



Shoreham air crash: Julie Roberts was the anthropologist at the scene and in the mortuary for the duration of the examinations. Photograph: D. Russell, Creative Commons.

A day in the life of a forensic anthropologist

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COMMITTEES

One of the most exciting and challenging aspects of being a full-time practising Forensic Anthropologist is that there is no such thing as a typical day.

We work for Cellmark Forensic Services, which is one of the UK's largest forensic-science companies. Established in 1987, it provides analytical services relating to a wide range of forensic evidence types and areas of expertise, including blood and body fluids, tool-marks analysis, anthropology, archaeology, trace evidence (such as hairs and fibres), analytical chemistry, specialist DNA and toxicology.

Our typical non-typical day in the laboratory involves being surrounded by scientists undertaking examinations and reporting on forensic evidence for cases ranging from burglary to murder. We can be engaged in cases which are solely related to anthropology and archaeology, or be called upon by a colleague to offer opinion on a case where scientific disciplines overlap, for example interpreting cut marks to bone in a murder case or examining human remains from a fatal fire dealt with by one of our fire-scenes investigators.

Our day can vary greatly depending on what types of request come into the laboratory. We may be involved in a planned search for a missing person believed to have been murdered and disposed of, or we may be called out to a possible crime scene where human remains have been discovered. In these cases, we would be asked to assist with their recovery, ensuring that this is complete and that an accurate record is made of the remains *in situ*. We might also be asked to comment on how long remains have been at a scene and who the deceased might be.

Quite often, where the identity of the deceased is unknown, for example, if they are decomposed, burnt or incomplete, we will be asked to go to a post-mortem examination in a hospital mortuary to undertake an anthropological examination. Using a range of techniques we can assist by estimating age at death, sex, stature and ancestry, and by identifying

any individuating features. We can comment on the processes surrounding the disposal of the body, including interpretation of any injuries to the skeleton. We might also be required to take samples from the deceased for DNA, isotope analysis or radiocarbon dating.

Whilst some of these scene and mortuary examinations can be completed in a day, often, especially with searches or mass-fatality incidents, the deployment can last for a number of days or weeks. This can sometimes include travelling abroad, so our day might include packing at short notice for what can be a significant time away from home.

Back at the laboratory, anthropology casework might include the examination of skeletal remains that have been submitted by police forces prior to them being sent for radiocarbon dating or DNA analysis, or we may be using microscopy to characterize damage to bones. We might also be asked to examine CT scans of living or deceased children and adults to confirm their living age or age at death, to assess skeletal growth and development and/or to identify any skeletal pathology present.

A typical complex case often requires us to engage the services of (and manage) specialist subcontractors, e.g. soil scientists, botanists, palynologists, entomologists and diatoms experts. Coordination and supervision of their work could include arranging transport to crime scenes and mortuaries, ensuring that they have completed their work and produced statements within the agreed timescales and budgets, organizing the return of exhibits and managing the financial aspects of their engagement.

A lot of documentation needs to be completed during and following our work, and quite a lot of our time is spent writing witness statements for the police and peer reviewing the statements of our colleagues. Sometimes we may be asked to present our findings in court as an expert witness. Occasionally we will be asked to write a specialist report for a non-police related investigation, or respond to a prosecution witness statement on behalf of a defence solicitor.

Working within a large laboratory, it is inevitable that we will be involved in some aspect of quality

management, which could range from the creation of new anthropology standard operating procedures and related documents for the computerized Quality Management System, through to regular review and amendment of existing documents. In addition to this, we are required to facilitate internal and external audits, demonstrate our competencies in relation to our discipline, ensure that all equipment we use has been calibrated, and review case assessments, strategies, statements and casefiles (the list is not exhaustive!). It is not the most exciting aspect of our work, but is necessary in order to comply with the strict requirements of the Forensic Regulator and of working within a UKAS accredited forensic laboratory.

When not at a crime scene, mortuary or undertaking examinations in the lab, we run regular training courses for police officers, military personnel and forensic professionals. Our aim is that they leave our courses with a good understanding of the applications of forensic archaeology, anthropology and environmental sciences to police investigation! The courses are a lot of hard work, but are really enjoyable and we get to meet lots of different people.

Forensic casework generates a lot of questions and we try and make time to translate these into research projects in collaboration with the company's research and development team. Current projects include DNA survival rates in mass-fatality incidents, innovative ways of detecting and recording buried and surface remains, and refining DNA extraction techniques on different tissue types.

On a personal level, we both feel that working as a Forensic Anthropology practitioner can be stressful, emotionally demanding and exhausting. However, it is also immensely satisfying to know that you have played a part in giving a name to a previously unidentified person and provided some insight into the circumstances surrounding their death. Above all, we feel privileged to be in a position where we can provide families with answers, particularly when they have been waiting for a long time to find out what happened to their loved one.

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