

Continuity and Discontinuity in Burial Practices of the Early Niche Grave Population of Yanghai in the Turfan Basin

Some Preliminary Conclusions

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Abstract: Around the 3rd c. BCE, the Turfan Basin in present-day Northwest China saw the sudden emergence of niche graves. Who were their occupants and how did their burial practices differ from their predecessors and contemporaries? This paper presents some preliminary results as part of a much broader PhD research that investigates the emergence of niche graves at the burial site of Yanghai, and that explores links on a regional (the Turfan Basin) and supra-regional level (eastern Central Asia). Changes in single, joint and multiple burials as well as animal sacrifices will be investigated here in order to discuss patterns of continuity and discontinuity, based on a quantitative approach.

Keywords: Turfan, Yanghai, niche graves, Early Iron Age

Research Context

This research should be understood against the background of a larger yet fragmentary niche grave debate, which has existed for decades among scholars from China, the Russian Federation and Central Asia in particular. Not only does it want to revive this debate from a more regional perspective; it further aims to contribute to a better understanding of migrations, ethnicity and identity in eastern Central Asia, notably from an archaeological rather than a historical perspective.

The core research questions can be formulated as follows. 1) What motivated the use of niche graves in the Turfan Basin and who were their occupants? 2) Do the early niche graves in the Turfan Basin represent an innovation introduced by immigrants, or are they rather the result of a local development in tomb architecture? 3) If the niche graves in the Turfan Basin represent a type introduced from outside, how can they be linked to similar practices in other regions? The ultimate question is whether the research category 'niche grave' is significant at all.

In this paper I will only address some aspects of the second question. More specifically, I will investigate 1) whether the niche grave users continued or discontinued local practices of single, joint and multiple burials and to which degree; and 2) whether there were significant changes in the practice of animal sacrifice and to some degree the mode of subsistence. I will focus on a few selected parameters in order to discuss these questions.

The Yanghai burial site

The burial site of Yanghai is located in a barren desert area at the southern foot of the Flaming Mountains in Tuyugou in Shanshan County (Xinjiang Uyghur Autonomous Region, P.R. China). About 3000 graves cover three separate terraces of quaternary loess covered with gravel sand, referred to as 'Yanghai I, II and III'. 518 graves that were excavated between 1988 and 2003 and reported (XINJIANG and TULUFAN 2004a and b; XINJIANG and XINJIANG 2011) will be used in the analysis in this paper.¹

The burial site was more or less continuously in use from the 13th c. BCE to the 2nd c. CE. Its preservation status is excellent despite severe looting. The graves have been divided by the excavators into four types (A-D) mainly based on typologies of grave architecture and grave goods but also radio carbon dating (Xinjiang and Xinjiang 2011:145–146). The fact that graves were often reopened for depositing other bodies and that some of them were in use for a long period has significantly complicated the dating. Despite chronological overlap, the grave types roughly follow four phases: oval shaft graves (Type A, 13th–11 c. BCE); rectangular shaft grave with ledges at one, two, three or four sides of the shaft (Type B, 10th–8th c. BCE); rectangular shaft graves without ledges (Type C, 7th–4th c. BCE) and lateral niche graves where one side niche is dug out perpendicularly to the shaft (Type D, 3th c. BCE–2nd c. CE) (for the dates see forthcoming excavation report) (Fig. 1).

The burial site of Yanghai gradually expanded eastward from Cemetery I over Cemetery II to Cemetery III and from south to north or alternatively from low to high-lying grounds. Apart from this horizontal stratigraphy, there is no vertical stratigraphy or graves do not overlap in space. Type A only occurs on the Yanghai I terrace. Type B is mainly concentrated on Yanghai I, Type C mainly on Yanghai II and Type D mainly on Yanghai III. Small concentrations of types B, C and D are found on all terraces. The extent of chronological overlap between the types is not very well understood, especially since the graves do not intercut each other. This obviously influences the results of the present analysis. Part of the graves of Type C, for example, coexisted with Type B and, later on, with Type D.

¹ A total of 521 pits are encoded as graves in the excavation reports. Two of these are in fact ancillary pits and each of them can be associated with one of the graves. One is a double niche grave belonging to a later period and is therefore not included in the present analysis. A final excavation report of the Yanghai excavations is forthcoming.

