Chapter 5
The Late and Final Bronze Age Cultures of Mongolia, 1400–700 BC

The pastoral families that today live in the Egiin Gol and Baga Gazaryn Chuluu regions of Mongolia follow lifeways that originated more than 4,000 years ago. Incremental transfers of domesticated animals by way of trade or group migration into the eastern steppe zone over many centuries gradually gave rise to a primary emphasis on herding and a reduced emphasis on hunting, gathering, and fishing. Over time, through a process of acquisition, breeding, and domestication, pastoralists increased their herds of cattle, sheep, goats, and horses and slowly developed the techniques and knowledge needed to manage and sustain these herds over the long term. The story of this cultural experiment is one of the highlights of Mongolia's Bronze Age during the second millennium BC. That animals might be kept in some form of collaboration with human beings is an old concept that dates back to our relationship with the domesticated dog, beginning some time in the Late Paleolithic. However, the very different idea of keeping animals as living property and as a major subsistence source was an entirely new innovation, one that promoted a long-term human dependency on the well-being and upkeep of animals. In order for human communities to prosper, the animals they cared for also had to prosper.

Livestock dependence and herding mobility emerged across Mongolia, South Siberia, and Inner Mongolia through different processes and at different rates. Moreover, pastoralism arose in various combinations with other subsistence pursuits such as farming. Although it is indeed possible that indigenous animal and grain domestication had already been independently underway in Mongolia, as some have argued (Derevianko and Dorj 1992: 174–175), most evidence points to multiple introductions of plant and animal domesticates from neighboring regions. In other words, inter-group interactions and exchanges slowly initiated the tremendous transformations that characterized the Eneolithic Copper Age and Early Bronze Age (mid-third to early second millennium BC). During this time period networks of contact were small scale and precise knowledge of distant peoples and

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their cultures was certainly limited. However, materials, foods, and ideas moved from group to group and gradually came to be shared across vast geographical areas. In this way, domestic grains such as millet and wheat moved westward and eastward, respectively (Frachetti et al. 2010; Betts et al. 2013); herd animals were introduced into hunting societies, and the use of copper-based metals slowly began to alter a primary reliance on stone tools that had persisted for hundreds of thousands of years.

These changes and early contacts greatly diversified the ways in which Inner Asian and East Asian peoples lived and organized. Within the Central Plain of China, Late Neolithic complex societies gave way to the regional-scale Erlitou polity at 2000/1900 BC, argued to be the first state of East Asia (Liu 2009; but see Shelach and Jaffe 2014). Contemporaries of the Erlitou polity far to the north in Inner Asia pursued a wide range of lifeways quite different from their distant state-like neighbors in China. These pursuits included terrestrial and aquatic hunting-gathering around Lake Baikal and mobile hunting-herding in the Altai Mountains, the Mongolian steppe, and Gobi Desert (Weber and Bettinger 2010; Janz 2012). Sites from eastern Mongolia, such as the Early Bronze Age settlement of Khuiten-Bulag Nuur, show that some steppe peoples practiced a sedentary way of life. Reports from Khuiten-Bulag describe small settlements with long-term site use and faunal remains of possible domestic animals[1] along with evidence for hunting, fishing, and perhaps early farming (Tsybiktarov 2006: 74, 80, 83–85; Dorj 1971: 39–40, 77). About 700 km south of Khuiten-Bulag in southeastern Inner Mongolia, peoples of the Lower Xiajiadian culture built relatively large fortified settlements with watchtowers, farmed plots of millet, and kept fully domesticated pigs, cattle, sheep, and goat (Shelach 2009: 49–50; Shelach et al. 2011).

By the end of the second millennium BC, these discrete communities had transformed significantly. Belief systems centered on stylized animal symbols and impressive monument building had spread broadly across many of these regions and encouraged new kinds of interactions and understandings between local groups. Horse riding, wheeled vehicles, and technologies of high-quality bronze production likewise became widespread, and the growth of intricate exchange networks and alliance systems emerged throughout Inner Asia. It is at this point, during the mid- to late second millennium BC, that I take up the story of the eastern steppe Bronze Age in order to chart almost 1,000 years of nomadic political experimentation and cultural change that preceded Xiongnu statehood. What we know about Inner Asia between 1400 and 700 BC comes primarily from the study of burials, stone monuments, artifact technologies, and rock art. So far, examples of settlements or seasonal campsites with information about how people lived day to day are still comparatively few in number and this is especially true of Mongolia. Despite this imbalance of data, archaeologists have explored major developments in social and political organization including the rise of hereditary inequality and

[1] Until quite recently, faunal analyses for Inner Asian sites have not exploited systematic metrical comparisons to differentiate domesticated from wild animals.

formalized positions of local leadership, long-distance exchange of rare and exotic items, increased warfare, and the rise of distinctive territorial centers.

To contextualize these processes within the broader macro-region, I begin with an overview of the Late Bronze to the Initial Early Iron Age record from Mongolia and surrounding areas to identify general trends and regional contrasts. The impressive monumental and mortuary sites of Mongolia are becoming better known internationally, but they still sit in the shadow of more famous sites such as Arzhan in Tuva, Issyk in southeastern Kazakhstan, and the Pazyryk cemeteries of the Altai region. For that reason, I focus specifically on what is known from the Mongolian record and then contextualize that perspective in terms of the broader East and Inner Asian macro-region in forthcoming chapters.

5.1 Documenting the Bronze Age

Unlike the later Xiongnu period, there are no textual records for the Bronze and Early Iron Ages of Mongolia. At best, scattered references in the Zhou-period histories (first millennium BC) mention numerous groups in what is today northern and western China and also document the geographical expansion of the Chinese states into the territories of these groups (Di Cosmo 1999). The information from these accounts is far from ethnographic in character. Instead of providing accurate descriptions of the groups in question, these brief texts document Chinese attitudes toward unfamiliar peoples and their cultures (Pines 2005; Poo 2005).[2] Archaeology is the primary source of data for conditions in Inner Asia during the second and first millennia BC, and accordingly, I make use of what are imperfect archaeological periodizations derived from changes in material culture that are still not fully understood (Fig. 5.1). A wide variety of absolute and stylistic chronologies have been assembled and debated with regard to the monument types, interment practices, ceramic and decorative styles, and landscape configurations across Inner Asia (e.g., Erdenebaatar 2002; Chugunov 2011; Kuzmin 2008; Mandel'shtam 1992; Tsybiktarov 1998: 103–104, 141). These chronologies differ according to region, material sequence, and the extent of radiocarbon dating, but a generally accepted periodization divides the mid-second to first millennium BC as follows: the Late Bronze Age (1400–1000 BC), the Final Bronze Age (1000–750 BC), and the Early Iron Age (750–300 BC).

Highly visible changes in social and religious life mark the Late Bronze Age of Mongolia. While the evidence is still far from robust, the first hints of enduring social differentiation and inequality appear around the mid-second millennium BC. Evidence for this comes mainly from the rise of labor-intensive stone monument building and differential burial patterns across much of the far-eastern steppe zone. These monumental site types are distributed across different parts of

[2] It is also important to note that at this time, even the concept of "China" as a political entity and a cohesive sense of common culture did not exist (e.g., Elliot 2012).

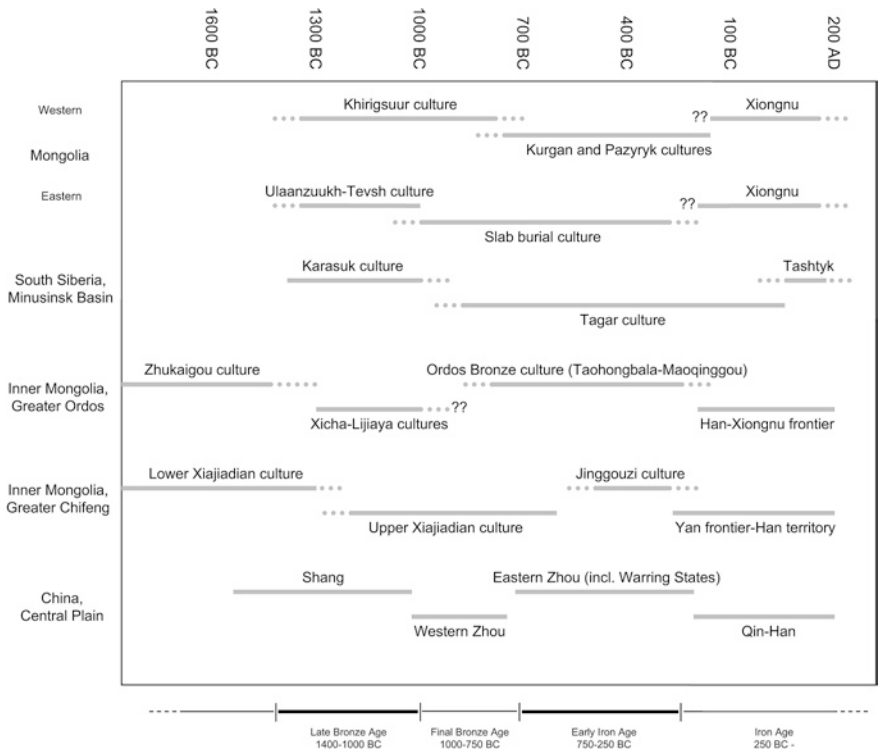


Fig. 5.1 Comparative chronologies for select regions of Inner Asia and China

Mongolia and southern Siberia with some overlap. They include *khirigsuur* stone mounds, deer stones, shaped and *Ulaanzuukh*-style burials, and the earliest slab burials which appear at the very end of the Late Bronze Age period. Although these monuments are not the earliest examples of elaborate mortuary and ceremonial sites in Mongolia (e.g., Erdenebaatar and Kovalev 2008), they represent an era when monumentalism reached extraordinary heights and became universally understood across the Inner Asian steppe zone (Fig. 5.2).

5.2 Western and West-Central Regions: Khirigsuurs and Deer Stones of Mongolia

Beginning around 1500 to 1400 BC, steppe peoples began to construct the first impressive stone monuments known today as khirigsuur (also khirgisuur and khereksur). These were built along hill slopes, at major mountain passes, and in the broad valley floors of the steppe lands. How these monumental stone piles and the collective labor they embody reflected differences in status between individuals

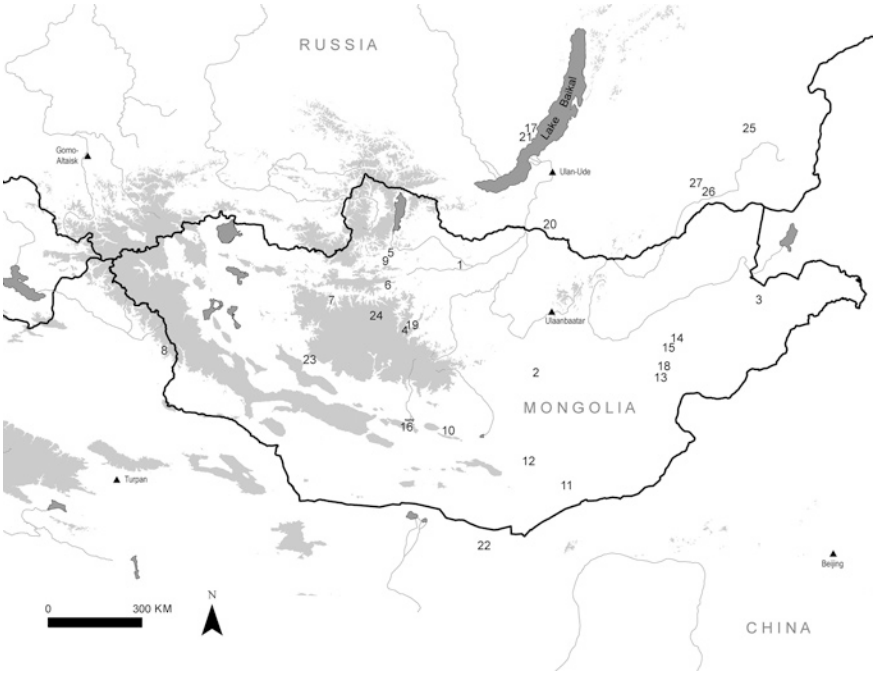


Fig. 5.2 Map of Inner Asia showing the major archaeological sites mentioned in the text. *1* Egiin Gol; *2* Baga Gazaryn Chuluu (BGC); *3* Khuiten-Bulag Nuur; *4* Urt Bulag; *5* Ulaan Tolgoi; *6* Doroljiin Am; *7* Shurgakhyn Am; *8* Shiebar-kul; *9* Uushigiin Ovor; *10* Tevsh Uul; *11* Umdaan Gol; *12* Ukhaa Khudag; *13* Chandman' Khar Uul; *14* Ulaanzuukh; *15* Delgerkhaan Uul survey; *16* Orog Nuur; *17* Iterkhei V; *18* Tsagaan Uul/Avargyn Ovoo; *19* Khanui Gol survey; *20* Dureny 1 and Dureny 2; *21* Sagan-Zaba; *22* Dottore-namak; *23* Taishir-Ulaanboom; *24* Jargalant Uul; *25* Kyshtachnaia Sopka; *26* Kunkur; *27* Narasun

or new links between communities is a subject of growing debate and much recent fieldwork in Mongolia. Khirigsuur monuments are stone mounds with rectangular or circular stone enclosures or "fences" surrounding them, as well as multiple small rock heaps beyond the centrally enclosed space in the form of "satellite" features (Fig. 5.3). This basic layout can also be elaborated with stone pathways, entryways, and pavements and elevated standing stones inside the fencelike feature (Wright 2007). The central mound is constructed of systematically positioned rocks that cover an internal cist made up of slabs or fitted stones with one or more capstones atop the cist (Tsybiktarov 1998: 138–139). Such cist constructions are not always identified at a khirigsuur's center, and in that case, the mound might have just a simple shallow pit or no detectable structure at its core (e.g., Frohlich et al. 2009: 102; Torbat et al. 2003: 39; Amartuvshin and Jargalan 2010: 178–179).

