H4 The Fromelles Project: Organizational and Operational Structures of a Large Scale Mass Grave Excavation and On-Site Anthropological Analysis

Roland Wessling, MSc, Inforce Foundation, Cranfield University, Cranfield Forensic Institute, Shrivenham, SN6 8LA, UNITED KINGDOM; and Louise Loe, PhD, Oxford Archaeology, Janus House, Osney Mead, Oxford, OX2 0ES, UNITED KINGDOM*

After attending this presentation, attendees will have an increased understanding of the organizational and operational aspects of a project that includes the recovery, processing, anthropologically analyses, and documentation of 250 sets of human remains and over 6,000 artifacts in a task-specific, on-site laboratory with high security demands in a fixed timeframe.

This presentation will impact the forensic science community by demonstrating how organizational and operational planning can lead to maximizing quality and efficiency, and ensure delivery of results within given time and budget constraints.

Between July 19 and 20, 1916, British and Australian forces fought a hopeless battle against German forces while trying to draw attention away from the Somme. The outcome of this battle was the catastrophic loss of over 7,000 soldiers in less than 48 hours. The Australians reported 5,533 killed, wounded, and missing and the British 1,547.

In February 2009, Oxford Archaeology (OA) was awarded the contract to carry out the recovery of eight mass graves near the village of Fromelles in Northern France. Within less than two months, the project planning was finalized and a team of OA staff and external consultants assembled, including forensic archaeologists and anthropologists, osteoarchaeologists, finds experts, crime scene investigators, anatomical pathology technologists, radiographers, IT experts, and many more.

The process was divided into excavation, x-ray, processing, drying, skeletal and artifact analysis, storage, and DNA. Each section had one or two section heads. These section heads and project managers, assisted by specialist, arrived early onsite to ensure that the entire operation was setup according to their needs. The laboratory and excavation site were secured through fencing, CCTV, and 24-hour guards. Tool-storage, office, and facilities for the excavation team were kept within an inner cordon that could only be entered when team members changed into work clothing and put on full personal protective equipment, including paper suits, hair nets, face masks, and surgical gloves.

The laboratory, store rooms, changing rooms, and office space were set up in April 2009 using connectable office containers. This layout guaranteed a secure and efficient workflow as well the dignified and respectful treatment of the human remains. The anthropological analysis began in late May and had to be completed by the end of November. Final analysis of artifacts and finalizing of reports went on throughout the winter and the first soldiers were reburied in January.

Sets of remains and associated artifacts were transferred from the excavation to the anthropological laboratory using a documented handover procedure witnessed by a crime scene investigator to order to guarantee the continuity and integrity of all evidence. The mortuary manager took charge of the remains and constantly monitored progress throughout the different mortuary stages. Remains and artifacts were first x-rayed using a direct-digital x-ray unit, operated by an experienced radiographer, who also holds a degree in forensic anthropology. All images were stored digitally and moved onto the secure database to give access to the anthropologists.

Remains and artifacts were then separated for processing. Human remains were carefully cleaned to prepare them for anthropological analysis. To ensure the highest quality processing, only staff with experience in osteoarchaeology or anthropology were employed at this stage. After processing and drying, the remains were handed over to one

of the anthropologists. All anthropologists had their own workstation, consisting of a fixed table, a digital SLR camera permanently fixed to the ceiling above the table, a PC workstation connected both to the camera and the database server and all necessary measurement equipment and reference material. All laboratory space was adequately air-conditioned to guarantee optimum conditions for both remains and artifacts. All rooms and equipment was completely cleaned daily using hospital mortuary protocols.

It was the efficient and effective work flow and data movement that ensured high quality results within a limited timeframe.

Forensic Anthropology, Forensic Archaeology, DNA Sampling

 ** Presenting Author*