

A re-analysis of the Qiemu'erqieke (Shamirshak) cemeteries, Xinjiang, China

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Excavation of the Qiemu'erqieke cemeteries in the 1960s revealed the earliest known Bronze Age culture in northern Xinjiang. Burial practices and grave goods show important connections to the Eurasian steppes. The sites have never been fully published and there has been much speculation about the exact nature of the Qiemu'erqieke finds. This paper sets out a highly detailed re-analysis of the available data and presents some new perspectives on the sites, their chronology and external parallels.

Introduction

In 1963, thirty-two burials were discovered and excavated along the Qiemu'erqieke (Shamirshak)¹ river valley in northern Xinjiang (Figure 1) (Xinjiang Institute of Archaeology, Academy of Social Science 1981). The excavation of the Qiemu'erqieke cemeteries is important for the archaeology of Xinjiang, and specifically the Zhunge'er (Junggar) Basin, but there is also a much wider significance. The Qiemu'erqieke sites represent one of the most easterly manifestations of the Eurasian steppic Bronze Age, which in turn provides evidence for cultural interaction further to the east with the peoples on the fringes of the Chinese heartland. The cultural traditions represented by the pottery and burial practices suggest some similarities between Qiemu'erqieke and steppic Bronze Age cultures, specifically the Afanasievo, Okunevo and Karasuk cultures in the Upper Yenisei region of southern Siberia (Chen Kwang-tzuu and Hiebert 1995).

¹Place names within the People's Republic of China are given in Chinese Pinyin with the common Turkic or Mongol spelling in brackets at the first occurrence. Spelling of local names is not consistent throughout English language publications and the names here may vary from those provided elsewhere.

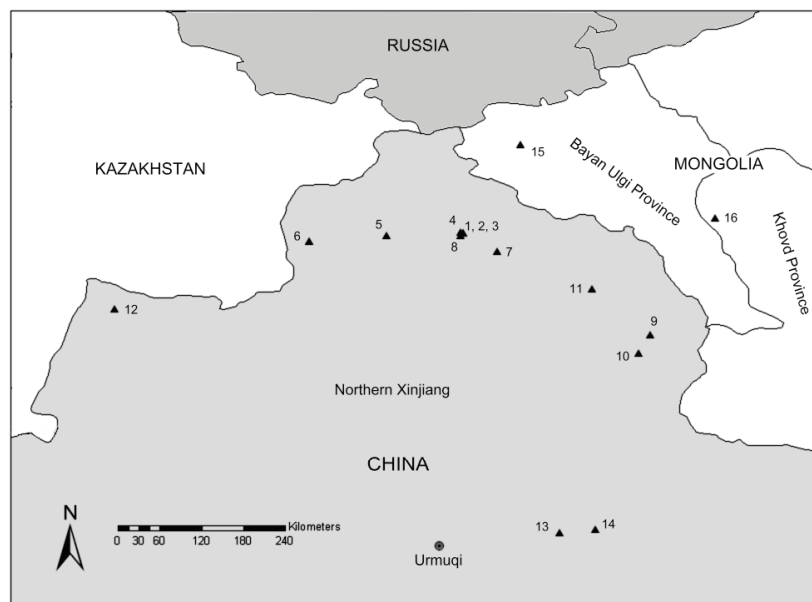


Figure 1: Map showing general location of the Qiemu'erqieke cemeteries and the distribution of Qiemu'erqieke Phase I. Sites indicated by solid triangle: 1, 2, 3 Qiemu'erqieke; 4 Kayinar; 5 Kuobo'er; 6 Burial at Burjin; 7 Kuyirekebayidengkuolasi; 8 Kalatasi; 9 Chagan'guoleng; 10 Basikekeren; 11 Burial at Fuyun; 12 Sasibulake; 13 Burial at Jimusar; 14 Kan'erzi; 15 Ulanhussum; 16 Bulgansum.

The Qiemu'erqieke cemeteries are located against the southern foothills of the Aletai (Altay) mountains and can be most closely linked to cultures to the north. The Afanasievo culture became established in southern Siberia by the late 4th to early 3rd millennium BC (Table 1). Related sites have been found from the southern Urals to western Mongolia but most are centred around the Upper Yenisei in the Minusinsk basin to the north of the Sayan mountains (Gryaznov 1969: 46 ff.). The Afanasievo peoples were predominantly pastoralists, possibly with some agriculture supplemented by hunting. Some settlement sites have been found, while the remains of wagons in the cemeteries imply a fairly high degree of mobility. Use of metals was mainly limited to simple smelting of native copper with knowledge of gold and silver working (Okladnikov 1990: 80). Afanasievo ceramics are dominated by round-bottomed jars with full body incised decoration

Table 1. Chronology of the Steppic Bronze Age (Eastern Steppe - Altai) (adapted from Frachetti 2008: 23, Figure 6 and Gorsdorf *et al.* 2004)

CULTURE	APP. DATE	ARCHAEOLOGICAL PERIOD
Afanasievo	3200 - 2500BC	Chalcolithic-Early Bronze Age
Okunevo	2500 - 1700BC	Middle Bronze Age
Andronovo	1700 - 1400BC	Late Bronze Age
Karasuk	1400 - 800BC	Final Bronze Age
Saka	800 - 250BC	Iron Age

(Gryaznov and Krizhevskaya 1986:21, fig. II). The Okunevo follows the Afanasievo in the Upper Yenisei and dates broadly from the mid-3rd to early 2nd millennium BC. Full bronze technology emerges and there are changes and developments in burial practices. In the ceramic repertoire, incised decoration continues but the round-bottomed jars give way largely to those with flat bases (Gryaznov 1969: figs 9, 10). By the early to mid-2nd millennium BC sites associated with the much more widespread steppic Andronovo cultural complex appear in the northern part of the Minusinsk Basin, and from the later 2nd millennium BC down to the beginning of the 1st millennium BC the mountains and steppe around the Upper Yenisei and to the south are dominated by Karasuk sites (Gryaznov 1969). These are distributed from central Kazakhstan across into Mongolia, with related local variants in north-west Xinjiang. Based on the ceramic evidence, penetration of Andronovo cultural influence into western Xinjiang appears to be limited to the western Tianshan and the Ili River valley, although metal objects and other artefacts travelled further east and south (Kuzmina 2007: 254).

The Qiemu'erqieke sites have also been linked with the eastward migration of Indo-European speaking peoples, specifically those who brought the ancestral version of the Tocharian language into the Tarim Basin. It has been suggested that they might provide a possible "missing link" between the Afanasievo culture, Qiemu'erqieke and the sites of Gumuguo (Xinjiang Institute of Archaeology, Academy of Social Science 1995: 92-102) and Xiaohe (Xinjiang Institute of Archaeology 2003) in the Taklamakan desert of southern Xinjiang (Mallory and Mair 2000: 307; Lin Meicun 2002). Xiaohe and Gumuguo are the earliest Bronze Age cemeteries

in the Taklamakan. Xiaohe has been dated by C14 to around 1800 BC, while Gumuguo has a range of calibrated dates that centre roughly from the end of the 3rd into the early 2nd millennium BC (Mallory and Mair 2000: 336). The cemeteries are remarkable for their organic preservation but also for the almost total absence of ceramics, which appear to have been replaced largely by basketry. The sites have been linked to early movements into China from Eurasia (Kuzmina 2007:251-266, 2008:88-98, Renfrew 2002, Frachetti 2002, Li Shuicheng 2002, Mallory and Mair 2000, Linduff 2000, Mei Jianjun 2000, 2003, Higham 2002, Lin Yun 1986). The connections with the Afanasievo and Qiemu'erqieke cultures have been made on the basis of the early date, some parallels between the shapes of the basketry and northern ceramics, and the identification of the Xiaohe and Gumuguo populations as Caucasoid (Xinjiang Institute of Archaeology 2003; Mallory and Mair 2000:137).

Previous analyses of the Qiemu'erqieke Cemetery Data

A clear understanding of the evidence provided by the Qiemu'erqieke cemeteries is a key issue for study of prehistoric cultural relations between East Asia and Eurasia. However, this is presently not the case. There are problems with the chronology of the sites and there is confusion over the correct name of their location. In the preliminary excavation report published in 1981 (Xinjiang Institute of Archaeology, Academy of Social Science 1981) the cemeteries containing the thirty-two burials were collectively called Ke'ermuqi (克尔木齐) Cemeteries, a somewhat confusing adaptation of the real name of the river valley and the local council.² The correct name, Qiemu'erqieke, is the close pronunciation in Chinese Mandarin of the Turkic name Shamirshak, referring both to the local council (切木尔切克) and the river valley running from north to south across the administrative district. Qiemu'erqieke Council is located on the southern slopes of the Aletai mountain range, and administratively belongs to Aletai City or Aletai D.C. (previously a county before 1984), in the Xinjiang Uighur Autonomous Region, China. However, the name Ke'ermuqi used in the preliminary excavation report became popular in Chinese publications. Later, and still more

²In Chinese archaeological field practice, it is the normal rule to use the closest village or council for naming a site at the first time of discovery.

confusingly, another name, Qie'ermuqieke (切尔木切克), was also used. Both names refer to the original excavated cemeteries. In this paper the name of the local council Qiemu'erqieke (Turkic Shamirshak) will be used to emphasise the linguistic origin, to rectify the incorrect names in Chinese publications, to assist in properly identifying the geographical location of the cemeteries, and to ensure that the correct name enters non-Chinese scholarly literature.

Apart from the issue of the name, data analysis and chronology are also problematic. Interpretations of the contexts and chronology of the Qiemu'erqieke cemeteries have developed gradually over more than twenty years. The first summary of the excavations (Xinjiang Institute of Archaeology, Academy of Social Science 1981) was published almost two decades after the excavations took place in 1963. The findings presented in the report were based on limited information and underdeveloped analysis. The report suggested that the Qiemu'erqieke cemeteries are multi-period and range in date from Han (2nd century BC) to Turkic (4th - 7th centuries AD). The identification of Turkic burials is based on the stone anthropomorphic monoliths found in this area. In the past these have been indiscriminately identified as Turkic, but more recent studies have shown them to occur back into much earlier periods as well (Telegin and Mallory 1994, Wang Bo 1995, Kovalev 1999). The identification of Han Dynasty burials was based on a single red clay wheel-made vessel found in burial M4 (see Table 2). In the preliminary report a far-ranging comparison is made with Wan'gong Cemetery in Inner Mongolia, more than 3000 kilometres east of Qiemu'erqiek. This speculation, however, was questioned soon after the publication of the report (*e.g.*, Wang Bo 1995).

