



## Political economic reorganization among non-state societies: A case study using Middle Holocene mortuary data from the Cis-Baikal, Russia

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### ABSTRACT

The extraordinary record of prehistoric funeral activities in Russia's Cis-Baikal region provides an opportunity to study changes in political strategies that boreal forest hunter-gatherers employed at these events in the Middle Holocene. I use published data on burial treatments (quantities of grave goods, presence of exotic materials, burial layouts) from 10 Late Neolithic (henceforth referred to as "LN," 4000–3000 BC) and 11 Early Bronze Age ("EBA," 3000–2000 BC) cemeteries to explore important and previously undetected shifts in the ways that funerals during these periods articulated with political life. LN groups used funerals to emphasize affiliation with corporate institutions, while EBA funeral participants employed political strategies focused on displaying wealth. Current evidence indicates that groups on the western peripheries of the Cis-Baikal started employing semi-nomadic pastoral subsistence practices at the time of the LN-EBA transition, and I suggest that these groups presented new opportunities for Cis-Baikal inhabitants. Interactions with mobile, food-producing groups may have indirectly stimulated indigenous populations to redefine funeral gatherings as venues appropriate for cultivating long-distance economic and political support through competitive displays of wealth.

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### Introduction

Archaeologists – and social scientists, more broadly – have long employed the term 'political economy' to refer to the economic means by which dominant groups (elites) perpetuate relations of submission and domination in highly stratified societies (see Earle, 2002; Feinman and Nicholas, 2004; Hirth, 1996, pp. 204–205; Marx, 1964). However, this term has seen something of a democratization in recent anthropological discourse, as scholars recognized problems inherent in viewing patterned social interactions and their material underpinnings as unilaterally determined by elites. Thus, contemporary works have critically reconsidered the role of non-elites in the production and perpetuation of social relations (e.g., Hayden, 1994; Hood, 1995; Pauketat, 2007; Wesson, 2008). Archaeologists and ethnographers in the last several decades have also started to examine political economic organization among non-state societies, demonstrating great variation in the economic frameworks from which power relations derive in these contexts (e.g., Arnold, 1996a, pp. 60–62, 2009; Earle, 2002; Hayden, 2001; Spielmann, 2002; Vehik, 2002; Wiessner, 2002, 2009). In this paper I discuss sources of variation in political economic organization among non-state societies, using the Middle Holocene hunter-gatherers who inhabited the Cis-Baikal, Russia, as a case study.

I first review the concepts of hierarchical complexity and political economy among hunter-gatherers, as these two independent aspects of sociopolitical complexity are sometimes conflated in discussions of social organization (Blanton et al., 1996; Pauketat, 2007; Sassaman, 2004). Because my analysis relies almost entirely on mortuary data, I briefly outline a model to interpret the relationship between mortuary ritual and different political economic forms in non-agricultural societies. I then present data from Middle Holocene burials in the Cis-Baikal region, demonstrating a change in the political strategies that individuals employed at funeral rituals. I conclude by situating this change within a broader Eurasian historical context and by describing the social transformation that a cross-cultural encounter between indigenous hunter-gatherers and distant populations employing dissimilar material culture and social organization may have created at around 3000 BC.

#### *Hierarchical complexity among hunter-gatherers*

Complex hunter-gatherer societies emerged as a topic of interest in anthropological literature during the 1980s (e.g., Koyama and Thomas, 1981; Price and Brown, 1985), and continue to play an important role in comparative studies of social organization (Arnold, 1996a, pp. 68–70; Hayden, 2001; Hegmon, 2008; Sassaman, 2004; Vaughn et al., 2009). Early works on this topic documented a range of forms of sociopolitical organization among non-agricultural groups, challenging an entrenched agro-centric

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bias in research on social complexity (Arnold, 1996b). Broadly, scholars distinguish two ‘types’ of hunter–gatherer social organization. Among “simple” (Price and Brown, 1985) or “egalitarian” (Kelly, 1995) hunter–gatherers, age and sex determine individuals’ access to resources and social roles (e.g., Ames, 2008, p. 489; Hayden, 2001, p. 232). In contrast, “complex” (Price and Brown, 1985) or “inegalitarian” (Kelly, 1995) hunter–gatherers unevenly distribute resources and power *within* age and sex groups.

Egalitarian social organization is associated with low population densities, little focus on storable subsistence resources, fluid group membership, high levels of individual and group mobility, and communal resource ownership (e.g., Binford, 2006; Boehm, 1999; Kelly et al., 2005; Silberbauer, 1982, p. 33). Some have suggested that egalitarian organization is an outcome of living in impoverished environments where ecological constraints place limits on the accumulation of surplus resources and thus the development of institutionalized inequalities (Kelly, 1995; Sassaman, 2004, p. 228).

In contrast, traits associated with “complex” (e.g., Price and Brown, 1985) or “inegalitarian” (e.g., Kelly, 1995) hunter–gatherers include political hierarchies, high population densities, dependence on stored resources, greater intensity of intergroup warfare, prestige goods that differentiate high- and low-status individuals, and diversified (but also highly specialized) subsistence and economic activities (Arnold, 1996b; Kelly, 1995; Price and Brown, 1985). Some employ a narrower definition of hunter–gatherer complexity and suggest that so-called “trait-list approaches” (Arnold, 1996b; Sassaman, 2004) blur too many axes together and obscure the actual object of interest in the study of variation in hunter–gatherer social organization: the development of institutionalized power inequalities (Arnold, 1996b). Thus Arnold (2009, p. 122) identifies complex hunter–gatherers based on two main organizational characteristics – the existence of “inherited leadership [...] with sustained and renewable control over non-kin labor.” Other scholars of social complexity focus on the *scale* of political and economic systems, characterizing those that integrate differentiated institutions together as more complex (e.g., Earle, 2002, pp. 54–55; Kohring and Wynne-Jones, 2007).

Sources of complexity in hunter–gatherer societies remain a subject of some debate (e.g., Arnold, 1996b; Hayden, 2001; Sassaman, 2004), though most scholars acknowledge subsistence resource diversity and abundance to be necessary (e.g., Arnold, 2001, p. 2; Koyama and Thomas, 1981). Maritime environments – featuring aquatic animals that produce many offspring, mature quickly, and can be harvested in large concentrations (*r*-selected species) – often support complex adaptations, though environments with these features are not by themselves sufficient to cause the development of complex adaptations (Ames, 2008, p. 494; Arnold, 1996b, p. 99; Kelly, 1995, p. 302; Sassaman, 2004, p. 234; Yesner, 1980). Two dominant models exist to account for the development of hierarchical complexity among hunter–gatherers. These suggest that either cycles of resource scarcity (e.g., Arnold, 1996a,b) or unmitigated resource abundance (e.g., Hayden, 1994) constitutes the main cause of increasing complexity.

While these two models differ in terms of the precise causes they propose for the development of inequalities in small-scale societies, both envision aspiring leaders attempting to loosen constraints on their own actions by aligning these actions with the perceived interests of followers. Both models also portray the coordination of subsistence activities and sponsorship of redistributive mechanisms such as feasts as ways that aspiring leaders demonstrate themselves worthy of following (see Arnold, 2009, pp. 125–129). In addition to their key role in orchestrating labor and distributing subsistence resources, leaders in these settings mobilize other resources to serve the perceived public good. Arnold (2009, p. 129, clarification added) points out that among the

Chumash, “a balanced [...] universe was never due to luck or chance but required active intervention by ritual leaders using proprietary tools such as cult paraphernalia.” The use of exotic paraphernalia as well as conspicuous displays of subsistence resources and labor thus allowed leaders to demonstrate goodwill and to index good leadership and good standing in the overarching cosmological order (e.g., Dietler, 1996; Godelier, 1982; Kan, 1989).

### Political economy and social complexity

Recently some scholars have argued that focus on the emergence of *leaders* and the institutionalization of *hierarchies* obscure equally important social shifts that took place in the past (e.g., Blanton et al., 1996; Feinman, 2000; Pauketat, 2007; Yoffee, 2005). Wiessner (2002, 2009, p. 196), for example, notes that *all* societies feature hierarchical *and* egalitarian institutions, and that anthropologists should pay more explicit attention to the changes in the way these two types of institutions articulated (see also Earle, 2002, p. 383; Hegmon, 2005; Hood, 1995; Kan, 1989, pp. 77–78; Simeone, 1995). Similarly, in their discussion of the late prehispanic Southwestern United States, McGuire and Saitta (1996, p. 198, italics added here for emphasis) acknowledged an interaction between egalitarian and hierarchical institutions and attempted to understand social organization by asking “how did *consensual and hierarchical* social relations structure pueblo society, and how did the tensions and contradictions in these relations propel cultural change.”

Here, I draw upon so-called dual-processual theorists (e.g., Blanton, 1998; Blanton et al., 1996; Feinman, 1995, 2000; Peregrine, 2001), who discuss a “centralization bias in theories of complex societies” (Blanton et al., 1996, p. 2). These scholars separate the sometimes unwieldy concept of complexity into two independent dimensions, *hierarchy* and *political economy*. While hierarchy addresses the extent to which individuals can achieve power (control over communal institutions), the political economy dimension of complexity contrasts types of strategies that actors employ to achieve political ends (Table 1). Blanton et al. (1996) suggest that the two strategies they describe (referred to as *corporate* and *network* – see below) produce “antagonistic political economies” and thus tend not to co-occur in a given place and time, though Feinman (2000; see also Wiessner, 2009, p. 220) suggests that *some* degree of strategic overlap is almost unavoidable. Permutations of these two modes exist at all levels of hierarchical complexity, such that political economies with structural features that cater to corporate strategies might also feature pronounced hierarchies or highly developed egalitarian leveling mechanisms (Blanton et al., 1996, p. 2).

