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TOCHARIANS
WHO THEY WERE, WHERE THEY CAME FROM AND WHERE THEY LIVED*

ABSTRACT

In 2008 one century will be passed after the recognition of inhabitants of Tang's Chinese Turkestan as speakers of until that time unknown original branch of Indo-European languages. So the eastern border of the Indo-European pre-colonial space passed even the 90th meridian eastwards from Greenwich (to be exact, in the same time also Indo-Iranian peoples overpassed this line in the area of contemporary Bangladesh and the Indian confederative state of Assam). Tocharians kept their Indo-European identity not only by their long trans-continental drift through Eurasia, but still some thousands years after their arrival to the Chinese border. Interesting is that they didn't yield Chinese cultural and linguistic assimilation; on the contrary, the ancestors of Tocharians brought to the early Chinese civilization achievements from field of technology (war chariot), food (honey), knowledge of some exotic animals (lion) and religion (especially buddhism). Situation of the 9th (or 10th?) century, when the Tocharians became to disappear from the history of Central Asia, remains in darkness of informational vacuum. The only thing that we certainly know is that they didn't yield sinization, but vanished away in expansion of the Turkic nations, represented in this area by Old Uyghurs.

1. HISTORY OF EARLY RESEARCH

The first Tocharian text came to Europe at the end of 19th century. It was a fotograph of one page of a manuscript written in an unknown language in the northwest variant of the North Indian Brāhmī script. The page was published by Sergei Oldenburg in 1892, who received two sheets of the manuscript from Russian consul Petrovski in Kašghar (in North-Western China, 新疆 Xinjiang province with the majority of Uyghur population). British Hoernle edited the same text in 1893, transcribing it and identifying one Sanskrit name. German Leumann was the first one who had published both sides of the manuscript from Petrovski-collection, trancribed them accurately and recognized other Sanskrit proper names. Thanks to Leumann, both sides of the manuscript were later identified as translation of Sanskrit text Buddhaṣṭōtra. But the first Tocharian manuscripts were discovered earlier. In 1890 two Uyghurs sold two manuscripts to British lieutenant Bower.

These manuscripts written on birch bark were found in a stupa near Qumtura. Bower brought them to the Asian Society in Calcutta, from where they got into Hoernles' hands. Although poor, this discoveries stimulated high interest not only on the side of European orientalists but also by native citizens (really amazing discovery in the 敦煌莫高 Dunhuang Mogao caves was done by the local Daoist priest Wang Daoshi in 1900 during his amateur reconstruction of wallpaintings in an abandoned temple). If we determine the earliest era of the tocharology by the beginning of the First World War, it is very remarkable how many expeditions to Chinese Turkestan were lead by Russians or by European orientalists in the Russian employment: V.I. Roborovski (1893–1895), D.A. Klementz 1897–1898), A.I. Kochanovski (1906–1907), M.M. Berezovski (1905–1907), S.E. Malov (1909–1911, 1913–1915), S. Oldenburg (1909–1910: Xinjiang; 1914–1915: Dunhuang). Also Swedish Sven Hedin (1894–1896) inquired in the region. British Bower (1890) and M.A. Stein (1906–1908) travelled here as well; the leaders of French expeditions were Dutreil de Rhins (1892) and Paul Pelliot (1906–1909: Kuqa), and some of the best German expeditions leaded Albert Grünwedel and A. von Le Coq (1902–1903: Turpan; 1904–1905: Turpan, Qomul; 1905–1907: Kuqa, Qarašahr, Turpan, Qomul; 1913–1914: Kuqa, Maralbashi). It is evident that original reason to finance this expensive expeditions was not altruistic interest about unknown language, but power ambitions of European superpowers to control over the Central Asia. From the time of Napoleon's hauling to Egypt (1798–1799) the European strategists knew the importance of presence of experts in the areas. So it shouldn't surprise that most of the above mentioned names belongs to the top orientalists in the world in that time. In the first decade of the 20th century most of the expeditions establishing inventaria of the Tocharian manuscripts in museums in Sankt-Peterburg, Berlin, London and Paris were realized. In the same time a fundamental progress in understanding texts, grammatical structure and genetical relations of language succeeded. In 1908 the Berlin indologists E. Sieg and W. Siegling published a short article about this language, identifying it with "Tocharian" (to this time the working name was "Indo-Scythian") and determining its two different, although closely related dialects: in traditional terminology Tocharian A and B or Eastern and Western Tocharian. Important was a clear proof of their Indo-European identity and so establishment of the additional and independent branch of Indo-European languages. Their discovery that this eastern IE language resembles western IE languages with some of its features, particularly Italic or Celtic, e.g. the preservation of the velar nature of the hypothetical IE palatal velars *$\hat{k}$, *$\hat{g}$, *$\hat{g}^h$, which are changed in Baltic, provoked an immense surprise. Slavic and Indo-Iranian to sibilants and affricates (Toch. A *känt*, B *kante* next Greek *hekaton*, Lat. *centum* (still in the time of Caesar it was pronounced with /k/, even his name), Celtiberian *kantom*, Old Irish *cét*, Welsh *kant*, Goth. pl. *hunda*. Another obvious common feature is so called "*r-*" mediopassive. Similar characteristics were identified in Hittite only some years later. To this time we consider them more likely as peripheral archaisms, hence no isoglosses confirming closer genetical relations.

2. TOCHARIAN A, B, C?

Today the term Tocharian covers two closely related languages from Chinese Turkestan. They constitute an independent branch of Indo-European languages and in these languages an abundant translational buddhist literature was written. Appendix 1 demon-

strates close relations and differences of both languages. Some researchers (T. Burrow, D.Q. Adams) see the traces of another member of Tocharian languages, hypothetical southern Tocharian "C", in loanwords in the Middle Indic language of the oasis-state Kroraina (Chin. 楼兰 Loulan) in southeastern Tarim Basin. The language called Prākrit *niya* or, according to the script, *Kharoṣṭhī-prākrit* was used to the administrative purposes of the state depending on caravan trade in the 3rd century A.D. The loanwords reminding Tocharian (see Burrow 1935) cannot be ranked either to language A or to B. So the hypothesis of the third Tocharian idiom seems quite promising. Let us quote some examples:

"C" *kilma* "district" = A *kälyme* "direction" (Burrow 1935: 674–675; Mallory, Mair 2000: 278).

"C" *meta* = B *mit* ~ *mīt* "honey" < *med^hu-. Researchers generally conclude that Chinese *mi* "honey" < Old Chinese *$mjit$ (so first Polivanov 1916; cf. Lubotsky 1998: 379) is also of Tocharian origin. There is interesting Old Turkic *mïr*, its final -*r* can indicate the Chinese mediation (Clauson; see Lin 1998: 478).

"C" *ogana* "some agricultural product" = B *oko* "fruit" (Burrow 1935: 673; Mallory, Mair 2000: 278).

"C" *pake*, pl. *pakeyu* "package" = B *pāke*, A *pāk* "part, share" (Burrow 1935: 671–672).

"C" *kitsaits* "elder" = B *ktsaitstse* "old (of age)", A *ktsets* "ended, perfect" (Burrow 1935: 673).

"C" *tipara* "high" = A *tpar* "high", B *tapre* "high; fat" < *d^hub^hro- "deep"; the original meaning still preserves the diminutive B *tparṣke* "shallow" (Lin 1998: 480–481; Adams 1999: 280).

There are also many personal names, which can be interpreted as Tocharian (Burrow 1935: 675):

Campe – cf. AB *cämp-* "be able (to)", A *tampe* "power, ability".
Laroae – cf. B *lāre* "dear, beloved".
Mogaca – cf. A *mokats* "strong".
Pośarsa – cf. B *po* "all" & AB *kärs-/śärs-* "know", something as "all-knower". Similar compound appears in A *puk knānmām*, also in B *poyśi* (*po* & *aik*- "know"), as a calque from Sanskrit compound *Sarvajña* denoting Buddha (Adams 1999: 403).

3. TOCHARIAN TEXTS – SITES AND DATING OF FINDS

Most of the Tocharian manuscripts have been dated from 6th to the end of 8th century. The recent results of detailed paleographical studies (Malzahn 2007: 277) and the radio-carbon tests (Adams 2006) shift the oldest B manuscripts even before AD 400, while the youngest manuscript designated as B-296 is dated between AD 1178 and 1255.

The known A texts originate from the period c. AD 700 to c. AD 1000 (ADAMS 2006: 382–383). Until now the manuscripts were found only in the Chinese autonomous region Xinjiang – in a town-oasis at the northern rim of the Tarim Basin (Chin.塔里木盆地 Talimu Pendi) with the desert Taklamakan (Chin. 塔克拉玛干 Takelamagan). Today about 500 texts, fragments or graffiti in the language A are known, and about 3200 in the language B. The A documents were found only in the east, while the B texts come from the west and from most of the places of the A text's origin. The alphabetical order of places, where Tocharian manuscripts were found, follows. Except of usual names, variants, alternatives and actual Chinese local names are added. Only locations of founds of A texts are especially marked.

Bäzäqliq = Bezeklik = Bezäklik, Chin. 伯孜克里克 Bozikelike (A).

Duldur Aqur – near of Kuča.

Chami, Chin. 哈密 Hami, also Qumul, Kumul, Komul – oasis, where 293 sheets of manuscripts and fragments of Old Uyghur version of the *Maitrēiasamītinātaka*-texts were found; according to this text was reconstructed the same text in Tocharian, discovered in Yanqi 1974.

Kuča/Kuqa = Chin. 库车 Kuche, early also 龟兹 Qiuci.

Maralbaši = Maralwexi, Chin. 巴楚 Bachu.

Ming-öi Qizil = Qizilchoqa, Chin. 克孜尔确恰 Kezi'erqueqia.

Murtuq (A).

Qara-chočo, Chin.哈拉和卓 Halahezhuo.

Qarašahr = Qarašähär = Karašahr, early Agni; this name obviously appears in today's Chinese name 焉耆 Yanqi; in 1974 there were found 44 sheets of fragments of *Maitrēiasamītinātaka* A text here (A).

Qočo = Kocho; also Ïdiqut (Šähär), Chin. 高昌 Gaochang (A).

Qumtura = Kumtura, Chin. 库木吐拉 Kumutula.

Qumul – see Chami.

Sängim = Singim, Chin. 胜金口 Shengjinkou (A).

Subaši = Subeši, Chin. 苏巴什 Subashi.

Šorčuq – a temple near of Qarašahr (A).

Turfan = Turpan, Chin. 吐鲁番 Tulufan (A).

Tuyuq = Toyuk = Toyok = Toek Mazar, Chin. 土峪沟 Tuyugou (A).

Yanqi – see Qarašahr (A).

We should also mention the city of Kašghar (= Qäšqär, Chin.喀什 Kashi) where many texts were purchased from merchants, and the city of Khotan = Chotan, Chin. 和田 Hetian, place of abundant founds of Khotan-Saka buddhistic texts.