A new interpretation proposing a connection between the early remains at Qiemu'erqieke and the Bronze Age cultures in the Eurasian steppe began with Shui Tao (1993), although his parallels were quite general. Based on deeper analysis of various finds in the Qiemu'erqieke cemeteries, Chen Kwang-tzuu and Hiebert (1995:269-272) suggested connections between the early Qiemu'erqieke contexts and the Afanasievo and Okunevo cultures, as well as a "close affinity" with the early Andronovo culture (Table 1). They concluded that the early remains from the Qiemu'erqieke cemeteries should be dated around the mid-second

Table 2. List of burials in Qiemu'erqieke Cemeteries (Reconstructed from Table 1 and Table 2, Xinjiang Institute of Archaeology, Academy of Social Science 1981)

Burial Number	Stone stele	Enclosure of Grave Yard			Sarcophagus (S) or pit (P)		Artifacts			Body posture	Notes					
		L x W (M)	Orientation		L x W x D (M)	Orientation	Bronze	Iron	Others							
M1	Possible	—	—	—	(S)2.1 x 2.1 x 1.3	20°	—	—	5 stone arrowheads, 1 damaged stone tool	Flexed, on side						
M2	1	18 x 27.5	Southeast		(S)2.9 x 2 x 1.78	20°	1 Small knife	—	3 Stone arrowheads, 4 stone vessels, 1 ceramic jar		One main burial with a small ear 4m north and a shallow pit with some human bones 3m west.					
M3	1	28 x 30	East		(S)1.7 x 1.8 x 1.1	20°	—	—	3 stone vessels (one is a double vessel)		Possibly robbed					
M4	1	35 x 38	South		(S)3.30 x 2.35 x 1.9	10°	—	1 damaged	1 red long neck jar and fragments of stone and ceramic vessels		Possibly robbed					
M5	1	21 x 19	East													
													Artifacts	6 Bone ornament, 1 bone bell hook	Supine, extended	Body in a timber frame enclosure
													Artifacts	1 stone handled cup, 64 sheep knucklebones	Flexed, on side	Shallow pit with poorly defined edge
													Artifacts	—	Flexed, on side	Shallow pit with poorly defined edge
M6									Flexed, on side	Shallow pit with poorly defined edge	Excavation incomplete					

Table 2. List of burials in Qiemu'erqieke Cemeteries (Reconstructed from Table 1 and Table 2, Xinjiang Institute of Archaeology, Academy of Social Science 1981) (continued)

M7	m1	10.5 x 4.4	Unclear	(S)2.18 x 2.74 x 1.36	20°	Bronze arrowhead 1	-	1 ceramic vessel, 4 stone arrowheads, 6 stone vessels, 1 jade artifact, 1 coal artifact				
	m2			(S)1.84 x 1.8 x 1.15	20°	-	-	2 stone arrowheads, 2 stone vessels, beads				
M8	1			(S)2.6 x 1.45 x 1.55	20°	-	-	2 stone vessels				Small cist with earlier burial underneath the main burial
M9				(S)2.82 x 1.08 x 1.25	60°	-	-	-				Robbed
M10				(S)3.75 x 2.5 x 1.85	10°	-	-	-				Robbed
M11				(S)1.4 x 1.9 x 1.3	270°	1 Spearhead, 1 drill	-	2 stone vessels, 1 pottery vessel				Robbed
M12				(S)0.75 x 0.75 x 0.4	315°	-	-	-				Robbed
M13	m1	18 x 10.5	Unclear	(S)2 x 1.55 x 1.05	15°	-	-	-				Robbed
	m2			(P)0.8 x 2.1 x 0.4	330°	-	-	-				Stone slab covering
	m5			boundary	?	-	-	-				Stone slabs for cover and
				(P)0.65 x 2 x 0.2	325°	-	-	-				alls
M15				(S)2.95 x 1.46 x 1.4	20°	-	-	1 pottery vessel 1, stone vessel				Small cist inside the large one
				Possible 2				7 vessels (clay and stone) found inside the stone enclosure				
		11.1 x 19.7	East									
M16	m1			(S)0.9 x 1.06 x 1.5	0°	-	-	-				
				(S)1.6 x 1.82 x 1.2	340°	-	-	3 stone vessels				Three bodies, flexed, supine
	m3			(S)0.15 x 0.55 x 0.45	0°	-	-	-				
	m4			(S)0.4 x 2 x 0.55	315°	-	-	-				
	m5			(S)0.4 x 1.7 x 0.3	315°	-	-	-				Flexed
	m6			Irregular pit	?	-	-	-				Possible a ceremonial pit

Table 2. List of burials in Qiemu'erqieke Cemeteries (Reconstructed from Table 1 and Table 2, Xinjiang Institute of Archaeology, Academy of Social Science 1981) (continued)

M17	m1	Possible 3	20.8 x 12.1	East	(S) 1.40 x 1.62 x 1.07	20°				7 stone artefacts including mould	Prone, extended	small cist inside the large one
M17	m2				(S) 2.3 x 1.04 x 1.28	22°	1 knife, 2 arrowheads	-	2 Bone arrowheads, 4 stone vessels, 1 ceramic jar, 1 stone mould	Flexed, on side	shallow pit next to the burial with bones	
M18	m1			East	(S) 1.8 x 1.9 x 1.45	15°	-	-	1 stone arrowhead		Top damaged	
M18	m2				(S) 1.9 x 2.7 x 1.3	?	-	-	Pottery at outside the cist		Robbed	
M19					(S) 3.6 x 2 x 1.5	345°	Unknown bronze	-	Stone cup 1, damaged grinding stone 1, stone arrowheads 2	Possibly flexed		
M20					(S) 4.4 x 3 x 1.8	345°	-	-	Stone arrowhead 1, stone pot 1.	Supine, extended		
M21					(S) 3.6 x 1.4 x 1.4	100°	-	-	Small stone human figurine			
M22	1 damaged stone				(P) 2.9 x 1.9 x 1.4	70°	1 Bronze mirror, 1 nail	Knife 1	2 ceramic vessels, horse skeleton and gold foil fragments	Flexed		
M23					(P) 1.9 x 1.5 x 0.5	115°	-	-	Incomplete ceramic vessel			
M24	1		23 x 24	East	(S) 1.8 x 1.6 x 1.3	30°	-	-	Ceramic goblet 1, stone cup, stone lamp	Supine, extended		
M25	1 Stone slab				(P) 2 x 0.90 x 0.80	88°	-	-	Broken pottery			
M26					(S) ? x 2 x 1.4	345°	-	-	-			

Table 2. List of burials in Qiemu'erqieke Cemeteries (Reconstructed from Table 1 and Table 2, Xinjiang Institute of Archaeology, Academy of Social Science 1981) (concluded)

M27				(P)2.3 x 1.06 x 0.80	67°	Small ring	Knife 1, adze 1	-			
M28					20°	Small ring	Damaged objects	Ceramic jar 1	Supine, extended		
M29				(P)2.85 x 2.1 x 0.60	20°	Nails	Nails				Small cist with scattered bones
M30				(P)3 x 1.6 x 1.8	42°	Triangular section Arrowhead 1, Ring	-				
M31				(P)2.1 x 1 x 0.80	20°	-	Knife 2, belt hook 1				
M32				(P)2.1 x 0.70 x 0.90	20°	-	Belt hook				

millennium BC, based on the available C14 dates for early Andronovo in east Kazakhstan (Chen Kwang-tzuu and Hiebert 1995:272). Their study has influenced later scholars (Lu Enguo *et al.* 2001, Lin Meicun 2002, Mallory and Mair 2000).

In recent years, several attempts have been made to summarise the various characteristics of the archaeological contexts based on the primary report (*e.g.*, Han Jianye 2005, Guo Wu 2005). It has been pointed out that some burial rites found in Qiemu'erqieke cemeteries appear to show connections to the steppic Bronze Age cultures of western Siberia such as the Afanasievo, Okunevo, Andronovo and Karasuk (Jettmar 1950, Okladnikov 1959, Gryaznov and Krizhevskaya 1986:15-23, Koryakova 1996, Koryakova and Epimakhov 2007). Inspired by the identification of Qiemu'erqieke Phase I from the new discovery of a single cist burial located in the general vicinity of the original Qiemu'erqieke cemeteries (Zhang Yuzhong 2005, 2007), Lin Yun (2008) has reinterpreted the early phase of the Qiemu'erqieke cemeteries, providing an estimated date of around 2000 BC. He suggests that the early burials from Qiemu'erqieke cannot be included simplistically in any known regional Bronze Age cultures, even though some similarities indeed existed between them. He concludes that the early remains of Qiemu'erqieke should be considered a new local Bronze Age culture, partially overlapping chronologically with the Afanasievo, Okunevo and Karasuk. Shao Huiqui (2008) has also attempted to separate the early burials from the three cemeteries in Qiemu'erqieke with very encouraging results.

There is little consistency in the patterning of the material remains from Qiemu'erqieke as they were presented in the initial report (Xinjiang Institute of Archaeology, Academy of Social Science 1981). There is an apparent mixing of different periods. The artifacts, including items of stone, ceramic, bronze and iron, cannot easily be classified as one homogenous cultural tradition. Ceramic vessel forms vary widely. They include a wheel-made, flat-based, long-necked jar made from fine reddish clay with a plain surface (Xinjiang Institute of Archaeology 1981: fig. 3.3), a hand-made, flat-based jar with punctate decoration at the rim (Fig. 7.14), goblet-shaped vessels, possibly used as lamps (Fig. 7. 6,7) and a straight-sided, flat-bottomed jar with incised decoration at the

rim (Fig. 7.12). The dominant forms, however, are ovoid, round-bottomed jars made from coarse grey clay with sophisticated patterns of incised decoration (Fig. 7: 15-19, 22). Unless a robust analysis of the contexts and chronology of the cemeteries is undertaken, the cemeteries will remain the subject of general and speculative arguments. The purpose of this paper is to study the evidence in greater depth and detail than has yet been attempted, specifically to clarify the chronology and associated variation in material culture of the Qiemu'erqieke cemeteries.

Re-examination of the Qiemu'erqieke Cemetery Data

The first steps in re-examining the Qiemu'erqieke cemeteries are to look closely at each individual burial, identify any apparent relationships between burials, and to analyse carefully every detail of the cemeteries available in the preliminary report (Xinjiang Institute of Archaeology, Academy of Social Science 1981). This has not yet been done in past studies although there are some generalised summaries (*e.g.*, Han Jianye 2005, Guo Wu 2005, Lin Meicun 2002). One reason for the difficulty in re-examining the cemeteries is the poor presentation of data in the initial report, which has severely limited the amount of information gleaned from the material in subsequent studies. The study in this paper is based mainly on, but is not limited to, the report published in 1981. Some information appearing in later publications has provided valuable supplementary data. The tables attached to the preliminary report (reconstructed as Table 2), which seem to have been largely overlooked in previous studies, contain crucial information although they are still apparently incomplete.

