SINO-PLATONIC PAPERS

Number 186

March, 2009

The Special Status of Turfan

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The Special Status of Turfan¹

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PHILOLOGICAL BOUNTY

More than twenty languages are represented in the medieval documents found in Turfan, mostly in the early years of the twentieth century. Perhaps no other archeological area has offered up such linguistic bounty. Identified languages include Old Turkic, Chinese, Sanskrit, Sogdian, Middle Persian, New Persian, Parthian, Tibetan, Mongolian, Prakrit, Tumshuqese, Tocharian A and B, Bactrian, Khotanese, Hebrew, Syriac, Arabic, Tangut, Greek and Khitan. In addition there are at least twenty scripts attested with most languages attested in more than one. For instance, Old Turkic is found in the Brāhmī, Manichean, Sogdian, Uyghur, Nestorian (Syriac), Tibetan, Runiform, Arabic and 'Phagspa scripts.' For many of these languages, the documents are the oldest known samples on perishable materials. For some of these languages, the Turfan documents supply much of the information we have on them. The materials are highly valuable to several philological fields.

¹ Based on a talk "More than Twenty Languages in the Medieval Turfan Silk Road Oasis. What Made It So Special?" given 20 August 2008, at the Munk Centre, University of Toronto, sponsored by Central Asian Studies and Linguistics. In the course of subsequent research, assistance was kindly lent through email by Dieter Maue, John E. Hill, Marcel Erdal, Stefan Baums, Richard Salomon, Rajeshwari Ghose, Grant Zazula, LIN Meicun, and Chris Beckwith, none of whom is responsible for my failings. The available Unicode composite characters have been used when writing special characters, with the effect that some diacritics may not conform to traditional practice, but in every case unambiguous and readily identifiable symbols are used.

² Berlin-Brandenburg Academy of Sciences and Humanities, *Turfan Studies*, p. 9.

RELIGIOUS AND ARTISTIC DIVERSITY

But Turfan is special in other ways as well. It was here that significant remains of a once vibrant Manichean community were discovered. Besides the artistic legacy of Manicheism found in frescos, painted cloth wall hangings, and manuscripts illuminations, there was the religious literature. Before this time, the doctrines of this once world religion—it was practiced from China and India to Spain and North Africa—were known only from polemicists like Augustine. Suddenly, scholars could hear members of this faith speaking from the past. Not only did they speak in seven languages,³ but apparently one voice is even that of Mani himself. Some of the written remains are copies of works penned, and illustrated, by the third century Babylonian-Persian saint.

Here also were found Nestorian Christian churches and manuscripts in at least four languages.⁴ And the recent discovery of the Sogdian tombs in Xi'an has provided new information on Zoroastrian (Mazdean) burial customs in the east, and has led scholars to now see evidence for Zoroastrian burial practices in Turfan.⁵ But the main religion of Turfan in the first millenium was probably Buddhism which is represented by literary documents in more than ten languages.⁶

In the artistic sphere, medieval Turfan was equally cosmopolitan. The early scientific travellers were struck by the clear presence of Indian, Iranian, Chinese and Greek elements in sculpture, frescos, and other painting.

³ Old Turkic, Chinese, Sogdian, Middle Persian, Parthian, Tocharian B, and Bactrian; ibid. (texts in Manichean script).

⁴ Old Turkic, Syriac, Sogdian, and Middle Persian; ibid. p. 9 (Nestorian script) and p. 18.

⁵ Also in Dunhuang; Romgard, "Ancient Human Settlements in Xinjiang," p. 55 and p. 61–62.

⁶ Chinese, Sanskrit, Old Turkic, Tocharian A and B, Sogdian, Khotanese, Tumshuqese, Tangut, Mongolian, and Tibetan; Berlin-Brandenburg Academy of Sciences and Humanities, *Turfan Studies*, p. 9 (documents in Brāhmī minus Prakrit which is a combination unfamiliar to me) and p. 7 (Tangut).

OTHER TARIM⁷ SITES

The early twentieth century antiquarian and archeological expeditions to the silk road oases of far-western China explored sites from Yarkand in the west to Karakhoto in Gansu in the east. They found extensive material remains of ancient civilizations. Some of these places show a high degree of cultural development in art and Buddhist literature but none matches the cosmopolitanism of Turfan. The two other large oasis areas with extensive remains are Kucha, on the northern rim of the Tarim Basin, and Khotan, on the southern rim. Although the linguistic finds in these areas are rich, they pale in comparison to those of Turfan. The Kucha area has revealed manuscripts in six languages, while the Khotan area seven. This distribution is parallelled by religious remains, as Kucha and Khotan show just Buddhism. Why did these major areas offer up about a third as much linguistic and religious diversity as their neighbour, Turfan?

ORIGINAL MEDIEVAL TURFANIAN LANGUAGE?

There may be another reason why Turfan is linguistically unique. In spite of the remains in more than twenty languages found there, it is possible that there are no remains of an original local language. In contrast, several other major oasis areas clearly have remains in an indigenous language.

Kucha and Kuchean

In seventh or eighth century Kucha it is absolutely clear that the local language is Kuchean, or Tocharian B. The other five attested languages are imports, Old Turkic from the northeast, Sogdian from western Inner Asia around Samarkand in modern Uzbekistan and Tajikistan, Sanskrit and Prakrit from India, and Chinese from the east. There are quantities of Kuchean civil documents revealing details of daily life. Tadeshi TAMAI,

⁷ Some geographers place the Turfan Basin outside the Tarim Basin proper. Here I follow the looser practice of referring to all the silk-road oasis regions from Turfan and Kroraina in the east, to Yarkand and Kashgar in the west as the "Tarim".

⁸ Tocharian B (Kuchean), Old Turkic, Sanskrit, Chinese, Sogdian, Prakrit; ibid., p. 9.

⁹ Khotanese, Sanskrit, Chinese, Prakrit, Old Turkic, Tibetan, and New Persian; ibid.

combining evidence of ductus and carbon-14 dating pushes the earliest Tocharian B manuscripts back before 400 AD, and the earliest Sanskrit document copied in Kucha, in the local ductus and so plausibly by a Kuchean, to as early as the first century AD. The Proto-Kucheans probably settled here in the prehistorical period. This is an Indo-European language that appears to have more in common with western Indo-European languages than eastern ones. For instance, the word for 'hundred', *kante*, places the language in the Centum (Western) rather than the Satem (Eastern) group. This is a bit of a conundrum that can best be explained if the people moved to the east before the eastern groups, Balto-Slavic and Indo-Iranian, developed their special shared features. This would mean that Proto-Tocharians moved to the east at about the same time that Proto-Celts moved to the west. The Proto-Kucheans may not have settled in the Tarim Basin as soon as they went to the east, but there also seems to be no reason to assume they settled there in the historical period.

Khotan and Khotanese

In Khotan the medieval native language was Khotanese, sometimes called Khotan Saka, which is an Eastern Middle Iranian language like Sogdian and Bactrian. Iranian speaking mounted nomads roamed Inner Asia probably from the first half of the second millenium BC, but we do not know when a group began to settle around Khotan.¹¹ There are lots of civil documents in Khotanese attesting to daily life. The other six languages attested in the area, Sogdian, Tibetan, Chinese, New Persian, Sanskrit and Prakrit, are native elsewhere.

Tumshuq and Tumshuqese

A small number of mostly civil documents in the Tumshuqese language have come to light around Tumshuq, near Maralbashi, roughly half way between Kashgar and Kucha. Some Buddhist literary fragments and inscriptions in this language have also been found

¹⁰ "Paläographische Untersuchungen und ¹⁴C-Prüfung," p. 2.

¹¹ Emmerick, A Guide to the Literature of Khotan, p. 2.

in both the Kucha and Turfan regions.¹² Tumshuqese is an Eastern Middle Iranian language closely related to Khotanese. The other four languages found in medieval documents from the Tumshuq area, Sanskrit, Chinese, Old Turkic, and Kuchean,¹³ are native elsewhere.

Kroraina/Loulan

The native language of Kroraina/Loulan is not known for sure, but on the basis of the non-Indian names and words in the Prakrit documents, Thomas Burrow speculated in 1935 that it was a form of Tocharian.¹⁴ In spite of the intervening seventy-five years or so of research, this proposal has neither been confirmed nor disproved.

Kashgar and Yarkand

Kashgar and Yarkand, on the western rim of the Tarim Basin, are exceptional in the basin in that they have had significant populations in the historical period yet have offered up no documents of any kind from the pre-Turkic period, ¹⁵ not even Sanskrit or Chinese ones. I do not know if this has ever been explained. It is tempting to speculate that there was a Saka language arc, stretching from Khotan through Yarkand and Kashgar to Tumshuq.

The eleventh century AD Turkic lexicographer from Kashgar, Maḥmud al-Kāš γ arī, includes a Turkic dialect called *kančākī* or *känčākī* spoken in villages around Kashgar which is a less elegant form of Turkic since the people speak two languages. He does not specify the second language but might be suggesting that these people have an accent

¹³ Berlin-Brandenburg Academy of Sciences and Humanities, *Turfan Studies*, p. 20.

¹² Maue, Tumshuqese Manuscripts.

¹⁴ Burrow, "Tocharian Elements in the Kharosthī Documents from Chinese Turkestan."

¹⁵ In the Yarkand area have been found Old Turkic and Arabic documents. Berlin-Brandenburg Academy of Sciences and Humanities, *Turfan Studies*, p. 20.

¹⁶ "Those who have two languages and who mix with the populace of the cities have a certain slurring *(rikka)* in their utterances — for examplae Soγdāq, Känčāk and Arγu," (Dankoff, *Compendium*, part I, p. 83 [I. 29/29]).

like those from Khotan when he says that both peoples put an [h] in front of initial vowels.¹⁷ H.W. Bailey related this kančak or känčäk to Ga-ḥjag, a Tibetan name for Kashgar and to kāñcake which occurs in an obscure context in a Tumshuqese document from Murtuq. From a list of 16 words he identifies only one as Iranian, comparing känbä 'a plant' to Sogdian kenba and Khotanese kumbā 'flax'.¹⁸ Xavier Tremblay meticulously examined the evidence from Maḥmud al-Kāšγarī as well as names and titles relating to Kashgar from Tibetan and Chinese sources. He concludes, "The pre-VIIIth c. onomastics ... and perhaps some glosses—although the uncertainty cannot be enough emphasized—adumbrate that Kāšγarian had probably been a Sakan language cognate with Khotanese, but distinct from it." It seems likely that the language of Kashgar was Saka, but it is not proven.

The Yarkand and Kashgar areas share with Turfan an absence of clear and indisputable indications of an early medieval native language. But while this is understandable for Kashgar and Yarkand where no ancient documents have been discovered, it is surprising for Turfan with its philological bounty. Other than these three

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¹⁷ "The people of Khotan and Känčāk change every *alif* at the beginning of a word to $h\bar{a}$ '. For this reason we do not consider them among the Turks, since they insert into the speech of the Turks what does not belong to it. For example, the Turks call "father": 'ATA' **ata**; they say: HATA' **hata**. And "mother" is: 'ANA' **ana**; but they say: HANA' **hana**." (ibid. p. 85 [I. 33/31]). Similarly, about the pronunciation *ühi* for *ügi* 'owl' he wrote, "The $h\bar{a}$ ' is found in the speech of Khotan and Känčāk, since they are not Turkic, but are settlers ($naz\bar{\imath}l$) in the lands of the Turks" (ibid. part II, p. 207 [III 84/118]).

¹⁸ Bailey, "Saka Studies," p. 67.

^{19 &}quot;Kanjakī and Kāšγarian Sakan," p. 74. Tremblay identifies four words which may be closest to Khotanese: ' $U\Gamma LY$ $o\gamma li$ 'parsnip' ~ Khotanese hulga- 'soft', Late Khotanese hau'ga- 'name of a plant'; 'USKL'- $\ddot{o}s\ddot{u}gl\bar{a}$ - 'open (a lock) without a key by a trick' ~ Khotanese uskalj- 'open'; $BU\breve{S}INJAK$ $b\ddot{u}\breve{s}in\breve{c}\ddot{a}k$ 'A cluster of grapes' ~ Khotanese $bv\bar{\imath}ysana$ - 'sherbet'; KA'W•LIY $k\bar{a}wli$ 'the mouth of an irrigation canal' ~ hypothetical Khotanese * $gv\bar{a}ss$ - 'distribute' (ibid. p. 71–74; Turkic transliterations and transcriptions from Dankoff, Compendium, s.v.).

locales, every significant inhabited area in the Tarim has indications of a pre-Turkic native language.