Diameters of khirigsuur central mounds range from about 5–20 m and 0.01–2 m high even though smaller and substantially larger features have been reported (Tsybiktarov 1998: 138; Houle 2009: 365). Satellite feature counts can range in

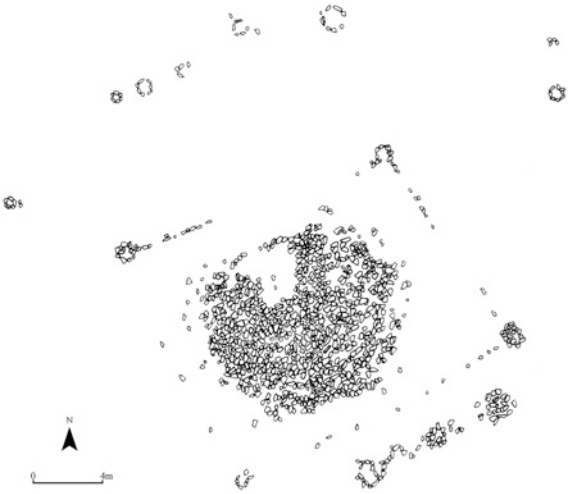


Fig. 5.3 A medium-sized khirigsuur site from Baga Gazaryn Chuluu, Dundgobi province

the thousands, although there are many cases of a mound having just two or three small satellite heaps. Satellite features sometimes contain horse crania oriented to the east, vertebrae, phalanges or hoof cores, and calcined faunal remains, and, on rare occasions, a ceramic fragment or bronze artifact (e.g., Erdenebaatar 2002: 211–213; Torbat et al. 2003: 39). Another kind of satellite has also been reported in the form of stone ring hearths with evidence of charcoal, ceramic fragments, and burnt bone (Fitzhugh 2009a). Both the horse skull interments and hearth features are thought to be remnants of sacrifice and feasting events associated with monument building (Allard et al. 2007; Houle 2010: 11, 129). Otherwise, the central mounds of khirigsuur monuments rarely include artifacts as part of the original construction event, though subsequent millennia of re-use have almost always left substantial intrusive artifact deposits (e.g., Davis-Kimball 2000).

Excavators of these monumental sites encounter human skeletal remains in the central sections of stone mounds with orientations to the west or northwest,[3] although not all monuments have human burials (cf. Tsybiktarov 1998: 138–139). This discrepancy has led to substantial debate over the mortuary function of khirigsuurs (Wright 2007: 350, 2014: 148) as well as the role of taphonomy in skeletal preservation and recovery (Littleton et al. 2012). To date, human burials in khirigsuur mounds occur most consistently in the western and west-central parts of Mongolia, while central and east-central regions, as of yet, do not have evidence for such remains. Indeed, poor preservation and a relatively small number of excavated contexts may be responsible for what otherwise might seem to be interesting geographical variation between east and west (Honeychurch and Amartuvshin 2011: 204). One point so far not considered in the debate over khirigsuurs and their possible mortuary function is the fact

[3] Frohlich et al. (2009: 106–107) suggest a very different system of burial chamber orientation referencing local slope characteristics instead of a pre-established direction.

that the central and eastern regions of Mongolia have contemporaneous and alternative modes of monumental human burial (e.g., Amartuvshin and Jargalan 2010: 175–176; Kovalev and Erdenebaatar 2009). Therefore, monumental practices like the building of khirigsuurs, may well have had a burial function in one place but different uses and meanings in other parts of Mongolia. Moreover, khirigsuurs in the eastern regions show marked differences in landscape distribution, size ranges, and feature elaboration, suggesting that more comparative work across geographical regions is badly needed. In all likelihood, the emerging consensus that khirigsuurs were multifunctional and built with a wide range of local understandings will be supported by this future research (Littleton et al. 2012: 3369; Tsybiktarov 2002a: 176).

The dating of khirigsuurs has also been a topic of controversy from the mid-twentieth century up until today. Proposed periodizations range from the Bronze Age all the way up to the medieval period, making discussions of the societal contexts for khirigsuurs somewhat perplexing. A dearth of artifacts contemporary with the construction of these monuments combined with later re-use activities that involved the placement of offerings and materials on top of the mounds has contributed substantially to the chronological confusion. Most recently, careful observation of stratigraphic relationships between khirigsuurs and later types of burials and the advent of radiocarbon analyses of human and faunal bone samples has provided reliable dates for khirigsuur constructions between 1400 and 700 BC with a majority of dates falling between 1200 and 900 BC (Amartuvshin and Jargalan 2010: 166; Frohlich et al. 2009; Fitzhugh 2009a; Torbat et al. 2003: 136; Allard and Erdenebaatar 2005: 7; Tsybiktarov 2003; Kovalev and Erdenebaatar 2007: 84).[4] Preliminary radiocarbon results from one project at the Urt Bulag khirigsuur (also Urt Bulagyn) of Arkhangai province suggest that the numerous satellite features and the central mound were probably constructed at the same time, taking into account the margin of error typical of radiocarbon analysis (Fitzhugh and Bayarsaikhan 2011: 174, but see Allard and Erdenebaatar 2005: 5–6).

So far, this chronological range has been surprisingly consistent across the central and west-central parts of Mongolia where almost all khirigsuur dating has been carried out. This is a relatively small geographical sample of the entire distribution of these sites which includes all of the territory of Mongolia and Transbaikal (Danilov and Konovalov 1988). Contrary to claims in earlier research (Volkov 1967), khirigsuurs are indeed present in significant numbers in both the southern Gobi and in the far-eastern provinces of Mongolia, although in the east, there is a noticeable decline in numbers. In general, khirigsuurs are related to the

[4] A radiocarbon date from the Kholtost Nuga site in the Egiin Gol Valley for a stone feature described as a khirigsuur was quite a bit earlier than this chronological range (1675–1404 BC, 95 % probability; Torbat et al. 2003: 136). This date is often cited as an example of a very early khirigsuur; however, this particular feature had a small stone mound with no surround or satellites and was located in an area topographically quite different from that of most khirigsuurs. The feature also contained the burial of a child and while it does resemble the internal cist of a khirigsuur (cf. Takahama et al. 2006: 67), it lacks all of the usual external structures. In that respect, it is important to examine how this early context, and others like it, might be related to the development of khirigsuur practices later in time.

widespread Eurasian tradition of building stone or earthen kurgan mounds, and as such, they have strong similarities to monumental and burial constructions in the western regions of Inner Asia including Xinjiang, Gorno-Altai, and Tuva. Outside of Mongolia, the same kinds of features, or features very much like khirigsuurs, are identified using different cultural typologies and names. For example, the Late Bronze Age *Mongun-Taiga* kurgans of Tuva, which are smaller and tend not to have surrounding fences, have been discussed extensively in terms of their possible relationship to khirigsuurs (Chugunov 1994; Tsybiktarov 2002a). Tsybiktarov argues that these two kinds of monumental features in fact represent one and the same cultural group, and the differences in construction register levels of social status rather than distinct cultural traditions (Tsybiktarov 2002a: 176). While the issue of status differentiation has yet to be thoroughly studied, the recent identification of Mongun-Taiga burials in western Mongolia nearby to areas with khirigsuur monuments strengthens their hypothesized relationship, although its exact nature is still unclear (Kovalev and Erdenebaatar 2007: 83, 2010b: 105–106). This example speaks to the many persistent unknowns that beset archaeological research on the Late Bronze Age of Mongolia.

The landscape arrangements of khirigsuurs are varied and can sometimes comprise isolated monuments, but more often consist of multiple monuments, sometimes numbering in the hundreds, forming distinct complexes. Another well-known Mongolian monument type, the deer stone stele, sometimes marks these large khirigsuur complexes and is considered by many to be part of khirigsuur-centered beliefs and practices (Jacobson 1993; Volkov 2002). Deer stones are found in western, central, and east-central Mongolia, as well as in the Altai Mountains, Tuva, Xinjiang, and Transbaikal. They can occur in association with khirigsuurs, as solitary steles, or in small groups. These highly decorated monuments have several different variants of which the northern Mongolian type is the best known. It consists of a four-sided dressed stone made of granite, diorite, or slate and standing from 1 to 3 m in height with elaborate pecked images organized into three bands wrapping around the body of the stele (Fitzhugh 2009b). The uppermost panel features circular designs or, occasionally, a human face, while the central and primary band is decorated by stylized deer oriented in an upward direction, and the lower panel consists of what seem to be belts with hanging tools, weapons, and recurved bows. The artistic rendering of the deer on these stones (Fig. 5.4) is an early form of "animal-style" art that eventually comes to predominate across the Eurasian steppe, both east and west, over the subsequent one thousand or so years (Jacobson 1993; Novgorodova 1989: 156). Other variants of deer stones, especially those of the Altai Mountains, portray a different set of forest animals and have a less standardized arrangement of themes and thematic bands (Fitzhugh 2009b: 196–197).

In addition to clear spatial associations between deer stones and khirigsuurs, another characteristic that connects these monuments as part of a single ritual package is the presence of stone features discovered at their base with interred horse skulls or hearths, much like the satellite features surrounding khirigsuurs (Fitzhugh 2009b: 189; Novgorodova 1989: 201). These have been discovered around deer stones at the site of Ulaan Tolgoi and at several other deer stone sites in Khovsgol

Fig. 5.4 Stylized deer ascending upward on the surface of a deer stone in Khovsgol province (a version of this photograph appears in Honeychurch 2010)

and Arkhangai provinces. A number of radiocarbon analyses on bone and charcoal samples from the deer stone features provides a chronological range that overlaps quite well with khirigsuur chronology (1300/1200–700 BC), although early khirigsuur monuments appear a century or two prior to the earliest deer stones dated so far (cf. Fitzhugh 2009a: 398–399; 2009b: 189; Fitzhugh and Bayarsaikhan 2011: 167, 181; Frohlich et al. 2009: 110). Moreover, the terminal dates for both monuments are approximately the same. The new radiocarbon chronology supports a prior and independent periodization for deer stones derived from typological comparison of the weapons and tools realistically depicted on the lower belts of the monuments (Volkov 2002; Erdenebaatar 2004: 193; Tsybiktarov 2003: 89–90).

Khirigsuur complexes and deer stones produce impressive ritualized landscapes that usually tie in surrounding clusters of other khirigsuurs in neighboring valleys. In some cases, khirigsuurs reach tremendous sizes and can be surrounded by multiple deer stones. Four good examples of these sites arranged from east to west are the Urt Bulag khirigsuur[5] (26-m-diameter mound, 5 m height) in Khanui Valley of

[5] There are two such large khirigsuurs at Khanui, but the second, which was originally larger than Urt Bulag, has been partially destroyed by modern activities (Seitsonen et al. 2014). In both of these cases, deer stones were located somewhat farther away from the khirigsuurs than at the other listed sites. The Urt Bulag khirigsuur contained granite stones weighing up to one ton, and it would have taken approximately 60 individuals laboring every day for 1 year to build such a monument (Houle 2010: 30).

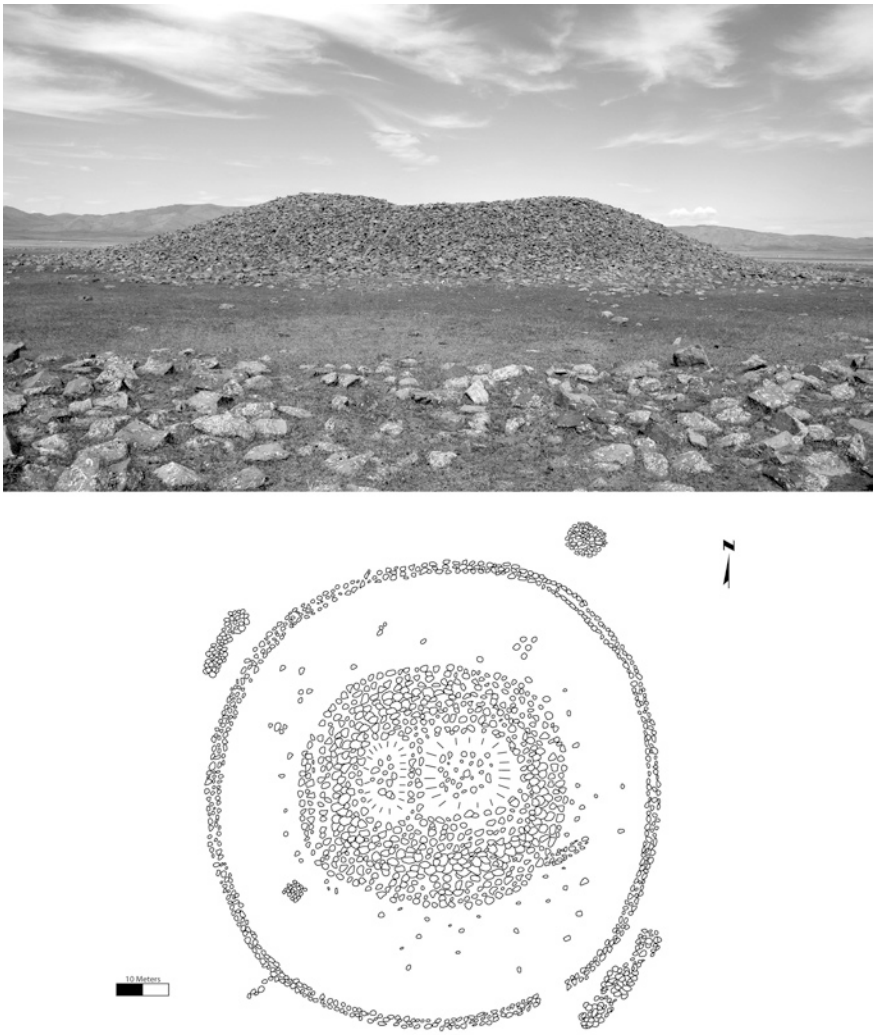


Fig. 5.5 Shurgakhyn Am khirigsuur in profile and in plan view (sketch plan by Henry Wright)

Arkhangai province (Houle 2010: 30); the Doroljiin Am khirigsuur (estimated 20–25-m-diameter mound, 3.5 m height) of southern Khovsgol province (Tseveendorj et al. 2003: 105); Shurgakhyn Am khirigsuur (49-m-diameter mound, 6 m height, Fig. 5.5) of Zavkhan province in western Mongolia (Amartuvshin and Jargalan 2007: 2); and the Shiebar-kul khirigsuur site (60-m-diameter mound, 15–20 m height; also known as Chembet and Sandaohaizi) in northern Xinjiang (Hatakeyama 2002; Wright 2014: 140–141). There are several more of these super-sized khirigsuurs known, and all are located in the western reaches of Inner

Asia and especially in the west-central and northwestern provinces of Mongolia (cf. Tsybiktarov 2003: 90). Not one of these massive monuments has been thoroughly excavated and few if any have even been surveyed or mapped. Only the Urt Bulag khirigsuur has had surrounding features tested and the dating results suggest that the satellites (and some would argue the mound itself) were built between 900 and 800 BC toward the end of the chronological range for khirigsuur sites (Allard and Erdenebaatar 2005: 5; Fitzhugh 2009a: 399).

