 264)
87. thou	<i>de, tō</i>	<i>tū, tu</i>	<i>tū</i>	<i>tu</i>	<i>dī</i>	<i>du</i>	* <i>tū</i> / * <i>tuūam</i> : Av. <i>tū</i> / <i>tuūām</i> , OP. <i>tuvam</i> , Sgd. <i>tγw /t(ə)xu/</i> , <i>tw /tō/</i> , Khw. <i>(ʿw)tk</i> , Kh. <i>thu</i> , Bc. <i>to(o)</i> , <i>toovo</i> , Prt., MP ^M <i>tw /tū, tō/</i> , P. <i>tu</i>
88. tongue	<i>žaba = žóba</i>	<i>zubbān</i> <i>bān</i> < * <i>zbān</i> (Mo ₂₉ 241)	<i>zubbān</i> <i>zabān</i> <i>zbān</i> (Ef 83)	<i>zīwók</i> <i>zīwók</i>	<i>ævzag</i>	<i>ævzag</i>	* <i>hižūā-(ka-)</i> : Av. <i>hizuuā-</i> , Sgd. <i>ʿzbʿ(ʿ)k, zbʿk / (ə)zβāk/</i> , Khw. <i>zβʿk, zʿk</i> , Kh. <i>bišā</i> , Os. <i>ævzag</i> , Prt. <i>ʿzbʿn /izβān/</i> , MP. <i>ʿzwʿn^M /izwān/</i> , <i>ʿwzwʿn^Z /uzwān/</i> , P. <i>zabān</i> (E 3, 403f)
89. tooth	<i>γāš</i>		<i>gas</i> , pl. <i>gišī</i>				* <i>gaštra-</i> : * <i>gaz-</i> bite, cf. Gilaki <i>gaz</i> tooth (Mo ₀₃ 33; Ch 117–18)
		<i>danán</i>		<i>dīndak</i>	<i>dændag</i>	<i>dændag</i>	* <i>danta-(ka-)</i> : Av. <i>dātā-</i> & <i>dañtan-</i> , Sgd. <i>δntʿ (k) /δandā(k)/</i> , Kh. <i>dandaa-</i> , Prt., MP ^{M,Z} <i>dndʿn /dandān/</i> (E 2, 329–331; SK 154–55; Bi 140f)
90. tree	<i>wana</i> <i>wuna</i>	(<i>γan</i> oak)	<i>wun₂</i> < Psh.				cf. Av. <i>vanā-</i> (Mo ₀₃ 88)

	Pashto	Parachi	Ormuri	Yaghnobi	Os. Iron	Os. Digor	etymological comments
		<i>bhīn</i>					* <i>by(H)znja-</i> , cf. Rosh. <i>wāwzn</i> birch (Mo ₂₉ 240)
			<i>d(a)raxt</i>	<i>daráxt</i>			P. <i>diraxt</i> id. (H 121), MP. <i>drxt</i> ^M , <i>dʰhiʰ</i> ^L / <i>draxt</i> /, Prt. <i>drxt</i> / <i>draxt</i> / (E 2, 456) – Av. <i>draxta-</i> : <i>draṅ-</i> make firm
				(<i>dork</i> wood, pole)			* <i>dāru-(ka-)</i> : Av. <i>dāuru-</i> stem of tree, wood, Prt. <i>dʰlwg</i> / <i>dālūg</i> /, MP. <i>dʰrw</i> ^M / <i>dāru</i> /, <i>dʰlʰ</i> / <i>dār</i> /, P. <i>dār</i> id., tree (E 2, 358; H 116)
					<i>bēlas</i>	<i>bēlasæ</i>	* <i>marāša-</i> , prob. vřddhi to Av. <i>varāša-</i> , OI. <i>vřkša-</i> tree (Bi 127–28)
91. two	<i>dwa</i>	<i>du, dī</i>	<i>dō</i> <i>dyō</i>	<i>du, dū</i>	<i>dīwwæ</i>	<i>duwæ</i>	* <i>duya-</i> > Av. <i>duua-</i> , Sgd. <i>ʰdwa</i> / <i>(ə)ḍwa</i> /, <i>ḍwʰ</i> / <i>ḍwā</i> /, Khw. <i>(ʰ)ḍw</i> , <i>ʰḍyw</i> , Kh. <i>duva</i> , <i>dva</i> , Bc. <i>loo(i)</i> , <i>loi</i> , <i>dbo</i> , Prt., MP ^M <i>dw</i> / <i>dō</i> / (E 2, 482)
92. walk	<i>γərzedá</i> ^L Wn. <i>γərz-</i> <i>tləl</i>						
							* <i>tač-</i> : Av. <i>tač-</i> walk, flow (Mo ₀₃ 81–82; Ch 373)
	<i>drūmēdəl</i> Wn. <i>dym-</i>	<i>ram-</i>					* <i>(ati-)ram-</i> , cf. Kh. <i>ttrām-</i> enter, cross (Mo ₂₉ 284; Mo ₀₃ 23; Ch 312)
		<i>č(h)īm-</i>					cf. P. <i>čamān</i> walking (Mo ₂₉ 246)
		<i>par-</i>					cf. Pashai <i>par-</i> go, become (Mo ₂₉ 280)
	Wn. <i>wiyār</i>						
		<i>wēh-</i>					< IA.: Lhd. <i>wahan</i> to go, flow (Mo ₂₉ 297)
cf. come	(<i>šwəl</i> happen)	<i>čhī</i> (Mo ₂₉ 244–45)	<i>caw-</i>	<i>šay-</i> : <i>šūta</i>	<i>cæwīn</i>	<i>cæwun</i>	* <i>čiau-</i> go: Av. <i>šūiau-</i> , OP. <i>š(i)yava-</i> , Sgd. <i>šw-/šaw</i> /, Kh. <i>tsa-</i> , <i>tsv-</i> , Tu. <i>ccha-</i> , Bc. <i>ḥao(i)-</i> , Prt. <i>šw-/šaw-</i> , MP. <i>šw-(dn)</i> ^M , <i>šwb</i> ^Z / <i>šaw-</i> /, P. <i>šudan</i> ; OI. <i>cyav-</i> (Ch 41; SK 139; R 125; Bi 271; LNE 123)
			<i>šar-</i>				
				<i>tir-</i> : <i>tórta</i>			* <i>tarH-</i> : Av. <i>tar-</i> cross over, Sgd. <i>tr-</i> go (AP 335; Ch 380f)
93. warm	<i>tod</i> m. <i>tawda</i> f. Wn. <i>tāu</i>	<i>tapó</i>	<i>tōk</i> <i>tōk</i>				cf. Av. <i>tafta-</i> , Kh. <i>ttauda-</i> (Mo ₀₃ 81)
		<i>dam</i>					(Mo ₂₉ 249)
	(<i>γārma</i> heat, noon)			<i>γarm</i>	<i>qarm</i>	<i>γar(m)</i> (Bi 261–62)	* <i>garma-</i> : * <i>gar-</i> heat > Av. <i>garəma-</i> , OP. <i>garma-</i> , Sgd. <i>γrm</i> / <i>γarm</i> /, Khw. <i>γrmd</i> , Kh. <i>garma-</i> , <i>grāma</i> , Sgl. <i>γōrm</i> , Srk. <i>žūrm</i> , Prt. <i>grm</i> / <i>garm</i> /, MP. <i>grm</i> ^M , <i>glm</i> ^Z / <i>garm</i> /, P.T. <i>garm</i> (Ch 105; E 3, 162)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
94. water	<i>obə</i>	<i>āwə</i>	<i>wōk</i> <i>wak</i>	<i>op, ob, ow</i> cf. T. <i>ob</i> (AP 299)			<i>*āp-/*ap-(a-ka-)</i> (E 1, 311f; SK 432): Av. <i>āp-</i> , Sgd. <i>’p</i> , <i>’p</i> , <i>’b /āp, āβ/</i> , Khw. <i>*’b</i> , Kh. <i>ū, ūtca < *apačā-</i> , Bc. <i>αββo</i> , Prt. <i>’b /āb/</i> , MP. <i>’b^M, ’p^Z /āb/</i>
					<i>don</i> (w., river)	<i>don</i> (w., river)	Av. <i>dānu-</i> river, OI. <i>dānu-</i> dew (E 2, 450; Bi. 143–44)
95. we	<i>mu(n)ž</i> Wz. <i>mīž</i> Wn. <i>mōš</i> < <i>*ah-</i> <i>māčja-</i> (Mo ₀₃ 50)	<i>mā, mā</i>	<i>māx</i>	<i>mox</i>	<i>max</i>	<i>max</i>	gen. <i>*ahmākam</i> > Av. <i>ahmākam</i> , OP. <i>amāxam</i> , Sgd. <i>m’γ(w)</i> , <i>m’x /māx(u)/</i> , Kh. <i>buhu, muhu, maha</i> , Bc. <i>αμσχο</i> , Prt. <i>’m’(h) /amāh/</i> , MP. <i>’m’(h)^M /amāh/</i> , P. <i>mā</i>
96. what	<i>cə < *čit</i>	<i>če</i>	<i>ca, cə</i>	<i>čo < *či-āka-</i>	<i>cī</i> gen. <i>cæi</i>	<i>ci</i> gen. <i>cæi</i>	acc. <i>*čim</i> > Av. <i>čīm</i> gen. <i>*čahjā</i> > Av. <i>čahiiā</i> nom.-acc.ntr. <i>*čit</i> > Av. <i>čit</i> Sgd. <i>’cw / (ə)čū/</i> , <i>cw /čū/</i> Khw. <i>’c(y)</i> , <i>c</i> , Kh. <i>ci, cā, cu</i> , Prt. <i>cy, tšy /če, čē/</i> , MP. <i>cy^M /če, čē/</i> (Bi 275)
		<i>zanēng</i>					<i>*zanhja kahja</i>
97. white	<i>spīn < *šuiθna- / *šuaiθna-</i> (Mo ₀₃ 74)		<i>spēw</i> <i>spīu</i>	<i>šipéta</i> <i>sapéd</i> <i>saféd</i> (AP 322)			<i>*šūaita-</i> (R 95, 129) Av. <i>spaēta-</i> , Sgd. <i>’sp’yt / aspēt/</i> , <i>sp(y)ty /spētē/</i> , Khw. <i>sbydyk, spydyk</i> , Kh. <i>ššīta-</i> , Prt. <i>’spyd /ispēd/</i> , MP. <i>’sp- yd^M, spyt^Z / (i)spēd/</i> , P. <i>saféd</i> (Mo ₂₉ 244)
		<i>čhačō</i> <i>čhačō</i>					
					<i>ūrs</i>	<i>ors</i>	<i>*a^uruša-</i> : Av. <i>auruša-</i> white, MP. <i>arus</i> , OI. <i>aruša-</i> reddish
98. who	<i>cok < *či-āka</i> (cf. <i>cə</i>) obl. <i>čā < *kahja</i> Wn. <i>čōk</i>	<i>ka</i> <i>kī</i>	<i>ka</i> <i>kōk</i>	<i>ka(x) = ka</i> + <i>ax</i> that obl. <i>kay</i>	<i>ki</i> gen. <i>kæi</i>	<i>ka</i> gen. <i>kæi</i>	gen. <i>*kahjā</i> > Av. <i>kahiiā</i> , Sgd. <i>’ky / (ə)kē/</i> , <i>ky /kē/</i> , <i>ky(y)’ /kyā/</i> , Khw. <i>’ky</i> , Kh. <i>ce, kye</i> , Bc. <i>ka</i> , Prt., MP. ^M <i>ky, qy /kē/</i> , P. <i>kī</i> (R 94; Mo ₀₃ 17)
99. woman	<i>šəja = xəza^L</i>	<i>šičak</i>			<i>silgojmag</i> <i>sil</i> female	<i>silgojmag</i> <i>sil</i> female	<i>*strī-</i> : Av. <i>strī-</i> wife, woman, Sgd. <i>’stryc</i> , Kh. <i>strīyā</i> (Bi 218–19; Mo ₀₃ 98) < T. (AP 366)
		<i>zāif</i>		<i>zāif</i>			cf. Av. <i>zarəta-</i> old (K 379)
			<i>zarkā</i> <i>jarkə</i>				cf. Sgd. <i>’ync</i> id. < <i>*iaunikā-</i> (Gh 2189)
				<i>inč, ɛnč</i>			
				<i>zan</i> < T. (AP 366)			<i>*janī-(ka-)</i> : Av. <i>jāni-, jaini-</i> , Bc. <i>čivo</i> , Prt. <i>jn /zan/</i> , MP. <i>zn^{M,Z} /zan/</i> (E 4, 141f)
					<i>ūs</i>	<i>osə</i>	<i>*uasti-</i> < <i>*uad^h-ti-</i> : Av. <i>vadū-</i> woman, wife; OI. <i>vadhū-</i> bride (Bi 233–34) or to OI. <i>yošit-</i> woman (A 4, 20–21)

	Pashto	Parachi	Ormuri	Yagnobi	Os. Iron	Os. Digor	etymological comments
100. yellow	<i>ziyar</i> = <i>žer</i> ^L	<i>zūō</i>	<i>zyēr</i>	<i>zard</i> (<i>zērta</i> <i>rūyēn</i> *yellow butter AP 367)			* <i>zarita-</i> : Av. <i>zairita-</i> , Sgd. <i>zyr</i> ' <i>k</i> / <i>zērtē</i> /, Khw. <i>zrd</i> (<i>y</i>) <i>k</i> , Kh. <i>ysīdai</i> , f. <i>ysīca-</i> , <i>ysarūna-</i> id., red, MP. <i>zlt</i> ^Z / <i>zard</i> /, P. <i>zard</i> (R 151; H 656; SK 435)
					<i>būr</i>	<i>bor</i>	cf. P. <i>bur</i> red-brown (Bi 132)

Wordlist 3: East Iranian II – Pamir Iranian

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
1. all	<i>pō(ži)</i> , pl. <i>pōwi</i>	<i>paži</i>					cf. OI. <i>upa-citi</i> heap, accumulation (Mo ₃₈ 243)
			<i>wūgaθ</i>				cf. <i>wū(g)</i> “1” (Ed ₇₁ 303)
			<i>kāl</i>			<i>kīl, kāl</i>	< Ar. <i>kull</i> (P ₇₅ 213)
				<i>fūkaθ</i>			(Mo ₇₄ 33: <i>fuk</i> ~ Toch. A <i>puk</i>)
					<i>jbk</i>		
						<i>kāxt, kī</i>	* <i>kjštī-</i> : Av. <i>karšuuar</i> side (SK 222)
2. ashes	<i>yaxyə</i>	<i>yáxio</i>		<i>θīr</i>	<i>usər</i>		* <i>āθrīa-</i> : Av. <i>ātrīia-</i> < P. <i>xākistar</i> ^{Ba}
			<i>ḫakistūr</i>				
						<i>parg</i>	* <i>paraka-</i> : Sgl. <i>park</i>
3. bark	<i>pūst</i>	<i>pisto</i>	<i>pəst</i>	<i>pūst</i>	<i>pustak</i>	<i>pist</i> id., skin	cf. “skin” & MP. <i>pwst</i> ^{M, Z} / <i>pōst</i> / “bark”, P. <i>pūst</i> M ₇₄ 62 & SK 262: lw.
					<i>kərost</i>		cf. “skin”
4. belly	<i>əlīr</i> <i>ālər</i> ^{Gr}	<i>elīr</i> ^{De} <i>ilīr</i> ^{Gr}				<i>dur</i>	* <i>udara-</i> : Av. <i>udara-</i> , Khw. <i>wdyr</i> , Kh. <i>ūra-</i> ; cf. Sgd. <i>kδ</i> ' <i>r</i> ' <i>k</i> , <i>qθ</i> ' <i>ry</i> id. / <i>kaδ</i> /θārē/; OI. <i>kūdara-</i> (SK 151–52)
	<i>ḫkāmbā</i> ^{Gr} <i>ḫkāmbā</i> ^{De}						P. <i>iškam</i> (<i>ba</i>)/ <i>šikam</i> id. Prt. <i>šk/qmb</i> / <i>iškamb</i> /, MP. <i>šk/qmb</i> ^M / <i>iškamb</i> /
			<i>šam</i> <i>ḫam</i> Sm				
				<i>qīč</i>			Br. <i>qōt</i> Sm , Bjw. <i>qūt</i> Sm ; cf. Ku. <i>qič</i> femur (C 2, 161: Trk. <i>qyč</i> back part)
						<i>wanj</i>	* <i>uanič-</i> ; Kh. <i>vāna-</i> id., <i>ḫūnā-</i> intestines; OI. <i>vaništū-</i>
5. big	<i>stūr</i>	<i>stur</i>					P. <i>sitabr</i> strong, Av. <i>staβra-</i> id. (H 158)
			<i>qatōl</i>	<i>kattā</i>	<i>kata</i>		< Tk. (Mo ₃₈ 400; E 3, 348f: * <i>kat</i> (<i>t</i>) <i>āna-</i>)
				<i>γullā</i>			
						<i>lup</i>	cf. many
6. bird	<i>parīnda</i> <i>pārānda</i> ^{Gr}	<i>parīnda</i> ^{Mo} <i>pórugh</i>	<i>parānda</i>	<i>parīndā</i> <i>parrānda</i>	<i>parānda</i>	<i>parīnda</i> (Shaw)	< P. <i>par</i> (<i>r</i>) <i>anda</i> bird = flying (St 244; Mo ₃₈ 239, 407)
			<i>tšiyāg</i> Sm				

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
				<i>medets</i> Sm			Rsh. <i>medētš</i> , <i>medētšāk</i> Sm
7. bite	<i>nigōw-</i> : <i>nigēvd</i> ^{Za}	<i>noγo-</i> : <i>nəγavd-</i> < * <i>ni-kap/b-</i>	<i>qap da-</i>	0	0	<i>qap ding-</i>	(Px ₇₅ 245; cf. Mo ₃₈ 231)
						<i>dündük</i> <i>ding</i> ^{Shaw}	cf. "tooth"
8. black	<i>nirəwiy</i> <i>nəráwəy</i> ^{SK}	<i>nrou</i>					* <i>an-arušaka</i> -? (Mo ₃₈ 232; SK 351)
			<i>wūγn</i>				
	(<i>tīrə</i> dark)	(<i>tíreka</i> ^{Gr} dark)		<i>tēr</i>			* <i>tanθrīa-</i> (SK 351)
					<i>šu</i>	<i>šiw</i>	Av. <i>siāuua-</i> dark, Sgd. <i>šw</i> , <i>šw /šāw</i> , <i>šow</i> /, Ygh <i>šōw</i> , Khw. <i>s'w</i> , Os. <i>šāu</i> , Prt. <i>sy'w</i> / <i>syāw</i> /, MP. <i>sy'w</i> ^M / <i>syāw</i> /, <i>syd'z</i> / <i>syā</i> /, P. <i>siyāh</i>
9. blood	<i>yīnə</i>	<i>īno</i>	<i>š'an</i>	<i>waxin</i>	<i>wen</i>	<i>wəxən</i> <i>wuxən/m</i>	* <i>uahuana-</i> : Av. <i>vohuna-</i> Ygh. <i>waxin</i> , P. <i>xūn</i>
10. bone	<i>yāstiy</i> <i>yāstáy</i> ^{SK}	<i>yastē</i>		<i>sitxūn</i> < T. <i>stexūn</i> ^{Ba} < T.	<i>wūstūk</i>	(<i>y</i>) <i>ayč</i>	* <i>astaka-</i> > Av. <i>ast-</i> , Ygh. <i>sitak</i> , MP <i>'st(k)z</i> / <i>ast(ag)</i> /, <i>'sth(w)'n^z</i> / <i>astuxān</i> /, P. <i>has-</i> <i>ta</i> & <i>ustux'ān</i> (SK 424)
			<i>šeg</i> <i>šēk</i> Sm				*(<i>a</i>) <i>xšaka-</i> ; cf. Brt. <i>axsōn</i> Sm (SK 346; Mo ₇₄ 101)
11. breast	<i>fīz</i> , <i>fūz</i> ^{Mo}	<i>fiz</i> , <i>fuz</i> ^{SK}				<i>pīz</i>	* <i>pāza-</i> : Khw. <i>p'z</i> id., Bc. <i>παζο</i> id., face, Sgd. <i>pāz</i> face, Os. <i>faz</i> side, Kh. <i>pāy-</i> <i>sa-</i> surface; OI. <i>pāja-</i> face (SK 286; B 229)
			<i>būr</i> <i>bōr</i> Sm (cf. P. <i>bar</i>)				Av. <i>varah-</i> id., MP. <i>wr</i> ^M , <i>wl^z</i> / <i>war</i> /, P. <i>bar</i> , Bal. <i>gvar</i> (H 44)
				<i>sīnā</i> ^Z	<i>sīna</i>	<i>sīna</i> Sm	MP. <i>syn(k)z</i> / <i>sēn(ag)</i> /, P. <i>sīn</i> (Mo ₃₈ 411, 540)
12. burn	<i>guv-</i> : <i>guvd</i> <i>gəv-</i> : <i>gəvd</i> ^{Gr}	<i>guv-</i> : <i>guvd-</i>					? * <i>ham-kaup-</i> want strongly (Ch. 250; E 4, 367)
			<i>tax</i> : <i>taxt</i>				
				<i>θāw-</i> : <i>θud</i>	<i>saw</i> : <i>sbd</i> (Px ₈₃ 38, 201)	<i>θaw</i> : <i>θət</i>	* <i>θay-</i> : Khw. <i>θ'w-</i> , Kh. <i>paθ-</i> id. (B 202; SK 374), par- allel to * <i>tap-</i> to warm up, heat: Av. <i>tap-</i> be hot, Kh. <i>ttav-</i> id., Sgd. <i>tβt'y</i> / <i>taβdē</i> / to burn, P. <i>taftan</i> , <i>tābīdan</i> be hot, shine
13. claw	<i>nōxən</i> (Mo ₃₈ 234)	<i>anáxno</i>		<i>nōxūn</i> < T.	<i>narxūk</i>	<i>diyər</i> / <i>digər</i> < * <i>naga-</i> <i>ra-</i> / * <i>nax-</i> <i>ara-</i>	P. <i>nāxun</i> , Os. <i>nix</i> , Kh. pl. <i>nāhune</i> , Khw. <i>n'xn</i> (SK 146–47)
			<i>xək</i> (Mo ₇₄ 101)				* <i>sruya-kā-</i> fingernail + horn > Av. <i>srū-</i> , <i>sruuā-</i> , Khw. <i>šwk</i> / <i>šuwik</i> /, Bc. <i>ḥovo</i> fin- gernail, MP. <i>slwb^z</i> / <i>srū</i> /, P. <i>surū(n)</i>

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
14. cloud	<i>mīγ</i> <i>miγ^{Gr}</i>	<i>mīγ</i>					* <i>maiga-</i> : Av. <i>maēya-</i> , Sgd. <i>myγ /mēγ/</i> , P. <i>mēγ</i> ; OI. <i>meghā-</i> (H 226)
		<i>ambūrā^{Ba}</i>			(<i>murtáf</i> cloudy) <i>abr</i> < T.	<i>mur</i>	* <i>ham-abra-?</i> (Mo.; SK 236) : Av. <i>aβra-</i> , MP. <i>ʾβr^M</i> , <i>ʾb^L</i> / <i>aβr/</i> , P. <i>abr</i> id., Kh. <i>ora</i> sky
			<i>varm</i>				Srk. <i>varm</i> id., ?Av. <i>duuqñ-man-</i> or Bur. <i>burūnč</i> cloud (SK 236)
			<i>xāsik^{Ba}</i>				
15. cold				<i>iš</i>			Srk. <i>iš</i> id., Av. <i>aēxa-</i> ice < * <i>aixa-</i> (E 1, 140f) P. <i>yax</i> ice (St 1528)
	<i>γax</i> , <i>γax^{Gr}</i>	<i>γox^{Dc}</i>	<i>γax</i>				Orosh. <i>šitō</i> , Srk. <i>š(i)tu</i> , ?Par. <i>eštāwō</i> id. : Yazg. <i>šay-</i> freeze (Mo ₇₄ 79), Os. <i>syjyn</i> , Ygh. <i>ši-</i> id. < * <i>šaiH-</i> ; OI. <i>šyā-</i> id., <i>šitā-</i> cold (Ch 329)
						<i>xunuk</i>	< P. (Mo ₃₈ 422)
							<i>sīr</i> < * <i>sāra-</i> (SK 325) Av. <i>sarəta-</i> , Sgd. <i>srt /sart/</i> , Ygh. <i>sōrt</i> , Khw. <i>srd</i> , Kh. <i>sāda-</i> , Prt. <i>srd /sard/</i> , MP. <i>srd^{g^M} /sardāg/</i> , <i>slt^Z /sard/</i> , P. <i>sard</i>
16. come	<i>ās</i> : (<i>ōγəy</i>)	<i>ās-</i> : (<i>āγōy-</i>)			<i>is</i> : (<i>oγad</i>)		* <i>Hai-</i> : * <i>ā-isa-</i> > Sgd. <i>ʾʾys-</i> / <i>āis/</i> , Khw. <i>ʾs-</i> , Kh. <i>hīs-</i> < * <i>fra-isa-</i> or * <i>(h)ā-isa-</i>
	(<i>ās</i>) : <i>ōγəy</i>	(<i>ās-</i>) : <i>āγōy-</i>			(<i>is</i>) : <i>oγad</i>		* <i>gam-</i> > Av. <i>gam-</i> : * <i>ā-gata-</i> (Ch 98–101)
			<i>zay</i>			<i>wəzəy-</i> : <i>wəzd-</i>	* <i>ā-zaja-</i> : Av. <i>zā-</i> , pres. <i>zai-ia-</i> , Par. <i>zah-</i> (SK 402; Ch 461)
			(<i>zay</i>) : <i>yad</i>	<i>yad</i> : <i>yat</i>		(<i>yund-</i> : <i>yut-</i> carry)	* <i>iat-</i> (Ch 215): Prt. <i>yʾd</i> reach, come to; OI. <i>yat-</i> line up
17. die	<i>mīr</i> : <i>mīr</i>	<i>mər-</i> : <i>muṛ-</i>	<i>mar</i> : <i>məg</i>	<i>mīr</i> : <i>mūd</i>	<i>mər</i> : <i>məl</i>	<i>mər(ə)y-</i> : <i>mərt-</i>	* <i>mar-</i> : YAv., Kh. <i>mar-</i> (Ch 264; SK 239)
18. dog	<i>γōlv</i>	<i>γalv</i>					* <i>gadya-</i> : Av. <i>gaduuā-</i> id., Sgd. <i>γōβk /γādvē/</i> bitch (E 3, 103)
			<i>kod</i>	<i>kud</i> , f. <i>kid</i>	<i>kōd</i>		* <i>kuta-</i> /* <i>kutī-</i> (R 4, 413): Sgd. <i>ʾkwt-</i> /(<i>ə</i>) <i>kut/</i> , <i>kwt / qwt /kut/</i> , Khw. <i>ʾkt</i> , Bc. <i>kođo</i>
						<i>sac</i>	* <i>šyačī-</i> : Psh. f. <i>spəy</i> < * <i>šyakī</i> : m. <i>spay</i> < * <i>šyaka-</i> : Med. <i>σπάκα</i> , Prt. <i>ʾspg /ispag/</i> , MP. <i>sg^{M,Z} /sag/</i> , P. <i>sag</i> * <i>šyā(n)</i> : Av. <i>spā</i> , Kh. <i>šve</i>
19. drink	<i>šōm</i> : <i>šēmd</i>	<i>šam-</i> : <i>šamd-</i>					* <i>čjam-</i> swallow: Av. <i>šam-</i> swallow, Khw. <i>ʾsʾmy-</i> drink, P. <i>āšām</i> id. (Ch 39–40)
			<i>bəraz</i> : <i>bərext</i>	<i>bīrēz</i> : <i>bīrōxt</i>			* <i>upa-raiz-</i> (SK 272); cf. Ir. * <i>raiz-</i> lick (Ch 310)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
					рѡѡ : рѡѡѡ	puv-, pəv- : pit-	*piβa- : *pīta- (SK 272; B 211; Ch 289: *paH-)
20. dry	wišk	ušk	wašk, wašk	xušk < T.		wəsk xišk < T.	Av. huška- & hi(š)ku- Os. xusk'æ, Sgd. 'škw /(ə)šku/, Kh. huška-; Prt. hwšk /hušk/, MP. hwšk ^{M,Z} / hušk/, P. xušk; OI. šuška- (SK 398)
				qōq	qoq		Sgl. kāk id. (Px ₅₉ 229) < T. kok (Mo ₃₈ 397)
21. ear	gūy	γū	γəvon	γūȳ	γūl	γiš	*gauša-: Av. gaoša-, OP. gauša-, P. gōš, Sgd. γwš /γōš/, Khw. γwx, Kh. gū, gguvq-
22. earth	zāxmə	zaxmó	zamč	zime	zamin < T	zəmin < T.	*zam-: Av. zam-, Khw. z(y)m, Kh. uysmä, Bc. ζαμυο, ζαμιο; MP. zmyg ^M , zmyk ^Z /zamīg/
	γəráy ^{Gr} earth, clay	γurōi	(γəríy clay)	(jíráy clay)		(jəliv clay)	*grai- clay: Kh. grrai-, Sgd. γr'y, Ygh. yirīg, Os. æryæ (E 3, 283)
						wundr	*aṃa-antara-: Par. yanīr field (SK 393)
			šat	sit	šbt	šət	< Nur. *kšuttikā-: Kati sūt, Ashkun šutī id. (T 3709; SK 337); less probably to Kh. ššandā- id. (Ch 370)
23. eat	xər : xūr	xur- : xur-	xar : xug	xār : xūd	xar : xūl		*hvar- eat, consume (Ch 147): Av. x'ar- Sgd. γwr-, xwr- /xwar-/ Khw. x(w)r-, Kh. hvar-, Bc. xoap-
						γaw- : (y) it-	cf. Ashkun, Waigali yū- Kati yū-, yū-, Prasun oyu- id., OI. yuvate (SK 423; E 4, 90)
24. egg	əryy árūy ^{Gr} ayury ^{De}	áγúr ^{Gr} Λγυr ^{Decker}					*āja-gaura-(E 1, 306), cf. Yazg. γər, Shug. γur testi- cles, P. γur having large tes- ticles; OI. gula glans penis (Mo ₃₈ 189; Mo ₇₄ 36) + *ā(y)ja-(kā > Khw. y'k, Kh. āhā-, Os. ajk, Psh. hā, Wz. yōwya, MP. x'yg ^M , x'd(y)k ^Z /xāyag/, P. xāya; Av. aēm
			təximury	tarmury		tixmīrg toxm- mory ^{Ba}	< T. tuxm-i mury seed of bird (Px 277)
						falenz ^{Shaw}	orig. "dove"? (Mo ₃₈ 522)
25. eye	čōm	čam	čam	cēm	cam	čəžm (SK 141-42)	*ča(š)š-man- (R 2, 238) Av. čašman, Sgd. cšm /čašm/, obl. cmy' /cym-, Khw. cm, jm, Orm. cimi, Kh. tcw, tcai & tcwiman-, P. čašm

