



XINJIANG CAST CASH IN THE COLLECTION OF THE NÁPRSTEK MUSEUM, PRAGUE

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This paper presents a complete catalogue and brief description of the 22 specimens of cast cash issued in the area of present day Xinjiang Uyghur Autonomous Region which are kept by the Numismatic Collection of the Náprstek Museum in Prague. **General description** and history of Xinjiang (1) cast coinage represented in the collection is given in the first part of the paper. Following sections present the complete **catalogue**, notes on and chemical analyses of the specimens in the Náprstek Museum collection. The **Appendix** introduces Junggar *pul*, the predecessor of Qing dynasty red cash.

Development of Xinjiang cast cash

Qiuci kingdom bilingual cash

Qiuci is a Chinese name of an ancient kingdom which centered around present day Kucha city in the period between Western Han and Tang dynasty. In the east it reached Bügür, in the west Maralbeshi. Qiuci had a developed agriculture and produced fine horses, cattle, peacocks, grapes, precious metals etc. The Indo-European population was of Buddhist confession. Local literature, musical and dance culture were on a high level. In 60 BC, Qiuci was included in the Xiyu protectorate of Western Han dynasty. After the collapse of Eastern Han dynasty, Qiuci several times subjugated to and again became independent on northern Chinese states. The period of highest cultural and economic **prosperity of Qiuci is dated to the 3–7th centuries AD**. In 647, the Qiuci protectorate was conquered by the campaigning Tang armies. In 658, Tang dynasty declared the Anxi protectorate comprising the whole Xinjiang region with Kucha as its center, which however lasted only till 670. The region remained factually independent on China till the Qing dynasty.

The exact timing of issue of Qiuci bilingual cash, or Qiuci *wuzhu*, is problematic. The *wuzhu* was first put into circulation in China proper in 118 BC by Han Wudi. The Qiuci

¹ In the whole study, the term Xinjiang denotes the area of Tarim Basin and Junggar Basin throughout its entire history. The author is aware that the Xinjiang province was officially established as late as 1884 and that prior to, as well as after 1884 the region was called numerous other terms.

wuzhu seem to be **designed on the model of various types of devaluated *wuzhu*** coins issued in post-Eastern Han period in northwestern China, which circulated in Qiuci before the introduction of Qiuci *wuzhu*. Lin² points out several similarities between Wei *wuzhu* and Qiuci *wuzhu* and argues that Qiuci *wuzhu* must have been put into circulation after Wei *wuzhu*, ie. after 227 AD. Yan³ dates the beginning of manufacturing of Qiuci *wuzhu* to the period of Northern Wei dynasty, ie. 386–534 AD. Issuing of *wuzhu* coins in China proper was discontinued in 621 AD, when a new nominal, the *tongbao*, was introduced. If not earlier, the production of *wuzhu* in Qiuci state was therefore almost certainly abandoned as well sometime after 621 and before Tang conquest in 647.

Qiuci bilingual coins are round with square aperture in the central portion, diameter 1.8–2.1 cm, width of aperture 0.7–0.9 cm, weight 1–2 g, cast in bronze. Huang⁴ and Belyaev⁵ claim that some Qiuci *wuzhu* were also cast in copper. The reverse with only outer rim is inscribed *wuzhu* in Chinese. The *zhu* character is frequently in corrupt form without the *jin* radical. **The obverse with both inner and outer rim is inscribed in an unknown language and there does not exist a valid and unanimously accepted interpretation.** Several Chinese numismatists (Huang⁶, Zhu⁷, Tang⁸ and others) argue that the language is Kuchean, meaning 50 units (one unit being equal to China proper-used 10 *lei* which make up one Chinese *zhu*, therefore 50 units equal to 5 *zhu*). Qian⁹ quotes Li's theory that the inscription reads *getha*, meaning Kucha in the Kuchean language. This theory is to a certain degree supported by Liščák,¹⁰ who brings up a theory which argues that the Tocharian name of Kucha was Kutsi, meaning *white*, based on the fact that local people of Kucha referred to the protruding slopes of the Tianshan Range as the White Mountains and that the surname of Kucha rulers was transcribed into Chinese by the character *bai*, meaning *white*. Thierry¹¹ declares that, despite his long-lasting efforts and consultations with western specialists in Baktrian, Tokharian A and B, Pehlevi, Kharoshti and Kuchean languages, he did not succeed in verifying the Chinese theory about meaning of the inscription, and suggests that reasons for Chinese numismatists for reaching their conclusions might be largely political as they are trying to prove that Qiuci Kingdom had used Chinese metrology over many centuries prior to introducing Qiuci *wuzhu* into circulation.

Coinage of the Qing dynasty (1644–1911)

A. Early period (1759–1827)

According to Chinese historians, **the Qing conquest of Xinjiang was completed in summer 1759**. General Wu De lead approximately 15 000 troops from Aksu southwards across Taklamakan Desert to Hotan and Yarkend. In the southwest Xinjiang General Zhao Hui commanding another 15 000 troops conquered Kashgar, which upon religious leaders fled with their troops to Badakhshan. On July 7, Manchu troops erected a stela commemorating pacification of Xinjiang area on the border with Badakhshan. Great and Small Hoja were executed on their arrival to Badakhshan by local aristocracy on July 28, 1759, and an envoy was sent from the Badakhshani ruler to the Qing court expressing formal submission of Badakhshan to Manchu rule.

