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JOURNEY TO MURDER: ATYPICAL GRAVES OF THE IMMIGRANTS IN THE EARLY BRONZE AGE EUROPE

ABSTRACT

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Migrations had important effects on Bronze Age economy, adaptation of new inventions and technological cohesion, however their impact upon society remains under-studied. The knowledge of how individual long-distance journeys affected forms of societal interaction is limited and fragmented, especially when it comes to murder. In archaeology the analyses of criminality encounter massive obstacles due to unknowable character of crimes, victims and social contexts of these. In this paper we present new data and results of isotopic analyses (^{14}C , $^{87}\text{Sr}/^{86}\text{Sr}$, ^{15}N and ^{13}C) of the four individuals discovered in the mass grave in Milejowice, SW Poland, and associated with the Únětice Culture (2200–1700 B.C). Our data indicate the presence of immigrants from other parts of Europe in prehistoric Silesia and sheds a new light upon likely nature of crimes in the Early Bronze Age Úněticean society. The availability of high-resolution data on various levels, from intra-individual to inter-population, makes stable isotope analysis a powerful tool for studying mobility and food practices.

Key words: stable isotopes, forensic archaeology, carbon reservoir effect, Early Bronze Age, Únětice Culture, Silesia

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In this paper I discuss the relationship between formation of atypical interments and isotopically proven cases of long distance migrations in the Silesian communities associated with the Únětice Culture (2200–1700 BC) in southwestern Poland.

Migrations have contributed to the richness in diversity of cultures, religions and ethnicities in prehistoric panorama of European continent. It is evident in particular in Central Europe its self-evident, where the transfer and expansion of bronze making technology was linked to self-evident territorial movements of the Únětice culture, and substantially influenced the cultural development of this part of the continent. In prehistory as it is today, migrants have moved *en masse* or singly, and depending on circumstances the relocation might have been temporary or permanent. The interactions between prehistoric populations inhabiting Central Europe were without doubts very dynamic in nature, and majority of these contacts was probably friendly or at least neutral, based on commerce, exchange, family or personal acquaintances etc. Every interaction however caused by migration usually leads to the formation of specific modes of social adaptation of newcomers within the indigenous population. A larger group of immigrants introduced more profound implications for prehistoric societies, specifically to the differential distribution of power, which lies at the heart of identity dynamics. The collective social or ethnic identity of a given group, which interacts and maintains contact with foreigners, incorporates criteria for determining ‘membership’ and ways of signaling membership and exclusion (Emberling 1997, 295–344). In some cases, the interaction between locals and immigrants led to confrontation, exposing the very core of prehistoric ‘we’ and ‘they’ – the tribal identities of all parties involved. This case study presents the results of isotopic investigation ($^{87}\text{Sr}/^{86}\text{Sr}$, ^{14}C , ^{13}C and ^{15}N) of the Early Bronze Age mass grave located in Milejowice, Wrocław District, Silesia in southwestern Poland.

Multiple burials occasionally appear on Úněticean cemeteries (Pokutta 2013, 74–89, 307–316; Butent-Stefaniak 1997, 190–192), typically as family graves, where the bodies of family members were buried over longer periods of time. Usually, the bodies are laid out parallel to one another reflecting a general concern for the dignity of the deceased. Mass graves as a taphonomic variation of multiple burials, are rare and for obvious reasons arouse interest. Very few of them is currently known and attributed to the Únětice Culture in Central Europe (approx. 2200–1600 B.C, i.e. Slany in Czech Republic). The major difference here relies in fact that in mass graves the bodies are placed indiscriminately, tightly together and with no reverence for the individual (Skinner 1987; Mant 1987, Haglund, Connor and Scott 2001, 57). A mass grave as a unique *archaeological* phenomenon has been studied in various ways and methods. Jessee (2003) for example has developed an archaeological typology of mass graves and mass grave-related sites with an experimental research design attached to each type. Very little is known in respect of potential relationship between the diagnostic image of the burial and the provenance of the deceased. Our new data from Uneticean cemetery in Milejowice shed a new light upon this heavily understudied subject.

The mass grave uncovered in Milejowice (feature no. 1/99; Kopiasz 2004) should not be classified as burial in the proper sense, but rather depositional pit, with the closest analogies in the Late Neolithic Germany (Eulau, Haak *et al* 2008).