The A texts come from Turfan, Qarašahr and surroundings. They have religious character, all are buddhistic, some of them continue in Indian dramas of *jātaka* and *avadāna*. In many cases we have Turkic names of donators of these texts. The B manuscripts have a gaier content. Most texts are also buddhistic, but some have a medical content. There are also magical and astronomical works and completely secular records: commercial correspondences, caravan passes and economical records of temples. The German researcher Werner WINTER (1984: 16) differentiates three local dialects of Tocharian B: western from the area of Kuqa (especially around Qizil), central from Šorčuq

near Qarašahr; eastern from Turfan, as well as from the area of Qizil in the far west. Orientalists Lévi and Lüders very struggled for dating of the texts. Some date from the beginning of 7th century A.D. WINTER (1984: 17) discovered another chronological information. The Chinese pilgrim Xuanzang visited Kuqa in 630 and noted presence of monks from the kingdom of Agni. They lived in southeastern part of the town. In 648 Kuqa was destroyed by Chinese armies and their allied Turkic tribe Tölös. Subsequently the spiritual centre of Tocharians B moved to Qarašahr, where – near Šorčuq — the temple *Yurpāška* was cited in many texts. This is also an explanation of the fact that the language of these texts attained more and more character of Šorčuq's dialect, although texts come from another places.

4. CLASSICAL (WESTERN) REPORTS
ABOUT THE "TOCHARIAN" SPEAKERS / NATION

Although Central Asia is far from Mediterranean, antique authors recorded surprisingly abundant information about Middle-Asian populations. We can compare some testimonies: first from Pompeius Trogus (1st century BC – 1st century AD) in abstract of *Epitome historiarum Philipicarum* from Marcus I. Iustinus (3rd century A.D.), second from Strabo (the same time as Trogus), and third from Ptolemaeus from the mid of the 2nd century A.D. (italics have to reflect – if possible – exact forms of the given ethnonyms, including Greek plurals):

Pompeius Trogus > Marcus Iustinus [XLII, 2]
"On this place Artabanus, his uncle (i.e. Phraata), became a king. Scythians, satisfied by their victory and devastation of Parthia, returned to the homeland. But Artabanus fighting with Tocharians [*Tochariis*], was wounded on arm and after this immediately died. He was substituted by his son Mithridates, whose deeds brought to him epitheton The Great."

Nation known as *Tocharii* permeated to the west of Pamir about 124 or 123 B.C., where they fighted with Parthian king Artabanus.

Strabo [XI, 8.2]
"From the area of Caspian sea, the most (tribes) of the Scyths names *Daai* [Δάαι]. Races living to the east name *Massagetai* and *Sakai*, another are called with common name *Skythai*, but every nation uses its own name. They all are especially nomads. Particularly famous are this nomads, which took up Bactria from hands of Greeks, that is to say *Asioi, Pasianoi, Tokharoi* [Τόχαροι] and *Sakarauloi*, they moved from area of opposite bank of Iaxartes along the territory of Sakkas and Sogdians, in the hands of Sakkas. From the Daai one part is called *Aparnoi*, another *Xanthianoi*, the third *Pissouroi*. The Aparnoi live in the nearest to Hyrcania and it's bordering see, another nations extend to the area opposite to Aria."

Ptolemaios [VI, 11.6]
"The northern parts of Bactria, edging the river Oxos, inhabit *Salatarai* and *Zariaspai*, to the south from Salatarai (below from Salatarai) live *Khomaroi*,

southly *Kómoi*, then *Akinakai* and *Tambyzoi*, but below Zariaspai the strong nation *Tokharoi*, below them *Marukaioi/Marikaioi*, then *Skordai* and *Varnoi*, and still below from them *Auadioi/Sabadioi*, then *Orsitoi/Orsipoi* and *Amarispoi*."

Ptolemaios [VI, 12.4]

"The territories edging mountain Oxeia inhabit *Pasikai*, areas edging northern part of the river Iaxartes inhabit *Iateioi* a *Takhoroi*. Below from them live *Autaloi/Augaloi*, then along the Sogdian mountains *Oxydrangkai* and *Drybaktai* and *Kandaroi*. Under mountains live *Mardyénoi* and along the Oxus *Óxeianoi* and *Khórasmioi*."

Ptolemaios [VI, 16.6–8]

"The towns noted be suited in *Sériké* (= China), are this: *Damna, Piada, Asmiraia, Throana. Isségón Sériké: Aspakara, Drósakhé, Paliana, Thogara, Abragana, Daxata, Orosana, Ottotokara, Solana, Séra Métropolis*." ...

5. CHINESE REPORTS ABOUT THE ETHNICITY OF AREAS INHABITED (NOT ONLY) BY TOCHARIANS

According to contemporary Chinese sources, inhabitants of areas where Tocharians lived from 6th to 8th century are depicted as farmers and breeders of livestock and horses largely living in towns. The men and women have their hair long to shoulders or even shorter. In frescoes in abandoned buddhist temples we can see typical Mongoloids, "Iranians" and people of Caucasoid physiognomy with straight narrow noses and blue eyes as well (WINTER 1984: 13). The most detailed Chinese reports about the Tocharians can be found in information from buddhistic scholar Xuanzang (600/602–664). He mentioned them in A.D. 630 (during his travel to the Central Asia and India. We can cite his description of Agni and Kuča – areas of the Tocharians A and B [2002: 21–25; after Josef Kolmaš]: "The region of **Agni** have more than 600 li [1 li = 576 m] from the east to the west and above 400 li from the south to the north. The capital city have circuit 6 or 7 li and is surrounded by mountains from all four directions. There are dangerous paths in that place, but it's easy to defend them. Many flows are united in one stream, by it fields are irrigated. Land is suitable for growing of millet, winter wheat, dates, grapes, pears, plums and other fruits. Climate is mild and convenient. Customs and habits of people are simple and modest. Their script has Indian origin and only some minute changes and supplements. Clothes are made from cotton or wool. People cut their hairs and wear any caps. They use gold, silver and small copper coins in a trade. The ruler was born just in this land. He is courageous man. Although he gives not too much time to military affairs, he very like boasting by his war expeditions. The land has no stable legal rules, the laws are cruel and have no order. When one walks above 200 li further to the southwest and crosses one small mountains and two large rivers, arrives to the west to the flat valley. When one continues further 700 li and more, arrives to Kuqa. The land of Kuqa have more than 1000 li from the east to the west and more than 600 li from the south tot the north. The circuit of the capital city is about 17 or 18 li. Land is suitable for growing of millet and wheat, people grow rice keng-tao as well. The land also give grapes, pome-

granate and many sorts of pears, plums, peaches and apricots. The land produces gold, copper, iron, lead and tin. Climate is mild and customs of peoples are simple. The script has Indian origin and many modifications. The local peoples dominate between all countrymen in the play on woodwind and strings. Their clothes are made from fine brocade or rough wool. They cut their hairs and wear turbans on their heads. They use money from gold and silver and small copper coins in a trade. The ruler was born in the local family Bai. His natural talent isn't large and he is controlled by influential ministers. If a baby is born, they usually compress its head between the tablets to make it flat."

6. ORIGIN OF THE ETHNONYM IN THE LIGHT OF ANCIENT AND EARLY MEDIEVAL RESOURCES

A very complex question remains the name of Tocharians – from themselves and as well as from their neighbours. ADAMS (2000) tried to put an order to a little bit chaotic mixture of views. He is our most important guide here. We can start by the term *Agni*, which refers to the Tocharians using the A language. The Central Asian Sanskrit texts use the term and derivatives *Agnideśa* & *Agniviṣaya* "the land of Agni" to denote the city and its surroundings. The Uyghurs called it Qarašahr and in Chinese the name *Yanqi* is used. The people in the neighbouring oasis-state Tumšuq spoke one of the Saka-dialects. The land was named *Agñ(y)e xšera* "the land of Agni" in this language. Another testimony is brought by Chinese pilgrim Xuanzang (he visited the area in the 7th century A.D.). In his records we read name *Â-gˈji-nji* (in Karlgren's reconstruction of Middle-Chinese, *c*. A.D. 800), or *ʔa-gji-nri* (Pulleyblank's reconstruction to *c*. A.D. 600). The same toponym appears in one of the oldest Tocharian B manuscripts found in Kuqa in 1907, published in 1913. In the manuscript the fifth year of reign of king Suvarṇapuṣpa is mentioned. We know that he died in 624, when his son Suvarṇadeva succeeded in the reign. He governed until 646 and in this year he was replaced by his younger brother Haripuṣpa. We don't know how long was Suvarṇapuṣpa reigned, but he was successful ruler, so it could be, that the time of his reign was the same as by his son. Manuscript is then related to events from the beginning of the 7th century, i.e. this time precede the time of origin of the oldest dated graffiti and caravan passes (641–656) at least about one generation. In the manuscript we read the fourth line: *Akeñe ypoyᵃ-moko Nāñiṣte* "Nāñiṣta, the older of the land Akeñe". The form *akeñe* is probably adjective (we would expect **akeññe*), which can be derived from *āke* "end" = A *āk*. So it may be the land "at the end/ at the edge". This semantical motivation isn't unusual. We know many similarly motivated toponyms: for example Slavic *Ukrajina, Krajina*, the Old English kingdom *Mierce*, Italian *Le Marche*, German *Mark* about Brandenburg, and other. The name of today's Chinese town 焉耆 *Yanqi* (= Uyghur Qarašahr) was pronounced *i̯ängˈji* (Karlgren) or *ʔiangji / ʔiangji* (Pulleyblank) in the time of Tang's dynasty. In addition final *-n* can reflect older *-r* in adaptation of originally non-Chinese words. Today's Iranian sources confirm the old *-r-*. The Khotan-Saka toponym *Argīna-* appears in the list of places on the Silk-Road. Sogdian *ʔrkčyk* (from the work *Nāfnāmak*) follows after toponyms: Kašghar, Khotan and Kuqa. A possible continuation is just today's Yanqi/Qarašahr. Corresponding is also Middle Persian *ʔrkčyk xwtʔ* = **arkčīk*

χwataw "the lord of [the city] Ark" according to the text *Mahrnāmag*. ADAMS (2000: 9) links these toponyms to modern Persian *arg/ark* "small stronghold", Pahlavi *'rkpaty* "the lord of citadel". Related could be Latin *arx* "stronghold, citadel, castle".

The A language is sometimes called *Ārśi*. Really, the compounds *ārśi-kāntu* "the ārśi language" and *ārśi-ype* "the land of *ārśi*" indicate it could be an ethnonym. But there is no evidence of its relation to the A Tocharians. The word appears only in translations from Buddhist Hybrid Sanskrit, so more probable is that it is a mechanical equivalent of the standard Sanskrit compounds *āryabhāṣa* "language of the Āryas", i.e. "Sanskrit" and *āryadeśa* "land of the Āryas" (also land of those who keep laws of the Āryas). Another Tocharian A text specifies further meaning of the word *ārśi*, i.e. "buddhist monk" (= who keeps the law of the Āryas or brought the buddhist doctrine to the areas of Tocharians). Distraction of the meaning of the word has analogy in Khotan Saka *āśi*. This word denoted both: the Āryas and monks. This is not a new conclusion, its authors are British iranists Henning & Bailey (30th years of the 20th century). But identification *ārśi* = Tocharian A is still repeated and is evident that it cannot be a palatalized form derived from root **ark-*, which obviously denoted a metropolis of the Tocharians A.