A more subtle but equally impressive khirigsuur–deer stone complex is the Uushigiin Ovor site (also Uushgiin Ovor and Ulaan Uushig I) in Khovsgol province of northwestern Mongolia (Novgorodova 1989: 203–208; Takahama et al. 2006). The local environment around this site consists of the nearby Delger-Moron River to the south and Ulaan Uushig Mountain, which is the highest elevation immediately north of the river at 1,726 m above sea level and 400 m above the surrounding steppe lands. There are numerous khirigsuur complexes ringing the Ulaan Uushig peak of which Uushigiin Ovor to the southeast is probably the most interesting given its concentration of both khirigsuurs and deer stones. The site comprises 15 deer stones in two north–south groups spread in linear fashion over 160 m; however, one has been removed to the provincial museum and its original position is unknown. Khirigsuur monuments likewise number 15, including one located 340 m north of the site center. Of the khirigsuurs in the central area, only two have rectangular surrounds and the rest are smaller with circular surrounds. Both the khirigsuurs and deer stones at Uushigiin Ovor have satellite features containing eastward-oriented horse skulls, vertebrae, and leg elements (Takahama et al. 2006: 61). Of the two excavated khirigsuurs, both had internal cists oriented along an east–west axis, but only one had human skeletal remains identified as a five- or six-year-old child (Takahama et al. 2006: 65, 67).

The 14 deer stones present at the site are concentrated in the southern sector nearby a group of five small-to-moderate-sized khirigsuurs, all with circular surrounds. These various steles are different in shape and design, but all feature the main stylistic components of classic northern Mongolian deer stones. They are made of local red granites with the exception of two of the monuments which are made from gray and white stone imported from areas with a different geology (Takahama et al. 2006: 63). The deer stele of white stone, number 14, has been particularly important for supporting interpretations of what these steles may have been originally intended to symbolize. This particular stone is located in the southernmost part of the complex and stands about 2.6 m high. It was engraved with many of the traditional themes including stylized deer, a belt with hanging weapons sets such as a war hammer and dagger, and a striped pentagonal shape believed to be a shield. The uppermost portion of this deer stone is what makes it so unique and important: Looking out along a direct line southward toward the river is a clearly shaped human face with ears and earring loops on either side of the head and an encircling necklace or neck ornament (Fig. 5.6). There are a few other such deer stones known in Mongolia (e.g., at Bor Khujiryn Gol, Khovsgol) and the Russian Altai, and they lend strong support to an interpretation of deer stone monuments as anthropomorphic representations depicting the head,

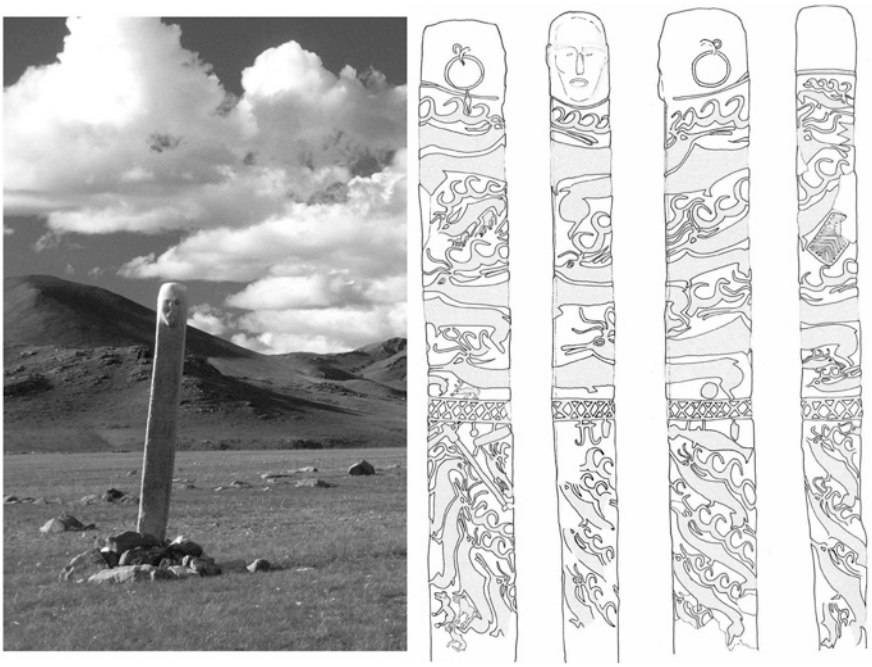


Fig. 5.6 Deer stone no. 14 from the Uushigiin Ovor site in Khovsgol province (drawing after Volkov 1981)

deer-tattooed body, and weapons of a male individual (Jacobson-Tepfer 2012a: 192; Navaan 1975: 63–64; Novgorodova 1989: 183). As such, deer stones may be somewhat abstract and stylized examples of an earlier tradition of anthropomorphic standing stones found in many parts of western Inner Asia (e.g., Kovalev and Erdenebaatar 2009: 155–160; Kubarev 2009).

Khirigsuurs and deer stones are seen by some archaeologist as clear indications of the beginning of social inequality on the Mongolian Plateau. Arguments offered for this viewpoint identify deer stones as memorials to deceased chiefly figures who perhaps combined skill in warfare with the ritual powers associated with shamans (Fitzhugh and Bayarsaikhan 2011). Moreover, although khirigsuur monuments do not contain grave goods and wealth, the collective labor needed to build these sites was indeed significant and suggests some degree of difference in the social capacities of individuals, lineage groups, or communities. The wide variation in numbers, size, and complexity of khirigsuur mounds may therefore have registered differences in community wealth and regional standing (Wright 2014) or perhaps in individual leadership and prestige (Frohlich et al. 2009).

Changes toward greater inequality among individuals or between regional groups as represented by these monumental complexes have been explained in a number of ways using different variables. For example, some of these explanations place emphasis on changes in climate and corresponding shifts in Inner Asian

pastoral environments that resulted in group migrations and territorial conflicts. As a result, a premium was placed on a form of warrior culture best expressed by an elite stratum of leaders who were successful in battle and, therefore, memorialized by deer stones and khirigsuurs (Tsybiktarov 2003; Erdenebaatar 2004). Another set of explanations views leaders as progressively building up a following, not so much through conquest but by their control of collective ritual. These emergent elite individuals aggrandized themselves by gathering households for feasts and public ceremonies, part of which included monument building (Allard and Erdenebaatar 2005; Houle 2010). Still other researchers de-emphasize the importance of individual status and instead argue that khirigsuurs and deer stones were a way of creating new kinds of networks and alliances between spatially dispersed communities in support of an increased dependence on herd animals (Honeychurch et al. 2009; Wright 2014). However, conflicts, alliance building, and emergent forms of inequality are not mutually exclusive, and probably, all of these factors contributed to the spread of similar monumental types beginning in the mid-second millennium BC.

While the advent of social inequality on the eastern steppe is still much debated, there is no question that khirigsuurs and deer stones demonstrate two important cultural processes: the geographical transfer of beliefs and practices through forms of inter-community interaction and the early significance placed on domestic horses and horse centered ritual as a result of these transfers. Preliminary but systematic analyses of Bronze Age horse remains from satellite features show that these animals were indeed domesticated equids and not the wild East Asian Przewalski's horse (Houle 2010: 30, 128; Johannesson and Hite 2007; Taylor et al. 2014). There is good evidence that domesticated horses were present in the westernmost reaches of Inner Asia as early as the mid-fourth millennium BC (Hanks 2010) and probably in the Altai and Minusinsk Basin of South Siberia by the third millennium BC (Kuz'mina 2007: 252; Anthony 2012: 21–22; but see Frachetti 2012: 10). This process of gradual eastward transfer likely continued and brought domesticated horses into west-central Mongolia via Tuva or the Mongolian Altai. So far, such a scenario is suggested by the absence of horse remains in burials and monuments prior to c. 1400 BC, followed by their widespread and sometimes numerous occurrences at khirigsuur and deer stone sites (e.g., Kovalev and Erdenebaatar 2010a, b).[6] Though even earlier dates for Mongolian domestic horse will probably emerge, the data so far argue for a provocative connection between monument construction, horses, and new ritual and belief systems. These changes were associated with widespread

[6] Claims of domesticated horses in Eneolithic and Early Bronze Age contexts have been made for a handful of Transbaikal and Mongolian sites (e.g., Tsybiktarov 2002b: 111, 116), but these lack both comparative faunal analysis and absolute dating. Despites this, there is a strong probability that domestic horses were present in Mongolia earlier than we now have evidence for. Radiocarbon analyses on identified domestic horse bones from khirigsuur satellite features include several dates from Khovsgol and Arkhangai provinces, 1300–1000 BC (Fitzhugh and Bayarsaikhan 2011; Fitzhugh 2009a, b); one from Egiin Gol, 1219–898 BC (Torbat et al. 2003: 136, #8); and one from Baga Gazaryn Chuluu, 1410–1200 BC (Amartuvshin and Jargalan 2010: 166, EX04.04).

similarity in monument forms and new kinds of contacts with groups even further to the west, indicating the growth of long-distance, inter-community networks as an outcome of the circulation of these cultural practices.

5.3 Eastern and South-Central Regions: Ulaanzuukh–Tevsh Culture and Slab Burials

Based on the latest distribution data, khirigsuur monuments, khirigsuur-like kurgans, and deer stones seem to be concentrated in the western and central parts of Mongolia and in bordering regions, even though, as mentioned above, a smaller number of these sites can be found in the east as well. In the eastern, southern, and central regions of Mongolia, entirely different forms of monumental and mortuary practices characterized the Late and Final Bronze Age. The earliest of these burial types is so little known that their chronology and architecture have become understood only in the past few years. These burial monuments originally attracted attention from archaeologists as early as the 1920s and over the decades have been called by several different names including *shorgooljin bulsh* and *khelbert bulsh* in Mongol, *figurnaia mogila* in Russian, and shaped burial in English—all of which refer in some way to the hourglass outline of the stone surface of these burials (Erdenebaatar and Kovalev 2008).

The so-called shaped burials are constructed using an east–west or northeast–southwest orientation with east and west walls forming the ends and the north and south walls having a concave form that configures a distinctive hourglass-like shape. Prominent slabs of stone define the eastern and western ends, while the north and south concave walls are built up from fitted layers of undressed rectangular stones that visually resemble masonry work or drystone walling (Fig. 5.7). While the end stones can stand more than a meter high, the side stone walling is usually two to five layers (20–50 cm) above the original soil surface and supported with foundation stones. In the center of this construction, a shallow earthen pit was dug and the interred individual placed face down and oriented to the east or northeast. The interior of the stone feature and the burial pit was then filled in with earth, followed by a covering fill of small to medium sized stones. The lengths of shaped burial monuments can be as large as 39 m or as small as 3.5 m from east to west, but they average about nine meters in size. Like contemporaneous khirigsuur monuments, a substantial labor investment was involved in the process of their construction.

In contrast to khirigsuurs, however, these monuments have more consistent evidence for human interments in all parts of their geographical distribution and often contain burial furnishings, although several contexts without artifacts have also been recorded (Amartuvshin and Jargalan 2010: 176–177; Navaan et al. 2009). In addition to the remains of both small and large domestic fauna (sheep/goat, cattle/horse), burial inventories can include decorated ceramics, beads made of semiprecious minerals as well as shell or bone, decorative items in gold, a wide variety of

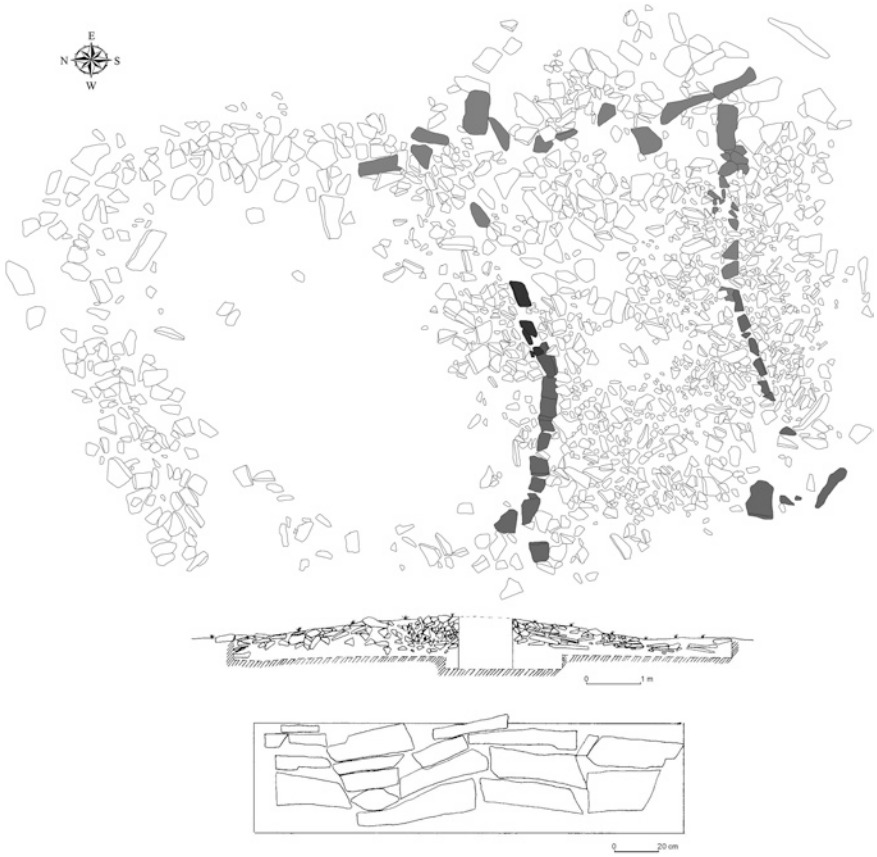
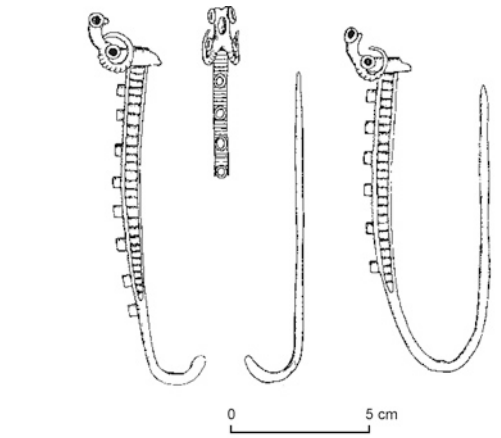


Fig. 5.7 An excavated "shaped burial" from Baga Gazaryn Chuluu showing detail on the masonry-like construction technique characteristic of these sites

ground stone artifacts, occasional microlithic tools, and, less often, bronze items (Erdenebaatar and Kovalev 2008; Tumen et al. 2011; Novgorodova 1989: 138; Amartuvshin et al. 2013). Although the majority of contexts investigated so far shows signs of early pillaging or desecration, an occasional undisturbed context can yield surprising finds. Such was the case with Volkov's 1971 discovery of impressive gold ornaments rendered in animal style (see Fig. 5.8) from an undisrupted shaped burial at the site of Tevsh Uul, Ovorkhangai province, Mongolia (Novgorodova 1989: 137–138; cf. Bunker 1997: 142–143).