The *corporate mode* is characterized by a knowledge-based form of political power that has its roots in local interactions, with individuals attaining this power primarily through initiation into inclusive corporate institutions and association with communal identities. In these contexts, great emphasis is placed on asserting continuity with broad groupings of powerful and well-respected figures such as ancestors. Blanton et al. (1996, p. 6) also suggest that symbolic representations in contexts where the corporate political economic mode dominates tend to emphasize generalized themes such as fertility and renewal, often relating to widespread subsistence activities (as opposed to aesthetic systems that serve to *differentiate* individuals on the basis of class). In political economies of this type, individuals empower themselves by demonstrating mastery of esoteric knowledge relating to these broad, cosmological themes. Settings where corporate strategies dominate feature relatively little focus on individual wealth in the form of prestige goods obtained through long-distance exchange. Instead, prestigious objects include (1) symbols that refer indexically

**Table 1**

Tendencies of corporate and network modes (from Feinman, 2000, p. 39, Table 3.2).

| Network  | Corporate                                       |
|--|---|
| Concentrated wealth                            | More even wealth distribution                   |
| Individual power                               | Shared power arrangements                       |
| Ostentatious consumption                       | More balanced accumulation                      |
| Prestige goods                                 | Control of knowledge, cognitive codes           |
| Patron/client factions                         | Corporate labor systems                         |
| Attached specialization                        | Emphasis on food production                     |
| Wealth finance                                 | Staple finance                                  |
| Princely burials                               | Monumental ritual spaces                        |
| Lineal kinship systems                         | Segmental organization                          |
| Power inherited through personal glorification | Power embedded in group association/affiliation |
| Ostentatious elite adornment                   | Symbols of office                               |
| Personal glorification                         | Broad concerns with fertility, rain             |

to specialized knowledge associated with membership in communal institutions (e.g., Earle, 2002, p. 168), and (2) subsistence goods, which leaders redistribute in order to mobilize labor (rather than to obtain wealth) (Earle, 2002, pp. 192–194).

In contrast, where and when the *network mode* dominates, *individual identities* – rather than communal ones – confer power, which derives from long-distance interactions and the production, control, and display of the wealth objects that these interactions generate (Blanton et al., 1996, pp. 3–4). Earle (2002, p. 218) suggests that commodities most conducive to treatment as wealth objects (1) are often made from non-local or rare materials, (2) require specialized techniques or prohibitive labor costs to produce, and (3) are difficult for unsanctioned producers to “fake” (by producing *without access* to the relationships to which these objects indexically refer). Because of the importance of exotic prestige objects and long-distance exchange relationships in social systems characterized by the network mode, the geographic scale of these systems tends to be larger than that of corporate systems.

In his discussion of political economic organization among the late precontact and early postcontact Creek peoples in the southeastern United States, Wesson (2008, p. 152) shows how network-based political strategies and the escalating competition for individual distinction that they entailed

avored the accumulation of material goods and the subversion of traditional commitments [...] and] created an inflationary cultural spiral where an increasing number of European material goods were necessary for reinforcing claims to social and economic status. As such, the Creek were not dependent upon European trade goods because they were functionally superior but because they had become central components in networks of social status and prestige – necessary elements for certain forms of social reproduction.

Earle (2002, pp. 295, 319–322, see also Wesson, 2008, pp. 37–38) similarly highlights frequent competition and the potentially unstable role of elites in social systems where individuals rely heavily on network strategies, in part due to difficulties in controlling the movement of wealth objects from distant areas.

#### *Burial ritual in political economy*

I suggest that the individual motivations and strategies entailed in different forms of political economy can be seen especially clearly in archaeological data on public ritual events, which constitute a crucial feature of either political economic mode, though in distinct ways that produce different archaeological patterns. Public ritual events provide a special context where participants enact

sociopolitical structure, and a number of recent archaeological works have emphasized the importance of these events for social reproduction (Anthony, 2007; Frachetti, 2008; Hayden, 2009; Spielmann, 2002). Dietler (1996, p. 89) describes rituals as a “highly condensed symbolic representation of social relations. [...] they express idealized concepts, that is the way people believe relations exist or should exist.”

Recently, in their discussion of prehispanic political economies in the Philippines, Junker and Niziolek (2010, p. 20) show that life-crisis events such as births, marriages, illnesses, and deaths, serve as contexts for various forms of political theatricality, feasting, and redistribution associated with status-building in small-scale societies. After Hayden (2009), I suggest that among life-crisis events, funerals provide a particularly useful window for the analysis of changing political economies in small-scale societies because they tend to feature dense face-to-face interactions that present individuals with opportunities to engage in the reproduction or transformation of social structure. Funerals are important because they bring individuals together in the “sudden vacuum created by the nonfulfilling of a role which carries rights and obligations. The break in the chain of interpersonal relationships needs to be restored” (Palgi and Abramovitch, 1984, p. 397, see also Kan, 1989). For this reason, archaeological data on burial ritual represent a nexus of political strategizing in which aspiring leaders as well as their supporters and detractors act according to their own perceived interests, attempting to construct or reaffirm various identities and relationships.

Though burials have long been seen as a relevant source of data for understanding aspects of social organization (Binford, 1971; O’Shea, 1984; Parker Pearson, 1999; Peebles and Kus, 1977), archaeological studies have not always considered the motivations that caused individuals to undertake funeral rites, instead focusing on the potential for burial data to ‘accurately’ reflect social statuses held by individuals during life. Chapman (2003, p. 305) notes that in most pre-1980s archaeological analyses of burials, researchers tended to assume that treatments individuals received at death could be related directly to individuals’ roles while alive or to their relationships with larger structures within social systems. Criticisms of this “representationist approach” (Chapman, 2003, p. 309) surfaced in the early 1980s, as researchers began to emphasize the role of the living as performers of funerals. Archaeological approaches to burials during this period came to treat their data not as representations of the dead as they had lived, but instead as data on active strategizing and manipulation by the living (e.g., Hodder, 1982, p. 86).

While critics of social reconstructions based on mortuary data viewed this active role of the living as a type of *interference* in

the direct representation of social realities, such interference is in fact an extremely significant part of why political economy – involving the strategic use of ritual by individual agents for personal gain, as well as the rules and resources that enabled such manipulations – can be understood through careful analysis of mortuary data (see O’Shea, 1996, p. 10). An approach that views burial rituals as living individuals’ conscious behaviors rather than as snapshots of social roles that deceased persons possessed during life permits archaeologists to use mortuary data to illuminate patterns of social interaction involving status-building and structural transformation. This political behavioral approach to the interpretation of burial data is particularly useful for understanding prehistoric social change in the Cis-Baikal, where a near absence of domestic data regarding the organization of subsistence or production activities (e.g., Weber, 1995) makes traditional analyses of the hierarchy dimension of complexity extremely difficult.

Burial rituals conducted under the political economic modes discussed above should produce distinctly different archaeological remains. Blanton et al. (1996, p. 7) have suggested communal burials emphasizing group identities and diachronic continuity within communities to be a common feature of corporate-focused political strategies. Keswani (2004), for example, suggests that in Bronze Age Cyprus, repeated use of burial pits may have served to connect distant ancestors to recently deceased community members, thereby reinforcing a concept of continuity and group identity. Burial goods in contexts where corporate strategies dominate – if any are used – should primarily be local utilitarian objects as well as ritual goods indicative of sacred knowledge and subsistence activities, rather than wealth objects emphasizing class membership.

In contrast, in political systems where access to long-distance interactions and the circulation of wealth predominates as a source of power and legitimacy (rather than indoctrination into inclusive, knowledge-based groups), burial treatments should tend to be highly differentiated, primarily on the basis of class, cross-cutting age-groups. Thus, as Blanton et al. (1996, p. 7) have argued, network-based political strategies should be reflected in burials that feature “individual interments [and] personal finery, weapons, [and] wealth differentials.” Burials produced by those employing network strategies should reflect an emphasis on exotic, labor-intensive objects that display successful engagement with distant groups and circumscribed technologies. While data on the actual practices surrounding the production of objects of these types are still in their infancy in the Cis-Baikal, data are available on the use of prestige goods in burial rituals.

In the next Sections I discuss evidence for change in burial practices in the Cis-Baikal during the Middle Holocene on the basis of data collected from LN (4000–3000 BC) and EBA (3000–2000 BC) burials. Recent attempts to understand social change in the prehistoric Cis-Baikal have been unable to provide clear evidence for changing levels of hierarchical complexity (except at very broad chronological scales – see Weber and Bettinger, 2010; Weber et al., 2008a). However, I suggest that the Cis-Baikal provides an excellent case study for investigating changing political economies due to the large corpus of data on burial practices that archaeologists have collected over the last 150 years (e.g., Konopatskii, 1982; Okladnikov, 1950, 1955; Weber, 1995; Weber and Bettinger, 2010).

## Archaeological background

The Cis-Baikal, occupying the west coast of Lake Baikal (Russia), as well as the area to the north and west, spans from 52°N to 58°N and 101°E to 110°E (Fig. 1). The region features numerous rivers that flow into the lake in addition to the Lena river and its tributaries that flow north into the Arctic Ocean. The Sayan Mountains – an eastern branch of the Altai Mountain Range – with elevations as

high as 3200 m asl, are located in the west of the region, and other mountain ranges (the Baikalskii and Primorskii) line the lake’s western shore. Archaeological investigation of the groups who inhabited this region prehistorically began in the second half of the 19th century (see Goriunova and Novikov (2010) and Weber (1995) for detailed reviews in English), and revealed the existence of dense concentrations of ancient cemeteries on major rivers such as the Angara (e.g., Ovchinnikov, 1906) and along the middle latitudes of the lake’s coast (e.g., Petri, 1916).

In the 1950s, Okladnikov (1950, 1955) published a synthesis of the Cis-Baikal’s growing corpus of archaeological data, establishing what is often credited as the first culture-history model for the region. In the decades following this publication, regional specialists debated the chronological ordering of culture-historic units identified by Okladnikov (e.g., Gerasimov, 1955; Khlobystin, 1965), though these debates have been largely resolved by the use of radiocarbon dating that began in the late 1970s. Absolute dates from human bone samples taken since that time have not only clarified the chronological order of Cis-Baikal burial traditions, but have extended the amount of time that burial ritual was practiced in the region well beyond that postulated by Okladnikov (e.g., Khlobystin, 1978; Konopatskii, 1982; Mamonova and Sulerzhitskii, 1989; Weber et al., 2002, 2006), while also demonstrating the inaccuracy of a longstanding assumption that technological complexity and social inequality only increased over time (Weber, 1995; Weber and Bettinger, 2010; Weber et al., 2002).