The West Tocharian metropolis is denoted Kuča in Uyghur now, in the 9th century its Old Uyghur name was *Küsän*. This obviously reflects Toch. B adjective *kuśiññe*, which we know from titels written in caravan passes: *kuśiññe orotstse walo* "the great Kuchean king/ the great king of Kucha". The correspondable noun is **kuśi*, as it is confirmed by parallels in other languages: Khot. *Akuśi*, Sogd. *'kwcyk ~ 'kwcyq*, Skt. *Kuci*, Chin. 龟兹 *Qiuci* < Middle Chinese *Kuw-dzɨ* (Pulleyblank). The Sanskrit and Sogdian names can be traced already in the first century A.D. Together with Chinese forms they indicate original affricate. According to this we can point out that thee change **-ć- > -ś-* operated in the first centuries A.D. ADAMS (2000: 20) still discusses the attractive hypothesis on identification of Tocharians and northwestern barbarians, called in Chinese records 月支 *Yuezhi*. In 126 B.C. returned Zhang Qian – the ambassador of the Han dynasty – from his travel to the land Daxia, i.e. Bactria to inform the Emperor Wu. In the 123rd chapter of the chronicle Shiji we can read his notes: "The nation of Yuezhi originally lived in the area between the Qilian mountains (= Tianshan) 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 river *Kui*" (LIN 1998: 476). Chinese sources also mention that part of the defeated, so called 小月支 *Xiao Yuezhi* "the Lesser *Yuezhi*", didn't go to the west but settled in mountains to the northwest from Gansu (ADAMS 2000: 10). In 108 B.C. the king of the Lesser Yuezhi subordinated to China. In sources as *Shiji* or *Han shu* he was called *Ruoju* [= pinyin; i.e. *Jo-chü* in Wade-Giles] King. PULLEYBLANK (1966: 19) suppose that in fact his name is a title in Middle Chinese form *nyâk-tsi̯o* and in time of Han dynasty **nyak-tsïa*. He identified it as the Tocharian adjective A *ñäkci*, B *ñäkc(i)ye* "divine, heavenly", formed from A *ñkät*, B *ñakte* "god". So the ruler of the Xiao Yuezhi was titled "the Divine King" or "the Heavenly/ Celestial King". The similar title βαγο þαο "god-king" appears in an inscription of the most prominent Bactrian king Kanishka. Interesting is that the kings of 匈奴 *Xiongnu* tribes probably accepted these titles of

Tocharians. In the time of Han dynasty their names were accompanied by the epithet *ruodi* [= *jo-ti* after Giles] < **nyak-tei* (PULLEYBLANK 1966: 19–20).

Pulleyblank's Middle Chinese reconstruction of the ethnonym Yuezhi is **ŋuat-tçiă*, in other variants: *yuzhi* < **ŋuătçiă*, *niuzhi* < **ŋuwtçiă*. The Chinese annalists knew these tribes from the end of the 2nd millenium B.C. According to the book *I Zhou shu* they firstly appeared in semimythical list of tribes bringing the tributs to the court of *Zhou* dynasty. Fully realistic is already information from the book *Guanzi* which contents documents from the 5th to the 1st century B.C. According to the book the western nation *Yuezhi* used jade with only one possible origin from surroundings of Chotan (PULLEYBLANK 1966: 19). Adams supposes the starting point **gutyiyɪ*. This reconstruction perfectly corresponds with the external Indo-European etymology of this ethnonym (WITCZAK 1993), based on the etymological analysis of the name of East Germanic Goths: Goth. *Gutþiuda* < **Guti-þeuðō* "the nation of Goths"; Gr. Γύθωνες, Lat. *Gutones*, Old Engl. *Gotan* < **gut-an-*, cf. Old Nord. *gotnar* "men", between Old Eng. *Géatas*, Old Nord. *Gautar* < pl. **gautōz*, cf. Old Nord. *gautar* "men", from this sg. **gautaz*. OTRĘBSKI (1950: 79–98) was the first who published this analysis, later developed by HAMP (1991: 85–86). Otrębski added comparation with Nor. *gutt & gut* "boy", cf. also Danish *gud* and Swedish *gutt*. Hamp projected these forms to the later IE forms: collect. **gʰud-i-* : singulative **gʰud-on-* : **gʰoud-o-*. The ethnonym, if motivated by the original meaning "young man, boy", is not isolated in the IE context. Compare the name *Čech*, which in fact is the apellative "boy" preserved in two archaic peripheral dialects: Kashubian and Slovenian (BLAŽEK, KLAIN 2002). There is still another alternative etymology deriving the name of the capital of the western Tocharians *Kᵤci* from the pl. **k̑witeyes* "the whites, the luminous". This etymology is supported by the Chinese denotation of the reign dynasty in Kuqa called *Bo* = "white / luminous". But there are some arguments against this hypothesis: (i) genitive of *Kuciñ* proofs that *Kᵤci* is singular; (ii) the reign dynasty in Kuqa used its own designation – in Sanskrit sources *suvarṇa-* "gold"; the corresponding Tocharian B term was *Ysaṣṣe*.

The most complex situation seems to be in the case of the ethnonym *Tochar*. The Chinese designation of Ferghana *Dayuan* was probably pronunciated as **Taxwār* in the last centuries B.C. (HENNING 1938; PULLEYBLANK 1962: 90, 224; 1966: 22). Strabo (referring to Apollodoros) and in the 2th century Ptolemaeus [VI, 11.6] localized the tribe Τόχαροι to Bactria (now Afghanistan) in the 1st century A.D. But Ptolemaeus still knew Ταχαροι from northern Sogdiana [VI, 12.4] and the town Θογάρα, now in Gansu province [VI, 16.8] = *Tagorae* which mentioned Plinius. Greek *-o-* reflects **-u-* in loanwords from the Middle East. This is confirmed by Sanskrit ethnonyms *Tukhara-*, *Tukhāra-*, *Tuṣṣara-*, *Tuṣāra-* and others. *Kumārajīva*, member of Kuchean royal family and famous translator of buddhist texts to Chinese gives the definite equality between *Tukhāra-* and *Yuezhi*. He explained Sanskrit ethnonym by Chinese term *Xiao Yuezhi*, i.e. "the Small *Yuezhi*" at the beginning of 5th century A.D. (ADAMS 2000: 10, footnote 19). The Sanskrit *-kh-* can function as transcription of Middle Iranian *-g-* /γ/, as Skt. *vakhu* from Bactrian *bago* "god" proofs. Sogdian texts (economical records in book Nāfnāmak – about 800 A.D.) give two variants: *tγw'r'k* and *'tγw'r'k*. This forms may be vocalized as **taγwārak* (or **taxwārak*; from this possibly derived Khot. *ttahvāra*) and **ətγwārak*

(or *ətxwārak). Both variants could be derived from original proto-form *tuɣārak or *tuxārak. Curious evidence of the second form could be the Ossetic *toxar* "warlord" (if *tox* "war" is reversely derived form). We can demonstrate analogical functional drift from ethnonym to appelative in Slavic word *vitędzъ* "victor, hero, warrior", which could be an adaptation of Old Nor. *víkingr* "sea robber, pirate, viking", later commonly "Norman" (detailed discussion to the problem: see VYKYPĚL 2004: 120–129). We have also two transcriptions from Chinese: *dou-qia-luo* < *təu-kʻia-lâ (Karlgren) = *təw-kʰia-la (Pulleyblank) a *tu-huo-lo* <*tʻuo-xuâ-lâ (Karlgren) = *tʰɔ'-xwa'-la (Pulleyblank). Some modern Chinese toponyms document notable traces of historical presence of the To-charians in the Tarim Basin: central village 托胡拉 *Tuohula* to the west from Khotan (LI YINBING 2006: 15), village 托乎拉 *Tuohula* north from Aqsu = Chin.阿克苏 Akesu. The same origin has most probably the name of the village 吐葫芦 *Tuhulu* in area of ancient Tocharian settlement near 伊吾 Yiwu. We can still mention Tibetan term *Thogar* used for northeastern Tibet (ADAMS 2000: 10, note 19). Probably both Chinese variants and the Tibetan word have origin in Sogdian term without prothetic vocal. ADAMS (2000: 16–17) reconstructs original word as *tugra- which gives common Tocharian *tukäre-; this may be inherited word or loan, most probably from Iranian. Presented existence of loadable ("epenthetic") vowel before -r- is just typical for Tocharian languages and it is at least indirect evidence that historical Tocharians (also?) used this ethnonym. In 1907 the orientalist F.W.K. Müller from Berlin identified ethnical name TWΓR in Old Uyghur colofon of the Toch. A drama *Maitrēiasamītinātaka*. He vocalized it as *Toɣrï* and SIEG and SIEGLING (1908) identified it with the ethnonym Τόχαροι, which Strabo and Pto-lemaeus located to Bactria, i.e. Afghanistan today. In Old-Uyghur version of drama *Maitrisimit* Āryacandra (Old Uyghur *Aryačintri*) is mentioned as translator of the work from Sanskrit to *toɣrï tili*. Müller deciphered his origin as the land of Nakardeśa (*Nkry-dyš*). That is near the modern Jalālābād, south from Kābul. But in 1949 British iranist Henning clearly demonstrated that this toponym must be read as "*knydyš* and this can be vocalised only as Agnideśa, ie. area of the Tocharians A. It makes sense: Āryacandra translated drama from Sanskrit original into his mother tongue Tocharian A, then the Tocharian A text was translated in Old Uyghur. There are also other arguments, un-known to Müller, for identification of Tocharians A and ethnonym TWΓR. There was found a tri-lingual Sogdian-Uyghur-Chinese inscription honoring deeds of the Uyghur ruler, in the Uyghur kingdom capital of Qara Balgasun. It contains information about total defeating of Tibetan army and nation of the four TWΓR (Sogd. *ctβ'r twyr'k*). This is related to the war 791–792. Similar terms are also in Manicheian documents in two forms: Middle Persian (*ch'r twytyst'*[n]) and Old Uyghur (*twyrt twyr*). The Sogdian book *Mahrnāmag* (written about 800) informs us about members of Manicheian church. There are five small city-states among them in north of the Tarim Basin. Four of them were in areas where Tocharian language was probably spoken. There are contemporary places Qočo, Kuqa (with Kašghar and Aqsu), Qarašahr, Uč.