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
26. fat n.	wōzd		wūzd	wɔz reɣn			Khw. 'zdyx /uzdax/, Psh. wāzda, Par. γāzd id., Ku. baz, Av. vazdah- *fatness; OI. vedhás- *force (NEVP 94)
				čārv	čabrū	čarvī, čarvī	*čarp(a)- > Sgd. crp /čarp/, Kh. tcār(b)a-, P. čarb, Os. carv butter (E 2, 232f)
		rūγan	roγn < T.	rūγan < T.		ruŷn	*rauγna- (R 106): Av. raoy-na- butter, Sgd. rwyn /rōγn/, Ygh. rūγin, Khw. rγyn, Kh. rrūna-, P. rawγan (SK 297–98)
27. feather	pīhǵ	pūñä	pun	pūn pār < T. (Mo ₇₄ 56)	par < T.	par ^{px} parr ^h < T.	*parna-(ka-): Av. parəna-, Sgd. prn, Kh. pārpa-, Khw. pn (Ch 295–96), MP. pr ^m /parr/, P. parr (H 293)
						tap	Shug. tēp wing (SK 354)
28. fire	yūr	yūr	yac	yōc			*ātar-/*āθr- (E 1, 318): Av. ātarš, Sgd. 'r rh, 'tr /ātar/, Khw. 'd(y)r /ādir/, Kh. ataro, aθso, MP. 'dwr ^z /ādur/ & 'thš ^z /ātaxš/, P. ātaš
					rɔšni	rəxnig	Wkh. ruxn light < P. rušnāyī light, fire (SK 304)
29. fish	kop	kap				kup	Elran. *kap ^(b) a-: Bīrūnī kyb, Khw. kb, Sgd. kp- /kap/, Kh. kava, Os. kaf, Psh. kab (SK 458; B 56)
			moi	mōyī	moyi		*matsīa- (R 87): Av. masī-ia-, Prt. m'sy'g /māsyāg/, MP. m'hyg ^m , m'hyk ^z /māhīg/, P. māhī, T. mohi
30. fly v.	wurafs : wurafsōy	vrōf- : vrōft					cf. Ishk. u(ə)rofs- ^b vd- stand < *Hrab/f- go (Ch 184)
			šawez : šawūxt	rawāz : rawuxt	araz : arat	rəw(ə)z-, rīw(i)z- : rəwəzd-	*fra-uaž-: Av. fra-waz-, Sgd. frwz-, frwz- /frawaz-/, Prt. frwz- /frawaz-/, MP. prwz- ^m /parwaz- / < *uaz-drive (Ch 429–32; SK 303–04)
31. foot	pālə	palo	peḍ	pōḍ	pu(d)	pīd, pīḍ	*pād-: Av. pād-, OP pāda-, Ygh. pōda, P. pāy, Sgd. p'ḍ /pāḍ/, Khw. p'ḍ, b'ḍ, Kh. pai, pl. pā (R 113–14)
32. full	próga ^{Gr} pīr < T. pūr ^{Gr} < T.	pīr, pər < T.	pər	purrá		pūr ^{Tomaschek}	*pīna-: Av. pərəna-, Sgd. pwn /pūn/, pwrn /purn/, Bc. porri, Prt. pwr /purr/, MP. pwr ^m , pw ^l /purr/, P. purr (Ch 295–96)
			šam				< P. šam' < Ar. (Mo ₇₄ 38)
					lip		cf. Shug. lap many
						tqí, tǵqí	< Uzb. tiqin full (SK 359)
33. give	dāl : liy	dāl-m : lii-m	ḍad : ḍed	ḍād : ḍōd	day : dud	(rand-) : ḍat- < *dita- (SK 166, 293)	*daH- id. > Av. dā- *daθa-/*dāta- > Bc. λα(v)-/ λαδο, Prt. dh- /dah-/, d'd, MP. dy(y)- ^m /day-/, dh- ^z /dah-/, d'tn ^z /dādan/ (Ch 43f)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
						<i>rand-</i> : <i>rat-, rət-</i>	Os. <i>raddyn</i> , OI. <i>rāti</i> (SK 293)
34. good	<i>yašiy</i>	<i>yašē</i>	<i>xasa</i>				cf. P. <i>gač</i> nice or P. <i>gaš</i> delicate? (SK 91; Mo ₃₈ 213)
				<i>bašānd</i>			< P. <i>pasand</i> acceptable, suitable (SK 91)
					<i>fīrī</i> (SK 91)		cf. Av. <i>friia-</i> kind, dear (Mo ₃₈ 392)
						<i>baf</i>	cf. P. <i>bih</i> id. < * <i>uāhja-</i> or P. <i>bāb</i> suitable, good, Baht. <i>bāv</i> good (SK 91)
35. green	<i>səvz</i> < P. <i>sabz</i>	<i>savz</i> < P. <i>sabz</i>	<i>savz</i> < P. <i>sabz</i>	<i>sāvz</i> < P. <i>sabz</i>	<i>savz</i> < P. <i>sabz</i>	<i>sāvz</i> ^{Px} < P. <i>sabz</i>	MP. <i>spz</i> , <i>sbz</i> ^Z / <i>sabz</i> /, P. <i>sabz</i> id. (DK 355); cf. Kh. <i>ysba</i> cane, reed, Psh. <i>sābuh</i> grass
36. hair	<i>γūnīy</i>	<i>γūnia</i>		<i>γūnj</i>	<i>γénuk</i>	<i>γani</i>	* <i>gauna-</i> (<i>ka-</i>) (E 3, 240): Av. <i>gaona-</i> , Sgd. <i>γwn'k'</i> , <i>γwn'y</i> / <i>γōnē</i> /, Khw. <i>γwnyk</i> , Kh. <i>ggūna-</i> id.
			<i>cū, cu</i>	<i>cīw</i>			* <i>drau-</i> : Sgd. <i>z̄w-</i> / <i>zō</i> /, Ygh. <i>darau</i> , Kh. <i>dro</i> , Os. <i>aerdo</i> id. (E 2, 462; SK 296)
			<i>jet</i>				< Dard.: Shina <i>jaṭ</i>
					<i>səγūnd</i>		< * <i>sor-γūn-</i> ? (Mo ₃₈ 411)
						<i>šafš</i>	* <i>safša-</i> : P. <i>sifša</i> ringlet (B 417–18 adds Kh. <i>sakša-</i> "hair", but it really meant "appearance" – SVK 119–20); cf. OI. <i>sép(h)a-</i> tail?
						<i>xād</i> ^{Px}	cf. Srk. <i>xād</i> < * <i>fšata-</i> (SK 340) or * <i>xšāda-</i> (Px ₇₅ 295)
			(<i>rəmag</i> pubic hair)	(<i>rūmj</i> pubic hair)		<i>rumj</i>	* <i>raumačī-</i> ; cf. T., P. <i>rūma</i> pubic hair < * <i>rōmag</i> (H 633; SK 298)
37. hand	<i>lōst</i>	<i>last</i>	<i>ōust</i>	<i>ōust</i>	<i>dūst</i>	<i>dast, δast</i>	* <i>dasta-</i> : OP. <i>dasta-</i> , MP. <i>dst</i> ^{MZ} / <i>dast</i> /, P. <i>dast</i> , Sgd. <i>ōst</i> / <i>dast-</i> /, Khw. <i>ōst</i> , Kh. <i>dasta-</i> , vs. Av. <i>zasta-</i> < * <i>zasta-</i> (E 2, 371; SK 144)
38. head	<i>pūsīr</i> < * <i>pāti-sarah-</i>	<i>pusur</i> < * <i>pāti-sarah-</i>			<i>sar</i> < T.	<i>sar</i> < T.	cf. Sgd. <i>pts'r'k</i> / <i>patsārē</i> / id., Par. <i>pīsār</i> forehead (Mo ₃₈ 240): <i>s'r</i> / <i>sār</i> /, Av. <i>sarah-</i> & <i>sāra-</i> , MP. <i>sr</i> ^M , <i>sī</i> ^L / <i>sar</i> /, P. <i>sar</i> head
	<i>kāl</i>		<i>kāl</i>	<i>kāl, kīl</i>			T., P. <i>kalla</i> id. (E 4, 189)
39. hear	<i>nīγuy</i> : <i>nīγīšk</i>	<i>nəγūy-</i> : <i>nəγūšć-</i>	<i>nəγuy</i> : <i>nəγōxt</i>	<i>nīγūȳ</i> : <i>nīγūxt</i>			* <i>ni-gauš-</i> > Sgd. <i>n(y)γ'wš-</i> / <i>nīyōš</i> /, Khw. ^(y) <i>nγws-</i> < * <i>ni-gauš-</i> , Bc. <i>vīγav-</i> / <i>vayav-</i> , MP. <i>n(y)wš</i> ^M , <i>n(y)dwš</i> ^Z , / <i>nīyō(x)š-</i> /, P. <i>nīyōšīdan</i> : <i>gōšīdan</i> , Av. <i>gūš-</i> hear < * <i>gauš-</i> (Ch 115–16)
					<i>ap̄xš</i> : <i>ap̄xt</i>		cf. MP, Prt. <i>'xšy-</i> be heard, Av. <i>aīβīiāxš-</i> guard, Ygh. <i>yaxš-</i> be seen < * <i>Haxš-</i> (Ch 171)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
		(<i>kōš-</i> : <i>kist-</i> search for)				<i>kšjy-</i> : <i>kšən-</i>	* <i>kuš-</i> ; cf. Kh. <i>kuš-</i> look at, Sgd. <i>tkwš-</i> observe (B 63; SK 212; E 4, 381; Ch. 252)
40. heart	<i>zil</i> <i>zü</i> ^b Gr	<i>zil</i>	<i>zawδ</i>	<i>zōrδ</i>	<i>avzūk</i> < * <i>apa-</i> <i>zārdja-ka-</i>	<i>pəzīw/w</i> < * <i>apa-</i> <i>zārdja-</i> (cf. SK 282)	* <i>zārdja-</i> , cf. Sgl. <i>ōvzui</i> * <i>zrd-</i> (R 110): Av. <i>zərəδai-</i> <i>ia-</i> , Khw. <i>zrz</i> , Kh. <i>ysāra-</i> , Sgd. <i>δrjy(y)</i> , <i>δrzy</i> / <i>δəržē</i> / < * <i>δryaza-</i> < * <i>zrdaya-</i> MP. <i>dy</i> ^{M,Z} / <i>dil</i> /, P. <i>dil</i> ; OI. <i>h'rdaya-</i>
41. horn	<i>šəw</i>	<i>šu</i>	<i>šow</i>	<i>šiw</i>		<i>šəw</i>	* <i>srū-</i> : Av. <i>srū-</i> , <i>sruuā-</i> Khw. <i>šw</i> , Kh. <i>šū</i> , MP. <i>srw</i> ^M / <i>srūy</i> /, <i>slwb</i> ^Z / <i>srū</i> / P. <i>surū(n)</i> (SK 350)
	<i>xōx</i>				<i>šox</i>	<i>šōx</i>	P. <i>šāx</i> horn, branch (SK 348, 350)
42. I	<i>zə</i>	<i>zo</i>	<i>az</i>	<i>wuz</i>	<i>az(i)</i>	(<i>w</i>) <i>uz</i> , <i>wəz</i>	* <i>azam</i> : Av. <i>azēm</i> , Sgd. ' <i>zw</i> / <i>azu</i> /, Khw. '' <i>z</i> , (<i>n</i>)' <i>z</i> , Kh. <i>aysu</i> , <i>aysā</i> , Bc. <i>ačō</i> , Prt. ' <i>z</i> / <i>az</i> /
43. kill	<i>məz</i> : <i>mōšk</i>	<i>mōz</i>					* <i>maž-</i> break (SK 329; Ch. 272)
			<i>žan</i> : <i>žūd</i>	<i>zīn-</i> : <i>zīd</i> (but cf. Sgd. <i>zyt-</i> ~ <i>zyt-</i> to hit, strike)	<i>žan</i> : <i>žad</i>		* <i>j an-</i> id., slay, strike > Av. <i>gan-/j an-</i> , Kh. <i>jsan-</i> * <i>aṃa-jan-</i> > Khw. <i>wzn</i> (Ch 224–25)
						<i>šay-</i> : <i>šit-</i>	* <i>xšaja-</i> : * <i>xšita-</i> , cf. OI. <i>kšay-</i> destroy (SK 329) or * <i>xšan-</i> > OP. <i>axšatā-</i> unhurt; OI. <i>kšan-</i> hurt (Ch 453)
				<i>kač</i> : <i>kučt</i> kill, slaughter (Mo ₇₄ 40)		<i>čəx-</i> : <i>čəxt-</i> kill, slaughter	* <i>kaus-</i> : Av. <i>fra-kaos-</i> id. : <i>kuš-</i> fight, MP. <i>kwš-</i> strug- gle, kill (SK 138; Ch. 251)
44. knee	<i>zīh'g</i> Upper <i>zūg</i>	<i>zīk</i>	<i>zən</i>	<i>zūn</i>	<i>zəng</i>		* <i>zānu-(ka-)</i> (R 93): Av. <i>žnu-/zānu-</i> , Sgd. <i>z'n'wk</i> / <i>zānūk</i> /, <i>jnwvq</i> / <i>žnuk</i> /, Khw. <i>z'nwk</i> / <i>zanūk</i> /, Kh. <i>ysānū</i> , Psh. <i>zangūn</i> MP. 'šmw ^M /išnūg/, <i>z'nwk</i> ^Z / <i>zānūg</i> /, P. <i>zanū</i> ,
						<i>b^(o)rin</i>	* <i>dya-rūna-</i> , cf. Psh. (<i>w</i>) <i>run</i> loin (SK 102)
45. know	<i>vzōn</i> : <i>vzēnt</i>	<i>vəzān-</i> : <i>vəzād-</i>	<i>vəzan</i> : <i>vəzant</i>	<i>wizūn</i> : <i>wizēnt</i>	<i>pəzin</i> : <i>pəzind</i> < * <i>pa-</i> <i>ti-žanH-</i>		* <i>aṃa-</i> + * <i>žanH-</i> id.: Av. <i>zān-</i> , Sgd. (^o) <i>z'n</i> , <i>z'n</i> /(<i>ā</i>) <i>zān</i> /, Bc. <i>čav-</i> , Prt. <i>z'n-</i> / <i>zān-</i> / MP. <i>d'n</i> ^{M,Z} / <i>dān-</i> /, P. <i>dānistan</i> (Ch 466–68)
						<i>diš-</i> : <i>dišt-</i>	* <i>dajš-</i> : Av. <i>ham-</i> + <i>daēš-</i> learn, Yidgha <i>dīš-</i> think (SK 147; Ch 51–52)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
46. leaf		<i>pəŋək</i> ^{De}	0	<i>pār</i> ₇₄ (Mo ₇₄ 58) <i>perak</i> ^{Ba}	<i>palč</i> ^{Ba}	<i>palč</i> leaf, forest < * <i>parnač</i> (Mo ₃₈ 533; SK 256)	* <i>parna-</i> (<i>ka-</i>): Khw. <i>pnc</i> pl. to * <i>pnk</i> , Kh. <i>pārra-</i> id., feather, Psh. <i>pāna</i> , pl. <i>pāni</i> leaf, Prt. <i>png</i> / <i>pannag</i> /
	<i>bārg</i> < P.				<i>barg</i> < P. <i>barg</i>		* <i>uarka-</i> : Av. <i>varəka-</i> , Sgd. <i>wrkr</i> / <i>warkar</i> /, Kh. <i>bāggara-</i> , Prt. <i>wgr</i> / <i>wargar</i> /, MP. <i>wlg^z</i> / <i>warg</i> /, P. <i>barg</i> (H 47; R 107)
47. lie	<i>xubam</i> ^{De}		0	<i>χōfs</i> : <i>χēvd</i>	0		* <i>huap-</i> sleep (Ch. 145–46)
	<i>nayon-</i> / <i>loḡod-</i> : <i>lʔγēnd-</i> ^{Mo}	<i>ləŋn-</i> : <i>loḡod-</i> ^{Mo} <i>loḡo-</i> ^{De}					cf. sleep (Mo ₃₈ 222: * <i>ni-gan-</i> ?)
						<i>nəst-</i> : <i>nəst-</i> (cf. sleep)	* <i>ni-sajH-</i> : * <i>ni-sita-</i> ; cf. Av. <i>sāii-</i> “lie (down)”, Prt. <i>s^(ʔ)ly-</i> / <i>say-</i> / id., sleep; OI. <i>nišitha-</i> night (Mo ₃₈ 532; Ch. 328)
48. liver	<i>ǰigār</i> < P. <i>ǰigar</i>	<i>yēŋən</i> < * <i>jaxnǰia-</i> (Mo ₃₈ 272)			<i>ǰigar</i> < P. <i>ǰigar</i>	<i>ǰigar</i> < P. <i>ǰigar</i>	* <i>ǰak^(t)</i> : Av. <i>yākarə</i> , Kh. <i>gyagarrä</i> , MP. <i>ykl^l</i> / <i>ǰagar</i> /, P. <i>ǰigar</i>
			<i>θed</i>	<i>θōd</i>			from * <i>θaḡ-</i> burn (Mo ₇₄ 82)
49. long	<i>vāhǰ</i>	<i>vāŋ</i>	<i>vəz</i>	<i>vūǰz</i>	<i>vəžduk</i>	<i>vərz</i>	* <i>brža-</i> : * <i>barž-</i> be high * <i>bržaka-</i> (Ch 12) > Sgd. <i>βrz</i> / <i>βərz</i> /, <i>βrz^k</i> , Khw. <i>βžk</i> , Kh. <i>bulysa-</i> (SK 385; B 272, 299)
				<i>dāroz</i> Sm			< T. <i>daroz</i> (E 2, 351)
50. louse	<i>spəya</i> <i>spəga</i>	<i>spūo</i>	<i>səpaw</i>	<i>sipaǰ</i>	<i>səpəl</i>	<i>šiš</i>	* <i>šuiš-</i> : Av. <i>spiš-</i> , Sgd. <i>špšh</i> / <i>špiš</i> /, Ygh. <i>šipuš</i> , Khw. <i>sb^h</i> , <i>sp^h</i> / <i>spāh</i> /, Psh. <i>spəža</i> , Os. <i>sistæ</i> , MP. ‘ <i>spys^M</i> / <i>ispiš</i> /, <i>spys^Z</i> / <i>spiš</i> /, P. <i>šipiš</i> (SK 330)
51. man	<i>mār</i> <i>mer</i> ^{Gr}	<i>mer</i> <i>mələ</i> ^{De}		<i>mərdīna</i> (Mo ₃₈ 529)	<i>mūlūk</i>	<i>mərdīna</i> (Mo ₃₈ 529)	* <i>martīa-</i> : Av. <i>mašīia-</i> , Sgd. <i>mrt^y</i> / <i>marti</i> /, Khw. <i>mrc</i> , <i>mrj</i> , Bc. <i>μαρδο</i> , OP. <i>martiya</i> , MP. <i>myrd^M</i> / <i>merd</i> /, <i>ml^Z</i> / <i>mard</i> /, Prt. <i>mrd</i> / <i>mard</i> /
			<i>wexūg</i> & <i>wexén</i> , cf. <i>wex</i> husband				* <i>uejk-</i> : Lith. <i>vaikas</i> boy, child, <i>vaikis</i> young man (Pok. 1128–29)
				<i>čōr(ik)</i>			* <i>kāra-</i> people (E 4, 389), cf. Psh. <i>kōr</i> house (Mo ₇₄ 27)
						<i>ḡay</i>	* <i>daha-</i> : Sgd. <i>ḡx</i> / <i>ḡax</i> /, Kh. <i>daha-</i> id.
52. many	<i>ǰa(h)ōn</i>	<i>žahānd</i>					< P. <i>ǰahān</i> world (Mo ₃₈ 278)
			<i>manor</i>				
			<i>lap</i>	<i>lap</i>			cf. Ishk. <i>lip</i> full, Wkh. <i>lup</i> big (Mo ₇₄ 42)
					<i>fay</i>		Sgl. <i>fai</i> (Px ₅₉ 198); cf. Sgd. <i>fy^ʔtr</i> < * <i>fr-aja-</i> ? (Mo ₃₈ 392)
						<i>ǰa(fč)</i>	Shug.-Rsh. <i>ǰāfc</i> thick Mun. <i>ǰāfs</i> fat (SK 181)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
		<i>ambōx</i> ^{De}					< P. <i>ambōh</i> multitude, much, many (Mo ₃₈ 190)
53. meat	<i>γuṣ</i>	<i>γuṣ</i>	<i>gəṣt</i>	<i>gūšt</i>	<i>gušt, gušt</i>	<i>gūšt</i> ^{Px}	* <i>gau-šti/a-</i> produced from bovine; cf. Kh. <i>ggūšta</i> , Psh. <i>γwaṣa</i> ; MP. <i>gṵšt^l/gōšt^l</i> , P. <i>gōšt</i> , Av. <i>gauu-</i> meat; cow (E 3, 212)
					<i>pɔtf</i>		Av. <i>pitu-</i> , Sgd. <i>'pt-/(ə)pət/</i> id., Kh. <i>pə</i> flesh, Os. <i>fid</i> flesh food, Prt. <i>pyd/pid/</i> , MP. <i>pyr^M, p(y)^l/pit/</i> : OI. <i>pitu-</i> juice < * <i>paH-</i> to drink (Ch 289)
54. moon	<i>γūmayikə</i>	<i>imoγó</i>				<i>mak</i> <i>žə-mák</i> my moon	* <i>haumaka-</i> ; Khw. <i>(^l)xmyk</i> ; OI. <i>soma-</i> soma; moon (SK 230; Mo ₃₈ 190 added Sgd. <i>wxšym^x</i> < * <i>uaxsja-māh-</i>)
			<i>māst</i>	<i>mēst</i>	<i>matob</i> < P. <i>māh-tāb</i> moon-light		Av., OP. <i>māh-</i> , Prt. <i>m'h / māh/</i> , MP. <i>m'h^{M,Z}/māh/</i> , P. <i>māh</i> , Khw. <i>m'h</i> , Bc. <i>ma(u)o</i> * <i>mās-ti-</i> : Kh. <i>māstā</i> , Psh. <i>miyāst</i> , Srk. <i>māst</i>
					<i>wolik</i> ^{Ba}		cf. Sgl. <i>woṛmi</i> ^{Ba} = <i>wulmēk</i> ^{Mo}
55. mountain	<i>sāsta</i> ^{Gr}						Mo ₃₈ 248: * <i>sastā-</i> ascensus: Sgd. <i>sn-</i> rise, ascend, Ygh. <i>san</i> , Prt. <i>sn</i> (Gh 8840)
	<i>γār</i> (Mo ₃₈ 212: also "pass")	<i>γar</i> (Mo ₃₈ 212)	<i>γərčug</i>				* <i>gari-</i> mountain > Av. <i>gairi-</i> , Sgd. <i>γr-/γar/</i> , Yagh. <i>γar</i> , Khw. <i>γrycyk</i> , Kh. <i>ga, garā-</i> , <i>ggari-</i> , Bc. <i>γapo</i> , Prt. <i>γr/γar/</i> , MP. <i>g^l/gar/</i> (E 3, 191–93)
		<i>kū</i> < P. <i>kuh</i>		<i>kū</i> < P. <i>kuh</i>		<i>kū</i> ^{Px} < P. <i>kuh</i> ; besides <i>kəp</i> haunch < * <i>kaup^ha-</i>	* <i>kaup^ha-</i> : OP. <i>kaufa-</i> , Prt. <i>kwf/kōf/</i> , MP. <i>kwf^M, kw^p^z/kōf/</i> , P. <i>kōh</i> ; Av. <i>kaofa-</i> mountain ridge
				<i>tāx</i>			
					<i>olax</i> <i>ālux</i>		cf. Sgl. <i>ālux</i> hill; Khowar <i>adrax</i> hillride (Mo ₇₄ 113); OI. <i>ādri-</i> stone, rock
					<i>šax</i>		
56. mouth	<i>yīrv</i> <i>yərv</i> ^{Gr} <i>yurv</i> ^{Mo}						cf. Av. <i>uruθban</i> belly, entrails; Sgd. <i>rwβ/ruβ/</i> , Prt. <i>rwmb/rumb/</i> mouth (MJ 314)
	<i>(kpa)^{Gr}</i> <i>k^upa^{Za}</i> lip)	<i>p^hkórë</i>					cf. P. <i>paikar</i> face, picture < * <i>pati-kara-</i> (Mo ₃₈ 236)
			<i>γax</i>			<i>γāš</i>	* <i>gaštra-</i> : * <i>gah-</i> eat > Psh. <i>γāš</i> , Khw. <i>γš</i> tooth < * <i>gaštrja-</i> (E 3, 103–04; SK 187)
				<i>γēv</i>			* <i>gābjā-</i> (E 3, 92)
					<i>fɔc</i>		cf. Sgl. <i>fōc</i> mouth, maybe Mnj. <i>fīškə</i> nose etc. (Mo ₃₈ 392)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
57. name	<i>nōm</i>	<i>nām</i>	<i>nəm</i>	<i>nūm</i>	<i>nim</i>	<i>nung</i> (SK 246)	* <i>nāma(n)-(ka-)</i> : Av. <i>nāman-</i> , Sgd. <i>n'm /nām/</i> , Khw. <i>n'm(y)k</i> , Kh. <i>nāma</i> , Bc. <i>vaμo</i> , MP. ^{MZ} , Prt. <i>n'm /nām/</i>
58. neck	<i>śkīy</i> <i>škūi</i> ^{Mo38}	<i>šīlē, šille</i>					cf. Sgd. <i>šd'y, šd'kw /šadē, šadāku/</i> , Av. <i>ušaδā-</i> part of the neck (Mo ₃₈ 251)
			<i>mak</i>	<i>māk</i>	<i>mak</i>	<i>mak</i>	Ygh. <i>mak</i> top of the head (SK 230–31)
					<i>gardan</i> (cf. P. <i>gar-dan</i>)	<i>gārōan</i>	Sgd. <i>γrδ'k(h) /γarδāk/</i> , Khw. <i>γrδk</i> , Kh. <i>gaḍaa-</i> < * <i>gar-taka</i> , Psh. <i>γāra</i> , MP. <i>grdn^M</i> , <i>gltⁿ /gardan/</i> , P. <i>gardan</i> neck (H 201) – from * <i>gart-</i> turn (Ch 110–11)
						<i>yuk</i>	
59. new	<i>nūwīy</i> <i>nūwīy</i> ^{Gr}	<i>nowoγó</i>	<i>nug</i>	<i>naw</i>	<i>nawūk</i>		* <i>nāua-ka-</i> : Khw. ^(c) <i>nwk</i> , <i>nwyk</i> , Sgd. <i>nw'k(w) /nawāk(u)/</i> , <i>nwyγ /nawē/</i> , Bc. <i>voγo</i> ; Prt. <i>nw'g /nawāg/</i> , MP. <i>nwg^M</i> , <i>nwk² /nōg/</i>
						<i>šəy'd</i>	Rsh. <i>šuvdē</i> younger, cf. Tib. <i>sōō</i> young (SK 349)
60. night	<i>xšāvə</i>	<i>x'šōvo</i>	<i>šab</i> (cf. P.)	<i>šāb, -šīb</i>	<i>šab</i> (cf. P.)	(<i>šupr</i> overnight; see SK 335)	* <i>xšapā-</i> : Av. <i>xšap(an)-</i> Kh. <i>šsavā-</i> , Sgd. <i>'γšp-</i> , <i>'xšp-</i> /(<i>ə</i>) <i>xšapā-</i> , Khw. <i>'x(y)b, xb</i> , Bc. <i>χαβ-</i> , Prt. <i>šb /šab/</i> , MP. <i>šb^M</i> , <i>šp² /šab/</i>
	<i>turiko</i> ^{De}	<i>tiro</i> ^{De}		(<i>térez</i> blackness)		(<i>tirīč</i> dark)	* <i>tanθrija-</i> (SK 459): Av. <i>tθriia-</i> dark
						<i>nāy'd</i>	Zb. <i>nāy'd</i> < Wkh. (Mo ₃₈ 404); cf. Av. <i>naxtar-</i> in <i>upo.naxtar-</i> an die Nacht angrenzend, OI. <i>nakt-</i> (SK 242)
61. nose	<i>fiskə</i> <i>faska</i> ^{Gr}	<i>f'skō</i>					cf. Sgl. <i>fusek</i> id., Ishk. <i>fbc</i> mouth; Os. <i>fynz</i> nose, Khw. <i>pncwk</i> snout (E 3, 49–51: * <i>fuz-</i>)
			<i>nej</i>	<i>nēz</i>	<i>nic</i>		* <i>nāhika-</i> or * <i>nahja-čī-</i> : Sgd. <i>nyc /nēč/</i> , Ygh. <i>nays</i> , Khw. <i>n'c, n'j</i> < * <i>nāca</i> , Prt. <i>n'we /nāwiž/</i> (B 190); cf. Av. <i>nāh-</i>
						<i>mis</i>	also Zb. <i>mīs</i> id. (Mo ₃₈ 403); cf. Bur. <i>muš</i> nose
62. not	<i>či = čī-</i> ^{Gr}	<i>či/če/ča/č-</i>					(E 2, 256)
			<i>nā</i>	<i>na</i>	<i>na</i>	<i>nə</i> (SK 247, 251)	Av. <i>nōit</i> & <i>na</i> , Sgd. <i>n' /nā/ n'y', ny /nē/</i> , Khw. <i>n(y)</i> , Kh. <i>na, ni, ne</i> , Bc. <i>va(vo)</i> , Prt. <i>ny /nē/</i> , MP. <i>ny^M /nē/</i> , P. <i>na</i>
63. one	<i>yū</i>	<i>yū</i>	<i>wūg</i>	<i>yūw</i>	<i>ūk</i>	<i>yūw, yi, i</i>	* <i>aīua-(ka-)</i> > Av. <i>aēuua-</i> , Sgd. <i>'yw, (c)'yw /ēw/</i> , Khw. <i>'yw</i> , Bc. <i>ioγo</i> , Prt. <i>yw /ēw/</i> , MP. <i>'yw^M /ēw/</i> , <i>yk^M /yak/</i> <i>'ywk² /ēk/</i> , P. <i>-ē</i> vs. <i>yak</i>

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
						<i>wir</i> (SK 389)	* <i>uīra</i> - man: Av. <i>vīra</i> -, MP. <i>wyr</i> ^M , <i>wyl</i> ^L / <i>wīr</i> /
64. person	<i>ōdam</i>	0	<i>odam</i> <i>ōdam</i> Sm	<i>ōdam</i>	<i>odam</i>		< P., Trk. <i>ādam</i> < Ar. <i>ʔadam</i> (SK 405)
						<i>xalg</i>	< T., P. <i>xalq</i> < Ar. <i>ḥalq</i>
65. rain n.	<i>borōn</i>	<i>baran</i> ^{Dc}		<i>bōrūn</i>	<i>boron</i>		< T., P. <i>bārān</i>
		<i>wariyo</i> <i>wāriyo</i> (Mo ₃₈ 262)				<i>wūr</i> ^{Mo} <i>wīr</i> (SK 402)	* <i>uaHr</i> -: Av. <i>vār</i> -, Sgd. <i>w'r</i> / <i>wār</i> /, Khw. <i>w'r</i> , Kh. <i>bāra</i> , Psh. <i>wor</i> , Prt. <i>w'r'n</i> / <i>wārān</i> /, MP. <i>w'r'n</i> ^M , <i>w'l'n</i> ^Z / <i>wārān</i> /, P. <i>bārān</i> (Ch 406f)
	(<i>nav</i> - : <i>nīvd</i> - vb.)	<i>nīv</i> , <i>nōvo</i> (<i>nov</i> - : <i>nīvd</i> - vb.)					Sgl. <i>nav</i> - to rain, <i>novōk</i> rain Av. <i>nab</i> - moisten (Mo ₃₈ 233, 405)
			<i>diyān</i> (Ed ₇₁ 78, 80)				Rsh. <i>diyān</i> ; cf. Yazg. <i>ḍay</i> - : <i>ḍed</i> - fall, hit < * <i>daH</i> - hit, beat (Ch. 48; E 2, 443)
66. red	<i>sīrx</i>	<i>surx</i>			<i>sbrx</i>	<i>səkr</i> (SK 321)	Av. <i>suxra</i> -, MP. <i>swhr</i> ^M <i>swhl</i> ^L / <i>suhr</i> /, P., Os. <i>surx</i> Psh. <i>sūr</i> id., Kh. <i>suraa</i> - clean, OI. <i>śukr</i> / <i>lá</i> - white
			<i>rūšt</i>	<i>rūšt</i>			cf. Kh. <i>rrusta</i> - red, Av. <i>raoḍita</i> - id.; OI. <i>róhita</i> - or P. <i>rušt</i> light (B 367– 368) or Khw. <i>rx(y)k</i> , OI. <i>rakta</i> - red : <i>raj</i> - be red (Ch. 313–14; SK 321)
		<i>gulgūn</i> <i>golgun</i> ^{Dc}					< P. (Mo ₃₈ 210)
67. road	<i>pōnda</i>	<i>pādo</i>	<i>pān</i> , <i>pand</i>	<i>pūnd</i>		<i>vdək</i> , <i>vədək</i> (SK 378)	* <i>pantā</i> -(<i>ka</i> -) & * <i>pantāh</i> : Av. <i>panti</i> - & <i>paθ</i> (<i>ā</i> -), Khw. <i>pnd'k</i> , <i>pyd'k</i> , Kh. <i>pada</i> , <i>pande</i> , Prt. <i>pnd'n</i> / <i>pandān</i> /, MP. <i>pnd</i> ^{M,Z} / <i>pand</i> /
						<i>šoval</i>	cf. MP. <i>šwb'n</i> / <i>šovān</i> ?/ (Mo ₃₈ 414)
68. root	<i>wāxə</i> <i>wāxa</i> ^{Gr} <i>wahxā</i> ^{Ba}	<i>woxó</i>	0	<i>wyōšk</i> <i>wiyēš</i> <i>bēx</i> , <i>wēx</i> < <i>wex</i>	<i>wex</i>	<i>wix</i> <i>bix</i> , <i>vix</i> < P. <i>bix</i> , T. <i>bex</i> (SK 97–98)	* <i>uīākā</i> : Sgd. <i>wyγ(h)</i> , <i>wyx</i> / <i>wēx</i> , <i>wix</i> /, Kh. <i>bā(ga)</i> , <i>bāta</i> -, <i>bāvā</i> -, Prt. <i>wyx</i> / <i>wēx</i> /; but cf. Os. <i>wedagə</i> root
						<i>rišta</i> ^{Px}	P. <i>rēša</i> root, fibre MP. <i>lyšk</i> ^L / <i>rēšag</i> / root
69. round	0		<i>γarn</i>	m. <i>žurn</i> f. <i>žarn</i>			* <i>garθana</i> (E 200)
		<i>girdo</i> ^{Mo}			<i>gbrd</i>	<i>ʔǰart</i> < T. or * <i>urt(a)</i> - (SK 190) or * <i>grtna</i> - (E 200– 01)	T., P. <i>gird</i> , MP. <i>gyrd</i> ^M , <i>gl</i> ^Z / <i>gird</i> / < * <i>gar</i> - turn, wind (Ch 104–05)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
						<i>peṭ, puṭ</i>	cf. Kh. <i>špaṭa-</i> , Srk. <i>peṭ, puṭ</i> , <i>peṭ</i> id.; Khovar <i>pot</i> ball (B 415; SK 271)
70. sand	<i>səga</i>	<i>səyiḏ</i>	0				* <i>šikatā-</i> : OP. <i>θikā</i> , Sgd. <i>šykth /sikt/</i> gravel, Khw. <i>cy, jy</i> sand, Kh. <i>siyatā-</i> , Prt. <i>sygd /sigd/</i> , MP. <i>sygd^{MD} /sigd/</i> vs. OI. <i>sikatā-</i> (AV) with <i>s-</i>
				<i>šōš</i>			* <i>xā(ha)xa-</i> (Mo ₇₄ 79)
					<i>reg</i>		P. <i>rēg</i> (H 142)
						<i>lworč</i> <i>lə/iworč^{Px}</i> (cf. <i>līwa</i> / <i>lēwa</i> river sediment - Px 218)	* <i>fra-uāračī-</i> : OI. <i>vālukā-</i> id. (SK 228)
71. say	<i>žōy : št</i>	<i>ž- : št-</i>	(<i>ŷay- : ŷayd</i> call)				* <i>gā(i)-</i> sing (Ch. 94; E 3, 271)
			<i>laf : laft</i>	<i>lūv : lūvd</i>			T. <i>luw kardan</i> speak (Mo ₇₄ 42)
					<i>yaž : yažd</i>		cf. Sgl. <i>γēž- : γēžδ-</i>
			(<i>x^wan- : x^want-</i> read)			<i>xān- : xāt-</i>	* <i>hyan-</i> : Av. <i>x'an-</i> to sound; Kh. <i>hvan-</i> say, MP. <i>hw'n^Z /xwān/</i> call; OI. <i>svan-</i> id. (Ch 144–45)
72. see	<i>wīn : (līšk)</i>	<i>wīn- : (līšč-)</i>	<i>wen : wend</i>	<i>wīn : wīnt</i>	<i>win : wint</i>	<i>win- : wind-</i>	* <i>uai(H)n-</i> : Av. <i>vaēn-</i> , Sgd. <i>wyn- /wēn/</i> , Khw. <i>wyn-</i> , <i>āvīda-</i> he sees < * <i>ā-vīnda</i> , Bc. <i>o(i)ṇv-</i> , <i>ov-</i> , Prt. <i>wy(y)n- /wēn/</i> , MP. <i>wy(y)n-^{M,Z} /wēn/</i> , P. <i>bīn-</i> ; OI. <i>ven-</i> look for (Ch 412–13)
	pret. <i>līšk</i>	pret. <i>līšč-</i>					* <i>darś-</i> : Av. <i>darəs-</i> ; OI. <i>darś-</i> (Ch 62)
73. seed	<i>tūym</i>	<i>tūy^m</i>		<i>tūym</i>	<i>təym</i>	<i>tayom</i> (Mo ₃₈ 545)	* <i>tauxman-</i> : Av. <i>taoxman-</i> , Sgd. <i>tym, txm /təxm/</i> , <i>twxmy /tu/oxmē/</i> Kh. <i>tīman-</i> , Bc. <i>toχμavo</i> , Prt. <i>twxm /tōxm/</i> , MP. <i>twhm(g)^M</i> , <i>twm^Z /tōhm(ag)/</i> , P. <i>tuxma</i>
			<i>toxm</i> < T.	<i>tūxm</i> < T. (Mo ₇₄ 80)		<i>tuxm</i> < T.	
74. sit	<i>nīč : nyōst</i>	<i>nīč- : nīčst-</i>	<i>niθ : nyūst</i> (* <i>ni-hasta-</i>)	<i>niθ : nūst</i>	<i>nid : nylūst</i> (* <i>ni-šasta-</i>)	<i>nīzd-</i> , <i>nəzd-</i> : <i>nəyn-</i> (SK 253)	* <i>ni-šizd/šād-</i> : * <i>had-</i> id. Av. <i>nišhiδ^o : nišāδ^o : hiδ-</i> sit (down), Sgd. <i>n(y)st- /nist/</i> , <i>nyδ- /ni-hīda/</i> , Ygh. <i>nid, nīsta</i> , Khw. <i>nyθ</i> < * <i>ni-hida-</i> , Kh. <i>nāšqd-</i> < * <i>ni-šādaya-</i> , Prt., MP. ^M <i>nšyd- /nišīd-</i> , P. <i>nišastan/nišīn-</i> (Ch 126)
75. skin	<i>kərošt</i>	<i>karāšt</i>	<i>kūč, kač</i> < * <i>karsta-</i>		<i>kərošt</i>	<i>(kə)rəst</i> bark)	* <i>karasta-</i> or * <i>kṛsta-</i> : Kh. <i>karasta-</i> (B 52; E 4, 289)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
	<i>pūstá</i>	<i>pisto</i>	<i>pəst</i>	<i>pūst</i>		<i>pist</i> (SK 262)	* <i>paustā</i> (R 104) – also “bark”: Sgd. <i>pwst(h) /pōst/</i> , MP. <i>pwst^{MZ} /pōst/</i> , P. <i>pōst</i> id. (H 75); cf. * <i>paus-</i> dress, cover (Ch 303)
76. sleep	<i>nīlv</i> : <i>nīwōst</i>	(<i>nuwōstiy</i> lying down)					Ygh. <i>nīpid-/nīpista-</i> lie down to sleep < * <i>ni-pad-</i> (Ch. 287)
	<i>ure</i> ^{-De}						
			<i>pxas</i> : <i>px-ovd</i> < * <i>pati-huap-s</i> ^o	<i>ṣōfs</i> : <i>ṣēvd</i>	<i>mis</i> : <i>mind</i> < * <i>ham-huf-sa-</i> (E 466)	<i>rexup-</i> : <i>roxopt-</i> < * <i>fra-huap-</i> (Mo ₃₈ 538)	* <i>(a)u(h)ufsa-</i> : * <i>huap/f-</i> ; cf. Av. <i>hufsa-</i> , Sgd. <i>wβs-</i> , <i>w'βs-/ufs, ōfs/</i> , Ygh. <i>ʃfs</i> , Kh. <i>hūs</i> , Prt. <i>xwsp-/xusp-/</i> , MP. <i>hwptn^Z/xuft/</i> , <i>hwps^Z/xuft/</i> (Ch. 145–47)
						<i>nəs(ə)y-</i> : <i>nəst-</i> (SK 250)	* <i>ni-sajH-</i> : * <i>ni-sita-</i> ; cf. Av. <i>sāii-</i> “lie (down)”, Prt. <i>s^(y)-/say-/</i> id., sleep (Ch. 328)
		<i>loyode</i> ^{-De}					cf. Yid. <i>loyo</i> ^{-De} lie down
77. small	<i>rīzgi</i> <i>rəzgiy</i> ^{Gr} < P. <i>rīza</i>	<i>rīza</i> ^{De} < P. <i>rīza</i>					* <i>ranj-</i> : Av. <i>rənjiiah-</i> comp. light, Sgd. <i>rynck /rinčik/</i> , Khw. <i>rnc</i> light, Kh. <i>raysga-</i> light, swift, Psh. <i>rangai</i> , Prt. <i>rngs /rangas/</i>
	<i>dikdera</i> ^{De}						
			<i>cəgag</i> < * <i>cəl-gag</i>	<i>zul</i> , dim. <i>zulikik</i>		<i>zəlqáy</i> <i>zəqláy, c</i> ^o	cf. Yazg. <i>cəldúr</i> younger (SK 444)
					<i>čbt</i>		Sgl. <i>čət, čot</i> , Zb. <i>čuṭ</i> (Px ₅₉ 193; Mo ₃₈ 388; Bur. <i>jut</i>)
78. smoke n.	<i>liy</i>	<i>lūi</i>	<i>ōod</i>	<i>ōud</i>	<i>did</i>	<i>dit</i>	* <i>dūta-</i> : Khw. <i>ōwd</i> , Prt. <i>dwd /dūd/</i> , MP., P. <i>dūd</i> (R 94; Ch 68; SK 164)
79. stand	<i>vrəm</i> : <i>vrīmd</i>	<i>fsāy-</i> : <i>fsēiy-</i> (Mo ₃₈ 209)	<i>wərafs</i> : <i>wəruvd</i>	<i>wirafs</i> : <i>wirūvd</i>	<i>urofs</i> : <i>urovd</i>	<i>wəra(f)s-</i> : <i>wəra(f)st-</i>	* <i>aṃa-ra(m)b-s-</i> ; cf. Os. <i>læwwyn</i> id. (SK 398; Ch. 184)
					(<i>al-</i>) : <i>ast-</i> (Px ₅₉ 179)		cf. Sgl. <i>al-</i> : <i>ast-</i> (SK 79) * <i>staH-</i> : Av. <i>stā-</i> id., set, Kh. <i>stā-</i> , Prt. <i>‘(y)št-/išt-/</i> , MP. <i>‘yst-‘dn^M‘st’tn^Z/ēstādan/</i> , cf. Bc. <i>stado</i> entstand (Ch 358)
					<i>al-</i> : (<i>ast-</i>) (Px ₅₉ 179)	<i>āl-</i>	Sgl. <i>al-</i> , Srk. <i>hāl-</i> (Mo ₃₈ 380; Av. <i>əraðβa-</i>)
80. star	<i>stōriy</i>	<i>stārē</i>	<i>ṣaturag</i>	<i>ṣitērṣ</i>	<i>strūk</i>	<i>s(ə)tór</i> (Mo ₃₈ 541; SK 324)	* <i>stāraka-</i> : Sgd. <i>‘st’r’k</i> , <i>‘stry</i> /(<i>ə</i>) <i>stārē/</i> , Khw. <i>‘st’rk</i> , Kh. <i>stāraa-</i> , Psh. <i>stōrai</i> , Orm. <i>starrak</i> , Prt. <i>‘st’rg</i> / <i>astārag/</i> , MP. <i>‘st’rg^M</i> , <i>st’lk^Z /(<i>i</i>)stārag/</i> , <i>‘st^M/astar/</i> , <i>stl /star/</i> , P. <i>sitāra</i> vs. Av. <i>star-</i>
81. stone	<i>kūyk</i> <i>kūiki</i> ^{Ba}						cf. Wanji <i>kup</i> id. (Mo ₃₈ 216)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
	(<i>γār</i> pass, mountain – Mo ₃₈ 212)	<i>γar</i> stone, mountain	<i>γar</i>	<i>žīr</i>		<i>γar</i>	* <i>gari-</i> mountain > Av. <i>gai-ri-</i> , Sgd. <i>γr- /γar/</i> , Ygh. <i>γar</i> , Khw. <i>γrɣɣyk</i> , Kh. <i>ga, garā-</i> , <i>ggari-</i> , Bc. <i>γapo, geiro</i> , Prt. <i>γr /γar/</i> , MP. <i>g^l /gar/</i> (E 3, 191–93; SK 187)
					<i>sūng</i>		* <i>asānga-</i> : Av. <i>asānga-</i> , Sgd. <i>sng, snk, snq /sang/</i> Khw. <i>snk</i> , Kh. <i>samgga-</i> , Bc. <i>asagge</i> , Prt. <i>'sn(n)g /asang/</i> , MP. <i>sng^z</i> (R 47; E 1, 238)
82. sun	<i>mīrō</i>	<i>mīra</i> (cf. SK 426)					* <i>miθra-</i> : YAv. <i>miθra-</i> god of contract; Sgd. <i>myr /mē/īr/</i> sun, Bc. <i>miuro, miri, miuro</i> , Psh. <i>myēr</i> , Prt. <i>myhr /mih/</i> , MP. <i>myhr^M, mtr^z /mih/</i>
			<i>xāvūr</i>	<i>xīr</i>		(<i>y</i>) <i>ir</i> < * <i>hūr-</i> , cf. Av. gen. <i>hūrō</i>	* <i>h(u)uar-/*h(u)uan-</i> : Av. <i>huuarə /x'an-</i> , Sgd. <i>γwr; xwr /xwar/xur/</i> , <i>γwyr; xwyr /xuwər/xōyr/</i> Khw. <i>'x(y)r, xyr</i> , MP. <i>xwr^M, hw^l /xwar/</i> , P. <i>xor</i> (E 3, 438f; SK 426)
					<i>rémūzd</i>		cf. Sgl. <i>ormōzd</i> , Kh. <i>ur-maysda</i> < * <i>ahura-mazdāh</i> (B 40; SK 426)
83. swim	<i>zənāi-</i>	<i>zənay-</i> (Mo ₃₈ 276)			<i>šinowari</i> <i>k.</i> < P. <i>šināvarī k.</i>		* <i>snaH-</i> : Sgd. <i>sn'y-</i> wash, bathe / <i>snāy/</i> , Ygh. <i>sinōy</i> , Os. <i>najun</i> swim, Prt. <i>sn'c /snāž-</i> , MP. <i>'šn'z^M, šn'c-yt-n^z /išnāz-</i> , P. <i>šinā(w)</i> ; * <i>fra-snāja-</i> : Sgd. <i>fsn'y- /f(a)snāy/</i> , Kh. <i>haysnāta-</i> washed (Ch 348)
			<i>waz : wext</i>	<i>wāz : wēxt</i>		0	cf. Khw. <i>wz-</i> id. < * <i>uāz-</i> carry (Ch. 431)
84. tail	<i>lim</i> <i>lum^{Gr}</i>	<i>lim</i>	<i>dom</i>	<i>ḍum</i>	<i>dumb</i>		* <i>dumba-(ka-)</i> (E 2, 479f): Av. <i>duma-</i> , Sgd. <i>ḍwm(ph) /ḍum(b)/</i> , Khw. <i>ḍwm</i> , Kh. <i>dumaa-</i> , Os. <i>dumāg</i> , Prt. <i>dwmb /dumb/</i> , Bal. <i>dumb(ak)</i> , MP. <i>dwmbg^M, dwm(b)^z /dumb(ag)/</i> , P. <i>dum</i>
						<i>bičkām</i>	cf. Kh. <i>baicakama</i> id. or from Tk. <i>bäčkām</i> silk or antelope tail banner (B 302; SK 96)
85. that .	<i>wə</i> <i>wa^{Gr}</i>	<i>wo</i>	(<i>way</i> him)	<i>yu</i>	<i>aw</i>	<i>yaw</i>	* <i>aūa-</i> : OP. <i>ava-</i> , Av. <i>auua-</i> ; acc. OP. <i>avam</i> , Av. <i>aom</i> , Sgd. <i>w- /ō, ū/ ww /w(a)wu/</i> , Bc. <i>oo</i> (E 1, 274–75; SK 422)
	<i>ya</i>	<i>yān</i>	<i>du</i>	<i>yid</i>	<i>ad(i)</i>		* <i>aita-</i> : Av. <i>aēta-</i> , OP. <i>aita-</i> , Sgd. <i>'yō /ēd/</i> that, Bc. <i>eiḍo</i> , MP. <i>'yad^M /ēd/</i> (E 1, 130–31)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
86. this	<i>ma</i>	<i>mo</i>	<i>yu(k)</i>	<i>yam</i>	<i>am</i>	<i>(y)əm</i>	* <i>a/ijam</i> : OP. <i>iyam</i> , Av. <i>aiiəm</i> , Sgd. 'm' /əma/, yw /yu/, Kh. <i>ma-</i> , <i>mai</i> , <i>mū</i> , Bc. <i>είμο</i> , <i>amo</i> , (i)ειο, Prt. 'ym /im/, MP. 'ym ^M , 'm ^Z /im/; OI. <i>ayám</i> ; acc. * <i>imam</i> : Av. <i>iməm</i> , OP. <i>imam</i> , Sgd. <i>mw /mu/</i> ; OI. <i>imám</i> (SK 433; E 1, 103–05)
87. thou	<i>tī</i> <i>tu, tə^{Gr}</i>	<i>tu</i>	<i>tow</i>	<i>tu</i>	<i>tɔ</i>	<i>tu</i>	* <i>tū</i> / * <i>tuumam</i> : Av. <i>tū</i> / <i>tuuəm</i> , OP. <i>tuvam</i> , Sgd. <i>tɣw /t(ə)xu/</i> , <i>tw /tō/</i> , Khw. (ʷ)tk, Kh. <i>thu</i> , Bc. <i>to(o)t</i> , <i>τοοοο</i> , Prt., MP ^M <i>tw /tū, tō/</i> , P. <i>tu</i>
88. tongue	<i>zvīy</i> <i>zəvíy^{Gr}</i>	<i>zʷvīk</i>	<i>zəveg</i>	<i>ziv</i>	<i>zɔvīk</i>	<i>zik</i>	* <i>hižūā-(ka-)</i> : Av. <i>hizuuā-</i> , Sgd. 'zb ^{(ʷ)k} , <i>zb'k /t(ə)zβāk/</i> , Khw. <i>zβ'k</i> , <i>zʷk</i> , Kh. <i>bišā</i> , Os. <i>ævzag</i> , Prt. 'zb'n /izβān/, MP. 'zw'n ^M /izwān/, 'wzw'n ^Z /uzwān/, P. <i>zabān</i> (E 3, 403f)
89. tooth	<i>lōnd</i>	<i>lad</i>	<i>ḍān</i>	<i>ḍindūn</i>	<i>dond</i>	<i>dəndək</i>	* <i>danta-(ka-)</i> : Av. <i>dātā-</i> & <i>dantan-</i> , Sgd. <i>ḍnʷ(k)</i> / <i>ḍandā(k)/</i> ; Ygh. <i>dindak</i> , Kh. <i>dandaa-</i> , Os. <i>dændag</i> , Prt., MP ^{M,Z} <i>dnd'n /dandān/</i> (E 2, 329–331; SK 154–55)
90. tree	<i>skūt</i>	<i>skut</i>					* <i>skunta-</i> (Mo ₃₈ 246; SK 348); cf. Sgd. <i>skwy</i> firewood, fuel
			<i>ḍūrḱ</i>	<i>ḍōrk</i>	<i>dɔrk</i>		* <i>dāru-ka-</i> : Av. <i>dāuru-</i> stem of tree, wood, Prt. <i>d'lwg /dālūg/</i> , MP. <i>d'rw^M /dāru/</i> , <i>d'ʷ /dār/</i> , P. <i>dār</i> id., tree (E 2, 358; H 116)
	<i>d(ə)rāxt</i>	<i>draxt</i>	<i>dəruxt</i>			<i>dəraxt^{Px}</i>	P. <i>diraxt</i> id. (H 121), MP. <i>drxt^M</i> , <i>dʷ'ht^Z /draxt/</i> , Prt. <i>drxt /draxt/</i> (E 2, 456)
91. two	<i>lū</i>	<i>lo^h</i>	<i>ḍow</i>	<i>ḍu</i>	<i>dɔ(w)</i>	<i>bu(y)</i> (SK 105)	* <i>duua-</i> > Av. <i>duua-</i> , Sgd. 'ḍw /t(ə)ḍwa/, <i>ḍw' /ḍwā/</i> , Khw. (ʷ)ḍw, 'ḍyw, Kh. <i>duva</i> , <i>dva</i> , Bc. <i>λoo(i)</i> , <i>λοι</i> , <i>dbo</i> , Prt., MP ^M <i>dw /dō/</i> (E 2, 482)
92. walk	<i>cy</i> : <i>šīy</i> (<i>ay-</i> , <i>oy-</i>) : <i>šəy-^{Gr}</i>	(<i>oy-</i>) : <i>šūi</i>	(<i>bad</i>) : <i>šod</i>	<i>sāw</i> : <i>sut</i>	<i>šɔ(w)</i> : <i>šɔd</i>	<i>čaw-</i> : (<i>taʷd-</i>) leave ^{Px,SK} walk ^{Shaw}	* <i>čīau-</i> : Av. <i>šīiauu-</i> go, OP. <i>š(i)yava-</i> , Sgd. <i>šw-/šaw/</i> , Kh. <i>tsa-</i> , <i>tsv-</i> , Tu. <i>ccha-</i> , Bc. <i>ḥao(i)-</i> , Prt. <i>šw-/šaw-/</i> , MP. <i>šw-(dn)^M</i> , <i>šwb-^Z /šaw-/</i> , P. <i>šudan</i> ; OI. <i>cyav-</i> (Ch 41; SK 139; R 125)
	<i>ay-</i> , <i>oy-</i> : (<i>šəy-^{Gr}</i>)	<i>oy-</i> : (šūi)					* <i>Haq-</i> : Av. <i>āii-</i> , OP. <i>ay-</i> , Khw. (ʷ)y- (Ch 154–57)
						(<i>čaw-</i>) : <i>taʷd-</i> leave ^{Px,SK} walk ^{Shaw}	* <i>tač-</i> : Av. <i>tac-</i> flow, walk, Prt. <i>tc-</i> id., Kh. <i>ttajs-</i> run, flow (Ch 372–74; SK 353)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
93. warm	<i>gārm</i>	<i>garm</i>		<i>gārm</i>	<i>garm</i>	<i>garm</i>	cf. Sgl. <i>γōrm</i> , Srk. <i>žūrm</i> < * <i>garma-</i> : * <i>gar-</i> heat > Av. <i>garəma-</i> , OP. <i>garma-</i> , Sgd. <i>γrm /γarm/</i> , Ygh. <i>γarm</i> , Khw. <i>γrmnd</i> , Kh. <i>garma-</i> , <i>grāma</i> , Sgl. <i>γōrm</i> , Srk. <i>žūrm</i> , Prt. <i>grm /garm/</i> , MP. <i>grm^M</i> , <i>glm^Z /garm/</i> , P.T. <i>garm</i> (Ch 105; E 3, 162)
	<i>dwānā^{Ba}</i>			<i>d'iwīn^{Ba}</i>			* <i>day-</i> burn (E 2, 387f)
	<i>suzōn</i>						< P. (Mo ₃₈ 249)
		<i>pič</i>					cf. Khowar <i>pač</i> (Mo ₃₈ 235)
			<i>kaš</i>	<i>kaš</i>			(Mo ₇₄ 41)
						<i>šūndr</i>	(Mo ₃₈ 542: * <i>kuon(d^h)-ro-</i> ; cf. Arm. <i>šand</i> spark)
						<i>θin</i> <i>θīn^{Mo}</i> (Mo ₃₈ 546)	Srk. <i>θīm</i> , <i>θūm</i> id. < * <i>θafnu-</i> (SK 374) or * <i>θaŋ-</i> burn (E 2, 390)
94. water	<i>yōwγə</i> <i>yōwγa^{Gr}</i>	<i>yóuyō</i>			<i>vēk</i> < * <i>āpak(i)ia-</i> (Mo ₃₈ 416–417)	<i>yupk</i>	* <i>āpaka-</i> (E 1, 311f; SK 432): Av. <i>āp-</i> , Sgd. * <i>p</i> , * <i>p</i> , * <i>b</i> / <i>āp</i> , <i>āβ</i> /, Khw. * <i>b</i> , Kh. <i>ū</i> , <i>ūtca</i> < * <i>apačā-</i> , Bc. <i>αββo</i> , Prt. * <i>b</i> / <i>āb</i> /, MP. * <i>b^M</i> , * <i>p^Z /āb/</i>
	(<i>xúga</i> spring)	(<i>xúyo</i> spring)	<i>xex</i>			(<i>kik</i> spring)	cf. Wanji <i>xīk</i> id., Sgd. <i>x'x</i> source < * <i>xāxa</i> (Mo ₇₄ 99; Gharib 1995, #10607; SK 220: * <i>xāka-</i>)
				<i>šac</i>			* <i>xšudra-</i> liquid (SK 432)
95. we	<i>mōx</i>	<i>max</i>	<i>mox</i>	<i>māš</i>	<i>mьx</i>		gen. * <i>ahmākam</i> > Av. <i>ahmākam</i> , OP. <i>amāxam</i> , Sgd. <i>m'γ(w)</i> , <i>m'x /māx(u)/</i> , Kh. <i>buhu</i> , <i>muhu</i> , <i>maha</i> , Bc. <i>αμαχο</i> , Prt. * <i>m'(h) /amāh/</i> , MP. * <i>m'(h)^M /amāh/</i> , P. <i>mā</i> dat. * <i>ahmabjā</i> > Av. <i>ahmaiβiūā</i> , Khw. <i>mβy</i>
	<i>mōf</i>					<i>sak</i>	cf. Dard. obl. * <i>amsak</i> > Shina <i>āsō</i> ; Nur.: Prasun <i>asē</i> (SK 306)
96. what	<i>šī</i> < * <i>čišči(t)</i> (E 2, 203)	<i>cə, cē</i>	<i>či(ǵ), čə</i>	<i>ca, cā</i> <i>čīz</i> < P. <i>čīz</i> what, who, which; thing < OP. <i>čiš-čīy</i> (E 2, 203)	<i>čim</i> <i>ce</i>	<i>čīz / cīz</i> < P. <i>čīz</i> who, what, which; thing < OP. <i>čiš-čīy</i> (E 2, 203)	acc. * <i>čim</i> > Av. <i>čīm</i> gen. * <i>čahjā</i> > <i>čahiiā</i> nom.-acc. ntr. * <i>čit</i> > <i>čī</i> Sgd. * <i>cw /c(y)cu/</i> , <i>cw /čū</i> Khw. * <i>c(y)</i> , <i>c</i> , Kh. <i>ci, cā, cu</i> , Prt. <i>cy, tšy /če, čē</i> /, MP. <i>cy^M /če, čē</i>
						<i>star</i> < T. <i>či-tavr</i> how	(SK 317)