Over the last two decades, significant collaboration between Russian and western archaeologists has taken place in the form of the Baikal Archaeology Project (BAP), based at the University of Alberta (Canada). The BAP initiative has resulted in an influx of diverse perspectives and novel methods in the study of the region’s past, as well as a number of reanalyses of existing archaeological collections and large-scale excavations at cemeteries such as Khuzhir-Nuge XIV, Kurma XI, and Shamanka II (e.g., Weber et al., 2010). Below I briefly outline the current model of prehistoric culture change in the Cis-Baikal.

### Early Neolithic (6000–5000 BC)

The development of the Neolithic in the Cis-Baikal is marked by the appearance of formal burial practices as well as ceramic technologies and ground lithic objects (axes, adzes, knives, composite fishhooks) (Weber, 1995, pp. 9–11). Early Neolithic mortuary practices exhibit significant regional variation; burials located in the Angara River Valley are usually associated with the *Kitoi* mortuary tradition, while a number of local traditions also exist throughout the Cis-Baikal that have been differentiated on the basis of burial posture, artifact types, and the use of ochre (Bazaliiskii, 2010; Konopatskii, 1982; Okladnikov, 1950). Early Neolithic cemeteries range in size, several containing over 100 individuals (Bazaliiskiy and Savelyev, 2003; Mooder et al., 2005), and some burials from this period feature large concentrations of artifacts (Bazaliiskii, 2010, p. 69). Lokomotiv cemetery, located on the Angara River in modern Irkutsk, contained a large number of interments from this period, some of which were found with numerous composite fishhooks, marmot incisor pendants, and arrowheads (Bazaliiskiy and Savelyev, 2003, p. 21). The largest Early Neolithic cemeteries were concentrated in the Angara River Valley and on the lake’s southwest coast, while very few Early Neolithic burials have been located in the Ol’khon region, on the middle latitude of the coast (Weber et al., 2002).

### Middle Neolithic (5000–4000 BC)

Of hundreds of radiocarbon dates now in existence for the region’s prehistoric sequence, not a single burial has been firmly assigned to the period between 5000–4000 BC. This period, referred to as the Middle Neolithic, appears to have witnessed a total stop

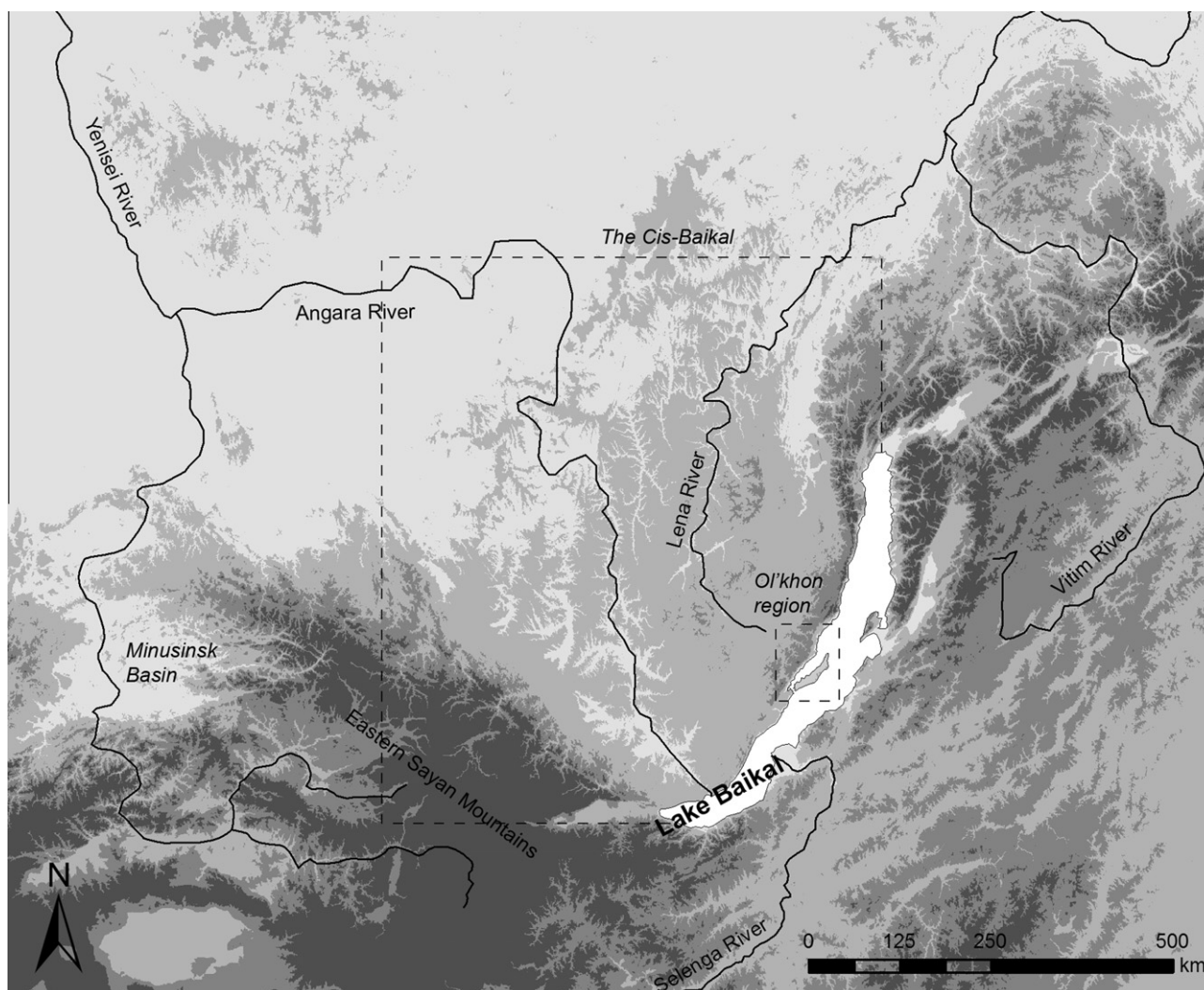


Fig. 1. Map of Cis-Baikal and surrounding areas, indicating locations mentioned in the text. (USGS, 2006).

in cemetery use (Weber, 1995; Weber and Bettinger, 2010). The causes of this hiatus as well as the factors responsible for the resumption of burial practices by 4000 BC remain poorly understood. Some have postulated a major demographic collapse followed by the appearance of groups practicing novel burial traditions in the LN (Weber, 1995). Osteological (Gerasimova, 1991; Mamonova, 1980) and genetic (Mooder et al., 2005, 2010; Schurr et al., 2010) evidence collected from prehistoric skeletal samples show that 'pre-' and 'post-hiatus' groups exhibited morphologically distinct traits, which is consistent with the population bottleneck/replacement hypothesis advocated by Weber (1995). Weber et al. (2008a, p. 2) suggest that the Middle Neolithic hiatus in burial ritual activities may indicate a decline in labor-intensive fishing practices.

#### Late Neolithic (4000–3000 BC)

The resumption of funeral ritual activity that occurred during the LN – in the form of the *Serovo*, *Isakovo*, and other burial traditions – was relatively limited in terms of the number of actual interments conducted. Individuals interred during this period tend to be arranged perpendicular to rivers with their heads pointing away (*Serovo*), or parallel to rivers with their heads pointing upstream (*Isakovo*) (Weber and Bettinger, 2010, p. 496). On the lake's shore in the Ol'khon region, which lacks major rivers, LN

interments are usually oriented to face north or northwest (Gorionova, 1997). LN cemeteries are small, often containing fewer than ten interments (Okladnikov, 1950). Burial goods typical of the LN include ceramic vessels, polished knives, bows, and arrows. A relatively homogenous distribution of these grave goods among LN interments led Okladnikov (1950, p. 267) to postulate that low levels of social inequality existed in these groups.

Unfortunately, due in part to a near-total lack of LN graves at sites excavated by the BAP over the last 15 years (Weber and Bettinger, 2010, p. 495), recent English-language research has tended to deprioritize the Cis-Baikal LN as an object of analysis. Further, many English-language studies that *do* include data from the LN lump these data together with the subsequent EBA, studying the two periods together as the monolithic "post-hiatus period" (e.g., Lieverse et al., 2007a, 2009; Weber et al., 2002, 2006). Recently, in his discussion of EBA mortuary variability in the Ol'khon region, McKenzie (2010) noted the importance of reinvestigating LN social organization in order to better contextualize the well-documented burial practices of the EBA, a point with which I wholeheartedly agree.

#### Early Bronze Age (3000–2000 BC)

The Cis-Baikal Bronze Age began about 3000 BC, with the emergence of the *Glazkovo* burial tradition. Like the use of the term "Neolithic" in Cis-Baikal prehistory, the term "Bronze Age" is

somewhat misleading as this period featured (continued) hunter-gatherer occupation and no evidence for state-level polities, urbanism, agriculture, or animal herding (e.g., Haverkort et al., 2008, p. 1278; Weber, 1995). *Glazkovo* groups tended to inter their dead parallel to rivers, with heads oriented downstream in riverine locales or to the southwest in the riverless Ol'khon region (Weber and Bettinger, 2010, p. 496). EBA cemeteries were in some cases

quite large, with up to 100 individuals (Weber, 1995, pp. 109–111). Burial treatment varied between individuals within these cemeteries, and some graves contained large concentrations of exotic and labor-intensive objects (Okladnikov, 1955).

