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Title: Mobility and diet in Neolithic, Bronze Age and Iron Age Germany : evidence from multiple isotope analysis

Issue Date: 2012-06-06

Stellingen by Viktoria M. Oelze

PhD defense at the Faculty of Archaeology, Leiden University, on the 6th of June, 2012

- 1) Due to limitations in analytical precision, errors in drinking water equations and low variability in precipitation values, oxygen stable isotope analysis is a relatively weak analytical tool for the reconstruction of human mobility in Central Europe.
- 2) Assessing the local bioavailable strontium isotope ratios in Iron Age material by analyzing contemporary domestic fauna is likely misleading, as the transfer and trade of domestic animals between socioeconomic centers was highly developed in this time period.
- 3) Even the combination of dietary reconstruction using stable isotopes and the study of prehistory physiology by ancient DNA analysis may not be able to finally illuminate the origins and nature of dairying in the Early Neolithic of Europe.
- 4) While the sulphur isotope system may not provide reliable evidence on residence and mobility in continental areas of Central Europe, it is particularly useful to reconstruct aquatic food utilization.
- 5) The Early Iron Age site of Magdalenenberg was the burial location of a regional elite that controlled the transfer of goods and metals through the southern Black Forest.
- 6) While the combination of strontium isotope analysis with other isotope systems (oxygen, sulphur, lead, hydrogen) can provide evidence for prehistoric human mobility by differentiating 'locals' and 'non-locals', the probable region of the individual human's origin can be determined in combination with traditional archaeological methods.
- 7) Given the complexity of human behavior and choice, each application of the isotope method to a burial population 'is like a box of chocolates'. This can make it difficult to merge archaeological and biochemical interpretations.
- 8) While the consumption of animal meat may have been important in the evolution of the genus *Homo*, carnivory is not advisable in present day western societies regarding health, economic efficiency and environmental protection.
- 9) Following school education, young women and men should both be obliged to do a 12-month community service in a social or ecological project. Thereby, the equality of both sexes and a positive development of attitudes towards life and the own professional career would be enforced in young people.