Recognizing the importance of Volkov's early work on the Tevsh Uul burials and the distinctiveness of these features, Erdenebaatar has proposed a Late Bronze Age "Tevsh culture" that includes, but is not limited to, classic shaped burials (Erdenebaatar and Kovalev 2008: 12). Rather than relying on the hourglass-shaped mound as a primary diagnostic, Erdenebaatar, as well as Amartuvshin, Jargalan, and Navaan, places emphasis on the masonry-like construction technique, east and



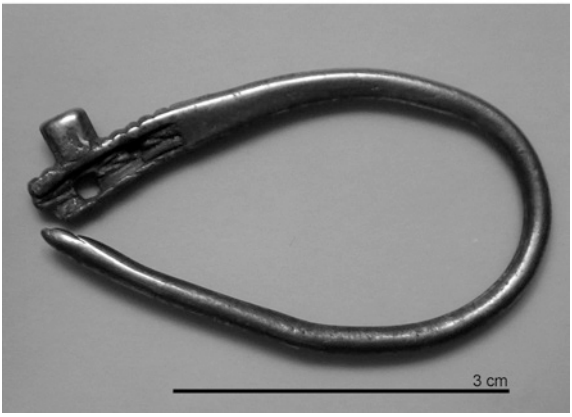


Fig. 5.8 *Top* Gold clasps recovered from a shaped burial at the Tevsh Uul site, Ovorkhangai province (drawing appears in Tsybiktarov 1998, Kovalev and Erdenebaatar 2009). *Bottom* A similar but fragmentary gold clasp from a contemporaneous burial at the Chandman' Khar Uul site in Dornogobi province (photograph by Chunag Amartuvshin)

northeast orientations, and the practice of facedown interment in an earthen pit as being diagnostic of these mortuary practices. This set of characteristics has been documented at Late Bronze Age cemeteries in the central, west-central, southern, and eastern provinces of Mongolia including Gobi-Altai, Bayankhongor, Ovorkhangai, Omnogobi, Dundgobi, Dornogobi, and Sukhbaatar (Erdenebaatar and Kovalev 2008; Navaan et al. 2009: 11–12; Amartuvshin and Jargalan 2008: 83–84).

In each of these regions, Mongolian and international archaeologists have brought to bear systematic survey, full feature excavation, and absolute dating to trace similarities in mortuary forms that had previously been seen as unrelated. Even though Erdenebaatar does not explicitly include more than two burial configurations in his designation of Tevsh culture (i.e., hourglass and stirrup-shaped burials), subsequent work has contributed to a growing consensus among Mongolian archaeologists that the high degree of internal uniformity of burial structures across these regions is a highly significant factor despite differences in external architecture. Notwithstanding the different surface appearances of burials at sites such as Umdaan Gol and Ukhaa Khudag (Omnogobi province), Chandman' Khar Uul

(Dornogobi province), and Ulaanzuukh (Sukhbaatar province), the internal characteristics are indeed strikingly similar (Tumen et al. 2011). Therefore, in addition to the classic hourglass-shaped burial and Erdenebaatar's "stirrup-shaped" burial, other configurations with oval shapes (e.g., Chandman' Khar Uul burials) and rectangular features (e.g., Ulaanzuukh culture) should probably be included in the Tevsh culture category as well. In order to draw attention to both the eastern and central expressions of these mortuary practices and to provide some way to reference this tradition, the term "Ulaanzuukh–Tevsh culture" is not elegant but will suffice for now.[7]

The various mortuary sites included in this cultural horizon consistently date between 1500/1400 and 1000 BC (Tumen et al. 2011: 4, 7; Kovalev and Erdenebaatar 2009: 154; Amartuvshin and Jargalan 2010: 22–23, 162; Amartuvshin et al. 2013). Moreover, Ulaanzuukh–Tevsh sites in different regions also occupy similar landscape settings in valley entrances and junctions, along waterways, or on mountain slopes. Still another connection between these geographically dispersed sites is the occasional appearance of highly distinctive but strikingly similar artifacts, which further suggest mutual participation in early inter-area networks. Such is the case of the recently recovered gold decorations from burial 117 at Chandman' Khar Uul (eastern Gobi) which closely match those found by Volkov at Tevsh Uul some 700 km to the west (Amartuvshin et al. 2013, Fig. 5.8). Interaction across even greater expanses is indicated by the presence in a few contexts of bronze knives similar to those depicted on deer stones and related to the northwestern Karasuk culture (Amartuvshin and Jargalan 2010: 160; discussed below) and beads made from imported carnelian, lazurite, and turquoise (Kovalev and Erdenebaatar 2009: 165; Novgorodova 1989: 138).

While work on Ulaanzuukh–Tevsh site types and chronology has added greatly to understandings of the Late Bronze Age and cultural diversity at this time, there are still many unanswered questions. So far, no habitation sites associated with these features have been studied or even located, which deprives us of crucial contextual information about lifeways.[8] Patterns of differentiation in the mortuary treatment of various individuals, whether juvenile or adult, have not yet been noted (Navaan et al. 2009: 11). Faunal remains from a number of contexts suggest the importance of domesticated herd animals but few if any of these assemblages have been systematically examined and analyzed (cf. Johannesson and Hite 2007: 9–10). Nevertheless, the general expectation among researchers is that pastoral nomadism was the primary economy associated with Ulaanzuukh–Tevsh culture. In general, there is not a great deal of archaeological evidence to clarify issues of social relations, economy, and politics among these Late Bronze

[7] At least one group of researchers (Tumen et al. 2012: 22) prefers to see these mortuary cultures as regionally distinct and therefore would not accept this synthesis without a great deal more research. For the time being, "Ulaanzuukh-Tevsh culture" should be understood mainly as a convenient reference term for these various Late Bronze Age burial types.

[8] However, survey work at Baga Gazaryn Chuluu (Dundgobi province) and at Delgerkhaan Uul (Sukhbaatar province) has documented habitation sites that are promising candidates for future research on this issue.

Age groups or, for that matter, for groups and practices that preceded them during the second millennium BC (but see Tsybiktarov 2006: 88–94; Janz 2012: 368–374).

Likewise, there is continuing controversy over the relationship of Ulaanzuukh–Tevsh cultural sites, and especially shaped burials, to the subsequent slab burial mortuary practices which emerged at about the same time that Ulaanzuukh–Tevsh sites began to decline (c. 1100/1000 BC). This question was much debated after the 1928–1929 excavations by Sosnovskii in Transbaikal of what appeared to be burials with hourglass structures and their subsequent categorization as one type of slab burial (Dikov 1958: 33; Volkov 1967: 6; Chlenova 1992: 250). Based on additional excavation, and especially broader horizontal exposure of features, as well as the advent of absolute dating for the sites in question, the latest opinion is that Ulaanzuukh–Tevsh culture was a distinct set of mortuary practices that preceded and influenced the development of subsequent slab burial culture. What were assumed to be shaped burials in southern Transbaikal are, in fact, best understood as slab burials influenced by Ulaanzuukh–Tevsh forms, but dating later than and differentiated from the hourglass-shaped burials known from Mongolia (e.g., Kovalev and Erdenebaatar 2009: 163; Konovalov et al. 1983: 87). This begs the question of how slab burial practices developed as a monumental vocabulary, first influenced by, but later replacing Ulaanzuukh–Tevsh constructions. Despite a dearth of concrete evidence, most researchers believe that changes in pastoral knowledge, technique, and dependency as well as geographical movements of different cultural groups played some role in these transformations (Batsaikhan 2003: 139; Amartuvshin and Jargalan 2010: 163).

What is certain, however, is that by the Final Bronze Age (1000–750 BC), the appearance of slab burial culture brings about a different, though not a radically different, approach to burying the dead (Erdenebaatar 2002). Slab burials (also referred to as *dorvoljin bulsh*, *plitochnaia mogila*, slab graves, or quadrangle/square burials) were constructed, as their various names suggest, using medium-to-large-sized stone slabs positioned upright on edge to create a rectangular enclosure around a central burial pit. While Ulaanzuukh–Tevsh culture constructions sometimes include prominent standing stones, in slab burials, upright stone slabs became a defining and emphasized attribute (Fig. 5.9). It is important to note that these slab stone constructions do not form a "cist" per se, but instead create an external enclosure, and so they should not be confused with the contemporaneous "cist" burials (sometimes called "slab graves") known from southeastern Inner Mongolia and Manchuria (cf. Shelach 2009: 131; Linduff 1997: 69–73; Watson 1971). Occasionally, genuine cist structures are documented inside of slab burials, and some archaeologists offer evidence that this is a later trend in slab burial constructions dated to the mid- to late first millennium BC (Volkov 1967: 43, 45; Sohn et al. 1993: 48, 127–130) and perhaps suggesting greater contacts between groups of eastern Mongolia and southeastern Inner Mongolia.

Based on the Egiin Gol and Baga Gazaryn Chuluu data, the size range of these slab built features varies from 1 to 10 m in length and 0.7 to 9 m in width (cf.

Fig. 5.9 An impressive slab burial at the cemetery site of Tsagaan Uul/Avargyn Ovoo in Dornogobi province

Torbat et al. 2009: 93; Erdenebaatar 1997: 71; Volkov 1967: 40–41; Navaan 1975: 83–84). The erect slab stones can stand as much as 2 m above the surface, though in some cases, these have been disrupted or have completely collapsed, making measurement and surface identification difficult. The major axis of slab burials and the direction of the interred individual are primarily to the east with northeastern and southeastern variations and occasionally a northern variant (Navaan 1975: 84). A number of typological and chronological schemes have been proposed for slab burials (Chlenova 1992: 248–249), but recent radiocarbon analyses from multiple regions provide a periodization beginning at 1100 BC to 400/300 BC (see Erdenebaatar 1997: 89; Torbat et al. 2003: 136; Tsybiktarov 1998: 103–104, 2003: 90; Torbat et al. 2009: 104; Tseveendorj et al. 2003: 97).[9] Tsybiktarov has published some of the earliest radiocarbon results from slab burial contexts in Siberia. However, taking into account both the new dates from several regions in Mongolia and the large error ranges for radiocarbon analyses obtained from these Siberian samples, I have selected a more conservative start date and a later end date for these features (cf. Parzinger 2006: 477–478). Despite such differences in periodization,

[9] The earliest radiocarbon-dated context that I am aware of from Mongolia with a reasonable error range is slab burial excavation OR-85 from Orog Nuur, Bayankhongor, dated to 1211–907 BC, 95 % probability [LTL-1822A, 2866 ± 55] (Gunchinsuren et al. 2006: 8–10). Turkin (2004: 83) reports an early date from the Iterkhei V site, but it seems to be a far outlier from the other 14 dates he publishes for slab burial contexts from Cisbaikal cemeteries.

the slab burial time range clearly overlaps and continues later than the period of khirigsuur and deer stone use. The three monument types can appear together or in close proximity, especially within the central regions of Mongolia and Transbaikal (Tsybiktarov 1998: 137).

Unlike Late Bronze Age khirigsuur monuments and more like the Ulaanzuukh–Tevsh sites, slab burials have relatively consistent evidence for human interment. This is despite serious preservation issues due to pillaging, desecration, and natural factors (Dikov 1958: 57; Nelson et al. 2009: 575). Burial chambers can be up to 1.8 m in depth, and the dead were laid at the bottom of an earthen pit in a supine position. Most slab burials contain one interment, but sometimes evidence for more than one individual is apparent and this usually involves an adult with a child or in rarer cases multiple adults (Konovalov et al. 1983; Nelson and Naran 1999: 6–7, 10). In addition to human interments, slab burials contain domestic herd animal remains such as cow, sheep, and goat, but interestingly, horse bones are among the most common (Navaan 1975: 105; Grishin 1975: 100; Tsybiktarov 1998: 148). In addition, slab burials contain a wide range of artifacts that include items made from bronze, stone, ceramic, and bone. Microlithic blades and scrapers are recovered from a few contexts as are tripod-shaped cooking vessels similar to those from Inner Mongolia, Manchuria, and Transbaikal (Navaan 1975: 38, 85; Shelach 2009: 20–21; Tsybiktarov 1998: 59–60, 151; Novgorodova 1989: 247). Bronze finds are fairly typical in slab burial contexts, and inventories might consist of buttonlike ornaments, horse gear such as harness parts and mouth bits, arrowheads, axes, knives, and impressive animal-style decorations (Erdenebaatar 1997: 91–121). Furthermore, there is robust evidence for indigenous bronze production of such items in the form of stone molds, ore mining, metal working tools, and slag sites (Park et al. 2010; Tsybiktarov 1998: 149; Erdenebaatar 2004).

The presence of horse harness equipment in slab burial contexts is the first regular appearance of such artifacts in Mongolia and raises the important topic of horseback riding. Direct evidence for riding is notoriously difficult to come by, especially since much of the harnessing gear could just as well have been used for traction (Drews 2004). By the beginning of the first millennium BC, however, some eastern steppe burials contain horses buried in full harness gear making the use and arrangement of the equipment unequivocal and clearly designating these animals as trained and outfitted for horseback riding (Bokovenko 2000). The same horse equipment is recovered from slab burials and also as surface finds, including bone, antler, and bronze cheekpieces, strap holders and harness ornaments, as well as bronze snaffle bits with jointed canons (Chlenova 1992: 251; Sanjmyatav 1993: 32–34; Erdenechuluun and Erdenebaatar 2011: 82–85; Navaan 1975: 88–89, Fig. 5.10). The new harnessing technology greatly facilitated horse control and horse riding and most likely made the proverbial “life in the saddle” possible for the first time in history. Similar artifact types are likewise well known from the Altai, Tuva, and Minusinsk regions of Siberia and also from sites in Kazakhstan (Kiriushin and Tishkin 1997: 75–76). The earliest appearances of such equipment across this vast region are surprisingly synchronized, dating in each area to the initial first millennium BC or, at the earliest, the terminal second millennium BC

Fig. 5.10 Bronze cheekpieces excavated from slab burial no. 2 at the site of Jargalant Uul in Arkhangai province (photograph by Chunag Amartuvshin)

(Kuz'mina 2008: 65; Parzinger 2006: 504; Legrand 2006: 857). This is also the exact period during which rock art images of horse riders first appear in many parts of Eurasia and particularly across Inner Asia (Drews 2004: 62; Francfort 2011: 59; Jacobson-Tepfer 2012b: 8). So far, the earliest slab burial evidence for horse use consists of 3-hole bone cheekpieces excavated at the site of Tapkhar, Transbaikal, dating to the early first millennium BC (Chlenova 1992: 251), and 2-hole antler cheekpieces excavated from a slab burial in the Egiin Gol Valley, recovered along with three horse skulls and radiocarbon dated to 940–800 BC at 95 % probability (Honeychurch et al. 2009: 347).