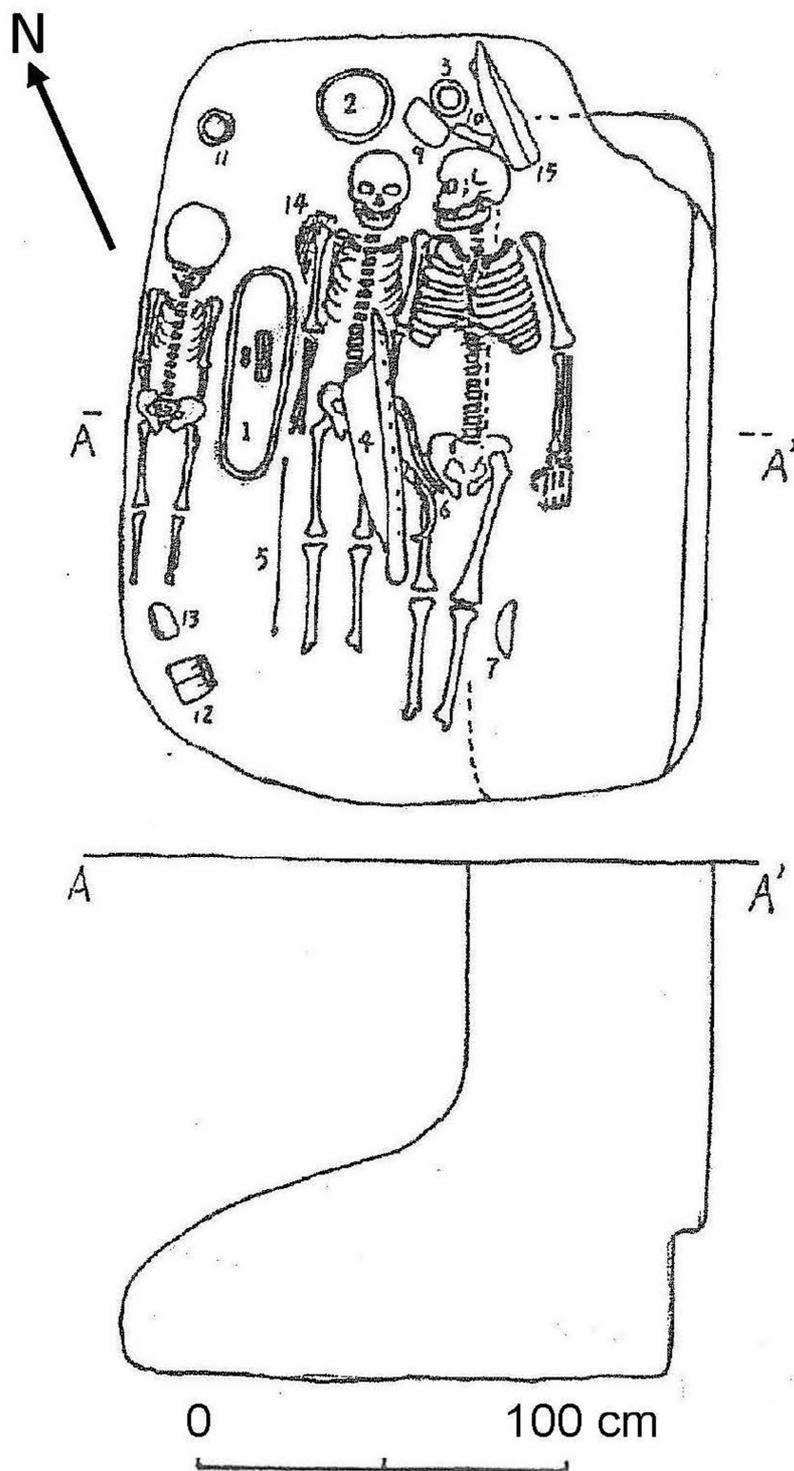


Fig. 1 – Niche grave with multiple burial, Yanghai Cemetery II (after Xinjiang and Tulufan 2004:54, Fig. 10)

When it comes to identifying the occupants of niche graves or Type D graves, the usual suspects in literature, implicitly or explicitly, are the Xiongnu (arguably associated with the later Huns) (Si *et al.* 2013:1427). However, in my PhD research I do not have the ambition to attribute these niche grave

occupants with ethnonyms known from written sources, which I consider highly problematic. I will rather focus on mapping patterns of continuity and discontinuity and quantifying these on the basis of archaeological evidence.