Turfan, Qarashahr and Tocharian A

The classical view of the native language of medieval Turfan is that it was Tocharian A. This was a sister language to Tocharian B. There was probably a limited degree of mutual intelligibility between the languages. They are often described as dialects but this is true only in the sense that Dutch and German are West Germanic dialects. It is not easy to reconstruct a Proto-Tocharian which suggests that there is substantial time between the proto and documentary periods. Tocharian A documents come from the Turfan and Qarashahr regions while B come from these as well as from Kucha. Krause-Thomas, reflecting the classical view, say this means that A is native to Turfan and Qarashahr, while B is native only to Kucha.²⁰ A contrasting view is put forward by Werner Winter who thinks that B was the native language in the chain of oases from Kucha to Turfan, and that A may have been a liturgical language imported to Turfan by the Turks. Tocharian A might have been "the language of Buddhist mission among the Turks" as shown by loanwords and other evidence. There are no civil documents in A. All documents are Buddhist, ²² which raises the possibility that A was a liturgical language. Winter says that, "one may have to reckon with the possibility that the home of this language was farther north or east than the area investigated."²³

Given the quantity of documentary remains hailing from medieval Turfan, it is surprising that we do not have clear indications of what an original native language might have been. This gives us two Turfanian linguistic mysteries. Why so many languages? And, what was the native language?

²⁰ Krause-Thomas, *Tocharisches Elementarbuch*, *Band I*, *Grammatik*, p. 37.

²¹ Winter, *Studia Tocharica* p. 15.

²² Ibid., p. 16

²³ Ibid., p. 15

KAREZ²⁴

To these mysteries it is possible to add others. Turfan appears to be the only Tarim oasis region to use the *karez* form of irrigation.²⁵ A *karez* is an underground tunnel, dug by hand. It carries water from a well at the foot of the mountains, across sometimes several kilometers of desert, to farmland. It seems clear that this technology, which probably originated in Iran, was imported from the far side of the Pamirs.²⁶ It has been puzzling why none of the other oasis areas in the Tarim have made use of the *karez*. It is also unclear just when the technique was introduced. There seem to be two opinions about the time of introduction. Ellsworth Huntington, the American geographer and early climatologist who travelled through Eastern Turkestan in 1905–1906 heard from local

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²⁴ The Uyghur term *karez* is borrowed from Persian *kâriz*. This form of irrigation is also often referred to by the Arabic *qanat*. Wikipedia states, "In traditional Persian architecture, a *Kariz* is a small Qanat, usually within a network inside an urban setting. Kariz is what distributes the Qanat into its final destinations," (http://en.wikipedia.org/wiki/Qanat#Iran, accessed 2 February 2009).

²⁵ Two other Xinjiang locales, Hami and Mori, both outside the Tarim Basin, are reported to have Karez: "In Xinjiang, Karez Wells are mainly in Hami, Turpan and Mori, but they are most [sic] in Turpan Basin," http://chinatour.net/information.php/info_id/155/order/150 (accessed 1 November 2008). I have not been able to find a list of all *karez* locales in Xinjiang, but it seems clear that the technology has never been part of daily life in the other major Tarim oasis regions, like Kucha, Kashgar or Khotan.

The general view is that *karez* technology originated in Persia. But there is a view, widespread on the web, that the technology began in Turfan, and from there spread to the rest of the world. For example, "The history of this unique underground irrigation system can be traced back over more than 2,000 years: It spread to Middle Asia and Persia after first appearing in the Han Dynasty (206BC-AD220) in Northwest China's Xinjiang Uygur Autonomous Region," http://www.chinaculture.org/gb/en_curiosity/2004-07/21/content_56960.htm (accessed 2 November 2008). And, "As far back as the Han dynasty, the *karez* was recorded in Shi Ji (The Historical Records) and then called 'Well-Canals'. Most of the existing karezes in the Turpan area were built in the Qing dynasty and in after [sic] years," http://www.china-holiday.com/china/Karez.htm (accessed 2 November 2008).

sources that *karez* were brought from the west around 1780 AD.²⁷ Marc Aurel Stein, the eminent and meticulous Tarim archeologist, agreed that the introduction could not have been earlier than the 18th century.²⁸ The second general opinion, widespread on the internet, is that the *karez* appears in Turfan during the Former Han period, and some sites further claim it spread from there to the west.²⁹ There is about 1800 years difference between these two views. And perhaps neither is correct.

THE HYPOTHESIS

The special status of Turfan when compared to the other Tarim silk road communities is shown by several things. There is the great linguistic diversity of the documentary remains, and then the puzzling absence of a clear indication of a native language. Alongside the Buddhist faithful, Turfan had Manichean, Nestorian Christian, and Zoroastrian adherents while the other Tarim communities seem to have been exclusively

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²⁷ "My most intelligent informants, the Beg of Lukchun and a learned mullah of the same place, both said that the kariz was introduced from Persia or Transcaspia about 1780 a. d., in the days of the Wangs Skender (Alexander) and Yunus (Jonah) of Lukchun, and Suliman (Solomon), who built the great brick tower at Turfan," *The Pulse of Asia*, p. 310.

²⁸ Stein, *Innermost Asia*, p. 568–569. Also, "The total absence in Chinese historical notices relating to Turfān of any reference to so striking a feature as the use of Kārēzes may safely be considered clear evidence that this method of cultivation was not known there down to T'ang times and even later. It is very difficult to believe that the detailed and exact description of the territory of Kao-ch'ang in the *T'ang shu*, which duly mentions the two annual crops and the cultivation of cotton there, could have passed over the Kārēz system if it had then existed," ibid., p. 569 note 2.

²⁹ Cf.: (1) http://en.wikipedia.org/wiki/Turfan_water_system (referencing an article "Turpan – Ancient Stop on the silk road," from china.org.cn; accessed 9 February 2009); (2) http://en.wikipedia.org/wiki/Qanat#China (without reference; accessed 9 February 2009); (3) a tourism website states, "According to records, the history of the *karez* in Xinjiang dates back to 103 B.C." http://chinatripnet.com/index.php?option=com_content&task=view&id=9&Itemid=1 (accessed 1 November 2008); (4) footnote 26 above.

Buddhist. The *karez* irrigation system is essentially unique to Turfan east of the Pamirs, and it is unclear when it was introduced.

I think these questions about Turfan, and possibly some others, may be explained by climate change and settlement. The theory is as follows:

Until the early first millenium, the Turfan region was not a kingdom relying mostly on desert oasis agriculture, like Kucha, Khotan or Kashgar, but one depending chiefly on pastoral nomadism. Sufficient pasture land was available to support a mostly nomadic Nearer Jushi tribe. Then, because of a change in climate and increased dryness, the grassland turned to desert. The small nomadic population either had to move north of the Tian Shan mountains, or turn to agriculture. With desert now surrounding the Turfan oases, there was increased security, and the region became attractive to settlement. Agriculturalists migrated here from all directions, including from the Iranian countries west of the Pamirs. Among these people were large numbers of Manicheans and Nestorians who kept their religions and Iranian religious languages, Middle Persian, Parthian and Sogdian, alive for some time. Possibly the *karez* form of irrigation was introduced with this immigration of farmers from the west.³⁰ From among the Tarim countries, the nearest populated place was Qarashahr, one possible home of Tocharian A. Because of this proximity, speakers of Tocharian A may have been among the first to settle here and in larger numbers than people from other Tarim oasis countries. Alternatively, Tocharian A may have been the language of Kroraina, and when it became uninhabitable, Tocharian A speakers migrated to Turfan and Qarashahr. Under either scenario, Tocharian A arrives in Turfan through climate change and immigration.

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³⁰ Also, cotton growing may have been introduced with this migration. The first mention of cotton farming in Chinese sources occurs in the description of Turfan in the *Tangshu*.

Several kinds of evidence are drawn on to support this hypothesis: administrative, historical and environmental.

ADMINISTRATIVE EVIDENCE

Tarim Legal Traditions

As unusual as it may seem, my idea about the importance of climate change in the history Turfan began with efforts to decipher the Tumshuqese documents. Although the language is clearly a sister to Khotanese, the surviving materials are difficult to interpret. There is no Rosetta Stone, like a bilingual with a better known language, or a substantial literary text with a version in Sanskrit or Chinese.³¹ The script itself poses challenges. While it is the North Tarim Brāhmī, which is familiar from the Tocharian languages, it contains several new signs without obvious values. And the documents are mostly legal, and quickly and cursively written.

While trying to interpret the language in Tumshuqese contracts, I began to look at documents from other medieval Tarim languages. As these societies, although linguistically different, were all oasis dependent, agricultural and largely Buddhist, I thought it possible that contracts from nearby cultures might offer some clues to the Tumshuqese ones. I found much more than I expected and these discoveries led to a series of historical and philological papers.³² There are key similarities in structure, phrasing and even vocabulary in legal documents from several of the medieval Tarim areas. This seems to indicate that these areas share a common legal tradition. The obvious candidate as source of this tradition would be China, since it had periodic political control

Tocharian B parallel was uncovered by K. T. Schmidt, "Ein Beitrag des Tocharischen zur Entzifferung des Tumšugsakischen."

³² Listed in the Bibliography.

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³¹ There are a number of small fragments written in a careful literary script and which probably contain Buddhist literature. Dieter Maue, Tumshuqese Manuscripts, has identified 11 pieces as reflecting the Hamsasvarajātaka, and others possibly from the Araņemijātaka and Viśvantarajātaka. There is also a Karmavācana text for which a reasonably close but unpublished

of the area in Han times. But Chinese contracts have different structures. Instead, I concluded that the tradition came from the west, which now seems to be confirmed by the recently discovered Bactrian contracts. This implies political control from the west and for a long enough period for a legal tradition to take root. But there is no mention in Chinese or other historical records of a western power gaining mastery of the area.

Kushan Tarim Control

In 1988 in *Kushan Tarim Domination* I argued that the Kushans had political control of the basin from about 90 to about 125 AD, or about 35 years. These dates are probably incorrect. There seems to be a growing consensus around Harry Falk's dating of the Kaniṣka era to 127 AD.³³ John E. Hill has pointed out to me a fascinating story from the "Prophecy of the Li Country", translated by R. E. Emmerick, which suggests that armies from Khotan and Kucha assisted Kaniṣka in the conquest of Middle India which happened in the first couple of years of his reign.³⁴

Originally, King Kanika and the king of Gu-zan and the Li [Khotanese] ruler King Vijaya Kīrti, and others led an army into India, and when they captured the city called So-ked, King Vijaya Kīrti obtained many relics and put them into the *stūpa* of Sru-ño.³⁵

Hill points out that Gu-zan is likely Kucha,³⁶ and So-ked likely Śāketa,³⁷ in central northern India. The Falk dating and the Li story suggest Kushan Tarim hegemony in 127

³³ This information is apparently established in two articles which I have not had access to, "The yuga of Sphujiddhvaja and the era of the Kuṣâṇas," and "The Kaniṣka era in Gupta records."

³⁴ Email, 30 January, 2009.

³⁵ R. E. Emmerick, *Tibetan Texts Concerning Khotan*, p. 47.

³⁶ Beckwith, *Tibetan Empire*, p. 50 and n. 66. See also Winter, *Studia Tocharica*, p. 28–30, for a discussion of Old Turkic *küsän* 'Kucha, Tocharian B' and the Kushans.

³⁷ "Everyone I have read who has commented on this passage agrees that So-ked stands for Saketa (and this finds support in the Rabatak Inscription as well as the fact that the *Hou Hanshu*

or 128 AD. Recent numismatic work by Joe Cribb adds to this picture. Coins of the first four Kushan kings, Kujula Kadphises, Vima I Tak[to], Vima II Kadphises and Kanishka I, 38 have been found in the vicinity of Khotan. 39 Also found in the vicinity are Sino-Kharosthī coins issued by the local Khotanese kings which have the royal name and titles in Prakrit and Kharosthi on one side, and the denomination in Chinese on the other, but this denomination is of Kushan origin.⁴⁰ Some of these coins of local issue are overstruck on coins "generally attributed to the Kushan king Kujula Kadphises" ⁴¹. I interpret these facts to mean that there was a close relationship between Khotan and the Kushans, from the time of Kujula Kadphises, 30–80 AD, to that of Kanishka, 127–147 AD, and that the local coins were issued after this period. Cribb thinks the local denominations associated with Kujula Kadphises (by overstrikes) should be dated before "Ban Chao's occupation of Khotan AD 73-107,"42 and the local coins found together with those of Kanishka I after it. I do not believe that the evidence is conclusive for such a lengthy Han occupation of Khotan, as there appears to be an interval of silence in the *Hou Hanshu* for the southern silk road from 88 AD when Ban Chao last defeats Yarkand and 124 AD when Ban Yong arrives in Loulan. 43 MA and SUN think the local coinage was struck between 152 and 180

makes Shaqi 沙奇 (= Śāketa) the "capital" of the Kingdom of Dongli 東離 = "Eastern Division" (of the Kushan Empire)" (email, 30 January 2009).

³⁸ This sequence of the first four Kushan rulers was established by a reading of the Rabatak inscription by Nicholas Sims-Williams and Joe Cribb. "A new Bactrian inscription of Kanishka the Great."

³⁹ J. Cribb, "The Early Kushan Kings," online §37.

⁴⁰ J. Cribb, "The Sino-Kharosthi Coins of Khotan," p. 149–151. Cribb refers to the denominations as drachm and tetradrachm, following the reduced Attic standard of first century AD Bactria.

⁴¹ Ibid., p. 147.

⁴² J. Cribb, "The Early Kushan Kings," online §37.