One solution to this problem would be to consult the original excavation records, but in China tracing any original documents such as fieldwork notes, diaries, or databases for work that was conducted before the 1980s is extremely difficult. The Qiemu'erqieke cemeteries were excavated in 1963, nearly half a century ago, and it is very unlikely that the original notes have survived the subsequent years of political turbulence in China.³ It seems that the problems of dating cannot be resolved without further fieldwork. This is unlikely

³The main political event of this era was the Cultural Revolution lasting from 1966-1976.

to occur in the near future as there is strict regulation of archaeological research in China, confining fieldwork primarily to rescue excavations. Under these circumstances, the preliminary report published in 1981, the descriptions in the tables attached to the report, and fragmentary information appearing in various later publications have become, for the time being, the only bases for any attempt at further study of the Qiemu'erqieke cemeteries.

It is not clear as to exactly what was discovered during the excavation at the Qiemu'erqieke Cemeteries because the initial report contains very limited information in the text but it is possible to supplement this by carefully comparing the data from the tables with the text and illustrations. It is also worthwhile comparing the tables with various publications which contain relevant information that was unpublished in the initial report. Since the original excavations, several isolated burials from the region have been examined. The publications of these graves show that they are similar to those from Qiemu'erqieke as, for example, the sarcophagus burials found at Alepabulake (Wang Bo *et al.* 2005) and Kuoboer (Zhang Yuzhong 2005, 2007) in Buerjin County, Aletai.⁴ These new discoveries not only supplement the contexts of Qiemu'erqieke but they also provide relatively reliable information including details of burial rites and clearly associated artefacts.⁵ Used as a baseline for this new study, these burials, although only individual examples, make it possible to identify discrete clusters of material culture within the Qiemu'erqieke data.

In analysing the sketch of the excavation plan, it becomes clear that Qiemu'erqieke comprises three sub-cemeteries lying along the Qiemu'erqieke River, each located next to a modern village: Brigade 1, Brigade 2 and Water Mill (Figure 2). In the excavation sketch plan (Figure 2), some burials are marked by rectangular symbols delineated by broken lines. The map key states that these indicate rectangular stone enclosures which may contain one or more

⁴Alepabulake burial has a cist coffin possibly associated with a stone pot (Wang *et al.* 2005) and Kuoboer burial has a well constructed cist associated with two typical hand made vessels, one an olive shaped jar and the other resembling the 'oil burners' found in the Qiemu'erqieke cemeteries (Zhang 2007, 2005)

⁵Unfortunately, these burials were only recorded following rescue excavation after they had been disturbed by local farmers.

burials. Cist burials are represented by squares with a solid line, which are differentiated from pit burials represented by circles with a solid line. Shaded squares with broken lines show unexcavated burials and small dark trapezoidal symbols on one side of the stone enclosures show the location of anthropomorphic stone stelae.

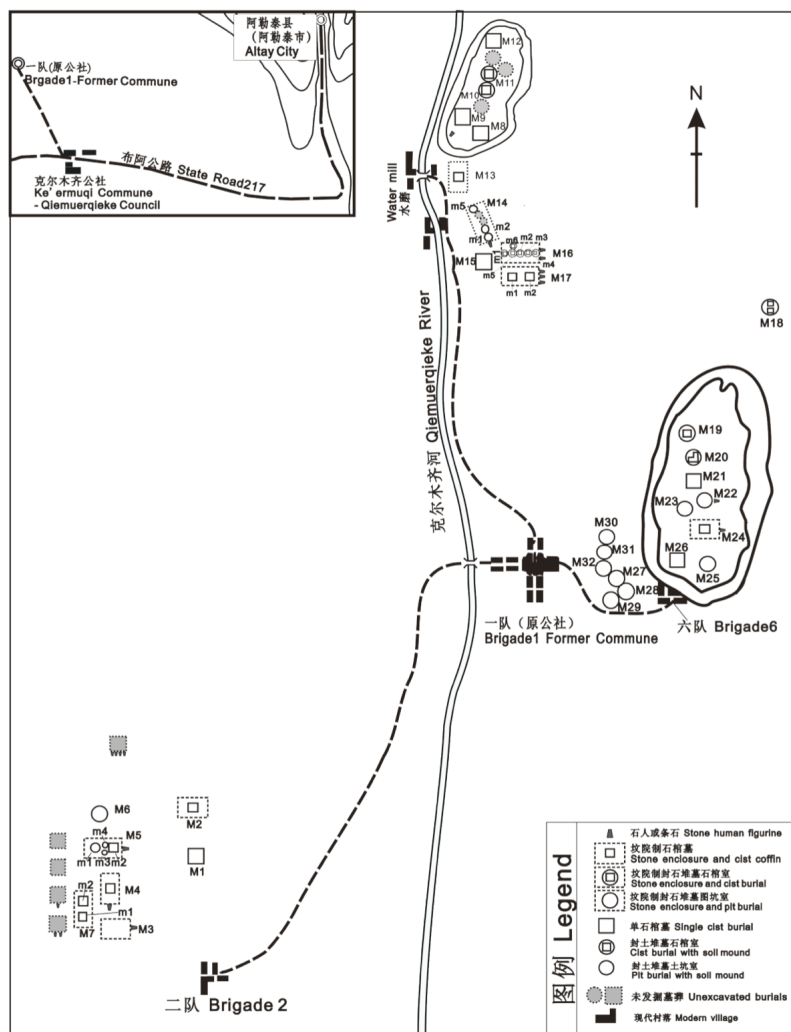


Figure 2: Qiemu'erqieke cemeteries excavated in 1963 – village names are those used before the 1980's and have been changed since then (Redrawn from Xinjiang Institute of Archaeology, Academy of Social Science 1981:23, Figure 1).

The artefacts found in the three cemeteries are listed in two tables appended to the original report (Xinjiang Institute of Archaeology 1981). The first table includes all the burials with enclosures and the second contains isolated single burials. The two categories distinguished in these tables illustrate the initial attempt by the excavators to distinguish the different burials. For purposes of clarity the two tables have been joined together and reconstructed in this paper (Table 2). It can be seen clearly that Cemetery I (near Brigade 2) contains burials M1- M7⁶, Cemetery II includes M8 – M17 and Cemetery III comprises M18-M32.

Cemetery I

Cemetery I next to the village of Brigade 2 is in the southwest area (lower left in Figure 2) on the west bank of the river. This cemetery includes burials numbered from M1 to M7 in the excavation plan (Figure 3). The only graves in this cemetery containing iron artefacts are M5-m1 and M4. M4 also contained the distinctive red wheel-made jar (Xinjiang Institute of Archaeology 1981:27)⁷, while M5-m1 contained a bone belt hook. These artefacts are unusual in terms of the most common finds in the other graves which contain bronzes, certain forms of stone vessels, stone arrowheads and grey or buff ware ovoid ceramic jars (Fig. 7.8, 11, 12). Differences between the two groups of burials, the Bronze Group and the Iron Group, can also be seen in the orientation of the graves and the enclosures. The enclosure of M4 is oriented to the south with the cist burial at 10° and the grave of M5-m1 is oriented to 110°. This contrasts with the remaining graves which have enclosures facing east and cists at 20° orientation (Table 2).

Body postures are not easy to determine since some burials were robbed before excavation and skeletons were not always in their original position but, based on available description from the table, at least two different body postures can be defined. Bodies lying on their sides with tightly bent legs can be equated with the burials containing bronzes: the Bronze Group represented by M1, M5-m2 and M5-m4. By

⁶“M” is the first letter in Pinyin of the Chinese word for tomb.

⁷ The pot found in M4 was described in detail in the preliminary report but not in the table.

contrast, bodies placed straight and face up are found only in the burials with iron objects: the Iron Group, as for example, in M5-m1 (Table 2). These distinctive features suggest that at least two different groups of burials can be distinguished in Cemetery I. The Bronze Group should include M1, M2, M3, M5-m2, M7-m1 and M7-m2 and the Iron Group should comprise M4 and M5-m1.

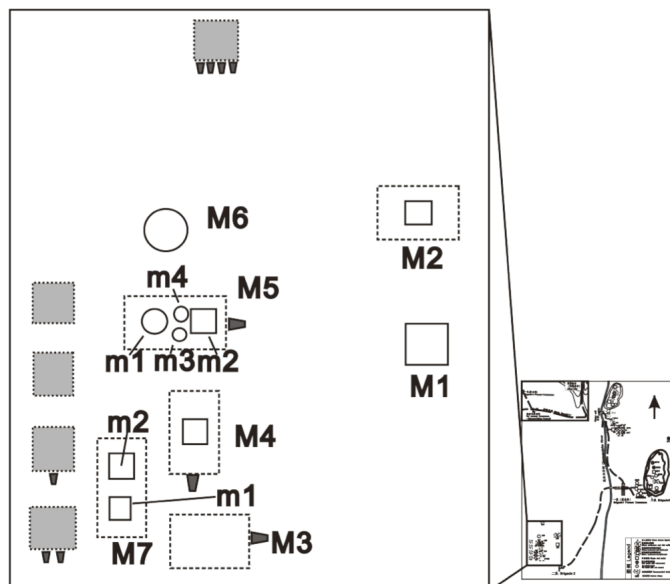


Figure 3: Cemetery I.

This division works well except for the apparent anomaly of M5 which appears to contain graves from two separate groups. Various explanations may account for this. A simple explanation would be that the same enclosure was re-used from one period to another, but a closer look at the details in the description of M5 from the original report shows that there may be some problems with the recording of the enclosure itself. The report defines an enclosure as being constructed of large stone slabs laid on their sides to form a rectangular shape (Xinjiang Institute of Archaeology, Academy of Social Science 1981). However, the text of the report states that no stone slabs were found for the M5 enclosure. M5 was described as being located on the top of a small hill. The presence of an anthropomorphic figure to the east may have made the excavators assume that there had once been an

enclosure. The rectangular enclosure depicted in the plan is in fact an arbitrary drawing of the top of the small hill. The M5 enclosure, therefore, was not in existence during the excavations. It is possible that there may once have been an enclosure that was robbed out by the time of the excavations.⁸⁹ This may have made it impossible for the excavators to determine the exact location and limits of the original enclosure and so in their drawing they incorrectly included burial M5-m1 in the stone enclosure M5. If this assumption is correct, then the four burials in M5 may have no connection between them, or at least M5-m1 has no connection to the other burials of M5.

Cemetery II

The burials in the north area near the modern village of Water Mill (top centre in Fig. 2) are grouped within Cemetery II which comprises burials M8 to M17 (Figure 4, Table 2). The plan shown in Figure 2 suggests that there are two subgroups of burials. Burials M8 to M12, together with three unexcavated burials, form the first subgroup on the top of a small hill (Fig. 4) called Cemetery IIa. The remaining burials M13 to M17 extending out across the south area next to IIa form the second subgroup, Cemetery IIb (Fig. 4). This sub-division may have no real significance as Cemetery IIb could be the extension of Cemetery IIa after Cemetery IIa became crowded. For the purpose of analysis, however, it is useful to differentiate between these two groups of burials.