7. DEBATE ABOUT HYPOTHETICAL TRAJECTORIES OF MIGRATIONS OF ANCESTORS OF THE TOCHARIANS TO THE CENTRAL ASIA

Historical notes of antique and Chinese authors document presence of the Tocharians in the Central Asia in the last centuries B.C. Analysis of early Tocharian loanwords in Chinese ("chariot" and its parts) moves datation of the first contact to 1200 B.C. The famous mummies with typical Caucasoid features were discovered in the Tarim Basin and can be 4000 years old (MALLORY, MAIR 2000). If we accept the most probable hypothesis that they represent the ancestors of the Tocharians (also confirmed by ana-lysis of DNA – cf. FRANCALACCI 1998: 537–547), their migration from the west must have happened before horizon 2000 B.C. Researchers formulated two alternative hypothesis reconstructing routes of their migration from supossed Indo-European original homeland to Central Asia. Let us compare arguments of both: the northern and the southern hypo-thesis. The promoters of the northern hypothesis find the strongest arguments in the presence of some primarily Indo-European cultural words in Fenno-Ugric and Samo-yedic languages which cannot be explained as Iranian loanwords. We gather from the work of A. JOKI (1973) who was the first who tried to explain some Indo-European words in Fenno-Ugric as loanwords from Tocharian. J. JANHUNEN (1983) made the same conclusion in the case of some Samoyedic etymons. The number of potential Tocharian loanwords in Uralic languages was extended to 18 by V. NAPOĽSKIKH (2001). The follow-ing mini-list contains 5 etymons and presents a choice only of the most convincing etymologies.

1) FU *mete "honey" < OToch. *mʸə́tə < IE *medʰu (RINGE 1996: 108): B *mit* "honey", "C" *meta* (JOKI 1973: 283–284; NAPOĽSKIKH 2001: 372). Iranian *madu "wine" and Indo-Aryan *madʰu "sweet drink, sweetness, milk, soma, honey" differ in meaning. The original meaning was probably "mead". IE *e changes regularly to *a in Indo-Iranian. This is conserved in old loans in Fenno-Ugric languages, cf. Fin. *vasa* "calf", Lap. (Inari) *vyesi* "calf of reindeer", Mord. Mokša *vaza* "calf" < FM *vasa < Indo-Iranian. *vatsa- : OInd. *vatsá- "calf", Ossetic *wäs*, Yaghnobi *wása* id., all from IE *wetso- "yearling" : *wet-es- "year" (JOKI 1973: 338).

2) FP *sōle (Fin. *suola*) /*sale (Mord. *sal*, Mari *šancal*, Udm. *səlal*, Komi *sol/sul*) "salt" < *sāle (corresponding Balto-Fin. *ō : Mord. *a reflects old *ā in stems of words ending by *-e; see ILLIČ-SVITYČ 1971: XXV) < OToch. *sāliyē(n) (cf. HILMARSSON 1986: 231) : A *sāle, pl. *sāleyäntu, B *salyiye, acc. *sālyi "salt" (JOKI 1973: 316; NAPOĽSKIKH 2001: 373–374). In Indo-Iranian languages we know only one cognate in semantically and word-formation distant OInd. *salilám* "see, flood". The adj. *salilá-/sarirá-* still could mean "salty".

3) North Samoyedic *menüjə "full moon" < OToch. *mʸeñə- "moon" < *mēnes- (RINGE 1996: 108–109): A *mañ, B *meñe (NAPOĽSKIKH 2001: 371). Indo-Aryan *mās-, Iranian *māh- "moon" cannot be a source.

4) Samoyedic *sejptə "seven" < OToch. *səptə́ id. (RINGE 1996: 67) < *septm̥ (JANHUNEN 1983: 119; NAPOĽSKIKH 2001: 373). Indo-Iranian & Indo-Aryan *sapta and especially Iranian *hapta "seven" are more remote.

5) Samoyedic *wesä "iron; money" < OToch. *wʸäsä "gold" (ADAMS 1999: 487): A *wäs*, B *yasa* < *Hₐwes- (JOKI 1973: 339–340; NAPOĽSKIKH 2001: 374). Similar etymon is reconstructible in Fenno-Ugric languages: BF. *vaski "copper, bronze, brass" | Lap. *vēškē "copper" | Mord. Erzya *viśkä* "metal wire" | Mari *važ* "ore" | Permian *weś "metal gem"; also cf. Udm. *azveś*, Komi *eziś* "silver", Udm. *uzveś* "tin, lead", Komi *oziś* "tin" | Mansi *ätwės* "lead" | Khanty *wäχ* "metal, iron; money" | Hung. *vas* "iron" < FU. *waśke ~ *wäśke (JOKI 1973: 339–340). The Fenno-Ugric forms with the velar extension can reflect Old Tocharian compound *wʸesä-yäku- "gold colours" > A *wsa-yok*, B *ysä-yok* very well explains semantical allowance and development in some lines: "gold coloured metal" → "copper/bronze/brass" → "iron"; → "jewel"; → "money". It is also evident that the adaptation of the Tocharian lexeme into Finno-Ugrian and Samoyedic languages was independent and so probably occurred in different times. In the Indo-Iranian languages the IE root *Hₐwes- in the meaning "iron" doesn't occur.

A hypothetical contact between Tocharian and Fenno-Ugric laguages should occur before the disintegration of the Fenno-Ugric protolanguage, traditionally dated to the end of 3rd millenium B.C. (HAJDÚ 1985: 173). The dating is confirmed by the glottochronological test applied to Uralian languages by the team of Sergei Starostin, the author of the recalibrated method (Santa Fé 2003). According to his conclusion, the interval between dissolution of the Uralic proto-language and dissolution of Fenno-Ugric was c. from 35th to 22th centuries B.C. (see the next genetic schema):
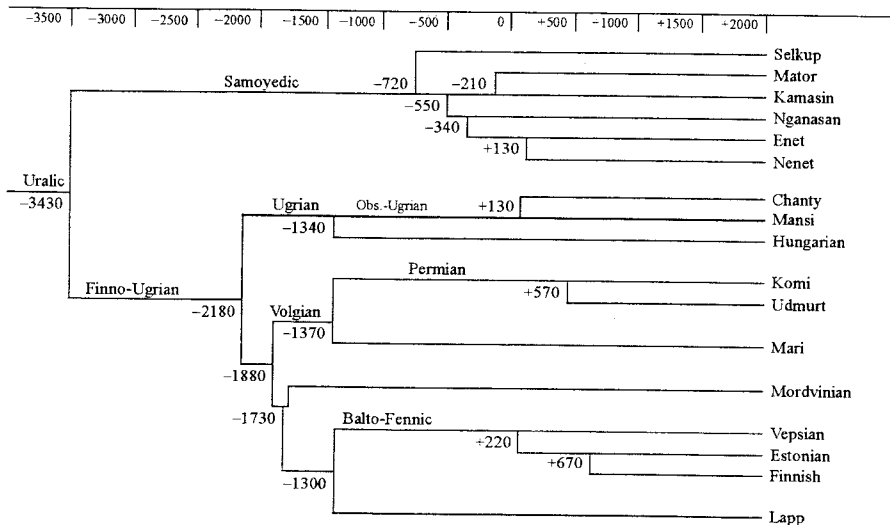
In application of the same recalibrated test on Indo-European languages, the separation of the Tocharian languages from the remaining mainstream can be dated to 3800 B.C. There is no reason to suppose a direct contact between peoples speaking Tocharian and Uralic protolanguages. Hence the ancestors of Tocharians needed at least 4 and at most 16 centuries to reach neighbouring areas of independent, but still undifferentiated Finno-Ugrian. An original homeland of the Fenno-Ugrians has been located in the area

between the middle stream of the Volga and the central part of Ural. The contact between the early Tocharians and Fenno-Ugrians should happen in the southern part of the forest-steppes area where only forest hunters and fishermen (= Fenno-Ugrians) and breeders of horses and cattle (= ancestors of Tocharians) could be met. The hypothetical Tocharian stock in Samoyedic lexicon was realized undoubtedly later, when ancestors of the Tocharians moved to the east. But this occurred certainly before the 8th century BC, when the Samoyedic protolanguage dissolved. Some of the mummies come from 2000 B.C. If their Tocharian identity is true, we can confirm the contact between the Tocharians and Samoyedic people in the 3rd millenium B.C. Again, it may have most probably occurred in the forest-steppes area in the southern part of Siberia. Even if a direct identification of archeological culture with specific ethnic is always problematic, there is a broad consensus about important role of ancestors of the Tocharians in archeological complex of **Afanasievo culture** from 3500 to 2500 B.C. This culture is localized between the upper flow of the rivers Ob and Angara, to the north from the Altai with the centre around the area of Minussin valley by northern Yenisei. This culture is characterised by knowledge of copper and bronze, there are interesting and evident cultural parallels with such North Pontic cultures as the Srednij Stog (4500–3500 B.C.), see Mallory, EIEC 4–5, MALLORY, MAIR 2000: 294–297. We can add that the Afanasievo culture was followed by the culture of Okunievo in the 2nd millenium B.C. and that the bearers of this culture probably were early Samoyeds (VADECKAJA 1990: 73). Geografically the territory of both cultures significantly coincides with the original homeland of the Samoyeds, determined by the method of linguistic archeology into the quadrangle Narym-Tomsk-Jenisejsk-Krasnojarsk by E. XELIMSKIJ (1988: 13–14).

The hypothesis of the **southern** trajectory of ancestors of the Tocharians was firstly formulated by the British iranist P. HENNING in 1962 (published first in 1978). His concept was further developed by the Georgian and Russian authors T. GAMKRELIDZE & V. IVANOV (1989) and Polish K. WITCZAK (1993). The advocates of the southern route see the main argument in a similarity of the proper names *Guti* and *Tukriš*, attested already in the 3rd and especially from the 2nd millenium B.C. in the Western Iran, with the name of the capital of the Western Tocharians *Kuča*, and the ethnonym Tochar respectively (see above). This concept is certainly seductive, but it spares the linguistic proof of mutual loanwords between Tocharian and one of the ancient Near-Eastern languages. It may be especially Sumerian, Akkadian and Elamite, with which the Proto-Tocharians must be contacted. The only exception is the contribution of K. Witczak. He collected 10 lexical parallels, which should document a mutual contact of ancestors of the Tocharians as well as of the Hurrians and the Urarteians. This is a key argument for the Near Eastern migration, so we will cite this comparisons with short commentaries:

1) Hurr. *ag-*, Ur. *agu-* "lead, bring" || Toch. AB *āk-* "lead". Hurr.-Ur. *ag- has the closest cognates in Nakh languages, concretely in Chech. *-ig-a*, Bats *-iḳ-* "lead, manage"; other parallels in Dagestanian languages as Archi *aḳa-s* "manage", Dargi *-irḳ-/-urḳ-* lead to pDagestan *'VrḳV (DIAKONOFF, STAROSTIN 1986: 57).

2) Hurr. *mann-*, Ur. *man-* "to be, exist" || Toch. AB *mäsk-* "to be, become, be situated" < *mṇ-sk- (ADAMS 1999: 458). Hurr.-Ur. verb could be without problems derived from Dagest. *'i-ma(n) "stay" (DIAKONOFF, STAROSTIN 1986: 21).

3) Hurr. & Ur. *pal-* "know, express, say" ‖ Toch. AB *pälsk-* "think, consider" (not "know"). Toch. word is probably the *sk-*derivative from the verb *pälk-* "see, look" (ADAMS 1999: 377, 380–381).