⁴³ D. Hitch, "Kushan Tarim Domination," p. 178

AD.⁴⁴ But all three datings presume that Kushan hegemony and local minting of coins are mutually exclusive which is not certain. It may have been the case that rulers of Khotan issued their own coins while still recognizing Kushan suzerainty.

The existence of the Sino-Kharoṣṭhī coins illustrates the importance of trade between India and Bactria in the west, and China in the east. Both powers, Kushan and Chinese, would have been interested in controlling the lucrative trade routes. Kushan control may have begun with Kujula Kadphises and continued past Kanishka, with interruptions by the Chinese and possibly by periods of local independence. With the Kushans came the Northwest Prakrit, written in Kharoṣṭhī script, as a lingua-franca for government, trade and Buddhism.

It is well known from documentary and numismatic evidence that the ancient Tarim kingdoms of Kroraina (Loulan), and Khotan used a form of the Northwest Prakrit language and Kharoṣṭhī script for administration and probably Buddhism from about the first to the fourth centuries. It is at long last now confirmed that there have been finds of civil documents in Prakrit and Kharoṣṭhī also from the Kucha region.⁴⁵ Further, seven

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⁴⁴ "The Western Regions Under the Hsiung-nu and the Han," p. 234–235. They appear to not give any reason for this dating, and do not seem to be aware of the work of Cribb.

one line of transcription had to my knowledge been published until the twenty-first. A complicating factor appears to have been that there are two distinct scripts, with apparently two distinct languages. This may have first been recognized by Lore Sander who called them "Formal" and "Cursive". K. T. Schmidt calls them "Type A" and "B". Type A he describes as a literary script (Buchschrift) found in a few paper manuscripts and wall inscriptions. Type B he lists as cursive and, as far as he can tell, has come down to us only on wooden tablets, of which three contain Tocharian B in Brāhmī on the reverse ("Entzifferung", p. 10). Further, Stefan Baums notes that the Formal (Type A) contains an unidentified language and on some fragments is interspersed with Sanskrit in Brāhmī. The Cursive (Type B) he just calls "Kharoṣṭhī" but notes there is one inscription "with unclear content" ("Gāndhārī Literary Texts on the Silk Roads", p. 2–3). LIN Meicun appears to not distinguish the two scripts, calling both "Formal" but he adds that this script was also recently found on paper documents from Turfan ("Two Tokharo-Gāndhārī Bilingual Documents" p. 79 and 81–82) which do not contain Prakrit (email 28

palm leaf fragments of a Buddhist text in Kharoṣṭhī and Prakrit were found in the region of Kucha.⁴⁶ Although the palm leaves imply that this manuscript was brought from India, their discovery here strongly suggests probable knowledge of the language and script among the inhabitants of Kucha.

The documentary evidence of Prakrit usage on both north and south rims of the Tarim Basin indicates Kushan control of most of the basin. The language and script probably remained as the vehicle of administration throughout the Tarim after Kushan control waned, possibly lasting in Kucha until the seventh century.⁴⁷

The early Buddhist missionaries to China came from all corners of the Kushan empire, Indians, Yuezhi, Parthians, Sogdians, Kucheans, and Khotanese, and the earliest scriptures to reach China were not in Sanskrit, but in Prakrit. A Pax Kushana would have facilitated the flow of trade and ideas. It may have been decisive in the transmission of Buddhism to the east.

December 2008). So it appears that the formal A is used in literary documents on paper found in Kucha and Turfan, some with interspersed Sanskrit, while the cursive B is found in administrative documents on wood from Kucha, some with Tocharian B on the reverse.

Three scholars, apparently unaware of each other's efforts, have independently and nearly simultaneously published facsimiles and transliterations of some Type B texts, Schmidt (op. cit.), LIN (op. cit., and "Five Gāndhārī Documents from Kizil in the Le Coq collection"), and HASUIKE ("Seiiki minami dō to seiiki kita dō no Karōshuteī"). To give an idea of the degree of agreement in reading, I give their transcriptions of line 2 of Kha 6 (MQ 155)/THT 4059 (viewable online at http://titus.fkidg1.uni-frankfurt.de/texte/tocharic/tht/40/t/4059RT.JPG):

Schmidt: nanamkañeme daśa kṣu[ni]ya honami damda danena kriniya ardha māṣa (p. 23)

HASUIKE: nanam kese me daśa ĉhunamya huami da[tta?] dave na krinito a[.] māsa (p. 101)

LIN: na-samke se midhaśa ysanī yawo va midā bhamtarena krinitava ardha māsa (p. 85)

⁴⁷ Some Prakrit documents were found together with Kuchean language ones from 618 to 647 AD (Glass, *A Preliminary Study of Kharoṣṭhī Manuscript Paleography*, p. 2, n.1.)

⁴⁶ Baums, "Gāndhārī Literary Texts on the Silk Roads", p. 2.

Loanword Evidence for Kushan Tarim Control

Probably from the time of the first editions of Tocharian and Gāndhārī Prakrit texts it was noticed that there were loanwords from an unidentified Iranian language. In Khotanese, as well, there were terms identified which could not be explained from within Saka. For example, H.W. Bailey hypothesized on an Iranian origin of Niya Prakrit *lastana* and Khotanese *lāstana*- 'dispute'. Eventually, as more was learned about the Bactrian language from its then scanty remains, this Iranian component became identified with Bactrian for most researchers. Compelling evidence for this was the discovery of Bactrian χ povo (xšono) 'regnal year' in the Surkh Kotal well inscription. Before this, similar words for 'regnal year' were known throughout the old Kushan territory, from NW of the Indian subcontinent to the Tarim: Tumshuqese xšana-, NW and Niya Prakrit kşuna-, Khotanese kşuna-, Tocharian B kşune.

Martin Schwarz identified the source of Prakrit *lastana* and Khotanese *lāstana*- as an unattested Bactrian word. Then, in the 1990s, a significant number of Bactrian documents from Afghanistan came to light. The actual sources of many of the conjectured loanwords have been confirmed in these remains. For instance, Nicholas Sims-Williams has found the actual Bactrian word $\lambda\alpha\sigma\tau\alpha\nu$ (*lastano*), the source of both the Niya Prakrit and Khotanese forms.

⁴⁸ Khotanese Texts VI, p. 315–317.

⁴⁹ Possibly the connection was first made by Werner Winter who then also concluded that, "Die Annahme erscheint sinnvoll, daß die aufgeführten Lehnwörter aus dem Baktrischen vom Tocharischen übernommen wurden, als das Gebiet der Tocharer einem besonders starken Einfluß seitens der Kusanas ausgesetzt war" ("Baktrische Lehnwörter im Tocharischen", p. 43).

⁵⁰ Edited several times, cf. Lazard, "Notes Bactriennes".

⁵¹ Bailey, *Dictionary of Khotan Saka*, p. 69a

⁵² "Irano-Tocharica", p. 399–403.

⁵³ Bactrian Documents II, p. 226a.

The ongoing edition of these Bactrian documents by Nicholas Sims-Williams is contributing in a dramatic way to our knowledge of the language and its role in ancient Inner Asia. For the present discussion, we are interested in the language of administration rather than the language of religion.⁵⁴ Here follows a list of words from the newly discovered Bactrian civil documents which were borrowed into the Tarim languages.

Bactrian Administrative Terms in the Tarim Languages⁵⁵

αβινδαμο 'penalty' > Niya Prakrit avindhama 'penalty', possibly Tumshuqese bandina 'penalty'

αγαλγο 'wish' > Tocharian A $\bar{a}k\bar{a}l$, B $ak\bar{a}lk$ 'wish'

αρλο 'side, bank (of a ditch)' > Tocharian B ārte 'feeder-canal'

δδοαγγο in δδοαγγοληφο and in καφαλφαγγο 'frontier-holder' > Niya Prakrit dramga 'office'

καμιοδο 'head, chief (god) ', *καμιοδιγο > Tocharian B kamartike, A kāmärtik

⁵⁴ It seems likely that Bactrian will have to be recognized as having had a more important impact on the languages of Buddhism in Inner Asia than previously thought. Bactrian speaking missionaries from the heart of the Kushan empire played a key role in the early spread of Buddhism along the silk roads. There may be religious loanwords from Bactrian, such as φρομιγγο 'hope' giving Tocharian A and B pärmank 'hope' (Sims-Williams, Bactrian Documents II, p.276a, and Xavier Tremblay, "Irano-Tocharica et Tocharo-Iranica" p. 436) and αζανο 'worthy' giving Khotanese āṣana- 'worthy, arhant', Tocharian A āṣāṃ and Tocharian B aṣāṃ 'worthy' (Sims-Williams, Bactrian Documents II, p. 188b, and Xavier Tremblay, "Irano-Tocharica et Tocharo-Iranica" p. 436 xiii). But it is more likely that as knowledge of Bactrian phonology develops we will see Bactrian mediation in a portion of the originally Indian Buddhist vocabulary in the Tarim languages.

The Bactrian identifications are from Sims-Williams, "Recent finds in Afghanistan" and Bactrian Documents from Northern Afghanistan, Part I, s.v. Some Tocharian B glosses are from Adams, Dictionary, s.v., and some Niya Prakrit glosses from Burrow, "Iranian Words" and "Iranian Words II". To this list Xavier Tremblay, "Irano-Tocharica et Tocharo-Iranica" p. 436, adds two further less clear items: μ ολο > Tocharian B *mālo (oblique māla) 'alcoholic drink (wine?)'; σαρλαρο 'leader' > Tocharian B Salār (5th cent. king of Kucha).

'ruler'

λαþvo 'gift' > Prakrit *laši*- 'gift'

λαστανο 'dispute' > Prakrit *lastana*-, Khotanese *lāstana*-

νωιο 'channel' > Tocharian B *newiya* 'canal'

παρο 'debt, obligation, loan, amount due' > Tocharian B peri, A pare 'debt'

σαβολο 'jar' > Tocharian B sapule 'pot'

σαγο 'a measure for wine' > Tocharian B cāk 'a measure of volume'⁵⁶

σπαχνιιο 'obliged to serve', older *σπαχτανιγο > Tocharian B spaktanīke, A

spaktānik 'servant', cf. Tocharian B and A spaktām 'service'

σωταγγο 'title' > Niya Prakrit sothamga 'an official', Tocharian A sostänk 'title'

υαργο 'dues (on land, payable in goods or services), rights, duties, corvée' >

Niya Prakrit harga 'tax, tribute'

φοογαοο 'profit' > Tocharian A pärkāu, B pärko 'benefit, advantage; profit'

bαδο 'satisfied, happy, glad, pleased' > Niya Prakrit sada 'pleased'

This list of confirmed Bactrian sources for words in the Tarim languages will probably grow, as will the list of words conjectured to be from Bactrian. Of this latter type, it is worth mentioning one further title ⁵⁷ which may reflect a Kushan administrative structure:

*σοζβοο /čozboa/?- 'official title' > Tumshuqese $cazb\bar{a}$ -, ⁵⁸ Niya Prakrit cozboa-, NW

⁵⁶ The Tocharian B is not glossed by Sims-Williams, *Bactrian Documents II*. Adams, *Dictionary*, gives 'hundred quarts [dry measure]' and a Chinese etymology.

The well-known ancient Inner Asian nomadic title $yab\gamma u$, certainly going back to the Yuezhi and common among the Turks (Clauson, *Dictionary*, p. 873b), is also found in Niya Prakrit yapgu, yapgu (Rapson, $Kharosth\bar{\iota}$ Inscriptions, p. 364c). It may have survived in Bactrian $\iota\alpha\beta\gamma$ o 'yabghu', occurring in three documents in Sims-Williams, *Bactrian Documents II* (p. 215), but it is possible that the title in that period is a later reborrowing from the Turks. It is also possible that the Niya Prakrit title came from the east, perhaps when the Tarim kingdom of Kroraina was a neighbour of the Yuezhi in Gansu.

⁵⁸ Konow, "Ein neuer Saka-Dialekt," s.v.

Prakrit cobuva-59 and Tocharian A $cosp\bar{a}^{60}$

It is now without doubt that Bactrian had a deep influence on the administrative vocabulary of the Tarim languages. But the language used by the Bactrian-speaking Kushans in administrative documents was Prakrit. So we ought to, and do also find Prakrit administrative terms in the Tarim languages.

Prakrit Administrative Terms in the Tarim Languages

*amāca cf. Sanskrit amātya- 'minister, king's intimate' > Tumshuqese amaca-,⁶¹
Khotanese āmāca-,⁶² Tocharian B amāc, Tocharian A āmāś⁶³ all meaning
'minister'

*kaṇa- cf. Sanskrit $k\bar{a}nda$ - 'stick; arrow; etc.' > Tumshuqese kaṇa- 'stick, stroke' 64

śudha- 'paying off' cf. Sanskrit *śodha* 'paying off' > Tumshuqese *śo<u>d</u>a*- 'paying off'. ⁶⁵

anada- 'commanded' cf. Sanskrit $\bar{a}j\tilde{n}\bar{a}pta$ 'commanded' > Tumshuqese $an\bar{a}\underline{d}u$ 'commanded' cf. Sanskrit $\bar{a}j\tilde{n}\bar{a}pta$ 'commanded' cf. Sanskrit $\bar{a}j\tilde{n}\bar{a}pta$ 'commanded' cf. Sanskrit $\bar{a}j\tilde{n}\bar{a}pta$ 'commanded' > Tumshuqese $an\bar{a}\underline{d}u$

⁵⁹ Burrow, *Translation*, p. 149 notes that NWP *cobuva*- discovered by Sten Konow, "Kabul Musem stone inscription of the year 83," is "in all probability" the same as Niya Prakrit *cozboa*-.