Cemetery IIa contains five burials, but three out of those five burials have no associated artefacts. In the text of the original report burials M9 and M10 are described as being robbed (Table 1) so the artefacts in those two burials, if there were any, were looted. Burial M12 contained nothing except some fragments of bones. Only two burials, M8 and M11, had artefacts, including stone pots, ceramic vessels and bronze items. No iron objects were found in them. The description of the handmade pottery is very similar to that of the ceramics associated with the Bronze Group of Cemetery I. The body in M11 was placed on its side with the legs drawn up and the cist in M8 was orientated to 20°, both features finding parallels in

⁸⁹Local people usually collect such stone, including the stelae, to use in household construction.

the Bronze Group of Cemetery I. An exception was the 270°

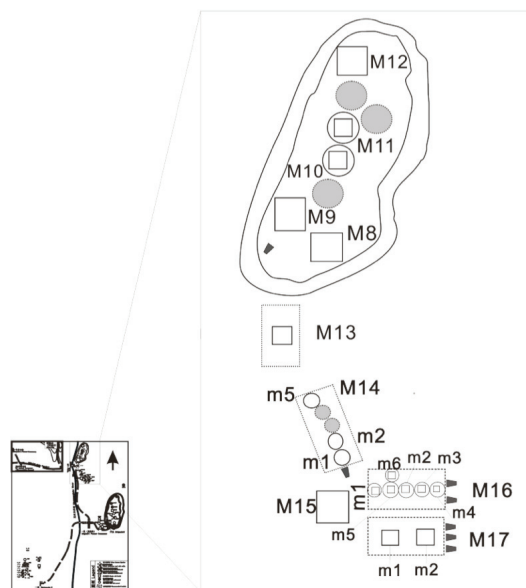


Figure 4: Cemetery II.

orientation of the cist in burial M1, which may suggest some variation in orientation preferences. The position of the body, face upwards with bent legs, is distinct from that of the body placed on its side with legs drawn up, as was found in the Bronze Group of Cemetery I. The copper spearhead found in M11 was the only example among all the burials in the Qiemu'erqieke Cemeteries which might indicate that burial M11 varies from other burials in the Bronze Group in terms of culture or chronology. In addition, the description of the anthropomorphic stelae from M11 suggests that they are somewhat different from the others (Wang Bo 1995:187). All those aspects suggest that M11 may belong to a different group.

Cemetery IIb comprises M13 to M17, a total of fifteen burials, two of them left unexcavated. This leaves thirteen excavated burials (Fig. 3, Table 2). Those thirteen burials in Cemetery IIb share some common characteristics in having no iron objects or wheel-made pottery. The bodies are mostly positioned face upwards with bent legs. According to the description in the original table, the orientation of the cists falls into two groups: 315° -340° and 15° - 30°. This clustering

may reflect the major differences in cist/pit orientations within the Bronze group in the three Qiemu'erqieke cemeteries. All burials in the Bronze Group of Cemetery I are oriented to 20°, that is within in the range of 15°-30°. The exceptions in Cemetery II are the orientation of 270° at burial M11 and 60° at (robbed) burial M9 in Cemetery IIa. The orientation of 10° for (robbed) burial M10 still falls only slightly outside the range for the group of 15°- 30°. ¹⁰ Artefacts found in Cemetery IIb are similar to those of the Bronze Group of Cemetery I (Fig. 7.4, 5, 14, 15, 18). Stone moulds for the casting of bronze artefacts were interesting additional finds from M17-m1 and m2 (Fig. 7.1, 2).

Cemetery III

Cemetery III consists of the burials close to the villages of Brigade 1 and Brigade 6 on the east bank of Qiemu'erqiek River (Fig. 1, centre). Like Cemetery II, this cemetery forms two areas of burial concentrations: M19 – M26 of Cemetery IIIa and M27 – M32 of Cemetery IIIb, plus one isolated burial, M18 (Figure 5).

Cemetery IIIa comprises the burials on the top of a small hill, assuming that the irregular elliptical shapes shown on the map indicate contour lines. Two different burial rites can be identified in this group, defined by the types of burials and the artefacts contained within them. Iron objects were found in burials M22, M23 and M25. These graves are pit burials rather than the rectangular cist burials associated with bronze artefacts. The orientations of the burials range from 70° to 88° to 115°, all facing roughly to the east. This eastern orientation is quite distinct from the broadly northern orientation of the cist burials which are mainly at 345°. The exceptions to this are M24 at 30° and M21 at 100°. M24 fits with the range 15° - 30° for the Bronze Group burials found at Cemetery I and II. M24 also contained similar artefacts including a ceramic goblet (lamp) (Fig. 7.6), a stone cup and a stone lamp. ¹¹ Burial M21 lacks diagnostic artefacts except one stone anthropomorphic figurine of a type that is usually ascribed to the Bronze Age in

¹⁰Since the excavations were conducted in 1963, the equipment and techniques used for measuring may not have been as accurate as those in use today and a small error of 5° in measurement is plausible.

¹¹The stone lamp found in M24 was not illustrated, but it is presumed that it is similar to the ceramic 'oil burner' found in the same burial.

Xinjiang (Lin Yun 2008), so the unusual orientation of M21 might be one example of variation among the Bronze Group

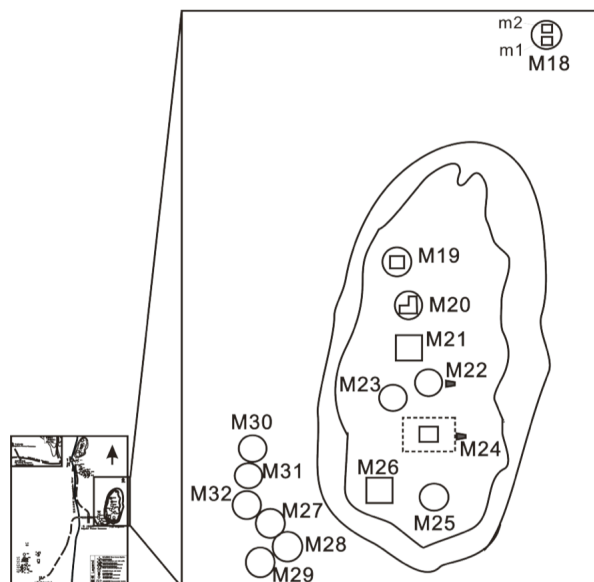


Figure 5: Cemetery III.

in this cemetery due to differences in date or cultural practices. Cemetery IIIb comprises the burials which lay to the south-west of the small hill (Fig. 5). This group contains burials M27 – M32. All are pit burials and can also be categorized as Iron Age. All except M30 contained iron objects. M30 has one diagnostic artefact, a bronze arrowhead with a triangular cross-section. This type of bronze arrowhead did not appear in Xinjiang until around 1000 BC. Two examples of this type of bronze arrowhead dated to *c.*1000 BC were found in burials 216 and 305 at Chawuhu on the northern rim of the Taklamakan desert (Xinjiang Institute of Archaeology 1999:249). Thus it is likely that burial M30 is not earlier than the 10th century BC (Jia Weiming, Betts and Wu Xinhua 2008).

Stylistic variation in the anthropomorphic stone stelae may also provide evidence for potential differences between the two groups. There are no pictures of stelae in the preliminary report that could easily be used for comparison. The best reference for analysis of the stelae is the monograph compiled by Wang Bo (1995). Wang Bo was able to access the stelae found in the Qiemu'erqieke cemeteries. He also studied

a large number of other stone stelae discovered in Xinjiang and adjacent areas. Stelae from two unexcavated cemeteries,

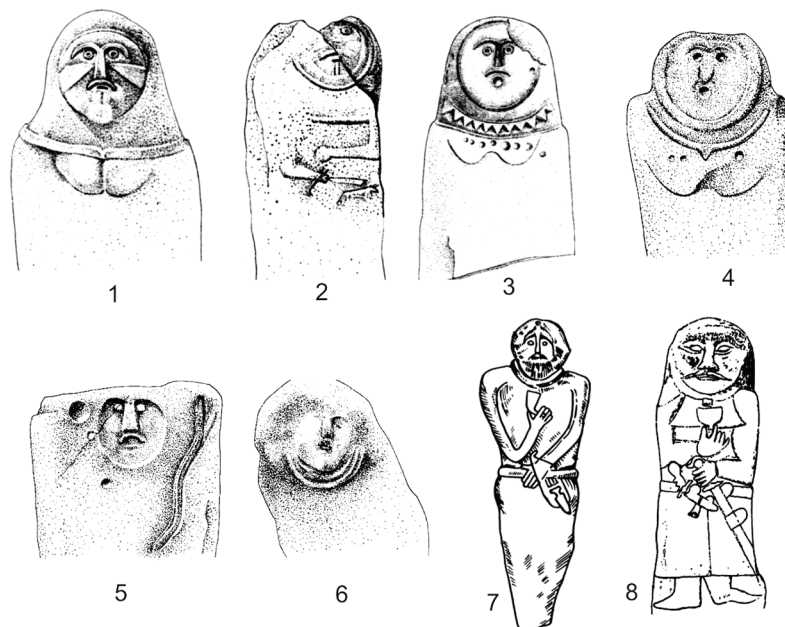


Figure 6: Stone Stelae: 1-4. Qiemu'erqieke Phase I from the Kayinar cemetery (Kovalev 1999); 5, 6. Qiemu'erqieke Phase II from Kalatasi cemetery (Wang 1995:62, 177-Ea-22, 23); 7. Scythian (Telegin and Mallory 1994); 8. Turkic (Wang 1995: 82)

Kalatasi and Hayinar (Wang Bo 1995:62 and plate 156 - Ea-1), have become key typological representations of the two groups from Wang Bo's study. The Kalatasi and Hayinar statues are still *in situ*, lined up along the eastern side of the stone enclosures that surround each cemetery. The cemeteries are located a few kilometres south of the Qiemu'erqieke cemeteries and both are protected by local council and open to tourists.¹² Two small stone slabs carved with human faces standing on the side of the Kalatasi stone enclosure (Figure 6:5-6), are said by Wang Bo (1995:62, 177-Ea-22, 23) to be similar to the stele found at M4 (Phase II) in the Qiemu'erqieke cemeteries. These stand in contrast to the large stone statues erected on the side of the Hayinar stone enclosure (Fig. 6:1-4), which have been categorised by Wang Bo (1995) as typical of the Bronze Age

¹²The authors have visited both cemeteries.

stelae in the Qiemu'erqieke cemeteries (Lin Yun 2008). The design of the stelae changes from an almost life-size statue emphasising the upper half of the body in the Bronze Age to a small stele with a simple representation of the human face on the surface of the stone in the Iron Age (Fig. 6:5-6). There is also a shift from three dimensional sculpting to flat engraving. Overall, the two types of stelae associated with the two groups of burials constitute two cultural traditions and neither the Bronze Age nor the Iron Age stelae in the Qiemu'erqieke cemeteries can be linked in any way to the later and much more common Turkic stone anthropomorphic sculptures dated to the 4th -7th centuries AD (Fig. 6.8).

