LW8 The Tamam Shud Mystery — Old Case, Modern Forensics

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After attending this presentation, attendees will better understand the physical, chronological, and historical information that can be provided about a John Doe by using a wide range of modern investigative technologies not available in the past. This presentation will emphasize how such information can be exploited to create a more accurate and less speculative theory of the John Doe's identity.

This presentation will impact the forensic science community by demonstrating how new technologies can generate investigative leads even in very old cold cases. This presentation will broaden understanding of how human identification has advanced over recent decades from relatively primitive private investigation techniques on a local level to the advanced research and analysis methods used today on a global basis.

The identity of a deceased male discovered in the early morning of December 1, 1948, on Somerton Beach near Adelaide, Australia, has become one of the most baffling cold cases in that country's history. The autopsy of the estimated 40-to-45-year-old "Somerton Man" (SM) indicated his death could not have been natural; poisoning by barbiturate or a soluble hypnotic was suspected, although no poison was detected. The case took a puzzling turn when a small scrap of paper was found in the man's watch pocket with the words "Tamam Shud" (Finished) printed on it. These are the last words of *The Rubaiyat of Omar Khayyam*.

A thorough police investigation produced no identifying information. SM's fingerprints, the wide publication of his autopsy photos, and a review of United Kingdom and United States missing person's reports produced nothing. His suitcase, recovered from the nearby Adelaide train station, also revealed no identifying information, except for several items of probable American origin, including a double-breasted jacket with featherstitching that at the time was produced on machinery present only in the United States.

SM's identity has remained a mystery for more than 60 years.

This study reports the first major advances in the identification of SM since the 1940s and 1950s, using DNA and isotope analysis not available during the original investigation. Because permission to exhume SM has not yet been granted by the South Australian government, only strands of his hair have been available for analysis; however, SM may have fathered a son named Robin. Robin's mother was associated with SM because her phone number was penciled on the back page of a copy of *The Rubaiyat*. This book was also found to be the source of the scrap of paper in the man's pocket. Robin and SM share two rare genetic conditions that add significant weight to the hypothesis of a father/son relationship. Unfortunately, Robin passed away in 2009 and his DNA is unavailable; however, advanced analysis has been possible using his family's DNA.

Major developments presented in the analysis of the Tamam Shud mystery are: (1) a new and more comprehensive analysis of the items found in SM's suitcase; (2) isotope and mitochondrial (mtDNA) analysis of strands of SM's hair taken from the plaster cast made of his upper torso; (3) an analysis of Robin's DNA based on autosomal DNA testing results of his daughter and her mother (SM's assumed granddaughter and daughter-in-law); (4) use of a novel DNA mapping technique that has revealed SM may have had American ancestry; and, (5) application of chromosome matching to discover a possible genealogical connection to Thomas Jefferson.

Tamam Shud, Autosomal SNPs, Isotope Analysis