⁶⁰ Bailey, "Recent Work in 'Tocharian'", p. 149.

⁶¹ Konow, "Ein neuer Saka-Dialekt," s.v.

⁶² Bailey, *Khotanese Texts IV*, p. 62. Bailey also lists Tibetan forms 'a-ma-chaḥ, a-ma-cha, etc., and Chinese 阿摩支 āmózhī.

⁶³ Thomas, *Tocharisches Elementarbuch*, *Band II*, p. 163.

⁶⁴ Hitch, "Penalty Clauses," p. 149–150.

⁶⁵ Hitch, "Kushan Tarim Administration," p. 15–20

⁶⁶ Ibid.

Contract Structure Evidence for Kushan Tarim Control

Here we discuss contracts in several languages, Prakrit, Khotanese, Tumshuqese, Uyghur from Turfan, Uyghur from Yarkand, Chinese and Bactrian. It would appear that all the contractual traditions in the Tarim Basin, except for that in Turfan, have a common heritage, as reflected in similar structure and formulae. So far, four features have been detected in this legal heritage:

- 1. family members have the same obligations and rights as one of the parties,
- 2. a prohibition against disputing the agreement or decision,
- 3. a financial penalty paid to the state, and/or
- 4. a corporal punishment through lashes with a stick.

This heritage is not from China, but from the west, as now proven by the relatively recent Bactrian evidence. This suggests that the Tarim Basin, with the exception of Turfan, was once under Kushan control and inherited a Kushan legal tradition.

Prakrit Contracts

The contracts in Kharoṣṭhī script are the oldest from the Tarim Basin and the oldest discussed in this study. These should be closest in form to the hypothesized Kushan Prakrit system. I have found only one document, 437 (see below), which has all of the features listed above, but otherwise all features are well attested. All documents are given in translation only and the translations are from Burrow, *Translation*, except where noted.

Document 345 has all the features in question except corporal punishment. It is a complicated dispute involving a loan of grain and wine to a monk, and the theft of numerous items by the monk's slave. They settle by trading the slave. Then we read:

'If at a future time the monk Anamdasena or his son or grandson, or any kinsman of his or son of a kinsman should want to alter this, or should stir up a dispute about the decision, in such a case their renewal of action (*muha cotamna*) shall be without authority and they shall incur a penalty. They shall pay as a penalty into the royal funds ([ra]yakammi) thirty lengths of cloth.'67

⁶⁷ Burrow, *Translation*, p. 66.

Document 573 shows family responsibility. The obligations stated in the agreement are complex and unclear but a daughter is given away as a wife, and a horse and camel are given either in exchange or as a dowry. The bride price is apparently "not even a hair". Then we read:

'So from now on whatever relation or son of ours there is, they are not to take possession of her.'68

In Document 571 a piece of land is exchanged for a camel and some wine. There is a statement that if the matter is raised again, "the matter shall be without authority at the king's court." After the listing of witnesses we find the dual penalty for dispute:

'Whoever shall bring up the matter a second time shall receive a fine of one gelding and seventy strokes.'69

In Document 209 one man sells a woman to another man in exchange for a seven year old camel. Near the end is again the dual penalty for dispute:

'Whoever should want to alter this agreement at a future time, they fixed a similar penalty (for each), (a fine of) one *vito* horse and seventy blows.'⁷⁰

Document 419 is a contract about the sale of a vinyard. After the terms of the agreement, some information about witnesses, and the scribe stating his name, we again find the dual penalty for future challenges:

'Whoever at a future time shall bring up arguments (in an attempt) to alter it, he shall have no authority in front of the bhikṣu-saṅgha. The fine (for such an attempt) is five pieces of cloth, and the punishment (dhaṃta = daṇḍa) fifty strokes.'⁷¹

Document 580 is a sale of land agreed to in front of magistrates and witnesses. After the terms of the agreement there is a prohibition on dispute:

⁶⁹ Ibid., p. 114.

⁶⁸ Ibid., p. 115.

⁷⁰ Ibid., p. 39.

⁷¹ Ibid., p. 85.

'Whoever at a future time informs, disputes, or disagrees about this, his bringing up again of the matter shall be without authority at the king's court.'

A few sentences later comes the statement on dual penalty:

'Whoever a second time shall bring up the queston of the land again, they shall impose a penalty on him, (namely a fine of) a horse and seventy strokes.'72

Document 437 shows all four features in question. A man and his son sold a girl to a monk for 45 *muli*. The monk gave them a camel worth only 42. The man and his son complained to two officials, the *camkura* Kapégya and the *kitsayitsa* Luṭhu. The *camkura* had approved the sale of the girl. The officials decided that the monk should now give the son 5 *muli*, and the monk had all rights to the girl. Near the end we read:

'Whoever at a future time, whether he be brother of *caṃkura* Kapśeya, or brother's son, or grandson, or relative, or any other person from the district (*kilmeci*)⁷³, shall again bring the question up before the *ṽasus* and *aśetas*

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⁷² Ibid., p. 119.

⁷³ Burrow originally translated *kilmeci* as 'dependent'. Later he corrects the translation of *kilme* to 'district' and equates it with Tocharian A kälyme 'direction, district' ("Tocharian Elements in the Kharosthi Documents", p. 673-674). This word is reminiscent of Greek κλιμα 'a tract of land, a region' (I think someone else first noticed this similarity but I can not find the reference). It is tempting to speculate that it was borrowed into Bactrian from the preceding Greco-Bactrian culture, and then transmitted to the Tarim languages as an administrative term, as apparently was the case with Greek μέδιμνοσ > Bactrian *μιλιμο > Niya Prakrit milima 'measure of capacity' (Sims-Williams, Bactrian Documents II, p. 232 s.v. μιδο; Burrow, Language, p. 86 s.v. khi). In an email from 10 January 2009, Marcel Erdal points out, "Greek klima appears in Arabic as iklim and in Hebrew as aklim, so I wonder whether there couldn't have been an Aramaic intermediary for it to come to Bactrian." While possible, it seems more likely from a historical view that the proposed word came directly into the language of the conquering Yuezhi/Bactrians from the Greeks they conquered. Also, the initial cluster is resolved through metathesis in the Tarim languages, suggesting a Bactrian *χιλμο as source while the cluster is resolved through prosthesis in Hebrew and Arabic. The Bactrian proper name μιλμανο (Sims-Williams, Bactrian Documents II, ja1) is probably not related to this word.

concerning that girl, and shall desire to make it otherwise, his representations at the king's court shall be without authority, and he shall pay the penalty which ensues (namely, a fine of) one four-year-old gelding and fifty blows.'⁷⁴

This last passage contains all the structural or formulaic features we are focussing on: family responsibility, a prohibition on later dispute, an element about a fine, and an element about corporal punishment. It should be noted that the family responsibility and penalty in this case are not directed to one or both parties making the exchange, but to the official who approved it. It appears that the purport of the document is to provide protection from possible future abuse by officialdom.

Khotanese Contracts

These two contracts have been edited by H.W. Bailey, who also noted the similarity in formulae with two of the Kharoṣṭhī documents listed above, which he calls Krorain 419 and 345.⁷⁵ The first involves a man who is selling his son to his wife's brother because he cannot afford to keep him. Near the end we read,

'... no other has a claim in this. This which has been prepared, suppose anyone would change the matter of the decisions, he shall give 200 mūrās to the Royal Court and shall receive 50 sticks (= BS daṇḍa) and shall give one prahānaji (gift) of 3 coins.'⁷⁶

A prohibition on dispute is stated, and there is the same dual penalty of a fine paid to the state and lashes with a stick.

The second is KT III 138, 12, 7 which is only available to me as quoted by Bailey:

'what has been prepared and made, (if) he should change the matter, ... and he shall receive thirty sticks.'⁷⁷

⁷⁵ Bailey, Saka Documents. Text Volume, p. 9 n. 2b7

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⁷⁴ Burrow, *Translation*, p. 90.

⁷⁶ Ibid., p. 7, or 9268, Document III.

⁷⁷ Ibid., p. 9, 2b6–2b7.

Although we don't have the whole passage, what we do have exhibits a statement on dispute and on corporal punishment.

Tumshuqese Contracts

Although seventy-four years have passed since Sten Konow first published a set of Tumshuqese documents,⁷⁸ many questions of interpretation remain, and no document can be fully or even nearly fully read. Still, in the contracts we seem to find all of the elements in focus in the current discussion. Tq1⁷⁹ is about two brothers who are dividing some common property, as correctly recognized by Konow. Family responsibility is invoked as shown by one of the few transparent phrases:

amāne puri du<u>d</u>a hvā brā<u>d</u>e wa

'our son, daughter, sister or brother' (Tq1.8–9)

What precedes and follows this phrase is open to discussion, but the gist of the context as in the translation by Konow is probably correct: 'And when a caretaking son, a daughter, a sister or a brother of us falsely states that here our object is another...'⁸⁰

Shortly after this passage comes the statement of the penalty for dispute:

kwa hve = hmada jānuwa pura bišo druhvamnai, ji nu graphi daṇḍi dzadu: gūzdi = ride theśa bārre roro patsasu, bandina xšerā xšiṣta

'Or if we ourselves likewise $j\bar{a}nuwa~pura$ should quarrel, then nu the graphi penalty must apply: to the Gūzdi king I must give fifty theśa $b\bar{a}rre$, the fine for the state is sixty' (Tq1.11–13)

kwa 'or if', a contraction of ka 'if' (Khotanese ka 'if') plus wa 'or' postpositive conjunction (Khotanese vā 'or'); hve 'self; own' (Avestan hva- 'self'); hmada 'likewise,

⁷⁹ Tq1–Tq8 in Hitch, *Tumshuqese Transcriptions* = documents I–VIII in Konow, "Ein Neuer Saka Dialekt" and = items 1–8 in Maue, *Tumshuqese Manuscripts*.

⁷⁸ 1935, "Ein Neuer Saka Dialekt".

⁸⁰ Konow, "Oldest Dialect", p. 164.

the same' (Khotanese *hama*- 'same'); $bi\check{s}o^{8l}$ acc. sing. fem. 'tongue' (Khotanese $bi\check{s}\bar{a}a$ - 82); druhvamnai third pl. pres. mid. subj. of druhv- 'misbehave' (Konow gives 'lie' and compares Khotanese $drr\bar{u}ja$ - 'falsehood' while Bailey gives 'dispute' but cf. Bactrian $\lambda\varrho\sigma\sigma$ - of uncertain meaning which appears to be a phonological match); ji 'then' heads a clause following a clause headed by ka 'if' or ki 'when'; $dan\dot{q}i$ nom. sing. masc. from Sanskrit $dan\dot{q}a$ - 'punishment'; $dza\dot{q}u^{86}$ third sing. pres. imperative active from dza- 'go' (Kh $js\bar{a}$ - 'go'); $g\bar{u}z\dot{q}i$ - should likely be corrected to $g\bar{u}z\dot{q}iy\bar{a}^{88}$ gen.-dat. sing. masc.

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Billier Maue independently noticed that the akṣara transliterated here $\dot{s}a$ stands for a voiced palatal sibilant and transliterates $\dot{z}a$ ("Konows Zeichen Nr. 10," sections III–IV). I prefer to transliterate $\dot{s}a$ (preferably s+macron+acute which is not a Unicode composite) as the sign is derived from the regular Brāhmī $\dot{s}a$ by the addition of a tail, and because it will avoid confusion with Konow's prior use of $\dot{z}a$ for transliterating a different aksara.

⁸² Emmerick, Saka Grammatical Studies, p. 307

^{83 &}quot;Oldest Dialect," p. 184

⁸⁴ Bailey, "Languages of the Saka," p. 152. He also suggests, "druhva- could perhaps come from drah-, as derivative from drang- 'to confirm' with -u- due to the following -v-", ibid. p. 154.

⁸⁵ Bactrian λοουο- occurs twice in the Surkh-Kotal inscription in λοουομνανο (Lazard, "Notes Bactriennes" p. 228). Three probably related forms occur in the manuscripts, δδοουμινο, δοουμινο and λοουμινανο where Sims-Williams follows Gershevitch glossing 'enemy' < *dušmanyu-, Avestan dušmainiiu- and noting the etymological difficulty with the prefix [lruh-] < *duš- (Bactrian Documents II, p. 228–229).

