Abstract

The identification of the temperature at which bone is burned can be useful in both archaeological and forensic applications. Previous research suggests that bone color can be systematically quantified using a technique called the Munsell Color Chart, which allows for the objective classification of bone color. In the current study, the Munsell color and Hounsfield Unit values were taken directly from the bone using high resolution x-ray CT imaging. A total of 40 random bone fragments from each of the two burial units were selected for comparison. The bone color was determined using the Munsell Color Chart, and the Hounsfield Unit values were determined by comparing the Munsell color to the control range. The Munsell color and Hounsfield Unit values were found to be significantly different between the burials, and the results suggest that the remains were exposed to temperatures exceeding 650°C.

Materials and Methods

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Methods

Computed Tomography (CT):

Bone Cow

Munsell vs. Hounsfield?

A Methodological Comparison in Assessing Cremation Temperatures of Human Bone

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