Methodology

The strength of the methodology of the PhD research is its bottom-up approach to data mining. The data are collected and fed into a MySQL database at the lowest possible level, so that these basic analytical units can be aggregated at any moment to the level needed. This will make it possible to look at the data from multiple perspectives, views or paradigms. Ultimately, the PhD study aims to demonstrate how quantitative or statistical approaches can be used to enhance a critical attitude towards data collection, data mining and data analysis. This methodology will allow a combination of deductive and inductive reasoning: pre-defined questions can be addressed and new ones can be generated.

For the purpose of this paper, the author will only look at the data from the perspective of the grave typology as presented by the excavators (A, B, C and D). In other words, the grave types were reconstructed using queries by aggregating on the features or arguments mentioned above (e.g. the form of the grave shaft, presence of niches, ledges etc.), while some adjustments were made afterwards. However, it should be stressed that the same analyses can and are being run on the basis of any other typological scheme (or none) on the basis of the same data. Patterns or co-occurrences are detected mainly using the Chi-square test, initially based on bivariate and eventually multivariate frequency tables. On the basis of this larger patterns can be detected. This is complemented with spatial analyses in GIS.

Based on this typological scheme, and in the framework of this conference, I will investigate patterns of (dis)continuity based on a limited set of parameters. More specifically, I will examine whether the emergence of the niche graves (Type D) co-occurred with 1) changes in single, joint and multiple burial practices; 2) changes in animal sacrifice and to a limited degree subsistence practices.

Some of the more evident parameters like the nature of the burial (primary or secondary) and body positioning will be left aside in this paper. It suffices here to say that there was a general evolution from flexed burials on the side, to flexed burials on the back and finally extended burials; and that primary and secondary burials occurred in all grave types (XINJIANG and XINJIANG 2011:142–143). Primary extended as well as secondary burials were commonly found in niche graves.

Changes in single, joint and multiple burial practices

In this section I will discuss to which degree single, joint and multiple burial practices associated with the niche graves (Type D) at Yanghai, showed continuity or discontinuity with similar practices in earlier grave

types (A, B and C). In order to quantify this, the ratios of single, joint and multiple burials were calculated and compared per grave type (Tab. 1–2). The quantifications are based on a total minimum number of individuals of 750 (MNI = 750).²

	Type A	Type B	Type C	Type D
Single burials	90%	34%	52%	16%
Joint burials	0%	40%	33%	39%
Multiple burials	10%	26%	15%	45%
Total Individuals	100%	100%	100%	100%

Tab. 1 – Comparison of ratios of single, joint and multiple burials found per grave type at Yanghai

	Type A		Type B		Type C		Type D	
	#	%	#	%	#	%	#	%
Single Male	16	52%	18	17%	107	22%	9	8%
Single Female	9	29%	8	8%	93	19%	2	2%
Single ?	3	10%	10	10%	56	11%	8	7%
Joint MF	0	0%	24	23%	104	21%	18	15%
Joint MM	0	0%	4	4%	18	4%	12	10%
Joint FF	0	0%	0	0%	12	2%	0	0%
Joint M?	0	0%	4	4%	10	2%	6	5%
Joint F?	0	0%	6	6%	12	2%	4	3%
Joint ??	0	0%	4	4%	10	2%	6	5%
Multiple	3	10%	27	26%	74	15%	53	44%
Total	31	100%	105	100%	496	100%	118	100%

Tab. 2 – Absolute numbers and ratios of individuals (M/F) found per grave type

From Tab. 1 it can be seen that single burials were by far the dominant practice found in Type A, while a multiple burials were a small minority and joint burials completely absent. In Type B, joint burials can be understood as a new and dominant practice used for well over a third of the population, followed by single burials and multiple burials representing each about a third of the population. The more detailed Tab. 2 indicates that joint burials included predominantly one man and one woman (husband and wife?). Single burials regain popularity in Type C representing half of the population while joint burials are still used for a third of the population and multiple burials become less popular than in the previous phase. In type D (the niche graves) it seems single burials became a minority practice (16%), while joint and multiple burials are equally represented.

² In six cases, the exact number of individuals was not clear but the presence of human bones indicated a minimum of one individual. These have been included in the analysis as ‘1’.

