

# Altai Isotopic Project

## Life and mobility of nomadic nobility in Central Asia



The Altai Mountains are located in the heart of Asia, crossing the borders of Russia, Mongolia, Kazakhstan and China. The unique scenery of 'Golden Mountains' with thousands of lakes and snow-capped glaciers is a fusion of ancient cultures, ravishing landscapes, and extraordinarily high biodiversity. The Altai region is a natural boundary between the Siberian taiga forests and the Central Asian deserts; it is also one of the last remaining untouched areas of the world. The archaeology of this region starts in Palaeolithic. For thousands of years Altaic mountains, forests and steppe served as a homeland for large nomadic populations in Eurasia.

The Altai Isotopic Project is an international partnership between the Russian Academy of Sciences, Jagiellonian University and the University of Stockholm. The main scientific aims are an archaeological assessment and extended bioarchaeological analyses of Iron Age tombs of nomadic elites and warlords from Northern Altai.

### Excavations and discoveries

The last several decades have witnessed an unprecedented rise in volume of fieldwork on Altaic burial grounds and settlements. Since 2000 prof. A.P. Borodovskiy (Institute of Archaeology and Ethnography, Siberian Branch of Russian Academy of Science) has run excavations at one of the largest barrow burial grounds of this region dated to Iron Age, the Chultukov Log site 1. The spectacular success of his work triggered an international interest and resulted in cooperation (since 2012 onwards) with an archaeological team from Jagiellonian University, Cracow, led by L.Oleszczak. Working together with Russian scientists, this Polish team has undertaken excavations on several archaeological sites in the Manzherok microregion.

Chultukov Log 1 comprise of 123 barrows dated to the Iron Age (5<sup>th</sup>-2<sup>nd</sup> century BC) and is considered the largest nomadic burial ground ever found in the Altai region. Moreover, the site was never ransacked or destroyed by grave robbers. Excavations yielded new information and important findings, the volume of which exceeded expectations; one of which was a petroglyph deposited inside the barrow. Currently, mentioned stele is considered the northernmost located rock art depiction in Central Asia. Significant variations in burial rites and forms of interment associated with different Altaic populations were recorded. For example, the tombs of the Kara-Koba culture comprised of stone coffins reassembling sarcophagi, while other mounds contained wooden chambers covered over by large cairns of boulders and stones.



The Chultukov Log (sites 1 and 2) and adjacent Manzherok 12 burial grounds consist of over 150 barrows. The tombs contain the remains of men, women and children, however, adult males are most common. The deceased were lavishly equipped with various everyday items such as decorated ceramics, tools and weaponry, bronze mirrors and typical for Scythians *acinaci* daggers, pendants and jewellery; pins covered with gold foil (triquetras) and iron knives with ring heads. Some burials contained intentionally incomplete equestrian equipment. Among the most distinctive features associated with local traditions were black wigs fastened with bronze hairpins, recovered from several female graves. Polymetallic items such as triquetras made of iron, copper, and gold were also found in Early Iron Age burials in the northern Altai.

Hundreds of burial mounds located at ancient floodplains of Lower Katun River silently attest the importance of this place in prehistory. Barrows form a long chronological sequence linked to intersecting impact and domination of four local pastoral populations. In the Iron Age this territory played an important role as a tribal centre and settlement zone located at junction of communication routes linked to the Silk Road. The power of Altaic warlords is evident from the presence of various exotic and foreign objects, such as glass beads from Egypt, items from India, Persia or China.