² Lin 2000, p. 7

³ Yan 2000/1, p. 2

⁴ Huang 1995, p. 48

⁵ Belyaev

⁶ Ibid.

⁷ Zhu, p. 282

⁸ Tang, p. 156

⁹ Qian, p. 19

¹⁰ Liščák, p. 277

¹¹ Thierry

Present day Xinjiang area was subsequently divided into three administrative regions – so called **northern circuit** (*beilu*, north of Tianshan Mountain Range, with Ghulja and Chugucak as the administrative centres), **eastern circuit** (*donglu*, east of Tianshan – with the centers Urumci, Turpan, Komul, Barkol, Khitai and Kur Kara Usu) and **southern circuit** (*nanlu*, south and southwest of Tianshan – with the centers Karashahr, Kucha, Aksu, Ücturpan, Kashgar, Yangissar, Yarkend and Hotan).

Southern Xinjiang red cash system

General characteristics

Following the conquest and establishing the military control over the whole Xinjiang region, Qing officials promptly took advantage of the Junggar *pul*¹² system which had been previously in use in southern circuit. A major complication was the area's **limited natural resources of copper ore**. Due to the fact that Junggar *pul* were cast in copper, General Zhao Hui in his petition to Qianlong Emperor in July 1759 proposed **reclaiming the *pul*** from local population, melting it and using the scrap *pul* copper for casting new Qing cash. The new Qing cash was to be exchanged for the old *pul* remaining in circulation at a 1:2 rate, i.e. one Qing cash for two Junggar *pul*. Junggar *pul* was further recast into more Qing cash. Zhao Hui further proposed preserving the weight of the *pul* and casting the new Qing cash at the same weight. Thus a monetary system different from the one used in China proper was put into use.

Cowell and others' study¹³ shows that the **standard cash circulating in China** proper at the time was cast predominantly in a brass-resembling alloy, usually containing approximately 60 per cent of copper, 33 per cent of zinc, and 7 per cent of other metals, mostly lead. Standard cash was predominantly yellow or yellowish in color, therefore it is called *yellow cash*. On the other hand, **south Xinjiang cash** was to be cast in pure copper, hence its widely used name *red cash*. Copper was melted from copper ore or scrap copper by local primitive methods. Therefore, the actual pure copper content in red cash is usually around 98 per cent, the remaining 10 per cent being lead, zinc and other impurities which lay beyond skills of the local mint technicians to deal with. Sometimes in the process of circulation and corrosion the slag kernels or organic impurities in the body of a particular Xinjiang copper coin decompose or wear out mechanically, forming a comb-like cluster of minute see-through openings which are called sand eyes (*shayan*).

Zhao Hui proposed to cast Qing red cash at the weight of Junggar *pul*, that is 2 *qian* (7.46 g) each. In contrast, inland standard cash had set weight of 1 *qian* 2 *fen* (4.476 g) each. Red cash were thus heavier, bigger and thicker coins than the inland standard cash, although they gradually decreased in weight, close to and below the weight of standard cash. At the introduction of red cash system in southern circuit in 1760, **the exchange rate of standard cash and red cash was set at 10:1**, i.e. 10 standard cash were equal to 1 red cash. During two or three subsequent years, the ratio was **changed to 5:1**. When used in the northern or eastern circuit of Xinjiang, the red cash were equal in value to standard cash, i.e. ratio 1:1.

Along with red cash being of higher weight, width and thickness, they are also generally marked by rather crude craftsmanship when compared to standard cash. The edges of the coins are often not abraded completely, the casting technique inaccurate or the inscriptions deformed.

¹² Appendix

¹³ Cowell

Yarkend mint

Yarkend, Hotan and Kashgar were areas where the Junggar *pul* circulated in large quantities. The official mint of the Junggar Khanate was located in Yarkend. The existence of this hardware facility enabled the Qing to promptly establish the production of new Qing cash while securing the copper ore supply mainly by reclaiming the *pul* for recasting.

Manufacturing of this new cash in Yarkend mint began in **September, 1760**. The staff were 99 workers. Eight of these were Han employees of Shaanxi mint, dispatched to Xinjiang on Qianlong Emperor's edict to be in charge of and supervise the cash production in Yarkend. They brought along two complete sets of melting and casting equipment from Shaanxi to Yarkend. Besides recasting *pul* the mint also used a lesser amount of **Qing military equipment**, such as cannons.

Red cash produced by Yarkend mint was inscribed *Qianlong tongbao* in Chinese on the obverse. Initial issues of 1760 bear *Yarkend* in Uyghur and *Yarkim* in Manchu reverse inscriptions. Hartill claims that this first badge of coins inscribed *Yarkim* was intended to be a gift for the Emperor.¹⁴ In 1761, a new set of model coins was issued with the Manchu inscription altered to *Yarkend*. The standard weight was 7.46 g, compared to the actual weight 6.6–7.25 g. Yarkend coinage circulated in so-called **four western cities** of the southern circuit, i. e. Yarkend, Kashgar, Yangiassar and Hotan.

