E14 Putting a Name to a Face: An Updated Methodology for the Application of Forensic Facial Reconstruction of Unidentified Skeletal Remains

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After attending this presentation, attendees will better understand the psychology of familiar face identification, the fine art concepts related to facial geometry, portraiture, caricature, and the "uncanny," the phenomenon by which a humanoid likeness may seem frightening or unsettling, and how these concepts, combined with new and traditional anatomic data, may improve the likelihood that a facial reconstruction will lead to an identification of unidentified skeletal remains.

This presentation will impact the forensic science community by identifying and addressing the problems with current practices of forensic facial reconstruction and by providing an updated methodology for the practice of forensic facial reconstruction, informed by traditional practices, the latest research, and related fields of study.

Forensic facial reconstruction is the practice of approximating the likeness of an unidentified person based on careful assessment of the skull, consideration for average tissue-depth data, and appreciation for soft tissue anatomy. Whether from software, clay, or pencil and paper, the ability to produce a portrait from a skull can be a powerful tool for generating public interest and, ultimately, an identification; however the literature on this topic highlights numerous problems with the current practices and outcomes of forensic facial reconstruction, including non-reproducibility, outdated tissue depth data, inconsistent success in achieving a likeness, an inability to predict soft-tissue features such as hair style and weight, and discrepancies in artistic ability. This presentation seeks to identify the problems with the current practice of forensic facial reconstruction, to identify related bodies of knowledge that may inform the practices and methodologies of forensic facial reconstruction, and to propose an updated methodology for synthesizing these interdisciplinary concepts with existing practice so that facial reconstructions more reliably result in a positive identification

Augmenting the traditional practices and methodologies for forensic facial reconstruction by incorporating knowledge from related fields of study will result in greater success in the identification of unidentified skeletal remains from artists' facial approximations. This methodology was designed paying particular attention to the neurology and psychology of familiar face identification, the fine art theories on likeness and the uncanny, as well as a synthesis of existing techniques with relevant anatomical data from anthropology, dental, plastic surgery, and maxillofacial literature.

This new methodology was applied to radiologic images of the skulls of several subjects, with the subsequent drawings presented to the subject's family for evaluation, as a preliminary means of evaluating the merit behind the design. Unique to this study is the completion of multiple facial reconstructions by a single artist as well as the inclusion of the next of kin in the evaluation process.

Facial Reconstruction, Identification, Skeletal Remains