	Munji	Yidgha	Yazghul.	Shughni	Ishkashim	Wakhi	etymological comments
97. white	<i>spī</i> <i>safīd</i>	<i>spi</i> ^{De}	<i>səpid</i>	<i>safēd</i> <i>sipēd</i>	<i>safed</i>		* <i>šūaita-</i> (R 95, 129) Av. <i>spaēta-</i> , Sgd. 'sp'y ^t /əspēt/, sp(y)ty /spwētē/, Khw. <i>sbydyk</i> , <i>spydyk</i> , Kh. <i>śśīta-</i> , Prt. 'spyd /ispēd/, MP. 'sp- yd ^M , spyt ^Z /i/spēd/, P. <i>safēd</i>
			<i>roxn</i>			<i>ruxn</i>	< MP. <i>rwšn^M /rōšn/</i> < * <i>raukšna-</i> light: Av. <i>raox-</i> <i>šnā-</i> (SK 299)
						<i>yirx̄</i> , <i>yərṣ̄</i>	* <i>aruša-</i> : Av. <i>auruša-</i> , Os. <i>ūrs /ors</i> id.; OI. <i>aruśa-</i> fire-colored (E 1, 228–29; SK 426)
98. who	(<i>kdī</i> ^{Gr}) obl. <i>kay</i> ^{Gr}	(<i>kādī</i> ^{Gr}) obl. <i>kōi</i>	<i>kūy</i>	<i>čāy</i>	<i>kūy</i>	<i>ku(y)</i>	gen. * <i>kahjā</i> > Av. <i>kahiā</i> , Sgd. 'ky /ə/kē/, ky /kē/, ky(y)' /kyā/, Khw. ⁽¹⁾ ky, Kh. <i>ce</i> , <i>kye</i> , Bc. <i>ka</i> , Prt., MP. ^M <i>ky</i> , <i>qy</i> /kē/, P. <i>kī</i> (R 94)
	<i>kdī</i> ^{Gr} <i>kōdi</i> ^{De}	<i>kādī</i> ^{Gr} <i>kēdi</i> ^{De}	(<i>kādēm</i> which)	(<i>čidūm</i> which)	(<i>kədbəm</i> which)		Av. <i>katāma-</i> who (of many), Sgd. <i>kt'm /katām/, kō'm</i> <i>/kadām/, Khw. kd'm</i> which, Prt. <i>kd'm /kadām/, MP.</i> <i>kt'm^Z /katām/, kd'm^M</i> <i>/kadām/, P. kadām, ku^o; OI.</i> <i>katamā-</i> (E 4, 156f)
99. woman	<i>žinkə</i>	<i>žinko</i>	<i>žinjag</i>			<i>žonj</i>	* <i>janī-(ka-)</i> : Av. <i>jāni-</i> , <i>jaini-</i> , Bc. <i>čivo</i> , Prt. <i>jn /žan/, MP.</i> <i>zn^{M,Z} /zan/</i> (E 4, 141f)
				<i>žanik</i> <i>žinik</i> (<i>žin</i> wife)		(<i>widžánz</i> bride < * <i>uadu-</i> + <i>ganačī-</i>)	Rsh. <i>žan</i> wife, OAv. <i>gənā-</i> , YAv. <i>γ(ə)nā-</i> id., woman; OI. <i>gnā-</i> (E 3, 274)
						<i>kənd</i>	* <i>kan-t(i)-</i> : Sgd. <i>knč-</i> , Mun. <i>kənkika</i> girl, Os. <i>kynz</i> bride; besides Av. <i>kainī-</i> maiden, Talysh <i>kinə</i> id., daughter (SK 217)
100. yellow	<i>zīt</i> <i>zit</i> ^{Gr}	<i>zīt</i>	<i>zord</i> <i>zard</i> ^{Mo}	<i>zīrd</i> (M ₇₄ 108)	<i>zard</i> <i>zord</i> ^{SK}	<i>zart/d</i>	* <i>zarita-</i> : Av. <i>zairita-</i> , Sgd. <i>zyrt'k /zērtē/, Ygh. zērita</i> , Khw. <i>zrd(y)k</i> , Kh. <i>ysīdai</i> , f. <i>ysīca-</i> , <i>ysarūna-</i> id., red, MP. <i>zlt^Z /zard/, P. zard</i> (R 151; H 656; SK 435)

Wordlist 4: West Iranian

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
1. all	<i>hama</i>	<i>hama</i>			<i>hemû</i>	<i>heme</i>	* <i>hama-(ka-)</i> : MP. <i>hmk</i> id. (C 1, 420)
			<i>jaw</i>				
			<i>derast-e</i>	<i>društ</i> <i>durs</i> (K 373)			Prt. <i>druwišt</i> , <i>društ</i> whole, well, P. <i>durust</i> right, Av. <i>druua-</i> + <i>-sti-</i> healthy life
					<i>giş</i>		* <i>uişua-</i> : OP. <i>visa-</i> , Av. <i>vispa-</i>
					<i>her^{Cy}</i>		* <i>harua-</i> : OP. <i>haruva-</i> , Av. <i>hauruua-</i> (C 1, 422–23)
						<i>pēro</i>	
						<i>tēde</i>	
2. ashes	<i>xākistar</i>	<i>xokistar</i>					
			<i>kalim</i>				
				<i>pur(r)</i> (K 310)			cf. Pamir * <i>paraka-</i> : Sgl. <i>park</i>
				<i>hişkar^{Co}</i>			
					<i>xwelî</i>	<i>wel</i>	cf. MP. <i>xwarg</i> glowing ashes (C 2, 491–92)
					<i>kozi^F</i>		< Tu. <i>küz</i> glowing ashes (C 1, 574)
					<i>argun^F</i>		cf. <i>ārxūn</i> hearth (C 1, 85)
3. bark	<i>pūst</i>	<i>pūst</i>	<i>puost-e</i>			0	cf. “skin” & MP. <i>pwt^{M,Z}</i> / <i>pōst</i> / “bark” (M ₇₄ 62; SK 262)
				<i>gawáz^{Gi}</i>			
					<i>qaşik</i> <i>qalçk^F</i>		
4. belly	<i>şikam</i>	<i>şikam(ba)</i>	0	<i>uškumag</i> (K 170)			Prt. * <i>šk/qmb</i> / <i>iškamb</i> /, MP. * <i>šk/qmb^M</i> / <i>iškamb</i> /; cf. Av. <i>skamb-</i> fasten, OI. <i>skambh-</i> id., make firm (K 349)
	<i>kum</i>						
				<i>lāp</i>			cf. Gur. <i>lam</i> id., P. <i>lambar</i> bottom, ?Ku. <i>lam</i> cheek (K 295)
				<i>pid(d)</i>			< Brahui (K 295, 359)
					<i>zik</i>		< Ar. <i>ziqq</i> bellows (C 2, 522)
						<i>pīze</i>	
5. big	<i>kalān</i>	<i>kalon</i>					cf. Prt. <i>kl' n</i> (& Khw. <i>kl' (n)</i>) < * <i>kalāna-</i> < EIr. * <i>kat(t) āna-</i> (E 3, 348–49)
	<i>buzurg</i>	<i>buzurg</i>					OP. <i>vazrka</i> , MP. <i>wc(w)lg^Z</i> , <i>wzrg^M</i> / <i>wazurg</i> /, Prt. <i>wzrg</i> / <i>wuzurg</i> /, Sgd. <i>wz'rk</i> / <i>wazark</i> / id., Bc. <i>oazorko</i> , Kh. <i>bīysirka-</i> great, huge (Ny 207)
			<i>yawl-e</i>				
			<i>bāmm-i</i>				
			<i>taxoy</i>				

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
			<i>nage nage</i>				
			<i>gov-naw</i>				
				<i>balāi</i>			< MP. <i>b'l'y /bālāi/</i> , P. <i>bālā</i> height : <i>buland</i> high (Ny 43)
				<i>mazan</i>	<i>mezin</i>		Av. <i>maz-</i> , OI. <i>mahánt-</i> (K 405; C 1, 632)
					<i>gir(ing)</i>	<i>gird, girs</i>	cf. Keshei <i>gurd</i> , Zefre <i>bür</i> id., MP. <i>gurt</i> , P. <i>gurd</i> hero, Av. <i>hqmūwarəti-</i> virility (C 1, 384)
						<i>pīl</i>	
						<i>xišn</i>	
6. bird	<i>paranda</i>	<i>parranda</i>	0				cf. P. <i>parīdan</i> fly (H 65)
	<i>mury</i>		(<i>marjā</i> sparrow)	<i>murg</i>	(Sor. <i>mal</i> C 1, 606)	<i>mirīčik</i>	Av. <i>mərəya-</i> , Prt. <i>mury</i> , MP. <i>murw</i> (K 180, 404)
					<i>çivik</i> (orig. sparrow)		cf. <i>çük</i> sparrow; small, young (C 1, 256: onomato- petic)
					<i>tayr</i>	<i>teyr</i>	< Ar. <i>tayr</i> bird (C 2, 343)
7. bite	<i>gazīdan</i>	<i>gazidan</i>	<i>gāz-gir</i>	<i>gas-</i>	<i>geztin</i>	0	* <i>gaz-</i> : MP. <i>gc-</i> / <i>gaz-</i> / sting, Prt. <i>gšt</i> bite (Ch 117–18; K 80, 397; C 1, 372)
				<i>kād, k'ād</i>			P. <i>xāyīdān</i> ; OI. <i>khād-</i> (K 389; Ch 445)
				<i>ḍalag</i>			
				<i>gaṭ janag</i> <i>janay^{gi}</i>			
8. black	<i>siyāh</i>	<i>siyoh</i>	<i>so</i>	<i>šān</i> <i>sīāh</i> (K 129)	<i>siyā(h)</i> (C 2, 269; H 168)	<i>siyā</i>	Av. <i>siiāuuu-</i> , Sgd. <i>š'w, šw</i> /šāw, šow/, Yagh <i>šōw</i> , Khw. <i>s'w</i> , Os. <i>šāu</i> , Prt. <i>sy'w</i> /syāw/, MP. <i>sy'w^M /syāw/</i> , <i>syd^Z /syā/</i>
					<i>reş</i>		* <i>raxša-</i> , cf. P. <i>raxš</i> color inter nigrum et fuscum (C 2, 194)
9. blood	<i>xūn</i>	<i>xun</i>	<i>xun</i>	<i>hōn, hūn</i> (K 215)	<i>xwīn, xūn</i> (C 2, 488)	<i>gūnī</i>	* <i>uahunā/i-</i> : Av. <i>vohuna-</i> Ygh. <i>waxin</i>
10. bone	<i>hasta &</i> <i>ustuxwān</i>	<i>ustuxon</i>	<i>aske</i>		<i>hestī</i> <i>hestū^F</i>	<i>este</i>	* <i>asta-(ka-)</i> > Av. <i>ast-</i> , MP ' <i>st(k)^Z /ast(ag)/</i> , ' <i>sth(w)'n^Z /</i> <i>astuxān/</i> (E 1, 232; SK 424)
				<i>haḍ</i>			< Sindhi <i>haḍu</i> (Gi 78)
11. breast	<i>sīna</i>	<i>sina</i>	<i>sine</i>	<i>sēnag</i> <i>sīna(g)</i> (K 259)	<i>sīng^F</i>	<i>sēne</i>	MP. <i>syn(k)^Z /sēn(ag)/</i> , cf. Av. <i>saēni-</i> top, peak (K 384)
	<i>pistān</i> fem.				<i>bistan^F</i>	<i>pistān</i>	cf. Av. <i>fštāna-</i> , Sgd. ' <i>štn</i> id., Os. <i>fæzdon</i> udder; OI. <i>stāna-</i> female breast (C 1, 192)
				<i>gwar</i>	(<i>bar</i> face, side, shore – C 1, 117)		Av. <i>varah-</i> , MP. <i>wr^M, w^L</i> /war/, P. <i>bar</i> (H 44; K 99, 294, 399)
				<i>gōdān</i> <i>gwadān</i>			cf. Wanetsi <i>γwalūn</i> id., Av. <i>gaōdana-</i> milk container (K 294, 399)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
					<i>pêsîr</i>		
						<i>virâr</i>	
12. burn	<i>sūxtan</i>	<i>sūxtan</i>	<i>suoz</i> <i>vawsuoz</i> <i>vorš i</i>	<i>suč-/sutk</i> (K 382)	<i>sōtin</i> : <i>sōž-</i>		Av. <i>suč-</i> , OI. <i>śuc-</i> (C 2, 277; Ch 339)
					<i>şuxulin</i> ^F <i>şixulin</i>		< Ar. <i>şufla</i> flame (C 2, 322)
					<i>şewitîn</i>		< Ar. <i>şāta</i> √š-w-ṭ (C 2, 300)
						<i>vešāyiš</i>	
13. claw	<i>nāxun</i>	<i>noxun</i>	<i>nāxuon</i>	<i>nāhun</i> <i>nāxun</i> <i>nākun</i> <i>čangul</i>	<i>nenûk</i> <i>neñik</i> ^F	<i>nengû</i>	MP. <i>nāxun</i> , Prt. <i>n^(ʷ)wn</i> , Os. <i>nix</i> , Kh. pl. <i>nāhune</i> , Khw. <i>n'xn</i> (K 82, 294, 408)
							< Urdu (K 244, 293)
14. cloud	<i>abr</i>	<i>abr</i>	<i>abr</i>		<i>ewr</i> <i>ewir</i> ^F	0	Av. <i>aβra-</i> , MP. <i>'βr^M</i> , <i>'bl^Z</i> <i>/aβr/ id.</i> , Kh. <i>ora</i> sky
				<i>nōd</i>			Av. <i>snaoða-</i> , MP. <i>snōy</i> (K 128, 409)
15. cold	<i>sardī</i>	<i>sard</i>		<i>sārt</i>	<i>sar</i>	<i>serd</i>	Av. <i>sarəta-</i> , Sgd. <i>srt /sart/</i> , Ygh. <i>sōrt</i> , Khw. <i>srd</i> , Kh. <i>sāda-</i> , Prt. <i>srd /sard/</i> , MP. <i>srd'g^M/sardāg/</i> , <i>slt^Z/sard/</i> (K 189, 381)
		<i>xunuk</i>					
			<i>ce</i>				
				<i>yax(x)</i> (K 416)			Srk. <i>iš id.</i> , Av. <i>aēxa-</i> ice < <i>*aixa-</i> (E 1, 140f) P. <i>yax</i> ice (St 1528)
16. come	<i>āmadan</i>	<i>omadan</i>	√m	<i>āy-</i> , <i>āh-</i> / (pret. <i>āt-k-</i>)		<i>āmiyāyiš</i>	<i>*Haj-</i> (K 108–09, 142, 347)
				pret. <i>āt-k-</i>	<i>hātin</i>		cf. Av. <i>ā-gata-</i> , Prt. <i>āyad-</i> (K 344; C 1, 432)
17. die	<i>murdan</i>	<i>murdan</i>	<i>mar</i>	<i>mīr-/murt-</i>	<i>mirin</i>	<i>merdiš</i>	<i>*mar-</i> : YAv., Kh. <i>mar-</i> , Prt. <i>mīr-/murd-</i> (Ch 264; K 404)
18. dog	<i>sag</i>	<i>sag</i>	<i>espe</i>	<i>sag</i> (K 90)	<i>sa(g)</i> , <i>seg</i> <i>sipa</i> (C 2, 262 224)		<i>*şyaka-</i> : Med. <i>σπάκα</i> , Prt. <i>'spg /ispag/</i> , MP. <i>sg^{M,Z} /sag/</i> <i>*şuā(n)</i> : Av. <i>spā</i> , Kh. <i>śve</i>
				<i>kučik(k)</i> E <i>kšik</i>	<i>kūçik</i>	<i>kutik</i>	cf. Tkm. <i>güjük</i> dog, puppy (D 3, 630), but Zazaki <i>kutik</i> leads to Elr. <i>*kuta-/kūtī-</i> (R 4, 413): Sgd. <i>'kwt-</i> <i>/((ə)kut/</i> , <i>kwt / qwt /kut/</i> , Khw. <i>'kt</i> , Bc. <i>κοδο</i> (K 188, 391)
19. drink	<i>āšāmīdan</i>	<i>ošomidan</i>				<i>šimitiš</i>	<i>*čjam-</i> swallow: Av. <i>šam-</i> swallow, Khw. <i>'s'my-</i> drink (Ch 39–40)
	<i>nūšīdan</i>	<i>nūšīdan</i>					
	<i>xurdan</i>	<i>xūrdan</i>	<i>vāxuor</i>	<i>war-/wārt-</i>	<i>vexwarin</i>		(K 97, 411) = eat
20. dry	<i>xušk</i>	<i>xušk</i>	<i>xošk-qu</i>	<i>hušk</i>	<i>hişk</i>	<i>wišk</i>	Av. <i>huška-</i> & <i>hi(š)ku-</i> , Sgd. <i>'škw /((ə)šku/</i> , Kh. <i>huška-</i> ; Prt. <i>hwšk /hušk/</i> , MP. <i>hwšk^{M,Z}</i> <i>/hušk/</i> ; OI. <i>śuška-</i> (K 78, 414)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
		<i>kok</i>					cf. Sgl. <i>kāk</i> id. (Px ₉₉ 229) < Uzb. <i>quruq</i> id.?
			<i>cak-ere</i>				
			<i>qawr</i>				
					<i>ziha, zuha, ziwa</i>		cf. Prt. <i>wi-zaw-</i> to fade, wither, droop
21. ear	<i>gūš</i>	<i>gūš</i>	<i>guoš</i>	<i>gōš</i> (K 399)	<i>guh</i>	<i>goš</i>	* <i>gauša-</i> : Av. <i>gaoša-</i> , OP. <i>gauša-</i> , Sgd. <i>γwš</i> / <i>γōš</i> /, Khw. <i>γwx</i> , Kh. <i>gū</i> , <i>gguvq-</i>
22. earth	<i>zamīn</i>	<i>zamin</i>					* <i>zam-</i> : Av. <i>zam-</i> , Khw. <i>z(y)m</i> , Kh. <i>uysmā</i> , Bc. <i>ζαμυγο</i> , <i>ζαμιο</i> ; MP. <i>zmyg^M</i> , <i>zmyk^Z</i> / <i>zamīg</i> /
	<i>xāk</i>			<i>xāk</i> , (<i>h</i>) <i>āk</i> (K 372)	<i>ax</i> <i>xak</i>		* <i>āhaka-</i> , cf. OI. <i>āsa-</i> ashes or * <i>āika-</i> , cf. Av. <i>āi</i> (K 156; C 1, 99; 2, 462)
			<i>xuonde</i>				
				<i>gil^{Gi}</i> id., clay			* <i>graj-</i> clay: Kh. <i>grrai-</i> , Sgd. <i>γr'y</i> , Ygh. <i>γirīg</i> , Os. <i>ærȳæ</i> (E 3, 283)
						<i>heř</i>	cf. P. <i>xarra</i> , Ku. <i>hařī</i> clay (C 1, 453)
23. eat	<i>xurdan</i>	<i>xūrdan</i>	<i>xuor</i>	<i>war-/wārt</i> (K 411)	<i>xwarin</i>	<i>werdiš</i>	* <i>hūr-</i> eat, consume (Ch 147): Av. <i>x^rar-</i> Sgd. <i>γwr-</i> , <i>xwr-</i> / <i>xwar-</i> / Khw. <i>x(w)r-</i> , Kh. <i>hvar-</i> , Bc. <i>χoap-</i> , Prt. <i>wxar-</i> = seed of bird
24. egg	<i>tuxm-i murγ</i>	<i>tuxm</i>					
			<i>morq-ene</i>	<i>ā-murg</i> (K 109, 346) <i>āyag</i> , <i>āig</i> , <i>hāik</i> (K 347, 415)	<i>hēk</i> <i>hēlka</i> (cf. Gurani <i>hīla</i> , Orm. <i>hanwalk</i>)	<i>hāk</i>	* <i>ājā</i> > Khw. <i>y'k</i> , Kh. <i>āhā-</i> , Os. <i>ajk</i> , Psh. <i>hā</i> , Wz. <i>yōwya</i> , MP. <i>x'yg^Mx'd(y)k^Z</i> / <i>xāyag</i> /, vs. Av. <i>aēm</i> (C 1, 434–35)
25. eye	<i>čašm</i>	<i>čašm</i>	<i>čaš</i>	<i>čam(m)</i> (K 370)	<i>čav</i>	<i>čim</i>	* <i>ča(š)š-man-</i> (R 2, 238) Av. <i>čašman</i> , P. <i>čašm</i> Orm. <i>cimi</i> , Sgd. <i>cšm</i> / <i>čašm</i> /, obl. <i>cmy'</i> / <i>cym-</i> , Khw. <i>cm</i> , <i>jm</i> , Kh. <i>tčē</i> , <i>tcai</i> & <i>tčēiman-</i>
26. fat n.	<i>pīh</i>	(<i>pi(j)h^{lit}</i>)	<i>pi</i>	<i>pīg</i>	(Sor. <i>pīw</i>)		Av. <i>pīuuh-</i> , Kh. <i>pāyā-</i> ; OI. <i>pīvas-</i> (K 103, 363; C 2, 121)
							Khw. <i>'zdix</i> / <i>uzdax</i> /, Psh. <i>wāzda</i> , Par. <i>γāzd</i> id., Ku. <i>baz</i> , Av. <i>vazdah-</i> *fatness; OI. <i>vedhās-</i> *force (NEVP 94)
	<i>čarbī</i>	(<i>čarb</i> adj. <i>čarbu</i> internal lard)	<i>carp</i>				* <i>čarp(a)-</i> > Sgd. <i>crp</i> / <i>čarp</i> /, Kh. <i>tcār(b)a-</i> , Os. <i>carv</i> butter (E 2, 232f)
		<i>ravγan</i>			<i>rūn</i>	<i>ruwen</i>	* <i>rauγna-</i> (R 106): Av. <i>raoγna-</i> butter, Sgd. <i>rwγn</i> / <i>rōγn</i> /, Yagh. <i>rūγin</i> , Khw. <i>γγyn</i> , Kh. <i>rrūna-</i> (SK 297–98; C 2, 222)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
					<i>baz</i>		cf. Av. <i>vazdah-</i> *fatness, Khw. <i>'zdyx /uzdax/</i> , Psh. <i>wāzda</i> , Par. <i>γāzd</i> id., Prt. <i>'zdyx /uzdax/</i> ; OI. <i>vedhás-</i> *force (NEVP 94; C 1, 135)
					<i>çênc</i>		
27. feather	<i>par(r)</i>	<i>par</i>	<i>par</i>	<i>p^har^{Gi}</i>	<i>per</i> m. <i>pürt</i> f.	<i>pūrtī</i>	* <i>parna-(ka)-</i> : Av. <i>parəna-</i> , Sgd. <i>prn</i> , Kh. <i>pārra-</i> , Khw. <i>pn</i> (Ch 295–96), MP. <i>pr^M /parr/</i> (H 293)
				<i>k^hamb</i>			< Sindhi <i>khambu</i> id. (Gi 245)
28. fire	<i>ātaš</i>	<i>otaš</i>	<i>ātaš</i>	<i>ās</i> (K 345) <i>ātiš. āč</i> <i>(y)āteš</i> (K 344)	<i>ār/āwir</i> <i>agīr^F</i> < * <i>āwur</i> < * <i>ādur-</i> (Schwartz)	<i>ādir</i>	* <i>ātar-/*āθr-</i> (E 1, 318): Av. <i>ātarš</i> , Sgd. <i>'r'rh</i> , <i>'tr /ātar/</i> , Khw. <i>'d(y)r /ādir/</i> , Kh. <i>ataro, aθšo</i> , MP. <i>'dwr^Z /ādur/ & 'thš^Z /ātaxš/</i> (C 1, 82)
		<i>olav</i>			<i>alav</i>		< P. <i>alāv</i> flame (C 1, 73)
29. fish	<i>māhī</i>	<i>mohi</i>	<i>māhi</i>	<i>māhī(g)</i> (K 403)	<i>masī</i> (C 1, 643)	<i>māse</i>	* <i>matsja-</i> (R 87): Av. <i>masi-ia-</i> , Prt. <i>m'sy'g /māsyāg/</i> , MP. <i>m'hyg^M, m'hyk^Z /māhīg/</i>
				<i>mač(č)</i>			< Sindhi <i>mač^hi</i> (K 274, 403)
30. fly v.	<i>parīdan</i>	<i>paridan</i>	<i>par par-vežen</i>	<i>parr-</i>	? <i>p'irīn</i>	<i>peṛāyiš</i>	(H 65, #293)
			<i>par par-vežen</i>				* <i>fra-uaz-</i> : Av. <i>fra-waz-</i> , Sgd. <i>βrwx-</i> , <i>frwx-</i> / <i>frawaz-</i> /, Prt. <i>frwx-</i> / <i>frawaz-</i> /, MP. <i>prwx^M /parwaz-</i> < * <i>uaz-drive</i> (Ch 429–32; SK 303–04)
					? <i>p'irīn</i>		< Tu. <i>pyrlamak</i> (C 2, 114)
31. foot	<i>pā</i>	<i>po(j)</i>	<i>pe</i>	<i>pād</i> (K 358)	<i>pê</i>	<i>pā</i>	* <i>pād-</i> : Av. <i>pād-</i> , OP <i>pāda-</i> , Ygh. <i>pōda</i> , P. <i>pāy</i> , Sgd. <i>p'δ /pād/</i> , Khw. <i>p'δ, b'δ</i> , Kh. <i>pai</i> , pl. <i>pā</i> (R 113–14)
32. full	<i>pur</i>	<i>pur</i>		<i>pur</i>	<i>p'ir</i>	<i>perō</i>	* <i>prna-</i> : Av. <i>parəna-</i> , Sgd. <i>pwn /pūn/</i> , <i>pwrn /purn/</i> , Bc. <i>porri</i> , Prt. <i>pwr /purr/</i> , MP. <i>pwr^M, pwr^L /purr/</i> (Ch 295–96; C 2, 114)
			<i>sir</i> <i>sar-sir-aki</i> <i>mašt</i>				
					<i>tijī</i>		
					<i>qūç</i>		
					<i>têr</i>		
33. give	<i>dādan</i>	<i>dodan</i>	<i>hād</i>	<i>dāy-/dāt-</i> (K 375)	<i>dan</i> <i>daīn^F</i> (C 1, 293)	<i>dāyiš</i>	* <i>daH-</i> id. > Av. <i>dā-*</i> <i>daθa-/*dāta-</i> > Bc. <i>λα(v)- /λαδο</i> , Prt. <i>dh- /dah-/</i> , <i>d'd</i> , MP. <i>dy(y)-^M /day-/</i> , <i>dh-^Z /dah-/</i> , <i>d'tn^Z /dādan/</i> (Ch 43f)
34. good	<i>xūb</i>	<i>xub</i>					MP. <i>xwb^M, xwp^Z /xūb/</i> , Sgd. <i>γwp, xwp /xūp/</i> , Khw. <i>xwb, xwβ</i> , Bc. <i>xobo</i> < * <i>hū-aph-</i> (E 3, 416); cf. Av. <i>huāpah-</i> wohlthätig

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
	<i>nīk</i>	<i>nek</i>					* <i>naiba-ka-</i> ; OP. <i>naiba-</i> id., nice (H 238–39), Sgd. <i>nyk</i> / <i>nēk</i> /
		<i>naɣz</i>					< Sgd. <i>nyz-</i> / <i>naɣz</i> / (AP 289; Gh 5951)
			<i>xawrē</i>				
				<i>šar(r)</i>			cf. Av. <i>srīra-</i> , Sgd. <i>šyr'y</i> / <i>širē</i> /, Kh. <i>śśāra-</i> , Bc. ? <i>bičyo</i> , Prt. <i>šyr</i> , OI. <i>srīra-</i> (K 386)
				<i>waš(š)</i> (K 132–33)		<i>weš</i>	P. <i>x^waš</i> , Prt. <i>wxaš</i> < * <i>h₂uarša-</i> < Iir. * <i>s₂uarćša-</i> < IE * <i>s₂uelks-</i> ; besides Bc. <i>χoço</i> , Prt. <i>xwj</i> good, pleasant < * <i>x₂uržu-</i> < * <i>s₂u₂g^h-su-</i> , to Av. <i>x^warəzišta-</i> , MP. <i>xwālist</i> most delicious
					<i>çak</i>		* <i>čjata-(ka-)</i> : Av. <i>šiiāta-</i> , Kh. <i>tsāta-</i> rich, happy, Prt. <i>š'd</i> , P. <i>šād</i> glad, happy (C 1, 233–34; Ch 37–38)
					<i>baş</i>		< Trk. <i>baş</i> head (C 1, 155)
					<i>p'ak^f</i>		< P. <i>pāk</i> clean (C 1, 155)
						<i>hol</i>	
					<i>rīnd</i>	<i>rind</i>	< Trk. <i>rind</i> < P. <i>rind</i> joyful (C 1, 155)
35. green	<i>sabz</i>	<i>sabz</i>	0	<i>sabz, sauṣ sawaz</i> (K 382)	<i>sawz sewz</i> (C 2, 242)		MP. <i>spz, sbz^z /sabz/</i> , (DK 355); cf. Kh. <i>ysba</i> cane, reed, Psh. <i>sābuh</i> grass
		<i>kabud</i>					< Sgd. <i>kp'wt</i> blue, cf. Ygh. <i>kūpūta</i> (AP 277)
					<i>(hē)šīn</i>		* <i>axšajna-</i> : MP. <i>xšyn /xašēn/</i> blue, Sgd. ? <i>γs'y^{nh} /a/əxsēn/</i> green, Psh. <i>šīn</i> id.
					<i>kesk, kask</i>	<i>kask</i>	cf. MP. <i>k'skyn /kaskēn/</i> blue-green; of lapis lazuli (MC 50)
						<i>kiho kewī</i>	
36. hair	<i>mū</i>	<i>mūj</i>	<i>muy</i>	<i>mūd, mīd</i>	<i>mū</i> (C 1, 685)	<i>mū</i>	* <i>mauda-</i> : MP. <i>mwy^m, mwd^z /mōy/</i> (K 142, 406; H 223)
				<i>māh-par</i>	<i>por</i> m. <i>pūrt</i> f.	<i>por pirč</i>	(K 289; C 2, 122)
				<i>gulg</i>			cf. P. <i>gulūla</i> bullet, OI. <i>glāu-</i> swelling, bump (K 397)
				<i>put</i>			< Brahui <i>puṭ</i> hair (K 289)
					<i>qiž</i>		(C 2, 167)
37. hand	<i>dast</i>	<i>dast</i>	<i>dast</i>	<i>dast</i> (K 292)	<i>dest</i>	<i>dest</i>	* <i>dasta-</i> : OP. <i>dasta-</i> , MP. <i>dst^{m,z} /dast/</i> , P. <i>dast</i> , Sgd. <i>ōst /dast-/</i> , Khw. <i>ōst</i> , Kh. <i>dasta-</i> , vs. Av. <i>zasta-</i> < * <i>zasta-</i> (E 2, 371; SK 144)
38. head	<i>sar</i>	<i>sar</i>	<i>sar</i>	<i>sar</i> (K 382)	<i>ser(i)</i>	<i>sere</i>	Av. <i>sarah-</i> & <i>sāra-</i> , Sgd. <i>s'r /sār/</i> , MP. <i>sr^m, sl^z /sar/</i> head
	<i>kalla</i>	<i>kalla</i>					T., P. <i>kalla</i> id. (E 4, 189)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
39. hear	<i>šanīdan</i> <i>šinūdan</i>	<i>šunidan</i>	<i>šnov</i>			<i>āšnāwitiš</i>	* <i>xšnau-</i> < sharpen (the ears) (Ch 456): MP. 'šnw ^M / <i>ašnaw-</i> /, 'šnw ^M / <i>išnaw-</i> /, 'šnwtin ² / <i>ašnūdan</i> /, Prt. <i>šnw-</i> / <i>išnaw-</i> /
				<i>uškun-</i> <i>uškut-</i>			cf. Av. <i>uš-</i> ear + Bal. <i>kan-</i> / <i>ku(r)t-</i> do (K 147)
					<i>bihīstin</i>		* <i>ui-ūista-</i> : * <i>ujid-</i> know, cf. Av. <i>vista-</i> : <i>vaēd-</i> (C 1, 174)
40. heart	<i>dil</i>	<i>dil</i>	<i>dal</i>	<i>zird(ē)</i> (K 380) <i>dil</i> (K 374)	<i>dil</i>	<i>zeṛī</i>	* <i>zrd-</i> (R 110): Av. <i>zərəδai-</i> / <i>ia-</i> , Khw. <i>zrz</i> , Kh. <i>ysāra-</i> , Sgd. <i>δrjy(y)</i> , <i>δrzy</i> / <i>δərzē</i> / < * <i>δryaza-</i> < * <i>zryaya-</i> ; Prt. <i>zirδ</i> , MP. <i>dyl^{M,Z}</i> / <i>dil</i> /; OI. <i>h¹daya-</i>
41. horn	<i>šāx</i>	<i>šox</i>	<i>šeypur</i>	<i>šāh</i> , <i>šāx</i> (K 82–83)	<i>šax^{Cy}</i>	(<i>šāx</i> branch)	cf. OI. <i>śākha-</i> (H 169, #766; C 2, 309)
					<i>q(i)loç</i>	<i>qoç</i>	
					<i>strī</i> , <i>stru</i> <i>sture^F</i>	<i>istrī</i>	* <i>šrū-</i> : Av. <i>srū-</i> , <i>sruuā-</i> Khw. <i>šw</i> , Kh. <i>šū</i> , MP. <i>srw^{yM}</i> / <i>srūy</i> /, <i>slwb²</i> / <i>srū</i> / (SK 350; Bi 218; C 2, 282)
42. I	<i>man</i>	<i>man</i>	<i>ma</i> obl.	<i>man</i>	<i>min</i> (C 1, 658)	<i>mi(n)</i>	Av. gen. <i>mana</i> , Prt. obl. <i>man</i> (K 333, 406)
			<i>a</i> dir.		<i>az</i> (C 1, 39)	<i>ez</i>	* <i>ažam</i> : Av. <i>azəm</i> , Sgd. 'zw / <i>azu</i> /, Khw. 'z, (n)'z, Kh. <i>aysu</i> , <i>aysā</i> , Bc. <i>açō</i> , Prt. 'z / <i>az</i> /
43. kill	<i>kuštan</i>	<i>kuštan</i>	<i>koš</i>	<i>kuš-</i> / <i>kušt</i> (K 148, 392)	<i>kuštin</i> (C 1, 525–26)	<i>kištiš</i>	* <i>kauš-</i> : Av. <i>fra-kaoš-</i> id. : <i>kuš-</i> fight, MP. <i>kwš-</i> kill, struggle (SK 138; Ch. 251)
44. knee	<i>zānū</i>	<i>zonu</i>	<i>zāne</i>	<i>zān(uk)</i> (K 379)	(Sor. <i>ažino</i>)	<i>zāni</i>	* <i>zānu-</i> / <i>ka-</i> (R 93): Av. <i>žnu-</i> / <i>zānu-</i> , Sgd. <i>z'n¹wk</i> / <i>zānūk</i> /, <i>jnw^{wq}</i> / <i>žnuk</i> /, Khw. <i>z'nwk</i> / <i>zānūk</i> /, Kh. <i>ysānū</i> , Psh. <i>zangūn</i> MP. 'šnw ^{gM} / <i>išnūg</i> /, <i>z'nwk²</i> / <i>zānūg</i> / (C 1, 41)
				<i>gōd</i>			< Sindhi (K 297, 399)
				<i>kōnd</i>			< Sindhi (K 394)
					<i>çong</i> <i>çog</i> <i>çok</i>	<i>çok</i>	< Trk. <i>çök</i> knee (C 1, 243)
						<i>sāqe</i>	
45. know	<i>dānistan</i>	<i>donistan</i>	<i>zān</i>	<i>zān-</i> / <i>zānt</i> (K 379)	<i>zanin</i>	<i>zānāyīš</i>	* <i>žanH-</i> id.: Av. <i>zān-</i> , Sgd. ⁽¹⁾ <i>z'n</i> , <i>z'n</i> / <i>(ā)zān</i> /, Bc. <i>çāv-</i> , Prt. <i>z'n-</i> / <i>zān-</i> / MP. <i>d'n^{M,Z}</i> / <i>dān-</i> / (Ch 466–68; C 2, 517)
46. leaf	<i>barg</i>	<i>barg</i>	<i>valg</i>	<i>balg</i> < Dari <i>balg</i> (K 160, 356)	<i>belg</i>	<i>velg</i>	* <i>uarka-</i> : Av. <i>varəka-</i> , Sgd. <i>wrkr</i> / <i>warkar</i> /, Kh. <i>bāggara-</i> , Prt. <i>wgr</i> / <i>wargar</i> /, MP. <i>wlg²</i> / <i>warg</i> / (H 47; R 107)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
				<i>pan(n)</i> (K 133, 361)	<i>pel</i>		* <i>parna-(ka-)</i> : Khw. <i>pnc</i> pl. to * <i>pnk</i> , Kh. <i>pārra-</i> id., feather, Psh. <i>pāna</i> , pl. <i>pāni</i> leaf, Prt. <i>png</i> / <i>pannag</i> /, OI. <i>parṇá-</i> id., feather
47. lie	<i>xwābīdan</i>	<i>xobidan</i>	<i>xos,</i> <i>hāxos</i>	<i>wafsay</i>			* <i>hūap-(s-)</i> sleep (Ch. 145–46)
	<i>darāz</i> <i>kašīdan</i>	<i>daroz</i> <i>kašīdan</i>	<i>derawz-</i> <i>deyinj</i>				lie down at length
					<i>veketin</i>		
					<i>razan</i>		
					<i>velezin^F</i>		
						<i>nāyiš</i> legen	
48. liver	<i>jigar</i>	<i>jigar</i>	<i>jeqar</i>	<i>ĵagar</i> (K 368)	<i>ĵar</i> <i>cegera</i> <i>ceger^F</i>		* <i>ĵakr(t)</i> : Av. <i>yākarə</i> , Kh. <i>gyagarrā</i> , MP. <i>yk^l</i> / <i>ĵagar</i> / (C 1, 483–84)
						<i>qesibā</i>	< Ar. <i>qušb</i> back, gut; <i>qa-šabat</i> artery, marrowy bone
49. long	<i>darāz</i>	<i>daroz</i>	<i>derawz</i>	<i>d(a)rāĵ</i>	<i>dirêj</i>	<i>derg</i>	* <i>drājĵah-</i> (K 373; E 2, 351) * <i>darga-</i> (E 2, 350)
50. louse	<i>šipiš</i> (H 156; Hü 219: <i>supuš/</i> <i>uspuš</i> > <i>šupuš</i>)	<i>šabušk</i>	<i>espaz-e</i>	<i>šiš</i> < * <i>siš</i> < * <i>šuiš-</i> (K 91)	<i>s(i)pī</i> (C 2, 278–79)	<i>ešpiž</i>	* <i>šuiš-</i> : Av. <i>spiš-</i> , Sgd. <i>špšh</i> / <i>špiš</i> /, Ygh. <i>šipuš</i> , Khw. <i>sb'h</i> , <i>sp'h</i> / <i>spāh</i> /, Psh. <i>spāža</i> , Os. <i>sistæ</i> , MP. * <i>spyš^M</i> / <i>ispiš</i> /, <i>spyš^Z</i> / <i>spiš</i> / (SK 330; A 3, 210–11)
			<i>ninak-u</i>				(K 91)
				<i>bōĵ, bōĵ</i>			(K 91)
51. man	<i>mard</i>	<i>mard</i>	<i>merkeyin</i>	<i>mart</i> <i>mard</i> <i>mardum</i> (K 404)	<i>mēr</i>	<i>mērik</i> <i>mērdek</i> <i>merdim</i>	* <i>martĵa-</i> : Av. <i>maša-</i> , Sgd. <i>mrt'y</i> / <i>marti</i> /, Khw. <i>mrc</i> , <i>mrĵ</i> , Bc. <i>μαρδο</i> , OP. <i>martiya</i> , MP. <i>myrd^M</i> / <i>merd</i> /, <i>ml^Z</i> / <i>mard</i> /, Prt. <i>mrd</i> / <i>mard</i> /, OI. <i>mārta-</i>
				<i>ĵōd</i> < Urdu <i>ĵō(d)dhā</i> warrior			cf. Av. * <i>yaoða-</i> , OI. <i>yodhā-</i> warrior (K 104, 368)
52. many	<i>bisyār</i>	<i>bisyor</i>					MP. <i>wsy(k)l</i> / <i>wasyār</i> /; cf. P. <i>bas</i> < MP. <i>was</i> id. < OP. <i>vasiy</i> (MC 88; Ny 205)
	<i>ziyād</i>	<i>ziyod</i>					< Ar. <i>ziyād</i> increase
	<i>xaylī</i>	<i>xele</i>	<i>xaly</i>			<i>xeylē</i>	< Ar. <i>ḥayl</i> strength, power
				<i>bāz</i>			cf. Av. <i>bāzuuant-</i> thick, OI. <i>bahú-</i> (K 353)
					<i>p'ir</i>		* <i>paru-</i> : Av. <i>pouru-</i> , Kh. <i>pharu-</i> (C 2, 114)
					<i>gelek</i> <i>galak</i> <i>gal(l)a</i>	<i>gelek</i>	cf. Ku. <i>gal</i> people, P. <i>gal(l)</i> a herd, Gurani <i>gird</i> all < * <i>grd-</i> (C 1, 366)
					<i>zehf</i> = <i>zef^F</i>	<i>zāf</i>	< Ar. <i>zahafa</i> be proud
						<i>bol</i>	< Ar. <i>ḡabūl</i> troop, swarm (H 52, #227)
						<i>épey</i>	