In 1760–1762, the reclamation rate of *pul* for red cash was set at 2:1. In this period, the Qing government managed to reclaim 6 300 000 *pul* at this favorable price, which was a vast majority of Junggar *pul* in the area. In 1762, the reclamation rate was changed to 1:1, and was used till 1768. Mu¹⁵ states that in 1768 reclamation of Junggar *pul* was abandoned. In 1769, 3000 *jin* of copper were subsidised to Yarkend by the Ücturpan mint. A certain amount of Junggar *pul* continued to circulate or was stored by the population. The *pul* came into use once again during Yaqup Beg's rule over Xinjiang. After 1769, the Yarkend mint was temporarily closed down. Through the ten years of its existence, some 2–3 million Qing red cash were produced in Yarkend mint.

Aksu mint

Aksu was one of the so-called four eastern cities of the southern circuit, the others being Karashar, Ücturpan and Kucha. The surroundings were **rich in copper ore**. The Qing authorities therefore promptly established the Aksu mint in 1761.

The Aksu mint was a massive complex of 6 furnaces and a mint with some 360 staff. 12 technicians from Shaanxi and Gansu provincial mints were sent in charge of the coin production. Besides refining copper ore, the mint also **acquired scrap copper as tax payment** from the people of the four eastern cities of southern circuit and from Aksu *begs*.

Coins of Aksu mint are identical with Yarkend mint cash in obverse design. The obverse is inscribed with *Aksu* in Uyghur and Manchu. Its weight was identical to Yarkend cash, i.e. standard 7.46 g, the actual weight varying under 6.5 g. The range of circulation was chiefly the four eastern cities.

Ücturpan mint

In 1765, the local Moslem population in Ücturpan area rebelled against the Qing government. The Qianlong Emperor ordered to move large troops to Ücturpan and temporar-

¹⁴ Hartill, p. 100

¹⁵ Mu, p. 46

ily **proclaimed Ücturpan the administrative center of the southern circuit**. Following this order, Aksu mint was moved to Ücturpan in 1766, establishing the Ücturpan mint. Ücturpan mint substituted for Aksu mint from 1766 to 1799. After discontinuing the coin production in Yarkend in 1769, the Ücturpan mint became the only mint in the southern circuit and was in charge of minting for the whole Tarim Basin area.

Coinage of the Ücturpan mint was of the same weight as coinage of Aksu and Yarkend mint in the initial period of its coin manufacturing. In 1771, due to gradual shortage of copper and increasing demand for money in circulation, standard weight of red cash was reduced to 1 *qian* 5 wen, or 5.595 g. In 1774, **the weight of red cash was further reduced** to 1 *qian* 2 wen, or 4.476 g, being equal with the inland standard yellow cash. The actual weight of reduced red cash frequented around 3.5 g.

In 1799, the Ücturpan mint was relocated to Aksu, as the Aksu area started regaining its previous economic dominance. The coin manufacturing in **the Aksu restored mint** officially begun in 1800, the 5th year of Jiaqing era, when the Aksu mint technicians received model coins issued by the central Board of Revenue mint. Jiaqing period Aksu coin production was composed of **20 per cent** of coins inscribed *Qianlong tongbao* on the obverse and **80 per cent** of coins inscribed *Jiaqing tongbao* on the obverse. This measure was devised personally by the Qianlong Emperor in 1775 in order to eternally remind the Qing conquest and colonization of Xinjiang to the future generations. The coins of following emperors were to be cast according to this pattern forever. In successive eras after Jiaqing **the ratio changed to 3:7 or even 4:6**. As a result of this policy, the attribution of the *Qianlong tongbao* Xinjiang red cash became complex as the overwhelming majority was not issued in Qianlong era.

Northern Xinjiang standard cash system

Unlike in the southern circuit, a standard cash monetary **system identical to China proper** standard cash system was established by the Qing in northern and eastern circuits following the conquest of Xinjiang in 1759. The three main reasons for adopting China proper standard cash system were:

1. The northern circuit was populated by a number of predominantly nomadic peoples. Unlike in south Xinjiang, **there did not exist a tradition of using coins** as a government regulated means of trade and thesaurization in northern Xinjiang. The Qing government therefore felt no obligation to exempt the northern circuit from monetary policies used in the newly unified Empire.
2. The conquest of Xinjiang triggered a massive influx of population from China proper to Xinjiang, mainly to the northern circuit. **Troops and civilians settling in the region were accustomed to using standard cash** of inland provinces which were brought in large quantities. Therefore it was more economical for the Qing government to continue the trend rather than reclaim standard cash and establish a new monetary system.
3. The eastern circuit had been prior to the conquest under a strong cultural and economic influence of China proper and had used the **standard cash**. Again in the eastern circuit it was sensible not to reform existing standard cash system.

The regular standard cash system was therefore adopted in northern and eastern circuits, incorporating these two areas more firmly into the Qing empire than the southern circuit.