Multi-isotope analyses have been carried out on bones and teeth from the remains of four individuals recovered, and the main goal was to obtain information regarding biological identity of each individual as well as to reconstruct (if possible) the sequence of events leading to simultaneous death of these people. In order to achieve this goal, modern police investigation models have been applied based on recent murder cases, where multi-isotopic procedures were used to identify unknown or heavily mutilated bodies of the victims (i.e. Sanders 2003: a murder case of “Adam” in 2001; Meier-Augenstein 2010, 194–197, 201–207: cases of unidentified males from a Scottish harbor, and from Newfoundland found in May 2001; Meier-Augenstein and Fraser 2008: the murder case study of the so-called “the scissor sisters” from Dublin in 2005).

THE MASS GRAVE DESCRIPTION

The burial pit was located in the northern part of the site and was separated clearly from other burials. Skeleton no. 1, an adult female, was lying in a pit with her head towards the south and facing east, on her right side with contracted upper limbs (Fig. 1–2). Next to her, the remains of an adult male were unearthed. According to anthropological examination he was tall (over 170 cm) and well-built. In discussed period typical body height for local males in Silesia is estimated at 163 cm (Pokutta 2013, 122–123). In his lumbar spine a flint arrowhead was found. Together with female 1, this individual was buried according to most typical Úněticean tradition, with head south facing east. Compared to these two, the third individual (adult female) was lying in the opposite direction, on her belly with her head towards north and facing west. Her right arm was discovered beneath her face, while her left arm was holding the remains of a baby (skeleton 4; Infans I), which was placed next to her body.

The specific body positioning of all the individuals should be highlighted. Skeleton no. 2 (male) quite likely died due to fatal shot in the back and extensive internal hemorrhage (Fig. 2). Modern forensic records show that this type of injury (low in the back) is most common in cases when the victim is trying to run away from the attacker. It was therefore assumed that the male was trying to resist or escape before death. What was also interesting was the way his body was deposited. He was literally *holding* skeleton no.1 in his arms (the bones of his right arm and hand were found beneath skeleton 1 while the left arm was placed on top of the second body; Fig. 1–2). Both individuals were placed in a typical way for the rest of the Úněticean community. The skeleton no. 3 was lying on the other side of the burial pit seemingly *holding* the baby. Her body must have been thrown into pit in a hurry before *rigor mortis* appeared (usually within 2 hours after cessation of heart action

when bending the body is impossible without breaking bones). The position of her right arm and hand indirectly suggest she might have been still alive, when the rest of the bodies were thrown on top of her. The overall picture of the Milejowice 1/99 “crime scene” can be illustrated by reconstruction in Fig. 2. The “grave” pit was surprisingly shallow with overall depth of only 0.15 m.

Certain details of the interment suggest that after deposition, the corpses (even if covered with some soil) were protruding beyond the pit cut and must have been visible on the surface. That also provides certain clues regarding the circumstances of the event. In winter the frozen ground impedes deeper digging and bodies may instead have been covered by snow for longer period of time. Decomposition of four cadavers in summer would likely result in increased animal activity and a strong stench. No grave goods were found in the feature, nor were later re-cuts recorded. Some parts of the skeletons were missing (i.e. adults were lacking hands), however this can be explained in a sense that shallow pit and lack of coverage accelerate decomposition and post depositional effects.

The unusual position of the skeletons seems to be important. It indicates a deliberate action undertaken by whoever disposed of the corpses, to express certain ties or relationships between the deceased. The bodies have not been dumped chaotically into an open pit, but carefully *staged* or posed in 2 antithetic pairs (male holding female 1-female holding the baby) and involved certain additional work. The practice of staging the body of a victim is well recorded in modern forensics as a definable phenomenon. In many cases the unusual ‘pose’ of the dead helps to reveal characteristics of the homicides.

According to R.D. Keppel (2005, 13), females stand out as victims when the body is staged or left in other unusual positions. Moreover, the posed bodies are more likely to include sexual assault, and statistically are often linked to sexual-related and personal motives of the killing.

If the discussed case was indeed a prehistoric murder, at this stage of the investigation was inconclusive, however it was leading to working assumptions that the victims probably knew each other, “the undertaker” also knew them, and/or there was a common link between all parties. Radiocarbon dating (Fig. 3) confirmed all burials to be contemporary. Moreover, presented evidence excluded robbery as a potential motive for the murder due to presence of the remains of the baby. According to typology of homicides by F. Brookman (2005), infanticide combined with posing of the bodies of adults indirectly indicates a rather planned action, rapid deposition of bodies and possible murder of a personal or emotional nature.



