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BABAO 2016 abstract submission form

Title: Validity of Photogrammetric Osteological Analysis for Sex Traits of Historic Crania

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Abstract (200 words):
Aim
Osteology relies, in part, on the qualitative visual analysis of human remains. As such an opportunity may exist for some of the analysis process to be carried out on replica remains. Photogrammetry is a method of producing 3 dimensional images (3-D)[1]. The purpose of the present study was to investigate the usefulness of photogrammetry for the analysis of human crania from the Mary Rose collection.
Method
High quality photogrammetric 3-D images were produced of crania (n=10). Four experienced osteologists each analysed real and corresponding virtual skulls using an abridged standard method. Neither analysed the same real and virtual skull. The results of the analyses were compared using qualitative statistical techniques.
Results
Eight of the crania examined were estimated greater than 80% intermediate to male for both real and virtual crania. Two crania were 75% and 64% with large variation between real and virtual skulls and moderate variation between raters.
Discussion
The results indicate that photogrammetric images allow clear identification of sex traits in 80% of the current sample. However, when the traits are not clearly male the validity of photogrammetry reduces. The greatest variability in sex estimates across both real and virtual crania observations were seen in both the nuchal crest and the temporal ridge.

Preferred format: POSTER (delete as appropriate)

1. Katz, D, and Friess, M. 3D From Standard Digital Photography of Human Crania-A Preliminary Assessment. American Journal of Physical Anthropology 154(1) 152-58, 2014