



E47 A Multidisciplinary Search for Missing People: Psychology, Canine Units, and Forensic Archaeology

*Simone Montaldo**, Ophir Criminology, via maria Luigia Tancredi 10, Rome 00132, ITALY; *Luca Daveri*, Nemesi Italia, Podere Forest sn, Castel Franco di Sopra, Arezzo 52100, ITALY; and *Matteo Borrini, PhD**, Liverpool John Moores University, School of Natural Science & Psychology, Byrom Street, Liverpool, AE L3 3AF, UNITED KINGDOM

After attending this presentation, attendees will understand how the search for missing people is a challenging task that could be solved with a multidisciplinary approach involving the cooperation of different disciplines.

This presentation will impact the forensic science community by presenting a case report that demonstrates the potential of the cooperation between psychology, canine units, and forensic archaeology during different steps of the search for missing persons.

Missing persons cases demonstrate several levels of criticality and the police have limited resources; if the person (or the body) is not recovered in a short period of time, protracted searches are not sustainable. These cases pose complex challenges that need to take into consideration the background of the disappearance, the physical and psychosocial conditions of the missing, and the environment in which the event occurred. Therefore, a multidisciplinary approach is crucial to improve existing methodologies and develop operative protocols to both optimize investigation time and cost and to increase the number of successful recoveries.

This study will present an exemplar case from Sardinia, Italy, that involved a 78-year-old male affected by Alzheimer's disease and diabetes. In May 2015, the individual left home in his car. The vehicle was found abandoned on a mountain road, and this location was designated as the Initial Planning Point (IPP).

The survey was organized by two associations: Ophir Criminology and the National and European Multidisciplinary Equipe for Scientific Investigation (NEMESI). The operative units have been remotely coordinated by a forensic anthropologist from Liverpool John Moores University.

Ophir Criminology is a scientific association devoted to the development of forensic sciences and the dissemination of good practices for investigation. NEMESI is a multidisciplinary team that applies archaeo/anthropological techniques for a comprehensive survey of the area in conjunction with inspection by canine units (man-trailing and cadaver dogs).

The first step of the investigation was data collection from the missing person's family. Testimony psychology was used to evaluate both the reliability of witness statements and the interviews on the period surrounding the disappearance. The collection of the preliminary information is the most critical aspect that can influence the entire investigation. A shallow approach during these early stages of the investigation can jeopardize the search for evidence, losing, in some cases, possible links to major offenses (e.g., kidnapping or murder). The most useful details must be recorded and screened according to the reliability of each witness. The acquired data were, therefore, carefully evaluated to immediately assess the risk level of the case and to plan the field search by selecting the most appropriate tools.

The first set of searches with man-trailing dogs was performed from the IPP immediately after the disappearance. According to international protocols, the possible distance from the IPP was evaluated by considering the environment (farmland vs. urban) rather than the psychological condition of the individual. In addition, the physical condition of the individual, as evaluated through witness statements as opposed to medical records, was taken into account.

According to the data processed, the first search performed with NEMESI's canine units allowed some areas to be excluded, thus narrowing the search areas to be covered by the subsequent walking surveys.

The discovery of some personal belongings allowed the team to pinpoint a large area of interest that was accordingly checked with cadaver dogs. The canine unit ruled out the majority of the area, and only a small number of zones were not processed due to environmental conditions (dense vegetation and impervious surface). In the remaining areas, an extensive grid search was planned and performed with volunteers trained in field walking. The search was successful and the remains of the missing person were discovered, demonstrating the potential of a multidisciplinary and planned search that involved psychology, forensic archaeology, and canine units.

This study proposes an innovative and multidisciplinary approach that utilizes dog/handler units in the search of a missing person in conjunction with archaeological survey and testimony psychology. Therefore, this contribution also stresses the need for training on-foot volunteers in basic field walking techniques and the correct approach to the *scena criminis* (i.e., preserving potential evidence, use of PPE) to prepare operative units supporting the judicial authority in the search for the missing.

Missing People, Man Trailing Dog, Cadaver Dog