*Glazkovo* grave goods include white nephrite polished discs and rings as well as metal objects such as knives, needles, and bodily adornments. The appearance of white nephrite ornaments for the

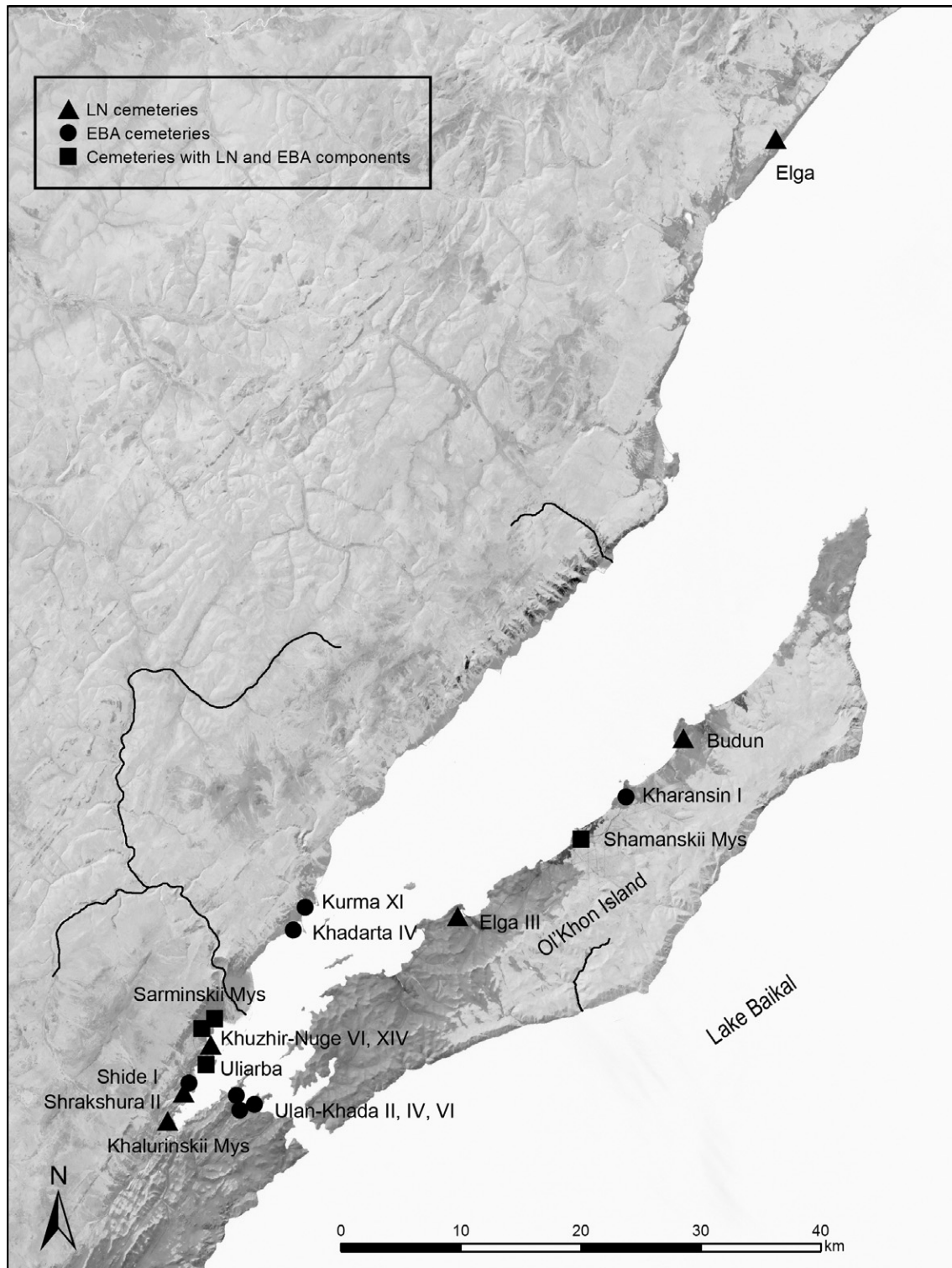


Fig. 2. Map of the Ol'khon region, with Serovo and Glazkovo cemeteries mentioned in the text. (NASA Landsat Program, 1989).

first time in the EBA demonstrates the development of long-distance contact with the Vitim River Basin, located approximately 1000 km to the northeast of the Ol'khon region, where white nephrite is naturally available (Sekerin and Sekerina, 2000). Sources of metal artifacts in the Cis-Baikal have been debated since the first copper artifacts were discovered during a construction project in the city of Irkutsk in 1897 (Goriunova and Novikov, 2010, pp. 240–242; Okladnikov, 1955, p. 58). Features interpreted to have been used for extracting copper ore were found in the first half of the 20th century in the Kirensk district of the Upper Lena River, attesting to the possibility of local production in the northern areas of the Cis-Baikal (Goriunova and Novikov, 2010, pp. 242–244), although it remains possible that they date to later periods. In fact, sites in the Kirensk district appear to contain only very small concentrations of metal artifacts (<6 specimens), contrasting with the large assemblages of metal goods found along the lower stretches of the Angara (>100 specimens within similarly sized areas, Sergeeva, 1981, p. 8).

In the next sections I compare the features of *Serovo* and *Glazkovo* burials. Due to a particularly good publication record there, in this paper I focus on the Ol'khon region of the Cis-Baikal (Ольхонский район in Russian, but also referred to as *Малое Море* [Little Sea region]), which includes the Ol'khon Island as well as the mainland coastal area surrounding it (Fig. 2). This region, with some of the lake's most productive shoreline, features dense seasonal concentrations of fish species (Kozhov, 1963; Losey et al., 2008) as well as low seasonal fluctuation in resource productivity (Weber et al., 2002). The Little Sea offered access to rich aquatic resources in its shallow coves and river estuaries (fish) as well as seal on a seasonal basis, in the vicinity of the open coast (Katzenberg et al., 2009; Weber and Link, 1998; Weber et al., 2002).

I use the Ol'khon burial record to demonstrate that six shifts in burial practice occurred around 3000 BC. These include (1) some interment of children in single burials, as opposed to exclusively in multiple burials that also contained adults; (2) more widespread use of grave goods in association with children and adults; (3) the integration of novel material types and novel ornamental forms into burial ritual, including those made from metal and white nephrite; (4) the appearance of extremely large grave goods assemblages, which were usually associated with adults, and possibly males; (5) a reconfiguration and sizeable decrease in the relative frequency of multiple burials; and (6) an overall increase in the frequency of burial activities. Following this discussion I provide a political economic interpretation of these behavioral changes, arguing that the beginning of the EBA witnessed the appearance of novel ideologies and political strategies surrounding burial ritual among Cis-Baikal hunter-gatherer groups.

### Burial patterning

I assembled published data on 10 *Serovo* and 11 *Glazkovo* cemeteries from across the Ol'khon region, resulting in the inclusion of 57 LN and 198 EBA individuals (Table 2). I relied on Goriunova and Svinin's (1995, 1996, 2000) three-volume summary of local archaeological sites to make chronological designations. In order to assign chronological periods to graves excavated after those volumes were published, I employed radiocarbon dates and typological designations from Weber et al. (2005, 2006). For descriptions of individual *Serovo* burials I primarily employed Goriunova's (1997) detailed synthesis of materials excavated in the 1980s by the Little Sea Section of the Complex Archaeological Expedition of the Irkutsk State University (Байкальская комплексная археологическая экспедиция, от Байкальская КАЭ). A full list of published sources with descriptions of the burials included in this analysis can be found in Table 2.

I employed sex and age assignments from both Russian and North American scholars. Some Western researchers have noted the inaccuracy of Russian osteological methods, which make age and sex designations primarily on the basis of cranial rather than more accurate post-cranial skeletal characteristics (McKenzie, 2005; Weber, 1995). Fortunately, several Russian publications I use here included parallel analyses of post-cranial and cranial characteristics (Goriunova, 1997, p. 108; Goriunova et al., 1998), rendering this concern something of a non-issue. Moreover, the Russian and Western data I included in this analysis were generally in good accord. At Khuzhir-Nuge XIV, where independent sex designations by Russian and American analysts were available (Weber et al., 2008b, Appendix IV), 32 of 33 sex determinations coincided, as well as almost all age determinations. More importantly, the broad political economy approach I employ here does not require highly detailed information about the age or sex of interred individuals.

I considered individuals to be associated with only those grave goods that had clearly been placed with the body. Thus, objects found in the upper fill of burial pits that were separated from the burial level, or objects found in the stone cairns covering these pits, were not included in this analysis.

### Overview of *Serovo* and *Glazkovo* mortuary sites in the Ol'khon region

*Serovo* and *Glazkovo* burials were covered by stone cairns and were clearly visible without excavation. Surveys of the Ol'khon region's coastline were conducted in the 1980s, providing a relatively complete picture of the density of prehistoric burial practices in the area (Goriunova and Svinin, 1995, 1996, 2000). Burials were mostly concentrated on the coast of the mainland and were located on slopes overlooking bays in the southwestern area of the Ol'khon region.

The LN and EBA samples differed with respect to the average number of interments per cemetery. *Serovo* cemeteries featured relatively few interments, while *Glazkovo* cemeteries were sometimes quite large. The *Glazkovo* burial sample was over three times larger than the *Serovo* one despite the inclusion of an approximately equal number of sites from each period. Bazaliiiskii (2010, pp. 81–82) lists 11 *Serovo* cemeteries in the Ol'khon region. Published data on one of these – Kharansa I – were not available for this study. According to McKenzie (2010, Fig. 1), the Little Sea region features 20 EBA cemeteries, though for this analysis, published data were only available for 11. Thus, it seems that the sample included in this analysis may actually underestimate the difference in the number of LN and EBA interments. Only one *Serovo* cemetery (Sarminskii Mys) contained more than 10 individuals. In contrast with relatively small *Serovo* cemetery populations, almost half of the *Glazkovo* cemetery components in this analysis contained 10 or more interments ( $n = 5$ ). However, it should be noted that due to incomplete excavation of some cemeteries, figures I provide here likely underestimate the total number of interments at Ol'khon region cemeteries. This bias is assumed to have affected the recovery of *Serovo* and *Glazkovo* populations equally.