4) Hurr. *wali* "worm" ‖ Toch. A *wal*, B *yel* id. The Hurrian word, in modern transcription *φali*, has the closest cognates in Nakh languages: Chechen *bōḫalla*, Ingush *bˁeḫal* "snake"; also Tsez *bekol*, Bezhit *bekela*, Avar *borox* "snake", Tindal *bek'a* "snake, worm" (DIAKONOFF, STAROSTIN 1986: 50).

5) Ur. *gunuše* "battle" ‖ Toch. A *ku̇ñaś* "struggle, conflict" (no *kunaś* "battle"). The Toch. word reflects the protoform *$g^{wh}n$-yont-ēn* derived from the root *$g^{wh}en$-* "fight, struggle" (HILMARSSON 1996: 192). Ur. *-še* represents a productive suffix of abstracts (WILHELM 2004b: 125).

6) Ur. *šuše* "sheep" ‖ Toch. A *śoś* id. It is not possible to separate *śoś* from A *śāyu*, B *śaiyye* < *$*śāw-ye$-(ADAMS 1999: 634); W. WINTER (1999: 251–254) appointed the meaning "small domestic animals". For A *$*śoś$* Winter expected the assimilation from *$*śos$*, this may be the acc. pl. with analogical development as the acc. pl. *kos* "cows" < *$*g^{w}owns$*. Toch. A *śoś* and *śāyu*, B *śaiyye* are undoubtedly derived from the verb attested in B *śāw-/śāy-*, A *śo-* "live"; due to semantics cf. Welsh *biw* "Hornvieh" : Lat. *vīvus*. Also B *śānta* "sheep" derivable from *$*śāwentā$* (ADAMS 1999: 634) is ranked here.

7) Hurr. *šaphal(d)i* "left", Ur. *salmathi* id. ‖ Toch. A *śālyi*, B *śwālyai* id. But the Toch. words do not mean "left", but in contrary, "right". This is the fossilized acc. f. gerund *śwālle* "convenient to eat" from the verb *śu-* "to eat", cf. Khotanese *hvarandaa-* "right hand" : *hvar-* "to eat" (WINTER 1985: 590; ADAMS 1999: 645). On the other hand, the Hurr. word has persuasive etymology in Dagestanian *$*čaH(V)ṗVl$-* "left" > Agul *čalṗl-an-*, Lezgin *čapla*, Dargwa *čipil* (DIAKONOFF, STAROSTIN 1986: 54; the authors reject the Urarteian parallel, actually it could be a loanword, for example from some of Semitic languages, cf. Akkadian *šumēlu*, Ugaritic *šmå l*, Hebrew *śəmō⁽ʾ⁾l*, Syriac *səmālā* "left side").

8) Hurr. *p/wandi* "right" ‖ Toch. A *pāci* id., *apāt* "to the right". Toch. word has no definitely assigned meaning, cf. analysis of W. WINTER (1985).

9) Hurr. *ubi* "millet", Ur. *$*ebi$* id. ‖ Toch. AB *yap* id. Hurr. *ubi* is translated as "Gerste", i.e. "barley" (WILHELM 1992: 135). The Toch. etymon is often connected with IE *$*yewH_1o$-* "grain; barley" (ADAMS 1999: 482). WITCZAK himself accepted this etymology too (2004: 43).

10) Hurr. *umini*, Ur. *ebani* "land, area" ‖ Toch. A *ype*, B *yapoy* "land (country)". Ur. *-ni* forms several substantives (WILHELM 2004b: 125); The Hurrian word is now transcribed as *ōmini* (WILHELM 2000a: 107). The Tocharian words have many etymological attempts: *$*H_1epowen$*, pl. *$*H_1epounā$*, lit. "dominion" : *$*H_1ep$-* "take, hold (keep)", *$*H_1en-b^huH-i$* or *$*H_1ep(i)-ouden$* (ADAMS 1999: 483).

In confrontation of the northern and southern hypotheses the first seems more convincing, presuming the starting point of transcontinental drift of ancestors of the Tocharians in the Western Eurasian wood-steppe area, most probably in the area between Danubius and Dniepr. Only this ecological nica allowed to Indo-Europeans to preserve the skills of agropastoralists, as well as surprising mobility. The northern trajectory is also confirmed

by important contribution to the cultural vocabulary of Fenno-Ugric and Samoyedic languages. Interesting is also the affinity of the first South Siberian chalcolithic Afanasievo culture with North Pontic archeological complexes as the culture of Srednij Stog.

8. APPENDIX 1

THE APPLICATON OF LEXICOSTATISTICS FOR TOCHARIAN

	A	B	Etymology
1. all	*pont-* & *pu-k*	*po, pont-*	*$*pōnts$*; cf. Gr. πᾱς, παντο- id.
2a. ashes	*tor*	*taur*	< Turk. *$*tōr$* dust; cf. also Yakut *tor* smut (LS, 259; EDAL 1465); comparation with R. *dur* fatuity, Br. *dura* stagger (*$*d^houro$-*) is semantically not persuasive
2b. ashes	*twe*	*tweye*	*$*d^woyo$-* from IE *$d^heu(H)$-* to blow, smoke, cf. Lit. *dujà* fine dust, Khot. *duya-* dusty
3. bark		*enmetre*	
4. belly	*kāts*	*kātso*	*$*g^wōt-yōn$-*; cf. Goth. *qiþus* abdomen, bosom
5a. big	*śāw-*		cf. A *śāw-*, B *śāy-* live (#64b; problematic is the comparation with OInd. *śávas-* power)
5b. big	*tsopats*		*$*d^hēubo-tyo$-* deep; cf. Goth. *diups* id.; zero grade is in A *tpär* high < *$*d^hubro$-*
5c. big		*orotstse/wr°*	*$*uru-(e)H-tyo$-*, cf. Luw. *ura-* great
5d. big		*trekte*	*$*d^hrog^h-to$-* (original possibly "firm"); cf. OInd. *dṛhyati* he makes firm
6. bird		*lwāsa ślyamñana*	cf. *luwo* animal (ADAMS 1999: 731)
7. bite		*tsāk-*	*$*dēnk-(nā-)$*, cf. Gr. δάκνω I bite, OInd. *dáśati* he bites
8. black	*arkant-*	*erkant-*	*$*Hr̥g^w-ont$-*, cf. OInd. *rájanī-* night, Arm. *erek* evening, Goth. *riqis* darkness
9. blood	*ysār*	*yasar*	*$*H_1ésH_2ōr$*, cf. Hit. *ēshar* id.
10a. bone	*āy*	*āy*	*$*H_{2/3}ést-yo$-?*
10aa. bone		pl. *āsta*	*$*H_{2/3}ést-ā$*; cf. Hit. *hastāi-* bone
11. breast	*pāśśäṃ*	*pāścane*	*$*psteno$-*, cf. OInd. *stánā* breast, Avest. *fštāna-*, Arm. *stin*, Gr. στηνίον·στῆθος
12a. burn	*tsäk-/tsak-*	*tsäk-/tsek-*	*$*d^heg^wh$-*; cf. OInd. *dáhati* he burns, Alb. *djek*, Lit. *degù* I burn
12b. burn	*pälk-*	*pälk-*	*$*b^hlg$-*; cf. Lat. *fulgeō* I blaze, Gr. φλέγω I burn
13. claw	*maku*	pl. *mekwa*	*$*sm̥-H_3nog^hwā$*; cf. Hit. *sankuwai-* < *$*sananku$-*, Arm. *ełowngn* id. < *$*enong$-* < *$*sem-H_3ong^h$-*, Gr. μῶνυξ single-hoofed < *$*sm̥-H_3nog^h-u$-*
14. cloud	*tärkär*	*tarkär*	*$*d^hrgru$-*, cf. Lit. *dárga* rainy weather, OR. *padoroga* stormy weather
15. cold	*ku̇raś/krośś-*	*krośce*	*$*krustōn$*, acc. *$*krustén-m̥$*, cf. Gr. κρυστάλλος ice, OHG *hroso* id.
16. come	*kum-*	*käm-*	*$*g^wem$-*; cf. OInd. *gámati* he walks, Goth. *qiman* come, Lit. *gemù* : *giñti* be born
17a. die	*wäl-/wal-*		*$*welH_3$-*; cf. Hit. *walahzi* he beats, Hier. Luvian *wa/i-la-* decease

17b. die		sruk-/srauk-	*streug-, cf. ONord. strjúka go away, Gr. στρεύγομαι I give out
18. dog	ku	ku	*k̂uwōn; cf. Hit. kuwan-/kun- id., Gr. κύων, gen. κυνός id.
19a. drink	yok-	yok-	*H₁ēg^w(h)-, cf. Hit. eku-/aku- id.
20. dry	āsar	āsare	AB ās- dry, cf. Lat. āreō I am dry, āridus dry < *H₂ēs-
21. ear	klots	klautso	*k̂louti-H₁ōn-; cf. OInd. śrúti- hearing, OIr. cluas ear
22a. earth	tkaṃ	keṃ	*d^hg^hom-; cf. Hit. tēkan, dat.-loc. taknī id., Gr. χθών
22b. earth	päts	ptsa	*pedā; cf. Hit. pēdan place, Gr. πεδίον field, plane
23a. eat	śwā-	śwā-	*gyeuH-eH_a-, cf. Pers. jāvīdan, OHG. kiuwan, OChSl. žьvati id.
23b. eat	tāp-	tāpp-	*dap-w-ā-; cf. Latv. daps banquet
24. egg			
25. eye	ak, du. aśäṃ	ek	*H₃ok^w-, du. *-iH₁; cf. Lit. akìs, pl. akì, OChSl. oko, du. oči
26. fat n.	ṣälyp	ṣalype/ṣalywe	*sélpo-, cf. Gr. ἔλπος (Hes.), Alb. gjalpë butter, OHG. salba
27. feather		pl. paruwa	*p(e)rwā, cf. OChSl. pero : perọ I fly
28. fire	por	pūwar	*peH₂wṛ ntr. : *peH₂wōr coll.; cf. Hit. pahhu(wa)r, Gr. πῦρ id.
29. fish		laks	*lok̂si-; cf. ONord. lax, Lit. lãšis, R. losós, Osset. läsäg
30a. fly v.	plu-	plu-	*pleu- put, flow; cf. Gr. πλέ(ϝ)ω I put, I swimm, OChSl. plujọ I swim
30b. fly v.	säl-	säl-	*sel- move fast; cf. Lat. saliō I leap
31. foot	pe	paiyye	*pēds or *podyo-; cf. Lat. pēs or Avest. paiδā, Gr. πέζα id.
32. full	ypic/ywic	īte	A *y(n)-wic < acc. *en-wītem; B *wīto-; cf. OHG wīt ONord. wiðr wide
33a. give	e-	ai-	*H_aei-, cf. Hit. pāi- give, Lyc. ije- buy, Hier. Luw. iyasa- id., Gr. αἴνυμαι I také
33b. give		Imp. pete	*po-doH₃-; cf. Hit. pēda- bear
33c. give	wäs : PP wawu	wasa he gaves	*us-(ā-) < *wes-(buy; cf. Hit. wāsi he sells (LIV 693)
34a. good	krant-	krent-	*g^wṛH_a-ont-; cf. Lit. gēras good
34aa. good		kartse	*g^wṛH_a-to-; cf. OInd. gūrtá-, Lit. gīrtas, Lat. grātus, all from *g^werH_a- chant
34b. good	kāsu		cf. A käs- be bright, shine, ksā- shine on, illuminate?
35. green	motarci	motartstse	*mod^hṛtyo-; cf. Slav. *modrъ blue, Hit. āntara- id.
36a. hair	śāku		*dēk̂wā; cf. Khot. dasa- filament, OInd. daśā- thrum, Goth. tagl hair
36b. hair	yok (hair; colour)	yok, pl. yākwa	(B: hair, wool; colour) < *yā/ēk̂u; cf. OInd. yā́śu- pubic hair
36c. hair		matsi	*metyo-, cf. Latv. mats, pl. mati hair(s)
37. hand	tsar	ṣar	A: *g^hesēr; B: *g^hesér-ṃ; cf. Hit. kissar- id.
38a. head	śpāl	(śpālu vynikající)	*g^heb^hōl or *g^heb^h_alom; cf. OHG gebal, Gr. κεφαλή id.
38b. head	lap		*lob^ho-; cf. Gr. λόφος scruff of animal
38c. head		āśce	*H_aek̂st-en-: *H_aek̂- sharp, pointed; cf. Gr. ἀκτή headland, steap bank