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
53. meat	<i>gūšt</i>	<i>gūšt</i>	<i>guošt</i>	<i>gōžd</i> <i>gōšt</i> (K 278 otherwise)	<i>gošt</i>	<i>gošt</i>	* <i>gau-šti/a-</i> produced from bovine; cf. Kh. <i>ggūšta</i> , Psh. <i>γwaša</i> ; MP. <i>gwšt^l/gōšt/</i> ; Av. <i>gauu-</i> meat; cow (E 3, 212)
54. moon	<i>māh</i>	<i>moh</i>	<i>muong</i>	<i>māh</i> ^{Gi,Co}	<i>meh^F</i> <i>māh</i> (C 1, 601)		Av., OP. <i>māh-</i> , Prt. <i>m'h</i> / <i>māh</i> /, MP. <i>m'h^{M,Z}/māh</i> /, Khw. <i>m'h</i> , Bc. <i>ma(u)o</i> * <i>mās-ti-</i> : Kh. <i>māstā</i> , Psh. <i>miyāst</i> , Srk. <i>māst</i>
					<i>heyv</i> <i>hēv</i> <i>hîv^F</i> (C 1, 444)	<i>āsmī</i>	* <i>haumaka-</i> ; cf. Khw. ⁽¹⁾ <i>xmyk</i> ; OI. <i>soma-</i> soma; moon (SK 230) or to Psh. <i>wažmaī</i> moon < * <i>uaxša-māhī-kā-</i> growing moon (Mo ₀₃ 75) or to OP. <i>asmān-</i> , P. <i>āsmān</i> , Bal. <i>āžmān</i> , Ku. <i>āzmān</i> sky (A 1, 95; C 54–55)
55. moun- tain	<i>kūh</i>	<i>kūh</i>	<i>kuo</i>	<i>kōh</i> (<i>kōpag</i> shoulder - K 81, 394)	(Sor. <i>kēw</i>) (C 1, 549–50)	<i>ko</i>	* <i>kaup^ha-</i> : OP. <i>kaufa-</i> , Prt. <i>kwf/kōf</i> /, MP. <i>kwf^M, kwf^Z/kōf</i> /; Av. <i>kaofa-</i> mountain ridge
			<i>kamar</i>		(<i>kavir</i> stone)		* <i>kamarā-</i> (E 4, 192)
				<i>p^hawād</i>			< Sindhi <i>parbatu</i> (Gi 434)
					<i>čīyā</i> <i>čīya</i> <i>čīya^F</i>		cf. P. <i>čakād</i> mountain peak, MP. <i>čakāt</i> < * <i>čakāta-</i> (C 1, 257–58)
					<i>banī^{Cy}</i>		from <i>bān</i> roof (C 1, 148–50)
					(<i>gir</i> hill; C 1, 384)		* <i>gari-</i> mountain > Av. <i>gai-ri-</i> , Sgd. <i>γr-/yar</i> /, Yagh. <i>γar</i> , Khw. <i>γrycyk</i> , Kh. <i>ga, garā-</i> , <i>ggari-</i> , Bc. <i>γapo, geiro</i> , Prt. <i>γr /yar</i> /, MP. <i>g^l/gar</i> / (E 3, 191–93)
					<i>šāx</i>		cf. P. <i>šax</i> top of mountain; hard, Ygh. <i>šax</i> rock, Sgd. <i>šx-</i> hard (C 2, 309–10)
56. mouth	<i>dahan</i>	<i>dahan</i>	<i>zuonj</i>	<i>dap, da^{ci}</i> (K 372)			cf. Av. <i>zafar/n-</i>
			<i>awl</i>				
					<i>dēv</i> < SWIr.		* <i>zamb-</i> : P. <i>dam</i> , Psh. <i>zāma-</i> jaw, molar tooth, Kh. <i>ysīmā-</i> teeth (C 1, 282–83; Mo ₀₃ 102)
						<i>fek</i>	
57. name	<i>nām</i>	<i>nom</i>	<i>nuom</i>	<i>nām</i> (K 408)	<i>nav</i>	<i>nām(e)</i>	* <i>nāman-</i> : Av. <i>nāman-</i> , * <i>nāma-(ka-)</i> : Sgd. <i>n'm /nām</i> /, Khw. <i>n'm(y)k</i> , Kh. <i>nāma</i> , Bc. <i>voμo</i> , MP. ^{MZ} , Prt. <i>n'm /nām</i> /

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
58. neck	<i>gardan</i>	<i>gardan</i>	<i>geriste</i>	<i>gardan</i> <i>gardin</i> <i>girdēn</i> (K 396)	<i>gerden</i> (C 1, 370)		Sgd. <i>γrδ'k(h) /γarδāk'/</i> , Khw. <i>γrδk</i> , Kh. <i>gaḍaa-</i> < * <i>gar-taka</i> , Psh. <i>γāra</i> , MP. <i>grdn^M</i> , <i>gltⁿ² /gardan/</i> , P. <i>gardan</i> neck (H 201) – from * <i>gart-</i> turn (Ch 110–11)
				<i>gwar^{Gi}</i>			
				<i>gohk^{Co}</i>			
					<i>qirik</i>		cf. Os. <i>qwīr/qur</i> throat (A 2, 330; C 2, 164)
					<i>stū</i> <i>stū(kur)^F</i>		cf. Os. <i>astæw</i> lower back, middle (A 1, 79; C 2, 282)
						<i>mil</i>	* <i>mīz-</i> : Av. <i>mārəzu-</i> vertebra of neck (Mo ₀₃ 90)
						<i>vil</i>	
						<i>vīye</i>	
59. new	<i>naw</i>	<i>nav</i>	<i>nuo</i>	<i>nōk</i> (K 409)	<i>nuh</i> <i>nū</i>	<i>newe</i>	* <i>naṃa-ka-</i> : Khw. ⁽¹⁾ <i>nwk</i> , <i>nwyk</i> , Sgd. <i>nw'k(w) /nawāk(u)'/</i> , <i>nwyγ /nawē/</i> , Bc. <i>vωγo</i> ; Prt. <i>nw'g /nawāg/</i> , MP. <i>nwg^M</i> , <i>nwk^Z /nōg/</i>
60. night	<i>šab</i>	<i>šab</i>	<i>šov</i>	<i>šap</i> (K 385)	<i>šev</i>	<i>šew</i> <i>pe-sewe</i>	* <i>xšapā-</i> : Av. <i>xšap(an)-</i> Kh. <i>ššavā-</i> , Sgd. <i>'γšp-</i> , <i>'xšp- / (ə)xšapā'/</i> , Khw. <i>'x(y)b, xb</i> , Bc. <i>χαβ-</i> , Prt. <i>šb /šab/</i> , MP. <i>šb^M</i> , <i>šp^Z /šab/</i>
61. nose	<i>bīnī</i>	<i>binī</i>	<i>xuni</i> (cf. C 1, 200)	<i>gīn</i> (also breath) (K 136: * <i>μi-āna-</i> , cf. OI. <i>vyānā-</i>)	(<i>bīn</i> smell, breathe - C 1, 200)		Av. <i>vaēnā-</i> nose, MP. <i>wyynyg^M</i> , <i>wynyk^Z /wēnīg/</i> : * <i>μai(H)n-</i> see? (Ch 413)
		(<i>fuk</i> snout)		<i>pō(n)z</i> <i>pauz</i> < P. <i>pōz</i> mouth (K 203)	<i>poz</i> (cf. H 74)		cf. Sgl. <i>fusek</i> id., Ishk. <i>fbc</i> mouth; Os. <i>fynz</i> nose, Khw. <i>pncwk</i> snout (E 3, 49–51: * <i>fuž-</i> ; B 250: Kh. <i>paujsida</i> they kiss, Orm. <i>pōč</i> kiss)
					<i>bēvil</i>		
					<i>difin</i>		* <i>dam-na-</i> vs. * <i>dam-</i> blow: Av. <i>dam-</i> , P. <i>damīdan</i> (C 1, 306)
						<i>pirnike</i>	* <i>pari-naha-ka-</i> ; cf. Av. <i>nāh-id.</i> , Sgd. <i>pr'yⁿk</i> opening of the mouth < * <i>pari-(h)ana-ka-</i> (Paul 1995)
						<i>zinji</i>	cf. <i>zinj</i> chin; Semnani <i>zunji</i> mouth (Paul 1995)
62. not	<i>na</i>	<i>na</i>	(<i>ne no!</i>)	<i>na</i>	<i>ne, na, ni</i>	<i>nē- nīy-</i>	Av. <i>nōit</i> & <i>na</i> , Sgd. <i>n' /nā/ n'y'</i> , <i>ny /nē/</i> , Khw. <i>n(y)</i> , Kh. <i>na, ni, ne</i> , Bc. <i>va(vo)</i> , Prt. <i>ny /nē/</i> , MP. <i>ny^M /nē/</i>
			<i>hovcu</i>				

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
63. one	<i>yak</i>	<i>yak</i>	<i>i,</i> <i>yekke</i>	<i>yak(k)</i>	<i>yek</i> (C 2, 496)	<i>yew, žew</i>	* <i>aīya-(ka-)</i> > Av. <i>aēuuā-</i> , Sgd. <i>ʔyw, (ʔ)yw /ēw/</i> , Khw. <i>ʔyw</i> , Bc. <i>iwyo</i> , Prt. <i>yw /ēw/</i> , MP. <i>ʔyw^M /ēw/</i> , <i>yk^M /yak/</i> <i>ʔywk^Z /ēk/</i> , P. <i>-ē</i> vs. <i>yak</i>
64. person	<i>ādāmī</i>	<i>odam</i>		<i>ādām(ī)-</i> <i>zāt</i> (K 345)			< P., Trk. <i>ādam</i> < Ar. <i>ʔādam</i> (SK 405)
	<i>naḡar</i>	<i>naḡar</i>			<i>naḡar</i>		< Ar. <i>naḡar</i> people (C 2, 14)
	<i>īnsān</i>	<i>inson</i>			<i>īnsan^F</i>	<i>īnsān</i>	< Ar. <i>ʔīnsān</i> man
	<i>kas</i> person; everybody	<i>kas</i>		(<i>kas</i> per- son, some- body)	<i>kes</i>		Av. <i>kasčīṭ</i> , OI. <i>kascit</i> (K 392)
			<i>enki</i>				
					<i>merī^F</i> <i>mirov^F</i>	<i>merdim</i>	* <i>martīa-</i> : Av. <i>maša-</i> , Sgd. <i>mrtʔy /marti/</i> , Khw. <i>mrc, mṛj</i> , Bc. <i>μαρδο</i> , OP. <i>martiya</i> , MP. <i>myrd^M /merd/</i> , <i>mlt^Z /mard/</i> , Prt. <i>mrd /mard/</i> , OI. <i>márta-</i>
					<i>piyāw</i>		< * <i>pnī-āyaw</i> < Ar. <i>banī ādam</i> (C 2, 117)
65. rain n.	<i>bārān</i>	<i>boron</i>	(<i>bāren-degi</i> rainfall)	<i>gwáriš^{Gi}</i> n. <i>gwār-</i> vb. (K 99, 399)	<i>baran</i> <i>barīn</i> <i>bārān</i> (H 36; C 1, 152)	<i>vārān</i>	* <i>uaHr-</i> : Av. <i>vār-</i> , Sgd. <i>wʔr /wār/</i> , Khw. <i>wʔr</i> , Kh. <i>bāra</i> , Psh. <i>wor</i> , Prt. <i>wʔrʔn /wārān/</i> , MP. <i>wʔrʔn^M, wʔlʔn^Z /wārān/</i> (Ch 406f)
			<i>bawm</i>				
	(<i>abr</i> cloud)			<i>haur</i> <i>hawar</i>			Av. <i>aḡra-</i> rain cloud; OI. <i>abhrá-</i> (K 414)
					<i>lēi^F</i>		
					<i>šili^{Cy}</i>		from <i>šil</i> wet, raw (C 2, 316–17)
						<i>yāyer</i>	
66. red	<i>surx</i>	<i>surx</i>	<i>sur</i>	<i>suhr</i> <i>sūr, sōr</i> (K 119, 384)	<i>sor</i>	<i>sūr</i>	Av. <i>suxra-</i> , MP. <i>swhr^M swhl^Z /suhr/</i> , Os. <i>surx</i> Psh. <i>sūr</i> id., Kh. <i>suraa-</i> clean, OI. <i>šukr/lá-</i> white
	<i>qirmiz</i>			<i>šāmir</i> (K 309)			* <i>kʔmira-</i> (E 4, 391, 401): Sgd. <i>krmʔyr /karmir/</i> , <i>qyrmyr /kərmir/r</i> , Ygh. <i>kimir</i> , MP. <i>klmyr^Z /karmīr/</i> ; MP. > Arm. <i>karmir</i> red; cf. Kro-raina <i>kremeru-</i> red (B 435) : * <i>kʔmi-</i> worm
67. road	<i>rāh</i>	<i>roh</i>	<i>re</i>	<i>rāh</i> (K 377)	<i>rê</i> <i>rêga</i> : <i>ga</i> place (C 2, 203)	<i>rāy</i>	* <i>rāθīa-</i> : <i>raḡa-</i> carriage; cf. Av. <i>raʔθīia-</i> path, MP. <i>rʔh^M, lʔs^Z /rāh/</i> , Prt. <i>rʔh /rāh/</i> , Sgd. <i>rʔḡ(h), rʔθ /rāθ/</i> id.
				<i>dag^{Gi}</i>			< Sindhi <i>dagu</i> (Gi 563)
68. root	<i>bāx</i>	<i>bex</i>					* <i>uajx-</i> : Sgd. <i>wyḡ(h), wyx /wēx, wix/</i> , Kh. <i>bā(ga)</i> , <i>bāta-</i> , <i>bāvā-</i> , Prt. <i>wyx /wēx/</i> (Mo ₀₃ 93)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
		<i>reša</i>	<i>riš-ε</i>		<i>rīšt</i> : <i>rī(h)</i> beard < * <i>rajša-</i>	<i>rīče</i>	MP. <i>lyšk^z /rēšag/</i> root : <i>lyš /rēš/</i> beard (MC 71–72; C 2, 211–13; H 142)
				<i>rōtag</i>			Av. <i>uruθa-</i> growth (K 165)
				<i>gužg</i>			* <i>užzaka-</i> (K 132)
				<i>bun</i>			< P. <i>bun</i> root, trunk of tree, MP. <i>wn /wan/</i> , Bal. <i>gwan</i> pistacchio; OI. <i>ván(a)-</i> (K 299, 356) or < P. <i>bun</i> root?
				<i>pár^{Gi}</i>			< Sindhi <i>pāra</i> (Gi 566)
					<i>binī^F</i> (also “bottom”)		* <i>bunā-</i> bottom (E 2, 186–89); cf. Cl. P. <i>bun</i> root, base, MP. <i>bwn /bun/</i>
					<i>kok</i>		< Trk. <i>kök</i> id.
69. round	<i>gird</i>	<i>gird</i>	<i>gerd</i>	<i>gird^{Co}</i> (K 396)			MP. <i>gyrd^M, gl^z /gird/</i> < * <i>gar-</i> turn, wind (Ch 104–05)
		<i>lūnda</i>					
				<i>golána^{Gi}</i>			< Hindi (Gi 567)
					<i>girover</i> <i>gilol</i> <i>gilover</i> <i>gulover^F</i>	<i>gilovar</i> <i>gūlar</i>	from <i>gul(l)a</i> ball < Trk. <i>gülle</i> < P. <i>gulūle</i> ball; cf. also Arm. <i>kālor</i> round (C 1, 401–02; H 207)
					<i>tije, tijī</i>		
						<i>tekele</i>	
70. sand	<i>šin</i>		<i>šend</i>				
	<i>mās(s)a</i>						
	<i>rīg</i> (H 142)	<i>reg</i>	<i>rik</i>	<i>rēk/ rīk</i>	<i>rīk</i>		cf. OI. <i>√ri</i> flow (K 78, 379: inherited?; cf. H 142)
				<i>six</i>			* <i>sikā-</i> : OP. <i>θikā-</i> (B 425)
					<i>xīz</i>		cf. Arm. <i>xič</i> gravel (C 2, 480)
					<i>qūm</i>	<i>qūm</i>	
71. say	<i>guftan</i>	<i>guftan</i>		<i>gov-/gopt</i>	<i>gotin</i>		* <i>gaub-</i> say: OP. <i>gaup-</i> call, MP. <i>gwb-</i> say, Sgd. <i>γwβ-</i> praise, Khw. <i>γwβ(y)-</i> , Bc. <i>γoβ-</i> invoke (Ch 113; K 264, 400)
			<i>vawž</i>	<i>gwaš-</i> (K 397)		<i>vātiš</i>	* <i>uač-</i> say, speak: Av. <i>vāc-</i> , MP. <i>w’c</i> speech, Prt. <i>w’c-</i> say, Sgd. <i>wxs-</i> , Khw. <i>ws-</i> (Ch 402–04)
72. see	<i>(dīdan) :</i> <i>bīn</i>	<i>(didan) :</i> <i>bin</i>	<i>vin</i>	<i>gind-</i> (K 79)			* <i>uai(H)n-</i> : Av. <i>vaēn-</i> , Sgd. <i>wyn-</i> / <i>wēn-</i> /, Khw. <i>wyn-</i> , <i>āvīda-</i> he sees < * <i>ā-vīnda-</i> , Bc. <i>o(i)ηv-</i> , <i>ov-</i> , Prt. <i>wy(y)n-</i> / <i>wēn-</i> /, MP. <i>wy(y)n^{M,Z}</i> / <i>wēn-</i> /; OI. <i>ven-</i> look for (Ch 412–13)
	<i>dīdan :</i> <i>(bīn)</i>	<i>didan :</i> <i>(bin)</i>	<i>-dia</i>	<i>dūt</i> (past)	<i>dītīn</i>	<i>dītīš</i>	* <i>daiH-</i> : Av. <i>dīta-</i> , Prt. <i>dyd</i> , MP. <i>dyd, dyt</i> ; OI. <i>dhītá-</i> (K 79, 375)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
73. seed	<i>tuxm</i>	<i>tuxm</i>	<i>tum</i>	<i>tōm, tūm</i> <i>tuhm</i> (K 115–16, 366)	<i>tov</i> <i>toxim</i>	<i>tumi</i>	* <i>tauxman-</i> : Av. <i>taoxman-</i> , Sgd. <i>tym, txm /təxm/, twxmy /tu/oxmē/, Kh. tīman-</i> , Bc. <i>τοχμavo</i> , Prt. <i>twxm /tōxm/, MP. twhm(g)^M, twm^Z /tōhm(ag)/ (C 2, 356)</i>
				<i>bū</i>	<i>bizir</i>		< Sindhi <i>bīju</i> (K 187)
					<i>dendik</i>		
					<i>dol</i>		
					<i>avik</i>		
74. sit	<i>nišastan</i> : <i>nišīn</i>	<i>nišastan</i>	<i>nesten</i> <i>ner-</i>	<i>nind-</i> / <i>ništ, nist</i> (K 409)	<i>nīštin</i> <i>rūništin</i> sit down < * <i>frava-</i> <i>ta-ni-šad-</i> <i>ta-</i> (C 2, 222)	<i>nāyiš</i>	* <i>ni-šizd/šād-</i> : * <i>had-</i> id. Av. <i>nišhiδ^o</i> : <i>nišāδ^o</i> : <i>hiδ-</i> sit (down), Sgd. <i>n(y)st- /nist/, nyδ- /ni-hīda/, Y gh. nid, nīs-</i> <i>ta</i> , Khw. <i>nyθ</i> < * <i>ni-hida-</i> , Kh. <i>nāšgd-</i> < * <i>ni-šādaya-</i> , Prt., MP. ^M <i>nšyd- /nišīd-</i> , P. <i>nišastan/nišīn-</i> (Ch 126)
		<i>šištan</i>					
75. skin	<i>čarm</i>	<i>čarm</i>	<i>čarm</i>		<i>čerm</i> <i>čarm</i>	<i>čerm</i>	cf. Av. <i>čarəman-</i> , OP. <i>čar-</i> <i>man-</i> , Sgd. <i>crmyh</i> , Khw. <i>crm, črm, jrm</i> , Kh. <i>tcārma</i> , Os. <i>car</i> , MP. <i>crm^M, clm^Z /čarm/ (Bi 268; C 1, 250)</i>
	<i>pūst</i>	<i>pūst</i>	<i>puost</i>	<i>pōst</i> (K 288)	<i>post^F</i> (H 74: Ku. < P.)	<i>poste</i>	* <i>paṃstā</i> (R 104) – also “bark”: Sgd. <i>pwst(h) /pōst/, MP. pwst^{MZ} /pōst/, P. pōst</i> id. (H 75); cf. * <i>paus-</i> dress, cover (Ch 303)
				<i>č^hill</i>			< Sindhi (K 288)
				<i>sil</i>			< Brahui (K 288)
					<i>eyar</i>		
					<i>mešk</i>		
					<i>qalik</i>		
76. sleep	<i>xuftan</i> <i>xwābīdan</i>	<i>xobidan</i>	<i>xos</i>	<i>wāb</i> (K 123: < P. or <i>-b</i> assimilated after P.)	<i>xewīn</i> <i>xaftīn</i> (C 2, 444, 457)	<i>witiš</i>	* <i>h₂ap/f-</i> ; cf. Av. <i>hufsa-</i> , Sgd. <i>wβs-, w'βs- /ufs, ōfs/, Y gh. ūfs, Kh. hūs, Prt. xwsp- /xusp-, MP. hwptn^Z /xuft/, hwps^Z /xuft/ (Ch 145–47)</i>
				<i>aks-/</i> <i>akast^h-</i>			(K 178)
					<i>razan</i>		
					<i>nivīn</i>		* <i>ni-pad-</i> (C 2, 46)
					<i>raketin</i>	<i>rā-kewtiš</i>	
77. small	<i>kūčak</i>						MP. <i>kwc(k)^Z /kūča(k)/ id.</i>
	<i>kūtah</i>	(<i>kūtoh</i> short)					MP. <i>qwdk^M, kwtk^Z /kōdak/, *kauta-ka-</i> Av. <i>kutaka-</i> (E 4, 382)
	<i>kam</i>			(<i>kam(m)</i> few, little)			MP. <i>kmb^M, km^Z /kam(b)/, Prt. k/qmbyg /kambīg/, Av. kamna-</i> < * <i>kamb-na-</i> (E 4, 193f; K 393)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
	(<i>xurd</i>)	<i>xurd</i>	<i>xerte</i>		<i>hûr^F</i>	<i>werdî</i>	(C 1, 449)
	<i>rîza</i>						* <i>ranj-</i> : Av. <i>rəñjiih-</i> comp. light, Sgd. <i>rynczk /rinčik/</i> , Khw. <i>rnč</i> light, Kh. <i>raysga-</i> light, swift, Psh. <i>rangai</i> , Prt. <i>rngs /rangas/</i>
		<i>mayda</i>					
			<i>kas</i>	<i>kasān</i>		<i>qiž</i>	Av. <i>kasu-</i> , Sgd. <i>*ks-</i> /(<i>ə</i>) <i>kasē</i> ; Av. comp. <i>kasiih-</i> , MP. <i>kyh^M</i> , <i>ks^Z /keh/</i> , P. lit. <i>kih</i> ; Av. sup. <i>kasišta-</i> , MP. <i>ksst /kahist/</i> , Prt. <i>ksyšt /kasišt/</i> , Bc. <i>κισατο</i> (E 4, 331–37)
			<i>qenar</i>				
					<i>biçûk, p^o</i>		
					<i>çû(ç)ik</i>		
					<i>hindik^F</i>		
						<i>šenik</i>	
78. smoke n.	<i>dūd</i>	<i>dud</i>	<i>dūyī</i>	<i>dū(t)</i>	<i>dū m.</i> <i>dūman^F f.</i>	<i>dūy</i>	* <i>dūta-</i> : Khw. <i>δwd</i> , Prt. <i>dwd /dūd/</i> , MP. <i>dwt^Z</i> , <i>dwd^M /dūd/</i> (R 94; Ch 68; SK 164; C 1, 334)
79. stand	<i>īstādan</i>	<i>istodan</i>	<i>št i</i>	<i>ust-/ustāt- ušt-/uštāt- ōšt-/oštāt- < *aṣa- staH-</i> (K 349, 351)	(westa tired)		* <i>staH-</i> : Av. <i>stā-</i> id., set, Kh. <i>štā-</i> , Prt. <i>‘(y)št- /išt-/</i> , MP. <i>‘yst-’dn^M ‘st’ m^Z /ēstādan/</i> , cf. Bc. <i>stado</i> entstand (Ch 358–61)
					<i>sekin(în)</i>		< Ar. <i>sakana</i> be contented
						<i>vinderdiš</i>	
80. star	<i>sitāra</i>	<i>sitora</i>	<i>setawre</i>	<i>istār istāl E astār (K 349)</i>	<i>stêr(k) steîrk^F</i>	<i>āstāra</i>	* <i>stāraka-</i> : Sgd. <i>‘st’r’k</i> , <i>‘stry /(<i>ə</i>)stārē/</i> , Khw. <i>‘st’rk</i> , Kh. <i>stāraa-</i> , Psh. <i>stōrai</i> , Orm. <i>starrak</i> , Prt. <i>‘st’rg /astārag/</i> , MP. <i>‘st’rg^M</i> , <i>st’lk^Z /(<i>i</i>)stārag/</i> , <i>‘str^M /astar/</i> , <i>stl /star/</i> , vs. Av. <i>star-</i> (C 2, 280)
81. stone	<i>sang</i>	<i>sang</i>	<i>sang</i>	<i>sang, sing (K 139, 194)</i>	<i>seng</i>		* <i>ašanga-</i> : Av. <i>asənga-</i> , Sgd. <i>sng, snk, snq /sang/</i> Khw. <i>snk</i> , Kh. <i>saṃgga-</i> , Bc. <i>asage</i> , Prt. <i>‘sn(n)g /asang/</i> , MP. <i>sng^Z</i> (R 47; E 1, 238–39)
			<i>serε</i>				
	(Cl. <i>kamar</i> s., slope)				<i>kevir</i>		* <i>kamarā-</i> : cf. Sang. <i>kamar</i> mountain, Gurani <i>kamar</i> slope of mountain (C 1, 510–11; E 4, 192)
					<i>kuç</i>		
					<i>ber(d)^F</i>		* <i>ūarta-</i> : Kh. <i>gaḍā</i> id., P. <i>lāza-ward</i> lapis lazuli (B 78; C 1, 118)
						<i>ṣī</i>	

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
82. sun	<i>xuršīd</i>		<i>xor</i>				* <i>h(u)uar-/h(u)uan-</i> : Av. <i>huuarə / x'an-</i> , Sgd. <i>ywr</i> ; <i>xwr / xwar</i> /, / <i>xur</i> /, <i>ywy</i> ; <i>xwyr / xuwər</i> /, / <i>xōyr</i> /, Khw. <i>'x(y)r</i> , <i>xyr</i> , MP. <i>xwr^M</i> , <i>hw^L</i> / <i>xwar</i> / (E 3, 438f)
	<i>āftāb</i>	<i>oftob</i>	<i>xor-tow</i>		<i>tav = tev^F</i> <i>hatāv</i>		(* <i>abi-</i>)* <i>tap-</i> heat (Ch 378–80; C 2, 350, 426)
	<i>ruz</i>		(<i>rōč</i> day)	<i>rōč</i> sun, day	<i>roj = ro^F</i> <i>rō(ž)</i>	<i>rož</i>	Av. <i>raočah-</i> , OP. <i>raučah-</i> , Prt. <i>rōž</i> (K 378; C 2, 217–18)
83. swim	<i>šinā k.</i> <i>šināvarī k.</i> <i>šinā</i> <i>dādan</i>	<i>šino</i> or <i>šinovarī</i> <i>kardan</i>	<i>senov-xuor</i>		<i>ajnaberī</i> <i>kirin</i>	<i>āzne</i> swimming	* <i>snaH-</i> : Sgd. <i>sn'y-</i> wash, bathe / <i>snāy</i> /, Yagh. <i>sinōy</i> , Os. <i>najun</i> swim, Prt. <i>sn'c</i> / <i>snāž-</i> /, MP. <i>'sn'z^M</i> , <i>šn'c-yt-n^Z</i> / <i>išnāz-</i> /; * <i>fra-snāja-</i> : Sgd. <i>fsn'y-</i> / <i>f(a)snāy</i> /, Kh. <i>haysnāta-</i> washed (Ch 348)
				<i>tar-/taraθ-</i>			< Sindhi <i>taraṇu-</i> (K 150)
					<i>sovekarī^F</i>		
84. tail	<i>dum</i> <i>dumba</i>	<i>dum</i>	<i>duombe</i>	<i>dumb</i> <i>dunbag</i>	<i>dūv</i>	(<i>dim</i> beyond)	* <i>dumba-(ka-)</i> (E 2, 479f): Av. <i>duma-</i> , Sgd. <i>δwm(ph)</i> / <i>δum(b)</i> /, Khw. <i>δwm</i> , Kh. <i>dumaa-</i> , Os. <i>dumāg</i> , Prt. <i>dwmb</i> / <i>dumb</i> /, MP. <i>dwmbg^M</i> , <i>dwmb^Z</i> / <i>dumb(ag)</i> / (C 1, 336)
					<i>boç</i>	<i>poç</i>	cf. Kh. <i>baicakama</i> id. or from Tk. <i>bāčkām</i> silk or antelope tail banner (B 302; SK 96)
					<i>dēl</i>		< Ar. <i>dayl</i> id. (C 1, 302)
					<i>terī</i>		
85. that .	<i>ān</i>	<i>on</i>	<i>nehuon</i>	<i>ān</i> (K 346) <i>ā</i> , obl. pl. <i>āwān/ -y-</i> (K 102, 344, 347)	<i>av/aw/ew</i> <i>wa(ya)</i> <i>wē</i> (C 1, 36)	<i>o</i> obl. <i>ey</i>	MP: <i>h'n^M/hān/</i> , <i>'n^Z/ān/</i> < * <i>hāy-an(i)a-</i> : Av. <i>hāu-</i> ; * <i>aūa-</i> : OP. <i>ava-</i> , Av. <i>auua-</i> ; acc. OP. <i>avam</i> , Av. <i>aom</i> , Sgd. <i>w- /ō, ũ/ ww / (a)wu/</i> , Bc. <i>oo</i> (E 1, 274–75)
			<i>nacic</i>				
86. this	<i>īn</i>	<i>in</i>	<i>yuon</i>	<i>īn</i> (K 352)		<i>no</i> m. obl. <i>ney</i>	* <i>a/ījam</i> : OP. <i>īyam</i> , Av. <i>aiīēm</i> , Sgd. <i>'m' /əma/</i> , <i>yw /yu/</i> , Kh. <i>ma-</i> , <i>mai</i> , <i>mū</i> , Bc. <i>eiμo</i> , <i>amo</i> , (<i>i</i>) <i>eiō</i> , Prt. <i>'ym /im/</i> , MP. <i>'ym^M</i> , <i>'m^Z /im/</i> ; OI. <i>ayām</i> ; acc. * <i>imam</i> : Av. <i>iməm</i> , OP. <i>imam</i> , Sgd. <i>mw /mu/</i> ; OI. <i>imám</i> (SK 433; E 1, 103–05)
			<i>amin</i>				
				<i>ē, ēš</i>			Av. <i>aēša-</i> , OI. <i>ešá-</i> (K 352)
					<i>ev(a)</i> <i>ew(a)^F</i>		* <i>aūa-</i> contaminated with the acc. * <i>imam</i> (C 1, 36)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
87. thou	<i>tu</i>	<i>tu</i>	<i>to</i>	<i>tau, tō</i> ; cf. Av. gen. <i>tauua</i>	<i>tu, te</i>	<i>ti</i> obl. <i>to</i>	* <i>tū</i> / * <i>tuṃam</i> : Av. <i>tū</i> / <i>tuuōm</i> , OP. <i>tuvam</i> , Sgd. <i>tyw /t(ə)xu/</i> , <i>tw /tō/</i> , Khw. <i>(ʷ)tk</i> , Kh. <i>thu</i> , Bc. <i>to(o)</i> <i>t</i> , <i>toovo</i> , Prt., MP ^M <i>tw /tū, tō/</i> , P. <i>tu</i>
88. tongue	<i>zabān</i>	<i>zabon</i>	<i>zebūn</i>	<i>zubān</i> <i>zabān</i> <i>zuwān</i>	<i>zimān</i> (C 2, 523)	<i>ziwān</i>	* <i>hižmā-(ka-)</i> : Av. <i>hizuuā-</i> , Sgd. <i>ʷbʷ(ʷ)k</i> , <i>zbʷk /t(ə)zβāk/</i> , Khw. <i>zβʷk</i> , <i>zʷk</i> , Kh. <i>bišā</i> , Os. <i>ævzag</i> , Prt. <i>ʷbʷn /izβān/</i> , MP. <i>ʷwʷn^M /izwān/</i> , <i>ʷwzʷn^Z /uzwān/</i> (E 3, 403–05)
				<i>lil(l)ik</i>			< Sindhi (K 402)
89. tooth	<i>dandān</i>	<i>dandon</i>	<i>dannuon</i>	<i>dantān</i> <i>dattān</i> <i>daθān</i> (K 372, 374)	<i>didan</i> <i>diran</i>	<i>dindān</i>	* <i>danta-(ka-)</i> : Av. <i>dātā-</i> & <i>dantan-</i> , Sgd. <i>δntʷ (k) /δandā(k)/</i> , Ygh. <i>dindak</i> , Kh. <i>dandaa-</i> , Os. <i>dændag</i> , Prt., MP ^{M,Z} <i>dndʷn /dandān/</i> (E 2, 329–331; SK 154–55)
90. tree	<i>daraxt</i>	<i>daraxt</i>		<i>dračk</i> < * <i>drajaka-</i> (K 166, 189)			MP. <i>drxt^M</i> , <i>dlʷh^Z /draxt/</i> , Prt. <i>drxt /draxt/</i> (E 2, 456; H 121) – Av. <i>draxta-</i> : <i>drang-</i> make firm
			<i>dawr</i> <i>dor</i>		<i>dār</i>	<i>dār</i>	* <i>dāru-(ka-)</i> : Av. <i>dāuru-</i> stem of tree, wood, Prt. <i>dʷlwg /dālūg/</i> , MP. <i>dʷrw^M /dāru/</i> , <i>dʷl^Z /dār/</i> id., tree (E 2, 358; H 116)
		<i>čūb</i>					Tk.?
91. two	<i>du</i>	<i>du</i>	<i>du</i>	<i>dō, du</i> (K 374)	<i>du</i> <i>dido</i> <i>dudi</i> <i>dudu</i>	<i>di</i> <i>didi</i>	* <i>duua-</i> > Av. <i>duua-</i> , Sgd. <i>ʷdw /t(ə)δwa/</i> , <i>δwʷ /δwā/</i> , Khw. <i>(ʷ)δw</i> , <i>ʷδyw</i> , Kh. <i>duva</i> , <i>dva</i> , Bc. <i>loo(i)</i> , <i>loi</i> , <i>dbo</i> , Prt., MP ^M <i>dw /dō/</i> (E 2, 482)
92. walk	<i>raftan</i>	<i>raftan</i>		<i>raw-/rapt-</i>			(K 377)
	<i>(šudan / šaw- become)</i>		<i>bešetan</i>	<i>šut</i> (past) (K 386)	<i>čūin^F</i> <i>čūyīn</i> (C 1, 246)	<i>šīyāyīš</i>	* <i>čīau-</i> : Av. <i>šīiau-</i> , OP. <i>š(i) yava-</i> , Sgd. <i>šw-/šaw/</i> , Kh. <i>tsa-</i> , <i>tsv-</i> , Tm. <i>ccha-</i> , Bc. <i>ḥao(i)-</i> , Prt. <i>šw- /šaw-/</i> , MP. <i>šw-(dn)^M</i> , <i>šwb-^Z /šaw-/</i> ; OI. <i>cyav-</i> (Ch 41; SK 139; R 125)
			<i>vegard</i> <i>dēgard</i> <i>dawr</i>		<i>gerīn^F</i>	<i>(gayr turn)</i>	* <i>ḡart-</i> (C 1, 372)
					<i>mešīn</i>		< Ar. <i>mašy</i> march (C 1, 622)
93. warm	<i>garm</i>	<i>garm</i>	<i>garm</i>	<i>garm^{Gi}</i> (cf. K 252, 396)	<i>germ</i> <i>garm</i> (C 1, 370–71)	<i>germ</i>	* <i>garma-</i> : * <i>gar-</i> heat > Av. <i>garəma-</i> , OP. <i>garma-</i> , Sgd. <i>γrm /γarm/</i> , Khw. <i>γrmd</i> , Kh. <i>garma-</i> , <i>grāma</i> , Sgl. <i>γōrm</i> , Srk. <i>žūrm</i> , Prt. <i>grm /garm/</i> , MP. <i>grm^M</i> , <i>glm^Z /garm/</i> (Ch 105; E 3, 162)

	Persian	Tajik	Sangisari	Baluchi	Kurdish	Zazaki	etymological comments
					<i>kel^F</i>		cf. Ku. <i>kal</i> boiling, warmth (C 1, 530)
94. water	<i>āb</i>	<i>ob</i>	<i>ov</i>	<i>āp, yāp, āf</i> (K 344)	<i>av</i>	<i>āw</i>	* <i>āp-/ap-(a-ka-)</i> (E 1, 311f; SK 432): Av. <i>āp-</i> , Sgd. <i>’p, ’p, ’b /āp, āβ/</i> , Khw. <i>*’b, Kh. ū, ūtca < *apačā-</i> , Bc. <i>αββo</i> , Prt. <i>’b /āb/</i> , MP. <i>’b^M, ’p^Z /āb/</i> (C 1, 94)
95. we	<i>mā</i>	<i>mo</i>	<i>ham</i>	<i>am(m)ā</i> (<i>am</i>) <i>mā</i> cf. Av. <i>ahma-</i> (K 333, 350)	<i>me, em</i>	<i>mā</i>	gen. <i>*ahmākam</i> > Av. <i>ahmākam</i> , OP. <i>amāxam</i> , Sgd. <i>m’γ(w), m’x /māx(u)/</i> , Kh. <i>buhu, muhu, maha</i> , Bc. <i>αμoχο</i> , Prt. <i>’m’(h) /amāh/</i> , MP. <i>’m’(h)^M /amāh/</i> , dat. <i>*ahmabjā</i> > Av. <i>ahmaibjā</i> , Khw. <i>mβy</i>
96. what	<i>če, či</i>	<i>čī</i>	<i>ce</i>	<i>čē, čī</i> (K 371)	<i>či</i>	<i>či</i> <i>čiči</i>	nom.-acc. ntr. <i>*čīt > čit</i> acc. <i>*čim > Av. čīm</i> gen. <i>*čahjā > čahiiā</i> Sgd. <i>’cw / (ə)čū/, cw /čū/</i> Khw. <i>’c(y), c</i> , Kh. <i>ci, cā, cu</i> , Prt. <i>cy, tšy /če, čē/</i> , MP. <i>cy^M /če, čē/</i> (C 1, 235)
97. white	<i>safīd</i> (R 129, 202)	<i>safed</i>	<i>espi</i>	<i>s(i)pēt</i> <i>ispēt</i> <i>aspēt</i> <i>safēθ</i> (K 349, 382)	<i>s(i)pī</i>	<i>sipī</i>	* <i>šūaita-</i> (R 95, 129) Av. <i>spaēta-</i> , Sgd. <i>’sp’yt /əspēt/, sp(y)ty /spētē/</i> , Khw. <i>sbydyk, spydyk</i> , Kh. <i>ššīta-</i> , Prt. <i>’spyd /ispēd/</i> , MP. <i>’sp- yd^M, spy^Z / (i)spēd/</i> (C 2, 278)
98. who	<i>ki</i>	<i>kī</i>	<i>ki</i>	<i>kai</i>	<i>kī, kē</i> (C 1, 556)	<i>kam</i> obl. <i>kē</i>	gen. <i>*kahjā > Av. kahiiā</i> , Sgd. <i>’ky / (ə)kē/, ky /kē/, ky(y)’ /kyā/</i> , Khw. <i>’ky</i> , Kh. <i>ce, kye</i> , Bc. <i>ka</i> , Prt., MP. ^M <i>ky, qy /kē/</i> (R 94; K 394)
99. woman	<i>zan</i>	<i>zan</i>	<i>žaen</i> pl. <i>žinni</i>	<i>jan</i> (K 368)	<i>jīn = žin</i> <i>jīnik</i> (C 2, 534)	<i>jīnēk</i>	* <i>janī-(ka-)</i> : Av. <i>jāni-, jaini-</i> , Bc. <i>čivo</i> , Prt. <i>jīn /zan/</i> , MP. <i>zn^{M,Z} /zan/</i> (E 4, 141f)
				<i>zāl</i>			cf. Av. <i>zarəta-</i> old (K 379)
					<i>pīrek</i>		cf. <i>pīr</i> old man < <i>*parūia-</i> first (C 2, 119)
100. yellow	<i>zard</i>	<i>zard</i>	<i>zard</i>	<i>zard</i> <i>zarō</i> (K 380)	<i>zer</i> (C 2, 510)	<i>zard</i>	* <i>zarita-</i> : Av. <i>zairita-</i> , Sgd. <i>zyrt’k /zērtē/</i> , Ygh. <i>zērtā</i> , Khw. <i>zrd(y)k</i> , Kh. <i>ysīdai</i> , f. <i>ysīca-, ysarūna-</i> id., red, MP. <i>zlt^Z /zard/</i> (R 151; H 656; SK 435; C 2, 510)
					<i>qīčik^F</i>		< Trk. <i>qīči</i> mustard (C 2, 168)

Modern Persian: Osmanov et al. 1970; Ovčinnikova et al. 1965; Phillott 1914;

Tajik: Arzumanov et al. 1957; Arzumanov et al. 1985; Raxmini et al. 1954;

Sangisari: Azami & Windfuhr 1972 (*DS*).