Ghuldja mint

The first mint in the northern circuit to be established was the Ghulja mint, located in the administrative and military centre of Xinjiang. There are **several theories** when the Ghulja mint started its production. Ding Fubao argues it was in 1764.¹⁶ Mu presents an opinion of several temporary Chinese numismatists, claiming the date to be the summer of 1775.¹⁷

The Ghulja mint compound consisted of 21 buildings. Two technicians from the Shaanxi mint were summoned to organize and supervise coin manufacturing. The set metal composition of the Ghuldja mint provenience standard cash was identical to the one of **China proper used standard cash**, ie. a brass alloy consisting of approx. 60 per cent of copper and approx. 40 per cent of zinc and other metals. The actual copper content was often higher than the set ratio. The obverse was inscribed *Qianlong tongbao* in Chinese, reverse *boyi* (Ghuldja mint) in Manchu. Coins measured 2.2–2.5 cm in diameter with a set weight of 1 *qian 2 wen*, ie. 4.476 g. In reality, their weight often reached over 5 g. In 1776, copper ore was discovered in proximity of Ghuldja city, which resulted in an increased production of standard cash in subsequent years.

B. Middle period (1828–1877)

Monetary reform of 1828

In 1826 a Khokand military leader Jahangir sponsored by Khokand Khanate invaded southern Xinjiang and brought the area of Kashgar, Yangissar, Yarkend and Hotan under his control, entitling himself **Sayyid Jahangir Sultan**. Jahangir's army was defeated in spring of 1828 by 36,000 Manchu troops dispatched by the Daoguang Emperor at large expenses. Arrested in summer 1828, he was sent to Beijing for execution.

The increase of military population due to the campaign resulted in a major **decrease of the price of silver** and a rise of the price of copper in the whole southern circuit. During Emperor Jiaqing's (1796–1821) and in the early years of emperor Daoguang's rule, 1 *liang* (approx. 37.3 g) of silver could be exchanged for 250–260 red cash. In 1827, one *liang* of silver was worth only 80–100 red cash. This tendency did not end even after the withdrawal of Manchu troops after suppressing the Jahangir rebellion. Moreover during the Manchu troops' campaign against Jahangir, the coin production in Aksu mint was discontinued, which further lowered the amount of money in circulation.

In 1828 the Qing government therefore decided to carry out **a reform of red cash monetary system**. The weight of red cash was not to be reduced, as was the point of monetary reforms of 1771 and 1774. Governor Nayancheng proposed that a new nominal, the **value ten red cash**, be introduced to circulation.

Value ten meant one red cash was worth 10 standard cash and its standard weight was set at 1 *qian 5 fen*, ie. 5.595 g. Value ten red cash was inscribed *Daoguang tongbao* in Chinese on the obverse, *the eighth year* (commemorating the defeat of Jahangir's troops in 8th year of Daoguang emperor's reign) and *ten* in Chinese and *Aksu* in both Manchu and Uyghur on the reverse. The amount of value ten red cash in yearly production of Aksu mint was 30 per cent. The remaining 70 per cent was the value five red cash with standard weight of 1 *qian 2 fen*, ie. 4.476 g, its inscriptions differing only in nominal value, value 5, on the reverse. Choqan Walikhanov, a Qazaq traveler to Kashgar in 1858, refers to the ex-

¹⁶ Mu, p. 62.

¹⁷ Mu, p. 63.

istence of *dachan* and *chauchan*, 1 *dachan* being worth 2 *chauchan*. *Dachan* and *chauchan* is obviously a transcription of the Uyghur way of pronouncing Chinese *daqian* and *xiao-qian*, or, in another words, value ten and value five red cash.¹⁸

Thus utilizing the same yearly copper supply of 21.114 *jin* 7 *liang*, the nominal value of red cash produced in 1828 increased by 2.291 *liang* 6 *qian* of silver, whereas the number of manufactured coins decreased by 2.512.740. The weight of value ten red cash of course promptly dropped to the weight of regular value five red cash. Moreover the production ratio of value ten red cash and value five red cash was altered by the Daoguang Emperor to 1:1 in 1829¹⁹ leading to even more economic exploitation of copper.

In the following years, weight of value ten red cash further decreased, the numeral *ten* thus acquired a purely **symbolic** meaning which simply denoted state issued and trustworthy currency. Complete red cash production in Guangxu and Xuantong eras was inscribed with the numeral ten regardless of the actual weight of the coin, which created difficulties in attribution of coinage of these eras.

Excessive production of red cash during Xianfeng era (1851–1862)

A substantially negative effect of the monetary reform of 1828 was that it set the stage for a **massive inflation** and currency devaluation during the Xianfeng Emperor's rule (1851–1862). Due to a deteriorating economic situation caused by the Opium Wars and the Taiping rebellion, in 1853 mints in China proper started minting high value cash, from value 10 cash to value 1.000 cash. The financial subsidy from the central government to troops stationed in Xinjiang was reduced and Xinjiang officials were thus obliged to resolve the financial crisis by local means.

After trial emissions of high nominals of value 10, value 50, value 80, value 100, value 500 and value 1 000 cash cast in copper or brass, to a lesser degree also in bronze and lead in 1853 and 1854, the Ghuldja mint started to issue **value 4** and **value 8** cash in 1855, cast in copper and iron, at 4 *qian* (14.92 g) and 6 *qian* (22.38 g) respectively, inscribed *Xianfeng tongbao* in Chinese on the obverse and *Boyi* (Ghuldja mint) in Manchu and *dang 4* or *dang 8* (value 4 or value 8) in Chinese on the reverse.