39. hear	klyos	klyaus-	*k̂lēus-; cf. OInd. śróṣati he hears, OChSl. slušati & slyšati, Lit. klausýti hear
40a. heart	āriñc	arañce	*H₂eH₂(e)ri-, cf. Hit. hah(a)ri- lungs / milts, Celt. *āren- milt > Welsh arenn, pl. eirinn, OIr. áru, gen. árann heart
40b. heart	(kri will)	pl. käryañ	*kṛdyā, cf. Gr. καρδία, OIr. cride heart
41. horn	(kror crescent of moon)	krorīyai	*kreH₂wṛ or *kṛH₂sru-, cf. Hit. karāwar id. or Myc. ono-karaor = /oino-krāhōr/ unicorn
42. I	näṣ m./ ñuk f. < *ñāku	ñāś/ñiś	acc. *H₁meĝe crossed with nom. *H₁eĝō > ⁺yäku; ñ- < *m(ä)ñā < gen. *mene; cf. Hit. ūg : ammug, Goth. ik : mik
43a. kill	ko-	kau-	*kāu-; cf. OSaxon hauwan, Lit. káuti beat, bang
43b. kill	sruk-		cf. B sruk-/srauk- die (#17b)
44. knee	du. kanweṃ	du. keni	*ĝonu-; cf. Hit. gēnu-, Gr. γόνυ id.
45a. know	knā-	(nān- appear)	*ĝneH₃-; cf. OInd. jānā́ti he knows < *ĝṇH₃-neH₂-
45b. know	kärs-	kärs- pres. śärsäsk-	*kṛs- : *kers- cut, cf. Hit. kars- cut off; semantics possibly as Lat. scīre know : secāre cut
45c. know	(eś attendance)	aik-	*H_aeik̂- possess, cf. Goth. aih, aigum id., have, OInd. īśe he is master (of something)
46. leaf	pält	pilta	coll. *b^hlH₁tōs, cf. OHG blat id.
47a. lie	klis-/kles-	(klänts- sleep)	*klṃH_a-s-; cf. OInd. klām(y)ati he is tired, klānta- tired
47b. lie	(lake = B leki bed)	lyäk-	*leg^h-; cf. Goth. ligan id., OIr. laigid he lies, he lies down
48. liver		wästarye	*udtṛyo-; cf. Gr. ὕστρος stomach, ὑστέρα bosom; OInd. udára- abdomen, Lat. uterus bosom
49. long	pärkär	pärkare	*b^hṛĝh-ró-; cf. Hit. parku-, Arm. barjr high
50. louse		pärśeri/pärsere	< Turk. *bürče flea, cf. Chuv. pǎ^wrźa (LUBOTSKY, STAROSTIN 2003: 261)
51a. man	oṅk	eṅkwe	*ṇk̂wo- mortal, cf. OIr. éc dead < *ṇk̂u- : *nek̂- kill, die > AB näk- destroy; be lost, disappear; cf. Lat. necō : necāre kill
51b. man	ātäl		*at(i)-al-; cf. OHG adal gentle
52a. many	māk	māka	*mĝH_a- (> *mH_aĝ-?) : *meĝōHa; cf. OInd. mahā- : máhi n. big = Gr. μέγα id., Arm. mec id., Hit. mekki- plentiful, Alb. madh great
52b. many	käṣtär		*k̂s-tro-/-ā; cf. A kaś, B keś line, account, number < *kæscæ < *k̂os-tē(i)
53a. meat	śwāl		sr. śwā- eat (#23a)
53b. meat		pl. mīsa	*memsā (pl. of ntr. *memsom); cf. Goth. mimz id.
54. moon	mañ	meñe	*meH₁nē(n/s/t?); cf. Goth. n-stem mena id.
55. mountain	ṣul	ṣale	*selwo-; cf. Lat. silva wood
56. mouth	ko, loc. koyaṃ	koyṃ	A śew- / B kāy- gape, open mouth < *ĝ^heH_ji(w)- / *ĝ^hoH₁(y)-; cf. Lat. hīscō I open mouth, OChSl. zějọ : zijati id.
57. name	ñom	ñem	*H₁nēmṇ; cf. Arm. anown, Gr. ὄνομα, Alb. emër/emën
58a. neck	kñuk		*gneugo-; cf. MHG knock neck or *kneig^who-; cf. Goth. hneiwan bend
58b. neck		kor	*kuHṛ, cf. Gr. κύαρ eye of needle, hole of ear; Av. sūra-, Arm. sor hole

	A	B	
58c. neck		krāñi	*ḱṛH₂sniyom; cf. OInd. śīrṣán- head, Gr. κρανίον vertex
59. new	ñu	ñ(u)we	*newo-; cf. Hit. newa-, Gr. νέος id.
60a. night	wṣe	yṣīye	*wesyā-H₁en- lit. "veiled", cf. Lat. vesper, Gr. ἕσπερος evening < *that, what is in shroud : Hit. waspa-clothes; shroud (KATZ 2000: 69–93)
60b. night		kästwer at night	*gʷsp-wor; cf. OInd. kṣáp-, Avest. 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. / säm f.	ṣe m. / sana & somo	*sēms / *smyā ; cf. Gr. εἷς / μία
64a. person	napem		< Iran.: Avest. nāfah- propinquity, family, Sogd. Bud. n'β people, clan
64b. person	(ṣom youth)	śaumo	from śāw-/śāy- live < *gʷyeH₃-w-e/o-; cf. OInd. jīvati, Lat. vīvere live
64c. person	oñi < *oṅkñi	eṅkwaññe	see #51a
64d. person		onolme	*ān(H)-olmo- : *ān(H)- < *HₐenH₁- breathe, cf. B anāsk- inspire
65. rain n.	swase	swese	*suH₃-oso-; cf. AB su- rain, Gr. ὕει it rains, Prus. soye rain
66. red	rtär	ratre	*H₁rudʰó-; OInd. rudhirá-, Gr. ἐρυθρός id.
67a. road	yme	ymīye	*H₁eimn-ā-H₁en-
67b. road	ytār	ytārye	*H₁itōr; cf. Hit. itar, Lat. iter id.
68a. root	tsmār		AB tsäm- growth < *dem(Hₐ)-; cf. Lyd. tam- frame, Gr. δέμω I frame
68b. root		witsake	< Iran. *waitāka-, cf. Osset. Iron. wīdag, Digor. wedagā id.
69. round	akritär		*(s)kritro-; cf. Lit. āpskritas, Latv. skritulỹs id.
70. sand	wāryāñc	warañce	pToch. *wārw-āñce < *(H)wōru- : B yare gravel < *(H)wero-; cf. ONord. aurr sand blended with clay, OIr. úr soil, clay
71. say	weñ-	weñ-	*wond-ye/o- : OInd. vándate he celebrates ‖ *wokn-ye/o- : OHG giwahanan note
72. see	läk-/lyāk-	läk-/lyāk-	*luk- blaze (rather than *leg- collect. or comparison with WGerm. *lōkōjan look)
73a. seed	sāryām Saat sārm Same pl. sārmntu	sārm, pl. sarmana	*sṛyā- : AB sāry- plant < *soH₁-r-, cf. Lat. serere : serō : seruī & serī plant *sormn°
73b. seed	śäktālyi	śäktālye	AB kät-(nā-) strew; cf. Lit. kḗsti : kečiù diffuse, dispel
73c. seed		śaiweñña	*seH₁i-won-yā : *seH₁- to seed, cf. Goth. saian id., OChSl. sějǫ I drill
74a. sit	l(y)äm- / lam	l(y)äm-/l(y)äm-	*lemb-; cf. OInd. lámbate he hang (on), Eng. limp
74b. sit	ṣäm-	ṣäm-	*sed-m- or *H₁s-em-
75a. skin	yats	yetse	*H₁ēd-so- : *H₁ed- eat
75b. skin	kāc		*kūt-ē(i) : obl. -i-m; cf. ONord. húð, Lat. cutis id.
75c. skin		ewe	*H₁ow-es- : *H₁eu- clothe, shoe; cf. Hit. unu(wa)-decorate; OChSl. ob-ujǫ I shoe
76. sleep	klis- / kles-	klänts-	cf. #47