During the LN, by far the largest cemetery in use was Sarminskii Mys, with twice as many burials and four times as many individuals as the next largest cemetery in use during this period. The largest cemetery during the EBA, Khuzhir-Nuge XIV, was more than three times larger than the next largest EBA cemetery, with individuals there outnumbering the entire region's previous *Serovo* population. Several *Serovo* cemeteries were intermediate in size, containing between two and eight individuals, and some featured only a single individual. A similar size hierarchy characterizes the Ol'khon region's *Glazkovo* cemetery components, with several small cemeteries featuring between one and ten individuals ( $n = 7$ ). *Glazkovo* cemeteries with more than ten individuals

**Table 2**  
Details for cemeteries included in this analysis.

| Cemetery name      | Serovo component |                 | Glazkovo component |                 | Source   |
|--------------------|------------------|-----------------|--------------------|-----------------|--|
|                    | No. burials      | No. individuals | No. burials        | No. individuals |  |
| Budun <sup>a</sup> | 2                | 5               | –                  | –               | Goriunova (1997)                                 |
| Elga <sup>a</sup>  | 1                | 1               | –                  | –               | Goriunova (1997)                                 |
| Elga III           | 4                | 4               | –                  | –               | Goriunova (1997)                                 |
| Khadarta IV        | –                | –               | 2                  | 2               | Kharinskii and Sosnovskaia (2000)                |
| Khalurinskii Mys   | 1                | 1               | –                  | –               | Goriunova (1997)                                 |
| Kharansin I        | –                | –               | 7                  | 7               | Kachalova and Chernikov (1992)                   |
| Khuzhir-Nuge VI    | 2                | 2               | –                  | –               | Goriunova (1997)                                 |
| Khuzhir-Nuge XIV   | 1                | 1               | 77                 | 88              | Lieverse et al. (2007b) and Weber et al. (2008b) |
| Kurma XI           | –                | –               | 19                 | 20              | Metcalf (2006)                                   |
| Sarminskii Mys     | 14               | 29              | 10                 | 10              | Goriunova (1997) and Goriunova et al. (1998)     |
| Shamanskii Mys     | 3                | 6               | 6                  | 8               | Konopatskii (1982)                               |
| Shide I            | –                | –               | 6                  | 6               | Gorbunova and Pshenitsyna (1992)                 |
| Shrakshura II      | 1                | 1               | –                  | –               | Goriunova (1997)                                 |
| Ulan-Khada II      | –                | –               | 5                  | 5               | Komarova and Sher (1992)                         |
| Ulan-Khada IV      | –                | –               | 11                 | 19              | Komarova and Sher (1992)                         |
| Ulan-Khada VI      | –                | –               | 1                  | 1               | Komarova and Sher (1992)                         |
| Uliarba            | 6                | 7               | 26                 | 32              | Goriunova (2004)                                 |

Khuzhir-Nuge XIV contained an additional 2 *Serovo* burials that were left unexcavated (Andrzej Weber, personal communication, December 2011).

<sup>a</sup> Data regarding grave goods were not available for these cemeteries, and they are only used for demographic purposes here.

**Table 3**  
Sex and age demographics for Ol'khon region *Serovo* and *Glazkovo* samples.

| Sex   | <i>Serovo</i> |                            | <i>Glazkovo</i> |                            |
|---|---------------|----------------------------|-----------------|----------------------------|
|   | Freq.         | Proportion of sexed sample | Freq.           | Proportion of sexed sample |
| F   | 6             | .26                        | 30              | .35                        |
| M   | 17            | .74                        | 57              | .65                        |
| Unsexed (includes individuals too young to sex) | 34            | –                          | 111             | –                          |
| Age   | Freq.         | Proportion of aged sample  | Freq.           | Proportion of aged sample  |
| Young   | 6             | 0.21                       | 31              | 0.20                       |
| Adult   | 23            | 0.797                      | 126             | 0.80                       |
| Unaged  | 28            | –                          | 41              | –                          |

( $n = 4$ ) are located only on the mainland, and the largest of these, Khuzhir-Nuge XIV and Uliarba, are located only 4 km apart, in the center of the southwestern coastal area (McKenzie, 2005, p. 211).

Both *Serovo* and *Glazkovo* samples featured approximately three times as many males as females. Because of a tendency for less robust bone (including females, children and old individuals) to preserve poorly (Bello and Andrews, 2006; Gowland, 2006), this gender distribution is not necessarily indicative of an imbalance in the frequency of male and female interment, especially given the large number of unsexed individuals (Table 3, see also Lieverse et al., 2007b, p. 242). Unfortunately, poor data on the sex of individuals included in this study make detailed analysis of differential burial treatment practices for males and females difficult, and future osteological work on *Serovo* and *Glazkovo* populations will be necessary before proper analyses can be conducted to examine this matter further. Poor condition of osteological remains also prevented precise aging in publications included in this study (Lieverse et al., 2007b, p. 235). For this reason I employed two broad age categories (“young,” <15 years old; “adult,” 15+). Recent archaeological research in the Ol'khon region has documented differences in burial treatment between individuals within these groups during the LN (Goriunova, 1997, p. 87) as well as at the EBA site of Khuzhir-Nuge XIV (McKenzie et al., 2008, p. 259; McKenzie, 2010, p. 91).

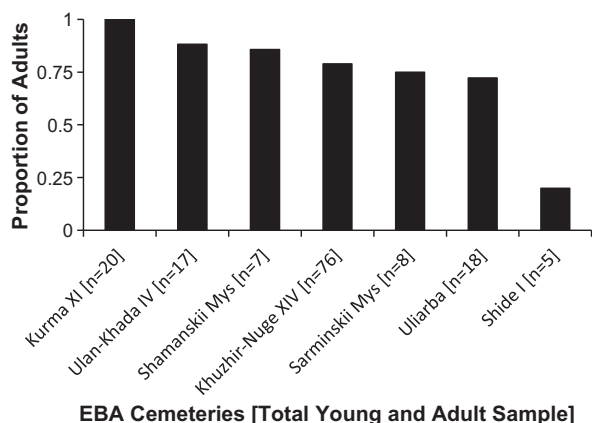
The ratio of adults to young individuals remained constant during the LN and EBA; 20.7% of the LN sample that could be clearly

assigned to one of the two age groups was “young” (6 of 29), as opposed to 19.7% during the EBA (31 of 157). The proportion of young individuals in these two samples was thus significantly lower than expected mortality rates based on other hunter-gatherer populations (LN:  $df = 1$ , Pearson's  $\chi^2 = 4.86$ ,  $p$ -value = 0.027; EBA:  $df = 1$ , Pearson's  $\chi^2 = 5.64$ ,  $p$ -value = 0.018; I used 35% as an expected value based on Pennington (2001) and Weiss (1973)). It is possible that differential bone preservation for young and adult individuals was involved in the low proportion of young individuals, but the rarity of small burial pits (associated with young individuals) containing unaged individuals suggests that a majority of unaged individuals were likely adult. Instead, I suggest that this divergence from “natural” hunter-gatherer demographic patterns reinforces arguments that LN and EBA groups in the Ol'khon region both enforced some sort of differential inclusion in burial ritual on the basis of age (e.g., Weber and Bettinger, 2010).

An analysis of age patterning at LN and EBA cemeteries in the Ol'khon region reveals internal differences with respect to the ages of interred individuals. During the LN, all young individuals were either interred at Sarminskii Mys ( $n = 5$ ) or at Shamanskii Mys ( $n = 1$ ). Issues of preservation alone are unlikely to account for the unique presence of young interments at this subset of LN cemeteries; it therefore appears likely that these cemeteries communicated unique messages about their occupants during the LN.

Among EBA cemeteries (Fig. 3), Shide I (containing five individuals that could be clearly assigned to either the “young” or “adult”





**Fig. 3.** “Adult” proportion of total aged sample assigned to “young” or “adult” categories. Includes only cemeteries with five or more individuals in these categories.

categories) is unique for its high percentage of aged individuals who were young (80%, 4 of 5). Further, the only individual over 15 at this cemetery was an adolescent between the ages of 16–18. In contrast, every individual at Kurma XI was an adult between 15–50 years old at death (Metcalf, 2006). Similarly, Shamanskii Mys ( $n = 7$ ) featured only a single young individual (4–6 years old at death), and Ulan-Khada IV ( $n = 17$ ) contained only two (11.8%). Patterns suggestive of age-based constraints on inclusion at different cemeteries such as Kurma XI, Shamanskii Mys, Khuzhir-Nuge XIV, and Shide I, as well as dissimilarities in qualities and quantities of grave goods have led some to conclude that burial location was an important index of social status during the EBA (McKenzie, 2005, 2010; Metcalf, 2006; Shepard, 2008).

#### Burial treatment among Serovo and Glazkovo groups

In this section, I describe diachronic patterning in the treatment individuals received at death in the LN and EBA, involving (1) the changing use of single and multiple interment; (2) increasing heterogeneity of grave goods assemblages between individual interments; (3) increasing heterogeneity of grave goods assemblages (counts and types) between cemeteries. These patterns highlight an important shift in social organization that occurred between the LN and EBA, which I discuss below.

#### Multiple interments

Despite similar rates of interment for young and adult segments of the population during the two periods under consideration here, the treatment these individuals received changed significantly between the LN and EBA (Table 4). During the LN, multiple burial was the dominant practice (56% of the Serovo sample). Though

children and adults did not exhibit significant differences in their association with multiple interments ( $df = 1$ , 2-tailed Fisher's Exact Test  $p$ -value = 0.148), this may be the result of small sample size. In contrast, during the EBA the use of multiple interments declined to 25% of all individuals. Adults and young individuals differed in their association with single and multiple burial types ( $df = 1$ , 2-tailed Fisher's Exact Test  $p$ -value = 0.070), with adults significantly more likely to be interred in single burials. In the LN sample, all young individuals were interred in multiple burials containing at least one adult, and Goriunova (1997, p. 87) notes that in tiered burials (see below) they were placed exclusively in the upper tiers. In contrast, not only were young individuals during the EBA *not* constrained to interment in multiple burials, more than half were placed in single burials (58%,  $n = 18$ ).

#### Layout of multiple interments

LN multiple interments in the Ol'khon region feature both side-by-side and, more rarely, vertically tiered layouts (Goriunova, 1997, p. 84). Side-by-side interments, like the one pictured in Fig. 4, usually represent a single burial event (but see Bazaliiskii (2010, p. 75) for an exception). Determining the chronology of tiered multiple interments in Cis-Baikal burials is more difficult (Okladnikov, 1978, p. 72), and usually depends on the amount of sediment between interments and the extent to which remains in different tiers were intermingled (e.g., Bazaliiskii, 2010, pp. 67, 75; Okladnikov, 1978, pp. 45–51). Goriunova (1997, pp. 85–86) suggested that Serovo tiered burials most likely represent single events, though she also noted a distinct spatial separation and the use of layers of stone slabs separating the tiers in some of these graves.