Summary

In summary, the burials found in the Qiemu'erqieke cemeteries can be classified into at least two groups: one group with bronzes only and one group with iron artefacts. The groups are also distinguished by differences in orientation and style of grave. It seems likely, therefore, that the two groups represent two different periods, the Bronze Age, and the Iron Age and thereafter. The burials identified as Bronze Age include M1, M2, M3, M5m2, M7m1 and M7m2 in Cemetery I, M8, M11, M15, M16m2, M17m1, M17m2 in Cemetery II, and M18m1, M18m2, M19, M20, M21 and M24 in Cemetery III. Following Lin Yun (2008) in assuming the group with bronzes only to represent a new early Bronze Age culture, this is here referred to as Qiemu'erqieke Phase I, in order to distinguish these early burials from those of the second group, Qiemu'erqieke Phase II. Qiemu'erqieke Phase II is characterized by the appearance of iron artefacts and different burial practices. The discussion below will examine Qiemu'erqieke Phase I in greater detail.

Qiemu'erqieke Phase I

Cultural contexts of Phase I

Building on previous studies (*e.g.*, Jia Weiming, Betts and Wu Xinhua 2009, Lin Yun 2008, Shao Huiqui 2007, 2008, Guo Wu 2005, Han Jianye 2005, Mallory and Mair 2000, Chen Kwang-tzuu and Hiebert 199, Shui Tao 1993, Wang Bo 1991), the analysis of the cultural contexts of Phase I below is, however, more detailed because it is based on thorough examination of the evidence for the three individual

cemeteries and also includes comparison with similar burials found at Kuoboer near Ahejiaer village in Woyimokexiang

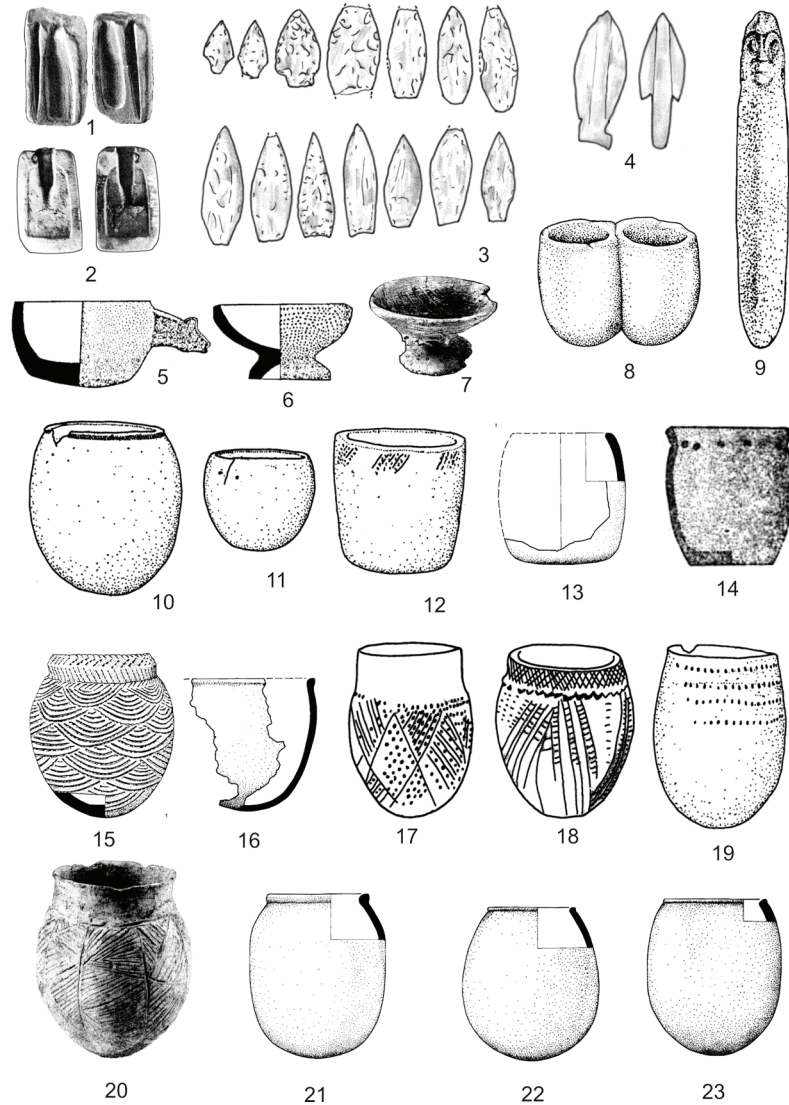


Figure 7: Artefacts from Qiemu'erqieke Phase I: 1-3, 8, 9, 11, 12, 15, 18 (Xinjiang Institute of Archaeology, Academy of Social Science 1985: Plate 66, 68-70, 72-75); 4, 14, 16, 17 (Xinjiang Bureau of Relics *et al.* 1999: 298, 336, 340); 5, 6 (Xinjiang Institute of Archaeology, Academy of Social Science 1981); 7, 20 (Zhang Yuzhong 2007); 10, 13, 19, 21-23 (Kovalev 1999). (The

numbers prefixed by M below refer to grave and artefact number in Xinjiang Institute of Archaeology, Academy of Social Science 1981).

1. Knife mould (Qiemu'erqieke M17:2); 2. Spade mould (Qiemu'erqieke M17:1); 3. Various stone arrowheads (Qiemu'erqieke); 4. Bronze arrowheads (Qiemu'erqieke M17); 5. Stone vessel (Qiemu'erqieke M16:11); 6. Clay lamp (Qiemu'erqieke M24:8); 7. Clay lamp; 8. Stone double vessel (Qiemu'erqieke M3:2); 9. Stone figurine (Qiemu'erqieke M21:1); 10. Stone jar; 11. Stone jar (Qiemu'erqieke M2:9); 12. Ceramic jar (Qiemu'erqieke M7m1:1); 13. Ceramic jar (Qiemu'erqieke M2); 14. Ceramic jar (Qiemu'erqieke M16:4); 15. Ceramic jar (Qiemu'erqieke M16:1); 16. Ceramic jar (Qiemu'erqieke); 17. Ceramic jar (Ka'erzi site, Qitai); 18. Ceramic jar (Qiemu'erqieke M16:3); 19. Ceramic jar (Qiemu'erqieke M16:4); 20. Ceramic Jar (Kuoboer Valley); 21. Stone jars (Qiemu'erqieke M8); 22. Ceramic jar (Qiemu'erqieke M7); 23. Stone jar (Qiemu'erqieke M16).

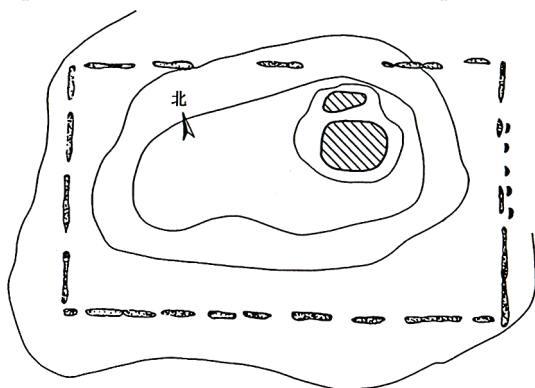


Figure 8: Kayinar Cemetery showing enclosure and stelae (located on right side outside the enclosure) typical of Qiemu'erqieke Phase I (Lin 2008).

(Zhang Yuzhong 2005, 2007), and the Alepabulakao burial (Wang Bo *et al.* 2005) in Buerjin county next to the Aletai region (Fig. 1).

The major characteristics of Qiemu'erqieke Phase I include:

1. Burials with two orientations of approximately 20° or 345° .
2. Rectangular enclosures built using large stone slabs. The size of the enclosure varies from a maximum of 28 x 30 m.¹³ to a minimum of 10.5 x 4.4 m. (Figure 8, Table 2).

¹³The stone enclosure located near Hayinar is the largest one at

3. Almost life-sized anthropomorphic stone stelae erected along one side of the stone enclosures (Lin Yun 2008).
4. Single enclosures tend to contain one or more than one burial, all or some with stone cist coffins.
5. The cist coffin is usually constructed using five large stone slabs, four for the sides and one on top, leaving bare earth at the base (Zhang Yuzhong 2007). Sometimes the insides of the slabs have simple painted designs (Zhang Yuzhong 2005).
6. Primary and secondary burials occur in the same grave.
7. Some decapitated bodies (up to 20) may be associated with the main burial in one cist.
8. Bodies are commonly placed on the back or side with the legs drawn up.
9. Grave goods include stone and bronze arrowheads, handmade gray or brown round-bottomed ovoid jars, and small numbers of flat-bottomed jars (Fig. 7).
10. Clay lamps appear to occur together with round-bottomed jars.
11. Complex incised decoration on ceramics is common but some vessels are undecorated.
12. The stone vessels are distinctive for the high quality of manufacture
13. Stone moulds indicate relatively sophisticated metallurgical expertise.
14. Artefacts made from pure copper occur.
15. Sheep knucklebones (astragali) imply a tradition (as in historical and modern times) of keeping knucklebones for ritual or other purposes. They also indicate the herding of domestic sheep as part of the subsistence economy.

Distribution of sites

The distribution of the Qiemu'erqieke tradition is still not clear, but based on known examples (Table 3), the centre of the distribution tends to be in the Aletai region in Xinjiang and western Mongolia, including the southern slopes of the Aletai mountains, Aletai City as represented by the burials found along the Qiemu'erqieke River (Xinjiang Institute of Archaeology 1981), Buerjin (Zhang Yuzhong 2005, 2007) and Fuhai counties (Lu Enguo *et al.* 2001) but not limited to there (Fig 1).

approximately 30 x 40 m. based on pacing of the site during a visit by the authors in 2008.

