LIFE BIOGRAPHIES OF THE EARLY NEOLITHIC

Bioarchaeological approaches to the early LBK cemetery at Vedrovice, Czech Republic

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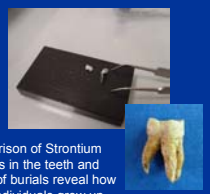
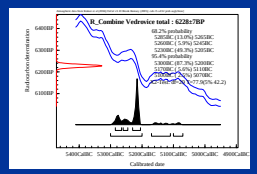
The *Linienbandkeramik* hamlet and cemetery of Vedrovice, Moravia, was excavated in the 1960s by V. Podborský of the Masaryk University, Brno. It remains one of the earliest Neolithic sites in Central Europe. The Široká u Lesa cemetery, which served the hamlet, was located on a hill in close proximity to the settlement. Over 90 burials have been excavated, which provide an important sample for bioarchaeological analysis. The AHRC funded Vedrovice project, which is a full collaboration between specialists based in England, The Czech Republic and Germany, seeks to elucidate bioarchaeological information pertinent to the biological and geographic origin of the settlement's people, their demography, health and diet, as part of a wider examination of the origins and spread of agriculture in Europe. Representative samples of human bone from the burials have been subjected to:

- AMS Radiocarbon dating (Paul Pettitt & Robert Hedges)
- Sexing & aging (Marta Dočkalová, Malcolm Lillie)
- Palaeopathological study (Malcolm Lillie)
- Tooth microwear (Pia Nystrom & Ivana Jarošová)
- Ancient MtDNA (Barbara Bramanti)
- Stable Isotope (C, N) dietary analysis (Michael Richards & Václav Smirčka)
- Chemical Trace element analysis (Sr, Pb, Ba) (Janet Montgomery)
- Biological & behavioural interpretation (Marek Zvelebil, Alena Lukes, Paul Pettitt)

Excavation of the settlement in the 1960s. Inhabitants built longhouses and excavated an oval ditch enclosure (part of which is visible here). Longhouses contained clay ovens, figurines and on occasion burials were placed in flanking pits. Typical LBK material culture was abundant, and ceramics suggested three main phases of occupation

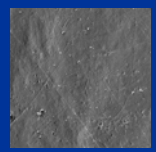


Comparison of Strontium isotopes in the teeth and bones of burials reveal how some individuals grew up elsewhere, in one case as far afield as the Hungarian Plain. Stable isotopes of carbon and nitrogen reveal the balance between animal and plant resources and indicate that fish was important. Some gender differences in diet are being identified



Combined AMS Radiocarbon measurements from 35 burials indicates that the site was occupied throughout the 53rd Century BC, towards the end of the earliest LBK phase in Central Europe. This suggests that the major changes in ceramic form and style occurred each generation – a first glimpse at the dynamics of LBK material culture change

Good degrees of bone collagen preservation has permitted the sequencing of ancient MtDNA from several burials. Results suggest that individuals already represent a mix of haplogroups from Western, Central and Eastern Europe, and are consistent with origins in the Starčevo/Körös Neolithic group



At 500x magnification microwear on the occlusal and buccal tooth surfaces reveal an increasingly soft diet over time for the Vedrovice population, perhaps meat and boiled grain. Damage patterns suggest behavioural differences between males and females, with the latter possibly working sinews between their teeth

Three people from the 53rd Century BC

Burial 23/75 was of a man biologically of local provenience who died relatively young sometime between 5230 – 5040 BC. He suffered from pathological conditions indicative of stress and a soft diet, possibly including iron deficiency anaemia. He was buried with a flint flake and a lugged ceramic vessel indicative of local pottery traditions.

Burial 23/75 was of a man is of biologically local provenience, but of a western European genetic heritage. He died at a mature age, sometime between 5310 – 5200 BC, and was relatively healthy. He was buried with a typical LBK shoe-last adze, and with lithic blade fragments on material obtained north of the settlement.

Burial 91/80 was of a woman of biologically local provenience, but with a part eastern European genetic heritage. She died relatively young, sometime between 5370 – 5210 BC, and suffered from pathological conditions indicative of stress and of soft diets. She was buried with lithics and two ceramic vessels indicative of local traditions, in addition to *Spondylus* jewellery imported from the east.

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