⁸⁶ Maue, "Zu den uigurischen und iranischen Brāhmī-Handschriften der Berliner Turfanfunde," argues that the value of the sign Konow transliterates with dza is [v], and offers a new transliteration v_Ia (p. 215–219). He uncovered much new and useful paleographic data with this study but I think it is still possible that Konow's value is correct.

⁸⁷ I use the transliteration za here for the first time. In the 1985 *Tumshuqese Transcriptions* I followed Konow and used za. I doubted the value was correct. In 1985 after completing the typescript I showed R. E. Emmerick my file card with the proper name $Satya\bar{g}uz\bar{a}$ gen.-dat. sing. masc., hoping he could identify it. The card now has Satyaghosa in his handwriting. I think it is a good idea to follow Maue's suggestion and transliterate za, thus the name is $Satya\bar{g}uz\bar{a}$. Maue's

'of Gūzdi (Guzhdian)'⁸⁹; *ride* gen.-dat. sing. masc 'king' (Khotanese *rrundā* gendat.sing.masc, *rre* nom. sing. masc 'king'); *roro* first sing. act. injunctive 'I must give' (Khotanese *haur*- 'give'); *patsasu* 'fifty' (Khotanese *pamjsāsā* 'fifty'); *bandina* 'fine' (possibly Bactrian αβινδαμο, Niya Prakrit *aviṃdhama*, *aviṃtama*, *avidama*, etc. 'recompense, penalty'⁹⁰; Buddhist Sogdian *βnt'm* 'punishment', Manichean Sogdian *mrc βnd'm*, Christian Sogdian *mrc bnt'm*-, *mrc bnd'm*- 'death penalty'⁹¹); *xserā* gen.-dat. sing. masc 'state' (Khotanese *kṣīra*- 'country, kingdom'); *xšiṣta* 'sixty' (Khotanese *kṣastā*).

Tq3 is a declaration by five brothers and sisters (*brāre hvāre ṣe* Tq3.2) of unclear nature. Even though this appears to be an agreement among siblings, family responsibility is invoked:

amāne puri brade handare ...
'our son, brother, (or) another ...' (Tq3.4)

discussion ("Konows Zeichen Nr. 10," sections IV-V) contains this name, which he independently recognized, as well as other evidence supporting this transliteration.

⁸⁸ The phrase $g\bar{u}zdiy\bar{a}$ ride gen.-dat. sing. masc. 'to the king of Gūzdi' occurs in Tq1.1, Tq2.1, Tq3.1,6, Tq4.1, and in Tq13.3 (ref. below) there is $g\bar{u}zdy\bar{a}$. Note also that previously the initial akṣara $g\bar{u}$ was mistransliterated $gy\bar{a}$ by Konow and followed by Bailey and Skjærvø. Dieter Maue also independently noticed this error (ibid.). [The photograph of Tq13 appears in Bailey, Saka $Documents\ V$, plate cxxii, entitled "T4 M Tumshuq"; the first published transcription is by Skjærvø, "On the Tumshuqese $Karmav\bar{a}can\bar{a}$ Text" p. 88–89, Tum. XIII.]

⁸⁹ Previously I have incorrectly glossed this as 'enlightened', comparing Khotanese $gg\bar{u}\acute{s}t\ddot{a}$ 'he is delivered'. Maue, following work of J.J.M. De Groot, F.W. Thomas and RONG Xingjiang establishes that $G\bar{u}z\dot{d}i$ - or $G\bar{u}z\dot{d}ia$ - is the name of the capital or country of the people who speak what we have been calling Tumshuqese (ibid.).

⁹⁰ Burrow, *Language*, p. 78

⁹¹ Henning, "Beichtbuch", p. 79, sub 645. According to Gershevitch, this word has a suffix of "unclear origin", *Grammar*, p. 166 §1094, cf. Manichean Sogdian βnd 'prison', βndyh 'slave', ibid., p. 14 §107. Bailey, in his review of Henning, "Beichtbuch" compared the Niya and Sogdian words. If the Tumshuqese, with -n- instead of -m- in the suffix, is correctly compared here, the -n-requires an explanation.

After a series of three phrases, lines 5–6, beginning with *ki* 'when' and probably dealing with noncompliance and/or dispute, there come statements on a financial and a corporal punishment:

ji nu daṇḍi dzaḍi, gūzḍiyā riḍe theśa bārre rorye patsasu, kaṇe hvārye xšiṣta 'Then nu the penalty applies: to the Gūzḍi- king I should give fifty theśa bārre, I should receive sixty lashes.' (Tq3.6–7)

dzadi third sing. pres. ind. active from dza- 'go' (Khotanese jsā- 'go'); rorye first sing. optative act. 92 'I should give' (Khotanese haur- 'give'); kaņe nom.-acc. pl. masc. 'stick, (metaphorically) blow' (< Prakrit *kaṇa-, cf. Sanskrit kāṇḍa- 'stick, staff; arrow; etc. '93); hvārye first sing. opt. act. 'I should receive' (Khotanese hvar- 'consume; take, suffer '94).

Tq4 appears to be a declaration by one party, Ceguti, to another, Smaśira, about a commodity he intends to exchange with the cazba Dzātsi for *bārras*. After Ceguti and Dzātsi declare their agreement, we find a prohibition on dispute and both financial and corporal penalties:

ki wa bišo druhvade, = ride daṇḍu bārre rorye dase, kaṇe hvārye bista 'Or if (anyone) should quarrel, I should give ten bārras to the king in punishment, I should receive twenty sticks.' (Tq4.10–11)

druhvade third sing. subj. mid. (Khotanese -āte); daṇḍu adverbial acc.; dase 'ten' (Khotanese dasau 'ten'); bista 'twenty' (Khotanese bistä 'twenty').

⁹² In "Penalty Clauses" p. 149, I followed Bailey, "Languages of the Saka", p. 151, and identified *rorye* and *hvārye* as participles of necessity, saying that *roro*, which occurs in a parallel context at Tq1.13, "cannot yet be explained". I now think that *roro* is injunctive while *rorye* is optative and that these historically distinct modes are now functionally equivalent (as conceivably they are in Khotanese). Still, it is possible that *rorye* and *hvārye* are formally identical to nom.-acc. pl. masc. participles of necessity.

⁹³ Hitch, "Penalty Clauses," p. 149–150.

⁹⁴ Ibid., p. 149 and fn. 7.

Tq13⁹⁵, the last document showing the features in question, is incomplete, missing the beginning of the agreement and lacking about seven akṣaras from the right side. The purpose of the agreement is unknown but the corporal punishment is clearly legible:

kaņe hvārye xšista

'I should receive sixty blows' (Tq13.4)

The phrase before that begins with $g\bar{u}zdy\bar{a}$ and then the page is broken, but we can probably restore $g\bar{u}zdy\bar{a}$ [ride] "to Gūzdi- king' and perhaps see the beginning of a statement on financial penalty as in Tq3.6.

So far, we have seen similar formulae in Prakrit contracts from the 3rd–4th century and in both Khotanese and Tumshuqese from the 7th–8th centuries.

Uyghur Contracts from Yarkand

Marcel Erdal has published some late eleventh century Uyghur civil documents⁹⁶ found under a tree in a garden outside Yarkand in 1911.⁹⁷ They are the oldest civil as well as the oldest Muslim documents in the language. Erdal points out that these differ from the thirteenth century and later Uyghur contracts from the non-Muslim sphere in the Tarim which are apparently based on a Chinese model. He instead suggests the possibility here of a Persian prototype which is reasonable since the documents contain Arabic and Persian words. But Erdal also notes that the Turks penetrated gradually into the region and at first probably adopted many facets of the local ways of life, such as the use of the vernacular and the system of land ownership.⁹⁸ Given the nature of this process, the model for these contracts may also possibly have been the pre-Turkic culture of Yarkand.

These documents do not contain the financial or corporal penalty statements that we saw in the Prakrit, Khotanese and Tumshuqese examples, but they do include the aspects

⁹⁵ See fn. 87.

⁹⁶ Erdal, "The Turkish Yarkand Documents".

⁹⁷ Ibid., p. 261

⁹⁸ Ibid., p. 260

of family responsibility and the prohibition on dispute. The first text, in Uyghur letters, ⁹⁹ features two brothers, 'Ali and Aḥmad Arslan, sons of Bäk Tüzün, who sell a piece of land in Rabul to Master Isḥaq for 800 *yarmaqs*. About halfway into the text we find the two familiar features:

bizi[n]g- $\delta \ddot{a}$ ken ke $\delta in = o\dot{g}$ lumız-qa ya qızımız kisimiz-k $\ddot{a} = qada$ š-larmız-qa kim- \ddot{a} rs \ddot{a} -k \ddot{a} da 'va = dastan yoq. kim da[']va qilsa, qanmas $\underline{a}[=\underline{b}$ a \dot{a} il, tanuqı yal \dot{g} an.

'There will, after us, be no quarrel or deceit by our sons, our daughters, our wives, our family or by anybody. Whoever, not being satisfied, starts a dispute, (that) is null and his witnesses are false.'

The second text, in Arabic script, is a declaration by Muḥammad about his sale of land in Sınmas to Isrāfīl Čavlı for a thousand *yarmaqs*. Before Muḥammad dates and signs the declaration we encounter the prohibition on dispute:

bu yer birlä k(i)m-gä ersä d(a)'wa = d(a)stan yoq. k(i)m d(a)'wa qılsa d(a)'wa-si bat(i)l turur teb

'Concerning this land there is no quarrel or deceit for anybody. Saying, "Who starts a dispute, his dispute is null."¹⁰¹

⁹⁹ Although in Uyghur letters, the writer used many rules of the Arabic script, a fact which Erdal was first to recognize, and which made it possible for him to greatly further the understanding of this and similar documents; ibid., p. 262, 267–268.

¹⁰⁰ Ibid., p. 269–270 (I, 'Turki 4+5', lines 14–18). Erdal's translation is slightly different. He translated the New Persian *da'wā* as 'litigation' and *dastān* as 'legal trick'. But *da'wā* can also mean simply 'quarrel' (Haim, *Dictionary*, p. 306) and as Erdal notes, Minorsky earlier suggested *dastān* can be rendered 'deceit' (p. 296, n.-8). It may not be necessary to give these words specifically legal connotations. I prefer to use 'quarrel, dispute' and 'deceit' to better show the parallels with other languages.

¹⁰¹ Ibid., text VI, lines 7–8, p. 292. Erdal translated this as: "Concerning this land there is no litigation with, or legal trick towards, anybody. Saying 'Whoever starts litigation, his litigation is null."

Uyghur Contracts from Turfan¹⁰²

Besides in Chinese, the only other language in which I find contracts from Turfan is Uyghur. There may be contracts in other languages. MORI Masao was the first to compare the structure of the Uyghur contracts to that found in Chinese documents from a similar age from Xinjiang or Dunhuang.¹⁰³ There are remarkable similarities which helped him to translate the Uyghur. He concludes that the Chinese exerted strong influence on both the form and substance of the contracts.¹⁰⁴

Of the four contractual features found in other Tarim cultures, three are clearly absent from the Turfan Uyghur: the prohibition on dispute, the financial penalty, and the corporal penalty. If the fourth feature, family responsibility, is present, it does not have the same formulaic role. Here the family members are listed as guarantors. After the details of the agreement and before the signatures of the witnesses there is a section MORI calls "Assurance". An example from a contract about a loan of sesame reads:

birginčä / bar yoq bolsar m(ä)n inim Qasuq -nïŋ / tägi-lär birlä köni birsünlär¹⁰⁵

'Before repaying, if I escape, the family of my younger brother Qasuq together, rightly they shall repay.' 106

Instead of a prohibition on dispute we find an *if-I-escape* clause. And instead of there being a penalty for non compliance, the debt defaults to the obligor's younger brother and his family. In all the cases known to MORI, the guarantors were family members: wife,

¹⁰² I have not had access to Larry V. Clark's *Introduction to the Uyghur Civil Documents of East Turkestan (13th-14th cc)*, Ph.D. Dissertation, Univ. of Indiana (Bloomington), 1975. Marcel Erdal, email 10 January 2009, recommends Juten Oda et al. eds., *Sammlung uigurischer Kontrakt*, *Gesammelte Arbeiten über die uigurischen Dokumente von Nobuo Yamada*. Osaka: Osaka University Press, 1993 (3 vols.), which I have not had access to.

¹⁰³ MORI, "Uygur Documents of Loans."

¹⁰⁴ Ibid., p. 148.

¹⁰⁵ Ibid.

¹⁰⁶ Ibid., p. 141–142.

son, younger brother or the families of son's or younger brothers. In Chinese documents there are also guarantors but these were usually not family members, and they signed their names at the end of the contract. The Uyghur contracts have no guarantor signatures.¹⁰⁷

In a recent study of Uyghur contracts from the 10th–12th centuries, ¹⁰⁸ MATSUI Dai helps to round out this picture. Since it is possible that the Uyghur tradition over time may have assimilated to the Chinese, it is important to work from the oldest known Uyghur contracts from Turfan, which these might be.