Although at times slab burials are found individually, more often they are grouped in small-to-medium-sized cemeteries consisting of 3 to 20 or sometimes more monuments. The largest and most impressive examples of slab burials, as well as the largest cemeteries, are in the eastern portions of Transbaikal and Mongolia where burial lengths are commonly 8 or 9 m and can have especially tall cornerstones (Volkov 1967: 35; Dikov 1958: 31). These eastern patterns include the well-known Dvortsy burials of eastern Transbaikal which have been singled out for their impressive size, their internal stone lining, and comparatively rich burial furnishings. However, as Chlenova (1992: 250) points out, these features were probably characteristic of slab burial contexts in other regions, but ancient pillaging has disrupted the slab burial record to a much greater degree in the steppes south of Transbaikal. In all respects, Dvortsy burials are probably best understood as large slab burials and not as a separate culture or special construction reserved for the elite, as has been suggested (cf. Tsybiktarov 1998: 128–136; Chlenova 1992: 250). Besides, as the data from Egiin Gol and Baga Gazaryn Chuluu suggest, these large features are not outside the upper range of slab burial sizes from many parts of Mongolia. In fact, the newly discovered cemetery of Tsagaan Uul

(also Avargyn Ovoo) in the east Gobi Desert has more than 200 such graves and is a good example of the prominence of these features, some of which measure up to 8 m in length and 6 m in width (Amartuvshin and Galdan 2013, see Fig. 5.9).

Both the large sizes and the pervasiveness of slab burials in the east lead researchers to view these mortuary traditions as having emerged among eastern populations. Nevertheless, based on the absolute chronology, there is still no single region of markedly early slab burial construction yet discernible. It is clear, however, that slab burials are the dominant monumental practice in the east where contemporaneous khirigsuurs are quite few in comparison with their representation in the western regions of Mongolia. Likewise, slab burials are relatively few in the west, though they are found in small numbers as far as Gobi-Altai, Zavkhan, and Khovsgol provinces (Tsybiktarov 1998: 144; Volkov 1995: 321). As mentioned above, these distinctive types of monuments mix together in the central provinces of Mongolia, and this geographical and temporal overlap in khirigsuur and slab burial constructions raises questions about how we might understand major differences in monumental practices that coincide in time and place. For example, a number of archaeologists associate this overlap with encroaching ethnic populations, conflict, and desecration of mortuary monuments. That several slab burial sites have fragments of older deer stones as part of their construction suggests to some a dynamic of warfare and conquest (Tsybiktarov 2003: 87–88). On the other hand, given no additional evidence for inter-group conflict and many Inner Asian examples of monument re-use as a legitimizing strategy (e.g., Honeychurch et al. 2009; Wright 2012; Kovaleva 2006), inter-ethnic conflict may not be the best interpretation. More likely, these patterns represent some change in political conditions that made possible novel ritual and social orders and, subsequently, new material expressions of those in the form of different funerary rites.

In terms of the social referents of slab burial mortuary practices, the prevailing opinion among archaeologists is that these interments in some way represent an elaboration of inequality and leadership among nomadic groups of eastern Inner Asia (Volkov 1967: 96; Tsybiktarov 2003: 82). While it is not clear to what extent status and prestige may have been involved in earlier Ulaanzuukh–Tevsh cultural practices, slab burials show systematic variation in the size and depth of construction and correlations with the presence or absence of ceramics, animal offerings, bronzes, and long-distance prestige items included in the assemblage (Dikov 1958: 62; Turkin 2004: 85). The character of non-local artifacts is particularly telling in this case since many of these items were moved substantial distances to end up in a specific burial context. Examples include impressive cast bronze helmets originating in Inner Mongolia and carnelian beads from West or South Asia (Erdenebaatar and Khudiakov 2000; Grishin 1975: 53–55, 60–61, Fig. 5.11). Even though inter-regional exchange already had a long history on the eastern steppe by this time, slab burial contexts speak to a marked upswing in the amounts and diversity of such goods (Tsybiktarov 1998: 79). It is also clear that in some cases, subadults received higher numbers of such prestige objects and more labor-intensive burial treatments than did some senior males, suggesting a hereditary component to status (Honeychurch et al. 2009: 350–352).

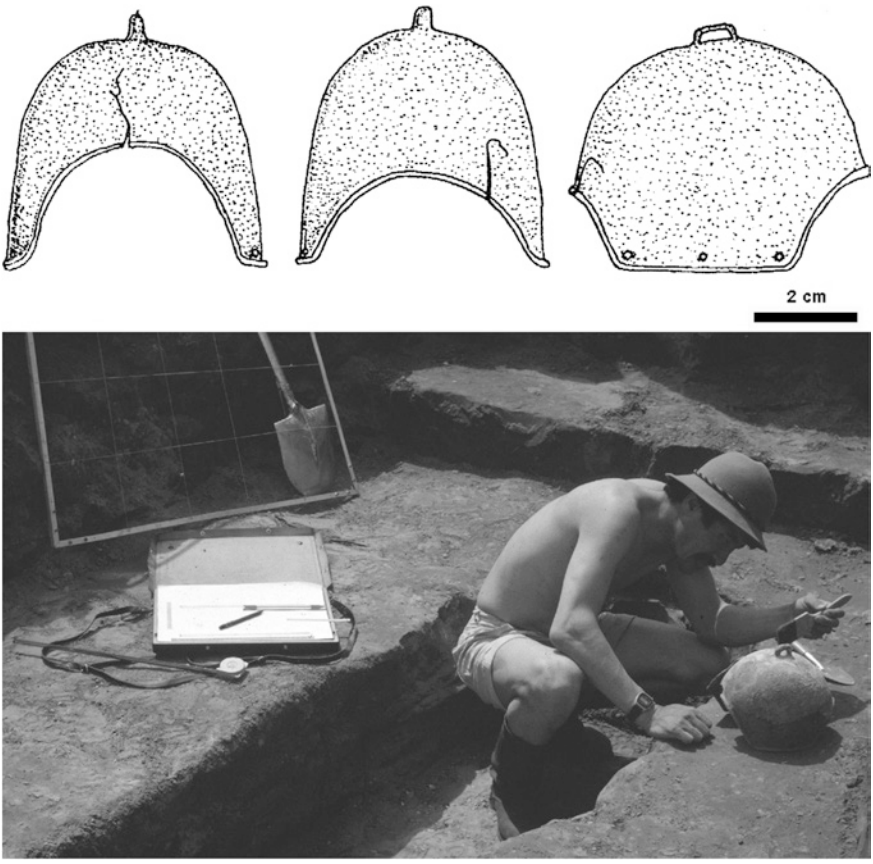


Fig. 5.11 *Above*, a bronze helmet recovered from Zavkhan province (after Yerool-Erdene and Regzen 1999). *Below*, a photograph of archaeologist Diimaajav Erdenebaatar excavating a similar helmet from a slab burial at the Kholtost Nuga site, Egiin Gol Valley

Taken together, these characteristics imply differentiated ranks for those select few who were buried in this manner. While the default attribution of rank and inequality to patterns of mortuary differentiation has been fittingly questioned and reconsidered by archaeologists, this interpretation of slab burial patterns agrees with multiple lines of other evidence and fits with patterns and processes in the regions neighboring Mongolia as well (Honeychurch and Wright 2008; Hanks 2010). However, this assessment does contrast with earlier views of slab burials as relatively modest and undifferentiated (e.g., Chard 1974: 165). I suspect such opinions relied on comparisons with much more opulent and grandiose burials of the time, such as those at Arzhan in Tuva. As I argue in the following chapter, even though the Arzhan 1 burial is impressive and unique, the social processes that gave rise to it are likely the same as those involved in the emergence of slab burial culture, although slab burials represent a very different cultural idiom situated mainly in the east.

5.4 Habitation Sites, Economy, and Lifeways

As is commonplace in Inner Asian archaeology, beyond the study of monuments and tomb making, not much is known about the living spaces associated with those who built so many impressive stone constructions (Chlenova 1992: 250; Grishin 1975: 37). The latest data come from recent excavations at Late and Final Bronze Age seasonal campsites in the river valleys of west-central Mongolia (Houle 2010). In addition, diachronic and comparative information is available from a small number of stratified habitations in the Transbaikal and Cisbaikal parts of Siberia as well as from dated artifact scatters in the Alashan Gobi of Inner Mongolia. Contributing to the existing problem of relatively few discovered sites is the added difficulty of dating what are often sparse remains with little in the way of in situ deposits. Identification of diagnostic ceramics is the primary way of periodizing settlements and campsites, but this approach has its own pitfalls. These include the stylistic and ware similarities between ceramics of the Bronze and Early Iron Ages and later medieval periods (e.g., Davydova and Miniaev 2003: 31–32) and assemblages that are often highly fragmented with too few rims or decorated sherds to be identified in the first place.

As a result, while monumental typologies provide resolutions of between 200 and 400 years, without absolute dating settlement chronology tends to resolve in 700–1,000 year blocks of time (Houle 2010: 2; Honeychurch and Amartuvshin 2007: 50–51). A further problem is that when habitation sites are successfully located and then tested by excavation, they often contain little cultural deposition and few if any features with secure contexts from which to obtain samples for radiocarbon analysis. Nevertheless, better habitation chronologies will certainly be forthcoming as more pedestrian surveys and detailed habitation studies are done. Furthermore, experimentation with a variety of analyses for absolute and relative dating has also shown great promise for the archaeology of early pastoral nomads. In the past few years, luminescence dating of both surface ceramics and sealed soil contexts has emerged as an important alternative method for dating Inner Asian artifact scatters and cultural features (e.g., Janz 2012: 117–119).

As of now, however, it is not far off the mark to say that for Mongolian archaeology, settlement excavation and analysis have only just become a priority among archaeologists. One bright spot in this otherwise substantial dearth of information is that when researchers do dedicate time, labor, and proper methodologies to the study of Bronze and Early Iron Age living areas, results can be obtained that have great significance, especially when it comes to contextualizing monumental sites and recognizing major transformations in community lifeways. Such is the case of Houle's recent survey and detailed excavations of several Late Bronze Age sites in the Khanui Gol river valley (also Khanuy Gol) of Arkhangai province (Houle 2009, 2010). Khanui Gol is a major river valley located in the Khangai Mountains of west-central and central Mongolia and is characterized by a forest-steppe environment not dissimilar from that of the Egiin Gol river valley to the north. In addition to a robust settlement record, the area also has multiple khirigsuur and slab burial

complexes along with deer stone sites. Several centuries later in time, Khanui Gol becomes a major center of Xiongnu elite mortuary activities (Erdenebaatar et al. 2011). Survey at Khanui was originally initiated by Allard and Erdenebaatar (2005), but the emphasis on seasonal campsite excavation has been Jean-Luc Houle's major contribution to the research project and to Mongolian archaeology generally.

In order to detect artifact scatters in a grassland environment with substantial colluvial sedimentation, survey crews conducted intensive survey with closely spaced systematic test-pitting across two different valley zones totaling 20 km^2. The zones were chosen in reference to the distribution of khirigsuur sites in order to examine the relation of monuments to living areas (Houle 2010: 46–47). The outcome of this labor-intensive search strategy has been impressive: Within the two survey areas, every side valley entrance onto the main valley had remains of settlements and, in total, 26 occupation sites were revealed (Houle 2010: 49–58). Survey crews dated sites to the Late and Final Bronze Age using diagnostic ceramics and singled out one major occupation cluster for additional testing and excavation. A combination of landscape analysis and excavation results has done a good job of revealing how people lived in the Khanui Gol Valley over three millennia ago.

Houle's work provides a clear picture of small-scale community groups practicing pastoralism and short-range seasonal movements. Faunal remains suggest that Late Bronze Age households herded at least four of the major species typical of Inner Asian pastoralism: sheep, goat, cattle, and horses. Residential movements were between cold and warm weather campsites in the upper sections of protected side valleys and in open valley mouths, respectively. Due to the rich pastoral resources and plentiful water, these movements probably did not exceed 5 km in most cases. However, even though households seemed to have covered only small distances over the course of a year, they probably had the capacity to move longer distances and possessed the technology needed to do so, including moveable shelters and developed animal traction. In addition to pastoral subsistence, Houle reports only minimal use of hunted species such as musk deer, some evidence for fish, and a few collected wild plants such as *Chenopodium* (Broderick and Houle 2012). Furthermore, he found no botanical or artifactual indication of local farming whatsoever (Houle 2010: 126–135, 180). Most subsistence needs were therefore met by herd animals, and although no direct evidence was recovered, it is likely that the full range of secondary products including edible dairy, wool and other fibers, and skins and leathers was exploited.

Survey and excavation also demonstrate that Khanui Gol was an area of craft production that included locally made lithic tools and ceramics. Interestingly, fieldwork failed to recover any evidence for bronze metallurgy in the valley. In fact, bronze artifacts rarely occurred in settlement contexts (e.g., a single arrowhead was recovered), while in contrast, bronzes were common in nearby burial assemblages (Houle 2010: 146–160, 170). This may attest to the high value of bronzes, which seem to have been treated in the same way as imported jade and turquoise objects, also found in mortuary contexts and considered by archaeologists to be prestige markers (Houle 2010: 149–150). Such differences argue for some degree of control over items of value and, in turn, imply privileged access to these materials on the part of some members of the community but not for most.

The monumental landscape at Khanui Gol might also be understood as representing patterns of social differentiation and control. The many khirigsuurs, some of extremely large size, and the local deer stones would have required extensive labor investment and a leader capable of mobilizing such labor—probably even involving groups that did not live in the immediate area (e.g., Houle 2010: 30).

On the other hand, the settlement evidence provides less indication of clear social differentiation within the valley's local community. Houle argues in favor of some suggestive differences between habitation sites based on frequencies of decorated ceramics and cattle remains. He also identifies what seems to be an area reserved for lithic production which might represent early specialization or perhaps controlled production. However, overall, there are no great differences between living areas within sites and between residential sites themselves that would corroborate the degree of political and social differentiation indicated by the burial and monument record. This mixed evidence suggests to some archaeologists that emphasis on social hierarchy and elite leadership as primary organizational factors in Late Bronze Age society may be premature (Wright 2014). Then again, perhaps settlement differentiation would be less obvious or even reflected in different ways, given the fact that the local community was residentially mobile. In order to resolve this mismatch in archaeological perspectives, systematic comparison between habitations and other contemporaneous site types is needed from additional parts of Mongolia.