Half of the LN graves containing multiple interments were tiered ( $n = 4$ ). This does not include interments in which skeletal elements from multiple interments were found on top of but directly in contact with one another [ $n = 4$ ]. Tiered Serovo burial pits each contained from two to six individuals. One LN grave cairn (Sarminskii Mys, grave 30), covered two distinct burial pits, one of which contained a tiered multiple burial, while the other contained a single individual. These were treated as separate multiple and single interments. Glazkovo multiple burials were all arranged in a side-by-side configuration except for two tiered burials at Khuzhir-Nuge XIV, each of which contained two individuals. Another EBA grave contained a canid skull in a distinct burial pit located within the larger grave construction, but above the human interment (see below).

#### Grave goods counts

Analysis of the Serovo and Glazkovo individuals for which information on burial goods was available (all except Budun and Elga) demonstrates that the two periods differed significantly in terms of the proportion of each sample interred with grave goods ( $df = 1$ , Pearson's  $\chi^2 = 5.72$ ,  $p$ -value = 0.02). While Serovo groups

**Table 4**  
Changes in the relationship between multiple interment and age at death.

|                  | Serovo   |            |                               |            |                               |            | Glazkovo   |            |                               |            |                               |            |
|------------------|--|------------|-------------------------------|------------|-------------------------------|------------|--|------------|-------------------------------|------------|-------------------------------|------------|
|                  | Total sample size (includes unaged and subadult individuals) |            | Young individuals (<15 years) |            | Adult individuals (15+ years) |            | Total sample size (includes unaged and subadult individuals) |            | Young individuals (<15 years) |            | Adult individuals (15+ years) |            |
|                  | Freq.  | Proportion | Freq.                         | Proportion | Freq.                         | Proportion | Freq.  | Proportion | Freq.                         | Proportion | Freq.                         | Proportion |
| Single burials   | 25   | 0.44       | 0                             | 0.00       | 8                             | 0.35       | 149  | 0.75       | 18                            | 0.58       | 96                            | 0.76       |
| Multiple burials | 32   | 0.56       | 6                             | 1.00       | 15                            | 0.65       | 49   | 0.25       | 13                            | 0.42       | 30                            | 0.24       |
| Total            | 57   |            | 6                             |            | 23                            |            | 198  |            | 31                            |            | 126                           |            |



Fig. 4. EBA side-by-side triple burial at Khuzhir-Nuge XIV. Baikal Archaeology Project Image Database, photo by Andrzej Weber.

interred their dead without grave goods in almost 40% of the cases considered here, over three quarters of the *Glazkovo* population had at least a single specimen. Further, the upper limits of *Glazkovo* grave wealth far exceeded those of *Serovo* burials. Despite these patterns at the extreme ends of the spectrum of grave goods quantities, Fig. 5 shows that the number of durable objects interred with the majority of individuals – represented by interquartile ranges and median counts for the two periods – remained relatively constant (median: 1, 2; IQR: 5, 4, for LN and EBA, respectively). While small cemetery sizes for the LN make comparisons of median grave goods counts between cemeteries relatively uninformative, it is noteworthy that some large EBA cemeteries (Kurma XI, Shamanskii Mys) exceeded the median value for the overall period (median values of 13.5 and 6 grave goods/individual, respectively). This non-uniformity of grave goods quantities during the EBA parallels the uneven age distribution between cemeteries observed above, with Kurma XI and Shamanskii Mys occupying extreme ends of both continua.

No LN individual was associated with more than 23 artifacts, a quantity well below the number found with some of the EBA individuals (seven of these had over 50 artifacts, the “wealthiest” as many as 261; see below). Due to limited data available from publications, for this analysis beads, perforated deer tooth pendants, unworked animal bones, lithic inserts for composite tools, and potsherds were each counted as a single specimen regardless of the actual quantity observed. This likely had the effect of drastically underrepresenting the quantities of grave goods in the EBA sample, as small ornaments were more common during this period. The two LN outlier individuals – an adult male at Shamanskii Mys, between 45–50 years old at death (1975, individual 2 [Kono-patskii, 1982, p. 48]) and an unsexed adult at Khuzhir-Nuge VI (individual 4 [Goriunova, 1997, p. 85]) – were both interred in single burials, and each was associated with polished implements made from green nephrite.

LN and EBA young individuals exhibited significantly different patterns of association with grave goods (Fisher’s Exact Test

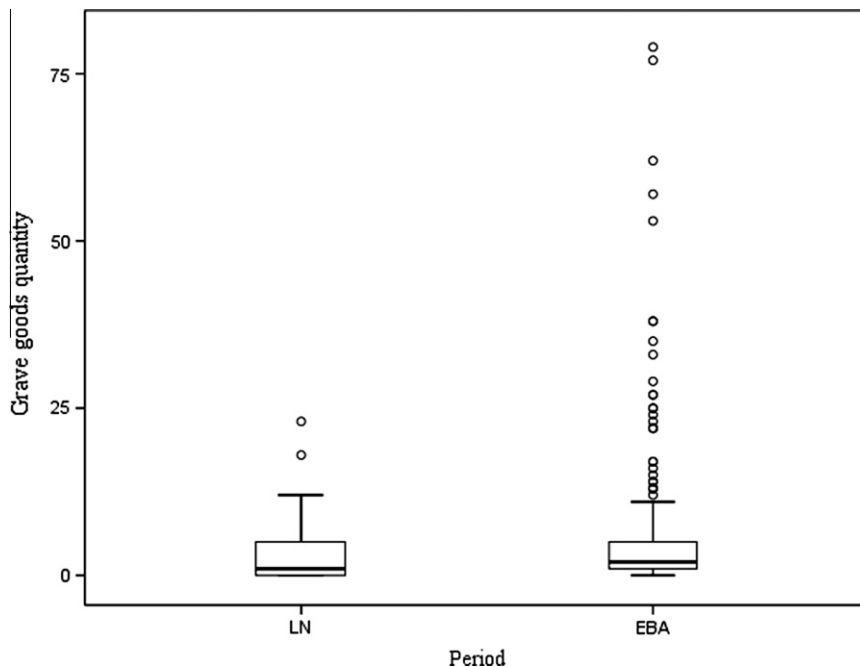


Fig. 5. Number of grave goods associated with *Serovo* and *Glazkovo* individuals. For each individual, beads, perforated deer tooth pendants, unworked animal bones, lithic inserts for composite tools, and potsherds were counted as a single specimen, regardless of the actual quantity of each type. Two EBA outliers with 139 (Kurma XI, individual 4) and 261 (Uliarba, feature 2, individual 1) grave goods are excluded from this image.

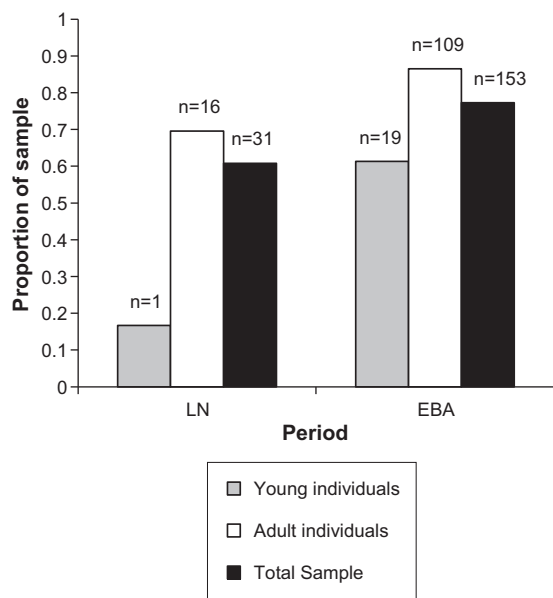


Fig. 6. Proportion of individuals in each period associated with grave goods.

2-tailed  $p$ -value = .075). More than half of EBA individuals within this age range were interred with grave goods (61.3%, 19 of 31), as opposed to less than 20% (1 of 6) during the LN (Fig. 6). Most of the grave goods associated with young *Glazkovo* individuals were ornaments such as kaolinite beads or pendants made from drilled deer teeth, though in some cases, a single small lithic implement was also present. Three *Glazkovo* children (Sarminskii Mys, individual 4; Khuzhir-Nuge XIV, individuals 27.2 and 47) wore discs made from white nephrite or marble, and another (Khuzhir-Nuge XIV, burial 45) had a small green nephrite knife positioned near its pelvis (Weber et al., 2008b, pp. 103–104). An EBA multiple burial at Uliarba (grave 2.3) contained a child who may have been associated with an exceptional amount of exotic tools made from chalcedony, flint, green nephrite, and bone as well as mandibles from a fox, wolf, and beaver. However, it is also possible that these objects were intended for one of the older individuals in the grave (most likely individual 2.1; both were adolescents over the age of 15), though each was associated with a separate concentration of grave goods (Goriunova, 2004, pp. 7–13).

In contrast, though the aged sample is relatively small, only one *Serovo* individual below the age of 15 was associated with grave goods. These included ceramic vessels and two lithic objects (Sarminskii Mys, Grave 29.2). This individual was represented by a smashed and burned cranium and other poorly preserved burned bone fragments and was found in a multiple burial containing two other individuals (both adults). One of these adults was not associated with grave goods and was represented by disarticulated and fragmented burned bones including a skull. The other adult was unburned but featured several broken bones, and was associated with lithic and ceramic objects. An additional LN burial at Sarminskii Mys (grave 31) featured individuals in an almost identical layout. Here, an adult, whose skeleton was fully intact, was covered (mostly around the knees and shins) by an assemblage of dismembered and burned bones representing two adult individuals (Goriunova, 1997, pp. 48–53). Two graves at Shamanskii Mys featured similar treatments (1975, grave 3; 1976, grave 1). Aseyev (2007, p. 98) has interpreted one burial of this type as evidence of a sacrifice enacted at the funeral of a shaman, which he suggests is indicative of chiefdom-level inequalities during the LN. At this time, further analyses are required in order to validate these interpretations.