Baluchi: Collett 1983, Gilbertson 1925, Korn 2005;

Kurdic Kurmanji: Cabolov 2001–2010, Farizov 1957, Rizgar 1993;

Zazaki: Paul 1998.

Wordlist 5: Middle Iranian

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
1. all	<i>wysp^M</i> <i>wsp^Z /wisp/</i>	<i>wysp</i> <i>/wisp/</i>	<i>wysp-</i> <i>/wisp/</i>	⁽¹⁾ <i>wsp</i>	<i>biś(ś)a-</i>	<i>οισπο</i>	* <i>uisya-</i> : Av. <i>vispa-</i> OI. <i>viśva-</i>
	<i>hrw^M, hl^Z</i> <i>/harw/</i> <i>hrwysp^M</i> <i>hlwysp^Z</i> <i>/harwisp/</i>	<i>hrw /harw/</i>			<i>harbiśśa-</i>	<i>vapov)yo</i> * <i>harwaka-</i>	Av. <i>hauruua-</i> , P. <i>har</i> * <i>harua-uisya-</i>
	<i>hm^g^M</i> <i>hm^k^Z</i> <i>/hamāg/</i> <i>h^m^g^M</i> <i>/hāmāg/</i>	<i>hm^g</i> <i>/hamāg/</i> <i>h^m^g^{MB}</i> <i>/hāmāg/</i>	⁽¹⁾ <i>my^gwn</i> <i>/maγōn/</i>		<i>hama-</i>		* <i>hamā-(ka-)</i> Av. <i>hāma-</i> , <i>hama-</i> OP. <i>hama-</i> * <i>hama-gauna-</i>
			<i>ny^tk</i> , <i>ny^ty</i> <i>/anyatē/</i>				* <i>ham-gata-(ka-)</i> > Av. <i>həzgata-</i> quite, OP. <i>hagma-</i> <i>ta-</i> , Prt. <i>angadag</i> full, rich, Khw. <i>ngd</i> complete, fin- ished, Os. <i>ænyæd</i> enough (E 3, 131)
			<i>ny^ty /ayātē/</i>				
			<i>s^t /sāt/</i>				
			<i>sywtmⁿ</i> <i>/sayutmān/</i>				
					<i>pana</i> pl.		* <i>patina</i> ; Os. <i>fæjnæ</i> every
2. ashes	<i>dwrystr^M</i> <i>twrystr^Z</i> <i>/ādurestar/</i>	0	<i>ś k(w)</i> , <i>šy</i> <i>/āšē/</i>	<i>fy^rdrc /abi-</i> <i>ātarakā/</i> in hot ashes	<i>āhāra-</i> <i>herā</i>	0	* <i>āt/θrja-</i> : Av. <i>ātriia-</i> * <i>ātaraka-</i> & * <i>āθraka-</i>
				⁽¹⁾ <i>xθrk</i>			Shug. <i>šarθk</i> building clay
			<i>(γws^gynch</i> <i>/xusēnč/</i> ashy)	<i>xws</i>			
3. bark	<i>pwst^{M,Z}</i> <i>/pōst/</i>	0	0			0	cf. "skin"
	<i>twc^Z bark,</i> <i>skin /tōz/</i>						P. <i>tōz</i>
				<i>mSk</i>			
					<i>dalaa-</i>		OI. <i>dālati</i> splits
4. belly	<i>šk/qmb^M</i> <i>/iškamb/</i>	<i>šk/qmb</i> <i>/iškamb/</i>				0	
	<i>prwdg^M /?/</i>						cf. MP. <i>prw(w)d</i> , <i>frwd</i> adv. down
	<i>mw^ln^Z</i> <i>/mulān/^{dacv}</i>						
			<i>kδ^rk</i> , <i>qθ^rry</i> <i>/kaδ/θārē//</i>				
				<i>wōyr</i> , <i>δr-</i> <i>/uδīr/</i>	<i>ūra-</i> , <i>ura-</i>		* <i>udara-</i> : Av. <i>udara-</i>
					<i>garba-</i>		* <i>garba-</i> (E 3, 188) Av. <i>garāβa-</i> uterus OI. <i>gārbha-</i> id.

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
					<i>aha, ahva-</i>		cf. OP. <i>afivā-</i> fear, OI. <i>āpvā-</i>
					<i>jsahāra-</i>		* <i>jarθāra-</i> ; OI. <i>jaθhāra-</i> id. : <i>jartū-</i> womb
					<i>vāna-</i>		Wkh. <i>wanj</i> id. < * <i>vaničā</i> Lat. <i>venter</i> , OHG <i>wanast</i>
5. big			<i>mz'γγ(h)</i> /mazēx/		(<i>maysirka-</i> large, great < * <i>mazar-</i> <i>ka-</i>)		cf. Av. <i>maziiah-</i>
	<i>wzrg^M</i> <i>wc(w)lg^Z</i> /wuzurg/	<i>wzrg</i> /wuzurg/	<i>wz'rk</i> /wazark/		(<i>bīysirka-</i> great, huge)	<i>oazorko</i>	cf. OP <i>vazrka-</i> P. <i>buzurg</i> id. (H 49–50)
	<i>stpl^L</i> /stabr/			(¹) <i>stnb,</i> ² <i>styb</i>			P. <i>sitabr</i> strong, Av. <i>staβra-</i> id. (H 158)
		<i>kl'n, ql'n</i> /kalān/		<i>kl'n</i>			* <i>kat(t)āna-</i> (E 3, 348f) > P. <i>kalān</i>
			(<i>msy'tr</i> /masyātar/ higher)	<i>ms</i>	<i>māsta-</i>		Av. <i>mas-</i> Av. <i>masit(a)-</i>
6. bird	<i>mwrw^M</i> <i>mwlw^Z</i> /murw/	<i>mwrḡ</i> /murḡ/	(¹) <i>mṛγ</i> /mṛy, (ə) <i>mṛḡ</i> /	(¹) <i>mṛ</i>	<i>mura-</i>	0	* <i>mṛga-</i> : Av. <i>mərəḡa-</i>
	<i>w'd^L</i> /way/						Av. <i>vaii-</i> bird, OI. <i>vi-</i>
			<i>βrwx'n'k</i> /frawa- zānē/				
7. bite	<i>gz-ytn, gc^Z</i> /gaz-īdan/	<i>gz-</i> /gaz-/				0	* <i>gaz-</i> id. (Ch 117) P. <i>gazīdan</i> id.
				<i>by'h-</i>			* <i>apa-</i> + * <i>gah-</i> to gorge (Ch 93)
			<i>jβ-, zyβ</i> /žə/iβ/				* <i>jiauH-</i> “to chew” (Ch 226)
8. black	<i>sy'w^M</i> /syāw/ <i>syd^Z</i> /syā/	<i>sy'w</i> /syāw/	<i>š'w, šw</i> /šāw, šow/	<i>s'w</i>		0	Av. <i>siiāuua-</i> , Ygh <i>šōw</i> Os. <i>šāu</i> , P. <i>siyāh</i>
					<i>haryāsa-</i>		* <i>hari-kāsa-</i> with dark appearance; Av. <i>harəta-</i> , <i>harəda-</i> red, Os. <i>xæræ</i> dark
9. blood	<i>xwn^M</i> <i>hwn^Z</i> /xōn/	<i>gwxn</i> /goxan/	<i>γwrn-</i> /xurn/ <i>wγrn-</i> /wuxr̄n/ <i>γγwn(w)</i> /y(ə)xun(u)/ <i>γwxn-</i> /yuxn/	<i>hwny</i> pl. /hūnī/	<i>hūnā</i>	0	Av. <i>vohuna-</i> , P. <i>xūn</i> , Ygh. <i>waxin</i>
10. bone	¹ <i>st(g)^M</i> ² <i>stk^Z</i> /astag/ ³ <i>sth(w)'n^Z</i> /astuxān/	¹ <i>stg</i>	¹ <i>stk-</i> /əstak/ <i>stq-</i> / <i>(a)stē</i> /	¹ <i>st(y)k</i>	<i>āstaa-</i>	0	* <i>astaka-</i> > Av. <i>ast-</i> , Ygh. <i>sitak</i> , P. <i>hasta</i> P. <i>ustux^vān</i>
					<i>əhā</i>		Av. <i>aḡhaēna-</i> made of bone

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
11. breast	<i>wr^M</i> <i>wl^Z /war/</i>	0					Av. <i>varah-</i> id. P. <i>bar</i> , Bal. <i>gvar</i> (H 44)
	<i>pyst^{nZ}</i> <i>/pestān/</i>		<i>ʾštnh</i> <i>/āštana/</i>				cf. Av <i>fštāna-</i> P. <i>pestān</i>
	<i>syn(k)^Z</i> <i>/sēn(ag)/</i>						P. <i>sīn</i>
				<i>pʼz</i>		<i>παζο</i> face, breast	Sgd. <i>pāz</i> face, Os. <i>faz</i> side
					<i>tcījsa</i>		P. <i>čučū</i> , Sgl. <i>čičī</i>
					<i>drrūysi</i>		* <i>drauza-</i>
					<i>pārja</i>		* <i>par(a)č-</i> : Shug. <i>pārdz</i> , Yazg. <i>parak</i> flank
					<i>vatsa</i>		OI. <i>vāksas-</i> id.
12. burn	<i>dc-ytn^Z tr.</i> <i>/daz-īdan/</i>		<i>δγ-</i> / <i>δαγ/</i>		<i>dajs-</i> , <i>padajs-</i>	0	* <i>daj-</i> id.: YAv. <i>daž-</i> id. (Ch 53–54)
			<i>prōwt-</i> <i>/parδ/θūt/</i>				* <i>pari-</i> + * <i>dauH-</i> id. (Ch 68): cf. Sgd. <i>prδ w</i> <i>/parδāw/</i> or <i>/parθāw/</i> flame : Kh. <i>padav</i>
	<i>whš-ytn^Z</i> intr. <i>/waxšīdan/</i>	(<i>wxš-</i> grow; be kindled, blaze)					* <i>uaxš-</i> to grow; cf. MP. <i>whšyn-</i> to light a fire (Ch 428)
	<i>swc^{M,Z}</i> <i>/sōz/ intr.</i>	<i>swc-</i>	<i>swc-</i> / <i>sōč/</i> <i>swyt-</i> <i>/suγd/</i> <i>pt(y)s(ʿ)</i> <i>wc-</i> <i>/pat-sōč/</i>		<i>sūjs-</i>		* <i>sauč-</i> id.: Av. <i>saoc-</i> id., OI. <i>šoc-</i> to light, burn * <i>pati-</i> + * <i>sauč-</i> (Ch 338–339)
	<i>tp-in^Z tr.</i> <i>/taftan/</i> <i>tpytn^Z tr.</i> <i>/tābīdan/</i>	<i>tftg</i> <i>/taftag/</i> intr. <i>ptʼb-</i> <i>/pattāb-/</i> tr.	<i>tftʼy</i> <i>/taβdē/</i>	(<i>ttav-</i> be hot)			* <i>tap-</i> to warm up, heat: Av. <i>tap-</i> be hot P. <i>taftan</i> , <i>tābīdan</i> id., shine * <i>pati-</i> + * <i>tap-</i> (Ch 378f)
	<i>hʼw^M</i>	<i>hʼw-</i> <i>/hāw-/ tr.</i>					* <i>hau-</i> to scorch, burn (Ch 134–35)
		<i>bry-</i> / <i>biry-</i> , <i>briy-/ intr.</i>					* <i>bra(i)j-</i> roast, bake (Ch 23)
				<i>ʾβrʼz</i>			* <i>braHz-</i> shine, set on fire (Ch 21–22)
13. claw	<i>nʼhwn^Z</i> <i>/nāxun/</i>	0	<i>nʼxn</i> fin- gernail <i>/nāxa(un/)</i>	<i>nʼxn</i>	<i>nāhune</i> pl. fingernails		P. <i>nāxun</i> , Os. <i>nix</i> Yidgha <i>anaxno</i>
				<i>θw-</i>			
	<i>slwb^Z</i> <i>/srū/</i>			<i>šwk</i> <i>/šuwik/</i>		<i>ḥovo</i> fingernail	* <i>sruya-kā-</i> fingernail + horn > Av. <i>srū-</i> , <i>sruuā-</i>
					<i>šambajsa-</i>		* <i>čanga-</i> : P. <i>čang</i> claw, MP. <i>panč-čang</i> five-clawed
14. cloud	<i>myγ^Z</i> <i>/mēγ/</i>	<i>myg</i> / <i>mēγ/</i>	<i>myγ</i> / <i>mēγ/</i>			0	* <i>maiga-</i> : Av. <i>maēya-</i> , P. <i>mēγ</i> ; OI. <i>meghā-</i> (H 226)
	<i>ʾβr^M</i> , <i>ʾbl^Z</i> <i>/aβr/</i>	<i>bybr</i> <i>/bēβr/</i> (thick) c.	<i>prʼyβʼk</i> <i>pryβyy</i> <i>/pariβē/</i>	<i>bryβyk</i> , <i>byrβyk</i>	<i>pryaura</i> cf. <i>ora</i> sky < * <i>abra-</i>		* <i>pari-abra-ka-</i> cf. Av. <i>aβra-</i> id.

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
	<i>snwd</i> ^Z /snōy/						Av. <i>snaoða</i> - Gewölk
					<i>mūtīñā</i> pl.		Arm. <i>mout</i> * dark, a mist
15. cold	<i>srd</i> ^g ^M /sardāg/ <i>slt</i> ^Z /sard/	<i>srd</i> /sard/	<i>srt</i> /sart/ ʿnsʿrty /ansartē/	<i>srd</i>	<i>sāḍa</i> -	0	Av. <i>sarəta</i> -, Ygh. <i>sōrt</i> , P. <i>sard</i>
16. come	ʿmd ^M /āmad/	ʿ(ʿ)gd /āyad/	ʿʿyt- /āyat/		<i>ā</i> he came <i>āta</i>	<i>αγαδο</i>	* <i>gam</i> - > Av. <i>gam</i> - : * <i>ā-gata</i> - (Ch 98–101); P. <i>āmadan</i>
	ʿy- ^M /āy-/	ʿy(y)- /āy-/		yʿc!			* <i>Hai</i> - (Ch 154–57): Av. <i>aē</i> -, OP. <i>ay</i> - to go
		ʿ(ʿ)s- /ās-/	ʿʿys- /āis/	ʿs-	<i>hīs</i> - < * <i>fra-isa</i> - or *(h) <i>ā-isa</i> -	ʔηρσ- (or MMP <i>rs</i> - arrive)	* <i>Hai</i> - : * <i>ā-isa</i> -
	ʿwr- ^M imp. /awar-/	ʿwr- imp. /awar-/					* <i>ā-bar</i> - : * <i>bar</i> - bring (Ch 6–10)
		cʿm /čām-/ cm- (Ch)					* <i>čam</i> - to walk (Ch 32)
					<i>jjāštumā</i> I came		* <i>gaHz</i> - run: Yazg. <i>γaz</i> -, Osset <i>γazun</i> play (Ch 96)
17. die	<i>myr</i> - ^M / <i>mīr</i> -/ <i>mwrđ</i> ^M <i>mwltñ</i> ^Z /murdan/	<i>myr</i> - / <i>mīr</i> -/	<i>myr</i> - / <i>mir</i> -/	(ʿ)my-	<i>mar</i> -	<i>μρ</i> -	* <i>mar</i> -: YAv. <i>mar</i> - (Ch 264)
18. dog	<i>sg</i> ^{M,Z} /sag/	ʿspg /ispag/			<i>śve</i>		* <i>śuā</i> (n): Av. <i>spā</i> * <i>śuaka</i> -: Median σπᾱκα
			ʿkwt- /(<i>ə</i>) <i>kut</i> / <i>kwt/qwt</i> /kut/	ʿkt		<i>κοδο</i>	* <i>kuta</i> -/* <i>kuī</i> - (R 4, 413) Shug. <i>kud</i> , f. <i>kid</i>
19. drink	<i>cxš</i> - ^M /čaxš-/		<i>pcš</i> - /pati-čaxš-/				* <i>čaxš</i> - to drink, drip; taste (Ch 35–36)
	<i>hw</i> ʿl- <i>ytn</i> ^Z /xwārīdan/	<i>xw</i> ʿr- /xwār/ <i>wxr</i> - /wxar-/				<i>χοαρ</i> - = 23	* <i>hwar</i> - eat, consume (Ch 147); cf. #23 Av. <i>xʿar</i> -
			ʿšʿm- /āšām/ (Gh 279)	ʿsʿmy- <i>bs</i> ʿm-			* <i>čjam</i> - swallow (Ch 39– 40): P. <i>āšām</i> * <i>upa/apa-čjāma</i> -
					<i>khays</i> -		* <i>xaz</i> -: Prt. <i>xʿzʿd</i> / <i>xāzād</i> / devouring (B 72)
20. dry	<i>hwšk</i> ^{M,Z} /hušk/	<i>hwšk</i> /hušk/	ʿškw /(<i>ə</i>) <i>šku</i> / var. <i>škw</i> , <i>škw(y)</i>	ʿkk /hikuka-/	<i>huška</i> -	0	Av. <i>huška</i> - & <i>hi(š)ku</i> - Os. <i>xuskʿæ</i> , OI. <i>šuška</i> -
			<i>ptw</i> ʿty(y) /patwātē/				* <i>pati-uāī</i> -
21. ear	<i>gwš</i> ^{M,Z} /gōš/	<i>gwš</i> /gōš/	<i>γwš</i> /γōš/	<i>γwx</i>	<i>gū</i> , <i>gguvq</i> -	0	* <i>gauša</i> -: Av. <i>gaoša</i> -, OP. <i>gauša</i> -, P. <i>gōš</i> , Ku. <i>gūh</i> (H 210)
		ʿzγwlg /izγōlag/					cf. Prt. ʿzgw/ hear
22. earth	<i>bwm</i> ^{M,Z} /būm/		<i>βwmh</i> /būm/	<i>βwm</i> , <i>fwm</i>	(<i>būma</i> ground)		* <i>būmi</i> - Av., OP. <i>būmi</i> -, P. <i>būm</i> (H 54; R 2, 134)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
			z ^(ʼ) y /zāy/				cf. Ygh. <i>zoy</i> (AP 369)
			z ^ʼ yβwmh /zāy-βūm/				
	<i>zmyg</i> ^M <i>zmyk</i> ^Z /zamīg/	<i>zmyg</i> /zamīg/		z(y)m	<i>uysmä</i> * <i>ysama-</i> in <i>ysama-</i> <i>śśandaa-</i> world	<i>ζαμυγο</i> <i>ζαμυο</i>	* <i>zam-</i> Av. <i>zam-</i> P. <i>zamīn</i> Os. <i>æzmesæ</i> sand
	<i>h^ʼk^Z</i> /xāk/						P. <i>xāk</i> earth, dust
			<i>γwr(w)</i> <i>m(h)</i> <i>xwrm/</i> <i>xrwm</i> /xur(u)m/				Av. <i>xruma-</i>
			<i>sp^ʼntrmδz^ʼy</i> /spand-ār- maδ-zāy/	<i>śśandā</i>			Av. <i>spənta ārmaitiš</i> * <i>śmantakā-</i> : Av. <i>spənta-</i> holy
23. eat	<i>xwr^M</i> /xwar-/ <i>xwrđn^M</i> <i>hwltñ^Z</i> /xwardan/	<i>ʼxwr-</i> /āxwar-/ <i>ʼs-</i> /ās-/	<i>γwr-, xwr-</i> /xwar-/ <i>mrγyz^ʼtk</i> /mərγe- zātē/	<i>x(w)r-</i>	<i>hvar-</i>	<i>χοαρ-</i> to eat; drink	* <i>hvar-</i> eat, consume (Ch 147): Av. <i>x^ʼar-</i> P. <i>xor-</i>
							* <i>HasH-</i> id.: OI. <i>as-</i> id. (Ch 167–68)
24. egg	<i>x^ʼy^M</i> <i>x^ʼd(y)k^Z</i> /xāyag/	0		<i>y^ʼk</i>	<i>āhā-</i>	0	* <i>āyīā</i> > Os. <i>ajk</i> , P. <i>xāya</i> , Psh. <i>hā</i> , Wz. <i>yōwya</i> , ?Av. <i>aēm</i>
				<i>wynk</i>			bird's child
25. eye	<i>cšm^{M,Z}</i> /čašm/	<i>cšm</i> /čašm/	<i>cšm</i> /čašm/ obl. <i>cmy^ʼ</i> <i>cym-</i>	<i>cm, jm</i>	<i>tcē, tcāi</i> <i>tcēiman-</i>	0	* <i>ča(s)š-man-</i> (R 2, 238) > Av. <i>čašman</i> , P. <i>čašm</i> , Orm. <i>cimi</i>
							Kh. <i>wyn-</i> see
26. fat n.		0		<i>ʼzdyx</i> /uzdax/		0	Psh. <i>wāzda</i> , Par. <i>γāzd</i> id., Ku. <i>baz</i> , Av. <i>vazdah-</i> *fat- ness; OI. <i>vedhás-</i> *force (NEVP 94)
			<i>rwyñ</i> /rōyñ/	<i>rγyn</i>			* <i>raugna-</i> (R 106): P. <i>rawyan</i> , Ygh. <i>rūyin</i> Av. <i>raoγna-</i> butter
	<i>clp-sn^Z</i> /čarbišn/		<i>crp</i> /čarp/	<i>črb</i> < P. <i>čarb</i>	<i>tcārba-</i> <i>tcāra-</i>		* <i>čarp(a)-</i> > P. <i>čarb</i> , Os. <i>carv</i> butter (E 2, 232f)
	<i>pyh^Z</i> /pīh/ <i>(plpyh^Z</i> adj. /frabīh/)	<i>(frbyw^M</i> adj. /frabīw/)	<i>βrpyγ</i> /farpix/		<i>pāyā, pī</i>		* <i>pīyah-</i> : Av. <i>pīuuh-</i> (R 105)
					<i>ttunām</i> <i>ttauna-</i>		Kh. <i>tv-</i> to fatten * <i>tauH-</i> be able, strong (Ch 386)
27. feather	<i>pr^M</i> /parr/	0	<i>prn</i>	<i>pn</i>	<i>pārra-</i>	0	* <i>parna-</i> : Av. <i>parəna-</i> id. (Ch 295–96)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
28. fire	' ⁽¹⁾ dwr ^M 'dwr ^Z /ādur/ 'thš ^Z /ātaxš/ ''y ^b ^M /āyēb/	' ⁽¹⁾ dwr /ādur/	't'rh, 'tr /ātar/	'd(y)r /ādir/		ataro aθšo	*ātar-/*āθr- (E 1, 318) nom. *ātarš P. ātaš, Av. ātarš
					dai		*dāgah
29. fish	m'hyg ^M m'hyk ^Z /māhīg/	m'sy'g /māsyāg/				0	*matsia- (R 87): Av. masiia- P. māhī
			kp- /kap/	kb	kava		= Bīrūnī kyb, Os. kaf < Eliran. *kap ^(h) a-
			krw kpy /karw- kapi/				cf. Av. kara- name of some fish
30. fly v.	w'c-tn ^Z /wazīdan/	wz- /waz-/ frwz- /frawaz-/	wz- /waz-/ βrwz- frwz- /frawaz-/		0	0	*uaz- carry, drive (Ch 429–432): Av. vaz- drive, P. wazīdan
	prwz- ^M /parwaz-/ w'y- ^M w'd ^Z /wāy/	frwz- /frawaz-/	βrwz- frwz- /frawaz-/				*fra-uaz- *uaiH- (Ch 411): YAv. vaii- to hunt, Os. wajun hurry, walk, jump cf. “feather”
			prn'y- /parnāy-/	p'nw's-			
31. foot	p'y ^M /pāy/ pdy ^Z /pay/	p'd /pād/ p'd /pād/	p'δ /pād/ p'δ, b'δ	p'δ, b'δ	pai, pl. pā dim. pāka-	0	*pād-: Av. pād-, OP pāda- Ygh. pōda, P. pāy (R 113–14)
32. full	pwr ^M , pwl ^Z /purr/ 'spwryh ^M /ispurrīhā/	pwr /purr/ 'spwryg /ispurrīg/	pwn /pūn/ pwrn /purn/ ' ⁽¹⁾ spwrn(w) /(ə)spurn/ 'mprty /ambartē/ or /ampartē/		uspurra	porri ασπορο	*pūna-: Av. pərəna- Ygh. pun(n) < *parH- to fill (Ch 295–96) Av. aspərənō completeness
				c'k			P. čāq, Psh. čāγ, Wkh. čak
33. give	dy(y)- ^M /day-/ dh- ^Z /dah-/ d'tn ^Z /dādan/	dh- /dah-/ d'd				λα(v)-/ λαδο	*daH- id. > Av. dā- *daθa-/*dāta- (Ch 43–45)
	b'xt ^M /bāxt/		βγš- /baxš-/ βγt- /βayd/t/ pt(y)βγš- /pat(i) βaxš/		būšš-		*baxš- divide, have a share : *baj- id.; Av. baž- : baxš- (Ch 19–20)
			δ'βr / dāβar/ δβ'r /δβar, θ'far/ θ' ⁽¹⁾ βr- /θ(ā)βar/	hβr-	haur-, hur- hūr-		*fra-bar- : *bar- bring (Ch 6–10): Ygh. tifar

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
			<i>fī''γrβ-</i> <i>/frāγarβ/</i>				* <i>fra-grabH-</i> : * <i>grabH-</i> to grab, seize, take (Ch 119–20)
					<i>hatcañ-</i>		* <i>fra-sčand-</i> : * <i>sčand-</i> to break, cleave (Ch 342)
34. good	<i>xwb^M</i> <i>xwp^Z</i> <i>/xūb/</i>		<i>γwp, xwp</i> <i>/xūp/</i>	<i>xwb, xwβ</i>		<i>xobo</i>	* <i>hu-apah-</i> (E 3, 416) Av. <i>huāpah-</i> wohltätig P. <i>xōb</i> ; OI. <i>svāpa-</i>
	<i>xwš^M</i> <i>hwš^Z</i> <i>/xwaš/</i>	<i>xwj</i> <i>/xuž, xōž/</i>		<i>xž</i>		<i>χo(v)ζo</i>	* <i>hu-uarža-</i> (E 3, 418) Os. <i>xorz</i>
	<i>nyw^{M,Z}</i> <i>/nēw/</i> <i>nyk^M</i> <i>nywk^Z</i> <i>/nēk/</i>	<i>nyw</i> <i>/nēw/</i>	<i>nyk /nēk/</i>		(<i>nivā</i> good things)		* <i>naiba-</i> : OP. <i>naiba-</i> id., nice * <i>naiba-ka-</i> ; OP. <i>naiba-</i> id., nice, P. <i>nēk</i> id. (H 238–39; B 185)
	<i>wyh^Z /wēh/</i>						Av. <i>vahiih-</i> better, P. <i>bih</i> id., good (H 55)
	<i>hwd^h (h)k^Z</i> <i>/hudā(ha)g/</i>						Av. <i>hu-dāh-</i> guttätig
			<i>nyz- /nayz/</i>				
			<i>šyr'y /širē/</i>		<i>śsāra-</i>	<i>?bičyo</i>	* <i>srīra-(ka-)</i>
						<i>bičyo</i>	* <i>xšij-</i> desire, long for (Ch 456)
35. green	<i>hwzrgwn^M</i> <i>/huzargōn/</i>	<i>hwzrgwn</i> <i>/huzarγōn/</i>				0	
	<i>zlgwn^Z</i> <i>/zargōn/</i>	<i>zrgwng</i> <i>/zarγōnag/</i>	<i>zrγwn'k</i> <i>/zarγōnē/</i>				Sgd. <i>zrγwn /zarγōn/</i> plant, vegetable; P. <i>zaryūn</i>
	<i>spz, sbz^Z</i> <i>/sabz/</i>				(<i>ysba</i> cane, reed)		P. <i>sabz</i> id. (DK 355) Psh. <i>sābuh</i> grass
			<i>'ys'y^h</i> <i>/a/əxsēn/</i>				* <i>axšaina-</i> : Av. <i>axšaēna-</i> dark (E 1, 284f)
				<i>čmrγ, jmrγ</i>			
					<i>gvā-</i> green yellow		* <i>gauvaka-</i> ; cf. Bal. <i>gōray</i> grey, white
					<i>pe</i>		* <i>pāyi-</i> : OI. <i>pītā-</i> yellow : <i>pitta-</i> bile
36. hair	<i>mwy^M</i> <i>mwd^Z</i> <i>/mōy/</i>					0	* <i>maud-</i> : P. <i>mōy</i> , Bal. <i>mūd/ mīd</i> id. (H 223)
	<i>wls^Z /wars/</i>	<i>wrs /wars/</i>	<i>wrs /wars/</i>				* <i>uarša-</i> : Av. <i>varša-</i> , P. <i>gurs</i> id.; OI. <i>vālša-</i> twig
			<i>γwn'k',</i> <i>γwn'y</i> <i>/γōnē/</i>	<i>γwnyk</i>	<i>ggūna-</i>		* <i>gauna-</i> (E 3, 240) Av. <i>gaona-</i> hair Shug., Brt. <i>gūnj</i> hair
			<i>z^w- /zō/</i>		<i>dro</i>		* <i>drau-</i> : Ygh. <i>darau</i> , Os. <i>ærdo</i> id. (E 2, 462)
				(<i>γys'n</i> Kamelhaar)			* <i>gaiša-</i> : Av. <i>gaēsa-</i> hair, P. <i>gēs</i> Locke
				<i>δš</i>			* <i>darša-</i> (E 2, 353f)
					<i>tcamjsa-</i>		* <i>sčanga-</i> ; OE. <i>sceagga</i> hair of head
					<i>vatca</i>		* <i>uasča-</i> : Os. <i>becukkæ</i> forelock; Iran. > Georg. <i>bečvi</i> hair, fur

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
					<i>sakša-</i>		* <i>safča-</i> : Wkh. <i>šafš</i> id.; OI. <i>šépha-</i> tail
37. hand	<i>dst^{M,Z}</i> / <i>dast</i> /	<i>dst</i> / <i>dast</i> /	<i>δst</i> / <i>δast-</i> /	<i>δst</i>	<i>dasta-</i>	0	* <i>dasta-</i> : OP. <i>dasta-</i> , P. <i>dast</i> vs. Av. <i>zasta-</i> < * <i>zasta-</i> (E 2, 371)
	<i>pnck</i> / <i>panjag</i> /			<i>bck, pck</i>			P. <i>panja</i> pentad, hand, paw
	<i>gw^Z</i> daev. / <i>gaw</i> / < Av.				<i>ggoštā</i>		* <i>gaba-(sti-)</i> (E 3, 94, 229): Av. <i>gauua-</i> id. (daev.), Wkh. <i>gawust</i> fist; OI. <i>gáb-hasti</i> arm, hand
38. head	<i>sr^M, s^L</i> / <i>sar</i> /	<i>sr</i> / <i>sar</i> /	<i>s^rr</i> / <i>sār</i> / <i>pts^rr^k</i> / <i>patsārē</i> /	<i>s^rrxwt/d</i>		0	P. <i>sar</i> Kopf + <i>xōy/xiūd</i> Helm; cf. Av. <i>sarah-</i> & <i>sāra-</i> head
	(<i>km^rr^M</i>) / <i>kamār</i> / of evil being) <i>km^rL^Z</i> daev. / <i>kamāl</i> /	(<i>km^rr</i>) / <i>kamār</i> / of evil being)			<i>kamala-</i>	(<i>καμρδο</i> chief)	Av. <i>kamərəða-</i> (of daevic beings)
	<i>wytⁿ</i> ahur. / <i>waydān</i> /						Av. <i>vaydāna-</i> (of ahuric beings), lit. receptacle of voice?
					<i>raṃga-</i>		cf. Kh. <i>rṃga-</i> bank, ridge, shore, Os. <i>rængæ</i> row
39. hear	<i>ny(y)wš^{-M}</i> <i>n(y)dwš^{-Z}</i> / <i>niyō(x)š-</i> /	<i>ngwš-</i> / <i>niyōš-</i> /	<i>n(y)γ^ʷwš-</i> / <i>niyōš</i> / <i>ptγ^ʷwš</i> / <i>patyōš</i> / <i>ʷxšt-</i> / <i>ax/γušt</i> /	(^ʷ) <i>nyws-</i> < * <i>ni-gauš-</i>	<i>pyūy, pū</i> <i>pyūšta</i>	<i>vγav-</i> <i>vayav-</i>	* <i>gauš-</i> : * <i>ni-gauš-</i> P. <i>gōšīdan</i> : <i>niyōšīdan</i> * <i>pati-gauša-</i> * <i>gušta-</i> : Av. <i>gūš-</i> hear (Ch 115–16)
	<i>ʷšnw^{-M}</i> / <i>ašnaw-</i> / <i>ʷšnw^{-M}</i> / <i>išnaw-</i> / <i>ʷšnwtⁿZ</i> / <i>ašnūdan</i> /	<i>ʷšnw-</i> / <i>išnaw-</i> /					* <i>xšnau-</i> id. < sharpen (the ears) (Ch 456) P. <i>šunaw-</i> , <i>šunūdan</i>
	<i>ʷxšyn^{-M}</i> / <i>āxšīn</i> /	(<i>ʷxšy-</i> be heard)					* <i>Haxš-</i> : Av. <i>aiβtiāxš-</i> to guard, supervise, OI. <i>ākši-</i> eye (Ch 171)
		<i>ʷzgwł-</i>					cf. Prt. <i>ʷzwlg</i> ear
40. heart	<i>dyl^{M,Z}</i> / <i>dil</i> /	<i>zyrd</i> / <i>zirδ</i> /	<i>δrjy(y)</i> , <i>δrzy</i> / <i>δəržē</i> / < * <i>δryaza-</i> < * <i>zrdaya-</i> <i>žy^ʷwr</i> / <i>žyāwar</i> / < * <i>δžyāwar</i> < * <i>δryāwar</i>	<i>zrz</i>	<i>ysāra-</i>	0	* <i>žrd-</i> (R 110) Av. <i>zərədaia-</i> P. <i>dil</i> OI. <i>hřdaya-</i>
			<i>γrdy^ʷ</i> / <i>γarδē</i> /				
			<i>ʷwx(y)</i> / <i>ux(ē)</i> /				* <i>ahu-</i> : Av. <i>aṃhu-</i> existence (E I, 93)
41. horn	<i>srwy^M</i> / <i>srūy</i> / <i>slwb^Z</i> / <i>srū</i> /	0	0	<i>šw</i>	<i>šū</i>	0	* <i>srū-</i> : Av. <i>srū-</i> , <i>sruuā-</i> P. <i>surū(n)</i>

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
				<i>zyyk</i>			P. <i>azg</i> twig < Semitic
42. I		'z /az/	'zw /azu/	''z, (n)'z	<i>aysu, aysä</i>	<i>ačō</i>	* <i>ázam</i> : Av. <i>azəm</i>
	<i>mn^M /man/</i>						P. <i>man</i>
	'n(y) ^M /an/						
43. kill	'wzn- ^M /ōzan-/	'wjn- /ōžan-/	('wz'n murder)	wzn-	<i>jsan-</i>	0	* <i>jan-</i> id., slay, strike > Av. <i>gan-/jan-</i> * <i>aṃa-jan-</i> (Ch 224–25)
	<i>kwš-^M</i> <i>/kuš-, kōš-</i> <i>kw(h)š-ytn^Z</i> <i>/kō(x)šīdan/</i>						* <i>kauš-</i> fight, kill: YAv. <i>kuš-</i> fight, struggle, P. <i>kuštan</i> / <i>kōšīdan</i> kill (Ch 251)
			<i>ptγw'y-</i> <i>/patxwāy/</i> <i>ptwx'y-</i> <i>/patuxāy/</i> <i>ptyxw'y-</i> <i>/patixwāy/</i>				* <i>hūah-</i> strike, thresh : * <i>pati-hūāh-aja-</i> (Ch 141)
			<i>zyt-</i>				cf. Sgd. <i>zyt-</i> to hit, strike
44. knee	'šnwg ^M /išnūg/ z'nwk ^Z /zānūg/	z'nwg /zānūg/	z'n'wk /zānūk/ jnwvq /žnuk/	z'nwk /zanūk/	<i>ysānū</i>	? <i>čav</i> [* <i>žānu-(ka-)</i> (R 93) P. <i>zanū</i> , Psh. <i>zangūn</i> Av. <i>žnu-/zānu-</i>
45. know	d'n- ^{M,Z} /dān-/	z'n- /zān-/	(^o)z'n, z'n /(ā)zān/ pt'yz'n /patizān/		<i>paysān-</i> <i>haysān-</i>	<i>čav-</i> * <i>πičav-</i>	* <i>žanH-</i> id.: Av. <i>žān-</i> , P. <i>dānistan</i> * <i>pati-žān-</i> * <i>fra-žān-</i>
	'šn's- ^M /išnās-/ šn's- ^Z /šnās-/	'šn's- /išnās-/	f'šn's- /fāšnās/				* <i>xšnās-</i> : OP. <i>xšnā-</i> , Av. <i>žnā-</i> id. * <i>fra-xšnās-</i>
	'zw'rdn ^M 'wzw'l-tn ^Z /uzwārdan/						
		<i>fṛwd-</i> <i>/frawad-/</i>					* <i>uat-</i> inspire, be informed : * <i>fra-uat-</i> (Ch 427)
			<i>/γarβ/</i> or <i>/γərβ/</i>				* <i>grabH-</i> : Ygh. <i>γiriv</i> id. (Ch 119–21)
			<i>pt(y)βyδ-</i> <i>/patβēδ/</i>		<i>but-, buv-</i>		* <i>baud-</i> feel, sense: Av. <i>baod-</i> (Ch 14f) * <i>pati-baud-</i>
				<i>yw'ry-</i> <i>/wi-wār-/</i>			* <i>uar(H)-</i> choose, convince; believe: Av. <i>var-</i> (Ch 420–21)
46. leaf	<i>wlg^Z</i> <i>/warg/</i>	<i>wrgṛ</i> <i>/wargar/</i>	<i>wrkr</i> <i>/warkar/</i>		<i>bāggara-</i>	0	* <i>uarka-</i> : Av. <i>varāka-</i> P. <i>barg</i> (H 47; R 107)
		<i>png</i> <i>/pannag/</i> leaves, foliage		<i>pnc</i> pl. to * <i>pnk</i>	<i>pārra-</i> <i>perä, pirä</i>		* <i>parna-(ka-)</i> Psh. <i>pāṇa</i> , pl. <i>pāṇi</i> cf. Kh. <i>pārra</i> feather.
47. lie	<i>sy-^M</i>	s'(y)- /say-/	'sy- /(ə)say-/		<i>ššä-</i>	0	* <i>saiH-</i> : Av. <i>saēte</i> , Os. <i>sæ-</i> <i>jun</i> (Ch. 328)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
	<i>npd</i> ^Z /nibay-/ <i>nbs</i> ^M <i>npstn</i> ^Z /nibastan/		<i>nypδ-</i> /nipad/	'nbzy	<i>nuvad-</i>		* <i>ni-padja-</i> : * <i>pad-</i> to fall Av. <i>ni paidiia-</i> , Ygh. <i>nēpid</i> (Ch 287)
48. liver	<i>ykl</i> ^Z /jagar/	0	0	0	<i>gyagarrä</i>	0	* <i>jakr(t)</i> : Av. <i>yākarə</i> P. <i>jigar</i>
49. long	<i>dgr</i> ^M , <i>dgl</i> ^Z /dagr/ <i>dyr</i> ^M / <i>dēr</i> / <i>dglnd</i> ^Z /dagrand/	<i>dry</i> / <i>darg</i> /		(<i>δryc</i> adv. long time)	<i>dāra-</i>	0	* <i>darga-</i> > Av. <i>darəga-</i> P. <i>dēr</i> P. <i>dērand</i>
	<i>dl'c</i> ^Z /drāz/						P. <i>dirāz</i>
			<i>βn</i> / <i>βpan</i> /				
	(<i>bwlc'</i> /burz/ high)	(<i>bwrz</i> /burz/ high)	<i>βrz</i> / <i>βərz</i> / <i>βrz'k</i>	<i>βžk</i>	<i>bulysa-</i> , cf. <i>balysga-</i> high		* <i>byža-</i> : * <i>barz-</i> be high * <i>byžaka-</i> (Ch 12)
50. louse	' <i>spys</i> ^M /ispiš/ <i>spys</i> ^Z /spiš/	0	<i>špšh</i> / <i>špiš</i> /	<i>sb'h</i> , <i>sp'h</i> /spāh/	0	0	* <i>šuiš-</i> : Av. <i>spiš-</i> P. <i>šipiš</i> , Ygh. <i>šipuš</i>
			<i>ršk'</i> / <i>rišk</i> /				P. <i>rišk</i> , Psh. <i>riča</i> , Os. <i>liškæ</i> ; OI. <i>likšā</i> (A 2, 56)
51. man	<i>myrd</i> ^M /merd/ <i>mli</i> ^Z / <i>mard</i> /	<i>mrd</i> /mard/	<i>mrt'y</i> /marti/	<i>mrc</i> , <i>mrj</i>		<i>μαρδο</i>	* <i>martja-</i> : OP. <i>martiya</i> Av. <i>mašīia-</i>
	<i>wyr</i> ^M , <i>wyl</i> ^Z /wīr/						* <i>ūira-</i> : Av. <i>vīra-</i>
	<i>nrwyr</i> ^M /narwīr/ (<i>nr</i> ^M , <i>nl</i> ^Z male / <i>nar</i> /)	(<i>nr</i> / <i>nar</i> / male)					* <i>nar-</i> : Av. <i>nar-</i> (R 46)
			<i>δx</i> / <i>δax</i> /		<i>daha-</i>		* <i>daha-</i>
52. many	<i>pwr</i> ^{MB} /pur/		<i>γrβf</i> / <i>γarf</i> / < * <i>farγu</i> < * <i>faruwu</i>		<i>pha(ra-)</i> <i>pharāka</i>	(<i>φαρδαρο</i> more; further < * <i>faru-tara-</i>)	* <i>paru-</i> OP. <i>paru-</i> Av. <i>pa^uru-</i> , <i>po^uru-</i> OI. <i>purū-</i>
	<i>ws</i> ^{M,Z} / <i>was</i> / <i>wsy(k)l</i> /wasyār/	<i>ws</i> / <i>was</i> /					OP. <i>vasiy-</i> many P. <i>bas</i> , Bal. <i>gvas</i> id. P. comp. <i>bisyār</i> (H 50)
			' <i>ft'r</i> /(ə) <i>ftar</i> /				* <i>fratarā-</i> ; cf. OI. <i>pratara-</i>
			<i>šyyr</i> / <i>šēr</i> /				
			<i>tr'ypw</i> /trēpu/				
				(^o) <i>ck'm</i> , <i>jk'm</i> < <i>c^o</i>			cf. Khw. <i>c'k</i> full
					<i>tvarai</i>		* <i>ati-bar-</i> : * <i>bar-</i> bring
						<i>βαβισο</i>	* <i>ha-bai-sah</i> > Kh. <i>hambīsa-</i> heap or * <i>ha-bus-ya-</i> > P. <i>ambōh</i> multitude, much, many
53. meat	<i>pyr</i> ^M <i>p(y)t</i> ^Z /pit/	<i>pyd</i> / <i>pid</i> /	' <i>pt-</i> /(<i>ə</i>) <i>pət</i> /		<i>pq</i> flesh	0	Av. <i>pitū-</i> , Os. <i>fid</i> flesh food : OI. <i>pitū-</i> juice * <i>paH-</i> to drink (Ch 289)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
			y'ty, y't'k /yātē/				Ygh. <i>yōta</i>
				xw'r			Khw. <i>xw'ry-</i> caus. feed : * <i>hyar-</i> eat (Ch 147)
	gwšt ^Z /gōšt/				ggūšta		* <i>gau-šti-</i> produced from bovine; cf. P. <i>gōšt</i> , Psh. <i>γwaša</i> ; Av. <i>gauu-</i> cow
54. moon	m'h ^{M,Z} /māh/	m'h /māh/	m'γ(h)', m'x /māx/	m'h (myk month)	māstā	mao, mauo, maoo	Av., OP. <i>māh-</i> , P. <i>māh</i> * <i>mās-ti-</i> : Psh. <i>miyāst</i> Yazg., Srk. <i>māst</i>
	'dšm /āyišm/			(^o)xmyk			* <i>uxšm-</i>
55. moun- tain	kwf ^M , kwp ^Z /kōf/	kwf /kōf/					* <i>kaup^ha-</i> : OP. <i>kaufa-</i> P. <i>kōh</i> ; Av. <i>kaofa-</i> mountain ridge
	gl ^Z /gar/	γr /yar/	γr- /yar/ γrcyk /yarčik/ of mountain	γrycyk	ga, garä-, ggari-	γapo geiro	* <i>gari-</i> > Av. <i>gairi-</i> , Ygh. <i>γar</i> (E 3, 191–93)
56. mouth	dhyn ^M /dahen/ zpl ^Z daev. /zafar/				pašguda	0	Av. <i>zafan-/zafar-</i> Rachen P. <i>dahān</i> mouth * <i>pati-zafā-</i> P. <i>zafar</i> mouth (H 131, 147)
		rwmb /rumb/	rwb /ruβ/				cf. Av. <i>uruθβan</i> belly, entrails
			kwc' (k) /kūčā(k)/		kūšda < kauždačī- -ā-kā-		
			ry'h /rayā/ or /raxā/				
				k'm			* <i>kāhman-</i> : Os. <i>k'am</i> id., P. <i>kām</i> id., Gaumen (E 4, 169)
					ttānra ttura		* <i>tur-na-</i>
					āha-		* <i>āh-</i> : Av. <i>āh-</i> ; OI. <i>ās-</i>
57. name	n'm ^{M,Z} /nām/	n'm /nām/	n'm /nām/	n'm(y)k	nāma	ναμο	* <i>nāman-</i> : Av. <i>nāman-</i>
58. neck	gry(y)w ^M glyw ^Z /grīw/	gry(y)w /grīw/					* <i>grīuā-</i> : Av. <i>grīuuā-</i> P. <i>girē</i> , Psh. <i>griva</i> id. (H 203; E 3, 291)
	grdn ^M glt ^Z /gardan/		γrδ'k(h) /yarδāk/	γrδk	gaḍaa- < * <i>gartaka-</i> gīsāra- < * <i>grt-s-</i>		* <i>gart-</i> turn (Ch 110–11): P. <i>gardan</i> neck (H 201), Psh. <i>γāra</i>
			šδ'y, šδ'kw /šadē, šadāku/				Av. <i>ušadā-</i> Bezeichnung eines Teils des Rückens
					mūñūkā		* <i>manuka-</i> ; Av. <i>manaοθrī-</i> , OI. <i>mānyā-</i>
59. new	nwg ^M nwk ^Z /nōg/	nw'g /nawāg/	nw'k(w) /nawāk(u)/ nwy /nawē/	(^o)nwk, nwyk	nauha- nūvara-	νωγο	* <i>naṃa-ka-</i> * <i>naṃa-tara-(ka-)</i> ; cf. Av. <i>naotara-</i> compara- tive to <i>nauua-</i>