Document B verso is a contract of land tenancy. The bottom third (right side in transliteration) or so is missing and much is unclear. At the end, above the statement about the seal, we read

```
] bu sav qayu-sï aγiš'sar [......]= birsür biz bu tamγa biz [<sup>109</sup>
'If any of [us] deviates (from) this matter (i.e. contract), we will pay [......]
one another. This seal is ours ['<sup>110</sup>
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MATSUI also notes phrases parallel to the first phrase above in two other contracts, both with the conditional $a\gamma i sar/a\gamma sar$ 'should deviate', ¹¹¹ firmly establishing this formula in the Turfan Uyghur tradition.

Text C recto is about the sale of a vinyard. Again near the end we find a guarantor:

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bu savda olurγučï arslan totoq<sup>112</sup>
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'The guarantor of this statement (i.e. contract) is Arslan-totoq.' 113

¹⁰⁷ Ibid., p. 143.

¹⁰⁸ MATSUI Dai, "Six Uigur Contracts from the West Uigur Period (10th–12th Centuries)".

¹⁰⁹ Ibid., lines 12–13, p. 41; the equals sign is a line break.

¹¹⁰ Ibid., p. 42.

¹¹¹ Ibid., sub Bv12.

¹¹² Ibid., p. 43, line 10.

¹¹³ Ibid.

Text D is an unfinished draft of a loan contract for grain. It has an *if-I-escape* clause and a guarantor.

bu tarïγ birginčä örü qodï bolsar män [......] = sambodu köni birzün¹¹⁴
'If I escape before paying this corn, [......] Sambodu shall repay truly'¹¹⁵

MATSUI feels that the guarantor "was undoubtedly a family (son or brother) of the debtor." But since the debtor, Pusardu-šäli, and guarantor, Sambodu, have Buddhist names, it is plausible that they are both monks.

There is a lot more to be learned about the relationship between the Turfan Uyghur and Chinese contracts in Xinjiang. It appears that the structure of the Uyghur is much like that of the Chinese, but not identical. For our purposes it is important that three of the four features in question are absent, and the fourth is either absent or in a modified form. Conversely, the Turfan Uyghur contracts have features not found in the other Tarim systems, such as *if-I-escape* clauses and guarantors. It is fair to say that the traditions have significant differences.

Bactrian Contracts

When I began working on the Tarim contracts, more than twenty years ago, I speculated that the structure had been brought from from the west by the Kushans. At that time there were no known samples of medieval contracts from elsewhere in the former Kushan territory with which to make comparisons. The situation has significantly changed. In the 1990s Bactrian documents from Afghanistan began appearing on the international art market, among them some contracts. Nicholas Sims-Williams has devoted himself to the prompt decipherment and publication of these materials, and has made important discoveries in Middle Iranian philology and Central Asian history.

In 1999–2001 a special set of documents came to light which were written in a kingdom called in the documents $\gamma\omega\zeta\circ\gamma\alpha$ vo or $\gamma\circ\zeta\alpha\gamma\alpha$ vo, which the Persians knew as

¹¹⁴ Ibid., lines 4–5, p. 47–48.

¹¹⁵ Ibid., p. 48.

¹¹⁶ Ibid.

 $G\bar{u}zg\bar{a}n$. Sims-Williams has published a transcription and translation of eight of these.¹¹⁷ Document **an** is a short, simple receipt but the others are all detailed agreements. Of these, six clearly show three of the Tarim contractual features in question: family rights and responsibility, a prohibition on dispute, and a financial penalty. There is no corporal punishment. The seventh, **Ss**, includes family rights and responsibilities but it is a fragment from the top left of a contract¹¹⁸ and the other two features probably once appeared in the missing lines.

Document **Nn** is a contract of sale for a piece of land. Bay son of Yoz sells the land to Bramarz "for twenty-five dinars of gold struck by the king." After some introductory statements we find the principle of family rights and responsibility expressed for both seller and buyer:

'(Then) this declaration was made freely (and) willingly by me, Bay son of Yoz, and (by) me, Kay, and (by) me, Yoz, and (by) me, Wanak, the sons of Khwas, ... we whose house they call Nanan. I make (this) declaration to you, Bramarz, and to you Moyan, the sons of Laguk, you whose house they call Lagukan,'120

The four members of the house of Nanan are listed three times in the contract but it is reasonably clear that the original owner of the land, and hence the seller, is Bay, as we read:

'Now I, Bay, have a (piece of) ground in Larg, and [it has been sold] by me to you, Bramarz,'121

Sims-Williams considers Bay to be "sometimes represented as acting on behalf of the whole family," 122 but if the contracts from the Tarim Basin can be used as a guide, it is

¹¹⁹ Ibid., p. 13, line 13.

^{117 &}quot;Bactrian Legal Documents from 7th- and 8th-Century Guzgan."

¹¹⁸ Ibid. p. 11

¹²⁰ Ibid., lines 6–8

¹²¹ Ibid., lines 12–13.

more likely that Bay is the main figure, owner and seller, and his father and uncles are present to show they support the deal, and will not later try to invalidate it. What Sims-Williams describes as, "the apparent breach of etiquette whereby he is regularly named before his father and uncles in the list of parties to the contract," is probably not a breach of etiquette, but the normal way the seller and his or her co-responsible family members are listed.

In the last section of the contract, we find the prohibition on dispute and the financial penalties if dispute arises:

'Whoever may dispute with you, Bramarz, concerning the (piece of) ground described herein, (or) may fight, argue, invoke the law, (or) cause litigation, I shall cause ... and if [I do] not cause ..., then I shall pay a fine to the treasury of Goz(g)an of fifty dinars of gold struck by the king and I shall pay [fifty dinars] to you, Bramarz, and I shall (likewise) pay your brothers, children, (and) descendants;'124

Document **O** is a contract of undertaking on the part of Yobig towards Bramarz as the result of a sword fight. We find family responsibility, the prohibition of dispute, and financial penalties:

¹²² Ibid., p. 23, Nn5–7.

¹²³ Ibid.

¹²⁴ Ibid. p. 13, lines 17–20. The ellipses are mine. The purport of this section, as in the Tarim contracts, should be that Bay will prevent dispute by anyone, and if he fails, he pays fines to the state and to Bramarz. Sims-Williams' translation of this section is, "I shall cause (this property to be) detached from every opponent; and if I do not cause (this property to be) detached," which does not fit the likely sense. There should be no reference to property here. The phrases at issue are αβηιβινδο χισιμο 'I shall cause αβηιβινδο,' and καλδο αβηβινδο νακι[σαν]ο 'if I do not cause αβηβινδο.' Document S line 22 has the similar βηβινδο κισανο which Sims-Williams gives as, 'I (sic!) would cause (the property to be) ... detached' and lines 23–24 have βηβινδο νακισαμο, which Sims-Williams translates "we...should not cause (the property to be) ... detached". There is also no property in question here. It is not a contract of sale, but a declaration that a previous claim and dispute are resolved and will never again be pursued.

'If I should dispute—I, Yobig myself, or my brothers, or my sons, or my own (household and) family, or my (fellow-)citizens, or the men of the district—then my claim (and) argument shall not be valid in court, and also I shall pay a fine—I, Yobig, myself, and my brothers (and) sons—to the treasury of the lords of Gozgan of fifty dinars of struck gold, and we shall pay fifty dinars to you, Bramarz.'125

Document \mathbf{R} is also a contract of undertaking. We do not know what the original dispute was about, but Pap is giving up claims against three other men and their families.

'I, Pap, and my brothers, children (and) descendants, shall not have the right to dispute with you, Kanag, and with you, Moyan, and with you, Finz-lad, and with your brothers, children, (and) descendants, nor to invoke the law. And if it should so happen that I should dispute, then I shall pay a fine—I, Pap, and my brothers, children, (and) descendants—to the treasury of Kag Gozgan of a hundred dirhams of (king) Kawad, and also I shall pay a hundred dirhams of (king) Kawad to you, Kanag, and to you, Moyan and to you, Finz-lad, and to your brothers, children, (and) descendants.'126

Document **S**, is a similar contract of undertaking about the giving up of a claim and is not discussed further here. Document **Tt** is a declaration by the lord of Lizg, that he is giving something¹²⁷ as a reward for service to three followers. The lord says that no one has the right to dispute this with the followers, or their family, and if anyone does, their claim is invalid and they must pay five hundred dirhams both to the judicial treasury, and to the followers and their family.

¹²⁵ Ibid., lines 14–20.

¹²⁶ Ibid., p. 14–15, lines 13–21.

¹²⁷ ναυαλο, Tt12,13,19 is tentatively translated 'impost(?)' by Sims-Williams, which seems likely to be correct. It appears that the followers, or possibly just Babay, and, by extension, his two brothers, are receiving the right to a third share of taxes collected in Lizg.

Document **Uu** is a declaration by the brothers Khay and Khatul and family addressed to the brothers Meyam and Zhulad and family, that the addressors have received the fine arising from an earlier dispute over slaves with the addressees, and that there is now no dispute at all remaining between them.

'And we shall not have the right to dispute (with) you, neither concerning (matters) relating to slaves nor concerning the Nospil family's fine, nor concerning (any) other debt. So, if we should dispute anything (with) you, whether concerning (matters) relating to slaves or concerning a debt, then our claim (and) argument shall not be valid in court, and also we shall pay a fine to the judicial treasury of five hundred dirhams of (king) Kawad, and also we shall pay five hundred dirhams to you, Meyam, and to your brothers (and) children.'

The Contract Evidence, Summary

The similarities among the Prakrit, Khotanese, Tumshuqese, Yarkand Uygur, and Bactrian contracts suggest that they reflect the same legal tradition. In contrast, the Turfan Uyghur contracts appear to come from a Chinese legal tradition. This may be yet another reason why Turfan is special. It seems hard to avoid concluding that the system in most of the Tarim was introduced by the Kushans during a period of control of these areas. On the other hand, the absence of a Kushan legal tradition from Turfan might suggest that Turfan had remained outside the Kushan zone of interest.

The explanation for this specialness is possibly related to the later settlement of Turfan. That is, at the time of the Kushan domination of the Tarim, if the region was largely nomadic, then the administrative system may not have been introduced at all. The Kushan armies may not have been able to control this nomadic area. Or, even if the Kushans did control Turfan, the settled population was then small, and administrative documents would have been few, making it less likely that some would have survived until today.

Some time after the proposed period of Kushan Tarim domination, and after a dramatic rise in the settled population, we see in Turfan a marked interest in Chinese

civilization. For instance, in 612 AD, after returning from the imperial court, Qu Boya the king of Turfan passed a decree commanding his people to adopt Chinese fashion in dress.¹²⁸ While the rest of the Tarim inherited a Kushan legal system, Turfan did not and instead borrowed the Chinese system several centuries later.

HISTORICAL EVIDENCE

Names for the Turfan Region in the Chinese Annals

One clue suggesting the change of Turfan from a nomadic to a sedentary society comes from a change in the nomenclature used in the Chinese historical records. According to Walter Fuchs, the first certain mention of the Turfan region occurs in chapter 123 of the *Shiji*, written 109–91 BC by Sima Qian, where it has the form Gushi 姑師. In the *Qian* and *Hou Hanshu* this name appears as Jushi 車師 and always in the context of either Jushi Qian Bu 車師 前部 'Tribe of Nearer Jushi' or Jushi Hou Bu 車師 後部 'Tribe of Farther Jushi'. Then in the *Liangshu* the region is called Gaochang 高昌. ¹²⁹ That is, perhaps until some time before the fall of the Later Han in 220 AD, the region was referred to by the name of the tribe which roamed it, the Nearer Jushi. Then sometime after the rise of the Liang in 502 AD, the region was named after its probably most significant urban center, Gaochang, in the same way that the countries of Kucha and Khotan were named after their most important centers.

SHIMAZAKI on the Nomadic Jushi

Akira SHIMAZAKI has conducted a general study of the Jushi.¹³⁰ There were several Jushi countries besides those of the Nearer and Farther tribes. It is clear that in the Former Han period, the majority of the countries of Jushi were nomad or nomad-like.¹³¹

