

September, 2010

**Workshop:** Osteological analysis of migratory paleo-populations, Transylvania, Romania

**Period:** Middle and Late Bronze Age

**Workshop period:** Session 1: June 5th – July 2nd, 2011

Session 2: July 3rd – July 30th, 2011

### **Archaeological context:**

The Late Bronze Age in Eastern Europe is characterized by the appearance of a large scale archaeological formation, the Noua-Sabatinovka-Coslogeni Complex (NSCC). It has achieved a remarkable unity of settlement structure, material culture and funerary practices over an area that stretches from the Western Carpathians and the lower Danube to the regions east of the Azov Sea. A high degree of homogeneity of material culture can be observed especially in the consistency of metallurgic bronze production and in ceramic forms present in settlements and burials (Cavruc 1996:69; Sava 2002:21-22, 47-125; Sava & Agulnikov 2003:120, fig. 2/3).

Although the origin of the Noua Culture is still debated, most specialists agree on an Eastern origin. The morphology of the Noua population differs from the earlier Moldovan and Transylvanian local populations but bears significant similarities with that of the Sabatinovka Culture. Very basic osteological analyses of ancestry have shown a mix of an Eastern type and a more Mediterranean gracile indigenous type, supporting the idea of the penetration of an Eastern population.

The replacement of Middle Bronze Age cultures resulted in intercultural interaction creating hybrid groups along the southern and western vectors of the Noua expansion (Andrițoiu, 1992:68; Soroceanu, 1973:493-517; Soroceanu, 1984:438). The concentration of Noua sites in eastern Transylvania, especially the high concentration of discoveries on both sides of the Carpathians along the main passes in the mountains (A.C. Florescu, 1991:map 1), also point to the eastern origin of this culture.

### **Workshop description:**

This project focuses on the Transylvanian component of the Noua Culture. In this area, the Noua civilization is known mostly from the study of cemeteries. As a result, the Noua population is structurally invisible due to the absence of data regarding settlement, spatial organization and social structure. The study of the Noua graves has been done almost exclusively from an archaeological perspective. The scope of the project is to investigate a sample of the Noua population in terms of advanced morphology, DNA and stable isotope studies. The goal is to achieve a better understanding of these populations by examining who they were, where they were coming from, how they lived, and their geographic and cultural radiation. The sample is comprised of approximately 400 individuals, all adults, from 3 cemeteries sites as well as isolated and small group graves. The osteological material that is studied in the context of this workshop (135 individuals) is stored at the Medicolegal Institute and at the National Museum of History of Transylvania (MNIT) in Cluj-Napoca.

Web site: [www.archaeotek.org](http://www.archaeotek.org)

E-mail: [bioarchaeology@archaeotek.org](mailto:bioarchaeology@archaeotek.org)

This summer's workshop is designed to continue the exhaustive osteological survey as well as to select bones to be brought back for DNA and stable isotope analysis. Students will receive daily an intensive 1h30 lecture on theory and method in osteology prior to working on the bones. They will be taught how to determine age, sex, stature, identify pathologies, trauma and take standard measurements. As well, they will be introduced to various osteological conservation problems aiming at properly evaluate bone quality for DNA and isotope analysis. This survey of bioarchaeological theory and method, coupled with hands on data gathering, is aimed at providing the students the analytical tools needed for the interpretation of the data they collect.

### **Project Objectives:**

#### ***Paleodemography***

1. Phylogenetic and biodistance identification of relatedness between populations from Transylvania and Moldova
2. Phylogenetic and biodistance identification of relatedness between populations in Transylvania from Middle Bronze Age (Costisa, Wietenberg) to Early Iron Age (Hallstatt)
3. Relatedness identification among individuals within populations in Transylvanian Bronze Age
4. Establishing the skeletal biology of individuals and populations from Bronze Age Transylvania:

#### Estimation of:

- a. Sex
- b. Age
- c. Stature
- d. Ancestry

#### Identification of discrete and idiosyncratic traits:

- a. Dental nonmetric variation
- b. Cranial nonmetric variation
- c. Postcranial nonmetric variation

5. Establishing the skeletal health of individuals and populations from Bronze Age Transylvania:

#### ***Paleopathology***

- a. Congenital disease
- b. Dental disease
- c. Joint disease
- d. Infectious disease
- e. Metabolic and endocrine disease
- f. Neoplastic disease
- g. Trauma

#### ***Paleonutrition***

- a. Isotopic reconstruction of diet
- b. Malnutrition related disease
- c. Nutritional deficiency related bone alterations

### *Taphonomy*

6. Identification of post-mortem alterations on bones
  - a. Identification of funeral practices: post-mortem treatment of bodies
  - b. Identification of burial practices: primary, secondary and tertiary burials
  - c. Identification of animal and/or vegetal alterations
  
7. Evaluation of conservation state and bone quality for DNA analysis

### **Research team:**

1. Project Director: Sabrina Gloux (Physical Anthropologist, Archeological Techniques and Research Center, ArchaeoTek – Canada)
2. Project Coordinator: Prof. Andre Gonciar (Archaeology Field Director, Archeological Techniques and Research Center, ArchaeoTek – Canada)
3. Research team:
  - a. Dr. Mihai Wittemberger (Expert Archaeologist – National Museum of History of Transylvania)
  - b. Dr. Mihai Rotea (Expert Archaeologist – National Museum of History of Transylvania)

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Best regards,



Andre Gonciar  
Project Coordinator  
ArchaeoTek – Canada