One of the advantages to conducting settlement research at Khanui Gol is that the resource-rich forest-steppe environment and the early practice of short-distance mobility encouraged a regular re-use of campsites. These sites, when discovered, have strong potential for containing intact cultural features such as hearths and trash pits as well as stratified cultural deposits. It is no coincidence then that the majority of habitation sites with such informative features are reported in the forest-steppe zones of Mongolia and southern Siberia. Perhaps the best example is the Dureny 1 and Dureny 2 settlement complex along the Chikoi River in southern Transbaikal, roughly 15 km north of the Mongolian border. This complex is one of the few stratified habitation sites with occupation levels dated by radiocarbon analysis to the early and mid-first millennium BC. Comprehensive ceramics analysis supports this periodization based on numerous fragments of pottery matching those known from slab burial contexts. The diagnostics include tripod-shaped cooking vessels and coarse red ware ceramics with "piecrust" rims and impressed or incised appliqué bands (Davydova and Miniaev 2003: 29, 40).

Dureny 1 and 2 also have ceramic evidence for occupation during the early medieval era (mid- to late first millennium AD), but the primary interest for archaeologists has been the extensive occupation remains dating to the Xiongnu period at the end of the first millennium BC (Davydova and Miniaev 2003: 41). As a result, information about earlier occupations, and especially how people may have been living at the Dureny sites prior to Xiongnu emergence, has been somewhat neglected. This continues to be the case despite the fact that the Final Bronze and Early Iron Age evidence is crucial for establishing patterns of long-term continuity and discontinuity between these major periods of occupation. The excavators of Dureny do suggest that the

habitation pattern prior to the Xiongnu period may have been more mobile and less permanent (Davydova and Miniaev 2003: 41), although the degree of cultural deposition suggests at least consistent seasonal use during most of the first millennium BC.

Several habitations contemporary with the pre-Xiongnu layers of the Dureny complex are reported from eastern Transbaikal at distances of about 50 to 200 km north of the easternmost parts of Mongolia. These habitations are located along major waterways and tributaries including the middle Onon and Nerch rivers, and all were discovered in wind-eroded sand banks or dune fields. As such, they have no intact deposits or features and, therefore, multi-component sites were recorded as mixed surface assemblages lacking any reliable context; all of these conditions make their interpretation and periodization difficult. Nonetheless, Grishin presents a thorough analysis of the site collections and identifies Late Bronze through Early Iron Age components at the three sites of Kyshtachnaia Sopka, Kunkur, and Narasun (Grishin 1975: 37–41). Among the diagnostic finds from these sites are coarse red and brown ware ceramics with impressed or stamped appliqué, piecrust rims, and tripods with decorated bodies and hollow legs. All of these ceramic patterns are also characteristic of slab burial ceramic assemblages. In addition, each site has distinctive copper–bronze artifacts that can be stylistically dated to the Late Bronze or Early Iron Age including knives, awls, decorative pendants, and buttons. Again, this metal inventory is very similar to that found in slab burial contexts. Finds of particular interest collected at some but not all of these sites include microlithic scatters (especially scrapers, micro-blades, and borers); stone molds for bronze casting and slag from metalworking; and harness pieces for horses. Completely lacking from the description of these sites, however, is evidence for the early inhabitant's lifeways such as the prevalence of herding, hunting, and farming or to what degree the inhabitants may have been seasonally nomadic or sedentary.

Nonetheless, claims for the development of mobile pastoralism in Mongolia and Transbaikal during the late second and early first millennium BC are are commonplace, but based on non-systematic observations of animal bones in burial contexts (e.g., Dikov 1958: 57–61; Volkov 1967: 92; Navaan 1975: 104–107; Grishin 1975: 98; Tsybiktarov 1998: 147–149). By and large, Houle's focus on settlement excavation with full faunal and botanical recovery by soil screening and flotation is still a rarity in eastern steppe archaeology, as is his use of comparative and quantitative analysis of animal and plant remains. These steps are crucial for a reliable assessment of subsistence evidence including the presence and abundance of domesticates and/or wild species (both plant and animal) as well as changes over time in their representation as a part of ancient diets. Such a methodological approach provides a much richer and more dependable interpretation of daily economics and processes of transformation. Archaeologists have employed techniques like these with impressive results at habitation sites 250 km north of Mongolia on the western coast of Lake Baikal (Cisbaikal region). In order to chart the arrival and exploitation of herd animals in this northern forest-steppe and lacustrine zone, Nomokonova and colleagues have systematically excavated a stratified settlement site known as Sagan-Zaba II located in a large valley opening onto the lake coast. The site has 11 layers dating from the Mesolithic to the period of the Mongolian

empire; however, the Late Holocene layers 3-B and 3-A are those most pertinent for understanding the introduction of herding during the Late and Final Bronze Age (Nomokonova et al. 2011).

Several hearth features with charcoal were discovered within the site deposits, and these, along with animal bones, provided samples for radiocarbon dating. The chronology of the different strata is still quite coarse with dates from a single layer ranging across five or more centuries, though artifact assemblages and especially decorated ceramics provide extra confirmation for the periodization. Layer 3-B has the earliest occurrences of domesticated animal bones and radiocarbon dates from the mid-second to early mid-first millennium BC, in addition to diagnostic ceramics supporting a Bronze Age chronology. Finds recovered from this layer include bronze, microlithic, and bone artifacts, and the faunal assemblage consists of sheep/goat, horse, and cattle, as well as terrestrial and aquatic wild species such as deer, ground squirrel, Baikal seal, and fish (Nomokonova et al. 2011: 166). The early dates lead Nomokonova and colleagues to suggest that layer 3-B may well contain the remains of both hunter-gatherers and slightly later groups who possessed domesticates, since there is clear emphasis on hunting and gathering activities and, most notably, seal hunting.

Radiocarbon dates from layer 3-A place this stratum firmly in the first millennium BC, and accordingly, excavators recovered microlithic tools, ceramics, and iron artifacts suggestive of an Early Iron Age assemblage. These finds are consistent with what might be expected from middle- to late-period slab burial inventories. The faunal profile of this layer comprises many of the same domestic and wild species, but there is a notable change in the relative abundance and use of these animals. By the mid-Early Iron Age, the presence of herd species increased dramatically relative to hunted species. Moreover, culling patterns, indicating the makeup of diet and presumably the overall composition of herds as well, shifted from a focus on sheep/goat to one with increased cattle production. Horses were present at the site but were not as numerous as in neighboring areas, perhaps due to the relative aridity of local grasslands or because they were not a regular part of the diet. Sealing and fishing continued to make significant contributions to subsistence, but, interestingly, seal numbers declined as the investment in herds increased. Following the Early Iron Age, the proportion of pastoral-to-wild mammal species became fairly consistent and continued into the later medieval periods at Sagan-Zaba, suggesting that a mature and sustainable herding strategy was developed early on. Finally, Nomokonova and her team argue that the increasing reliance on cattle during the Early Iron Age may indicate a decline in mobility as has been documented during historical periods around Lake Baikal. However, besides the numerous hearth features, no infrastructural evidence for how people inhabited the site has been discovered as of yet (Nomokonova et al. 2011: 169–173).

Well-dated habitation sites are not just restricted to the northern regions but are also being identified in the arid southern parts of Mongolia as well. This is especially true of the past decade due to numerous archaeological rescue projects organized in the wake of large-scale mining activities in the Gobi Desert. In an innovative analysis project using artifact collections from museums, Janz has employed luminescence dating to periodize ceramics recovered from Gobi surface

sites by the Roy Chapman Andrews and Sven Hedin expeditions during the 1920s and 1930s (Janz 2012). This has added significant chronological detail to our understanding of the Neolithic and Early Bronze Age periods. Of these collections, only one assemblage from the Dottore-namak site in the Alashan Gobi can be reliably assigned to the Late and Final Bronze Age. However, by comparing data from Dottore-namak with nearby Late Neolithic and Early Bronze Age site information, Janz offers important insights about long-term trends in Gobi habitation patterns.

The Alashan Gobi makes up much of the northern part of western Inner Mongolia and is continuous with the Gobi zone of Bayankhongor and Omnogobi provinces of Mongolia immediately across the border to the north. The site of Dottore-namak is 50 km south of the Mongolian border and is located in the Goitso Valley, a region known for its relatively high water table, several springs and small oases, and relatively rich grasslands (Janz 2012: 25). The site itself is represented by a sparse scatter of microlithic artifacts, ceramics, and metalworking slag. Luminescence dates on two ceramic samples date the site most probably between the late second and mid-first millennium BC, despite one date with a substantial error range (Janz 2012: 120). The microlithic assemblage is consistent with earlier periods, and the ceramics have impressed molded or appliqué bands on the shoulder quite similar to those described for the Siberian settlements above. Of note is the clear evidence for bronze manufacture at the site in the form of slag remains and melted copper residues on ceramic fragments which might have been parts of crucibles for copper smelting (Janz 2012: 372).

Janz points out that Dottore-namak is particularly interesting because it is a good example of a site type not normally recovered by the early twentieth-century archaeological surveys. It is a small, low-density artifact scatter near a spring, and as such, it epitomizes characteristics that become more prevalent for habitation sites of the middle to late second millennium BC (Janz 2012: 372–373). These characteristics include artifact scatters that are comparatively sparse and appearing in locations best suited for short-term exploitation, implying a more spatially dispersed resource strategy with brief site occupations. Janz also notes an increase in pottery remains and a de-emphasis on microlithic tool production, suggesting a shift in domestic and productive activities. The opportunistic collections made by the Andrews and Hedin expeditions did not find many of these Bronze Age habitations, despite extensive recovery of surface sites dating to the earlier Neolithic period and having the same classes of artifacts. This contrast in detection probably results from a change in Late Bronze Age lifeways that produced a less obvious surface pattern for campsites (Janz 2012: 371–374). One explanation for this change in habitation practices is more frequent and longer-distance nomadism derived from animal transport in conjunction with greater reliance on mobile herd animals as a primary food source (Janz 2012: 373). Short-term seasonal sites, such as Dottore-namak, suggest that during the second millennium BC pastoral nomads may have transited the Gobi Desert. If so, this demonstrates one way that material culture, resources, technologies, and animals could have moved from central Mongolia into Gansu and Inner Mongolia (see Chap. 7).

One important aspect virtually absent from the discussion above is the role of domesticated grains and cultivation in Late and Final Bronze Age societies. Based on the discovery of millstones and ring-shaped digging stick weights, a majority of archaeologists have argued that grain cultivation was a critical practice at this time (e.g., Volkov 1967: 91, Tsybiktarov 2003: 83; but cf. Grishin 1975: 27, 1981: 196). However, little else in the way of artifactual or botanical evidence for agriculture has been discovered. This may simply reflect the lack of soil flotation practices in Mongolian and Siberian archaeology which is the primary method for collecting botanical remains. On the other hand, contrary to the dominant opinion, what seems to be a lack of supporting evidence for farming may also affirm the conclusion of Houle (2010: 183), Janz (2007), and Wright (2006) that the transition to mobile pastoralism in many parts of Inner Asia was brought about by hunting and gathering groups without much reliance on domesticated grain. If so, this process would have been similar to the emergence of pastoralism in East and North Africa as we now understand it (Marshall and Hildebrand 2002).

An alternative line of evidence for early Inner Asian agriculture is stable isotope analysis of human bone to detect chemical indications of diet. Isotopic results can be combined with dental information to give an idea of what people were eating 3,000 or more years ago. Several recent studies using these techniques have now been published and suggest an interesting picture of geographical and diachronic variability across Inner Asia. Machicek has pioneered some of the very first stable isotope research using samples from Mongolian archaeological contexts. Her research has examined human bones from Late Bronze Age khirigsuur burials at the site of Taishir-Ulaanboom in Gobi-Altai province, from Ulaanzuukh–Tevsh burials at Baga Gazaryn Chuluu in the Middle Gobi, and from khirigsuurs north and east of the Uushigiin Ovor site in Khovsgol province (Machicek 2010, 2011, forthcoming). Machicek's results support the conclusion that Late Bronze Age groups were eating a diet without domesticated grain and instead relied mainly on animal products (i.e., terrestrial herbivores, probably herd animals) and possibly wild edible plants (Machicek 2011: 117–132; forthcoming). It is not until the very end of the Early Iron Age at some central Mongolian sites that C_4 or C_3 grains (most likely millet or wheat) began to enter local diets (Machicek 2011: 123, 129; Machicek and Zubova 2012). These findings contrast markedly with what is known from the surrounding regions of Xinjiang, southeastern Kazakhstan, and the Minusinsk Basin where millet and/or wheat were either traded or cultivated as early as the Middle to Late Bronze Age and then became staple foods throughout the Early Iron Age (e.g., Svyatko et al. 2013; Li et al. 2011; Murphy et al. 2013; Miller-Rosen et al. 2000; Frachetti et al. 2010; Doumani et al. forthcoming).

In summary, although habitation evidence and chronology are still being worked out, reports from archaeologists conducting research around Lake Baikal, in central Mongolia, and in western Inner Mongolia all indicate a similar set of processes enacted during the end of the Bronze Age. These include a primary reliance on domestic herd animals, use of animal transport and traction, and a developed capacity for residential movement, whether regularly exercised or not. Furthermore,

these changes coincided with major shifts in monument construction, artistic styles and ideology, and mortuary culture beginning at 1500/1400 BC. Additional changes, especially in monument and funerary practices, occurred again at around 1000 BC, giving rise to a very diverse and regionally differentiated mixture of burial architectures, ceremonies, and funerary assemblages. This conclusion would not come as a surprise to an earlier generation of Mongolian and Russian researchers who, beginning from the 1960s, argued for a relatively similar timeline of cultural transformation. These prior arguments, however, depended primarily on assemblages from burials, i.e., ritualized context not well suited for addressing subsistence practices and daily lifeways. What is different about much of the recent research from Mongolia and Transbaikal is the use of diverse field methods employing a wide range of site types and analytical approaches. These multiple lines of evidence together provide a much more satisfying account of how pastoralism, mobility, social differentiation, and monumentality began to coalesce on the eastern steppe.