To summarise, single burials show a dramatic decrease from 90% in the earliest graves to only 17% in the niche graves (Type D). While in the first case single burials were accessible for most of the people, in the second case they seem to be reserved for a minority, perhaps the elite. Joint burials emerge as a sudden and new practice in Type B, and they remain popular in types C and D. In all three types (B, C and D) they mainly concern joint burials of one man and one woman. Multiple burials show a sharp increase through time from Type A (10%, 3 individuals per grave) to Type D (45%, 3–7 individuals per grave).

The reason behind these changes in burial practices can be manifold and are investigated in more depth in the PhD thesis. One possibility could be that the restricted number of single burials in niche graves represented an elite while the increase in multiple burials represented common folk. Whether or not this elite status can be confirmed by other aspects, will be addressed partly in the next section but is more extensively discussed in the PhD thesis. The possibility of practical considerations should not be dismissed at this stage. It could indeed be that the space lost in single burials was compensated with less single burials and a higher ratio of multiple burials. In fact, the third terrace, on which most niche graves were found, is considerable smaller in space than the other two terraces (Yanghai III = 15000 m² against Yanghai II = 15750 m² and Yanghai I = 25800 m²).

One major issue that needs to be tackled here in order to fully assess the changes in burial practices, is the degree to which Type C graves co-existed side by side with Type D graves at Yanghai. This was a common feature elsewhere in Xinjiang where niche graves occur, but just as at Yanghai, it is still insufficiently understood. Comparing the ratios of single, joint and multiple burials between niche graves and contemporary shaft graves would add to insights in patterns of continuity and discontinuity.

Changes in animal sacrifice

In the second part of this paper, changes in the animal assemblages of the different grave types will be assessed, in order to see whether any significant inferences can be made about changes in the mode of subsistence and, more importantly, practices of animal sacrifice of the niche grave occupants.

On the basis of all the unworked animal remains reported for the Yanghai burial site, a total minimum number of 180 individuals was calculated (MNI=180). These included 86% or 155 ovacaprids (predominantly ewes or milk-giving sheep with a minority of goat), 12% or 21 horses, 1.7% or 3 heads of cattle and 0.6% or 1 dog. A comparison was then made of the ratios of different animal types per grave type (Tab. 3). Next to this, an overview of the distribution of different animal types was given per grave type (Tab. 4).

When looking at these data from the perspective of the grave typology proposed by the excavators (A-D), we can subsequently make the following observations. Animal bones were found in 34% of Type A graves and 100% are ovacaprid. In Type B 25% of the graves had animal bones including 92% ovacaprid. In two graves the latter were supplemented with cattle respectively dog bones (in each case MNI=1 or 4%). In Type C 30%

included animal bones. The ovacaprid and cattle ratios of the previous type are generally maintained here, although horse bones are new and represent 5% or MNI=7.

	Type A		Type B		Type C		Type D	
	#	%	#	%	#	%	#	%
Horse	0	0%	0	0%	7	5%	14	78%
Ovacaprid	10	100%	22	92%	119	93%	4	22%
Cattle	0	0%	1	4%	2	2%	0	0%
Dogs	0	0%	1	4%	0	0%	0	0%
Total # MNI	10	100%	24	100%	128	100%	18	100%

Tab. 3 – Ratio of animal bones per grave form. Counts in MNI with percentages between brackets.

	Type A		Type B		Type C		Type D	
	#	%	#	%	#	%	#	%
Horse	0	0%	0	0%	3	1.0%	10	18%
Ovacaprid	10	34%	14	22%	106	29%	2	3.6%
Cattle	0	0%	0	0%	0	0%	0	0%
Dogs	0	0%	0	0%	0	0%	0	0%
Horse and ovacaprid	0	0%	0	0%	3	0.8%	2	3.6%
Horse, cattle, ovacaprid	0	0%	0	0%	1	0.3%	0	0%
Cattle and Ovacaprid	0	0%	1	1.5%	1	0.3%	0	0%
Dogs and ovacaprid	0	0%	1	1.5%	0	0%	0	0%
Without animals	19	66%	49	75%	254	69%	42	75%
Total # graves	29	100%	65	100%	368	100%	56	100%

Tab. 4 – Distribution of animal bones per grave type. Counts in MNI with percentages between brackets. Numbers are based on MNI and given in integers except for percentages < 5%.