According to this pattern, minting of high value cash also started in Urumci mint (established in 1854), Aksu mint, Kucha mint (established around 1826), Kashgar mint (established probably in early years of Xianfeng era) and Yarkend mint (relaunched probably in early years of Xianfeng era). Coins were cast in copper and brass, rarely also in bronze, iron and lead. The segregative system of red cash and standard cash therefore temporarily collapsed. Production of nominals higher than 10 was abandoned in 1860 and in Tongzhi era (1862–1875) only value 10, 5 and 4 coins were cast in Ghuldja, Aksu, Kucha and Yarkend mints. Cash with nominal value over 10 were partially reclaimed from population and recast into new coins. Large number of high value cash however continued to circulate parallelly with lower value cash at their original, ie. increased value.

C. Late period (1878–1911)

An excessive multiple cash production during the Xianfeng era **created grave confusion** in contemporary monetary system in Xinjiang. The chaos further aggravated during Yaqup Beg's control of southern and eastern circuits since 1865, when central Asian silver *tenga* were introduced and circulated parallelly with copper cash, as well as during Russ-

¹⁸ Fedorov, p. 10

¹⁹ Mu, p. 86

ian occupation of the northern circuit since 1871, when a certain quantity of **Russian currency** circulated in the region. Besides these three monetary systems, also a certain number of old **Junggar pul** and rebel **Ghazi Rashid copper cash** issued in Kucha and Aksu in 1864–1867 circulated in southern Xinjiang.

Yaqup Beg's control of southern Xinjiang was suppressed in 1878 by General Zuo Zongtang. In 1880 Russia agreed to cede northern Xinjiang to China by signing the Ghuldja Treaty. In 1884 Xinjiang was proclaimed a **province** and its administration was unified with that of China proper by abolishing military government and the civilian *beg* system.²⁰ In monetary respect, the red cash system was **reestablished** in southern Xinjiang, mostly due to a persisting lack of transportation infrastructure which was necessary for hauling lead and zinc from China proper. Another reason was the high cost of alloy cast cash manufacturing technology. The value of post-Yaqup Beg red cash was reduced to four standard cash. Production of cast red cash in southern Xinjiang ceased mostly in the final years of Guangxu era.

The red cash production of **Aksu mint** was resumed in 1878. Red cash was cast at 1 *qian* 3 *fen*, ie. 4.849 g. As in the Jiaqing era, 40 per cent of the production were inscribed Qianlong tongbao and 60 per cent were cash inscribed Guangxu tongbao on the obverse. The Aksu mint was temporarily shut down in 1883–1886. In 1892, cash manufacturing in Aksu mint was terminally discontinued due to the rising prices of charcoal which was used for melting copper.

The **Kucha mint** was renewed in 1878, producing red cash at 1 *qian* 3 *fen*, ie. 4.849 g. The ratio of *Qianlong* and *Guangxu* inscribed production was 4:6. The production of Kucha mint was interrupted in 1886–1892. After discontinuation of Aksu mint production in 1892, the staff and equipment were transferred to Kucha mint, which thus became **the most significant mint in southern Xinjiang** issuing numerous types of red cash. Coin manufacturing at Kucha mint was terminated in 1909.

A revolutionary endeavor was undertaken by the Kucha mint in 1907 and 1908, when the tradition of stating the nominal value (*tongbao*) on the obverse lasting from the introduction of the *tongbao* in 621 AD was abandoned. Instead of the nominal value, coins with the issue year written in the **heavenly stems and earthly branches numerals** were introduced, the obverse inscriptions thus reading *Guangxu dingmo* (1907) and *Guangxu wushen* (1908).

The Kashgar mint was relaunched in 1888. Due to serious shortage of raw copper, the management resorted to recasting army cannons in the initial years. Later, the Kashgar mint entrusted the Aksu and Kucha mints with the production of part of its coinage. **Red cash coined in trust** were inscribed *Ka* (Kashgar) in Chinese, but *Aksu* or *Kucha* in Uyghur and Manchu on the obverse. They were transported to Kashgar area. Kashgar mint was closed down terminally in 1908.

In the Xuantong era (1909–1911), the last red cash produced in southern Xinjiang was cast in trust for Kucha mint by **renewed Ücturpan mint** which had been closed down since the Qianlong era. The amount of Xuantong red cash produced is rather low. The cash

²⁰ This event was **commemorated by issuing special red cash** in southern Xinjiang. Aksu mint issued the *Qianlong tongbao* obverse and year *nine* (ie. of Guangxu era, 1884) reverse inscribed red cash. Kucha mint issued the *Guangxu tongbao* obverse inscribed and *nine* reverse inscribed red cash. Due to subsequent administrative decision to consider year 10 (1885) an official year of establishing the Xinjiang province the manufacturing of the year nine red cash was discontinued.

are inscribed *Ku 10* (Kucha mint value ten) in Chinese, and *Ush* in Uyghur and Manchu on the obverse. By discontinuating the Ücturpan mint production in 1911 the existence of southern Xinjiang red cash system comes to an end.