Table 3. Archaeological sites of Qiemu'erqieke Phase I

No.	Site name	Local council	Altitude	Latitude	Longitude	Reference
1	Qiemu'erqieke Cemetery I	Qiemu'erqieke County, Altay City	753m	47.810	87.893	XIAASS **1981
2	Qiemu'erqieke Cemetery II	Qiemu'erqieke County, Altay City	753m	47.810	87.893	XIAASS **1981
3	Qiemu'erqieke Cemetery III	Qiemu'erqieke County, Altay City	753m	47.810	87.893	XIAASS **1981
4	Kayinar Cemetery	Qiemu'erqieke County, Altay City	755m	47.826	87.863	Lin 2008
5	Kuoboer burial	Wuoyimoke Xiang, Buerjin County	485m	47.779	86.905	Zhang 2007, 2005
6	Alepabula burial	Buerjin County	485m	47.711	85.903	Wang et al.2005
7	Kuyirkebayidengkuolasi	Fuhai County	598m	47.711	85.903	Lu et al. 2001
8	Kalatasi cemetery	Qiemu'erqieke Xiang, Altay City	691m	47.781	87.860	Wang 1995
9	Changanuoleng Cemetery	Tangpaleyuzi Village, Qinghe County	n/a	46.501	90.307	Wang 1995
10	Basikekeren Cemetery	Qinghe County	n/a	46.27	90.156	Wang 1995
11	n/a	Fuyun County	n/a	47.096	89.552	Wang 1996
12	Sasibulake cemetery	Tacheng City	n/a	46.837	83.399	Wang 1997
13	n/a	Jimsar County	n/a	43.949	89.136	Lin 2009
14	Kaerzi site	Qitai County	n/a	43.994	89.594	Xinjiang Bureau of Relics et al. 1999
15	Ulanhussum Cemetery	Bayan Ulgii Province, Mongolia	n/a	48.95	88.63	Kovalev 2008
16	Bulgansum Cemetery	Khovd Province, Mongolia	n/a	48.007	91.1405	Kovalev 2008

** Xinjiang Institute of Archaeology, Academy of Social Science 1981

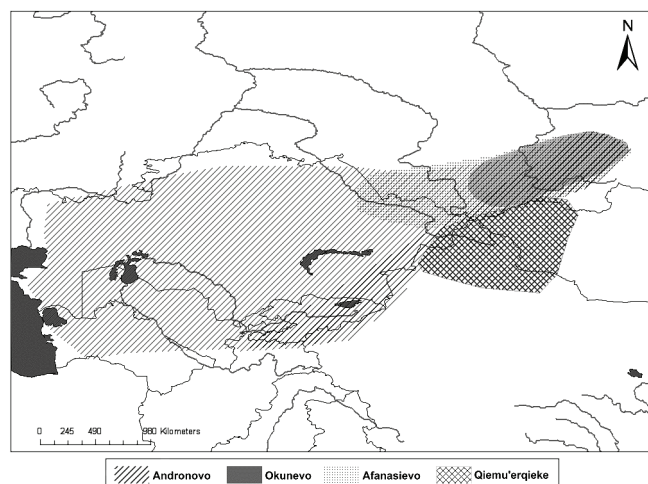


Figure 9: Bronze Age cultures of eastern Eurasia.

Anthropomorphic stone stelae discovered in different locations have provided some signs of the possible extent of Qiemu'erqieke Phase I¹⁴ (Lin Yun 2007, Wang Bo 1995, Chen Kwang-tzue and Hiebert 1995). The stelae that may be identified with Qiemu'erqieke phase I have been discovered in Qinghe County in the east Aletai region, for example at Chaganguoleng Cemetery (Wang Bo 1995:54, 160-Ea-5), Tangbaleyuzi Village (Wang Bo 1995:54, 161-Ea-5), and Basikekeren Cemetery (Wang Bo 1995:55, 162-Ea-7), as well as in Fuyun County, Aletai (Wang Bo 1995:58-63, 169-Ea-14, and 171-Ea-16). They have also been found at the Sasibulake cemetery in Tacheng County south of the Aletai region (Wang Bo 1995:77, 209-Eb-4). These stelae possibly imply the eastward and southward expansion of the Qiemu'erqieke tradition. Similar burials found in western Mongolia have suggested a further eastward expansion (Kovalev 2008). The example found at Jimusar County at the southern edge of the Zhunge'er Basin (Wang Bo 1995:93, 240-Ee-7) seems far away from the centre of Qiemu'erqieke, but a similar round-bottomed jar also found at Qitai County east next to Jimusar is unlikely to be a coincidental discovery. On the contrary, it may in fact suggest a far southeastern distribution (Fig. 1).¹⁵

¹⁴No illustrations of stone stelae on enclosures were published in the 1981 preliminary report.

¹⁵See also Chen Kwang-tzue and Hiebert 1995.

Whether this tradition spreaded across the Tianshan into the southern area of Xinjiang is not clear, but there is no evidence so far from the southern slopes of the Tianshan for Qiemu'erqieke Phase I unless the purported links with Xiaohu basketry are to be believed (Lin Meicun 2002). To the west, it may extend into eastern Kazakstan along the Upper Irtysh River valley and the southern area of the Russian Aletai based on recent discoveries (Kovalev 2008) in those areas (Figure 9).

Chronology of Qiemu'erqieke Phase I

Available evidence suggests that the date range for Qiemu'erqieke Phase I should fall from the later third into the early second millennium BC. There are several reasons to suggest that the time span is around the early second millennium BC. Lin Yun (2008) has specifically discussed this issue. First, he suggests, based on the evidence of copper objects and the number of bronzes found at Qiemu'erqieke, that Phase I cannot date back as early as the start of the Afanasievo (2008:158). He maintains that the bronze artefacts found in Phase I show a greater sophistication in the level of copper alloy technology than that of the pure copper artefacts common to the Afanasievo tradition. On this basis it might be suggested that the Afanasievo could be considered to be Chalcolithic with a time span across much of the third millennium BC (Gorsdorf *et al.* 2004:86, Fig. 1).¹⁶ Qiemu'erqieke Phase I, however, should more properly be considered as Bronze Age. Lin Yun also used the bronze arrowhead from burial M17 to narrow down the date of Qiemu'erqieke Phase I. Two arrowheads were found in this burial, one of them leaf shaped with a single barb on the back (Fig. 7:4). A similar arrowhead, together with its casting mould, has been found at the Huoshaogou site of Siba tradition (Li Shuicheng 2005, Sun Shuyun and Han Rufen 1997), in Gansu province, northwest China, dated around 2000-1800 BC (Li Shuicheng and Shui Tao 2000). This supports a date in the early second millennium BC for the Qiemu'erqieke arrowhead. The painted, round-bottomed jar from the Tianshanbeilu cemetery (Jia Weiming, Betts and Wu Xinhua 2008: Fig. 7,

¹⁶There are different opinions on the chronology of the Afanasievo due to the great deal of variation in available C14 dates (Chernykh 2004), but a recent study by Gorsdorf *et al.* (2004) for the Afanasievo of the Minusinsk Basin should be relevant for this analysis.

bottom left) has been considered as a hybrid between the Upper Yellow River Bronze Age cultures of Siba in northwest China and the steppe tradition of Qiemu'erqieke in west Siberia (Li Shuicheng 1999). If this assumption is correct, the date of Tianshanbeilu, around 2000 BC, can be used as a reference for Qiemu'erqieke Phase I (Jia Weiming, Betts and Wu Xinhua 2008, Lin Yun 2008, Li Shuicheng 1999). Stone arrowheads found in Qiemu'erqieke Phase I also imply that the date is likely to fall within the earlier part of the Bronze Age as no such stone arrowheads have yet been found elsewhere in sites of the Bronze Age in Xinjiang dated after the beginning of the second millennium BC.¹⁷

Table 3. Chronological typology of the Okunev ceramic tradition

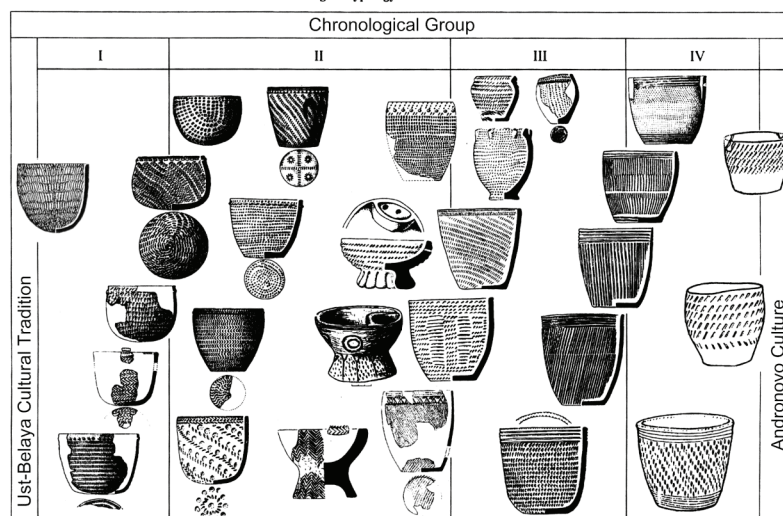


Figure 10: Typological chronology of the Okunevo tradition (Sokolova 2007).

Recent research on the Okunevo culture by Sokolova (2007) can be used as a parallel reference to provide more information for the chronology of Phase I. One of the defining characteristics of Okunevo pottery during the earlier Bronze Age in the steppe is the predominance of flat-based vessels. By analysing typological change through time, Sokolova (2007) has established a chronology for the Okunevo pottery (Figure 10).

¹⁷For example Chawuhu and Xiaohe cemeteries (Xinjiang Institute of Archaeology 1999, 2003).



Figure 11: Comparisons of different ceramic traditions: 1) Yamnaya; 2, 5) Anfnasievo; 4, 7) Okunevo; 3, 6, 8, 9) Qiemuerqieke Phase I.

1. (Shishlina 2008: 46); 2, 5. (Okladnikov 1959:77); 3. (Zhang 2007); 4. (Sokolova 2007); 6. (Xinjiang Institute of Archaeology, Academy of Social Science 1981); 7. (Lazaretov 1997:61, Fig. 20, 2); 8. (Xinjiang Institute of Archaeology, Academy of Social Science 1985: 71); 9. (Kovalev 1999: 161, Fig. 13. 3).

A jar form with a flat base, straight wall and rim and incised pattern of decoration near the rim from Qiemu'erqieke Phase I (Xinjiang Institute of Archaeology, Academy of Social Science 1985: pl. 74; Fig. 7.12) is similar to the jar form found in the later stage of the Okunevo, Sokalova's chronological group IV, dated around 1900 BC, contemporary with the appearance of the Andronovo in eastern Kazakhstan (Fig. 10) (Sokolova 2007: table 3). Chen Kwang-tzuu and Hiebert (1995:271) have made comparisons between a flat-based shouldered jar (Fig. 7.14) and early Andronovo ceramics. This jar form also occurs in related sites in Mongolia (Kovalev 2008: fig. 3, 9-11). It can only be generally compared to Andronovo vessels and the evidence is insufficient to support Chen Kwang-tzuu and Hiebert's (2005) suggestion of a close affinity to the early Andronovo. Pottery

“oil burners” (goblet-like ceramic vessels, possibly lamps) have been found in three traditions: Afanasievo (Gryaznov and Krizhevskaya 1986:21), Okunevo (Fig. 10) and Qiemu’erqieke (Fig. 7.6-7). It is believed that this oil-burner found in Siberia and the Aletai is a heritage from the Yamnaya and Catacomb cultures (Sulimirski 1970: 225, 425; Shishlina 2008:46) in the Caspian steppe further to the west (Figure 11), but does not seem to exist in known Andronovo cultures. The oil-burner tends to disappear after around 2300 BC during the mid-Okunevo period (Fig. 10). It is, however, possible that the tradition continues longer in the Qiemu’erqieke sites.