	A	B	
77a. small	lykäly / lyäkly-	lykaśke	*H₃lig-: ř. ὀλίγος small, few, Alb. lig bad, evil, poor
77b. small	mkälto		*mₐklo-; cf. Hit. maklant- slight, Lat. macer : macilentus slight, poor
78. smoke n.			
79a. stand	käly-	käly-	*klH₁-ye/o-; cf. Lit. kélti raise : kìlti get up
79b. stand	stäm-	ṣtäm-	*stm̥- : *steH₂- stand (be) as *gʷm̥- : *gʷeH₂- go // *stm̥bʰ- designate
80. star	śre	ścirye	*H₂(H)ster-; cf. Hit. hasterza, Gr. ἀστήρ id.
81a. stone	kña-		*Kunyā; cf. Hit. kunkunuzzi- sort of stone (diorit?)
81b. stone	pārem, perl. °enā		*pōr-en-; cf. Hit. ntr. pēru, com. perunas rock, OInd. párvata- mount, Avest. pauruuatā- mountain range < *perwn̥t-, OIr. airne stone
81c. stone		kärweñe	*gʷṛHwon-en- : *gʷreHwen- > OInd. grāvan- stone for pressing of soma
82. sun	kom	kaum	< Turk. *gün sun, day, cf. Chuv. kon day (LS 2003: 257; EDAL, 553), rather than from virtual IE *kauni-; cf. Gr. καῦμα burning heat (of sun) : καίω I burn < *kawyō
83. swim		nāsk-	*(s)neH₂-; cf. OInd. snāti he baths; Lat. nāre swimm
84. tail		päkā-	*puḱā; cf. OInd. púccha- id. < *puk-sḱo-, Goth. fauho fox (EIEC 563)
85a. that	sam m. : sām f.	su m. : sāᵤ f.	A *sono- m. : *sā-m° f. / B *so+u m. : *sā+u
85b. that	täm ntr.	tu ntr.	A *tu-m < *to(d)+u-m° / B *to(d)+u
86a. this	säs m.: sās f.	se m. / sā f.	A *su-so < *so+u-so : *sā-s° / B *so m. : *sā f.
86b. this		sem	B *so-n°
86b. this	täṣ ntr.	te ntr.	A *tu-se < *to(d)+u-se / B *tod
87. thou	tu	t(u)we	*tuHóm; cf. OInd. t(u)vám
88. tongue	käntu	kantwo	*dn̥gʰwā; cf. OLat. dingua, Goth. tuggo id.
89. tooth	kam	keme	*ĝombʰo-; cf. OInd. jámbha-, Gr. γόμφος id.
90. tree	ṣtām	stām, pl. stāna	*steH₂-smn̥, pl. *steH₂-smn-ā; cf. Germanic *stamma-trunk
91. two	wu m. / we f.	wi	A *dwō(u) m. / *dwoi ntr. : B *dwoi ntr.
92a. walk	i-	i-	*H₁éi-mi I walk : *H₁i-mé we walk; cf. OInd. emi : ima
92aa. walk	ya-	ya-	*H₁ei-ye/o-; cf. #92a
92b. walk	kälk- / kalk-	(kalāk- follow)	A: *kʷl̥-K- B: *kʷolH-K-; cf. OInd. cárati he moves : cáritum : cūrtí-
92c. walk		mäs-	*mus-(ā-) : AB mus- move < *meus-; cf. Hit. maus- : mu- fall
93a. warm	omäl	emalle	*H₁n̥-ml̥-(y)o-; cf. Icel. molla (be) hot
93b. warm	sāt	(satāsk-exspire)	
94. water	wär	war	*udrom (Adams) or loc. *udrn̥ (Normier); cf. Alb. ujë id. < *udryā; Gr. ὑδρία bucket
95. we	was	wes	*wos (from crossing of IE nom. *wei- and obl. *nos); cf. Hit. wēs, Goth. weis
96. what	kuc	kᵤce	*kʷu-tóm = acc. from kus / kᵤse who (#98)

97. white	*ārki*, pl. *ārkyañc* m./ *ārkyant*	*ārkwi*	*H_2erĝ-u-i-n°*, pl. *H_2erĝ-u-yon-t-*; cf. Hit. *harki-* id.
98. who	*kus*, acc. *kuc*	*k$_u$se*, acc. *k$_u$ce*	*k^wu-só*; cf. Alb. *kush* id.; acc. *k^wu-tóm*
99. woman	*k$_u$li*	*kl(y)ĭye*	*ĝleH$_2$wi-H$_1$en-* *daughter-in-law/spouse; cf. ChSl. *zьlъva*, Gr. γάλως husband's sister
100. yellow		*tute*	*d^húto-*; cf. OInd. *dhūta-* turbulent, Pers. *dūd* fume, OEng. *dýþ* fuel, tinder (M 226), Cz. *doutnat* smoulder : IE. *d^heuH$_2$-* fume; to semantics cf. OInd. *dhūmrá-* & *dhūmala-* fume's coloured, russet : *dhūmá-* fume (P 261-62)

Lexicostatistical analysis
Missing items
A: 3, 6, 7, 24, 27, 29, 41, 48, 50, 78, 83, 84, 100.
B: 24, 69.
Loanwords: 2a, 50, 64b, 68b, 82.
K = Number of the incomplete or quite missing pairs and semantical 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 pairs: L = 100 - K = 85.
M = Number of the semantical units, if the A and B counterparts are etymologicaly 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.
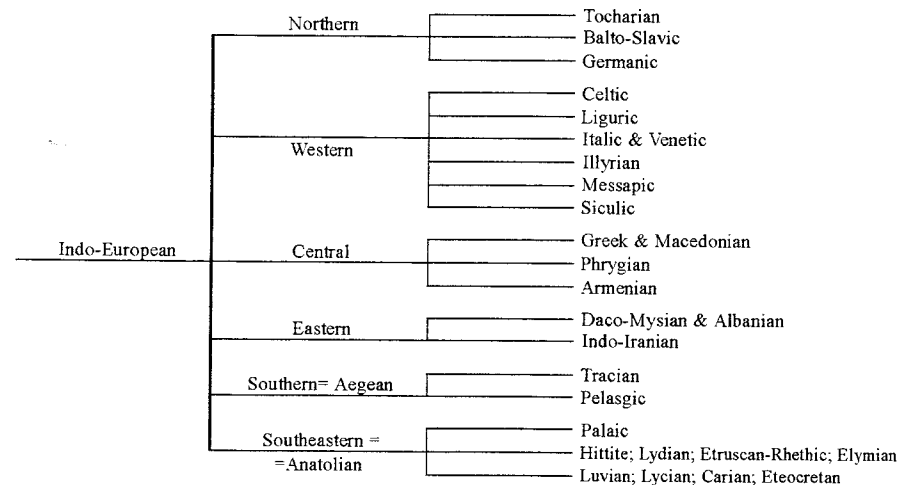
If Tocharian A and B were contemporary living languages, we could conclude that they diverged about 1050 years ago, i.e. they should separate during the 10th century A.D. But these languages are dead and known only from literary – even asychronic – tradition. It is difficult to express the age of Tocharian texts by the only date. It can be only a statistical average: Tocharian A to A.D. 700 and Tocharian B to A.D. 600 (see §3). 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 A.D. 650. 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 the language A (A.D. 700) from the present and 1400 years separates the language B (A.D. 600). The corresponding coefficients of preservation are p: $p_A = 0.925$; $p_B = 0.913$. 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 · p_A · p_B = = 0.906 · 0.913 · 0.925 = 0.765 (about the method see BURLAK, STAROSTIN 2005: 163). This result corresponds to the date *c*. A.D. 200 (thus just before the end of the Han dynasty, A.D. 220, when the Chinese influence spread to the area of the Tocharian people). We can add that according to Starostin Tocharian A and B diferentiated about 20 B.C. (DYBO 2006: 782–783). But details of this calculation were not published. Summing up, the oldest dating of the A vs. B divergence, 400 BC, seems to be in the best agreement with expectation of both historians and linguists.
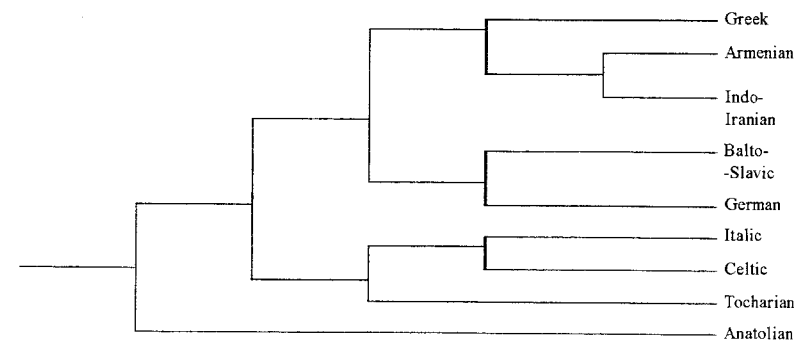
9. APPENDIX 2

POSITION OF THE TOCHARIAN BRANCH BETWEEN OTHER INDO-EUROPEAN LANGUAGES

Following 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:
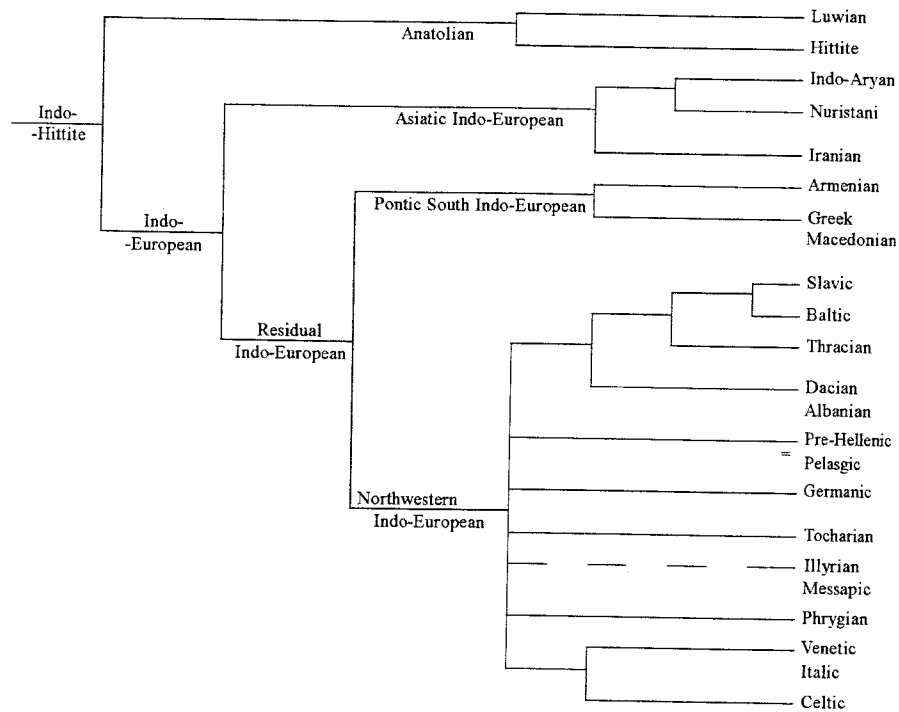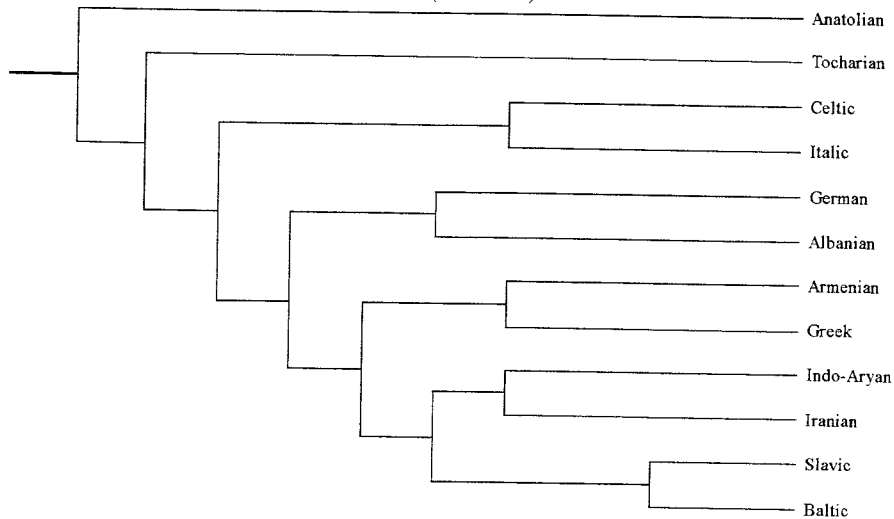
Vladimir GEORGIEV (1981: 363)
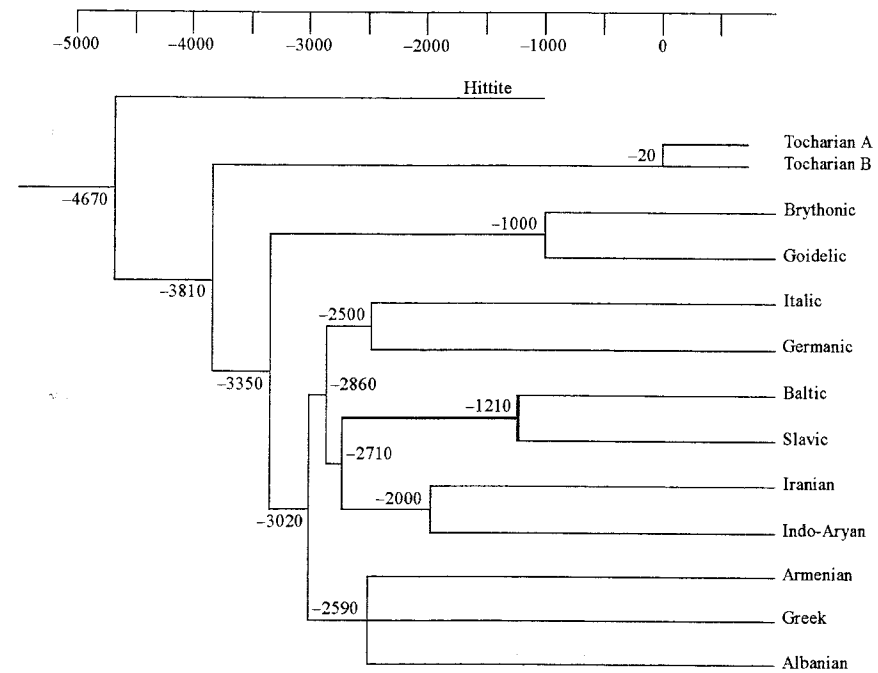