Fig. 1. Milejowice, Wrocław District, Silesia; grave associated with the Únětice culture (classic phase) contained the remains of four individuals (3 adults and an infant); (Pokutta 2013, after Kopiasz 2007, 53)



Fig. 2. Milejowice, Wrocław District, Silesia; body position of the deceased in the grave reconstruction (graphic by R. Potter)



Fig. 5. Long distance immigrants in Early Bronze Age Silesia — male from Milejowice, Wrocław District. The distance between the assumptive place of his origin (Scania, SW Sweden) and Wrocław was approx. 870 km. Dotted line indicated another potential sea route: southern coast of Sweden to Bornholm, and from Bornholm to northern coasts of modern Poland (vicinity of Szczecin)

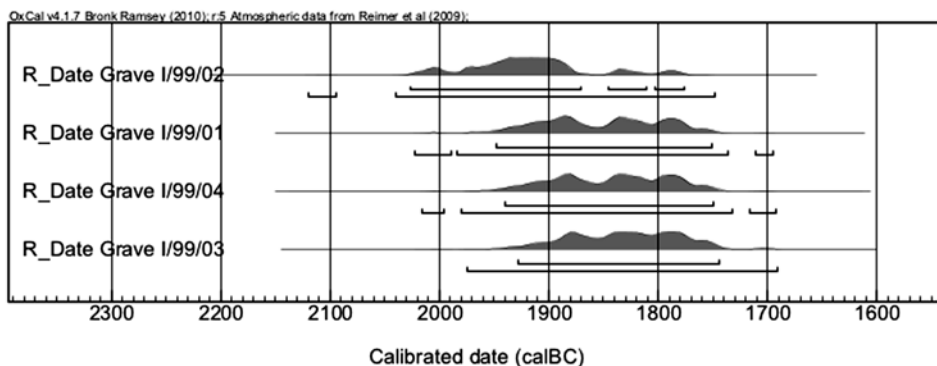


Fig. 3. Milejowice, Wrocław District, Silesia; radiocarbon dating of the feature 1/99; note deviation for individual no. 2 (male) linked to assumptive carbon reservoir effect. Approximated date of the event 1844 cal BC

ISOTOPIC PROFILING OF THE SKELETONS

The next step of the investigation was isotopic profiling of all four individuals and the results from the different isotope analyses are summarized in Tab. 1. Dietary markers, the $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ values of the long bones indicate significant differences in the diet among the three adults. The most interesting are the results of the male, who represents a typical vegan diet, with almost no animal-derived proteins. Due to fact that he was relatively tall, the caloric equivalent of a vegan crush-diet would not compensate the body energy expenditure, it was assumed that this individual was undernourished and was probably starving long before he was shot/killed (at least for 2–3 years). In contrast to this, female's skeletons represent a rich and mixed dietary profile: the values presented in Tab. 1 advocate for potential higher meat or fish consumption. The dietary profile of skeleton no. 3 may be qualified as being omnivorous with a moderate intake of animal protein. Analyses of the child's samples failed to provide reliable results due to poor preservation of bones.

The $^{87}\text{Sr}/^{86}\text{Sr}$ isotope ratio analysis yielded additional information regarding potential places of origin for analyzed individuals. Tests were run twice on the same type of bone with the second sample being pretreated with acetic acid to remove all contaminants. High consistency within the results was recorded and they were comparable and coherent in both trials. The $^{87}\text{Sr}/^{86}\text{Sr}$ isotope ratio of the samples taken from skeleton no. 3 provided confirmation of the local signal for a sedentary population in Wrocław region: the first sample was taken from third molar (which represents childhood-with a value of 0.7132), and second trial was carried out on long bone (adulthood) resulting in almost the same value (0.7131). That may mean that skeleton 3 was likely local individual, who was born

Table 1. Milejowice, Wrocław District, Silesia. Isotopic values retrieved from bone samples. Samples were taken from long bones only (for skeleton 3 also from dental material)

Individual	Sex and age	^{13}C and ^{15}N ‰	$^{87}\text{Sr}/^{86}\text{Sr}$	Radiocarbon age BP
Skeleton 1	Female <i>adultus</i>	-19.06/12.74	0.7128	3530±35
Skeleton 2	Male <i>adultus</i>	-21.56/8.97	<u>0.7154</u>	3570±36
Skeleton 3	Female <i>adultus</i>	-20.45/10.26	0.7131	3511±35
Skeleton 4	Sex unknown <i>Infans I</i>	-*	0.7127	3523±35

and died in discussed area, and that the $^{87}\text{Sr}/^{86}\text{Sr}$ isotope signal for the indigenous Únětice population in Silesia may be expected at the same level (Pokutta 2013, 164–183).