The most dramatic changes in the animal assemblage at Yanghai occur with the emergence of Type D or the niche graves. Firstly, there is a sudden drop in ovacaprid bones from 93% in the previous type or phase to only 22% in Type D. Secondly, there is a sharp increase in horse bones making up 78% of the assemblages in type D. No other animal types are present. Thirdly, the animals and especially horses are associated with a smaller number of people. Although animal remains were found in 25% of the graves, these were generally graves of single males or joint burials of one male and one female (not shown in the table here).

From these observations, it is hard to make any great assumptions about differences in subsistence practices between the niche grave population (Type D) and their predecessors. The sudden decrease in ovacaprid bones would not necessarily mean that sheep and goat pastoralism was less important for the niche grave occupants. It could for example be that animal sacrifice was considered as an economic waste and that it was decided not to bury animals to feed an increasing elite. However, the drop in ovacaprid bones is certainly significant, and even if there would be bias in the collection of data, this still could not account for such big differences between Type C and Type D. The underrepresentation of cattle (MNI = 3) does probably not reflect its actual contribution in the livestock of the Yanghai people. On the contrary, the use of

leather, cow sinew, cow horn and other material in the production of many grave goods shows its economic importance. More reliable information on subsistence patterns of the Yanghai population including niche grave occupants might be available once the nearby settlement has been excavated. In their stable carbon and nitrogen isotope analysis of human bone collagen from the 12th century BCE to the 2nd century CE at the Yanghai graves, Si et al. (2013) have shown that from the 2nd c. BCE onward, the human diet consisted of a larger proportion of animal protein than in earlier periods. They infer from this that stockbreeding was core to their mode of subsistence, and that crop farming was less important. Their study is consistent with grave goods found at Yanghai that confirm the increasing importance of pastoralism.

The sudden appearance of the practice of burying horses (mostly complete and/ or sometimes only including the skull or the long bones) introduced in Type C continued and became even more prominent in Type D (Fig. 2). From the grave goods found at Yanghai it is evident that horse riding was common from the earliest time onward. Horse gear, trousers and other accessories were relatively common from the earliest phases onward, and later on other accessories such as saddles strongly suggest that horse riding was practiced long before the emergence of niche graves at Yanghai. Trousers of the earliest phase have recently also been radiocarbon dated (BECK et al. 2014). Horses were prestige animals and together with horse-riding closely connected to status. Horse-riders could attend larger herds, cross larger distances and participate in mobile warfare.