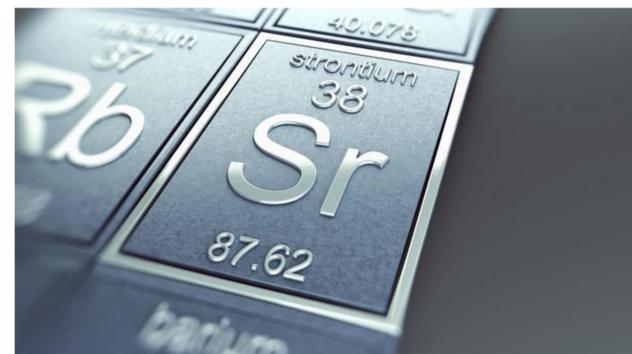
Anthropological data retrieved from skeletons buried in Altaic tombs indicates the presence of re-burial practises and the rites of war. In archaeological literature the people of the Pazyryk culture as advanced horse breeders are linked to continual, low-threshold warfare and expansion of tribal warrior society. Scalping and cut marks uncovered on male remains in tombs can be interpreted as evidence for several periods of inter-tribal warfare. The high mobility and perpetual animosity between the neighbouring tribes highly ritualized endemic warfare and played an important function in social ranking among nomads.



### Project aims and methods

The Iron Age in Altai region spans from 9<sup>th</sup> century BC till 5<sup>th</sup> century AD. This time has traditionally been sub-divided into two periods. The Scythian period (5<sup>th</sup>-3<sup>rd</sup> century BC) was associated with domination of the Pazyryk culture, sometimes ethnically identified with the Saka people, a large group of Eastern Iranian nomadic tribes inhabiting the Eurasian Steppe. The following Hunnic period was linked to expansion of the Maima culture (Hiungnu/Huns). The territorial expansion of the Maima people in Altai region marks a profound cultural transformation however, the mechanisms and nature of that change remains inconclusive. Military expansion and warfare brought by the Huns caused mass migrations of Indo-European Tocharians. These changes ultimately resulted in destruction of the Hellenistic Greco-Bactrian kingdom in 2<sup>nd</sup> century BC. The Altai Isotopic Project broadens the cross-disciplinary perspectives on pastoral nomadism in Central Asia. This project investigates the socio-demographic structure of several different Altaic populations (the Bystryanska, the Kara-Koba, the Pazyryk and the Maima cultures); their diet, lifestyle, social ranking and mobility.

The subsistence strategies of pastoral societies provide distinctive social and cultural opportunities and limitations. In prehistory pastoral societies were more easily affected by climate change as they had a lower level of buffering and technological capacity than agricultural societies. However, many Altaic populations practised agriculture and in fact their subsistence strategy represents a hybrid model.



Isotopic analyses of diet (<sup>13</sup>C/<sup>15</sup>N) and feeding practices target several clearly defined issues e.g. gender-based differentiation in diet among adults and non-adults, or manuring and seasonality as part of agricultural regime. One of the leading questions is how the inter-generational transmission of socioeconomic status and socioeconomic differentials in demographic behaviour interact to shape patterns of inequality over the long term. Zooarchaeological materials from the recently excavated Chultukov Log 9 settlement (Maima culture) enable us to have deeper insight into pastoral land management and animal husbandry practices in discussed area.

Isotopic analyses of mobility of nomadic populations can be seen as one of the most difficult and challenging problems in archaeological science today. Pastoral nomadism is fundamentally an economic adaptation that entails mobility as a by-product of specialised pastoral economy. It could be also understood as cultural phenomenon, because in many cases such as the Pazyryk or Maima groups, the community's self-identity goes well beyond its economic base. Moreover, the global concept of nomadic tribalism includes also sedentarized nomads who remain bound to mobile tribe.

The sheer scale of social and territorial mobility in Iron Age Altai creates new challenges and opportunities for traditional <sup>87</sup>Sr/<sup>86</sup>Sr isotopic analyses. Stable isotope profiles or signatures gained from human tissue can be used to reconstruct the life history of an individual, and the basic principles involve the comparison of isotope ratios in human dental enamel (or long bone, or both) with local geological strontium values. In this project we use both improved solution methods and laser ablation to explore intra-individual variability and residential mobility of nomadic nobility buried in barrows of Chultukov and Manzherok.

### Participants

Dalia A. Pokutta, Department of Archaeology SU  
Lukasz Oleszczak, Department of Archaeology UJ  
Prof Andrey P. Borodovskiy, Institute of Archaeology and Ethnography SB RAS  
Prof Laszlo Bartosiewicz, Department of Archaeology SU  
Prof Kerstin Lidén, Department of Archaeology SU