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
60. night	šb ^M , šp ^Z /šab/	šb /šab/	ʾγšp-, ʾxšp- /(ə)xšapā/	ʾx(y)b, xb	šsavā-	χαβ-	*xšapā- : Av. xšap(an)-
61. nose	wynyg ^M wynyk ^Z /wēnīg/						Av. vaēnā- nose : P. bīmī, Ku. bēn (H 60) *uai(H)n- see (Ch 413)
		n ^ʾ wc /nāwiž/	nyc /nēč/ ns /nas/ nns /nans/ < *nāsn	n ^ʾ c, n ^ʾ j < *nāca		nešte < *nāstī	*nāhika-; Ygh. nays or *nahja-čī- (B 190); cf. Av. nāh-
62. not	ny ^M /nē/	ny /nē/	n ^ʾ /nā/ n ^ʾ y ^ʾ , ny / nē/	n(y)	na, ni, ne	va, vavo ne	Av. nōiž & na, P. na
	m ^{ʾM} /ma/	?m ^ʾ !		m ^ʾ (imp., opt.)	ma		P. ma
63. one	ʾyw ^M /ēw/ yk ^M /yak/ ʾywk ^Z /ēk/	yw /ēw/	ʾyw, (ʾ)yw /ēw/	ʾyw	šsau m. ššā f.	τωγο	*aiua-(ka-) > Av. aēuua- P. -ē vs. yak
64. person	mrdwhm ^M mltwm ^Z /mardōhm/	mrdwhm /mardōhm/	mrtxmy(y) /martəxmē/	0		0	*mart- & *tauxman- seed of man: P. mardum cf. Av. maša-, mašīia-
	tn, t ^{nM,Z} /tan/	tn, tn /tan/					also “body; self” P. tan
	ks ^M /kas/						P. kas person, somebody OP. kaščiy-, Av. kasciž somebody (H 190)
			ʾryw /(ə)riw/				also “body”
			n ^ʾ fc /nāfč/				
					nađe		*nrtā(uā)h
					hvand-		Av. aošah-uuañt- mortal Psh. ž ^ʾ awai person
65. rain n.	w ^ʾ r ^ʾ n ^M w ^ʾ l ^{nZ} /wārān/	w ^ʾ r ^ʾ n /wārān/	w ^ʾ r /wār/	w ^ʾ r	bāra	0	*uaHr-: Av. vār-, Psh. wor, P. bārān (Ch 406f)
66. red	swhr ^M swhl ^Z /suh/	0			(suraa- clean)	0	Av. suxra-, P., Os. surx, Psh. sūr id. OI. šukr/lā- white
				rxt(y)k	rraha < *raxva-		*raǰ- to colour, dye (Ch 313–14) OI. rakta- red : raj- be red
	klmyr ^Z /karmīr/		krm ^ʾ yr /karmīr/ qyrmyr /kərmīr/				*krmīra- (R 4, 391, 401) > Ygh. kimīr; MP. > Arm. karmīr red; cf. Kroraina kremeru- red (B 435) : *krmī- worm
					mījī		*m(a)ičīia-: OI. mécaka- dark-blue, black; or Hit. miti- red
					dravāšam dark, red		cf. Mlr. derg red, OE. deorc dark
					rrusta-		cf. Av. raōdita- id.; OI. rōhita-
					rrvana		*raudana-; cf. P. rōdan

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
					<i>hātānai</i> <i>hinai</i> <i>hiṃja</i>		Prt. ' (') <i>hyd</i> stain, Av. <i>an-āhitā-</i> , glossed by ZorPhl. <i>avinast</i> not de- filed; OI. <i>ásita-</i> dark
67. road	<i>r'h^M, l's^Z</i> <i>/rāh/</i>	<i>r'h /rāh/</i>	<i>r'δ(h), r'θ</i> <i>/rāθ/</i>			<i>*pavo</i> in <i>ωpavo</i> companion	<i>*rāθa-</i> : <i>raθa-</i> carriage; cf. Av. <i>ra'θiia-</i> path
	<i>pnd^{M,Z}</i> <i>/pand/</i>	<i>pnd'n</i> <i>/pandān/</i>		<i>pnd'k /</i> <i>pyd'k</i>	<i>pada</i> <i>pande</i>	<i>πανδαγο</i>	<i>*pantā-(ka-)</i> <i>*pantāh</i> cf. Av. <i>paṅti-</i> & <i>paθ(ā)-</i>
					<i>mašpa</i>		<i>*(h)amaxšya-pāda-</i> , cf. Toch. B <i>amākša-</i> , Gr. <i>ἄμαξα</i> chariot, <i>ἄμαξιτός</i> high road
					<i>haspara</i> <i>āspara-</i>		<i>*fra-spara-</i> : Kh. <i>spar-</i> to trample, Av. <i>spar-</i> to tread < <i>*sparH-</i> (Ch 352)
68. root	<i>bwn^M</i> <i>/bun/</i>	<i>bwn</i> <i>/bun/</i>		0		0	orig. "base, bottom"
	<i>lyšk^Z</i> <i>/rēšag/</i>						P. <i>rēša</i> root, fibre H 142: P. <i>rēše</i> hair
		<i>wyx /wēx/</i>	<i>wyγ(h),</i> <i>wyx</i> <i>/wēx, wix/</i>		<i>bā(ga),</i> <i>bāta-</i> , <i>bāvā-</i>		<i>*ūiākā-</i> ; but cf. Os. <i>wed-</i> <i>agæ</i> root
					<i>virā</i>		<i>*ūai-</i> : Kh. <i>vi-</i> to twist?
69. round	<i>gyrd^M</i> <i>gl^Z</i> <i>/gird/</i>	0	<i>γwrs /γurs/</i> < <i>*gar(t)su</i> <i>prγrs'y</i> <i>/pari-grs-/</i>	<i>γyr' d'yk</i>		0	Kh. <i>γyr-</i> sich wenden; zurück kehren < <i>*gar-</i> turn, wind (Ch 104–05) <i>*garθ/s-</i> (E 3, 203; Gh 286 cites non-existing Av. <i>garəsna-</i>) Kh. <i>gesti</i> revolving < <i>*girt-</i> <i>r°</i> (B 90; E 3, 203) Av. <i>skarəna-</i>
			<i>'skwrnkh</i> <i>/ (ə)skurnē/</i>				
					<i>parbūra-</i>		<i>*pari-</i> + <i>*bar-</i> go over (Ch 294)
					<i>špaṭa-</i>		Wkh. <i>peṭ, puṭ</i> , Srk. <i>peṭ,</i> <i>puṭ, pet</i> id.
70. sand	<i>sygd^{MD}</i> <i>/sigd/</i>	<i>sygd</i> <i>/sigd/</i>	0 (<i>šykth /šikt/</i> gravel)	<i>cy, jγ</i>	<i>siyatā-</i>	0	<i>*sikatā-</i> : OP. <i>θikā</i> , but OI. <i>sikatā-</i> (AV) with <i>s-</i>
	<i>ryg^M, lyk^Z</i> <i>/rēg/</i>						P. <i>rēg</i> , Ku. <i>rīk</i> id. (H 142)
		<i>'sngryzg</i> <i>/asan-</i> <i>grēzag/</i>					
71. say	<i>gw^{-M},</i> <i>gwb^{-Z}</i> <i>/gōw-/</i> <i>gwptn^{M,Z}</i> <i>/guftan/</i>		(<i>γwβ-</i> to praise)		(<i>ggupha</i> abuse)	<i>γoβ-</i>	<i>*gaub-</i> : OP. <i>gaub-</i> speak P. <i>guftan</i> , <i>gō(y)-</i> say, speak (Ch 113–14)
	(<i>w'c^{-M,Z}</i> word)	<i>w'c-</i>		<i>ws-</i> / <i>wassa/</i>			<i>*uac̄-</i> id.: Av. <i>vāc-</i> (Ch 402)
	<i>wy'wr^{-M}</i> <i>/wyāwar-/</i>	<i>wy'wr-</i> <i>/wyāwar-/</i>					<i>*ūi-ā-bar-</i> : <i>*bar-</i> bring (Ch 8)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
			w'β /wāβ/ suppletive: wyt- /wayd/ wyd'r /waydār/				*uab/f- call: Av. <i>uf-</i> sing (Ch 401)
	(hw'n ^z /xwān/ call)				<i>hvan-</i>		*huan-: Av. <i>x'an-</i> to sound; OI. <i>svan-</i> id. (Ch 144–45)
72. see	wy(y)n ^{-M,Z} /wēn/	wy(y)n- /wēn/	wyn- /wēn/ past stem wyt- /wīt/	wyn-	<i>āvīda-</i> he sees < *ā-vīnda	<i>o(i)ηv-</i> , <i>oiv-</i>	*uai(H)n-: Av. <i>vaēn-</i> P. <i>bīn-</i> ; OI. <i>ven-</i> look for (Ch 412–13)
	<i>dya</i> ^{M,Z} /dīd/ pp. seen	<i>dya</i> /dīd/ pp. seen		dy- (pret. stem)	<i>dai-</i> : <i>di-</i> <i>āy-</i> < *ā-day-	<i>λιδο</i>	*dai-: Av. <i>dai-</i> ; OI. <i>dhyāti</i> (Ch 48–50)
					<i>tcāš-</i> <i>vajsāš-</i>		*čāšš-: Av. <i>čāš-</i> show, teach; OI. <i>cakš-</i> shine *awa-čāš- (Ch 35)
73. seed	<i>twhm</i> (g) ^M <i>twm</i> ^Z /tōhm(ag)/	<i>twxm</i> /tōxm/	<i>tym</i> , <i>txm</i> /təxm/ <i>twxmy</i> /tu/oxmē/		<i>tīman-</i>	<i>τοχμανο</i>	*tauxman- Av. <i>taoxman-</i>
	<i>d'ng</i> ^M <i>d'n(k)</i> ^Z /dānag/	<i>d'ng</i> /dānag/	<i>δ'n</i> /dān/		(<i>dānā-</i> grain, corn)		*dāna-(ka-): Av. <i>dāna-</i> corn, P. <i>dāne</i> corn, seed OI. <i>dhānā-</i> grain (E 2, 448f)
	<i>cyhr</i> ^M <i>cyhl(k)</i> ^Z /čīhr(ag)/	<i>cyhr</i> id., nature, relation- ship					Av. <i>čīθra-</i> , OP. <i>čiča-</i> seed, origin (E 2, 259)
		<i>b'wg</i> /bāwag/					
		<i>kyšf'n</i> /kišfān/					
			<i>kšt'k</i>	<i>kšt(y)k</i>			P. <i>kišt</i> < * <i>kšt-</i> : * <i>karš-</i> sow (E 4, 308–10)
			<i>'δβ'nk</i> /(ə)δβānk/ <i>δβ'nk</i> /(a)δβānē/				
			<i>βyz'k'</i> /bīze/		<i>bijā</i>		*bīzaka-: Par. <i>bīz</i> Saat- korn; OI. <i>bīja-</i> seed (E 2, 164f)
74. sit	<i>nšyd</i> ^M /ništīd-/	<i>nšyd-</i> /ništīd-/	<i>n(y)st-</i> /nist/ <i>nyd-</i> /ni-hīda/	<i>nyθ</i> < * <i>ni-hida-</i>	<i>nāšqd-</i> < * <i>ni-šā-</i> <i>daya-</i>	0	* <i>ni-šīzd/šād-</i> : * <i>had-</i> id. > Av. <i>nišhiδ°</i> : <i>nišāδ°</i> : <i>hiδ-</i> sit (down), Ygh. <i>nīd</i> , <i>nīsta</i>
			<i>pršyd-</i> <i>pšyd-</i> /paršēd/				* <i>pari-šīzd-</i>
					<i>āh-</i>		* <i>HaHh-</i> : Av. <i>āh-</i> , OI. <i>ās-</i>
75. skin	<i>crm</i> ^M , <i>clm</i> ^Z /čarm/	<i>crm</i> /čarm/	<i>crm</i> /čarm/	<i>crm</i> , <i>črm</i> , <i>žrm</i>	<i>tcārman-</i>	0	* <i>čarman-</i> : Av. <i>car²man</i> Os. <i>carm</i> (E 2, 231)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
	<i>pwst</i> ^{M,Z} /pōst/		<i>pwst(h)</i> /pōst/				* <i>paṣastā</i> (R 104) also “bark”; P. <i>pōst</i> id. (H 75); cf. * <i>paus-</i> dress, cover (Ch 303)
	<i>twc</i> ^Z skin, bark /tōz/						* <i>tauča-</i> : P. <i>tōz</i> , Ku. <i>tōž</i> ; cf. OI. <i>tvác-</i> id. (EWAI I, 684)
	<i>dwb</i> ^l /dawāl/						
					<i>cha(vā-)</i> <i>chala</i>		OI. <i>chavī-</i> id. (EWAI I, 557)
					<i>tanā</i>		* <i>tani-</i> ; Os. <i>tænæ</i> loins
					<i>hāysā</i>		* <i>iza-</i> : Av. <i>izaēna-</i> made of skin, Psh. <i>žai</i> leather bag, Orm. <i>īz</i> skin-bag, Os. <i>xizā</i> net, veil
					<i>kaṅga-</i>		Kh. <i>kan-</i> to cover
76. sleep	<i>xwpt</i> ^M <i>hwptn</i> ^Z /xuft/ <i>hwps</i> ^{-Z} /xuft/	<i>xwsp-</i> /xusp-/, pp. <i>xwft</i>	^ʼ <i>wβs-</i> , <i>wʼβs-</i> /ufs, ōfs/ pf. ^ʼ <i>wβt-</i> /uβd, ōβd/		<i>hūs</i> <i>ūm-</i> < * <i>ava-hum-</i> <i>na-</i>	0	* <i>aya-hufsa-</i> : * <i>hūap/f-</i> cf. Av. <i>hufsa-</i> , Ygh. <i>ūfs</i> * <i>aya-hufta-</i> * <i>aya-hūaf-na-</i> (Ch 145–47)
		<i>s</i> ^(ʼ) <i>y-</i> /say-/					also “to lie (down)”
				^ʼ <i>nbzy</i>			= #47. lie (down)
77. small	<i>qwdk</i> ^M <i>kwtk</i> ^Z /kōdak/						* <i>kauta-ka-</i> : Av. <i>kutaka-</i> P. <i>kōdak</i> (E 4, 382)
	<i>kwc</i> ^(k) /kūča(k)/						P. <i>kūčak</i>
	<i>kmb</i> ^M , <i>km</i> ^Z /kam(b)/	<i>k/qmbyg</i> /kambīg/	(comp. <i>knpy</i> , <i>kmbyy</i>)	(<i>knb</i> less)			* <i>kamb-na-</i> : Av. <i>kamna-</i> (E 4, 193f)
	<i>kyh</i> ^M , <i>ks</i> ^Z /keh/		^ʼ <i>ks-</i> /(ə) <i>kasē</i> /	(^ʼ <i>k(y)s-</i> meagre)		<i>κασοκο</i>	* <i>kaś-</i> : Av. <i>kasu-</i> id., P. <i>keh</i> (E 4, 331f; Ch 247)
	<i>qwwk</i> ^{M,Z} /kūk/						
	<i>nsng</i> ^Z /nihang/						
	<i>hwz</i> ^{rk} ^ʼ <i>wc</i> ^{lk} /ōzārak/						
		<i>k/qšwdg</i> /kašūdag/					
		<i>rngs</i> /rangas/	<i>rynczk</i> /rinčik/	(<i>rnc</i> light)	(<i>raysga-</i> light, swift)		* <i>ranj-</i> : Av. <i>rañjiih-</i> comp. light, Psh. <i>rangai</i> (B 232)
				<i>zn(y)k</i>			
	^ʼ <i>ndq</i> ^M ^ʼ <i>ndk</i> ^Z /andaq/	^ʼ <i>ndg</i> /andag/					

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
	<i>gšnk^Z</i> <i>/gišnag/</i>	<i>gyšng</i> <i>/gišnag/</i>	<i>šn''k(h)</i> <i>/šnāk/</i>		<i>jseina-</i> < <i>*jašna-</i> (Tumšūq: <i>tsānakai</i> of insect)		
					<i>ttamga-</i> small, thin		<i>*tanaka-</i> ; Os. <i>tænæg</i> thin, small
					<i>ñada</i>		<i>*ni-arta-</i> ground down Bal. <i>hūrt</i> < <i>*hu-artaka-</i>
					<i>bata-, baka</i>		<i>*uata-(ka-)</i> ; MP. <i>wt bad</i> , <i>vatak</i> worse, P. <i>bad</i> , Bal. <i>gwat bad</i>
					<i>mašā</i>		cf. Lit. <i>māžas</i> id.
					<i>vanda-</i>		Bal. <i>gwand</i> short Av. <i>ūna-</i> incomplete, less < <i>*HuaH-</i> OI. <i>ūnā-</i> deficient (Ch 204)
					<i>valaka</i> <i>vilaka-</i>		from <i>*(H)uard-</i> grow? (Ch 208)
					<i>vitka</i> young, small		
					<i>ššika, širka</i>		<i>*šarja-ka-</i> : MP. <i>paššir-</i> to press
78. smoke n.	<i>dwd^M</i> <i>dwt^Z/dūd/</i>	<i>dwd /dūd/</i>		<i>δwd</i>		0	<i>*dūta-</i> : P. <i>dūd</i> (R 94; Ch 68)
			<i>pzt /pazd/</i>				<i>*pazd-</i> to smoke: Os. <i>fāzdäg</i> , Ygh. <i>paysd</i> n. (Ch 304)
					<i>dumā</i>		OI. <i>dhūma-</i> (Ch 68)
79. stand	<i>'yst-'dn^M</i> <i>'st'tn^Z</i> <i>/ēstādan/</i>	<i>'(y)št-</i> <i>/išt-/</i>		0	<i>stā-</i>	0 (<i>stado</i> entstand)	<i>*staH-</i> : Av. <i>stā-</i> id., set (Ch 358)
	<i>'wyšt'dn^M</i> <i>'wšt-'tn^Z</i> <i>/aw-</i> <i>ištādan/</i>	<i>'wyšt-</i> <i>/awišt-/</i>	<i>'wšt- /ōšt/</i> <i>w'št /wāšt/</i>		<i>višt-</i>		<i>*aṣa-hišta-</i> : Ygh. <i>ūšt</i> <i>*aṣa-a-hišta-</i>
	<i>p'y^M</i> <i>p'd^Z</i> <i>/pāy-/</i>		(<i>p'δ'y</i> standing, on foot)				<i>*pād-</i> "stand": <i>*pāda-</i> foot (Ch 305), Par. <i>apā</i> id., P. <i>pāyistan</i> stand, wait
80. star	<i>'st'rg^M</i> <i>st'lk^Z</i> <i>/(i)stārag/</i> <i>'st^M</i> <i>/astar/</i> <i>stl</i> <i>/star/</i>	<i>'st'rg</i> <i>/astārag/</i>	<i>'st'r'k,</i> <i>'stry</i> <i>/(ə)stārē/</i>	<i>'st'rk</i>	<i>stāraa-</i>	0	<i>*stāraka-</i> : Psh. <i>stōrai</i> Orm. <i>starrak</i> Av. <i>star-</i>
	<i>'xtr^M</i> <i>'ht^Z</i> <i>/axtar/</i>						
			<i>'nyr, 'nxr</i> <i>/anxar/</i>				<i>*ana-har-</i>
81. stone	<i>sng^Z</i>	<i>'sn(n)g</i> <i>/asang/</i>	<i>sng, snk,</i> <i>snq /sang/</i>	<i>snk</i>	<i>saṃgga-</i>	<i>asagge,-i</i>	<i>*asānga-</i> : Av. <i>asānga-</i> (R 47)

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
	wym ^M /wēm/ (wym ^Z rock)	wym /wēm/			(bīma- rock)		*uāima-: Av. vaēma- rock, cleft, Arm. lw. vēm stone, rock
					didīya		Shug. <i>di-</i> be thrown; OI. <i>didyú-</i> missile (B 158)
					garṣva pl.		OI. <i>gharṣati</i> rub or Av. <i>zarštuaa-</i> stone?
					gaḍā		?*uarta-: P. <i>lāža-vard</i> lapis lazuli
82. sun	xwr ^M hw ^L /xwar/		γwr, xwr /xwar/xur/ γwyr, xwyr /xuwər/ xōyr/	ʿx(y)r, xyr			*h(u)uar-/*h(u)uan- Av. <i>huuarə</i> / <i>x'an-</i> id. (E 3, 438f)
	myhr ^M mtr ^Z /mhr/	myhr /mhr/	myr /mē/īr/			mīro, miri mīuro, meiro	*miθra-: YAv. <i>miθra-</i> god of contract
					urmaysda		*ahura-mazdāh
83. swim	ʿšnʿz ^M šnʿc-ytn ^Z /išnāz-/	snʿc /snāz-/	fśnʿy- /f(a)snāy/ (snʿy- wash, bathe /snāy/)		0 (haysnāta- washed)	0	*snaH-: Ygh. <i>sinōy</i> , Os. <i>najun</i> swim, P. <i>šinā(w)</i> *fra-snāja- (Ch 348)
				wz-			*uāz- carry (Ch. 431)
84. tail	dwmbg ^M dwm(b) ^Z /dumb(ag)/	dwmb /dumb/	δwm(ph) /δum(b)/	δwm	dumaa-	0	*dumba-(ka-): Av. <i>duma-</i> , Bal. <i>dumb(ak)</i> , P. <i>dum</i> , Os. <i>dumäg</i>
				pcyk			Khw. <i>pc</i> hinten
85. that .	hʿn ^M /hān/ ʿn ^Z /ān/			nʿ			
	ʿwy ^M /ōy/	hw /hō/haw/	(ʿ)γw, xw(w) /xō/ γʿ, xʿ f. /xā/				*hau: OAv. <i>huuō</i> , YAv. <i>hāu</i> , OP. <i>hauv</i> ; cf. OI. <i>a-sāu</i>
			γwn ^(ʿ) γ, xwnx, hwnx /xōnax/ xwny(y) /xōnē/				
			ʿwnʿ(k)w /ōn(ak)u/				
			w- /ō, ū/ ww / (a)wu/			oo	*aua-: OP. <i>ava-</i> , Av. <i>auua-</i> acc. OP. <i>avam</i> , Av. <i>aom</i>
			wʿnʿ(k) f. /wānā(k)/				
			wny(y) /wene/ wyny(y) /wēne/				*auaina *auana
			wyδ /wēδ/θ/				

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
					<i>šārā</i>		* <i>aīša-</i>
					<i>ttara</i> <i>ttāra-</i>		* <i>ta-tara-</i> or * <i>taθra-</i> * <i>ta-tāra-</i>
86. this	'ym ^M , 'm ^Z /im/	'ym /im/	'm' /əma/ <i>mw /mu/</i> <i>mwñ'(k)w</i> <i>/mun(ak)u/</i>		<i>ma-, mai,</i> <i>mū</i>	<i>είμο, amo</i>	* <i>a/īam</i> : OP. <i>iyam</i> Av. <i>aīīdm</i> , OI. <i>ayām</i> acc. * <i>imam</i> : Av. <i>iməm</i> , OP. <i>imam</i> ; OI. <i>imám</i>
	'yn ^M /ēn/		'yny(y), 'yn'k /ēnē/i/	ny(n)		- <i>eino</i>	* <i>aina-(ka-)</i> : P. <i>īn</i>
	'yd ^M /ēd/		(^o)yδ /ēδ/ 'ymyδ /imēδ/ γγδ, xyδ /x-ēδ/			<i>ειδο</i>	* <i>aita-</i> : Av. <i>aēta-</i> , OP. <i>aita-</i>
			(^o)šw / (ə)šw/		<i>ša-</i> obl. <i>tta-</i>		* <i>aīša</i> : Av. <i>aēša-</i> ; OI <i>eša</i>
			'tw /at(u)/				acc.m. * <i>tam</i> : OAv. <i>tām</i> ; OI. <i>tám</i>
			<i>tyδ</i>			<i>το, τι</i>	
			'w /avu/				* <i>ayam</i>
			yw /yu/			(i)ειο	* <i>ajam</i> , OP. <i>iyam</i>
			ywn'k/y /yō/ünē/				
87. thou	tw ^M /tū, tō/	tw /tū, tō/	tyw /t(ə)xu/ tw /tō/	(^o)tk	<i>thu</i>	<i>το(ο)ι</i> <i>τοοοο</i>	* <i>tū</i> / * <i>tuuyam</i> : Av. <i>tū</i> / <i>tuūdm</i> , OP. <i>tuvam</i> ; P. <i>tu</i>
88. tongue	'zw'n ^M /izwān/ 'wzwn' ^Z /uzwān/	'zb'n /izβān/	'zb' ^(o) k, zb'k /(ə)zβāk/	zβ'k, zf'k	<i>bišā</i>	0	* <i>hižūā-(ka-)</i> : (E 3, 403f) Av. <i>hižuuā-</i> , Os. <i>ævzag</i> , P. <i>zabān</i>
89. tooth	dnd'n ^{M,Z} /dandān/ d't ^Z /dād/	dnd'n /dandān/	δnt'(k) /δandā'(k)/		<i>dandaa-</i>		* <i>danta-(ka-)</i> ; Ygh. <i>dindak</i> , Os. <i>dændag</i> Av. <i>dātā-</i> & <i>dantan-</i> (E 2, 329–331)
				γ(y)š			* <i>gastra-</i> : * <i>gah-</i> to gorge Psh. <i>γāš</i> id. (Ch 93)
					<i>ysīmā</i> pl.		Av. <i>zamb-</i> zermalmen : * <i>zamb-</i> open the mouth (Ch 463), OI. <i>jāmbha-</i> tooth
90. tree	d'r ^M /dāru/ d'l ^Z /dār/	d'lwg /dālūg/				0	* <i>dāru-(ka-)</i> : Av. <i>dāuru-</i> stem of tree, wood, P. <i>dār</i> id., tree (H 116)
	drxt ^M dl'ht ^M /draxt/	drxt /draxt/					P. <i>dīraxt</i> id. (H 121)
	wn ^Z /wan/	wn /wan/	wn- /wan/ wn'kh /wanāk/	wn(y)k	<i>banhya-</i>		Av. <i>van-</i> id., Psh. <i>wāna</i> id., P. <i>bun</i> (H 52); OI. <i>van-</i>
				'βr'γ			
					<i>ttīla</i>		Os. <i>tala</i> young tree, OI <i>tarú-</i> tree; or * <i>tarθrja-</i>

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
91. two	<i>dw</i> ^M /dō/	<i>dw</i> /dō/	<i>ʾδw</i> /(ə)δwa/ δwʾ /δwǎ/	^(ʿ) δw, ʾδyw	<i>duva, dva</i>	<i>λoo(i), λoi</i> <i>dbo</i>	* <i>duua-</i> > Av. <i>duua-</i> (E 2, 481)
92. walk	<i>šw-(dn)</i> ^M <i>šwb</i> ^Z /šaw-/	<i>šw-</i> /šaw-/	<i>šw-</i> /šaw/		<i>tsa-, tsv-</i> <i>Tumshuq</i> <i>ccha-</i>	<i>ḥao(i)-</i>	* <i>čjau-</i> : Av. <i>šiiuu-</i> , OP. <i>š(i)yava-</i> , P. <i>šudan</i> ; OI. <i>cyav-</i> (Ch 41; R 125)
	<i>rw</i> ^M , <i>rw</i> ^Z /raw-/						* <i>Hrab/f-</i> : P. <i>raftan/rav-</i> Ku. <i>roy-</i> id. (Ch 184)
	<i>prnpt</i> ^M <i>prnm</i> ^M <i>plnptn</i> ^Z /franaftan/ /franam-/						* <i>fra-nam-</i> : * <i>nam-</i> to bend, bow (Ch 280)
		<i>nw-</i> /naw-/ <i>nwy-</i> /niway-/					* <i>nau-</i> move (Ch 284)
			<i>γr-</i> , <i>x(y)r-</i> /xar-/ ʾʾγʾyr-, ʾxyr- /āxēr/	<i>xr-</i>			* <i>xar-</i> : Ku. <i>her-</i> id. (Ch 443–44)
			<i>ʾnšpr-</i> /anšpar/				* <i>ni-spar-</i> : * <i>spar-</i> tread, kick (Ch 352)
				^(ʿ) y-			* <i>Haj-</i> (Ch 154–57)
					<i>jsā-</i>		* <i>gaH-</i> : Av. <i>gā-</i> (Ch 93)
					<i>dram-</i>		* <i>dram-</i> run: OI. <i>dram-</i> (Ch 75)
						<i>υαχσ-</i>	Prt. <i>hxs-</i> to follow < * <i>hač-</i> id. (Ch 124)
						<i>gado ging</i>	* <i>gata-</i> : Av. <i>gata-</i> : <i>gam-</i>
93. warm	<i>grm</i> ^M <i>glm</i> ^Z /garm/	<i>grm</i> /garm/	<i>γrm</i> /γarm/	<i>γrmnd</i>	<i>garma-</i> <i>grāma-</i>	0	* <i>garma-</i> : * <i>gar-</i> heat (Ch 105) Av. <i>garəma-</i> , OP. <i>gar-</i> <i>ma-</i> Ygh. <i>γarm</i>
94. water	<i>ʾb</i> ^M , <i>ʾp</i> ^Z /āb/	<i>ʾb</i> /āb/	<i>ʾp</i> , <i>ʾp</i> , <i>ʾb</i> /āp, āβ/	* <i>ʾb</i>	<i>ū, ūtca</i> < * <i>apačā-</i>	<i>αββo</i>	* <i>āp-</i> /* <i>ap-</i> (E 1, 311f): Av. <i>āp-</i>
				<i>cwb, jwb</i>			P. <i>jōb</i>
					<i>nīrā</i>		OI. <i>nīra-</i> water Ashkun <i>nīl</i> lake
95. we	<i>ʾm</i> ʾ(h) ^M /amāh/	<i>ʾm</i> ʾ(h) /amāh/	<i>m</i> ʾγ(w), <i>m</i> ʾx /māx(u)/	<i>mβy</i>	<i>buhu,</i> <i>muhu,</i> <i>maha</i>	<i>αμοχο</i>	gen. * <i>ahmākam</i> > Av. <i>ahmākam</i> , OP. <i>amāxam</i> , P. <i>mā</i> dat. * <i>ahmabjā</i> > Av. <i>ahmaiβiiā</i>
96. what	<i>cy</i> ^M /če, čē/	<i>cy, tšy</i> /če, čē/	<i>ʾcw</i> / (ə)čū/ <i>cw</i> /čū/	<i>ʾc(y), c</i>	<i>ci, cā, cu</i>	0	acc. * <i>čim</i> > Av. <i>čim</i> gen. * <i>čahjā</i> > <i>čahiiā</i> nom.-acc. ntr. * <i>čit</i> > <i>čit</i>
	<i>kd</i> ʾm ^M <i>kt</i> ʾm ^Z /kadām/	<i>kd</i> ʾm /kadām/	<i>kt</i> ʾm /katām/				Av. <i>katāma-</i> who (of many)
97. white	<i>ʾspyd</i> ^M <i>spyt</i> ^Z /(i)spēd/	<i>ʾspyd</i> /ispēd/	<i>ʾsp</i> ʾyt /əspēt/ <i>sp(y)ty</i> /spētē/	<i>sbydyk,</i> <i>spydyk</i>	<i>ššīta-</i>	0	* <i>šyaita-</i> (R 95, 129) Av. <i>spaēta-</i> , P. <i>safēd</i>
	<i>ʾlws</i> ^Z /arus/						cf. Av. <i>auruša-</i> id.