5.5 Local and Regional Perspectives

Egiin Gol and Baga Gazaryn Chuluu (BGC) provide additional detail on the transformations that accompanied the Late and Final Bronze Age. Both survey areas have similar records of monumental sites and somewhat underdeveloped datasets for Bronze and Early Iron Age habitation. Like many of the areas already discussed, this is largely due to site preservation and a lack of chronological resolution from surface collections alone. At Egiin Gol, habitation sites assigned to the mid-second to mid-first millennium BC are small with a mean size of 0.25 ha, very sparse (i.e., fewer than 1 artifact per m^2), and have modest subsurface cultural deposits. At BGC, contemporaneous sites are also sparse and even smaller with a mean site size of 0.08 ha, but with the added problem of wind-deflated soils that leave artifacts sitting on the immediate surface with little beneath them for further exploration. Although the chronology of these sites is coarse (i.e., 800-year intervals), it is clear that campsites in both survey areas are concentrated in locales highly suitable for seasonal residence. Similar to the settlement pattern Houle documents in the Khanui Valley, Egiin Gol Bronze and Early Iron Age habitations are either in the upper reaches of tributary valleys or around valley mouths. This pattern is the same for khirigsuur and slab burial sites as well. At BGC, habitations are in protected ravines and on the southern sides of wind breaks as well as in the largest valley bottoms and at valley mouths. Although there is still no other supporting evidence besides these landscape locations, when considering the organization of warm and cold weather campsites, these settlement patterns are quite similar to current pastoral nomadic practices in both areas (Honeychurch and Amartuvshin 2007; Wright et al. 2007).

Based on these locations and assuming that they represent winter and summer campsites, Late Bronze to Early Iron Age mobility regimes in and around Egiin Gol and BGC were about 10 to 15 km annually. In addition, a preliminary oxygen and strontium isotope study from these regions was carried out to analyze the mobility of

community members during this period in prehistory. Although more work is needed to establish baseline isotopic values for the local and regional environments in each survey area, a viable interpretation of results so far is that that Egiin Gol Valley individuals probably spent both early and later phases of life within the valley region itself, while BGC community members spent significant amounts of time in other locales 80–100 km away, suggesting a much wider circuit beyond BGC (Machicek et al. 2012: 16–17, also see Chap. 8). These movement ranges are based on limited samples from each local area and the analysis does not represent daily or annual movements, but rather the location of an individual early and later in life. However, the results in both cases conform surprisingly well to the maximal extents of herding mobility in use today. Such isotopic analysis also cannot identify movements that may have been longer distance but at shorter intervals of time, but it is very likely that such movements were indeed practiced as part of Bronze Age lifeways.

While landscape organization and site locations strongly suggest pastoral nomadic subsistence patterns, faunal evidence from the Bronze Age habitation sites is minimal. On the other hand, animal bones from local monument and mortuary contexts do demonstrate the presence of most of the major herd animals species in both regions (sheep/goat, horse, and cattle), with higher instances of cattle remains at Egiin Gol (Torbat et al. 2003; Delgermaa and Hite 2010). Stable isotope analysis of human bone from slab burials at Egiin Gol and shaped and slab burial contexts at BGC supports primarily meat-based diets during the mid-second to mid-first millennium BC. While the BGC diet drew mostly upon terrestrial herbivores, Egiin Gol diets were more diverse and likely included fish as well (Machicek 2010). Beginning at c. 300 BC, both local communities experienced a dietary shift toward increased plant foods probably associated with cultivated grain consumption (Machicek 2011; Machicek and Zubova 2012: 155).

Despite the fact that Egiin Gol and BGC habitation data for the Late and Final Bronze Age are limited, patterns in monument and burial construction can provide additional information for local organization. Monument types at both survey areas include khirigsuurs and slab burials, and these sites adhere to more or less similar locational arrangements and inter-site associations. However, there are also some interesting differences; for example, deer stones are found in and around the Egiin Gol Valley, while they are not present at BGC. On the other hand, shaped burials related to Ulaanzuukh–Tevsh culture are numerous at BGC, but they do not occur at Egiin Gol. These contrasts raise questions about the relationships between these diverse monumental practices and how their uses and meanings may have been different between the Gobi and the forest-steppe. Still another question concerns the process by which some forms of monuments became common to both regions, while others were more confined geographically. In general, each of these monument types as known from Egiin Gol and BGC conforms to the descriptions given above for their respective structures, chronologies, and assemblages.

At Egiin Gol, only khirigsuurs and deer stones comprise the Late Bronze Age monument record based on the current levels of excavation and dating. By the Final Bronze Age (c. 1000/900 BC), these sites are complemented by slab burial constructions which nevertheless are clearly associated with the older monuments.

As of yet, there is no evidence for human interments or burial inventories from among the 181 or so khirigsuur features recorded,[10] and therefore, human burial practices at Egiin Gol during the late second millennium BC are still somewhat of a mystery. Relatively few of these sites have been excavated, but given that fieldwork is ongoing in and around the valley, I fully expect that some evidence for human interment in khirigsuurs will be forthcoming. One point that is clear, however, is that Egiin Gol slab burials, though almost always disrupted, were definitely intended for human interment and were built with great attention to the existing khirigsuur landscape. Not only are slab burials in close proximity to, or even embedded within, khirigsuur complexes but their is also a clear association between larger slab burials and complexes with larger khirigsuurs (Honeychurch et al. 2009). Despite a clear spatial relationship between the two site types, slab burials at Egiin Gol present a very different set of practices, even though they overlapped in time with khirigsuurs for 200–300 years. In addition to housing the dead, slab burial funeral events included small-scale feasting and the deposition of prestige and imported items such as bronze weapons, turquoise, cowries, beads, bronze helmets, horse gear, and animal-style bronzes. A total of 86 slab burials recorded by the Egiin Gol survey attests to the fact that a very small number of people received this mortuary treatment over the centuries.

Though khirigsuur and slab burial monuments are somewhat integrated at the site level, at the regional scale, the landscape organization of the two site types diverges sharply. An appreciation of this difference begins by taking account of the major khirigsuur and deer stone complexes in and around Egiin Gol. A combination of pedestrian and vehicle survey has identified four such complexes, one of which is in the lower Egiin Gol Valley, while the other three are situated in distinct river valley systems, including one across the Selenge River basin. Each deer stone complex is surrounded by multiple groups of khirigsuur sites, usually in smaller side valleys, and these regional clusters of monumental landscapes are separated by areas without monuments at 20–30 km intervals (Honeychurch et al. 2007: 378). The horizontal distances between each of the deer stones are also fairly regular measuring 46, 40, and 60 km between each nearest neighbor (Fig. 5.12). This large-scale patterning suggests a series of duplicate "local" communities, each occupying a topographically defined and distinct subset of the greater river valley system. Each subregion was organized in relation to a monumental landscape centered on a major deer stone complex and encompassing sufficient land, pasture, and water for sustaining herd animals, as well as hunting, gathering, and fishing. In fact, khirigsuur monument building may have been one way these different communities created closer ties between their respective groups since khirigsuur construction required the aggregation of large numbers of people and likely marked inter-community gatherings in late summer or fall (Seitsonen et al. 2014: 98-100; Houle 2010: 30).

[10] The Egiin Gol Survey recorded a total of 383 khirigsuur sites in the valley but many of these were in poor condition or obscured by sedimentation. Of the total count, 181 were in good enough condition to be categorized as unquestionable khirigsuur monuments. The same applies to BGC khirigsuur counts given below (see Honeychurch and Amartuvshin 2011).

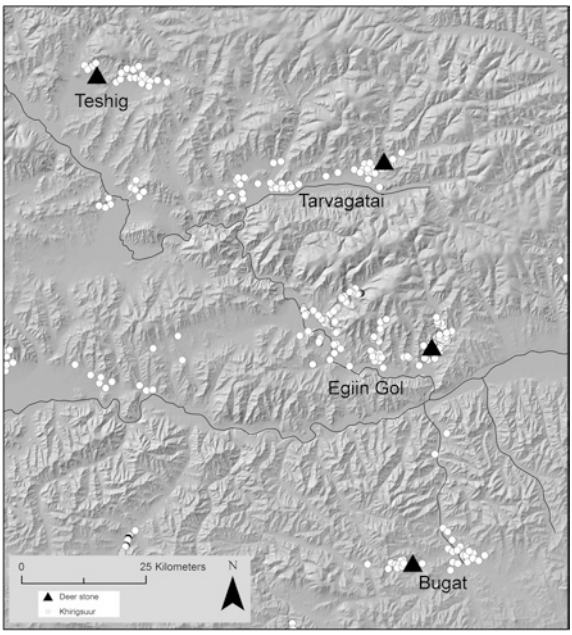


Fig. 5.12 Khirigsuur and deer stone distributions in the greater Egiin Gol and Selenge region. Data are based on three separate surveys and extensive reconnaissance

Slab burial distributions, on the other hand, tell a different story. From additional survey in the Tarvagatai and Teshig areas north and northwest of Egiin Gol, we now know that slab burial distribution was geographically much more restricted than khirigsuurs (Gardner and Jargalan forthcoming). The earliest slab burial so far dated at Egiin Gol appears at about 900 BC in the same tributary valley as the Egiin Gol deer stone and khirigsuur complex. Subsequent slab burial constructions were carried out only in the central portions of the lower valley, significantly truncating the much larger extent of the khirigsuur distribution (Honeychurch et al. 2009). Beyond Egiin Gol, slab burial sites have not been discovered in or around the other deer stone centers as of yet with the exception of the one large complex located across the Selenge River at Bugat.[11] This strikingly delimited slab burial distribution with twin clusters focused on opposite sides of the major river within the area may indicate a process of consolidation of a number of neighboring local groups on either side of the Selenge. A combination of local area consolidation, the emergence of dual regional central places, and new burial practices that involve non-local prestige goods suggests major political transformations. Moreover, the evidence for horseback riding associated with slab burials at Egiin Gol mentioned above points to a means for greater geographical contact among formerly dispersed groups and a new basis for local wealth, perhaps facilitating political and organizational changes (Fig. 5.13).

[11] The Egiin Gol team carried out a vehicle reconnaissance in this area in 1999, and a limited CRM survey was done in 2012 (Gunchinsuren et al. 2013). The CRM survey also reports some slab burials in the Khutag Ondor region which may indicate a third complex 70–80 km to the west.

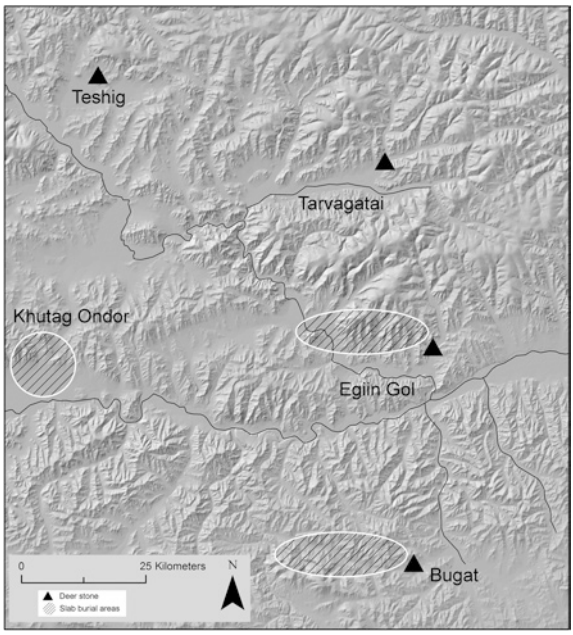


Fig. 5.13 Known slab burial distributions in the greater Egiin Gol and Selenge region

Interestingly, the Late and Final Bronze Age patterns at BGC are somewhat different from those at Egiin Gol, perhaps due to the very different mobility regimes in the two regions. Khirigsuur monuments at BGC are contemporaneous with shaped and other burial formats already discussed as representative of Ulaanzuukh–Tevsh culture. As a matter of fact, these very different monument types are sometimes located within close proximity to each other, although the relationship between them is still far from clear. Of the few khirigsuurs excavated at BGC, none have had evidence for human interment or an artifact inventory contemporary with the time of construction. Of the few Ulaanzuukh–Tevsh burials excavated, half of them have had human remains and some form of burial inventory. In fact, the excavation of one such burial at the Baga Mongol site (EX07.23) on the west side of BGC had a substantial faunal, ceramic, worked stone, and bronze assemblage (Nelson et al. 2009; Park et al. 2011). Moreover, the Baga Mongol burial is only about 200 m distance from a major khirigsuur complex that probably overlaps it in time, raising the question of how these two sites were related in the past. Barring the discovery that BGC khirigsuurs were indeed mortuary monuments albeit with extremely poor preservation of skeletal material due to acidic soils (e.g., Littleton et al. 2012), perhaps the construction of khirigsuurs at BGC did not require a burial event for the purposes they served. In other words, the aggregation of local people, their participation in monument construction, and visits by prominent outsiders may have been the main focus, rather than a funeral. If so, that would explain contemporaneous forms of burial treatment at BGC such as the Ulaanzuukh–Tevsh burials (Honeychurch and Amartuvshin 2011).

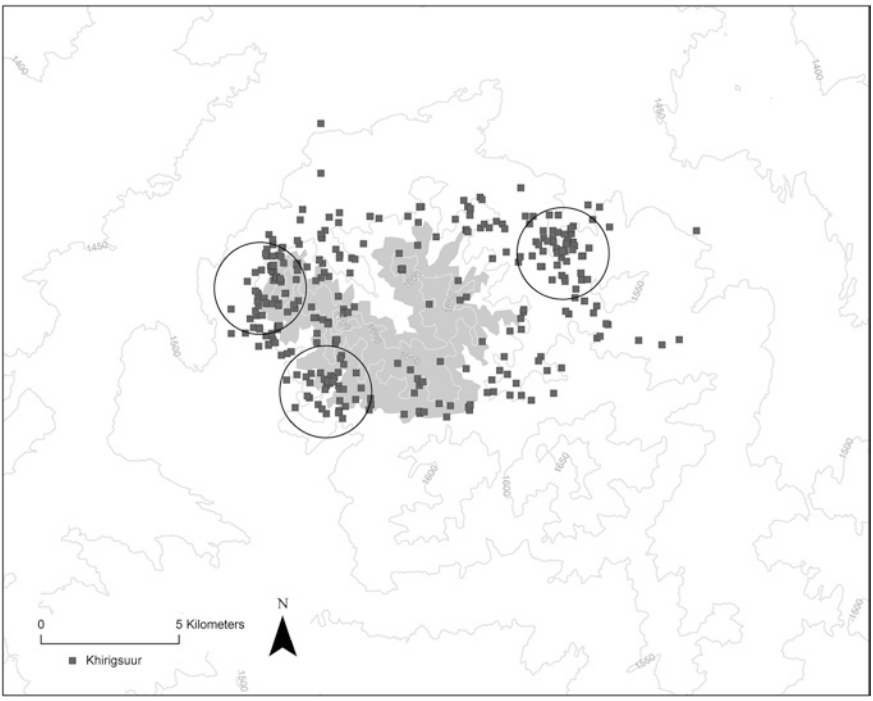


Fig. 5.14 Khirigsuur sites within the BGC survey area and particularly dense clusters of khirigsuurs marked by circles

In any case, khirigsuur monuments at BGC are quite numerous (187 identified) and are organized into major complexes along the upper reaches and bases of prominent ridges, at passes, and at the mouths of outwash valleys. An association with waterways and notable peaks seems to be a commonality between khirigsuur landscapes in different parts of Mongolia. Major clusters of khirigsuurs occur within the western and northeastern sectors of BGC which match the two separate watersheds that arise from the granite ridges and flow outward into the plains (Fig. 5.14). These monument complexes are situated near the two widest valleys with intermittent surface streams that today have shallow water tables and consequently provide water for some of the most reliable wells in the area. The 261 slab burials[12] recorded at BGC far outnumber khirigsuurs, but, just like Egiin Gol, slab burials mostly occur nearby or within khirigsuur sites. In fact, with the exception of one area in the north, the densest spatial clusters of slab burials consistently overlap

[12] It is worth pointing out that both khirigsuur and slab burial counts are approximate due to surface feature disruption and local variability in types. The only way to verify a surface identification is to excavate, and therefore, surface data will always incorporate some degree of error. That said, at Egiin Gol and BGC, over 95 % of excavations proved the original surface identification correct.

the densest clusters of khirigsuur monuments which again suggests a landscape purposefully integrated over time. A number of slab burials have been excavated at BGC, but their assemblages have been disappointing due to pillaging, desecration, and acidic soils. The fact that these burials were well supplied with artifacts is attested by numerous bronze surface finds in the vicinity of slab burial cemeteries including knives, decorative items, and arrowheads (Nelson et al. 2009).