The construction of the stone enclosures also reveals a close connection between Qiemu’erqieke Phase I and the mid and late Okunevo tradition (Sokolova 2007). Slab built stone enclosures emerged in both the Okunevo and Afanasievo traditions (Gryaznov and Krizhevskaya 1986:15-23, Kovalev 2008, Sokolova 2007, Anthony 2007:310, Koryakova and Epimakhov 2007). In the early Afanasievo the enclosure is circular with no cist coffin (Anthony 2007:310, Gryaznov and Krizhevskaya 1986:20), but in the early stage of the Okunevo square stone enclosures with a single cist burial are dominant. Square or rectangular stone enclosures are a marked feature of Qiemu’erqieke Phase I, suggesting temporal relationships between Qiemu’erqieke Phase I and the Okunevo. In Okunevo chronological group II, possibly with influence from the Afanasievo, circular stone enclosures appeared in combination with rectangular enclosures within individual cemeteries, referred to by Sokolova (2007: table 2) as hybrid examples. By Okunevo chronological group III, rectangular stone slab enclosures with multi-burials emerged again. This is the dominant form in Qiemu’erqieke Phase I. Okunevo burial traditions changed again to single cist burials in the late stage around chronological group V (Sokolova 2007). A specific mortuary rite of decapitated burials exists in both the Qiemu’erqieke and Okunevo traditions (Sokolova 2007, Chen Kwang-tzuu and Hiebert 1995), as does the occasional occurrence of painted designs on the interior of the slabs forming the cists (*e.g.*, Khavrin 1997: 70, fig. 4; 77: tab. IV.5). Based on these comparisons, the date of Qiemu’erqieke Phase I may well parallel that of the Okunevo from at least chronological group II around 2400 BC (Gorsdorf *et al.* 2004: fig. 1).

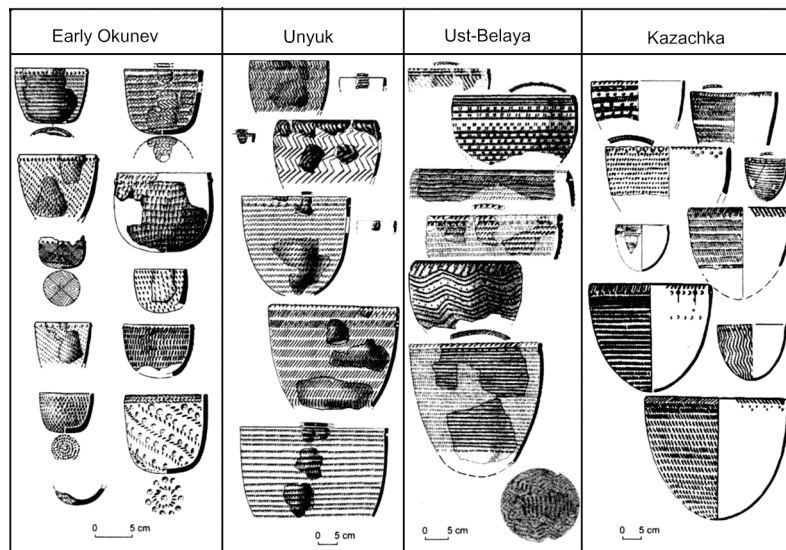


Figure 12: Comparison between the Early Okunevo and contemporary cultures (Sokolova 2007).

With regard to the tradition of rounded bases on the ceramic vessels in Qiemu'erqieke Phase I, this has generally been assumed to relate to the Afanasievo (*e.g.*, Lin Meicun 2002), despite the occasional appearance of flat-based vessels in the Afanasievo assemblage (Lin Yun 2008). Rounded bases, however, are not exclusive to the Afanasievo, but rather they appear in various cultural traditions across a broad area of the Eurasian steppe from the sixth millennium BC Neolithic to the Bronze Age of the second millennium BC (Zakh 2006, Kislenko and Tatarintseva 1999), including the Baotai tradition in western Siberia (Kislenko and Tatarintseva 1999) and the Kitoi, Galzkovo and Serovo assemblages in Baikal and the northern Altai Region (Aseyev 2002, Kungurova 2003). Besides the Afanasievo, during the third to second millennium BC, round-bottomed jars with full body incised decoration also occur in the Minusinsk Basin in, for example, the Ust-Belaya culture (Sokolova 2002), and east of the Aletai region in Mongolia, in the Selenga-Daurian culture (Figure 12) (Cybiktarov 2002). They are also a feature of the early Okunevo (Figs 10, 11). With this wide distribution of a generalised technique of ceramic manufacture it is difficult to be precise about the specific influences on Qiemu'erqieke pottery making.

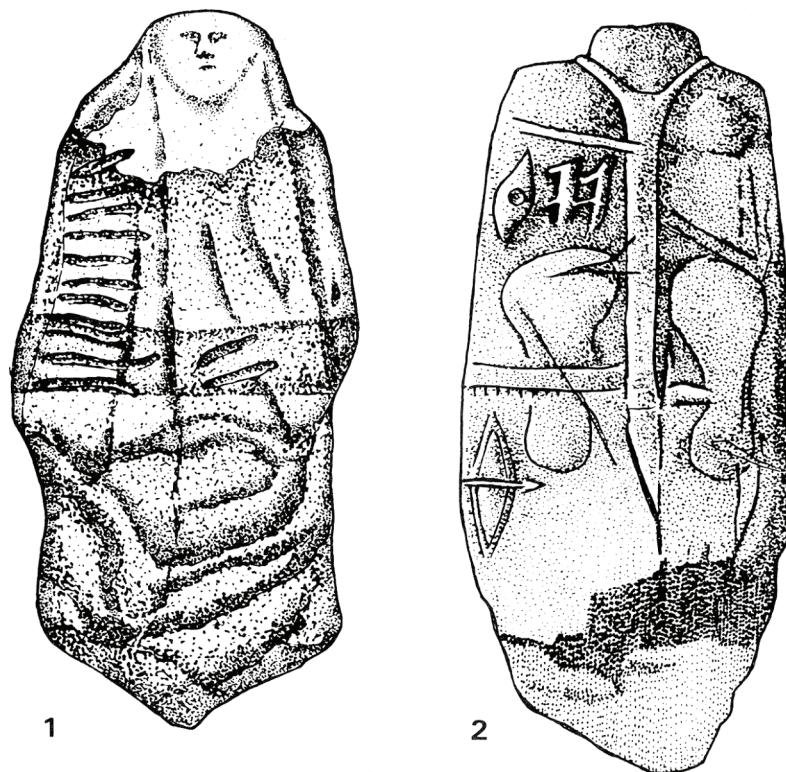


Figure 13: Chalcolithic stelae from the Ukraine (Telegin and Mallory 1994:6).

With the present lack of intensive fieldwork, the possibility cannot be ruled out that some traditions, including the ceramic forms of Qiemu'erqieke Phase I, were acquired at a very early period even before their appearance in the Qiemu'erqieke region, as suggested by Lin Yun (2008). In addition to the pottery making tradition, the anthropomorphic stone stelae may also have earlier antecedents. In the Okunevo assemblage there are anthropomorphic stelae that are longer, thinner and more abstract than those of Qiemu'erqieke. There is no indication of such stelae in the Afanasievo tradition (Gryaznov and Krizhevskaya 1986:15-23). However, further to the west, anthropomorphic stone stelae are associated with the Kemi-Oba and Yamnya cultures around the third millennium BC (Telegin and Mallory 1994; Figure 13). Some major characteristics of these stelae such as the

necklace, hands placed on the abdomen and incised cattle

Atmospheric data from Reimer et al (2004);OxCal v3.10
Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]

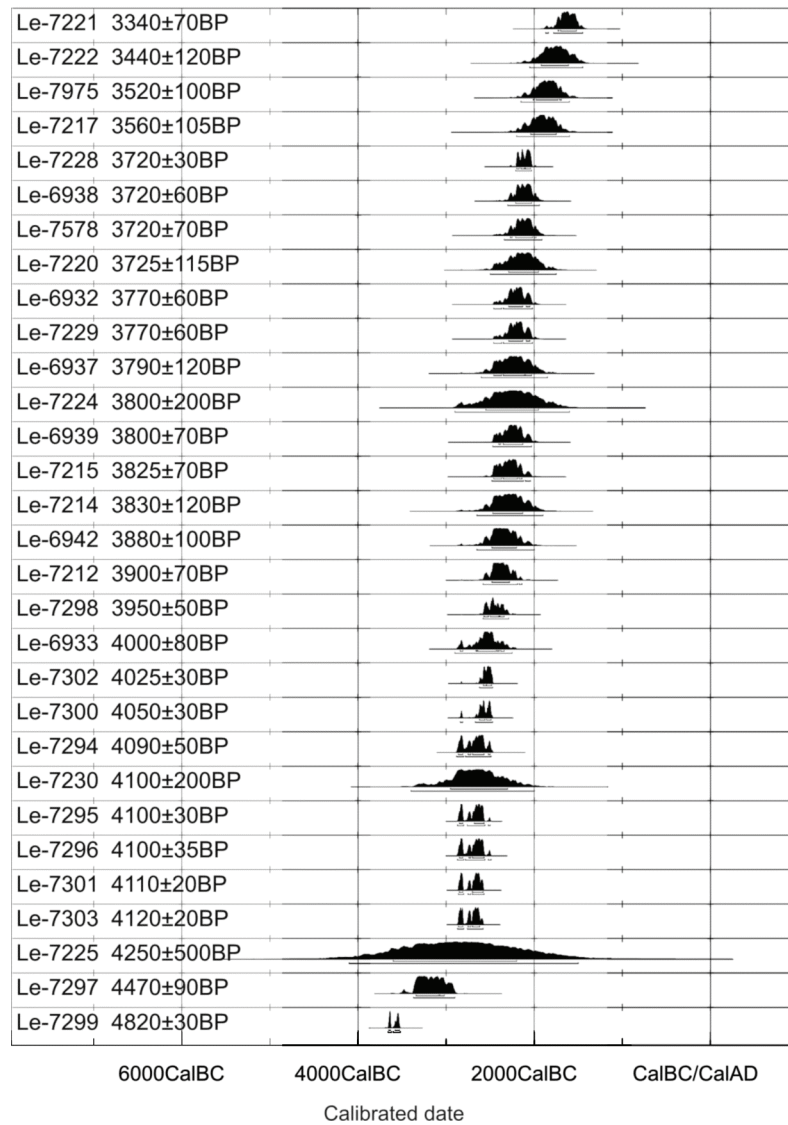


Figure 14: C14 dates from eastern Mongolia (based on Kovalev 2008, recalibrated using Oxcal v.3).