	MPersian	Parthian	Sogdian	Khwarezm.	Khotanese	Bactrian	etymological notes
98. who	<i>ky, qy^M</i> /kē/	<i>ky, qy</i> /kē/	<i>ʿky / (ə)kē/ ky / kē/ ky(y)ʿ / kyā/</i>	<i>(ʿ)ky</i>	<i>ce, kye</i>	<i>ka</i>	gen. <i>*kahjā</i> > Av. <i>kahiiā</i> , P. <i>kī</i> (R 94)
	<i>kt^ll^z</i> /kadār/						
99. woman	<i>zn^{M,Z} /zan/</i>	<i>jn /žan/</i>				<i>ζivo</i>	<i>*jani-</i> : Av. <i>jāni-</i> , <i>jaini-</i> (E 4, 141f)
	<i>n^ʿ(y)lyk^z</i> /nārīg/						
			<i>ʿync, ʿync, ynch</i> /i/ēnč/				<i>*yaunika-</i> : Ygh. <i>inč, ēnč</i>
			<i>stryc</i> /strī/ēč/		<i>strīyā-</i>		Av. <i>strī-</i> wife, woman
				<i>δyn /dīn/</i>	<i>(dīnū-</i> cow)		<i>*dainu-</i> : Av. <i>daēnu-</i> female of animal OI. <i>dheni-</i> cow, female (E 2, 447f)
	<i>(wγwg^M</i> /wayōg/ bride)			<i>w(y)δ</i>			<i>*uadū-</i> : cf. Sgd. <i>wδ-w</i> wife, Av. <i>vadū-</i> wife, OI. <i>vadhū-</i> bride
					<i>maṇḍe</i>		B 322: <i>*mantijā</i> < <i>*makantijā-</i> : Av. <i>maēk-</i> P. <i>makīdan</i> to suck
					<i>majšī</i> <i>mijse</i>		cf. Kh. <i>majsā</i> boy; Av. <i>mayauua-</i> unmarried or <i>*mazišī-</i> , cf. OI. <i>ma-</i> <i>hišī-</i> lady, queen < great one f.; <i>SVK</i> III, 123–24: <i>*miždušakī-</i> gnädige (Frau) : OI. <i>mīdhušī-</i>
100. yellow	<i>zlt^z /zard/</i>	0	<i>zyrt^k</i> /zērtē/	<i>zrd(y)k</i>	<i>ysīḍai</i> f. <i>ysīca-</i> <i>ysarūna-</i> y., red <i>gvā-</i>	0	<i>*zarita-</i> (R 151) Av. <i>zairita-</i> Ygh. <i>zērta</i> id.
							<i>*gauvaka-</i> ; cf. Bal. <i>gōray</i> grey, white

Wordlist 6: Nuristani vs. Vedic and Avestan

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
1a. all	<i>sew, sawák</i>	<i>sū</i> <i>sawér trā</i>	<i>sučōk</i>	<i>sāstok</i>	<i>sab, sap,</i> <i>sarap</i>	<i>sarva</i> ¹³²⁷⁶	^{RV} <i>sárva-</i> , ^{AV} <i>sarvaká-</i>	(^{OY} <i>hauruua-</i> whole)
1b.			<i>samik</i>		(<i>samē</i> together)	<i>sama</i> ¹³¹⁷⁴	^{RV} <i>sama-</i> every; pl. all	
1c.			<i>čiyak</i>					
1d.			(<i>*skal</i> many)		<i>sagəl</i>	<i>sakala</i> ¹³⁰⁶⁶ whole		
1e.							^{RV} <i>vīśva-</i>	^{OY} <i>vīspa-</i>
2a. ashes	<i>š/šutī</i>	(<i>šūt</i> earth)				<i>*kšuttikā</i> ³⁷⁰⁹		
2b.		<i>ásə</i>	<i>ásə</i>	<i>āsə</i>	<i>āsā</i>	<i>*āsa</i> ¹⁴⁷⁶	^{AV} <i>ása-</i>	
2c.							^{AV} <i>bhásman-</i>	

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
2d.							Kāvya ^o <i>bhūti-</i>	
2e.								Y <i>ātrīia-</i>
3a. bark	<i>cī</i>	<i>čī(k)</i>		0	<i>čī(k)</i>	<i>citi</i> ⁴⁷⁹⁹ layer <i>cīra</i> ⁴⁸⁴³ strip of bark		0
3b.			<i>yīweyē</i>					
							TS <i>valkā-</i>	
							TB <i>vākala-</i>	
3c.							RV <i>tvác-</i> (#75)	
4a. belly	<i>kūč</i>		(<i>kāčə</i> scrotum)		<i>kyūč, kūč</i>	<i>kukṣi</i> ³²¹³	RV <i>kukṣi-</i>	
4b.	<i>wāš</i>					<i>vakṣas</i> ¹¹¹⁸⁸ chest or <i>ūbadhya</i> ²⁴¹⁷ grass in stomach		
4c.	<i>banī</i>					* <i>bhunḍa</i> ⁹⁵³¹		
4d.	(<i>cūtāl</i> bowels)	<i>kīol, kīyāl</i>	<i>kīal</i>			<i>kissāla</i> ³¹⁵⁷		
4e.			<i>ūl, yūl</i>		<i>wōr</i>	<i>udara</i> ¹⁹³²	RV <i>udāra-</i>	Y <i>udara-</i>
4f.				<i>šā</i>	<i>šā</i>			
4g.				(<i>weīk</i> kidney)	<i>waīkāl</i>	cf. <i>vṛkka</i> ¹²⁰⁶⁴ kidneys ~ Av <i>vəṛṭka-</i> id. (or) <i>vasti</i> ¹¹⁴⁴⁷ bladder		
4h.								Y <i>maršū-</i>
4i.								Y <i>mərəzāna-</i>
5a. big	<i>aulə</i>	<i>al, ōla</i>		0	<i>ōla, ūla</i>	<i>ullasa</i> ²³⁷⁴ bright, merry		
5b.	<i>gandalə</i>		<i>gəndər</i>			* <i>ghanata-</i> <i>ra</i> ⁴⁴²⁶ : <i>ghana</i> firm		
5c.		(<i>leste</i> good)	<i>leste</i>					
5d.					<i>āstər</i>	<i>āstara</i> ¹⁵⁰⁵ covering		
5e.					<i>grān(a)</i>			
5d.							RV <i>mah-</i>	O <i>maz-</i>
6a. bird							RV <i>vī-</i>	Y <i>vaii-</i>
6b.	<i>nīyasā</i>	<i>mīṛəṇəč</i>	<i>nīj(ə), nyīnc</i>	0	<i>nīgāca, nīṇce</i>	* <i>mīgaci</i> ¹⁰²⁶⁵ : RV <i>mīgá-</i> deer		Y <i>mərəṇa-</i>
7a. bite	0	0	0	0	0		RV <i>daś-</i>	* <i>dqs-</i> : <i>tīzi-</i> Y <i>dqsura-</i> sharp-bit- ing
8a. black	<i>žike-stā</i>	(<i>r</i>) <i>zī</i>	<i>uzē</i>		(<i>wīā-</i> to colour)	¹⁰⁵⁷⁰ * <i>raṅgayati</i> dyes		
8b.				<i>kāčə</i>	<i>kāčə</i>	* <i>kāca</i> ³⁰⁰⁸		

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
8c.	(<i>nīlestə</i> green, blue)	(<i>nīlə</i> green blue)	(<i>nīl</i> id.)		<i>nyīlə</i> (+ blue)	<i>nīla</i> ⁷⁵⁶³ (#35) black, dark green / blue		
8d.							^{RV} <i>kṛṣṇá-</i>	
8e.							^{AV} <i>śyāmá-</i>	^Y <i>sāma-</i>
							(^{RV} <i>śyāvá-</i> dark- brown)	^Y <i>siiāuu-</i>
9a. blood	<i>ləu, lou</i>	<i>leu, lūi</i>		<i>lūi</i>	<i>lāi</i>	<i>lohita</i> ¹¹¹⁶⁵	^{VS} <i>lōhita-</i>	
9b.			<i>ūsū</i>			* <i>asn-</i> ⁹⁷¹	^{RV} <i>ásṛk :</i> <i>asan</i> ^o	
9ac.							^{SB} <i>rudhira-</i>	
9d.							^{Mn} <i>rakta-</i>	
9e.								^Y <i>vohunī-</i>
10a. bone	<i>atī</i>	<i>atī</i>	<i>ičī</i>	<i>atī</i>	<i>atī</i>	< <i>aṣṭhi</i> ⁹⁵⁸	^{RV} <i>ásthi</i> ⁹⁸²	^Y <i>ast-</i>
10b.		(<i>buṛū</i> col- lar -bone)	<i>bulū</i>					
11a. breast	(<i>pašū</i> rib, flank)	(<i>paš-čūṭ</i> rib <i>paš-čom</i> flank)	<i>pašī</i> (<i>w</i>) <i>ustū</i> < *(<i>p</i>) <i>aš-</i> ?	0	(<i>paš'ū</i> rib, <i>pašwāṭi</i> rib = breast + bone)	<i>parśu</i> ⁷⁹⁴⁸ rib		
11b.	(<i>židi-</i>) <i>wāṭ</i>	(<i>zir-</i>) <i>vótr</i>	<i>žūžu</i>		(<i>zō-</i>) <i>wātr</i>	* <i>žhṛd-</i> ¹⁴¹⁵² heart & <i>úras</i> ²³⁵⁰ breast		
11c.							^{RV} <i>úras-</i> ²³⁵⁰	^Y <i>varah-</i>
11d.							^{RV} <i>stána</i> ¹³⁶⁶⁶	^Y <i>štāna-</i>
11e.							^{RV} <i>vákṣas</i> ¹¹¹⁸⁸	
12a. burn	0	0	0	0	<i>dēž</i> burn- ing; fire	* <i>dažhya</i> ⁶²⁴⁷	^{RV} <i>dah-</i>	^Y <i>dag-</i>
12b.							^{RV} <i>śoc-</i> id., glow, shine	^{OY} <i>saoc-</i>
12c.							^{RV} <i>uṣ-</i>	
13a. claw	<i>nauča/ə</i>	<i>nači/ě</i>	<i>neči, nəč</i>	<i>nūweča,</i> <i>nōčə</i>	<i>nūičā</i>	* <i>nakha-</i> <i>čika</i> ⁶⁹¹⁴	^{RV} <i>nakhá-</i>	
13b.	<i>čipaṭa</i>				<i>čapaṭa</i>	<i>carpa</i> ⁴⁶⁹⁶ flat * <i>carpaṭa</i> flat hand		
13c.								^Y <i>srū-</i> , <i>sruuā-</i> #41
14a. cloud	<i>nālī</i>	<i>narú</i>			<i>nalī</i>	^{6955e+14657} * <i>nabhalikā</i>	^{RV} <i>nábhas-</i>	
14b.	(<i>mēi</i> dew)	(<i>m'e</i> fog, mist)	<i>mārə</i>	<i>m(i)yār</i>	<i>mayār</i>	¹⁰³⁰³ * <i>meghākāra</i> * <i>meghi-</i> <i>ya</i> ¹⁰³⁰⁴	^{RV} <i>meghá-</i>	^Y <i>maēya-</i>
14c.	<i>koṭ</i>					* <i>gōṭṭa</i> ⁴²⁷¹ something round > cloud of smoke		

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
14d.							^{RV} <i>abhrá-</i>	^Y <i>aβra-</i>
14e.								^Y <i>dunman-</i> ^Y <i>duuqñ^o</i>
14f.								^Y <i>snaoða-</i>
15a. cold		<i>yūc</i>	<i>yūzu</i>	0	<i>yož</i>	* <i>yaja</i> ¹⁰³⁹⁶ < IE ** <i>yeǵ-</i>		(Wx. <i>yaz</i> < Khowar, Kal. <i>yož</i>]
15b.	<i>açage</i>				<i>āčēi-</i> , cf. <i>ačamá</i> ice	¹⁰⁷⁸⁺¹⁰⁷⁹ * <i>áčhabhita</i>		
15c.		<i>šalə</i>	<i>šūlyu</i>		<i>šele</i>	<i>šītala</i> ¹²⁴⁸⁷	^{RV} <i>šītá-</i>	
15d.							^{Rm} <i>šísira-</i>	
15e.								^Y <i>sarəta-</i>
15f.								^Y <i>aota-</i>
16a. come	<i>agóm</i> I came					<i>āgata</i> ¹⁰⁴⁵ arrived	^{RV} (<i>ā-</i>) <i>gam-</i>	^{YO} <i>gam-</i> / <i>jam-</i>
16ab.		<i>āc-</i>	<i>āc-</i> , <i>ač-</i>		<i>ac-</i>	<i>āgacchati</i> ¹⁰⁴⁴	^{RV} <i>āgac-</i> <i>chati</i>	
16c.	<i>āyam</i> I came		<i>ā-</i>		<i>ā-, e-</i>	<i>āyātī</i> ^{1288.1}	^{RV} <i>āyāti</i>	(^{OY} <i>āii-</i> go)
16cc.		<i>ayā</i> came		<i>et-</i>	<i>ām</i> I came	<i>āyāta</i> ^{1288.2}	^{MBh} <i>āyāta</i>	
17a. die	<i>mí-</i>	<i>míēn</i> < <i>m</i>	<i>mə/mō</i>	0	<i>mriyam</i>	<i>mriyate</i> ¹⁰³⁸³	^{RV} <i>mriyate</i>	^Y <i>mar-</i> ^Y <i>raēθ-</i>
18a. dog	<i>kuřōk</i>	<i>kuři</i> , <i>kruyī</i>	<i>kürok</i>			<i>kukkura</i> ³³²⁹		
18ab.					<i>kučúru</i>	* <i>kuccura</i> ³²¹⁹		
18c.				<i>čū</i>	<i>čū</i>	<i>šuna</i> ¹²⁵²⁸	^{RV} <i>śván-</i> / <i>śun-</i>	^Y <i>span-</i> / <i>sun-</i>
19a. drink	<i>pi-</i>	<i>pī-</i>	<i>wī-</i>	0	<i>pī-</i>	<i>pibati</i> ⁸²⁰⁹	^{RV} <i>pā-</i>	(Wx. <i>pōw-</i>)
19b.								^{OY} <i>x^var-</i>
20a. dry			<i>üškyö</i>	0		? <i>šuska</i> ¹²⁵⁴⁸	^{RV} <i>śúška-</i>	^Y <i>huška-</i> ^Y <i>hi(š)ku-</i>
20aa.	<i>susu-stə</i>					¹²⁶⁴⁶ <i>šošu-</i> thirst		
20aaa.		<i>štu</i>				* <i>šushta</i> ¹²⁵⁵⁵ cf. Kal. <i>šušta</i>		(MP. <i>xwš-</i> <i>ty</i>)
20b.	(<i>drānr'a</i> coarse, sandy)	<i>dēři</i>			<i>dāri-štō</i> , <i>derī-stə</i>	<i>dhānā</i> ⁶⁷⁷⁷ parched grain		
21a. ear	<i>kar^o</i> <i>karmuṭa</i> <i>kām</i> < <i>tre</i>	<i>kōr</i> (<i>karmuṭa</i> lobe of ear)		<i>kār</i>	<i>kār</i>	* <i>kāra</i> ³⁰⁵⁶ < <i>karṇa</i> ²⁸³⁰	^{RV} <i>kārṇa-</i>	^Y <i>karəna-</i>
21b.			<i>yümu</i> , <i>ümü</i>			* <i>ušma-</i>		^{du} . ^Y <i>uši</i>
21c.								^o <i>gəušā</i> ^Y <i>gaoša-</i>
22a. earth	<i>palal</i> (+ clay)	<i>pəlāl</i>			<i>palāl</i>	<i>palala</i> ⁷⁹⁵³ mud		
22b.		(<i>pāřasa</i> , <i>pāřes</i> dust)	<i>pāře</i> <i>pučé</i>		(<i>pasilā</i> dusty)	<i>pāmsu</i> ⁸⁰¹⁹ sand, dust		
22c.				<i>gəç</i>	<i>gōç</i>			
22d.	<i>būm</i>	<i>byüm</i>	<i>bīm</i>		<i>būm</i>	<i>bhūman</i> ⁹⁵⁵⁶	^{RV} <i>bhūmi-</i>	^{OY} <i>būmi-</i>
22e.							^{RV} <i>kšám-</i>	^{OY} <i>zam-</i>

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
22f.							^{RV} <i>prthiví-</i>	
23a. eat	<i>yū-</i>	<i>yū-</i>	<i>oyu-</i>	<i>ž-</i>	<i>yā-, yē-</i>	<i>yuvate</i> ¹⁰⁵⁰⁷	^{RV} <i>yuváte</i>	(Wx. <i>yāw-</i>)
23b.							^{RV} <i>ad-</i>	
23c.							^{RV} <i>aś-</i>	
23d.							^{RV} <i>ghas-</i>	^Y <i>gah-</i>
23e.								^{OY} <i>x^var-</i> #19
24a. egg	<i>žau, jau</i>	<i>ažou</i>	<i>wəziǰə</i>	<i>jau</i>	<i>ǰāw/o, žāo, wřāo</i>	<i>*āra</i> < <i>*an(d)ra-</i> cf. <i>ānda</i> ¹¹¹¹	^{RV} <i>āṇḍá-</i> ^{Epi-} <i>āṇḍá-</i>	
24b.		E <i>-pūdrě</i> W <i>puruk</i>	<i>puḍux</i>			<i>*puṇḍaka</i> ⁸³⁷⁷		
24c.								acc. <i>aēm</i>
25a. eye	<i>ačī</i>	<i>ačī</i>	<i>ižī</i>	<i>ačī</i>	<i>ačē</i>	du. <i>akṣiṇī</i> ⁴³	^{RV} <i>ákṣi-</i>	du. ^{OY} <i>aši</i>
25b.							^{RV} <i>cákṣus-</i>	^{OY} <i>čašman-</i>
25c.								^Y <i>dōiθra-</i>
26a. fat n.	<i>šikā</i>	<i>skō</i>	<i>iskī, ūskū</i>	<i>sika</i>	<i>sakā</i>	<i>*sikvaka</i> ¹³³⁹¹		
26b.	(<i>aná ghee</i>)				<i>anřō</i>	<i>āñjana</i> ¹¹⁰⁰	^{RV} <i>āñjana-</i>	
26c.			(? <i>(w)uč'ō</i> clarified butter)		<i>grāwā</i>	<i>ghṛta</i> ⁴⁵⁰¹ fluid grease <i>ghṛtávant</i> ⁴⁵⁰⁵ abounding in ghee		
26d.							^{RV} <i>pívas-</i>	^Y <i>pīuuah-</i>
26e.							^{RV} <i>médas-</i>	
								^Y <i>ūθa-</i>
27a. feather	0	<i>patə</i>	<i>pətegě</i> (<i>wiṭə</i> wing)	0	<i>paṭā</i>	<i>pattra</i> ⁷⁷³³ & <i>paṭṭa</i> ⁷⁶⁹⁹ slab	^{VS} <i>páttra-</i>	
27b.							^{RV} <i>parṇá-</i>	^Y <i>parəna-</i>
28a. fire	<i>aṇā</i>	<i>aṇō</i>	<i>anege</i>	<i>aṇā</i>	<i>āī, āř</i>	<i>aṅgāra</i> ¹²⁵ charcoal <i>*aṅgāra/ika</i>		
28b.							^{RV} <i>agni-</i>	
28c.								^{OY} <i>ātar-</i>
29a. fish	<i>mōč</i>	(<i>ō-</i>) <i>mači</i>	<i>twā-misū</i>	<i>mōč</i>	<i>mač(ě/a)</i>	<i>matsya</i> ⁹⁷⁵⁸	^{RV} <i>mátsya-</i>	^Y <i>masiia-</i>
30a. fly v.		(<i>ptā</i> he fell)		0	<i>puttai</i> <i>wenáh</i>	<i>patati</i> ⁷⁷²²	^{RV} <i>pat-</i>	^{OY} <i>pat-</i>
30b.	<i>ōst</i>	<i>ušt</i>	<i>ušti</i>		<i>ošt-, ušt-</i>	<i>*utthāti</i> ¹⁹⁰⁰ stands up		
30c.								^Y <i>duuan-</i>
31a. foot	<i>kūr</i> (+hoof)	<i>kyur</i>	(? <i>ūgyuruk</i> hoof)	<i>kūr</i>	<i>k(y)ūr</i>	<i>khura</i> ³⁹⁰⁶ hoof		
31b.			<i>ṭē</i>		<i>ṭōtārā</i> hip	<i>ṭaṅk/ga</i> ⁵⁴²⁸ leg		
31c.							^{RV} <i>pád-</i>	^Y <i>pad-</i>
32a. full	<i>parēi</i> <i>pareistā</i> ^M	<i>pārə</i>	0	0	<i>paristā</i>	<i>pārayati</i> ⁸¹⁰⁷ fills		
32ab.							^{RV} <i>pūrṇá-</i>	^{OY} <i>pərəna-</i>
32c.					<i>sāra</i>	<i>sarva-</i> #1		
33a. give	pres. <i>pr-/l-</i> pret <i>pr/lōtə</i>	<i>pré-</i> <i>ptō</i>	<i>-pli-, pli-</i>	<i>pr-</i>	<i>pr-</i> <i>pratō</i>	<i>pradadāti</i> ⁸⁶⁵⁵ <i>*pratta</i> ⁸⁶⁵⁵		
33ab.							^{RV} <i>dā-</i>	^{OY} <i>dā-</i>

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
33c.							^{RV} <i>rā-</i>	
34a. good	<i>mačřk</i> : <i>mači</i> sweet			0		<i>mākřika</i> ⁹⁹⁸⁹ honey		
34b.	<i>māistā</i>					<i>mřřta</i> ¹⁰²⁹⁹ pure, washed > <i>miřta</i> sweet		
34c.			<i>üščüm</i>					
34d.			<i>ganda</i>					
34e.		<i>leste</i>	(<i>leste</i> big)					
34f.					<i>bōstō</i>			
34g.					<i>řai</i>	* <i>jātya</i> ⁵¹⁹⁰ : <i>jātya-</i> of good family		
34h.							^{RV} <i>vāsu-</i>	^{OY} <i>vařhu-</i>
34i.							^{ŠBr} <i>sādhū-</i>	
34j.							^{Mn} <i>bhadra-</i>	
35a. green		(<i>zəřə</i> yel- low <i>žan'a</i> brown orange, red, Cf.#100)	<i>žiprā</i>		(<i>žār</i> grass)	<i>hari</i> ¹³⁹⁸¹ (^{lex} green; ^{RV} yellow)	^{lex} <i>hari-</i> ^{RV} <i>hārita-</i>	0 (Sgd. <i>zrywn</i> ~ Av. <i>zairi</i> . <i>gaona-</i> yellow- colored)
35b.	<i>nīlə</i> (+ blue)	<i>nī'lē</i>			(<i>nilodā</i> blue)	<i>nīla</i> ⁷⁵⁶³ (#8) black, dark green / blue		
35bc.					<i>nidilā</i>			
35d.	<i>ōža</i>		<i>wəžī</i>					
35e.	<i>kaukārā</i>	(<i>k'ukuñ</i> greenish blue; blue)						
35f.				<i>palašó</i>		<i>pālāša</i> ⁸¹³⁰		
35g.		<i>āadra</i> (+ yellow, pale)			<i>'adi-sta</i>	¹³⁹⁹⁰ * <i>haridra-</i> green; yel- low		
36a. hair	(<i>drō</i> wom- an's hair)	(<i>drū</i> id.)	<i>đui</i>		(<i>drū</i> id.)	? <i>drava</i> ⁶⁶²³ running Khr. <i>dro</i> hair		(Orm. <i>dr^a/ī</i> Os. <i>ærdu</i>)
36b.	<i>žū</i> (<i>žū?</i>)	<i>žū</i> (<i>ř</i>) <i>žvū</i> ^{M29}	<i>žūi</i> < Kati			<i>ruh</i> ¹⁰⁷⁹⁵ growth, sprouting		
36c.							^{RV} <i>róman-</i>	
36d.			(<i>iš-kic</i> mustache)	<i>kēc</i>	<i>kēc, kēc</i>	<i>keša</i> ³⁴⁷¹	^{AV} <i>kéša-</i>	
36e.					<i>pasij</i>			
36f.								^Y <i>varāsa-</i>
36g.								^Y <i>gaona-</i>
37a. hand	<i>dus, dost</i>	<i>duřt</i>	<i>lust</i>	<i>dōř</i>	<i>dōřt</i>	< WIr. * <i>dast-</i> vs. IA. * <i>ha-</i> <i>sta</i> ¹³⁷⁴⁷	^{RV} <i>hásta-</i>	^{OY} <i>zasta-</i>

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
37b.	<i>čapāl</i>				<i>čapāl</i>	* <i>car-pa-la</i> ^{4696A}		
37c.								^Y <i>gauu-</i>
38a. head	<i>šā</i>	E <i>šēṭ</i> , W <i>šūṭ</i>		<i>šēi</i>	<i>šai, sei</i>	* <i>śrāya</i> ¹²⁶⁹⁴		
38b.			<i>jī</i>			* <i>śrāya</i> or <i>śiras</i> ¹²⁴⁵²		
38bc.		<i>čyur, čir</i>				<i>śiras</i> ¹²⁴⁵²	^{RV} <i>śiras-</i>	^Y <i>sarah-</i> ^Y <i>sāra-</i>
38d.							^{RV} <i>mūrdhān-</i>	^Y <i>kaməṛəda-</i> ^Y <i>vayḍana-</i>
39a. hear	<i>poruj-, puruz-</i>				<i>př-, p-</i>	* <i>pari-budhyate</i> ⁷⁸⁴⁸		
39b.		<i>səñā-</i>				<i>sam-khyāti</i> ¹²⁸⁴²		
39c.			<i>nusi-</i>	<i>sūr-</i>		<i>śṛṇoti</i> ¹²⁵⁹⁸	^{RV} <i>śru-</i>	^{OY} <i>sru-</i>
39d.					<i>šudi</i> cf. <i>šūd'i</i> informed	<i>śuddhi</i> ¹²⁵²³ information		
							(^{RV} <i>ghoṣ-</i> to sound)	^{OY} <i>gūš-</i>
40a. heart	<i>židī</i>	<i>jarə,</i> <i>zirə</i> ^{M29}	<i>zir, zər</i>	<i>jō</i>	<i>zō, jō</i> <i>jōr-dūj</i> ^{M29}	<i>hṛdaya</i> ¹⁴¹⁵²	^{RV} <i>hṛdaya-</i>	^O <i>zəṛəd-</i> ^Y <i>zəṛədaia-</i>
41a. horn	<i>šūṭ</i>	<i>šūṭ</i>	<i>šūṅgi</i>	<i>šūṭ</i>	<i>šūṭ</i>	<i>śṛṅga</i> ¹²⁵⁸³	^{RV} <i>śṛṅga-</i>	
41ab.			<i>ūčūū</i>			* <i>śrū-</i> ¹²⁷¹⁵ cf. Torw <i>šō</i>		^Y <i>sṛū-</i> , <i>sruuā-</i>
42a. I	<i>ai</i> acc. <i>yū</i>	<i>ūzə, wūc</i>	<i>unzū, unzu</i>	<i>ē(-ka)</i> acc. <i>žū</i>	<i>ž. yē</i> acc. <i>ī</i>	<i>aham</i> ⁹⁹²	^{RV} <i>aham</i>	^O <i>azəm</i> ^Y <i>azəm</i>
42b.					Ke. <i>añā</i>	? <i>aṅga</i> ¹¹⁴ body		
43a. kill	<i>lā-</i>					<i>lāgayati</i> ¹¹⁰⁰⁴ lays on		
43b.		<i>žār-, jūr-</i>	<i>o-žnū-</i>	<i>jřē-, jē-</i>	<i>jāā-, žā</i>	* <i>hanyati</i> ¹³⁹⁶³	^{RV} <i>han-</i>	^{OY} <i>gan-/jan-</i>
43c.							^{RV} <i>vadh-</i>	
43d.								^{OY} <i>marək-</i>
43e.								^Y <i>fra-kaoš-</i>
44a. knee	<i>zā, zā-dō</i>	<i>zā</i>			<i>zā</i>	<i>jānu</i> ⁵¹⁹⁵	^{RV} <i>jānu-</i>	^Y <i>zānu :</i> ^Y <i>žnu</i> ^o
44b.	<i>ḍoŋ, ḍeŋg</i>			<i>drāṅā</i>		* <i>dhōṅga</i> ⁵⁶⁰⁵ cf. Hi. <i>dhōgā</i>		
44c.			<i>uzogur, zowur</i>			<i>jaṅghā</i> ⁵⁰⁸² shank		
44d.					<i>āṣaṅā</i>	* <i>akṣa-aṅga-</i> eye-limb		
45a. know	<i>niŋa-</i>	<i>zār</i>	<i>āzne</i>	0	<i>ž. jār-</i>	<i>jānāti</i> ⁵¹⁹³	^{RV} <i>jñā-</i>	^Y <i>žnā-</i>
45b.							^{RV} <i>ved- :</i> <i>vid-</i>	^{OY} <i>vaēd-</i>
46a. leaf	<i>pār</i>	<i>pār</i> ^{M29}	<i>parəg</i>			<i>parṇa(ka)</i> ⁷⁹¹⁸ foliage	^{RV} <i>parṇā-</i>	
46b.		<i>pōn</i>				<i>parṇa</i> ⁷⁹¹⁸		

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
46c.	<i>pōtilā</i> leaf/leaves		(<i>pe'ōt</i> tree)	<i>po:t</i> leaf	<i>paṭā, pōt</i> leaf	<i>paṭṭa</i> ⁷⁶⁹⁹ slab, tablet > Dard. * <i>paṭṭa</i> leaf		
46d.								^Y <i>varāka-</i>
47a. lie	0	0	0	0	<i>naraṅ-</i>			
47b.		(<i>ši-</i> stay, live)					^{RV} <i>śī-</i>	^{OY} <i>šaēte</i>
							^{RV} <i>nī-pad-</i>	^Y <i>nī paidīia-</i>
48a. liver	<i>wīen /</i> <i>yūn</i> ^{Wama}	<i>yāi,</i> <i>wyāk</i>		<i>jəṛūna</i>	<i>yōk</i>	* <i>yakan</i> - ¹⁰³⁹⁴ * <i>yakn-</i> ? * <i>yakṛ-n-</i>	^{RV} <i>yakṛt-</i> : <i>yakn-</i>	^Y <i>yākarə</i>
48b.			<i>azətī</i>		<i>satīk</i>			
49a. long	<i>drigalā</i>	<i>drigōr</i>	<i>jignī</i> < * <i>dīrghan-</i>	<i>drigəṛālā</i>	<i>drigəḷə</i>	⁶³⁶⁸ * <i>dīrgha(ra)</i>	^{RV} <i>dīrghā-</i>	^O <i>darəga-</i> ^Y <i>darəga-</i>
49b.								^Y <i>mas-</i>
50a. louse	(<i>w</i>) <i>ū</i>	<i>yū</i>	<i>wyōinuk</i>	<i>wū</i>	<i>wū, uū</i>	<i>yūkā</i> ¹⁰⁵¹² Pali <i>ūkā-</i>	^{Mn} <i>yūka-</i>	(Khufi <i>jūg</i>)
50b.		<i>piki</i>	<i>iwik/x</i>			* <i>prka</i> ⁹⁰²⁹³ flea		
50c.		(? <i>ūcak</i> small louse)	<i>wišigī</i>					^Y <i>spiš-</i>
51a. man	<i>mac</i>	<i>mač, moč</i>			<i>māč</i>	<i>martya</i> ⁹⁸⁸⁸	^{RV} <i>mārtya-</i>	^{OY} <i>mašīia-</i>
51b.		<i>manči</i>	(<i>mūšū</i> husband)	<i>madaš</i>	<i>manáš</i>	<i>manuṣya</i> ⁹⁸²⁸	^{RV} <i>manuṣyā-</i>	
51c.							^{RV} <i>nāra-</i>	^{OY} <i>nar-</i>
51d.	(<i>wirā-kurā</i> boy)		<i>wəṛjimī</i> <i>warjemī</i>			<i>vīra</i> ¹²⁰⁵⁶	^{RV} <i>vīrā-</i>	^{OY} <i>vīra-</i>
51e.					<i>nawistā</i>			
51f.							^{RV} <i>pūmāns-</i>	
52a. many	0	0		0			^{RV} <i>bahū-</i>	
52b.							^{RV} <i>purú-</i>	^{OY} <i>pauru-</i> , <i>p(a)ouru-</i>
52c.							^{RV} <i>bhūri-</i>	
52d.			[°] <i>skal</i>		(<i>sagəl</i> all; see #1)	(<i>sakala</i> ¹³⁰⁶⁶ whole)		
52e.					<i>wašəma</i> ?cf. <i>samē</i> together	? <i>sama</i> ¹³¹⁷⁴ pl. all		
52f.					<i>jāl, ʒal, ʒār</i>	<i>jāla</i> ⁵²¹³ collection		
53a. meat	<i>anda</i>	<i>anō</i>		<i>anda</i>	<i>andā, ana</i>	* <i>ad-nā-ka</i> edible, cf. <i>anna</i> ³⁹⁵⁻ food		
53b.		<i>mus, mos</i>			<i>mās</i>	<i>māmsa</i> ⁹⁹⁸²	^{RV} <i>mās-</i> ^{RV} <i>māmsá-</i>	
53c.			<i>bāzə</i>			<i>bhājī</i> ¹⁴⁷²⁹ cooked food		
53d.								^{OY} <i>gauu-</i> id. < cow

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
54a. moon	<i>mas</i>	<i>mōs</i>	<i>mēseg/ye</i> <i>māsex</i>	<i>mās</i>	<i>mās</i>	<i>māsa</i> ¹⁰¹⁰⁴ <i>māsakā</i>	^{RV} <i>mās(a)-</i>	^{OY} <i>māh-</i>
54b.							^{VS} <i>candrā-</i>	
55a. moun- tain	<i>dā</i>	<i>dō</i>	<i>dō</i> < Kt.	<i>dā</i>	<i>dā, dār</i>	<i>dhāra</i> ⁷⁶⁷⁹³ edge		
55b.		(<i>kū</i> hump)	<i>kū</i>			* <i>kaupha</i> ³⁵²¹		(Av. <i>kaofa-</i> mountain ridge; OP. <i>kaufa-</i> mountain)
55c.		(<i>sō</i> hill pasture)			<i>sā</i>	<i>sānu</i> ¹³³⁴⁰ mountain top		
55d.							^{RV} <i>giri-</i>	^Y <i>gairi-</i>
55e.							^{RV} <i>pārvata-</i>	^Y <i>pauruaitā-</i>
55f.								^Y <i>barazah-</i>
56a. mouth	<i>āṣī</i>	<i>aṣī</i>	<i>iš, īš</i>	<i>āš</i>	<i>āš</i>	<i>āsiya</i> ¹⁵³³	^{RV} <i>ās, āsyā-</i>	^{OY} <i>āh-</i>
56b.	(<i>muk</i> face)	(<i>myuk</i> id.)	(<i>mikh</i> id.)		(<i>muk</i> id.)	<i>mukhya</i> ¹⁰¹⁷⁴	^{RV} <i>múkha</i>	
56c.								^Y <i>zafar-</i>
57a. name	<i>nām</i>	<i>nām</i>	<i>nom, na/em</i>	0	<i>nām</i>	<i>nāman</i> ⁷⁰⁶⁷	^{RV} <i>nāman-</i>	^{OY} <i>nāman-</i> ^Y <i>nqman-</i>
58a. neck		(<i>gə'ək-</i> <i>dámə</i> ad- am's apple)	<i>lumū, lūmī</i>		<i>daməṛ</i>	<i>dhamani</i> ⁶⁷³³ nerve; neck ^{lex}		
58b.	<i>marañīk</i>	<i>marə'rik</i>	<i>marneg'i</i> <i>marnāik</i>		<i>mareṇ</i>	cf. <i>maṇi</i> ⁹⁷³² hump		
58c.	<i>mandā</i>			<i>mūdā</i>	<i>mōda</i>	<i>mūrdhan</i> ¹⁰²⁴⁷ head, top & <i>maṇi</i> ⁹⁷³² hump		
58d.					<i>gal</i>	<i>gala</i> ⁴⁰⁷⁰	^{MBh} <i>gala-</i>	^Y <i>garō</i>
58e.		<i>gə'ək</i>	<i>gīk</i>		(<i>girīw</i> col- lar)	<i>grīvā</i> ⁴³⁸⁷	^{RV} <i>grīvā-</i>	^Y <i>grīuūā-</i>
58f.								^Y <i>manaoθri-</i>
59a. new	<i>nuyā,</i> ^{°astə}	<i>nuī</i>	<i>unū</i>	0	<i>nugə</i>	<i>navaka</i> ⁶⁹⁸³ <i>naviya</i> ⁷⁰²⁵	^{RV} <i>nāva-</i>	^Y <i>nauua-</i>
60a. night	<i>zatr, žātr</i>	<i>rātrə</i> <i>radār</i>	<i>žəṭ, zet</i> <i>əštā</i> < *žtā	<i>jātr</i>	<i>wātr, žatr/ṛ</i>	<i>rātrī</i> ¹⁰⁷⁰²	^{RV} <i>rātrī-</i> ^{MBh} <i>rātra-</i>	
60b.					<i>auzə,</i> cf. <i>awázá</i> yesternight			
60c.	(<i>čū, çū</i> last night)	<i>šā</i>				<i>kšap(ā)</i> ³⁶⁵²	^{RV} <i>kšap-</i> , ^{RV} <i>kšapá-</i>	^Y <i>xšap(an)-</i> ^Y <i>xšapar/ā-</i>
60d.							^{RV} <i>nák,</i> ^{RV} <i>nákta-</i>	^Y <i>naxtar-</i> in <i>upo.naxtar-</i> an die Nacht an- grenzend
61a. nose			<i>nes(ə), nas</i>	<i>nās</i>	<i>nas(ú)</i>	<i>nāsā</i> ⁷⁰⁸⁹	^{AV} <i>nāsā</i>	^Y <i>nāh-</i>
61ab.	<i>nāsuṛi</i>	<i>nasur</i>				<i>nāsāpuṛa</i> ⁷⁰⁹⁰		
61c.	<i>kašara</i>							

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
61d.							ChUp ^g ghrāna-	
61e.								Y ^{vaēnā-}
62a. not	ne, nǎ	ne	nǎ, nǎ	0	na, ne	na ⁶⁹⁰⁶	RV ná	OY ^{na}
63a. one	ač					*eka ²⁴⁶²	RV éka-	
63ab.		ew	ipūn	yō	ew, ew			OY ^{aēuua-}
64a. person	0	0	māṭek	0	0	marta ⁹⁸⁸⁷	RV mártā-	O ^{maša-} OY ^{mašīia-} Y ^{mašīiāka-}
64b.							RV mánu(s)-	
64c.							RV púruša-	
65a. rain n.	nǎlī					= #14 cloud		
65b.		agōl	agal, γāl			*udghāra ¹⁹⁷⁷		
65c.		dēš						
65d.		woš		wešij	wǎš	varša ¹¹³⁹²	RV varšá-	
65de.								Y ^{vār-}
66a. red	řutu-/zoti-			jātɔ:	ž/jātə	rakta ¹⁰⁵³⁹	ŚGr rakta-	
66b.	so:nə-					šoṇa ¹²⁶²³	RV šóṇa-	
66c.		puṭ	pūṭi			pundra ⁸²⁵⁹ pale		
66d.					lāile-, lailāi-	*lohila ¹¹¹⁶⁸	RV r/lóhita-	Y ^{raoidita-}
66de.							AV rudhirá-	
66e.							RV aruṇá-	(^O auruna- hellbraun)
66f.							(^{RV} śukrá- ^{AiBr} śuklā-)	OY ^{suxra-}
67a. road	pōt	put	wūtō	pōt	pūt	panthā ⁷⁷⁸⁵	RV pánthā- RV pathi-	Y ^{panti-} OY ^{paθ(ā)-}
67b.	wir ^e čū					virathyā ¹¹⁸⁴³ by-road (or) *upa- rathyā ^{Mor}		
67c.					sarak			
67d.							RV ádhvan-	O ^{aduan-} Y ^{aδban-}
67e.							M ^m mārga-	
67f.								Y ^{fraiiana-}
68a. root	žī	0	zū : žī bowstring	0		cf. jiyā ⁵²²⁷ bowstring		
68b.			lū					
68c.					kōw, kú jǎlakōw	cf. #90 tree		
68d.							RV mūla- AV mūra-	
68e.								Y ^{varāša-} gaii- = tree-life
69a. round	0	0	0	0	tokunnáh			
69b.							BhP ^{vartula-}	
69c.								Y ^{skarəna-}

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
70a. sand	<i>šōrā/ə</i>			<i>šew</i>	<i>šō</i>	<i>sikatā</i> ¹³³⁸⁶	^{VS} <i>sikatā-</i>	0 (Kh. <i>siyato</i>)
70ab.		W <i>čūī</i> E <i>čyu/čüyū</i> <i>čele</i>				* <i>sikatā</i> ¹³³⁸⁶ * <i>sikatila</i>		(OP. <i>θikā</i> Sgd. <i>šykt</i>)
70c.			<i>wəžibzix</i>					
70d.							^{AV} <i>pāmsú-</i> ^{Mn} <i>pāmsú-</i>	(^Y <i>pqsnu-</i> dust)
70e.							^{švUpv} <i>vālukā-</i>	
71a. say	<i>lāl-</i>	<i>la-</i>	(<i>i</i>) <i>lye/u</i>	0				
71b.			<i>pulu</i>					
71c.	(<i>mūlu-</i> to under- stand)				<i>matr-</i>	<i>man-</i> <i>trayate</i> ⁹⁸³⁷ speaks		
71d.					<i>ta(-)č-</i>			
71e.							^{RV} <i>vak-/vac-</i>	^{OY} <i>vak-/vac-</i>
71f.							^{RV} <i>brū-</i>	^{OY} <i>mrū-</i>
71g.								^{OY} <i>aog-</i>
72a. see	<i>kās-</i>	<i>kc-, pa-kc-</i>	<i>-s-koz-</i>		<i>ū-kač-</i>	<i>kāšate</i> ³¹¹⁴ is visible		(^Y <i>kas-</i> erblicken)
72b.					<i>pas-</i>	<i>pašyati</i> ⁸⁰¹²	^{RV} <i>paš-</i>	(^{OY} <i>spasiiā</i> beschaut; Kh. <i>spāšš-</i>)
72c.	<i>wēñ-, wēñ-</i> <i>wañ-</i> ^{Wama}	<i>wrē-</i>			<i>wrē-</i>	<i>venati</i> ¹²¹¹¹	^{RV} <i>vén-</i>	^{OY} <i>vaēn-</i>
72d.			<i>-nje</i>	<i>jē</i>		<i>niš-cayati</i> ⁷⁴⁴⁰ observes		
72e.							^{RV} <i>dṛś-</i>	(^{OY} <i>darəs-</i> erblicken)
72f.							^{AV} <i>īkṣ-</i>	
72g.								^{OY} <i>dā(ii)-</i>
72h.								^O <i>pāh-</i>
73a. seed	<i>bī</i>	<i>bī</i>	0	0	<i>bī</i>	<i>bīja</i> ⁹²⁵⁰	^{RV} <i>bīja-</i>	(P. <i>bīj</i>)
73b.								^{OY} <i>ciθra-</i>
							(^{RV} <i>tókman-</i> young blade of corn)	^Y <i>taoxman-</i>
74a. sit	<i>niš-</i>	<i>niš-</i>		<i>niš-</i>	<i>niš-</i>	<i>nišdati</i> ⁷⁴⁶⁷	^{RV} <i>ni-šīd-</i>	^Y <i>niš-hið-</i>
74ab.			<i>bi-šl-, šil-</i>			<i>šīdati</i> ¹²⁴³²	^{RV} <i>šīdati</i>	^{OY} <i>had-</i>
74c.							^{RV} <i>ās-</i>	^Y <i>āh-</i>
75a. skin	<i>cam</i>	<i>čom</i>	<i>čāmə</i>	0	<i>čām</i>	<i>carman</i> ⁴⁷⁰¹	^{RV} <i>cárman-</i>	^Y <i>carəman-</i>
75b.							^{RV} <i>tvác-</i>	
75c.							^{Kāth} <i>chavi-</i>	^Y <i>sur-</i> (cor. * <i>s(ə)uui-</i> ?)
76a. sleep			<i>sūu</i>	0		<i>svapati</i> ¹³⁹⁰²	^{RV} <i>svap-</i>	^Y <i>x'ap-</i>
76ab.	(<i>prust</i> bed, dream)	(<i>pruišt</i> bed)	(<i>pušt</i> bed)		<i>prúschún</i> <i>prōš(t)</i> n.	<i>pra-supti</i> ⁸⁸⁴⁶ sleepiness		

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
76c.	<i>minīk</i> n.	<i>mīnā</i> n.				<i>ni-drā</i> ⁷²⁰⁰		
76d.							^{Br} <i>drā-/drai-</i>	
77a. small	<i>lakurə</i>			0				
77b.		<i>prəmēri</i>			<i>lemēra</i>			
77c.			<i>bannia</i>			?* <i>upa-</i> <i>kanīyas</i> ²¹³⁷ next young- er		
77d.					<i>atalog</i>			
77e.					<i>waštok</i>			
77f.	(<i>apələk</i> little, few)				<i>apilog</i> (<i>apilūk</i> few)	<i>alpa-laka</i> ⁷²²	^{AV} <i>ālpa-</i>	
77g.							^{RV} <i>ārbha-</i>	
77h.								
77i.							^{Mn} <i>kṣudra-</i> <i>ka-</i>	
77j.								^{OY} <i>kasu-</i>
78a. smoke n.	<i>dūm</i>	<i>dyūm, dūm</i>	<i>ulyūmo</i>	<i>dum</i>	<i>dūm</i>	<i>dhūma</i> ⁶⁸⁴⁹	^{RV} <i>dhūmā-</i>	0
79a. stand	<i>utin-</i> be standing	<i>wutin-</i>	<i>istāda</i> <i>ūltyu</i> < * <i>ud-stā-</i>	0	<i>utin-</i> <i>utí</i>	<i>utthita</i> ¹⁹⁰⁷ arisen < * <i>ud-sthita-</i>		
79ab.							^{RV} <i>sthā-</i>	^{OY} <i>stā-</i>
80a. star	<i>istā</i>	<i>štā</i>	<i>ištīk/x</i>			* <i>stārikyā</i> ¹³⁷¹³	^{RV} <i>stī-</i>	^{OY} <i>star-</i>
80ab.				<i>tāra</i>	<i>tāra</i>	<i>tārakā</i> ⁵⁷⁹⁸	pl. ^{RV} <i>tāraḥ</i> ^{AV} <i>tārakā</i>	
81a. stone	<i>wāṭ</i>	<i>wōṭ</i>		<i>wāṭ</i>	(<i>wāṭ</i> small stone)	* <i>varta</i> ¹¹³⁴⁸ round stone		(Ku. <i>bard</i>)
81b.		<i>garraḥ</i>	<i>yīrē, yire</i>			<i>giri</i> ⁴¹⁶¹ rock, mountain		
81c.					<i>drā</i>			
81d.	(<i>pašū</i> rock)	(<i>parši</i> rock, mountain)			(<i>pašū</i> rock)	<i>pāši</i> ⁸¹⁴⁰ < * <i>parši-</i>	^{Br} <i>pāšāna-</i>	(Psh. <i>parša</i> rock < Nur)
81e.							^{RV} <i>ásman-</i> ^{RV} <i>ásan-</i>	^{OY} <i>asan-</i> ^{OY} <i>asəṅga-</i>
81f.							^{AV} <i>silā-</i>	
81g.								^Y <i>zarštuua-</i>
82a. sun	<i>s^uo, sō</i>	<i>sū</i>	<i>ūsūk/x</i>	<i>sō, sā</i>	<i>sō, sōi</i>	<i>saurī</i> ¹³⁵⁷⁴	^{RV} <i>svār-/</i> <i>súv^o</i> ^{RV} <i>sūr(i)ya-</i>	^{OY} <i>huuarə</i> ^{Ox^van^o}
83a. swim	0	0	0	0	<i>gūjām</i> <i>yām, bi-am</i>			0
83b.							^{RV} <i>plu-</i>	
84a. tail	<i>di/umašī</i>	<i>dəmrei</i>	<i>lūmu, limī</i>	<i>dumuṭ</i>	<i>dumār &</i> <i>tumṭā</i>	* <i>dumbha</i> ⁶⁴¹⁹ (Kal. <i>dhamréi</i>)		^Y <i>duma-</i>
84b.							^{RV} <i>śépa-</i>	
84c.							^{AV} <i>púccha-</i>	
84d.							^{śś} <i>lāngūla-</i>	