As it is shown in Table 1, $^{87}\text{Sr}/^{86}\text{Sr}$ isotope ratio values were similar for three out of four individuals, and both females and the child represent local members of community. The male's skeletal material yielded values of 0.7154, which indicates he was non-locally born and this range of values cannot be found in Poland. That in turn implies a long-distance migration, since this isotopic signal did not correspond with any known values reported so far from surrounding territories of Poland, Czech Republic or adjacent provinces of Germany. Moreover, the analyses performed on over 50 skeletons from the same time period in Silesia (Pokutta 2013, 193) indicated that fidelity of human $^{87}\text{Sr}/^{86}\text{Sr}$ isotopic ratio to surrounding bedrock has been modified by consumption of water and aquatic foodstuff (i.e. fish) to significant extent (1‰). Therefore in search for potential places of origin in discussed example, many territories in Central Europe with strontium baseline values of less than 0.716 had to be excluded (see explanation below).

According to currently available $^{87}\text{Sr}/^{86}\text{Sr}$ baseline signatures for Europe, two geographic locations may have been considered as the male's potential places of origin: southern Sweden (for Scania-values reported by Price et al. 2011) or northern Scotland (Highlands and Western Isles- signatures reported by Evans et al. 2010; see also Evans et al. 2006; Evans et al. 2009). The contacts between populations inhabiting Scotland and Poland in prehistory from the archaeological perspective seem to be highly unlikely and therefore this interpretative option has been excluded. Sweden, on the other hand in the Early Bronze Age stayed in economic interaction with continental Europe and the whole Baltic zone thanks to the existence of the Amber Road. Discussed events which led to possible murder of all four individuals took place in Milejowice cemetery around 1844 BC, quite possibly in winter. One may also add that the dating of this event surprisingly matches the exact date of the erection of barrow Ib in Szczepankowice (SW Poland, Silesia; Pokutta and Frei 2011), marking the time of the greatest prosperity and demographic expansion of the Únětice culture in Central Europe.

DISCUSSION AND CONCLUSIONS

From a methodological perspective the Milejowice case study brings several conclusions. Firstly, the presented case study advocates a new model for isotopic recognition of possible places of origin of non-locals. Knowing that new complex model the consumption of water (and/or water foodstuff) from the Oder river ($^{87}\text{Sr}/^{86}\text{Sr}$ signature 0.710) lowered the isotope ratio for the local Early Bronze Age population per ‰ (mean value, Pokutta 2013, 193) in comparison to the surrounding geological setting (soils signature of 0.714), we add ‰ to the values of each immigrant in the dataset in order to obtain a correct signature of his/her place of origin. For example, for immigrant with $^{87}\text{Sr}/^{86}\text{Sr}$ of 0.715, the isotope signature for his place of origin would be 0.716 (‰ higher than the values in his bones), and that excludes many territories (i.e. Czech Republic which in case of Úněticean population could have been an option). Moreover, this particular male is likely to represent the so-called carbon reservoir effect which has been detected during radiocarbon dating (Fig. 3). It appears as if, figuratively speaking, this individual was *dead* for approximately 100 years *before* grave 1/99 in Milejowice was dug. This phenomenon has been analyzed in number of studies (Ascough *et al.* 2009), and as we know a foundation of ^{14}C theory is global uniformity in the ^{14}C activity of living organisms which is correct for terrestrial environments. In oceans and other water basins however, the situation is more complicated due to uneven dissolution of carbon particles in waters. Climatic and oceanographic variations, such as the changing extent of polar water masses and sea ice, are presumed to influence reservoir ages, and in some cases from i.e. Icelandic populations, similar problems with dating human bones have been recorded (Ascough *et al.* 2012). Taking that into consideration, the working assumption in discussed case was that:

- 1) the searched territory represents the $^{87}\text{Sr}/^{86}\text{Sr}$ signature of 0.716; and
- 2) it was likely located near or next to a sea or ocean. This model of isotopic investigation of prehistoric mobility is illustrated in Fig. 4.