In northern Xinjiang, standard cash production was renewed after the *reconquista* of Xinjiang by Zuo Zongtang. A shortage of metal sources was solved by **importing standard cash from China proper**, manufactured mostly by the Gansu provincial mint and other provinces, which were relatively abundant in Gansu due to long term military campaigns in northwestern China. Low copper content in China proper standard cash was beneficial to the Qing government discouraging Russian merchants from large-scale purchasing standard cash as a cheap scrap copper resource.

After establishing the province, Urumci became the administrative and military center of Xinjiang. In 1886, **the Urumci mint** was renewed and **became the only mint in northern Xinjiang** and the **central mint for the whole Xinjiang** province. As a result, the official mint name changed from Baodi (Dihua mint – Dihua being Chinese for Urumci) to **Baoxin** (Xinjiang provincial mint). Coins were produced from the third to the tenth lunar month. Standard cash constituted only a small portion of the mint production as large quantities of red cash were also manufactured by the Urumci mint. Copper was chiefly acquired from Aksu copper mines. After the transfer of Aksu mint to Kucha in 1892 the copper supply gradually decreased. Urumci mint was closed down in 1908.

The collection

No. 3649 – **Qiuci wuzhu**. Weight 1.442 g. Diameter 18.5 mm. Similar to XJN 69, except the inscription in undeciphered local language on the obverse is upside down as opposed to the published specimen. This variety is listed as variety no. 4 by Yan²¹ depending on the various position of the two characters in the obverse inscription and on the size of the coin.

No. 3650 – **Qiuci wuzhu**. Weight 1.034 g. Diameter 18 mm. XJN 69. Variety no. 2 by Yan.²²

No. 3877 – **Qianlong tongbao**, Aksu mint, value 10. Weight 4.075 g. Diameter 24 mm. XJN 336. Issued in Guangxu era in 1886–1892.

No. 3878 – **Qianlong tongbao**, Yarkim mint. Weight 6.088 g. Diameter 24.5 mm. XJN 182. Initial stage variety inscribed *Yarkim* in Manchu in small form, as described by Cai,²³ Lin²⁴ or Yan.²⁵ Issued in 1760. Weight reduced as opposed to standard by 1.372 g.

No. 10837 – **Jiaqing tongbao**, Ghuldja mint. Weight 3.774 g. Diameter 24.5 mm. Simi-

lar to XJN 201, except the vertical stroke on the obverse is located above the inner rim and is slightly longer and thicker. This variety is listed by Mirgül who publishes a specimen weighing 4.2 g.²⁶ Issued in 1800–1820. Various graphical marks, such as strokes, stars, crescents, dots, circles etc., on the obverses of Chinese cash originate in the earliest periods of Chinese coinage on spades and knives and are by Chinese numismatists believed to identify respective batches of coins cast from one particular mold or batches of coins cast by one particular technician. Gradually these marks lost their actual meaning and became purely symbolical, constituting rare varieties.²⁷ Unnatural shine of the present specimen is not made of brass. Suspicious, presumably a modern fake.

No. 3895 – **Jiaqing tongbao**, Aksu mint. Weight 3.715 g. Diameter 25 mm. XJN 194. So-called *xiao ji* Jiaqing tongbao variety, referring to the upper portion of *Jia* character being smaller than that of so-called *da ji* Jiaqing tongbao. Theories on date of issue vary. Several numismatists agree on marginal point being year 1800.

²¹ Yan 2000/1, p. 5

²² Ibid.

²³ Cai 1999, p. 18

²⁴ Lin 1999, p. 6

²⁵ Yan 2000/3, p. 2

²⁶ Miliguli, p. 11

²⁷ Personal consultations, Urumci 2000–2001, Chengdu 2002–2003

Huang²⁸ argues that *xiao ji* Jiaqing was issued in the years after 1800 till the end of the Jiaqing era in 1821, as the number of *xiao ji* Jiaqing preserved is larger than *da ji* Jiaqing, 440 000 and 20 000 respectively. The design and calligraphy of *da ji* Jiaqing in turn resemble Qianlong early period cash. In Jiaqing period the only functioning mint producing red cash was Aksu mint and issued approx. 57.7 million coins during the Jiaqing era. Coin output consisted of 80 per cent of Jiaqing tongbao and 20 per cent of Qianlong tongbao. Rather large number of specimens of Jiaqing tongbao are in good condition, some of them seem to bear traces of lacquer treatment described by Cowell on Ming and Southern Ming coins.²⁹ Another technique of surface treatment was exposing the coin to fire over a short moment after abrasing. Present specimen is rather worn off on both sides and bears no traces of either method of surface treatment. Central aperture is abraded to a round shape, probably due to being hung on a metal wire.

No. 3911 – **Daoguang tongbao**, Ghulja mint. Weight 3.899 g. Diameter 25.8 mm. XJN 204. A dot above the central aperture on the obverse. Excellent manufacture, good condition.

No. 3912 – **Daoguang tongbao**, Aksu mint, year 8, value 10. Weight 3.715. Diameter 25 mm. XJN 210. Issued in 1828. So-called *fen-ba* (gapped eight) variety, referring to the two strokes of the *eight* numeral on the reverse not being connected in the upper portion on the obverse. The obverse worn off.

No. 10883 – **Daoguang tongbao**, Aksu mint, year 8, value 10. Weight 4.12 g. Diameter 26 mm. XJN 210. Variety *ibid*. Slack calligraphy.