Given the low ages of most individuals there, it is not surprising that only two individuals at the EBA cemetery of Shide I were associated with grave goods, and neither with more than two. In contrast, some cemeteries suggested above to contain high proportions of adults exhibited higher proportions of interments with grave goods. At Kurma XI, a number of exotic artifacts were found in *Glazkovo* interments, and only a single individual lacked grave goods altogether. Over half of the individuals there were interred with more than 10 grave goods (55%, 11 of 20), and 10% (2 of 10) were associated with over 50. Similar to Kurma XI, a large proportion (37.5%, 3 of 8) of individuals at Shamanskii Mys were associated with more than 10 grave goods, and one was found with over 60 objects, including a variety of worked faunal materials as well as others made from nephrite and flint. Of the 19 interments at Ulan-Khada IV – another EBA cemetery with a high proportion of adults – none were associated with more than seven grave goods. This cemetery also contained by far the largest proportion of multiple interments (45%, 5 of 11).

#### Types of grave goods

*Serovo* graves featured several types of exotic goods, including green nephrite implements and lithic zoomorphic forms (Goriunova, 1997, 2002). Two zoomorphs were found in multiple burials, and the two individuals that could be clearly associated with these sculptures were both adults. Similar sculptures have been found in burials throughout the Cis-Baikal in a variety of fish and human forms, and are often thought to relate to shamanistic activities (particularly in the case of anthropomorphs, though these are believed to have been common only later, during the EBA [e.g., Bazaliiskii, 2010, p. 77]). Some scholars have suggested that fish-like zoomorphs were used as fishing lures (e.g., Bazaliiskii, 2010, pp. 80–81; Okladnikov, 1950, p. 250). Both lithic zoomorphs included in this analysis were found in multiple interments at Sarminskii Mys that also contained green nephrite implements. An association of these sculptures, as well as green nephrite axes, adzes, and knives, with multiple burials demonstrates the importance of communal rituals as contexts for conspicuous display and other special ritual treatments (such as possible sacrifice) (see below; see Aseyev, 2007). *Serovo* burials also frequently featured ceramic vessels (42.6%,  $n = 20$ ; see also Okladnikov, 1950). No ceramic vessels could be clearly associated with *Glazkovo* individuals, though sherds sometimes occurred in the upper fill and around the outside perimeter of grave pits (Goriunova, 2004; Metcalf, 2006; Weber et al., 2008b).

In the *Glazkovo* sample, seven individuals were found with extremely large artifact assemblages (more than 50 artifact specimens). These individuals were mostly male adults and adolescents, with the exception of one probable female (Uliarba, grave 35). Exotics found with this probable female include ornaments made from metal, white nephrite, and drilled animal bone as well as slate, bone, flint, green nephrite, and metal implements. This individual was also buried with 33 flint arrowheads, a type of grave good that exhibited a significant association with males (Table 5; two-tailed Fisher's Exact Test  $p$ -value = .045). The “masculine” toolkit associated with this individual raises the possibility of an inaccurate sex designation, though no information was available regarding how the designation of “probable female” was reached (Goriunova, 2004, pp. 39–44). This grave also featured the skull of a canid with a single flint arrowhead in the upper pit fill, which appears to have been interred in a miniature pit that cut into the original fill, suggesting a separate event. The placement of this probable female in Uliarba's eastern burial cluster is also noteworthy, as some have suggested that this cluster contained burials of elite individuals (McKenzie, 2010, p. 105; Shepard, 2008). In any case, it is quite clear that the funerary treatment

**Table 5**  
Lithic points in *Glazkovo* burials.

|        | Individuals with arrows present | Individuals with arrows absent |
|--------|---------------------------------|--------------------------------|
| Female | 4                               | 24                             |
| Male   | 20                              | 36                             |

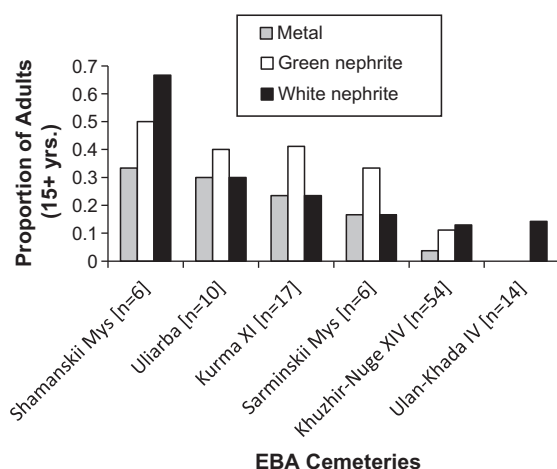
Includes individuals listed as “probable” males and females.

accorded to this individual was meant to convey that she (?) held some extraordinary status.

#### *Cemeteries as indices of differential status in EBA funeral rituals*

In order to better understand social differences among *Glazkovo* mortuary sites included in this analysis, I compared the proportion of each cemetery population associated with three varieties of exotic materials – green nephrite, white nephrite, and metal (Fig. 7). These material types originated far from the Ol’khon region and are thought to have held important symbolic roles as markers of elevated social status (Okladnikov, 1955; see below). Above, I noted differences in association with grave goods among young individuals and adults in *Glazkovo* burials. To circumvent the potential bias created by unequal age distribution at *Glazkovo* cemeteries, only individuals classified as adults were compared from each cemetery. Only cemeteries with over five adults were included in this comparison.

Based on the likelihood that *Glazkovo* groups reserved certain cemeteries for adult segments of the population, as well as data on the differential use of grave goods at burial locales throughout the Ol’khon region and the site-specific arrangement of burials in rows, McKenzie (2010, pp. 97–102) has drawn a distinction between “community” and “exclusive” cemeteries. A comparison of exotic grave goods at these sites confirms the assertion that EBA hunter–gatherers used burial location as a means of encoding messages about social differences. The largest cemetery – Khuzhir-Nuge XIV (88 individuals) – stands out for its low proportion of exotic grave goods, as does Ulan-Khada IV, despite a high proportion of adults interred there. The latter site featured a low proportion of exotics (especially metal and green nephrite) as well as few artifacts per individual (median grave goods count: 1; overall range: 7). In contrast, Shamanskii Mys and Kurma XI both contained high proportions of adults, high median values for individual association with grave goods, and high proportions of exotics. However, EBA groups appear *not* to have excluded young individ-



**Fig. 7.** Proportion of *Glazkovo* individuals (15+years old) associated with exotics, by cemetery.

uals from burial at Uliarba, which also featured a relatively high proportion of adults associated with exotic grave goods, as well as a higher-than-average median number of grave goods per individual.

#### **Discussion**

Above, I provided an outline of funerals in the Ol’khon region and described a shift at about 3000 BC in the way people enacted them. In this Section I discuss implications of this shift for our understanding of political economy in the Middle Holocene Cis-Baikal.

While diverse LN and EBA burial practices suggest that a range of narratives surrounding death existed during each period, it is clear that *dominant* narratives shifted at the beginning of the EBA, as ritual participants turned increasingly to an individualistic funeral aesthetic involving types of power-building strategies that were relatively marginal during the LN. LN groups in the Ol’khon region primarily used funeral rituals to build solidarity and commemorate engagement with communal identities that served as the main source of empowerment in this period (corresponding to the corporate political economic mode). People in the EBA Ol’khon region used burial rituals quite differently, showcasing wealth and individual status distinctions as well as connections to distant regions and groups (corresponding to the network mode).

The corporate emphasis in LN burial practices is especially evident in multiple burial techniques that *Serovo* groups employed. Multiple burials were relatively common, suggesting an emphasis on collective – rather than individual – representations. It is even possible that *Serovo* individuals occasionally reopened old burial pits in order to inter additional dead, thereby asserting continuity with ancestral figures, although difficulties in establishing the timing of tiered multiple burials make this interpretation speculative. *Serovo* groups in the Ol’khon region excluded children from some types of burial ritual, suggesting that age governed inclusion in burial rites. Gillespie (2001, p. 82) observes that many groups view children as a unique category of uninitiated people until the passage of ritualized life-cycle events that signify full membership in public life and the possession of consecrated knowledge. LN groups in the Ol’khon region appear to have held a similar view of children’s role in social life, which is concordant with models of the corporate political economic mode and its emphasis on esoteric knowledge and on indoctrination into corporate institutions as a means of achieving status.

During the LN, people placed relatively few preservable grave goods in burials compared with the EBA. *Serovo* graves that did contain artifacts were dominated by types of implements that Okladnikov (1950, p. 267, my translation) described as being “of absolute necessity to every forest hunter.” LN people used exotic materials such as green nephrite exclusively for the production of implements (knives, axes, and adzes), many of which broke before or during interment. Lithic statues and ceramic vessels found in *Serovo* graves provide a possible exception to the “utilitarian” character of *Serovo* grave good assemblages, and their presence suggests an emphasis on subsistence resources and activities directly related to subsistence and consumption in funeral symbolism. While only two such statues were found, both were associated with adults interred in multiple burials at Sarminskii Mys, the largest *Serovo* cemetery in the Ol’khon region (and among the largest in the Cis-Baikal). This cemetery appears to have been a center of corporate activity in the LN.

Unlike *Serovo* groups, subsequent *Glazkovo* groups interred objects during burial rituals in order to *display wealth*. EBA inhabitants of the Cis-Baikal developed a systematic exchange of

sizeable quantities of ornamental prestige goods. People of higher social standing would have used these goods to cultivate social status by indexing participation in expansive social networks. While green nephrite goods were found in both *Serovo* and *Glazkovo* burials (17 and 38 specimens, respectively), *only* during the EBA did local populations begin to fashion this material into obviously ornamental forms (discs and rings used primarily to adorn the bodies of individuals interred in EBA graves), corresponding to the items of wealth that are expected of network-based political economies. Similar white nephrite ornaments (58 specimens) and a variety of metal goods (29 specimens) also appeared in burial assemblages during the EBA, before which there is no indication of their existence in the region.

White nephrite goods and metals shared traits that made them ideal for use as wealth objects. Both required large amounts of labor to produce, and the complex technology involved in metalworking would have further restricted access (e.g., Earle, 2002, p. 230). Both were made from relatively rare or non-local materials, particularly white nephrite ornaments. Outcrops of white nephrite are located far from the Ol'khon region in the Vitim River Basin, on the northern portion of the lake's east coast (Sekerin and Sekerina, 2000). Thus, the presence of goods made from this material at sites throughout the Cis-Baikal provides evidence for long-distance exchange during the EBA. By the early second millennium BC (corresponding to the Cis-Baikal Middle Bronze Age), white nephrite objects from the eastern shore of Lake Baikal appear in distant sites throughout the Eurasian steppe, some as far as 2000 km to the west (Anthony, 2007, pp. 45–46; Koryakova and Epimakov, 2007, p. 109). Though future studies will be necessary to explore this possibility in more detail, I suggest that *Glazkovo* groups in the Cis-Baikal may have played a role in the development of supra-regional exchange of white nephrite due to their intermediate location between natural deposits on the northeastern shore of the lake and western contexts where this material has been found.