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¹²⁸ Stein, Innermost Asia, p. 576.

¹²⁹ Fuchs, "Das Turfangebiet", p. 124–125.

^{130 &}quot;Ku-shih and the Anterior and Posterior Kingdoms of Kü-shih."

¹³¹ Ibid., p. 69.

He lists Pulei, Western Qiemi, Eastern Qiemi, Posterior Jushi, Beilu, Posterior Beilu and possibly Posterior Pulei as nomadic. It would make sense that the remaining tribe, Nearer Jushi was also nomadic, but the evidence is not as clear. "Next, we come to Anterior Küshih, in the Turfan basin. The seat of the king's rule is said to have been at Chiao-ho-ch'eng 交河成 (Yārkhoto), in both the *Han-shu* and the *Hou-han-shu*. Seen from the way the seat of the king's rule is described, this country was different from the rest of Kü-shih tribal countries, which were nomad or nomad-like." With nomads, the seat of rule is usually described as a valley, while settled countries have a town as seat of rule 133 as with the Nearer Jushi and their seat at Yarkhoto. It may be that there were a few settlements in the basin but also lots of pasture land. The king of Nearer Jushi likely ruled over a combined population of nomads and farmers, possibly living part of the year in town, as is familiar with other nomad leaders. Turfan is famous for it extremely hot summers so it is easy to imagine a nomadic ruler spending that period in mountain pastures.

The Xiongnu and Han battled for control of the Jushi since the area this tribe inhabited was the gateway to the Western Regions for the Xiongnu. Around 67 BC the Xiongnu appointed a Jushi king north of the mountains, and around 63 BC the Han appointed a Jushi king south of the mountains. This was the origin of the Nearer and Farther kingdoms. ¹³⁴ In his conclusions, SHIMAZAKI hypothesizes, "the Ku-shih tribes were originally nomads, and those who were in Turfan came down south from the north of the mountains, turned to agriculture, and came to have a citadel like Yārkhoto." ¹³⁵

It is not necessary to assume that the Nearer Jushi became sedentary farmers, although some might have. There was a farming population in the Turfan region long before the Jushi came into ascendancy there. Agriculture was practiced in the area at least as early

¹³² Ibid.

¹³³ Ibid.

¹³⁴ Ibid., p. 78.

¹³⁵ Ibid., p. 80.

as the Aidinghu culture, around 1400–700 BC, ¹³⁶ long before the appearance of horseriding pastoralists in the Tian Shan region by the mid-first millenium BC. 137 The Han sent short-lived military colonies to the area, in 91 AD to Gaochang and in 123 AD to Lukchun, ¹³⁸ which suggests that grain was being grown in the area already. It is just as likely that when the nomadic Jushi invaded the Turfan basin, they encountered both sedentary and pastoral nomadic peoples, perhaps displacing the latter. With the drying of the climate, the Jushi nomads, rather than becoming farmers, may have moved elsewhere with their herds.

Ancient and Modern Populations

Hou Hanshu 88, on the Western Regions, contains a kind of census of the major oasis kingdoms. Among other details, the author lists numbers of households, individuals and men able to bear arms. The table below compares these figures: 139

		households	individuals	men able to
				bear arms
Nearer Jushi	Turfan	1,500	4,000	2,000
Yanqi	Karashahr	15,000	52,000	20,000
Yutian	Khotan	32,000	83,000	30,000
Shule	Kashgar	21,000		30,000
Farther Jushi	Jimasa	4,000	15,000	3,000

We have to be careful about drawing firm conclusions with these numbers. They have to be viewed as approximations. And the information may have been drawn from diverse sources, from different time periods. In spite of this, it seems quite likely that the population of the Turfan region during the first century AD was miniscule when compared

¹³⁶ CHEN and Hiebert, "The Late Prehistory of Xinjiang", p. 265.

¹³⁷ Ibid., p. 286.

¹³⁸ Stein, *Innermost Asia*, p. 573.

¹³⁹ Data are from Hill, *The Western Regions*, sections 4, 21, 22, 26, 27.

to that of the three oasis kingdoms of Karashahr, Khotan and Kashgar. It is only about 5% the size of Khotan. This chapter does not have information on Kucha. The kingdom of Nearer Jushi is less than half the size of the kingdom of Farther Jushi which was clearly nomadic.

It may be useful to compare modern census data from Wikipedia.

Kucha County	2002	450,000
Hotan County	2002	270,000
Hotan City	2006	114,000
Turfan City	2003	254,900
Turfan Prefecture	2003	570,000
Kashgar City	2001	351,874

Comparing ancient and modern administrative units can be like comparing apples and oranges. But it is clear that modern Turfan City and region supports a population which is not miniscule in size when compared to other areas. Turfan City is today more than twice the size of Khotan City.

Han to Tang Turfan Population Growth

The chart below lists some population numbers for Turfan from the Han to Tang periods.

Qian Hanshu	± 1st century BC	700 families, 6,050 persons,	
		1,865 military ¹⁴⁰	
Hou Hanshu	± 2nd century AD	1500 families, 4,000 persons,	
		2,000 military ¹⁴¹	
Beishi	4th–5th century	8 towns ¹⁴²	
Beishi	Zhou and Sui, 557–618	16 and then 18 towns ¹⁴³	
Tangshu	mid 7th century	22 towns, 8,000 households,	
		30,000 inhabitants and 4,000	
		horses. ¹⁴⁴	

These figures show growth in population, with a rapid growth apparently starting between the two mentions in the *Beishi*, that is, roughly between the 4th–5th century and late 6th early 7th centuries. The size of the population roughly triples by the time of the *Tangshu* in the mid 7th century. These figures could reflect a period of significant immigration.¹⁴⁵

Stein Summary

The salient details from the various annals concerning ancient and medieval Turfan have been neatly summarized by Aurel Stein in *Innermost Asia*. It is useful to list some details which have not yet been mentioned and which contribute to illustrating the hypothesis.

¹⁴⁰ Stein, *Innermost Asia*, p. 569.

¹⁴¹ Hill, *The Western Regions*, section 26.

¹⁴² Stein, *Innermost Asia*, p. 576.

¹⁴³ Ibid., p. 577.

¹⁴⁴ Ibid., p. 578.

¹⁴⁵ It would be useful to compare the figures for other Tarim oasis countries over the same period. Under the theory proposed here they would show much lower rates of population growth. But I have been unable to find comparable data.

- In 108 BC a Chinese expedition captured the king of Loulan and defeated Gushi.
 Stein notes that this proves that the Chinese attacked Turfan from the south. For us this means that there was likely more grassland and surface water in the area than there is today.¹⁴⁶
- In 67 BC the Jushi king submitted to the Chinese military forces. Soon afterwards "he retreated eastwards with a portion of his people," and the Chinese established a military colony in the area. For a body of the population to be able to move quickly away, it is likely it was nomadic.
- In 153 AD a chief of Farther Jushi was resettled by the Chinese around Dunhuang with three hundred tents of his tribe to supply him with revenue. 148

As Stein notes, between this time and and just before the rise of the Tang in 618 AD there are "but scant notices relating to the Turfān region or the the 'Western countries' in general." This corresponds to a climatic dry period in the region, which will be shown later.

- •The seventh century *Beishi* has parts relating to 4th–5th century Turfan. Now we find that there is no pasture nearby as we read that "sheep and horses were kept in distant little-known localities."¹⁵⁰
- The *Beishi* also has parts relating to Zhou and Sui dynasties (557–618 AD). Here we find that there are now 16 and then 18 towns with an administrative system following Chinese models. Men dress like barbarians and women like Chinese. Both barbarian and Chinese scripts are in use. The road

¹⁴⁶ Stein, *Innermost Asia*, p. 571.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid., p. 574.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid., p. 577. Gaochang has eight towns, all with some Chinese inhabitants. Cereals ripen several times a year. There is irrigation, silk production, and abundant fruit and wine. There already seem to be Manicheans along with Buddhists.

- between Gaochang and Dunhuang was now so dry, desolate and dangerous that most traders passed through Hami.¹⁵¹
- In 630 AD the regular embassies to the imperial court cease when the king of Gaochang and his Turkish commander-in-chief aid the Western Turks in plundering missions on their way to the imperial court. Ten years later the Chinese carefully plan a desert crossing and use siege engines to shower stones on the Turfan capital and make it the seat of a new protectorate. In the mid seventh century, Turfan has 22 towns, 8,000 households, 30,000 inhabitants and 4,000 horses.¹⁵²
- A later entry in the *Tangshu* says there are 21 towns. The soil is fertile and wheat and cereals are harvested twice a year. They grow a plant with a flower which one can pick and spin in order to make cloth, which of course is cotton.¹⁵³
- From about 670 to 692 AD the Tibetans controlled the Tarim Basin, likely also Turfan. 154
- In 751 AD, with the famous defeat by the Arabs at Talas, more than half a century of Chinese domination of the Tarim comes to an end. 155
- In about 766 AD the Tibetans conquered Gansu including Dunhuang which cut off the Western Regions from China.¹⁵⁶
- There are a few mentions of Turfan in the remainder of the 8th century, but none after 790 AD when the Tibetans take Turfan from the Uyghurs.¹⁵⁷
- After 847 AD a new Uyghur dominion arises which successfully challenges the

¹⁵¹ Ibid.

¹⁵² Ibid., p. 577–578.

¹⁵³ Ibid., p. 579.

¹⁵⁴ Ibid., p. 579–580.

¹⁵⁵ Ibid., p. 580.

¹⁵⁶ Ibid.

¹⁵⁷ Ibid., p. 581.

Tibetans for control of Gansu and the Tarim. 158

• In 982 AD the Uyghur king of Turfan also controls Kucha and Khotan. The nobility eats horse meat while the commoners eat mutton, ducks and geese. There is a great Chinese Buddhist library. Persian priests attend a temple to Mani and declare Buddhist books as heretical.¹⁵⁹

Stein on Late Islamization

In the Ming annals we learn that in 1408 a Buddhist from Turfan, with his disciples, reached the Chinese capital. ¹⁶⁰ The record of Shah Rukh's embassy in 1420 states that most of the people of Turfan were polytheists (i.e., Buddhists) and kept tall idols in large idol houses. ¹⁶¹ The lateness of this oasis' complete conversion to Islam is for Stein an important reason why the ancient remains survived so well. "It allowed relics of pre-Muhammadan civilization, including objects of cult, literature and art, to exist in this territory, comparatively well cared for, to within four or five centuries of our own time and that on ground which has been continuously occupied. The same fact explains why a large proportion of those remains belongs to later periods." ¹⁶² This view of Stein seems the probable explanation why such a quantity of relics remained, but it does not explain the cosmopolitanism or diversity they contain.

ENVIRONMENTAL EVIDENCE

Climate Change

The idea that climate change in the Tarim affected settlement patterns in the historical period perhaps began with Ellsworth Huntington, an American geographer who visited

¹⁵⁸ Ibid.

¹⁵⁹ Ibid., p. 582–584

¹⁶⁰ Ibid., p. 585.

¹⁶¹ Ibid.

¹⁶² Ibid., p. 585–586

Turkestan in 1903 and 1906–1907 with scientific expeditions. After nine months in the Lop basin (1905–1906)¹⁶³, about Lop Nor he concludes: "We have first a comparatively large lake. It is said to have had a length of seventy-five miles each way ... Next, during the early centuries of the Christian era, there is a decrease in the recorded size of the lake ... Then, in the Middle Ages, there appears to have been an expansion of the lake ... Finally, during the last few hundred years, there has been a decrease both in the size of the lake and in the population about it."¹⁶⁴

By the 1980s, little scientific progress on Tarim climate change had been made. Climate scientists knew from archeologists that until the fourth century AD, Kroraina was a city of more than 10,000 fed by fish from the rivers emptying into Lop Nor and cattle and game from surrounding grasslands. After that it was swallowed by the desert. Climate scientists had also determined some few other facts such as that there were extensive poplar forests around the margins of the sand sea in the basin until about 1,500 years ago when the water table began to sink.

Mutsumi HOYANAGI in 1975 conducted a study of the desiccation of the Tarim Basin using historical, archeological and environmental information. ¹⁶⁷ It had already been known for a long time that the snowfields on the ranges rimming the basin were vastly larger at the end of the last ice age than they were in the twentieth century. HOYANAGI's contribution was to show that the diminution was not steady, but occurred in pulses. He revived Huntington's idea that long-term fluctuations in rainfall, long periods of wet and dry climate could answer some questions about settlement patterns. ¹⁶⁸ HOYANAGI

¹⁶³ The Pulse of Asia, 1907, 295.

¹⁶⁴ Ibid. 292–293.