GAMKRELIDZE, IVANOV (1984: 415)

Eric HAMP (1990)

Indo-Hittite

- Anatolian
  - Luwian
  - Hittite
- Indo-European
  - Asiatic Indo-European
    - Indo-Aryan
    - Nuristani
    - Iranian
  - Residual Indo-European
    - Pontic South Indo-European
      - Armenian
      - Greek / Macedonian
    - Northwestern Indo-European
      - Slavic
      - Baltic
      - Thracian
      - Dacian / Albanian
      - Pre-Hellenic Pelasgic
      - Germanic
      - Tocharian
      - Illyrian Messapic
      - Phrygian
      - Venetic / Italic
      - Celtic

D. RINGE, T. WARNOW & A. TAYLOR (2002: 87)

- Anatolian
- Tocharian
- Celtic
- Italic
- German
- Albanian
- Armenian
- Greek
- Indo-Aryan
- Iranian
- Slavic
- Baltic

STAROSTIN (p.c. Santa Fe, 2004)

-5000   -4000   -3000   -2000   -1000   0

- Hittite (-4670)
  - (-3810)
    - Tocharian A / Tocharian B (-20)
    - (-3350)
      - (-1000) Brythonic / Goidelic
      - (-3020)
        - (-2500) Italic / Germanic
        - (-2860)
          - (-2710)
            - (-1210) Baltic / Slavic
            - (-2000) Iranian / Indo-Aryan
        - (-2590) Armenian / Greek / Albanian

In three fifths of cases Indo-Europeanists agree in conclusion that Tocharian is a branch separated from the Indo-European dialect continuum as the second after the separation of the Anatolian branch. Georgiev ranked Tocharian in the so-called northern bloc, represented by Germanic and Balto-Slavic languages, Hamp accents vicinity of German and Tocharian.

10. CONCLUSION

In the present study we gathered and dared to assess material allowing to formulate the following scenario. The Indo-European dialect continuum is splitted for the first time in the first half of 5th millenium B.C., when the Anatolian branch is separated. Roughly after 8-9 centuries, *c.* 3800 B.C., another dialect, developing to the Tocharian branch, made independent. The ancestors of the historical Tocharians separated probably from the eastern part of the Indo-European oikumena, perhaps in the area between Danubius and Dniepr. The area is a logical platform to the further penetration to the east, where the contact with populations speaking still undisintegrated Finno-Ugric proto-language could be realized. This happened probably in the second half of the 4th millenium B.C. We can conceive the area of middle stream of the Volga and Ural (or southern Ural respectively) as pertinent contact zone. The route of Proto-Tocharians led further to the

east until it stopped on the northern slopes of the Sajany-Altai, between the upper Irtyš and Angara, where the archeological complex Afanasievo was constituted from 3500 to 2500 B.C. The complex has an evident genetical relation to the culture Srednij Stog, which had dominated in regions to the north from the Black Sea one millenium ago. Culture Okunievo appears in the northern periphery of Afanasievo culture after 2000 B.C. The Okunievo culture obviously contained part of ancestros of Samoyedic populations separating from their Finno-Ugrian relatives around the half of 4th millenium B.C. The vicinity or succession of ancestors of Tocharians and Samoyedic people left some traces in Samoyedic lexicon. The main stream of Proto-Tocharian population moved perhaps to the south still in the last centuries of the 3rd millenium B.C. The most passable route of their migration could lead along the upper flow of Irtysh across the Jungar Basin (*Zhunga'er Pendi*) to the Tarim Basin (*Talimu Pendi*). They were likely to penetrate here from the east (MALLORY, MAIR 2000: 315) and to gradually colonize the northern edge between the river Tarim and southern uphills of 天山 *Tian Shan* mountains, where the eastern language A and western B were later crystalized. They settled also at the southern rim along the river Qargan and by northern uphills of the Kunlun mountains where hypothetical language C left some traces. The contact with Chinese civilization occured at the latest about 1200 B.C. Spreading of war chariots in Chinese army was the main result (SHAUGHNESSY 1988), documented also in loanword from pre-Toch. *klæṅkæ* > A *klaṅk*, B *kleṅke* "wagon", AB *klāṅk-* "to go by wagon", to Old Chinese *ləŋs* "wagon", *ləŋ* "run" (LUBOTSKY 1998: 379–390; BLAŽEK 1999: 82). Another cultural loans between Tocharian and Chinese follow, in adverse order as well (for example Toch. AB *klu* "rice" < Old Chin. *lhu'~ *Lhu* "sprouting rice" – see BLAŽEK 1999, 81–82). In the first half of the 2nd century B.C. the Tocharians were invaded by nomadic ethnics of *Xiongnu*, who appears as the Huns at the European borders after some centuries. Tocharian's militant elite runs away to the west, where dominated Bactria for some time. Then some exclusive Bactrian loanwords penetrated in Tocharian et vice versa, although Bactrian was not spoken in the Tarim Basin. This fact confirms that part of the Tocharians returned back from Bactria to Xinjiang. In the following examples chosen from TREMBLAY (2005: 435–436) the semantics or phonetic pecularities typical for Bactrian exclude other Middle Iranian languages as a source:

Bactrian and other Iranian languages	Tocharian
αρλο "side, bank (of a ditch)" : Khot. *hala* "side, half", Sogd. ʼrdʼr "domain", Avestan *arəδa-* "side, half"	B *ārte* "canal"
αγαλγο "wish" : Sogd. *āγēδē*	A *ākāl*, B *akālk* "wish"
καμιρδο 'titel of god' : Khot. *kamala* "head", Avestan *kamərəda-* id.	B *kamartīke* "ruler" : *īke* "place", *kamartāññe* "sovereignity"
μολο "wine" : Sogd. *mδw*	B *mīla* "strong spirit"

There was also an opposite direction of borrowing: φρογαοο "profit" ~ Toch. A *pärko*, B *pärkā_u* id.; σπαχνιιο "obligated by service" ~ Toch. B *spaktānīke* "minister" < *spaktāṃ* "service", *īke* "place"; Bactrian words see SIMS-WILLIAMS 2001). Western and Eastern Tocharian (B : A) separate about the beginning of common era. Hypothetical

southern language "C" was probably separated earlier. During the first eight centuries A.D. the population of Tarim Basin become multi-national. With the except of two (or three) Tocharian idioms people use there some written Iranian languages, in particular Middle Persian, Parthian, Sogdian, two variants of the Saka language (from Tumšuq and Khotan), from Indo-Aryan languages Buddhist Hybrid Sanskrit and Prākrit from Niya are used, plus two Sino-Tibetan literary languages: Chinese and Tibetan. By the end of this era Old Uyghur became a literary language as well. This language and the arrival of Islam in the area (from 9th century) begun to replace not only the Tocharian idioms, but also all of the mentioned Iranian languages.

ABBREVIATIONS

A: East Tocharian, acc.: acusative, adj.: adjective, Akkad.: Akkadian, Alb.: Albanian, Arm.: Armenian, Av(est).: Avestan, B-: Baltic-, B: West Tocharian, Bactr.: Bactrian, Br.: Belorussian, bud.: buddhist, Celt.: Celtic, cf.: compare, Chech.: Chechen, Chin.: Chinese, Chuv.: Chuvash, coll.: collectivum, com.: genus communis, Cz.: Czech, Dagest.: Dagestan, dat.: dative, Digor.: Digorian, Eng.: English, Fin.: Finnish, FU.: Fenno-Ugric, gen.: genitive, Germ.: Germanic, Goth.: Gothic, Gr.: Greek, Hebr.: Hebrew, Hit.: Hittite, H(ier).Luw.: Hieroglyphic Luwian, Hung.: Hungarian, Hurr.: Hurrian, IA: Indo-Aryan, IE: Indo-European, II: Indo-Iranian, Ind.: Indic, Iran.: Iranian, Iron.: Ironian, Icl.: Icelandic, Khot.: Khotan Saka, Lat.: Latin, Latv.: Latvian, Lit.: Lithuanian, loc.: locative, Lap.: Laponic, Luw.: Luwian, Lyc.: Lycian, Lyd.: Lydian, M: Middle-, MHG: Middle High German, Mord.: Mordvinic, nom.: nominative, N: North, Nor.: Norwegian, ntr.: neutrum, obl.: casus obliquus = indirect case, O: Old, OChSl.: Old Church Slavonic, OHG: Old High German, OInd.: Old Indic, OIr.: Old Irish, ONord.: Old Nordic, Osset.: Ossetic, P-: Proto-, perl.: perlative, Perm.: Permian, Pers.: Persian, praes.: praesens, Prus.: Prussian, R.: Russian, Skt.: Sanskrit, Sm.: Samoyedic, Sogd.: Sogdian, Syr.: Syriac, Toch.: Tocharian, Turk.: Turkic, Udm.: Udmurtian, Ugar.: Ugaritic, Ur.: Urarteian, W: West, Wels.: Welsh, Yakut.: Yakutic.

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