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
85a. that .	<i>səkə</i>	<i>aske, āska</i>		<i>s<</i>	<i>skə</i>	<i>sa / sā</i> ¹²⁸¹⁵ he/she, that	^{RV} <i>sá / sá</i>	
85b.	<i>kī</i>	<i>kyi</i>						
85c.	<i>yāk</i> ^{Wama}	<i>aki, iki, ia</i>				<i>*eta-ka</i> ²⁵³⁰		
85d.	<i>poi</i>		<i>?(u)wū</i>		<i>peī, pūi, pē(i)</i>	<i>ātman</i> ¹¹³⁵ self		
85e.			<i>sū</i>			<i>asau</i> ⁹⁷²	^{RV} <i>asáu</i>	
85f.							^{RV} <i>adás</i>	
85g.								^{OY} <i>auua/ā-</i>
86a. this	<i>ya(k), yāk</i>			<i>ī</i>	<i>yī</i>	<i>ayam</i> ⁵⁸⁷	^{RV} <i>ay-</i>	^O <i>aiiām</i> ^{OY} <i>aēm</i>
86ab.		<i>ine, enē, inā</i>				<i>*ena</i>		
86c.	<i>apāi</i>					<i>ātman</i> ¹¹³⁵		
86d.			<i>sū</i>			<i>asau</i> ⁹⁷²	^{RV} <i>asáu</i>	
86e.					<i>sa/e, sə</i>	<i>sa / sā</i> ¹²⁸¹⁵ he/she, that	^{RV} <i>sa-, sā-</i>	^{OY} <i>ha-/hā-</i>
86f.					obl. <i>tō/ta</i>			obl. ^{OY} <i>ta/ā-</i>
86g.			<i>ari</i>			<i>āra</i> ¹²⁹⁵ near		
86h.			<i>al(ek)</i>		<i>alī</i>			
86i.								^Y <i>aēta/ā-</i>
86j.								^{OY} <i>a/ā-</i> : ^{OY} <i>i(mā)-</i>
87a. thou	<i>tū</i>	<i>tū</i>	<i>iyū</i>	<i>tu</i>	<i>tu, tū</i>	<i>tuvam</i> ⁵⁸⁸⁹	^{RV} <i>t(u)vam</i>	^O <i>tuuām</i> ^Y <i>tūm</i>
88a. tongue	<i>ž(y)ū</i>	<i>dič</i>	<i>luzux/k wurjuk</i>	<i>jīp</i>	<i>jīp</i>	<i>jihvā</i> ⁵²²⁸	^{RV} <i>jihvā-</i>	^Y <i>hizuuah/ā-</i> ^{OY} <i>hizū-</i>
88b.							^{MaiUp} <i>prasanā</i>	
89a. tooth	<i>dunt</i>	<i>dut</i>	<i>lātəm</i>	<i>dūt</i>	<i>dōt</i>	<i>danta</i> ⁶¹⁵²	^{RV} <i>dánt(a)-</i>	^Y <i>dan̄tan-</i> ^Y <i>dātā-</i>
90a. tree	<i>kándā</i>	<i>kánē</i>			<i>kaná</i>	<i>*kandha</i> , cf. <i>skandha</i> ¹³⁶²⁷ trunk of tree		
90b.	<i>(pōtilā</i> leaf/leaves)		<i>pe'ōt</i>	<i>(pɔ:ɪ</i> leaf)	<i>(pōt</i> leaf)	<i>paṭṭa</i> ⁷⁶⁹⁹ slab, tablet > Dard. <i>*paṭṭa</i> leaf		
90c.	<i>(zul</i> jungle)	<i>(zul</i> jungle)		<i>jalā</i>	<i>ǰālā</i>	<i>*jhalla</i> ⁵³⁵⁵ bush		
90d.		<i>(mutə</i> log of wood)	<i>mutu</i> < Kati		<i>mutə</i> < Kati	<i>*mutṭa</i> ^{10187.2} , cf. Dm. <i>muṭh</i> id./ <i>*mūrṭi</i> ¹⁰²⁴⁵		
90e.							^{RV} <i>vr̥kṣá-</i>	^Y <i>varəša-</i>
90f.							^{MBh} <i>drumá-</i>	
90g.							^{RV} <i>vána-</i>	^Y <i>van(ā)-</i>
91a. two	<i>dū</i>	<i>dū</i>	<i>lū</i>	<i>dū</i>	<i>dū, dū</i>	<i>duvā</i> ⁶⁶⁴⁸	^{RV} <i>d(u)vai</i> & ^{RV} <i>d(u)vá</i> m. ^{RV} <i>d(u)vé</i> f.n.	^Y <i>duua-</i>
92a. walk	pres. <i>di-</i>			pres. <i>dī-</i>	pres. <i>di-</i>	<i>dīyati</i> ⁶³⁶⁴ flies		

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
92b.		pres. <i>e-, i-</i>				<i>eti</i> ²⁵¹⁵	^{RV} <i>i-</i>	^{OY} <i>aii- : y-</i>
92c.	pret. <i>gō-</i>	pret. <i>guwo-</i>	<i>gə</i>	pret. <i>g-</i>	pret. <i>g-</i>	<i>gata-</i> ⁴⁰⁰⁸ <i>gone</i>	^{RV} <i>gam-</i>	^{OY} <i>gam-/</i> <i>jam-</i>
92d.			<i>pəzə-, -bzə</i> <i>-ptə-</i>			<i>padyate</i> ⁷⁷⁷⁷ <i>*patta</i> ⁷⁷³¹		
92e.					pret. <i>čū</i>	<i>cyavate</i> ⁴⁹³⁹ moves		^{OY} <i>ś(ii)auu-</i>
92f.					<i>kutt-ún</i>			
92g.	<i>paišta</i>					<i>pra-tiṣṭha-</i> <i>tī</i> ⁸⁶⁰⁷ stands up		
92h.							^{RV} <i>yā-</i>	^Y <i>yā-</i>
93a. warm	<i>tapō</i>	<i>t(i)pī</i>	<i>tábe</i>	0	<i>tapé</i>	<i>tapyatu</i> ⁵⁶⁸⁶ <i>tapyati</i> ⁵⁶⁸⁵ heat	^{RV} <i>tápus-</i> ^{RV} <i>taptá-</i>	^Y <i>tapta-</i>
93b.							^{RV} <i>uṣṇá-</i>	
93c.							(<i>gharma-</i> heat)	^{OY} <i>garəma-</i>
94a. water	<i>abō</i>	E <i>ōu,</i> W <i>āwə</i>	<i>āw(ə)</i>	<i>āu</i>	<i>āw, āu</i>	<i>āpas</i> ⁴⁰⁷	^{RV} <i>ap- : āp-</i>	^{OY} <i>āp- : ap-</i>
94b.							^{MBh} <i>jala-</i>	
94c.							^{RV} <i>udán-</i>	
94d.							^{RV} <i>āmbhas-</i>	
95a. we	<i>ima</i>	<i>ema, imā</i>	<i>asē</i>	<i>awā</i> gen. <i>žamā</i>	Ke. <i>amī</i> Ž. <i>yama</i>	acc. <i>asmān</i> ⁹⁸⁶	^{RV} <i>asmān</i>	^O <i>āhmā</i> ^Y <i>ahma</i>
95b.							^{RV} <i>vayám</i>	^{OY} <i>vaēm</i>
96a. what	<i>kā</i>	<i>ke, kai</i>		0	<i>kasə</i>	<i>ka/kā/kim</i> ²⁵⁷⁴	^{RV} <i>ká-/ká-/</i> <i>kim m./f./n.</i>	^{OY} <i>čīm</i>
96b.			<i>pəs(se),</i> <i>pseh</i>			<i>?ta-</i> ⁵⁶¹²		
97a. white	<i>kaširā</i>	<i>kašerə</i>	<i>kə/ašir</i>	<i>kešera</i>	<i>kaširä-</i>	<i>*kāšira-</i> ³¹¹⁶		
97b.							^{RV} <i>árjuna-</i>	
97c.							^{RV} <i>śvetá-</i>	^Y <i>spaēta-</i>
97d.							^{RV} <i>śukrá-</i> ^{AiBr} <i>śuklá-</i>	
97e.							(^{RV} <i>aruśá-</i> hellrot)	^Y <i>auruša-</i>
98a. who	<i>čēi</i> < <i>*ki-</i> , obl. <i>kō</i>	<i>kū, kači,</i> <i>kett</i>	<i>kəs, kes(e)</i>	0	<i>kī, kē</i>	<i>ká/kā/kim</i> ²⁵⁷⁴	^{RV} <i>ká-/ká /</i> <i>kim m./f./n.</i>	^{OY} <i>ka-/kā-</i> <i>m./f.</i>
99a. woman	0 (<i>istrī</i> wife)	<i>štrī</i>	<i>westī</i>		<i>ištrō</i>	<i>strī</i> ¹³⁷³⁴	^{RV} <i>strī-</i>	^Y <i>strī-</i>
99b.				<i>dabilī</i>	<i>dabilī :</i> <i>dābālā</i> boy	<i>durbala-</i> ⁶⁴³⁸ weak		
99c.					<i>mōšī</i>	<i>*mānuš</i> ⁹⁸²⁸		
99d.							^{RV} <i>jāni-</i> ^{RV} <i>gnā-</i>	^O <i>jāni-</i> ^Y <i>jāni-</i> ^O <i>gənā-</i> ^Y <i>γ(ə)nā-</i>
100a. yellow		<i>zəʔə</i>				<i>hari</i> ¹³⁹⁸¹ cf. #35	^{RV} <i>hāri-</i> ^{RV} <i>hārita-</i> ^{MaiUp} <i>hariṇá-</i>	^Y <i>zari-</i> ^Y <i>zairita-</i>

	Ashkun	Kati	Prasun	Tregami	Waigali	*source ^{Turner}	Old Indic	Avestan
100b.	<i>aidārā</i> <i>aidrestō</i>	<i>ádrā</i>	<i>indrā́</i>	<i>aridō:</i>	<i>aridā</i>	<i>haridra</i> ¹³⁹⁹⁰ yellow sandal tree		
100c.			<i>žūnyu,</i> <i>žūnyogu</i>			<i>cūrṇaka</i> ⁴⁸⁹⁰ chalklike paleness?		
100d.					<i>tilyaneē</i>			
100e.							^{RV} <i>gaurá-</i>	
100f.							^{GrS} <i>pīta-</i>	

Abbreviations of authors and languages: A = Abaev 1958–95; Abaz. Abazin, Ad. Adygean, Afg. Afghanistan, ahur. ahuric, Al. Alanic, Alb. Albanian, AP = Andreev & Peščereva 1957; Ar. Arabic, Arm. Armenian, Av. Avestan, B = Bailey 1979, Ba. Badakhsh 1960/2005, Baht. Bahtiari, Bal. Baluchi, Bc. Bactrian, Be. Berger 1998, Bi = Biemeier 1977, Br. Belorussian, Brt. Bartangi, Bud. Buddhist, Bur. Burushaski, C = Cabolov 2001–2010; Ch = Cheung 2007, Chech. Chechen, Chuv. Chuvash, Cl. Classic, CLuv. Cuneiform Luvian, Co. Collett 1983, comp. comparative, CS. Church Slavonic, Ct = Cathcart 2015, Cy. Chyet 2003, Cz. Czech, daev. daevic, Dard. Dardic, De = Decker 1992, Dm. Dame-li, E. *Ētimologičeskij slovař iranskix jazykov* 1–4, Ed.₇₁ Ēdelman 1971, Elr(an). East Iranian, Eng. English, F. Farizov 1957, Ge(org). Georgian, Gg. Grjunberg 1972, Gh. Gharib 1995, Gi. Gilbertson 1925, Gmc. Germanic, Goth. Gothic, Gr. Greek, Gur. Gurani, H = Horn 1893, Hi. Hindi, Hit. Hittite, HLuv. Hieroglyphic Luvian, Ho = Holthausen 1963, Hu. Hungarian, Hü = Hübschmann 1895, Icel. Icelandic, IE. Indo-European, Ing. Ingush, Ir(an). Iranian, Ishk. Ishkashim, K. Korn 2005, Kab. Kabardinian, Kal. Kalasha, Kalm. Kalmyk, Ke. Kegala, Kh. Khotanese, Khr. Khowar, Khw. Khwarezmian, Kirg. Kirgiz, Kt. Kati, Ku. Kurdish, L = Lebedev et al. 1973, Lat. Latin, Latv. Latvian, Lhd. Lahnda, lit. literary, Lit. Lithuanian, LN = Novák 2010, LNE = Novák 2013, LS. Lubotsky & Starostin 2003, Luv. Luvian, Lyc. Lycian, Lyd. Lydian, ^M Manichean Middle Persian by MacKenzie 1971, Boyce 1977, Durkin-Meisterernst 2004, M. Middle, Maz. Mazenderani, MC. MacKenzie 1971, Med. Median, MHG. Middle High German, MÍr. Middle Irish, Mnj. Munji, Mo.₀₃ = NEVP (Morgenstierne 2003), Mo.₂₉ Morgenstierne 1929a, Mo.₃₈ Morgenstierne 1938, Mo.₇₄ Morgenstierne 1974a, Mong. Mongolian, MP. Middle Persian, Myc. Mycenaean, Nur. Nuristani, Ny. Nyberg 1974, O. Old, OCS. Old Church Slavonic, OE. Old English, OHG. Old High German, OI. Old Indic, OIr. Old Irish, ON. Old Norse, OP. Old Persian, Orm. Ormuri, Os. Ossetic, P. Persian, Par. Parachi, Pe(rm). Permian, Pok. Pokorny 1959, pp. past participle, Prt. Parthian, Prus. Prussian, Psh. Pashto, Px.₅₉ Paxalina 1959, Px.₇₅ Paxalina 1975, R. Rastorgueva 1990, R. Russian, Rsh. Rushani, Sang. Sangisari, Sgd. Sogdian, Sgl. Sanglechi, Shug. Shughni, Sing. Singhalese, SK. Steblin-Kamenskij 1999, Skt. Sanskrit, Sm. Smith 1936, Sor. Kurdic Sorani, Srk. Sarikoli, St. Steingass 1892, ST. Sino-Tibetan, sup. superlative, T. Tajik, Tib. Tibetan, Tk. Turkic, Tkm. Turkmenian, Tm. Tumshuqese, Toch. Tocharian, Torw. Torwali, Trk. Turkish, Tu. Turner 1966, Uzb. Uzbek, W. West, Wkh. Wakhi, Wn. Wanetsi, Wr. Written, Wz. Waziri, Wx. Wakhi, Xr. Xromov 1972, Y. Young, Ygh. Yagnobi, Yid. Yidgha, Yazg. Yazghulami, ^Z Zoroastrian Middle Persian by MacKenzie 1971, Za. Zarubin, cited by Grjunberg 1972, Z(e)b. Zebaki, Ž. Žončigala.

Abbreviations of sources of Old Indic: AitBr. Aitareya Brāhmaṇa, AV. Atharvaveda, BhP. Bhāgavata-Purāṇa, Br. Brāhmaṇas, ChUp. Chāndogya-Upaniṣad, GrS. Gṛhya-Sūtra, Kāth. Kāshaka, lex. lexicographers, MaiUp. Maitrāyaṇī-Upaniṣad, MBh. Mahābhārata, Mn. Manu, Rm. Rāmāyaṇa, RV. Ṛgveda, ŚBr. Śatapatha-Brāhmaṇa, ŚGr. Śāṅkhāyana-Gṛhyasūtra, ŚŚr. Śāṅkhāyana-Śrautasūtra, ŚvUp. Śvetāśvatara-Upaniṣad, TBr. Taittirīya-Brāhmaṇa, TS. Taittirīya-Samhita, VS. Vājasaneyi-Samhita.

Appendix 1: Periodisation of history of the Chinese language

period	Starostin 1989, 431–33	Schuessler 2007
Middle Chinese ¹	end of 6th – beginning of 10th cent. CE	Middle Chinese: c. 600 CE
Late Postclassic Chinese ²	5th cent. CE	
Middle Postclassic Chinese ³	4th cent. CE	
Early Postclassic Chinese ⁴	3rd cent. CE	
Eastern Han Chinese ⁵	0 – beginning of 3rd cent. CE	Later Han: 1st-2nd cent. CE
Western Han Chinese ⁶	end of 3rd cent. BCE – 0	Old Chinese: 1000 – 200 BCE
Classic Old Chinese ⁷	5th – 3rd cent. BCE	
Preclassic Old Chinese ⁸	10th – 6th cent. BCE	

Notes:

- 1) Tang Dynasty (618–907 CE) and Sui Dynasty (581–618 CE).
- 2) Southern and Northern Dynasties (420–589 CE).
- 3) Jin Dynasty (265–420 CE).
- 4) Three Kingdoms (220–280 CE).
- 5) Eastern Han (25–220 CE) and Xin Dynasty (9–23 CE).
- 6) Western Han (206 BCE–9 CE).
- 7) Qin Dynasty (221–206 BCE) and Era of Warring States (481/475/403–221 BCE).
- 8) Spring and Autumn period (722–479 BCE) and Western Zhou period (1046–771 BCE).

Appendix 2: Ptolemy about rivers of Sogdiane [6.12.1–4]

1. Οἱ Σογδιανοὶ περιορίζονται ἀπὸ μὲν δύσεως Σκυθίας μέρει τῷ ἀπὸ τοῦ πρὸς τῇ Βακτριανῇ καὶ τῇ Μαργιανῇ τμήματος τοῦ Ὠξοῦ διὰ τῶν Ὠξειῶν ὀρέων μέχρι τμήματος Ἰαζάρτου ποταμοῦ, ὃς ἐπέχει μοίρας . ρι μθ
 The boundary of Sogdiana on the west is a part of Scythia near the section of the **Oxus** river which runs along the confines of Bactria and Margiana, then through the Oxius mountains near the **Jaxartes** river in 110° 49'.
 ἀπὸ δὲ ἄρκτων ὁμοίως μέρει Σκυθίας παρὰ τῷ ἐν τεῦθεν τοῦ Ἰαζάρτου ποταμοῦ τμήματι μέχρι τοῦ τῆς ἐπιστροφῆς αὐτοῦ πέρατος, οὗ ἡ θέσις ἐπέχει μοίρας ρκ μη L'.
 ἀπὸ δὲ ἀνατολῶν Σάκαις παρὰ τὴν ἐντεῦθεν τοῦ Ἰαζάρτου μέχρι τῶν πηγῶν ἐπιστροφῆς, αἵτινες ἐπέχουσι μοίρας ρκε μγ
 on the north by a part of Scythia along the **Jaxartes** river where it bends near the terminus which is in 120° 48' 30'.
 on the east alone by the Sacaland region along the **Jaxartes** river where it bends from the sources in 125° 43',
 καὶ τῇ ἀπὸ τούτων προσεκβαλλομένη γραμμῇ μέχρι πέρατος, οὗ ἡ θέσις ἐπέχει μοίρας ρκε λη L'.
 ἀπὸ δὲ ἀνατολῶν καὶ μεσημβρίας καὶ ἔτι δύσεως τῇ τε Βακτριανῇ παρὰ τὸ ἐκτεθειμένον τοῦ Ὠξοῦ τμήμα,
 καὶ τοῖς ἰδίως καλουμένοις Καυκασίοις ὄρεσι κατὰ τὴν ἐπιζευγνύουσαν γραμμὴν τό τε εἰρημένον πέρασ καὶ τὰς τοῦ Ὠξοῦ πηγάς.
 and along a direct line to the terminus which is located in 125° 38' 30'

on the south and the west by Bactriana
along the **Oxus**, which section we have noted,
and near the Caucasus mountains in the real sense,
to the line which connects the indicated terminus
and the sources of the **Oxus** river

2. Διατείνει δὲ ὄρη μεταξύ τῶν δύο ποταμῶν καλούμενα Σόγδια,
ἧν τὰ πέρατα ρια μζ
καὶ ρκβ μς L'

The mountains between the rivers of Sogdiana have their termini in 111° 47°
and 122° 46° 30'.

3. ἀφ' ἧν ποταμοὶ διαρρέουσι συμβάλλοντες ἐκείνοις πλείους ἀνόνομοι,
ἧν εἷς ποιεῖ τὴν Ὠξειανὴν λίμνην,
ἧς τὸ μέσον ἐπέχει μοίρας ρια με·

From these mountains, several nameless rivers flow through {the country},
then uniting with those {Oxus & Iaxartes}.

one of these {nameless} rivers flows from the **Oxia lake**,
the middle of which is located in 111° 45°.

καὶ ἄλλοι δὲ δύο ἀπὸ τῆς αὐτῆς ὄρεινης, ἀφ' ἧς καὶ ὁ Ἰαζάρτης, φερόμενοι·
καλεῖται δὲ καὶ ἡ ὄρεινὴ Κομηδῶν· συμβάλλουσι δὲ θάτεροι τῷ Ἰαζάρτη·

ὀνομάζεται δὲ ὁ μὲν ἕτερος αὐτῶν Δῆμος / Δήμος / Δύμος,

οὗ αἱ μὲν πηγαὶ ἐπέχουσι μοίρας ρκδ μγ

ἡ δὲ πρὸς τὸν Ἰαζάρτην ποταμὸν συναφὴ ρκγ μζ

Two further {rivers} pour down from the same mountainous region as the **Iaxartes** –
it is called the mountain area of the Komedai – to flow into that river.

The name of one of these {two tributaries} is the Dymus.

The sources of which are in 124° 43°

where it joins with the **Jaxartes** 123° 47°

ὁ δὲ ἕτερος **Βασκατῖς**,

οὗ αἱ μὲν πηγαὶ ἐπέχουσι μοίρας ρκγ μγ

ἡ δὲ πρὸς τὸν Ἰαζάρτην ποταμὸν συναφὴ ρκα μζ L'.

another of these rivers is called the **Bascatis**,

the sources of which are in 123° 43°

and where it unites with the **Jaxartes**. 121° 47° 30'.

4. Κατέχουσι δὲ τῆς χώρας τὰ μὲν
πρὸς τοῖς Ὠξείοις ὄρεσι Πάσκαι / Πασίκαι,
τὰ δὲ πρὸς τῷ ἀρκτικῷ τμήματι τοῦ Ἰαζάρτου Ἰάτιοι,

καὶ Τάχοροι, ὑφ' οὗς Αὐγαλοί / Αὐταλοί,

εἶτα παρὰ τὰ Σόγδια ὄρη Ὄξυδρᾶγκαι,

καὶ Δρυβάκται, καὶ Κάνδαροι,

ὑπὸ δὲ τὰ ὄρη Μαρδυηνοί,

καὶ παρὰ τὸν Ὠξὸν Ὠξειανοί, καὶ Χωράσμοι,

τὰ δὲ τούτων ἀνατολικώτερα Δρεψιανοί

μὲν ἐπιζευγνύοντες ἀμφοτέρους τοὺς ποταμοὺς,

ἔτι δὲ τούτων ἀνατολικώτεροι Ἀνιέσεις / Ἀριστεῖς

μὲν παρὰ τὸν Ἰαζάρτην, Κιρράδα (ἢ Κιρρόδεεῖς) δὲ παρὰ τὸν Ὠξὸν,

καὶ μεταξύ τοῦ τε Καυκάσου ὄρους

καὶ τοῦ Ἰμάου ἢ καλουμένη Οὐανδάβανδα.

In parts of the region near the Oxius mountains the *Pasicae* dwell,

near the section of **Jaxartes** on the north dwell the *Iati*
 and the *Tachori*, below whom are the *Augali*;
 then next to the Sogdios mountains are the *Oxydrancae*,
 the *Drybactae* and the *Candari*,
 and below the mountains are the *Mardyeni*;
 and near the **Oxus** are the *Oxiani* and the *Chorasmi*;
 in the parts which are near these toward the east dwell the *Drepsiani*
 bordering both of the rivers;
 and near these but more toward the source are the *Aristenses*
 near the **Jaxartes**, the *Cirrodaces* near the **Oxus**;
 and between the Caucasus mountains
 and Imaus mountains the region is called Vandabanda.

Appendix 3: Ptolemy about rivers of Serike [6.16.3]

Διαρρέουσι δὲ δύο μάλιστα ποταμοὶ τὸ πολὺ τῆς Σηρικῆς, ὃ τε **Οἰχάρδης**,
 οὗ ἢ μὲν πρὸς τοῖς Αὐζακίοις πηγῇ ἐκτέθειται, ἢ δὲ πρὸς τοῖς
 Ἀσμιραίοις ὄρεσιν

ἐπέχει μοίρας ροδ μζ L'

“For the most part two rivers all told flow through Serike. One of them is the
Oichardes. Its source by the Auzakia Mountains {at 153° 51'} is indicated above.

Another {source} lies by the

Asmiraeis mountains at 174° 47' 30'

ἢ δὲ ὡς ἐπὶ τὰ Κάσια ὄρη ἐκτροπῇ

ἐπέχει μοίρας ρξ μθ L'

The branch of the river towards the Casia Mountains lies at 160° 49' 30'

ἢ δὲ ἐν τούτοις πηγῇ ρξα μδ δ'

and its {third} source lies in these {mountains} at 161° 44' 15

καὶ ὁ καλούμενος **Βαύτισος** ποταμὸς,

οὗ καὶ αὐτοῦ ἢ μὲν πρὸς τοῖς Κασίοις ὄρεσι πηγῇ

ἐπέχει μοίρας ρξ μγ

And the other river is called **Bautisus**,

this, too, has a source by the Casius mountains,

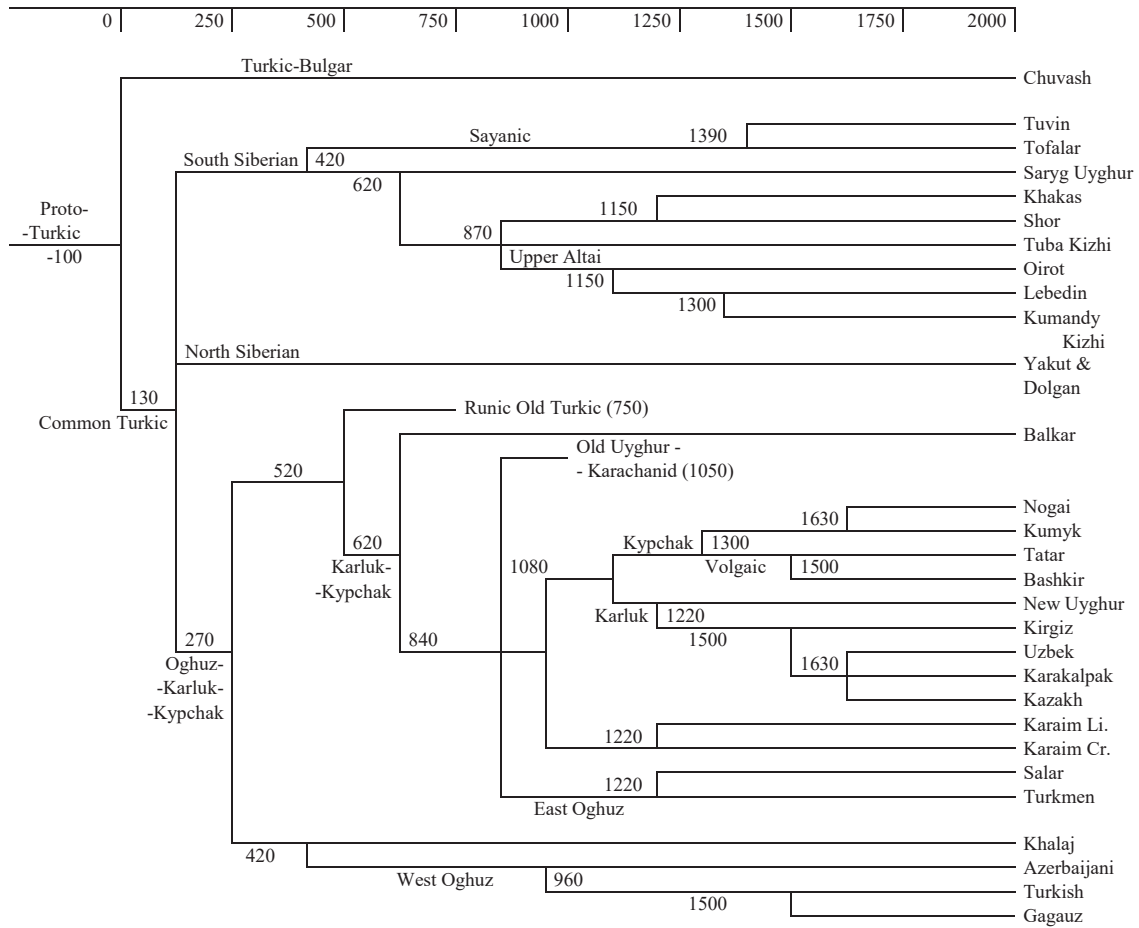
at 160° 43' “

Edition by C.F.A. Nobbe (1966) and Humbach & Ziegler (1998).

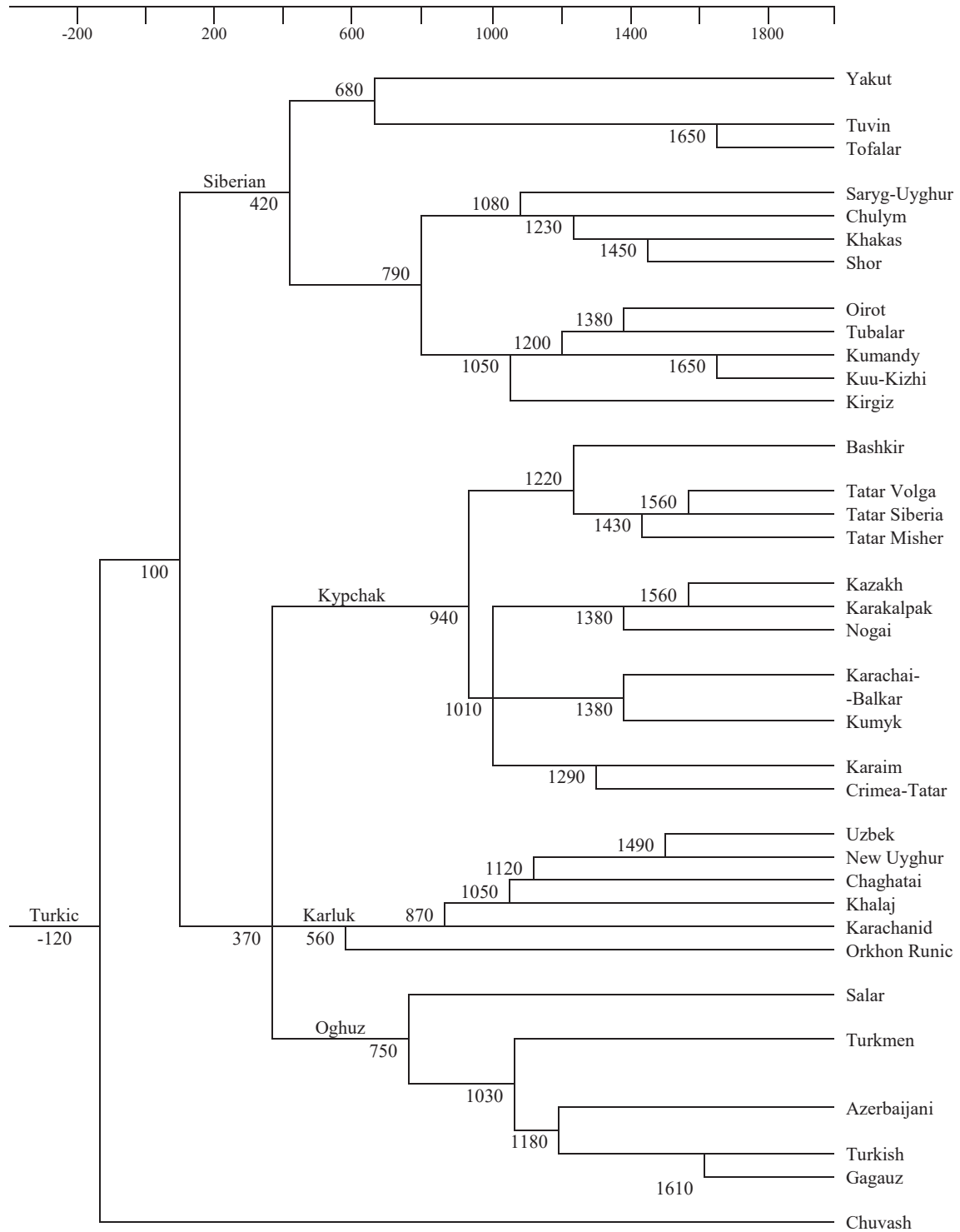
Translated by Edward Luther Stevenson (1932) and Humbach & Ziegler (1998).

Appendix 4: Turkic classification

1. Anna V. Dybo (2006, 766–817) based her classification on the recalibrated glottochronology developed by Sergei Starostin:

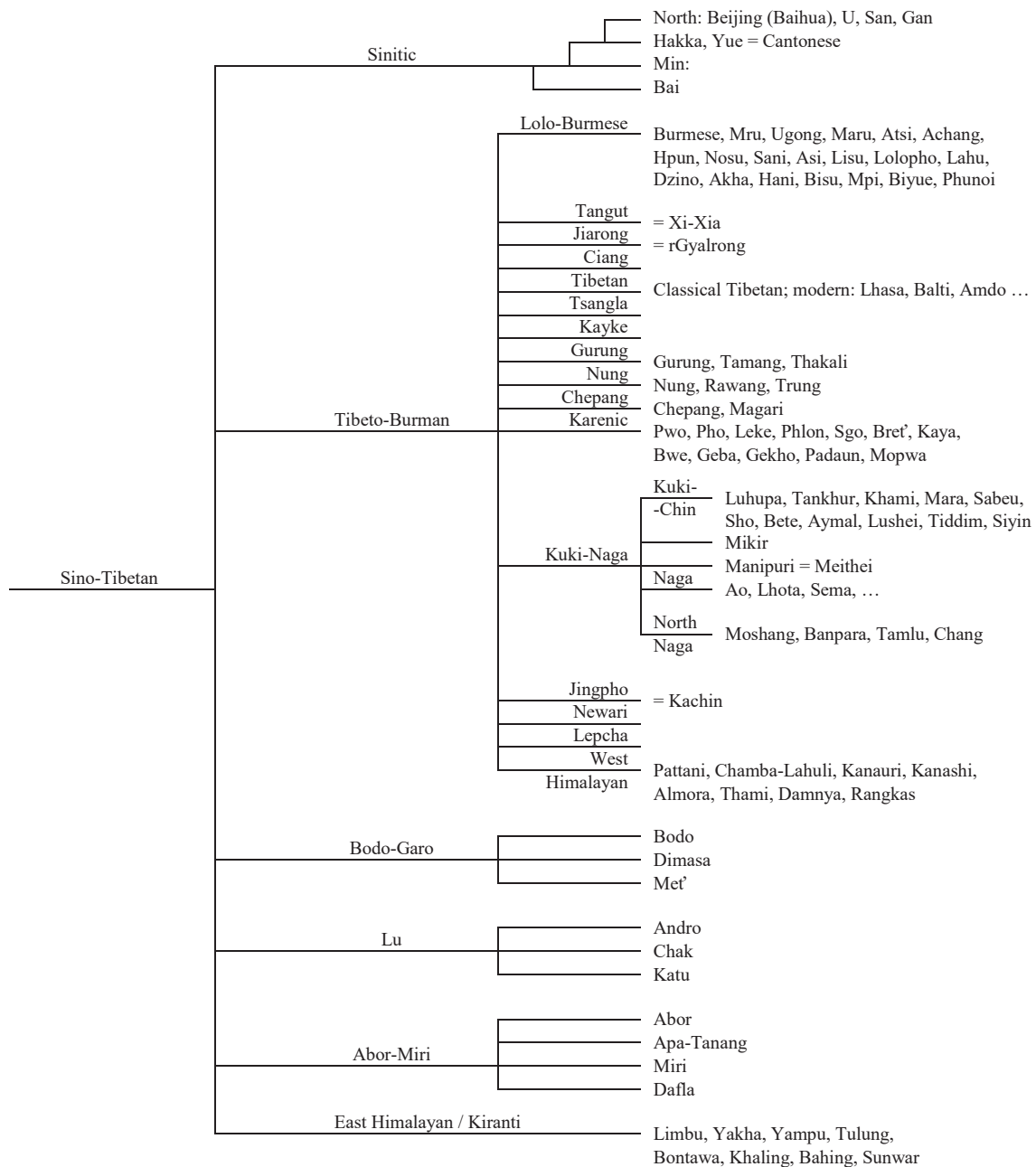


2. Classification of the Turkic languages by Oleg Mudrak (2009, 172–79) is based on statistical evaluation of the phonological and morphological isoglosses, projected in the chronological scale:

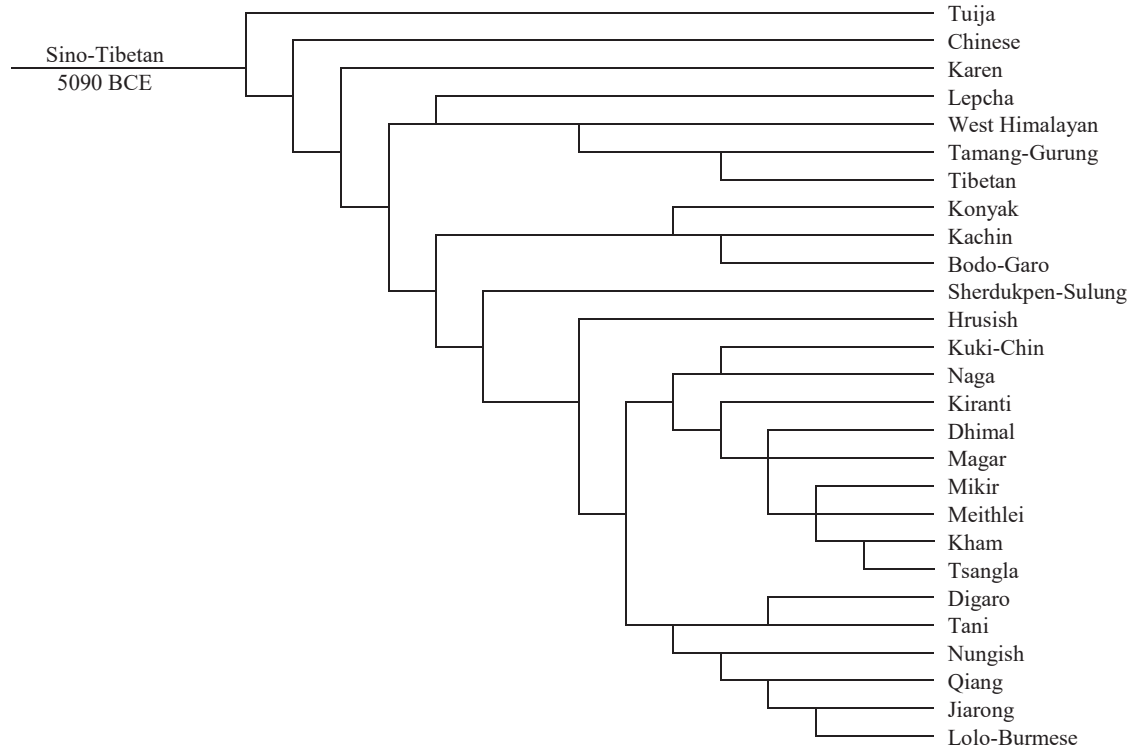


Appendix 4: Sino-Tibetan classification

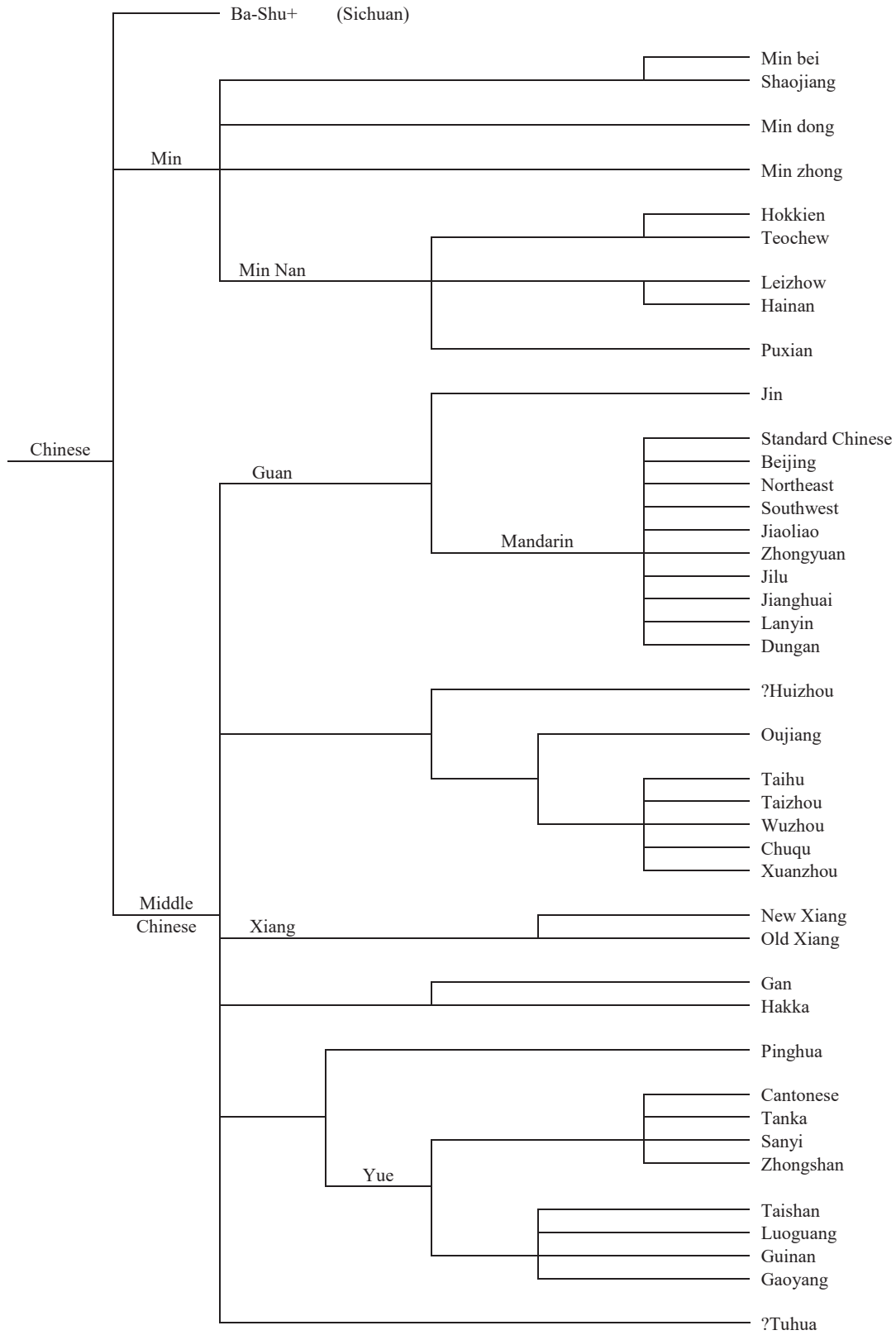
1. The classification of Sergei Starostin is based on lexicostatistical approach, but the author died earlier than he could publish details including the absolute chronology. Fortunately, his former student, Svetlana Burlak, has recorded his model of classification, which was finally published in the book originating on the basis of Starostin's lectures (see Burlak & Starostin 2005, 341–42).



2. The most recent model of classification of the Sino-Tibetan language family was prepared by George Starostin and Alexei Kassian on the basis of their own modification of the recalibrated glottochronology in 2010.



Appendix 4: Classification of the Sinitic languages / dialects



See <http://en.wikipedia.org/wiki/Varieties_of_Chinese>

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