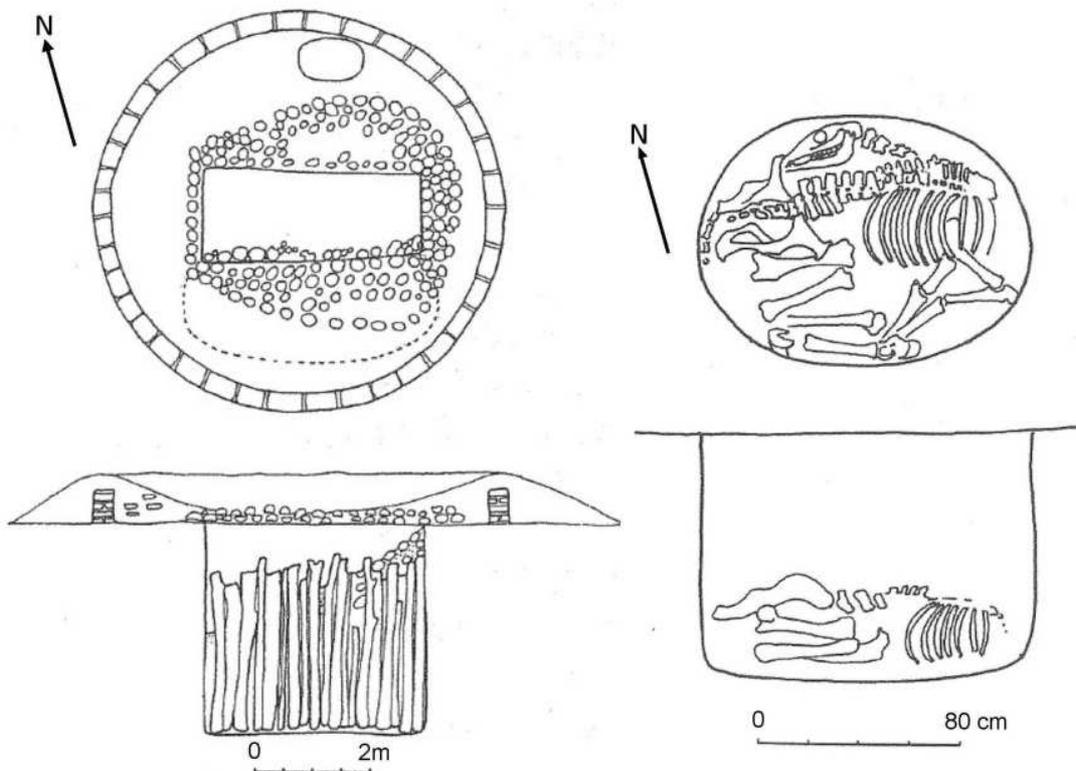


Fig. 2 – Niche grave including burial mound with embedded mud brick enclosure and horse pit, Yanghai Cemetery II (after Xinjiang and Tulufan 2004:35, Figs. 17 and 18)

While it is more difficult to draw inferences about subsistence practices on the basis of this preliminary analysis of the animal bones, it is easier to follow changes in sacrificial practices. The main sacrificial practice for the population buried in Type A, B and C graves included burying ovicaprid bones (mostly sheep skulls). With the emergence of niche graves, sacrifice of ovicaprids became much less important, at least in funerary context. On the contrary, horse sacrifice became central to the identity of the niche grave occupants, and it is likely that only a tiny elite was entitled to this practice. Although horse riding and horse pastoralism might have been introduced long before the emergence of niche graves at Yanghai, their increasing role in sacrificial practices within a funerary context meant they were imbued with new meaning. The ritual killing of horses, their deposition in ancillary pits or directly inside the grave pit, together with more elaborate grave structures, probably all served to legitimise the status of the a new elite. Moreover, it seems that horse sacrifice associated with niche graves was mainly reserved for male individuals: niche graves with horse sacrifice (14 in total) included 4 single male burials, 1 single female burial, 2 single burial of unknown sex, followed by 4 joint burials of men, 2 joint burial of one man and one woman, and 1 joint burial of two individuals with unknown sex.

One complete horse was sacrificed in three niche graves with single male burials, one niche grave with single female burial, as well as two of the joint male burials. Two complete horses were found with one single male burial as well as in one joint burial of man and woman. Incomplete horse skeletons (mostly skull and/ or long bones and occasionally the mandible) were found in association with the niche graves of one single male, two single burials of undefined sex, in one joint burial of two men and one joint burial of man and woman. A sheep skull was found in combination with the latter two joint burials as well as in a niche grave of a single male and in that of a joint burial of two individuals with undefined sex.

It should not be forgotten that horse bones (MNI=7) were also present in a minority of shaft graves of Type C. They were found in 2 single male burials, 1 single female burial, 2 joint burials (MM and FM), and a multiple burial of three persons (MFF). There was also one that did not contain human bones (probably due to severe looting); it was the only shaft grave associated with a complete horse skeleton. The rest mostly concerns sacrifice of part of the horse: in three cases the skull, in one the mandible and in two other some of the long bones. In one grave one horse skull was found together with one ox head, one goat skull, and two sheep skull.

Based on the above, it could be hypothesised that horse sacrifice was mainly reserved for single males, sometimes jointly buried with one other male or one (occasionally two) other female(s). However, at least two women – buried singly in a niche grave respectively a shaft grave – enjoyed the same privilege. Moreover, status associated with horse burial is more pronounced in niche graves than in shaft graves. This is demonstrated by the more elaborate grave architecture of niche burials with horse sacrifice (Fig. 2) as well as the fact that niche graves with multiple burials typically did not include horse bones or even any animal bones at all. Horse sacrifice and animal sacrifice in general was reserved for a small minority of the niche grave population.