No. 3932 – **Xianfeng zhongbao**, Ghuldja mint, value 4. Weight 14.957 g. Diameter 35.2 mm. XJN 250. Issued in 1855–1861. Outer edges not abraded completely, but the coin did circulate for a period of time. The obverse calligraphy ship unsightly.

No. 12138 – **Xianfeng yuanbao**, Ghuldja mint, value 100. Weight 40.532 g. Diameter 51 mm. XJN 247. Cast from 1854–1855.

No. 3930 – **Xianfeng zhongbao**, Urumci mint, value 8. Weight 5.964 g. Diameter 26.1 mm. XJN 235. Issued in 1855–1857. So-called *xiaoba* variety (small eight), referring to the character *ba* being written in a smaller form.

No. 10929 – **Xianfeng zhongbao**, Urumci mint, value 10. Weight 6.097 g. Diameter 27 mm. XJN 240. The inscriptions on both sides lower than on usual Xinjiang coinage. Low rims. An abnormal modern shine. Suspicious, presumably a modern fake.

No. 10930 – **Xianfeng zhongbao**, Urumci mint, value 10. Weight 6.661 g. Diameter 26 mm. XJN 239. Issued in 1855–1857. A fishy modern shine. Suspicious, presumably a modern fake.

No. 3917 – **Xianfeng yuanbao**, Aksu mint, value 100. Weight 21.964 g. Diameter 41 mm. XJN 215. Issued in 1854–1859.

No. 3929 – **Xianfeng tongbao**, Aksu mint, value 10. Weight 3.69 g. Diameter 26.5 mm. XJN 227. Issued in 1851–1861. Good condition.

No. 3943 – **Tongzhi tongbao**, Kucha mint, value 10. Weight 4.896 g. Diameter 26.5 mm. XJN 354. Several theories on the year of issue of this coin exist. XJN regards the coin as casting in trust for the Urumci mint at Kucha mint in years 1888–1906.³⁰ Cai dates the production to period 1899/1900–1909.³¹ Li argues that it was issued in 1873 as a standard Kucha mint production of Tongzhi era.³² The specimen chipped 1 mm next to the *tong* character on the obverse.

No. 3953 – **Guangxu tongbao**, Kashgar mint, value 10. Weight 4.346 g. Diameter 26.7 mm. XJN 349. Issued in 1888–1902. The specimen not abraded in the northeast edge of the obverse. Reduced thickness.

No. 3952 – **Guangxu tongbao**, Kucha mint, value 10. Weight 5.463 g. Diameter 26 mm. XJN 358. Coined in trust by Kucha mint for Kashgar mint in 1892–1902.³³ Li dates this coin to 1886–1887³⁴ in which period however the minting in Kucha mint was temporarily discontinued according to Mu.³⁵

²⁸ Huang 2000, p. 9

²⁹ Cowell, p. 190

³⁰ XJN, p. 207

³¹ Cai 1998, p. 11

³² Li, p. 21

³³ XJN, p. 207

³⁴ Li, p. 21

³⁵ Mu, p. 131

No. 3951 – **Guangxu tongbao**, Urumci mint, value 10. Weight 3.752 g. Diameter 26 mm. XJN 343. Issued in 1886–1908.

No. 11006 – **Guangxu tongbao**, Urumci mint, value 10. Weight 3.622 g. Diameter 26 mm. XJN 343. Issued in 1886–1908. Due to an insufficient amount of copper poured into the mold, the north-east portion of the obverse is

lacking copper leaving the coin ill-shaped, a frequent phenomenon in Xinjiang cast coinage. Slag kernel cavities in the south-east portion of the obverse.

No. 11007 – **Guangxu tongbao**, Urumci mint, value 10. Weight 2.816 g. Diameter 25 mm. XJN 344. Good condition. Reduced thickness.

Chemical analyses

The chemical analyses of the individual coins were carried out by Dr Jaroslav Frána of the Nuclear Physics Institute of the Czech Academy of Sciences in Řež in spring of 2004.

The method used was the **non-destructive plasm-chemical fluorescence surface analysis** (XRFA). Each specimen was analysed twice for the purpose of greater accuracy. The results of each measurement are given in the table below (Table 1.). The possible differences between the two respective measurements are caused by the surface impurities.

Interpretation of the Analyses

The measurements have shown several interesting facts. Mainly, they have proved that Xinjiang **red cash** coinage indeed is composed of approximately 97–98 % of copper. **Qiuci coinage** (Nos. 3649 and 3650) is cast in a leaded alloy containing between 50 and 60 % of copper. The figures for Xinjiang **standard cash** (Nos. 10837, 3911, 12138, 3930, 10929 and 10930) show that the content of copper may be higher by several per cent than that of the standard cash of China proper as analysed by Cowell³⁶ and Hartill.³⁷ The low content of zinc in specimens Nos. 10837, 3930 and 10930 is not typical and does not correspond to China proper standard cash coinage. Specimen No. 3932 contains approximately 96 % of **iron**, as was the practice with devaluated Xianfeng coinage.

Appendix

The Junggar *pul* are an important **transitive monetary type** between the coinage of the Yarkend Khanate and the Qing red cash monetary system.