The pattern of regional distribution of slab burials beyond BGC is quite different from that at Egiin Gol. Unlike the truncated pattern seen in the forest-steppe region, the Gobi sites around BGC exhibit a high degree of diachronic continuity between khirigsuur locations and slab burial monuments. This is true not only at large and impressive sites such as BGC, but even in outlying secondary locales where construction of a handful of khirigsuurs usually was accompanied by at least one or two slab burials. In fact, wherever khirigsuurs are present in the greater BGC region, slab burials were also constructed and that would seem to suggest that no exclusive "central place" emerged during the early to mid-first millennium BC. On the other hand, the regional perspective is complicated by the fact that there may be a second center of monumental activity only 80 km to the north around another granite ridge known as Zorgol Khairkhan at Bayan Onjuul. As mentioned above, isotopic analyses suggest contacts between BGC and this area in the temperate steppe zone, and even today, extended families move regularly between the two locales. In addition, there are two other major khirigsuur and slab burial concentrations 65 km to the southeast of BGC near the site of Suman Uul and 77 km to the southwest at Erdenedalai. Three more small clusters of khirigsuur and slab burial monuments (at Adaatsag Uul, Delgertsogt, and Khar Khad) are situated between these larger centers and BGC, and all are separated by otherwise non-descript arid plains lacking monument sites (Fig. 5.15).

It is difficult to know what relationships existed between these several dispersed areas of activity stretched over 130 km north to south. For example, did these monument sites represent multiple separate communities or just one or two large communities in circulation around BGC with regular contacts? Furthermore, did a form of greater consolidation of these groups occur over time, similar to what seems to have taken place at Egiin Gol? Three observations help to interpret this expansive regional landscape. First, there is little doubt that BGC has by far the largest, the most diverse, and the most impressive assemblage of monuments among these several areas of monumentality. Next, based on preliminary assessments of outlying sites, counts of khirigsuur monuments over the spatial extent of each respective site area yield a relatively similar khirigsuur per square kilometer result. In contrast, if assessing slab burial numbers in comparison with khirigsuur counts, BGC has a substantially greater representation of slab burial monuments than any of the outlying areas—roughly 1.4 slab burials per khirigsuur compared to less than 1:1 in all other areas. It is clearly the case that slab burial construction was substantially greater at BGC as time progressed. Finally, from an ecological and economic point of view, the north-to-south arrangement of these outlying sites makes sense, given that pastoral movements tend to exploit seasonal differences in vegetation zones according to north–south latitude. Moreover, the Middle Gobi

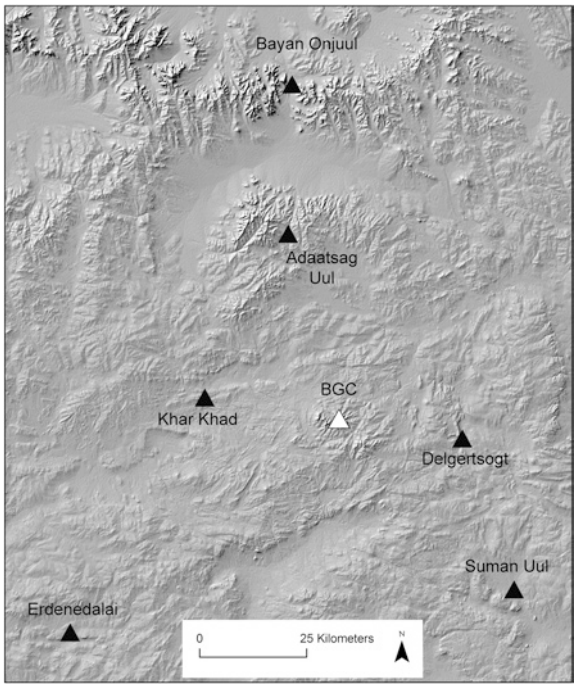


Fig. 5.15 Areas in the greater BGC region known to have khirigsuur and slab burial sites. Data are from two separate surveys and extensive reconnaissance

was well positioned as a northern launch point for travel and exchange further to the south into Inner Mongolia, also encouraging a strong north–south gradient in terms of broader movement and interactions.

Based on these three points, one hypothesis for the observed site distribution is that during the Late Bronze Age, this region was made up of multiple autonomous but interacting communities, each with a subregional territory and distinct monumental center. During the Final Bronze and the Early Iron Age, these communities became more integrated through shared mortuary rituals, festivals, feasting, and other ceremonial events at the one site already geographically central to the greater network of both the northern and southern areas, i.e., BGC. Such a process of closer integration could have been initiated for a number of reasons including greater emphasis on regional and inter-regional exchange and alliances, competition from neighboring groups, or even a more specialized focus on those herd animals benefitting most from movement across latitudinal zones—or perhaps a combination of these. This hypothesis emphasizes north–south interaction networks and suggests that east–west networks would have been either de-emphasized or perhaps subject to inter-regional competition.

To check the east–west distribution of sites, survey crews made several jeep reconnaissance trips outward from BGC at distances of up to 100 km. We encountered no large-scale monumental sites similar to BGC in either direction, nor have any such sites been reported in the Mongolian literature. The nearest major monument sites known so far are Ikh Nartyn Chuluu about 200 km east of BGC and

Tevsh Uul at about 300 km southwest of BGC. Particularly telling is the fact that at 110 km directly to the east is a granite ridge called Ikh Gazaryn Chuluu, a sister site to BGC with very similar geology, ecology, and size. In comparing the two locations and their respective environments, there is very little to differentiate them. The main difference turns out to be in the human record. Based on two reconnaissance visits in 2001 and 2004, the BGC teams discovered Ikh Gazaryn Chuluu to be surprisingly devoid of Late Bronze and Early Iron Age monumental sites. This fact suggests that plentiful water, pasture, and good winter camps were not enough to determine the prominence of a site, rather it seems that social and political processes played a role. The fact that Ikh Gazaryn Chuluu falls between two areas of monument building (i.e., BGC and Ikh Nartyn Chuluu) suggests that it occupied something of a buffer zone. A similar buffer zone to the west of BGC hints at somewhat even spacing between major centers across the desert-steppe.[13] Such spacing intervals argue for political territories that emerged in places well supplied with water and pasture but, even more importantly, places that fit into a developing network of social and political relationships and larger-scale regional movements.

5.6 Summary: Bronze Age Experiments in Subsistence, Transport, Monuments, and Leadership

Ancient pastoral nomadism as an emerging subsistence strategy has dominated prior discussions of the Mongolian Late and Final Bronze Age. Although subsistence economics are indeed important as reflected in the above discussion, it should be clear, even from this cursory overview, that subsistence was embedded in larger contexts of social and political relations in addition to very different local environments and climatic regimes. Subsistence is not a simple interrelation between household producers, resources, environment, and climate but involves social process at local and regional scales of community in order to make a particular food system workable. Because so much of the Mongolian past has been traditionally explained as a direct result of the transition to and limitations of the pastoral nomadic economy, an emphasis on the "sociality" of subsistence and its diversity re-balances the discussion toward the recognition that food exists in a social web that sustains it and not the other way around. In the case of Mongolian pastoralism, social interactions, exchanges, contacts, and politics continually spurred the repertoire of what was eaten and how sustainable those products were over time.

The corollary is that changes in food strategies may have had more to do with social and political contexts than is generally recognized. This provides a good starting point for emphasizing some major themes from the Bronze Age of Mongolia.

[13] By "major" monument site, I mean a dense concentration of monuments numbering in the hundreds with smaller "satellite" monument sites in the vicinity. Such a monument center might be expected near the edge of the Khangai zone in Ovorkhangai province at about 200 km due west of BGC, but additional survey there would be needed to test this hypothesis.

Even though additional evidence for early herding lifeways is greatly needed, the Late Bronze Age archaeological record attests to a time when pastoralism, mobility, local politics, and external ties all seem to be transforming in concert. Herding practices developed in different social and subsistence milieus across Mongolia and Inner Asia and that variability produced different traditions of movement, subsistence combinations, and interactive regimes. That said, so far most of the evidence suggests that domestic animal herding formed a basic foundation for subsistence with a great deal of flexibility for incorporating additional kinds of products (cf. Miller et al. 2014). These complementary foods were obtained by hunting, gathering, and fishing, while domestic grains entered the Mongolian diet only later in the first millennium BC, but much earlier in the steppe and mountain regions surrounding Mongolia. Ranges of movement documented so far have been between 5 and 20 km but, especially in the more arid zones, movements were potentially as much as 100 km. This implies mobility-enabled households using transportable structures for shelter and animal traction for hauling household possessions between seasonal campsites.

Another significant aspect of the Mongolian Bronze Age is the obvious importance of horses in ceremonies and beliefs. Domesticated horses were certainly used in feasting events associated with both khirigsuur and slab burial rituals, and at least one faunal study suggests that horses were herded and culled in a manner consistent with meat consumption (Houle 2010: 127–129). Domestic horse use, as far as we can tell, begins during the Late Bronze Age and initiates a subsequent tradition of knowledge, handling, breeding, and a variety of uses for horses, as well as specific ideas about the symbolic and prestige value of these animals—in short, the genesis of a genuine "horse culture." Given the estimated 1,700 horse skulls possibly interred in satellite features around the large Urt Bulag khirigsuur in Arkhangai province, Bronze Age groups in west-central and central Mongolia clearly had access to substantial horse herds (Houle 2010: 30). While some herders may have been skilled enough to ride their horses for short periods, perhaps using an organic bit and a felt pad, the bronze horse gear occurring in slab burials, such as the jointed snaffle bits already mentioned, made horseback riding functional, secure, and comfortable over long distances. Ancient groups in Mongolia, with 400 or more years of experience managing horse herds and undoubtedly rich in horse holdings, were perfectly positioned to exploit this new technology.

The Late Bronze Age also marked the beginning of larger spheres of interaction across Inner Asia. The widespread extent of khirigsuur monuments and their similarities with other kurgan forms as far away as southern Xinjiang and Kazakhstan (Wagner et al. 2011) all hint at multi-regional networks that archaeologists have posited as early as the Middle Bronze Age if not earlier (Frachetti 2012). Stone mounded monuments, bronze technologies and artifact types, deer stones and the "animal-style" symbolism pictured on them all became cultural elements in circulation across a large portion of the eastern steppe. These transfers were gradual, incremental, and probably transpired on a community-to-community basis, but this piecemeal sharing of practices, beliefs, and symbols eventually prefigured the shape of later political consolidations during the first millennium BC. While domesticated horses also arrived in Mongolia through these same networks,

their ritual association with monument building during the late second millennium BC was a practice emphasized in west-central and central Mongolia more than in neighboring regions (discussed in Chap. 6). In these same central regions, archaeologists have discovered the largest of the khirigsuur monuments, the densest concentrations of deer stones, and a geographical conjunction of slab burial culture from the east and khirigsuur culture from the west—all spurred by new regimes of inter-regional contact (Honeychurch and Amartuvshin 2011).

From the Late to Final Bronze Age, monumental practices in Mongolia transformed radically as did the nature of local leadership. In contrast to most khirigsuur monuments, which probably involved multi-local gatherings and communal feasting during monument construction, slab burial practices focused on the interment of individuals and wealth items. At the same time, some areas, like Egiin Gol and Baga Gazaryn Chuluu, emerged as major central places which experienced substantially greater monumental and mortuary activity relative to surrounding areas. As such, slab burial cemeteries were more concentrated and delimited to specific areas, unlike the widespread distribution of khirigsuur sites. These changes in monument practices may have reflected a real shift in the priorities of local leadership, what Stahl (2004: 258) refers to as two contrasting leadership processes: (1) leadership by composition, and (2) leadership by accumulation. In the first case, leaders seek to assemble communities for participatory and inclusive activities which bring together different peoples, skills, and knowledge. In the second case, leaders bring together groups in ways that emphasize exclusiveness such as the possession, display, and conspicuous consumption of rare, valued, and often non-local exotic goods. While the first implies groups that were not too large for direct interaction with leaders, the second suggests an emphasis on symbolism and display which in turn would be expected of larger-scale political groups such as the multi-community consolidations seen at Egiin Gol and BGC.

In contrast to some assessments of the Mongolian Bronze Age which see the region as a kind of cultural backwater, the material evidence suggests that there was in fact a great deal of organizational dynamism indicative of complexity and interaction. This overview supports the statement made by Shelach about the timing and trajectory of Inner Asian interactions on an interregional scale. He argues that at c. 1500 BC, long-distance contacts were just beginning across the greater region, and at that time, they still had relatively minor local impact in contrast to what would come. By the end of the second and early first millennium BC, inter-regional networks were deeply ingrained in the shape of cultural and political changes across the region, to the point that the concept of "entanglement" becomes pertinent. Although Shelach does address the Mongolian record somewhat, there is still a strong sense among researchers that this upsurge in inter-regional process had to have involved communities in Mongolia in some way, but their exact role is still far from clear (e.g., Shelach 2009: 128–131; Liu and Chen 2012: 322). A critical question, therefore, is what part did Mongolian Bronze Age communities play in constructing these broader inter-regional networks? To adequately address this question, a larger perspective is called for—one that characterizes cultural differences and similarities across the breadth of Inner Asia, from Kazakhstan in the west to the Northern Zone of China in the east.

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