In the Ol'khon region, the dearth of these wealth objects at large, community cemeteries such as Khuzhir-Nuge XIV and Ulan-Khada IV provides a sharp contrast with the relative abundance of these materials at Kurma XI, Shamanskii Mys, and Uliarba. Also unlike LN populations, who distinguished indoctrinated adults from unindoctrinated children by limiting inclusion in burial ritual, EBA groups made distinctions *within* the adult population. Association with disparate amounts of grave wealth in the adult population as well as demographic differences between cemeteries suggest that some factor beyond passage through life-cycle events determined burial treatment and location among EBA hunter-gatherers. At present we do not fully understand the social distinctions between individuals interred in *Glazkovo* cemeteries, but it is clear that the display of circumscribed wealth objects and their removal from circulation (through deposition in burials) at a specific subset of funeral locations played a major role in these distinctions.

*Glazkovo* groups also undertook burial rituals more often than *Serovo* ones had. This increase in burial frequency may reflect an increase in population density between the LN and EBA, and such a view is certainly dominant among regional scholars (e.g., Okladnikov, 1955; Weber, 1995; Weber and Bettinger, 2010). However, it is important to avoid discounting other, less direct readings of the Cis-Baikal burial record, especially given that reconstructions of LN and EBA population densities are based solely on the number of interments in each period (e.g., Weber and Bettinger, 2010, pp. 497–498). Alternatively, I suggest that changes in the ways people used funerals – involving the adoption of novel political economic strategies and the extent to which broad segments of the population engaged with these strategies – might have contributed to differences in the number of burials conducted in these periods.

Well-documented diachronic changes in the frequency of other public ritual events may help to illustrate this point. Marshall

(2000, p. 97), for example, describes a change in the economic and political opportunities to be had from potlatch ceremonies at the time of contact with Europeans among the Nuu-chah-nulth (Nootka) on the Northwest Coast of North America. During this period, Nuu-chah-nulth house chiefs increasingly used potlatches, which they reconfigured as a context for asserting status through the display and redistribution of European trade goods to ritual participants (Marshall, 2000, pp. 96–97). Thus, even in spite of major population decline during the early 19th century, the period witnessed a vast increase in the elaboration and the frequency of potlatch events due to sociopolitical motivations internal to Nuu-chah-nulth society (Marshall, 2000, pp. 96–97; see also Arnold (2009, p. 126), Drucker (1965, p. 197) and Kan (1989, p. 29) for similar examples throughout the Northwest Coast).

Unlike the Nuu-chah-nulth case, in the southeastern United States, the permeation of Creek political economy by European goods and the novel opportunities for political advancement that they represented during the contact period involved little or no actual face-to-face contact between European and Creek individuals (Wesson, 2008, pp. 76–82). Instead, European trade goods mostly filtered indirectly into the interior Southeast in a manner that was difficult for entrenched elites to control. Opportunities for Cis-Baikal hunter-gatherers to obtain (though perhaps in a similarly indirect manner) goods indexing participation in external social networks and attesting to non-traditional, non-local sources of power may have developed during the EBA, as groups in nearby regions of South Siberia began engaging in novel subsistence and production techniques.

On the basis of compositional analysis of a large sample of South Siberian metals, Sergeeva (1981, pp. 45–48) suggested that Cis-Baikal inhabitants produced metal tools and ornaments from local ore sources throughout the Bronze Age. In addition, she also posited “the existence of contacts and connections between the separate tribes of the regions discussed here [the Cis-Baikal and neighboring regions], which grew more intense during the metal era. In particular, this is supported by the presence of a sizeable fraction of [metal] objects from the Cis-Baikal that have typological and mineral analogues in the Trans-Baikal and Minusinsk Basin [see Fig. 1], between which the Cis-Baikal was a contact zone” (Sergeeva, 1981, p. 64, my translation, clarification added).

The presence of metal objects in the EBA Cis-Baikal, whether locally produced or not, has long been attributed at least indirectly to interactions between hunter-gatherers in the Cis-Baikal and metal-working groups further west in the Minusinsk Basin and the surrounding foothills and mountains (Petri, 1926; Podgorbunskii, 1928). The appearance on the far margins of the Cis-Baikal of groups employing limited pastoral subsistence strategies and small-scale metal production can be understood as part of a long-term, long-distance spread of cosmology involving burial practices that may have differed significantly from local antecedents (Anthony, 2007, pp. 307–311; Gryaznov, 1999, pp. 51–54; Vadetskaya, 1986).

Contemporary discussions about these groups – belonging to the still poorly-understood *Afnas'ovo* culture – stress the rapid geographic spread of their distinctive material culture, ritual, and craniological type throughout much of south and west Siberia, Central Asia, and Western China (e.g., Anthony, 2007; Chernykh et al., 2004; Gryaznov, 1999; Mei, 2004; Vadetskaya, 1986, p. 22), and Anthony (2007, p. 311) has recently provided limited evidence (ceramic motifs, metal objects made from non-local sources found in *Glazkovo* sites) that attests to some degree of interaction between *Glazkovo* hunter-gatherer groups and these incipient pastoralists. Gryaznov's (1999, p. 50, compare to Weber, 1995) review of *Afnas'ovo* sites described their burials as containing relatively few metal goods while also showing that all types of metal tools found at these sites also occur in EBA burials in the Cis-Baikal. Frachetti

(2008, pp. 39–40) suggests 3200–2500 BC as a conservative estimate of the earliest appearance of the *Afanas'ev* culture in the region, while Anthony (2007, p. 311) provides a figure of 3300 BC (see Chernykh et al. (2004, pp. 20, 41) for additional discussion of chronology and a similar assertion – based on 33 calibrated radiocarbon dates – that the *Afanas'ev* tradition may have emerged several centuries before 3000 BC).

*Afanas'ev* groups produced sites containing bones from cows, sheep and horses (Anthony, 2007, p. 310; Frachetti, 2008, pp. 45–46; Gryaznov, 1999) that were provisioned with wild fodder (Anthony and Brown, 2007; Popova, 2006). For example, at Tepsey X (Gryaznov, 1999, p. 48), an *Afanas'ev* summer encampment on the in the Minusinsk Basin where a group of herders lived briefly to take advantage of nutrient-rich forage available after the river's annual floods, recovered faunal remains all belonged to domesticated animals, most of which were sheep (though only 27 bones were identified). *Afanas'ev* peoples did not subsist exclusively on herd animals, but also appear to have hunted and fished on a seasonal basis (Vadetskaya, 1986, pp. 19–21), and vertical transhumance practices (necessary due to the exclusive use of wild plants for herds) as well as the use of migrating hunted resources may have brought *Afanas'ev* groups into frequent contact with Cis-Baikal hunter-gatherers (particularly in the Sayan Mountains located between the two regions), providing new opportunities for individuals on both sides of this cultural divide.

Evidence for increases in long-distance interaction within the Cis-Baikal during the EBA comes from several lines of archaeological evidence beyond the corporate- and network-style funeral aesthetics discussed at length here. In particular, diachronic data on the degree of variation within and between regions in burial practices and osteological patterning support the argument that the Cis-Baikal's EBA inhabitants engaged in more long-distance interaction. Normative burial practices during the LN appear to have varied somewhat on a geographical basis; Bazaliiskii (2010), for example, lists four variants during this period, corresponding anecdotally to different areas of the Cis-Baikal. In contrast with the geographic variation of LN burial practices, Okladnikov (1978, p. 101, my translation) suggested based on the overall similarity of EBA burial practices throughout the Cis-Baikal that the *Glazkovo* phenomenon represented a “cultural integration of a sort, now embracing the entire area of the Cis-Baikal.” Mirroring this decline in the degree of geographic variation in burial practices within the Cis-Baikal, Mamonova (1980) analyzed craniometric and other osteological traits from samples collected at LN cemeteries in two of the region's major river valleys (the Angara and Lena), and found each region's sample to be distinct. During the EBA, the physical traits of populations interred in different regions exhibited greater similarities (Mamonova, 1980, p. 87). The observed EBA disappearance of localized ‘types’ both in osteological and ritual terms is consistent with the spread of network strategies and increased emphasis on non-local interactions throughout the Cis-Baikal.

## Conclusions

Parker Pearson (1999, p. 3, *sensu* O'Shea, 1984) states that “the dead do not bury themselves but are treated and disposed of by the living,” suggesting that burial practices are not merely manifestations of existing structures, but are also themselves important determinants of social organization. Following the arguments of a number of previous researchers, I have started with the assumption that burial ritual is a context in which social change is not only reflected, but *produced* (Pauketat, 2010), and that burial ritual provides a useful lens to understand strategies that living members of prehistoric communities undertook to achieve political goals. I

demonstrated changes in political economy that took place in the Cis-Baikal at the dawn of the EBA, as enterprising actors began to re-imagine burial ritual as a context that would support efforts to create power inequalities between community members in novel ways. This set of goals appears to have differed from the goals of LN ritual participants, who conducted burial rituals primarily to assert continuity within local groups and the existence of a relatively homogenous array of social statuses among those being memorialized. This transition has received little attention in recent English-language publications, but has a potential to shed light on political economy and political economic change among hunter-gatherers.

The development of the *Glazkovo* phenomenon and the change in types of political strategies that individuals used in burial ritual in the Cis-Baikal seem to coincide – or to have taken place only shortly after – the emergence of the *Afanas'ev* tradition in the Minusinsk Basin and the Altai and Sayan Mountains. Though far more in-depth comparison of archaeological materials from the EBA Cis-Baikal and surrounding regions will be necessary to test hypotheses about inter-regional interaction and its role in South Siberian cultural change during the period in question, here I provisionally suggest that the decline of localistic, corporate political economies in the Cis-Baikal resulted at least in part from the new potential of these interactions for the region's indigenous groups.

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