H113 The Recovery of Human Remains From a Fatal Fire Setting Using Archeological Methodology

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After attending this presentation, attendees will understand the value of applying archaeological recovery methods at fatal fire scenes not only to maximize the amount of human remains recovered but also the associated artifacts surrounding the death.

This presentation will impact the forensic community by providing insight into the utilization of essential skills for the recovery of critical evidence and a greater quantity of human remains.

There is a natural tendency for those involved in fire settings to become overwhelmed simply by the magnitude and destruction of the scene itself. One can easily become overpowered at fires where there is large loss, and the path the investigator must take may be obscured by the scale of the scene. Fire investigations are often complex and difficult to interpret at first blush. Because of the potential for the fire investigator to become fixated or pre-occupied, one must develop an analytical and systematic approach to scene investigation.

With strong emphasis being placed on the systematic approach to fire investigations, it is expected that fire investigators with experience and training in archaeological methods will successfully meet the rigorous test of the scientific method. A scientist observes the real world and draws conclusions from these observations. The observations are then tested to determine their validity. How then could archaeology or the application of archaeological methodologies assist the excavator at fatal fire scenes? “Archeology concerns itself with learning the details of everyday life as well as significant or unique events, arranging these reconstructions in chronological sequences to create histories, attempting to understand or explain why things happened the way they did…” (R.M. Stewart, 2002:1).

Keeping this in mind, refined techniques of human remains recovery, the location of associated artifacts, the observation of body positioning within the context of the structure, and scene analysis will allow for a more accurate analysis to move toward proving this hypothesis. The primary objective of the study profiled in this presentation is to employ and contrast the methods of recovery of human remains in a fire setting in an attempt to increase the contextual and associational data acquired for accurate event reconstruction.

This study basically involves a three-fold method; involving the use of “comparative” fires, the application of a questionnaire to over five hundred historical fatal fires within the Province of Ontario and firsthand fire excavations conducted in the everyday course of employment by the author.

The “comparative” fires involved existing standing structures, pre- staged with pig cadavers and artifacts associated with homicide, which were allowed to totally burn. Personnel who lacked formal training in the disciplines of archeology and anthropology conducted the initial search for human remains. Any recovered remains and artifacts were photographed, mapped *in situ* and collected. A second search team consisting of individuals experienced and trained in archeological techniques and a solid background in human osteology were utilized. A proper archaeological-style grid search was undertaken with any artifacts and human remains photographed, mapped and recorded.

The quantitative relationship between the items recovered by the two teams was profiled and documented. At this point, there have been four “comparative” fires conducted.

The historical portion of this study involves the application of an extensive questionnaire to over five hundred historical fires. The purpose of this questionnaire was to capture existing data involving the methods employed by previous fire investigators at these types of scenes by way of scene comparison and rate of recovery. The “day-to-day” scene data relates to firsthand knowledge of fatal fire scenes excavated by the author. The data obtained, including the amount of human remains recovered and artifacts associated to the fatal fire scene, are profiled in this method.

To date, the resulting recovery analysis has proven overwhelmingly that the application of archaeological methods at these types of scenes both supports and authenticates the utilization of these methods. Two case studies will be presented in the recovery of fatal fire victims and articles associated to the deaths, both within a structure and a vehicle.

Fire, Fatal, Archeology

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