In archaeological perspective, discussed case study sets the example of the first long distance and overseas journey in Early Bronze Age Europe detected primarily as a result of isotopic investigation, which may be important especially given that the exact provenance of i.e. the Amesbury Archer does not meet certain standards of accuracy today and can be seen as problematic (Fitzpatrick 2002; Evans *et al.* 2006). Data indicate that male individual buried in Milejowice undertook a journey at the distance of at least 870 km (Scania-Silesia; Fig. 5). It seems logical to assume that he might have used means of water transportation, travelling probably along Oder River and across the Baltic Sea. The dramatic end of his life and the story that emerges from the reconstructed events shows to what degree migration and individual life's histories, driven by forces of social attraction and repulsion, merge together reaching the core identities of both locals and foreigners in the distant past. The presented events shed some light not only on the death of four people,

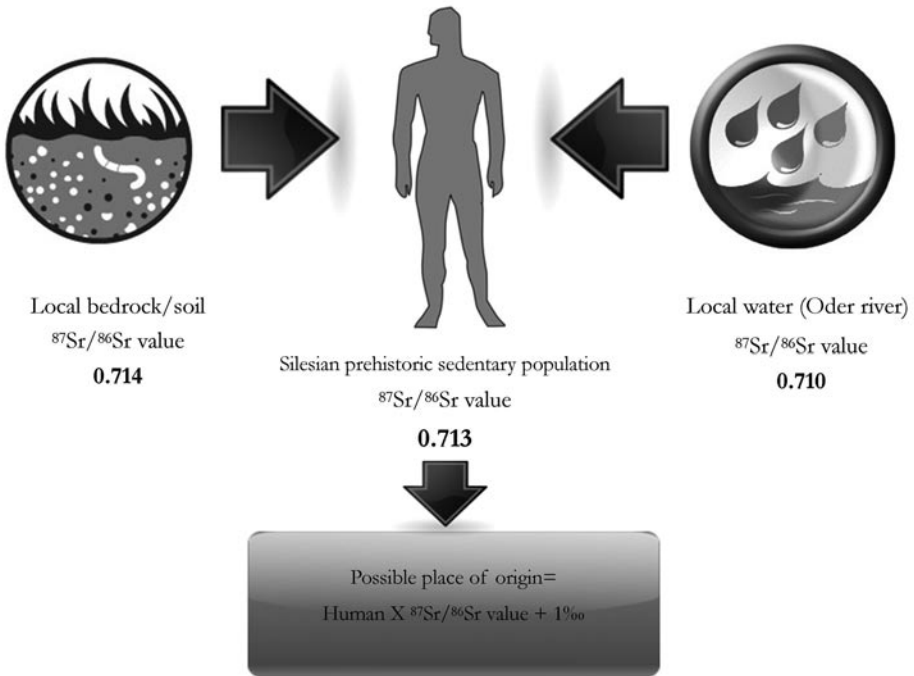


Fig. 4. Isotopic investigation of prehistoric mobility. Modeled relationship between human $^{87}\text{Sr}/^{86}\text{Sr}$ isotope signature and non-local places of origin; in example Early Bronze Age Silesian population

but also indicate the social norms and cultural behavior of Úněticean communities inhabiting the southwestern territories of Poland almost 3800 years ago.

All societies have moral rules regulating sexual behavior. Comparison of the sexual morals of various societies reveals a distinct connection between the morals and the social structure. Goethals (1978) finds that the strongest sanctions against e.g. premarital sex are found in complex patriarchal societies. More generally speaking, it can be said that *regal societies* have strict sexual morals, whereas *kalyptic societies* are more liberal. Moreover, the most traditional reason given for the sexual morals is that they shall prevent unwanted children. Certain number of evidence suggests that sexual offenders and illegitimate children born as the result of misalliances were socially marked and confirmation of these practices can be found on cemeteries of the Únětice culture in Silesia. Another example derives from Early Bronze Age site of Domasław, where three children were interred in a single grave outside of the main cemetery (age 5, 3 and a newborn; Pokutta 2013, 204–213). The grave was marked with a massive stone stele on top and contained no grave goods. Preliminary results of aDNA analysis have shown that all three boys shared the same mother, however they had different fathers (pers. comm. B. Gediga, unpublished

study). It is feasible that frequent changes of sexual partners of the mother in this case were unwelcome and viewed possibly as immoral by the local community, which resulted with social 'degradation' and repulsion of her children on the outskirts of the cemetery ground. For hundreds of years, an interaction between local Úněticean communities and foreigners has formed specific state of social cohesion, understood as an ordering feature of Early Bronze Age society defined as the interdependence between members of this society, shared loyalties and solidarity. Ultimately, this social cohesion was an essential ingredient of shared values and feelings of common identity, the sense of belonging and the strength of social relations. In the same time, as shown in this study, the same concept of cohesion has shaped and defined the extent of inequality and disparities in prehistoric society.

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