¹⁶⁵ Walker, "Deserts of China", p. 370.

¹⁶⁶ Ibid., p. 371.

¹⁶⁷ "Natural Changes of the Region along the Old Silk Road in the Tarim Basin in Historical Times."

¹⁶⁸ Ibid., p. 91–92.

concludes, "there must have occurred, even in historical times, several long-term fluctuations in the size of the snowfields lying on the high mountains around the Tarim Basin, and shrinkage or extension of rivers must have resulted in the basin". He conjectured increases and decreases in the volume of flowing water in the Tarim Basin over time. He saw the volume declining from about 200 to about 350 AD, and then increasing again from about 550 to 700 AD but not reaching the same level. 170

Since the late 1990s studies on climate change in the Tarim have proliferated as the science has progressed. Three reports with pertinent late Holocene dates are listed here. The scientific dates (cal BP) are converted to common era.

ZHANG Yun, et al., have studied pollen, phytolith and charcoal records in peat samples collected in 2002 from the Caotanhu wetland.¹⁷¹ This is a 0.3–1 meter deep peat bog about 9 kilometers north of Shihezi City, at the base of the north slope of the Tian Shan,¹⁷² around 150 kilometers west-north-west of Ürümqi. They identify five climate periods:

2600–550 вс	cold and dry climate, sparse vegetation
550 BC-140 AD	warm and humid climate. A lot of freshwater aquatic plants
	and green alga grew in the wetland surrounded by desert-
	steppe vegetation
140–790 ad	dry climate. "Aquatic plants decreased greatly except some
	reeds, and the water level dropped down."
790–1300 ad	warm and humid climate again
1300 AD-present	again a dry climate, drier than the preceding dry period. 173

¹⁶⁹ Ibid., p. 93.

¹⁷⁰ Ibid., p. 100.

¹⁷¹ "Pollen record and environmental evolution of Caotanhu wetland in Xinjiang since 4550 ca. a BP."

¹⁷² Ibid., p. 1050–1051.

¹⁷³ Ibid., p. 1056–1058.

A climate study on sediment samples taken from Bosten Hu (Bostan Nor) in July, 1999 was carried out by Bernd Wünnemann, et al., With a 1,000 km² surface, this lake in the Yanqi basin is the largest body of fresh water in northwest China. 175

In the simplified chronology of water levels there are three periods relevant here: 650 BC to 250 AD saw a positive water balance with a high lake level at the beginning, which lowers over time; 250 to 850 AD saw a negative water balance and a low lake level; 850 to 1450 AD again saw a positive water balance.¹⁷⁶ The study also has detailed information on microfossils and pollen but without specific enough dates to be useful here.

The same lead author and others published a more detailed study of a 9.24 m core from the Kaidu River delta in 2006.¹⁷⁷ Their analyses show that there were dry conditions, with negative water balance and a 5–6 m drop in lake level, six times in the last 4,000 years. The chronology relevant here is 550 BC to 50 AD humid, 50 to 900 AD dry, 900 to 1450 AD humid.¹⁷⁸

These climate studies are in general agreement that there was a significant shift from a humid climate to a dry climate in eastern Xinjiang around the second and third centuries AD. Kroraina may have only been abandoned in the fourth century because it would have taken some time for the level of Lop Nor to drop. Then a more humid period begins again, several centuries later, in the seventh, eighth or ninth centuries, depending on the

¹⁷⁴ Untersuchungen zur Seegeschichte und zu den Mikroorgansimen des Bosten Hu, Xinjiang NW-China seit dem Jungkänozoikum.

¹⁷⁵ Bosten Hu is 1046 meters above sea level. In the north stand the 3,500 m high peaks of the Elbin-Alagou range, part of the Tian Shan. In the south the lake is separated from the Taklamakan desert by the Kuruktag Mountains, which are maximally 2,000 meters high. Between these mountains and the lake is a large area of sand dunes, some reaching 100 meters. Of the many rivers flowing into the lake, the Kaidu brings the most water. This comes from glacial runoff from the main part of the Tian Shan (ibid., p. 3).

¹⁷⁶ Ibid., p. 17

Wünnemann, et al., "A Holocene sedimentary record from Bosten Lake, China."

¹⁷⁸ Ibid., p.

study. An analysis of pollen in a core taken from Ayding Lake (Aiding Hu), in the Turfan Basin might be very useful here, especially if it were to show a transition from steppe to desert vegetation in the second to third centuries AD.

SUMMARY AND CONCLUSION

During the Han period, eastern Xinjiang enjoyed a relatively humid climate. Kroraina prospered with fishing and mixed agriculture. Sufficient grassland was in the area to support cattle grazing. The Turfan region was likely populated mostly by pastoral nomads, moving between lowland winter and highland summer pastures. There was also a small sedentary agricultural population, using surface irrigation.

Near the end of this humid period the Kushan empire expanded throughout the Tarim Basin, but possibly not into the Turfan area. The armies from Western Asia brought the agricultural oases under control but faltered when confronted with the Jushi nomads of Turfan. The period of occupation allowed the establishment of an administrative system using the Gāndhārī Prakrit language and the Kharoṣṭhī script. Samples of administrative documents in this language and script have been found on the southern rim of the Tarim Basin, from Kroraina to Khotan, and on the northern rim around Kucha. No samples have been found in Turfan although its linguistic remains otherwise show the highest diversity from among the silk road oasis communities.

Besides the evidence of the Kushan-type documents themselves for a Kushan Tarim administration, there are Bactrian and Gāndhārī loanwords dealing with administration¹⁷⁹ found in the Tarim languages. Bactrian was the native language of the Kushans while Gāndhārī was their administrative language. The depth of this loanword legacy is likely only explainable as the result of a period of political occupation. Just as telling, if not more so, is the evidence of the civil documents in the Tarim languages. Contracts in

They imply political mastery.

¹⁷⁹ There are also many Prakrit terms in the Buddhist vocabularies of the Tarim languages. Buddhism likely arrived in the region in the Kushan period. But the spread of the religion could have been independent of politics. The administrative loans are more informative in this regard.

Tumshuqese, Khotanese, Niya Prakrit and Uyghur from Yarkand share structure and formulae which show much in common with agreements in Bactrian from Bactria. In contrast, contracts in Uyghur from Turfan show more connection with Chinese contracts. It seems likely that the Tarim oases, with the exception of Turfan, adopted at least part of their system of written contracts from the west, while Turfan borrowed from the east centuries later.

Then came the second to third century desiccation. This may have come on gradually over an extended period of time, but the ultimate results were devastating for Kroraina. The Tarim River brought less water, the lake receded, the nearby grassland became desert and the community, once the capital of the kingdom of Shanshan which stretched along the southern rim of the basin towards Khotan, was abandoned. At the same time, the steppe of the Turfan region, which had supported a pastoral nomadic way of life, also turned to desert. The nomads moved on, leaving the area open for irrigated farming. The oasis now took on a character already familiar from the Tarim oasis kingdoms such as Kucha and Khotan, of a sedentary agricultural oasis state, protected by desert. The population at this time was tiny when compared to Khotan or Kucha. But there was great agricultural potential. Some of what was pasture land could now be irrigated and farmed in relative security from nomadic raids.

A period of immigration to Turfan began. This may have overwhelmed any distinctive language which might have been there, which is why there may be no native Turfanian language among the more than twenty attested in the documents. The largest groups of immigrants would have come from the nearest settlements. This explains why the majority of the Tocharian A materials come from Turfan as do many of Tocharian B. More settlers came from Agni (Qarashahr) than Kucha. Alternatively, it is possible to speculate that this distribution is due to a dispersal of the former inhabitants of Kroraina. Maybe Kroraina was the center for Tocharian A and when it declined, a large number of inhabitants went to Turfan and a smaller number found refuge in Agni. This alternative may also explain why there are no administrative documents in A. Possibly Kuchean was already established for Agnean administration, and Chinese for Turfanian. At any rate, it

seems plausible that the distribution of Tocharian A is in one way or another connected with a movement of population associated with climate change.

At some time there was significant immigration from Western Asia. Manichean, Nestorian and Zoroastrian Iranians came, bringing their religions and Middle Iranian languages. They were possibly partly attracted by the new land, and possibly partly fleeing Mazdean or Islamic persecution. Some may have come for commercial reasons. When this Iranian migration occurred is hard to tell. It could have begun almost immediately on a small scale with the drying of the climate and then happened on a large scale when it became more humid again a few centuries later. It was plausibly these farmer immigrants in search of new land who brought the *karez* system of irrigation from its Iranian homeland.

When the humid climate returned to Turfan several centuries later, it was not humid enough to bring about the return of the steppe vegetation, and with it the pastoral nomads, but likely it made the basin still more attractive to farmers. It is possible that significant migration here did not begin until this more humid period was underway.

It is somewhat challenging to piece together the degree of Chinese influence through these developments. Events described in the early Chinese histories up to and including the *Hou Hanshu* with regard to Turfan make more sense if we recognize that the region was more humid than at any time since then, and that it had sufficient steppe vegetation to support a nomadic population. All of the military activities until then in the Turfan area involved conflict with nomadic societies, such as the Xiongnu and Jushi. What settlements there were do not appear to have mustered armies of foot soldiers.

Not much is known about possible Chinese influence in the third and fourth centuries. There is evidence from the Chinese documents discovered in Kroraina and Niya that

¹⁸⁰ There may even have been a nucleus of Sogdian merchants carrying on trade at a very early date under the Jushi. Certainly, word about the new land at Turfan travelled along the trade routes to the west.

during parts at least of the Jin era (265–419 AD) those regions experienced Chinese influence. It is possible, as Stein suggests, that this influence also extended to Turfan.¹⁸¹

The picture is much clearer for the fifth century. The nomadic powers no longer seem to have an easy time in the region. As the nomadic lifestyle disappeared, farming increased, and the nature of military activity changed. A series of Chinese warlords set themselves up as rulers of Gaochang. It is true that in 460 the nomadic Rouran installed a puppet king, but he was a descendant of one of the earlier potentates of Chinese extraction. It is seems plausible that it was in this century when Chinese culture became established in Turfan. Certainly in the sixth century it was firmly established as shown by the hundreds of Chinese paper documents used to make paper hats, belts and shoes for the dead in the Astana graveyard. These materials include contracts, letters, writing exercises and official documents from the administration of Gaochang. A portion of the *Beishi* relating to the late sixth century reports that the men dressed like barbarians while the women wore Chinese clothing and hairstyles, and that both Chinese and barbarian scripts were in use. If the Community was ethnically mixed. The *Beishi*, unfortunately, is not able to distinguish which barbarian script or scripts were in use.

Because of climate change, much new oasis agricultural land became available in Turfan. The new land attracted immigrants from all directions, from many ethnicities, religions and languages. They created a cosmopolitan community, probably not often parallelled in the history of the world. It was climate change that made Turfan special, and later led to the discovery of documents in more than twenty languages.

¹⁸¹ Innermost Asia, p. 575.

¹⁸² Ibid., pl 576.

¹⁸³ Hansen, "A Brief History of the Turfan Oasis," p. 25.

¹⁸⁴ Stein, *Innermost Asia*, p. 577.

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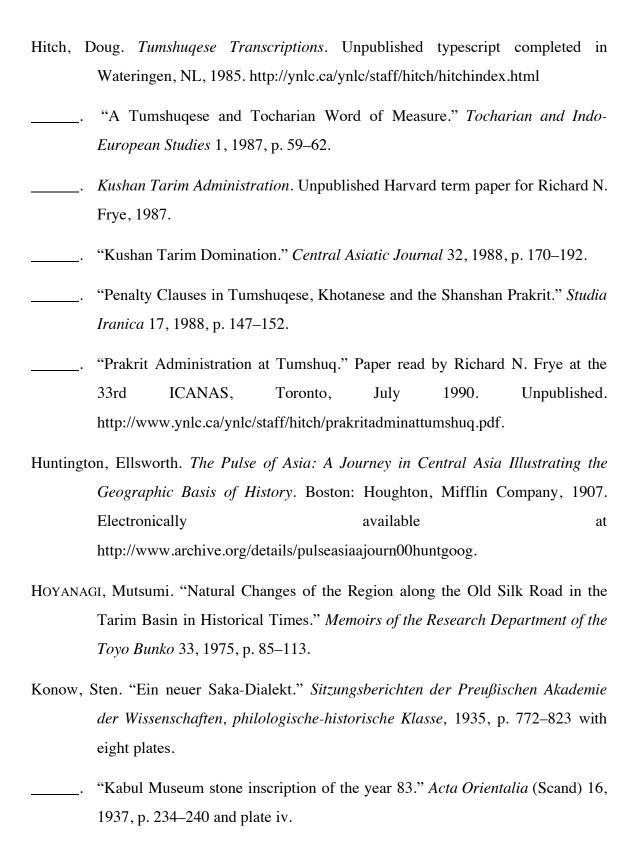
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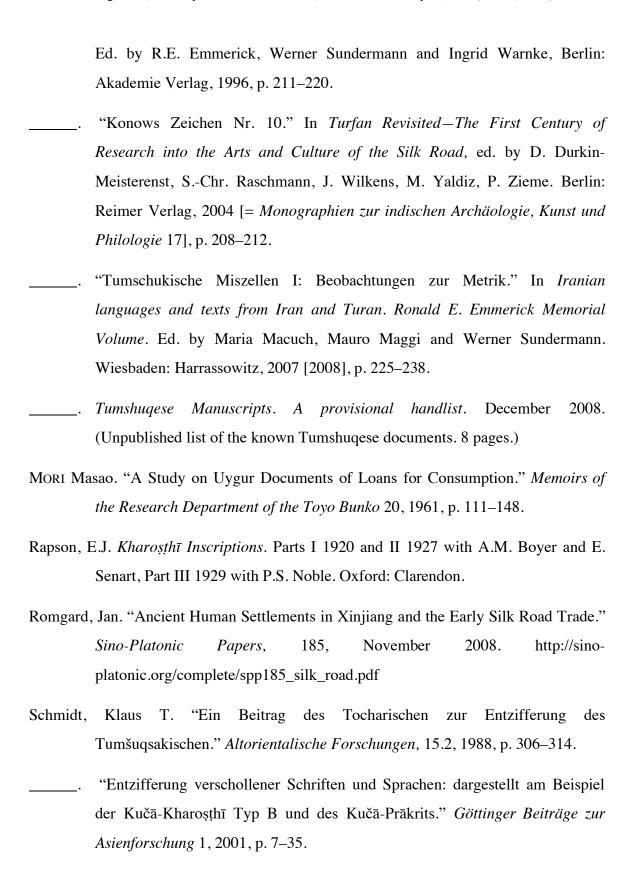
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