Table 4. C14 dates from east Mongolia (based on Kovalev 2008, recalibrated using Oxcal v.3)

EXCAVATED UNIT	LAB CODE	MATERIAL	UNCAL DATE (BP)	CAL DATE 68.2%(BC)
Buural kharynar, burial chamber	Le-7225	human bone	4250±500	3600-2200
Kara tumsik burial pit	Le-7302	charcoal	4025±30	2757-2485
Kara tumsik burial pit	Le-7303	charcoal	4120±20	2860-2620
Kheviin am 1	Le-7975	human bone	3520±100	2010-1690
Kheviin am 1, burial chamber	Le-7217	human bone	3560±105	2040-1750
Kheviin am 1, burial chamber	Le-7222	human bone	3440±120	1920-1610
Kheviin am 1, burial chamber	Le-7224	human bone	3800±200	2550-1950
Kheviin am 1, burial chamber	Le-7229	charcoal	3770±60	2290-2050
Kheviin am 1, burial chamber	Le-7230	wood	4100±200	2950-2300
Kheviin am 2, burial chamber	Le-7214	human bone	3830±120	2470-2130
Kheviin am 2? burial chamber*	Le-7228	charcoal	3720±30	2200-2040
Kulala ula 1 earliest burial pit	Le-7297	charcoal	4470±90	3340-3020
Kulala ula 1 earliest burial pit	Le-7298	charcoal	3950±50	2570-2340
Kulala ula 1 earliest burial pit	Le-7299	wood	4820±30	3650-3530
Kulala ula 1 secondary burial 1	Le-7220	human bone	3725±115	2290-1950
Kumdi gobi earliest pit	Le-7300	charcoal	4050±30	2620-2490
Kumdi gobi earliest pit	Le-7301	charcoal	4110±20	2850-2580
Kumdi gobi secondary burial 1 (the latest)	Le-7221	human bone	3340±70	1730-1520

EXCAVATED UNIT	LAB CODE	MATERIAL	UNCAL DATE (BP)	CAL DATE 68.2%(BC)
Kumdi gobi secondary burial 2	Le-7212	human bone	3900±70	2480-2280
Kurgak gobi 2 earliest pit	Le-7294	charcoal	4090±50	2860-2500
Kurgak gobi 2 earliest pit	Le-7295	Charcoal	4100±30	2850-2570
Kurgak gobi 2 earliest pit	Le-7296	Charcoal	4100±35	2850-2570
Kurgak gobi 2 secondary burial	Le-7215	human bone	3825±70	2460-2140
Yagshiin khodoo 1	Le-7578	human bone	3720±70	2270-1980
Yagshiin khodoo 1, burial chamber	Le-6937	human bone	3790±120	2460-2030
Yagshiin khodoo 1, burial chamber	Le-6938	human bone	3720±60	2210-2030
Yagshiin khodoo 2, burial chamber	Le-6942	human bone	3880±100	2480-2200
Yagshiin khodoo 3	Le-6939	human bone	3800±70	2400-2130
Yagshiin khodoo 3,	Le-6932	human bone	3770±60	2290-2050
Yagshiin khodoo 3, burial chamber	Le-6933	human bone	4000±80	2840-2340

*Question mark in the original table

icons on the front face of the stelae (Telegin and Mallory 1994:8-9) also appear on stelae found in Qiemu'erqieke Phase I. Recalling the oil burners that may have been inherited from the Yamnya culture and which are found in the Afansievo, Okunevo and Qiemu'erqieke Phase I, it might be possible to speculate that Qiemu'erqieke Phase I has its origins even earlier than the first half of the third millennium BC. This idea has also been suggested by Kovalev (1999).

Despite the affinities with the Okunevo cultural tradition, Qiemu'erqieke Phase I appears to be a discrete regional variant. The ceramic assemblage shows traits unique to this cluster of sites, while the anthropomorphic stelae are also distinctive markers of this tradition. There are no C14 dates available for the Qiemu'erqieke cemeteries, but some recently

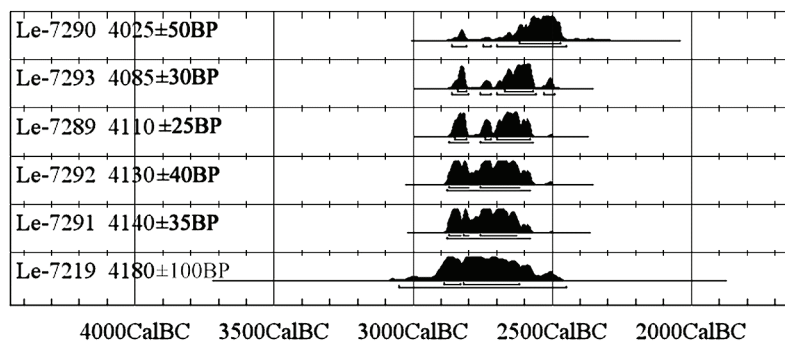


Figure 15: C14 dates for the Afanasievo tradition (based on Kovalev 2008, recalibrated using Oxcal v.3)

discovered cemeteries in western Mongolia, eastern Kazakstan and Russian Aletai have been identified by Kovalev and Erdenebaatar (Kovalev 2008:348; Kovalev *et al.* 2008) as relating to the Qiemu'erqieke (Phase I) tradition. The ceramics include flat-bottomed jars with incised decoration (Kovalev 2008: fig. 2.16; fig. 3, 9-11) which can be paralleled in the flat-bottomed shouldered jar with punctuate decoration from Qiemu'erqieke Phase I (Figure 7.14; 14), while the stone vessels (Kovalev 2008: fig. 2.16; fig. 3. 8) closely parallel those from Qiemu'erqieke. Burials are predominantly in stone cists, some with painted designs on the slabs (Kovalev 2008: fig. 2.16; fig. 3. 2), and anthropomorphic stelae closely resemble those of Qiemu'erqiek Phase I (Kovalev 2008: fig. 2.16; fig. 3.3). There are 30 carbon dates available from eastern Mongolia at sites believed to be affiliated to Qiemu'erqieke Phase I (Kovalev 2008) (Table 4). The date range (Figure 15) stretches across a period that begins from the late fourth millennium BC (around 3200 BC) and ends in the early second millennium BC (around 1700 BC) lasting 1500 years, overlapping with both the Afanasievo (Figure 16) and Okunevo cultures (see Table 1 and Table 5). Overall, if the three early dates are discounted, the range narrows substantially to fall within a mean of the mid third to early second millennium BC. Kovalev places the date range for his 'Chemurchek' sites at 2500-1800 BC (Kovalev 2008: 344). Of the three earliest dates, one, Le-7225, has a very high margin of error, while the other two, Le-7297 (3400-2900 calBC) and Le-7299 (3660-3520 calBC), come from the earliest of two burials at Kulala-Ula. The later burial at Kulala-Ula, Le-7220

(2500-1750 calBC), falls well within the dates given by Kovalev for the 'Chemurchek' sites. The first burial may be a very early precursor to the main cultural tradition.

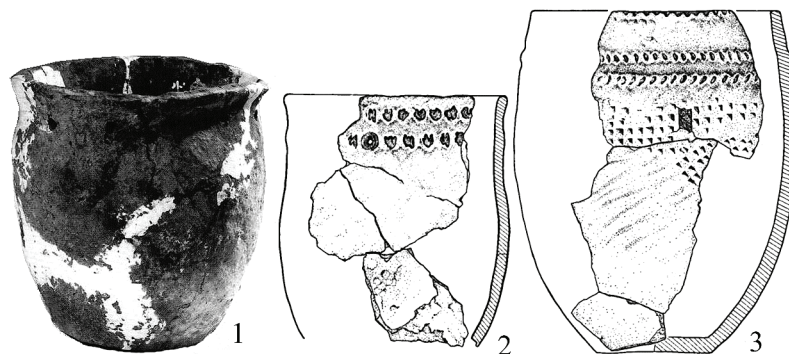


Figure 16: Comparison of ceramic jars from Qiemu'erqieke and Mongolia.

1. Qiemu'erqieke M16:4 (Xinjiang Bureau of Relics *et al.* 1999:339, Plate 0949); 2 and 3 (Kovalev 2008: Fig. 3. 10, 11).

Nevertheless, without further typological and chronological study of both Qiemu'erqieke Phase I and the apparently related sites in eastern Mongolia, it is not clear as to whether the start of Phase I in the Qiemu'erqieke cemeteries can be dated as early as the late 4th millennium BC. A date from the mid-3rd millennium BC or even slightly later may be more accurate. This supports the evidence from the material culture outlined above for broad affinities with the Okunvo. Phase I is likely to have come to an end before the beginning of the Karasuk around 1700 BC. Although it is still premature to draw any conclusions about the cultural roots of Qiemu'erqieke Phase I, there are hints that these lie to the west and may relate to the Yamnaya culture in some ways. It is now apparent that Qiemu'erqieke Phase I represents, as Lin Yun (2008) proposed, a cultural entity clearly distinct from the Afansievo-Okunevo sequence, although it displays affinities with these traditions, in particular the Okunevo. So far it is known only from cemeteries; no occupation sites have been identified. Its cultural heartland is the southern foothills of the Aletai mountains. It is the earliest of the known Bronze Age assemblages in Xinjiang and it may have spread its cultural influence southwards and eastwards through time. However, it is quite distinct from the Xiaohe and Gumuguo traditions. Based on evidence available to date, it is difficult to see

Qiemuerqieke Phase I as in any way directly ancestral to these largely aceramic oasis cultures.

Table 5. C14 dates for the Afanasievo in eastern Mongolia (based on Kovalev 2008, recalibrated using Oxcal v.3)

BURIAL	LAB CODE	MATERIAL	UNCAL DATE (BP)	CAL DATE (BC)
Kurgak gobi 1 burial pit	Le-7290	Charcoal	4025±50	2620-2470
Kurgak gobi 1 burial pit	Le-7293	Wood	4085±30	2840-2570
Kurgak gobi 1 burial pit	Le-7289	Charcoal	4110±25	2850-2580
Kurgak gobi 1 burial pit	Le-7292	Charcoal	4130±40	2870-2620
Kurgak gobi 1 burial pit	Le-7291	Charcoal	4140±35	2870-2630
Kurgak gobi 1 burial pit	Le-7219	human bone	4180±100	2890-2620

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