Junggars were a nomadic tribe of western Mongol origin which resided at the beginning of 17th century chiefly in the Ili Valley, nominally subordinated to Manchus. In 1678 under the leadership of Galdän Khan the Junggars conquered the Yarkend Khanate situated in the west of the Tarim Basin. In 1688, Junggar armies invaded Outer Mongolia and were endangering Manchu authority. Manchu armies defeated Junggar troops in 1698 in Outer Mongolia and drove them back to Ili Valley and the southern Xinjiang area. Galdän Khan was succeeded by Zewang Arabtan Khan in 1697 and Galdän Chirin Khan in 1727. During the reign of these two rulers, the Junggar state became a prospering agricultural economy which had close economic ties with China proper. Fabric manufacturing, leather manufacturing, printing, casting and other technologies were introduced to the region. After the death of Galdän Chirin Khan in 1745, the economy of Junggar Khanate begun to deteriorate. By 1759, the whole region was fully under control of campaigning Qing troops.

³⁶ Cowell, pp. 195, 196

³⁷ Hartill, p. 97

Table 1: Metal contents of analysed coins

Inventory no.	Measurement no.	Cu	Zn	Pb	Fe	Ag	Sn	Sb	Ni	Co
3649	14009	66		30.6	1.2		1.6	0.06		
	14010	56.2		40.2	1	0.02	1.8	0.06		
3650	14011	52.9		35.8	0.6	0.12	9.8	0.07		
	14012	51.5		37.3	0.8	0.12	9.6	0.06		
3877	14013	98.8			0.4	0.04	0.1			
	14014	98.9			0.4	0.01	0.1			
3878	14015	98.4		0.5	0.2	0.12	0.1	0.05		
	14016	98.2		0.6	0.3	0.11	0.1	0.04		
10837	14017	83.5		15.3	0.2	0.18	0.1			
	14018	82		16.3	0.7	0.17	0.1			
3895	14019	98.9			0.3		0.1			
	14020	98.9			0.2		0.1			
3911	14021	57.8		40.9	0.5	0.02	0.1	0.03		
	14022	67		31.9	0.2	0.01	0.1	0.04		
3912	14023	97.1			1.9	0.03	0.1			
	14024	97.3			1.7	0.02	0.1			
10883	14025	98.5			0.7	0.01	0.1			
	14026	98.8			0.4	0.01	0.1			
3932	14027	1.6	0.3	0.7	96.3		0.1			
	14028	1.5		0.6	96.9		0.1			
12138	14029	66.7	21.5	8.7	1	0.04	0.9	0.16		
	14030	66.9	22.3	7.8	0.9	0.03	0.9	0.18	0.1	
3930	14031	39.6	5.6	48.4	4.6	0.02	0.6	0.19		
	14032	46	4.7	44.2	3.6	0.02	0.6	0.15		
10929	14033	60.7	27.5	7.7	1.3	0.02	1.5	0.22		
	14034	61.6	25.7	8.5	1.6	0.03	1.4	0.21		
10930	14035	61.6	0.3	33.9	3.1	0.02	0.1	0.05		
	14036	56.6	0.5	38.8	3	0.03	0.1	0.05		
3917	14037	98.3			0.8		0.1			
	14038	98.2			0.9		0.1			
3929	14039	98.8			0.3		0.1			
	14040	99			0.1	0.02	0.1			
3943	14041	97.1	0.4	0.5	0.9	0.04	0.1		0.1	
	14042	97.9		0.2	0.9	0.04	0.1			0.2
3951	14047	97.7			1.5	0.01	0.1			
	14048	97.6			1.6	0.01	0.1			
3952	14045	98.7			0.5		0.1			
	14046	98.6			0.6	0.05	0.1			
3953	14043	59.2			2.2	0.22	0.1			
	14044	97.1			2	0.22	0.1			
11006	14049	96.9			2.3	0.01	0.1			
	14050	97.3			1.9	0.02	0.1			
11007	14051	97			2.3		0.1			
	14052	98.1			1.2		0.1			

Junggar currency, the *pul*, were manufactured in Yarkend mint, which had been the chief minting institution of the conquered Yarkend Khanate. *Pul* is a loanword from Persian, meaning money. *Pul* production was **initiated by Zewang Arabtan Khan around 1700**. The *pul* was round in the lower portion and pointed in the upper portion, with a length of 17–19 mm, width of 15–16 mm, thickness of 3–6 mm and was struck in copper. The obverse is inscribed in the *tod üseg* script *Zewang* (ca. 1700–1727) or *Galdän Chirin* (1727–1745). The reverse is inscribed in Arabic *ḍuriba Yarkend* (struck in Yarkend).

Weight ranges from 6.3–8.2 g. Mu mentions several finds of individual brass and silver Junggar *pul*.³⁸ The production of Junggar *pul* came to an **end probably around 1745**.

Junggar *pul* circulated chiefly in southern Xinjiang since the initiation of their manufacture, ie. 1700 roughly, till 1768, when the Qing authorities completed their reclamation and started recasting them into the new red cash. Small amounts of *pul* reappeared in circulation during Yakup Beg reign over Xinjiang in 1865–1877.

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³⁸ Mu, pp. 22, 23

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