Paleo Forensics in human remains examinations: Investigating the crimes of the past

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Abstract

The methods used in forensic archaeology, forensic anthropology, forensic medicine, and forensic DNA phenotyping may have wide practical and significant importance in the study of human remains from archaeological sites. Macroscopic and microscopic methods, medical imaging, and 3D reconstructions can be widely applied in these studies. The aim of this session is to increase interdisciplinary analysis, on the forensic aspects, of skeletal remains from prehistoric graves, focusing on identifying the cause of death through skeletal trauma, reconstructing events from body positioning and burial patterns, and understanding demographic patterns. When examining skeletal remains from archaeological sites, it is necessary to differentiate the normal anatomical structure of the bone from pathological changes. This helps recognise possible post-traumatic alterations, and – if possible – determine the time and mechanism of their occurrence (whether active or passive), and identify the tool used to inflict the injury. Furthermore, the unusual, non-normative positions of bodies, disturbed anatomical arrangement of the remains, may require the assessment of several aspects and factors, including the time of burial after death, suggesting rapid or late deposition, and allow for interpretation of the circumstances surrounding the scene.

Advances in digital imaging technologies, including 3D reconstruction methods used for the documentation and visualization of skeletal remains in situ, the assessment of bone injuries in human skeletal remains, and crime scene reconstructions, can also be widely used in the investigation and interpretation of scenes from the past. 3D facial approximation based on the skull, forensic DNA phenotyping to expand facial prediction research, and biogeographic ancestry can be used to approximate physical appearance. Interdisciplinary collaborations between archaeologists and other scientists are providing new insights into the

The session also addresses to provide a forum where researchers from different backgrounds and specializations can share results, discuss methodologies and interpretations in the investigation of past crimes.

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