

November 2nd, 2016

1. Introduction in Forensic Anthropology

Forensic anthropology involves using a variety of methods and theories about human biology to answer medical and legal questions. Forensic anthropologists collaborate closely with police officers, lawyers, doctors, medical examiners, and other specialists to analyse heavily decomposed and often skeletonised remains and assist in positive identification and clarification of the circumstances surrounding the person's death. This lecture provides an introduction to the practice of forensic anthropology and gives an overview of the questions that forensic anthropologists are asked to answer and the significance of their contributions in different contexts.



Figure 1. Skeletonised body found in the woods. Forensic anthropology expertise is needed to conduct a full analysis and assist positive identification.



Figure 2. Age estimation based on bone histology of a human rib. Image Caroline Lill

November 3rd, 2016

2. Forensic analysis of skeletal trauma

Skeletal trauma is often encountered in violent deaths and it can be the single proof of this violence in the absence of soft tissue. This lecture will give an overview of the different types of trauma (sharp-force, blunt-force, ballistic, blast injuries, heat-induced trauma, post-mortem trauma due to taphonomy and animal scavenging), their special characteristics, their mechanism and their diagnostic significance in the medicolegal and archaeological context. Examples of rare archaeological cases and modern fatalities will be discussed.



Figure 3. Virtual reconstruction of the cranial injury provoked by an axe. Individual belongs to St. Johns skeletons from the 10th century, Oxford, UK.



Figure 4. Blunt force trauma to the head (frontal bone) after falling from height.

November 4th, 2016

3. Application of Forensic methods and Virtual tools in Archaeology and Forensic Medicine: examples of forensic cases.

Virtual anthropology (VA) is becoming a fundamental tool for anthropological analysis. VA is non-invasive and allows researchers to proceed in a thorough analysis of a set of remains (archaeological or modern) without compromising the integrity of the physical evidence. 3D digital models of the physical object allow for virtual manipulation, simulation, and bone sectioning, etc., in a virtual space, therefore preserving the original object from invasive procedures. Furthermore, the development of sophisticated software and hardware contributes significantly to the quality of the analysis and the documentation evidence that become “immortal” and remains in archive independently of the fate of the physical remains (burial, repatriation, decay). This lecture will provide an overview of the technological advances in virtual anthropology and examples of applications in archaeological and forensic cases.



Figure 5. Virtual reconstruction of the Rhind mummy.

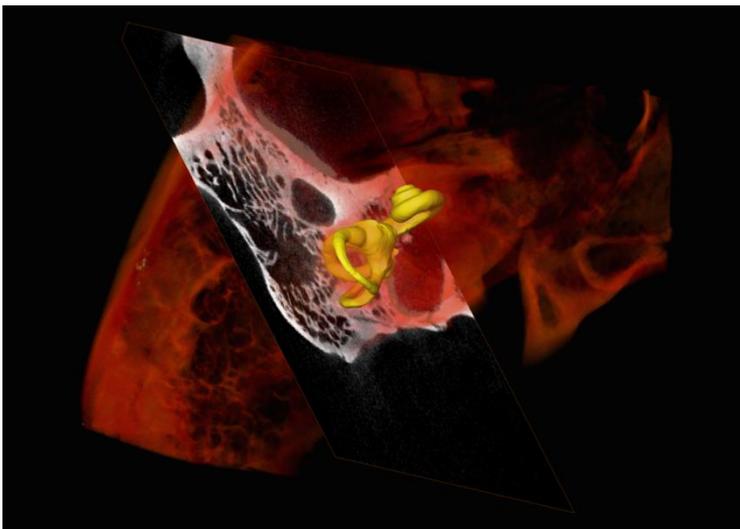


Figure 6. 3D model of the inner ear in the petrous portion of the temporal bone. This is found to be a good sex indicator.