Keynotespeaker

Trace elements in medieval human bones

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Abstract

Standing face to face with a burial is archaeology at its best. But what can you tell from the skeleton? For more than a century most of the answers have come – and still do – from the anthropologists. Sex, age, height, and sometimes lesions from acts of violence or diseases are normally what you can hope for - and usually get.

However, in the last decades a number of natural science techniques have been introduced and some are in regular use now, foremost amongst them radiocarbon dating revealing the time of death. Analytical chemistry is delivering trace element concentrations and isotopic ratios, some of which I will present in this talk. The mainstream way of investigating medieval human bones in archaeometry has been to apply a dietary view, mainly by measuring the isotopes of carbon and nitrogen. This can be particularly important in places where cultures meet, or where users of land and sea meet. We try to expand this perspective by investigating other trace elements and to apply a more subtle anatomical view. We also put a lot of emphasis on revealing diagenesis and soil invasion.

The talk will present the interpretation of mercury concentration data in relation to the treatment of diseases and in relation to monastic occupations - academic work in the scriptorium and the caring for the sick and dying. More detailed studies of the distribution of mercury in various parts of the human skeletal organ will also be described, which adds considerable complexity to the normal situation of sampling and analyzing only one sample of the femur or a tooth.

Finally I will present analyses of other elements and stable isotope ratios relating to diagenesis and provenance as a function of time in life of the individual.

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