To conclude there was an evolution in animal sacrifice from almost exclusively ovacaprid to ovacaprid with a minority of horse bones to a majority of horse bones with a minority of ovacaprid. There might also have been a chronological evolution from burying part of the horse (especially the head), the main horse sacrificial practice in Type C graves, to burying the complete horse, which became prominent in the niche graves of Type D. The practice of burying horse skulls might have been influenced by practices in Chawuhugou (Hejing County, Xinjiang Province) where this was very popular (AN *et al.* 1998, p. 65).³

Status differences could also have played a role in the scope of sacrificial practices and a better understanding of co-occurrences of Type C and Type D graves could throw more light on this aspect.

Jiaohe Goubei: a strong argument for an emerging niche grave elite in Turfan

The emergence of a niche grave elite as suggested above is nowhere as obvious in the Turfan Basin as at the Jiaohe Goubei Terrace no. 1 site (LIANHEGUO, XINJIANG *et al.* 1998). Forty-three shaft graves and twelve niche graves were identified. Two large tomb complexes were excavated, which consisted of niche graves at the center and accompanying shaft graves. The first or M01 counts 15 accompanying graves and 22 horse pits. The second or M16 is a double niche grave of about 5 meters deep and surrounded by 9 accompanying graves and 23 horse and camel pits. It is a joint burial of a woman and a man buried in extended position. Generally two or three individuals (a man, a woman and sometimes a child) are buried in the accompanying graves. M16 is covered with a pebble mound of about 26 m in diameter, and has an embedded circular mud brick enclosure at its base. The mound of M01 shows the same construction.

Both tomb complexes are very similar to some of the elite niche graves found at Yanghai albeit more developed and prestigious with more ancillary pits and new animals (camels). In my forthcoming PhD thesis I aim to demonstrate that those at Yanghai predate those of Jiaohe Goubei and probably provided the source for the latter.

Preliminary conclusions

This paper has tried to investigate patterns of continuity in practices of single, joint and multiple burial as well as animal sacrifice of the Yanghai population, in order to investigate the sudden emergence of niche grave practices. This was done from the perspective of the grave typology presented by the excavators of the site, and without questioning it here. Despite the different sizes of populations per grave type under consideration here, the changes still seem significant enough to draw some preliminary conclusions.

³ I am grateful to Hu Wanglin from the Xinjiang Archaeological Institute in Ürümqi for drawing my attention to this.

With the emergence of niche graves there was a sharp decline in single burials – which might have to do with an emerging elite – while there was a significant increase in multiple burials. Despite this discontinuity with previous periods, the maintenance of joint burials (that had gained sudden popularity from Type B onward), especially of man and woman, as well as the practice of multiple burials itself seem to indicate continuity. It is further remarkable that there is such a high concentration of multiple burials in the niche graves of Yanghai, while this grave type is normally only seen with single burials elsewhere in Xinjiang like in the Yili Basin. This corroborates the argument for continuity with local burial practices at Yanghai.

When looking at animal sacrifice, we can also detect elements of continuity as well as discontinuity. With the emergence of the niche graves, animal sacrifice in general seemed to be mainly restricted to single and joint burials (MM or MF) and particularly to male individuals. People who were destined to be buried in niche graves in groups of three or more (multiple burials) possibly had no right to animal sacrifice. Moreover, especially members of the male elite were entitled to horse sacrifice, which would have confirmed their status, together with a more elaborate grave structure including low-rising gravel mounds with embedded mud brick enclosures and more prestigious grave goods.⁴

On the basis of this preliminary analysis I would put forward the hypothesis that the emergence of niche graves at Yanghai co-occurred with the formation of a small male elite who identified itself with horse-riding and for whom horse burial was an integral part of an elaborate grave structure and funerary rituals. This elite forming, including the adoption of horse sacrifice possibly took place among the population buried in the shaft graves of Type C. It is likely that the practice of horse sacrifice (not the niche grave practice itself!) was taken over from Chawuhugou where it was widespread, especially sacrificing horse heads. Later on, with the emergence of niche graves, the Yanghai elite cultivated this custom and wanted to be buried with one or two complete horses to assert their status. That the ruling niche grave elite of Yanghai was rather small-sized and integrated local burial customs, is strongly suggested by continuity in multiple and joint burial practices. However, it leaves no doubt that the local population would have profoundly been influenced by the first. Slightly later, this mobile pastoralist niche grave elite of Yanghai might have spread in the Turfan oasis and established a power centre at Jiaohe Goubei.

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⁴ Mounds do not appear in all niche graves and they also occur in part of the shaft graves of Type C.

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