



Skulls Tell Tales: A Comparative Study of Un-Provenienced Crania

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Introduction

Currently a number of un-provenienced skeletons are a large part of the collection of the Physical Anthropology Lab here at SUNY Geneseo. While they are known to have been excavated in New Mexico and are likely Native American in origin, there is no other information available. In this study the skulls of this collection, in varying states of preservation with many missing large pieces, were analyzed and compared for whatever information they might offer to deepen our understanding of this collection of un-provenienced individuals.



Fig. 1: An example of cranial sutures at different stages of obliteration indicating different ages for each individual example

Methods

At the physical anthropology lab an inventory was first taken of the un-provenienced skeletons present. From there it was determined that as in most cases there was no record of which crania matched which collection of post-cranial material that only the skulls would be analyzed in depth with the other skeletal material only being used to determine the Minimum Number of Individuals (MNI). The crania were then analyzed via the method found in Burns (1999) for information regarding sex and ancestry with any notable pathologies present being noted as well.

Analysis and Results

Analysis of the 9 individual skulls present proved challenging as no single cranium was fully intact with many missing their mandibles, large portion of the braincase, large portions of the face, or some combination of the above. Because of this it was assumed that no questions of sex or ancestry could be stated definitively solely based on the craniometrics as only measurements it was possible to take were taken in some cases as low as 6 of the 33 standard when including the mandible, (Skull D) in other cases as high as 20 with either the majority of the crania or the mandible intact (Skulls A4 & A6). Due to this beyond the noting of shovel-shaped incisors on those skulls which had incisors present which are an excellent indicator of Asian ancestry, no definitive statements can be made as to the sex and ancestry of this collection of crania beyond them all being probably Native American in origin based on what little we know of their recovery and the previously stated presence of shovel shaped incisors amongst those that have such dentition present.

On the subject of age all but one skull appears to have belonged to an adult, Skull B4/B5 which was the frontal and partial parietal of child, likely under 10 years of age based on size but nothing further was able to be determined due to the missing pieces. Additionally while the majority of the other skulls did not show significant signs of the obliteration of cranial sutures meaning they were likely adults who were not yet elderly (less than 55 years old) in the case of skull A8 the sutures were almost completely obliterated pointing to this individuals old age, likely over 55 years.

Some notable pathologies present in the collection, most notably Skull A4 which showed clear evidence of cranial modification which did not elongate but instead flatten the back of the skull. As the crania was damaged postmortem it was impossible to say whether this was caused by a deliberate modification, likely in childhood, or was the result of healing in an atypical manner from an old injury. The damage to the skulls does not appear to have occurred ante or perimortem meaning that the fragmentary nature of this collection is likely due to various formation processes such as weathering over time, damage from excavation and from animals, etc. and so based on what little evidence present none appeared to have died in a violent manner, but of course with no clear matches to post-cranial skeletal material this can not be determined in any way definitively.

When compared there are very few differences to be found amongst these skulls beyond the aforementioned difference of age, pathologies, and condition in which they are found. While none of them are fully intact and the most common element for them to be missing is the mandible there are still differences in the amount and placement of the damage, however said damage makes any deeper analysis in the search of more differentiating factors near impossible. Additionally while they are all worn by exposure to the sun and time in the earth, as evidenced by the darkened color of all of the crania rather than bleached white, they appear to have been darkened and yellowed to more or less the same degree with some small amount of variation, the notable exception being Skull B4/B5 which appears a much paler and less yellowed/darkened color upon comparison. This points to the majority of these crania being buried at relatively the same time, though considering the long history of Native American habitation in New Mexico said period of time could be over several decades if not longer.

Conclusion

This analysis does further point towards this collection of un-provenienced crania being Native American in origin based on both what we know of their recovery and the presence of shovel-shaped incisors amongst those skulls which have such dentition present. There are also some notable differences in age amongst some of the collection though the majority of the crania appear to belong to fully grown, not-yet elderly, adults. There is clear evidence of cranial modification in one case but not amongst the others, and since the question of the deliberateness of the modification is still present we cannot say if this was a deliberate practice amongst this group, if we assume all of the crania in this collection were of the same group which due to lack of detailed knowledge of their recovery cannot be done. In short, this analysis supports the previous supposition that these crania are Native American in origin, but due to damage, lack of knowledge of their origin, and current inability to place them with the available post-cranial material, nothing more can be said with any certainty.

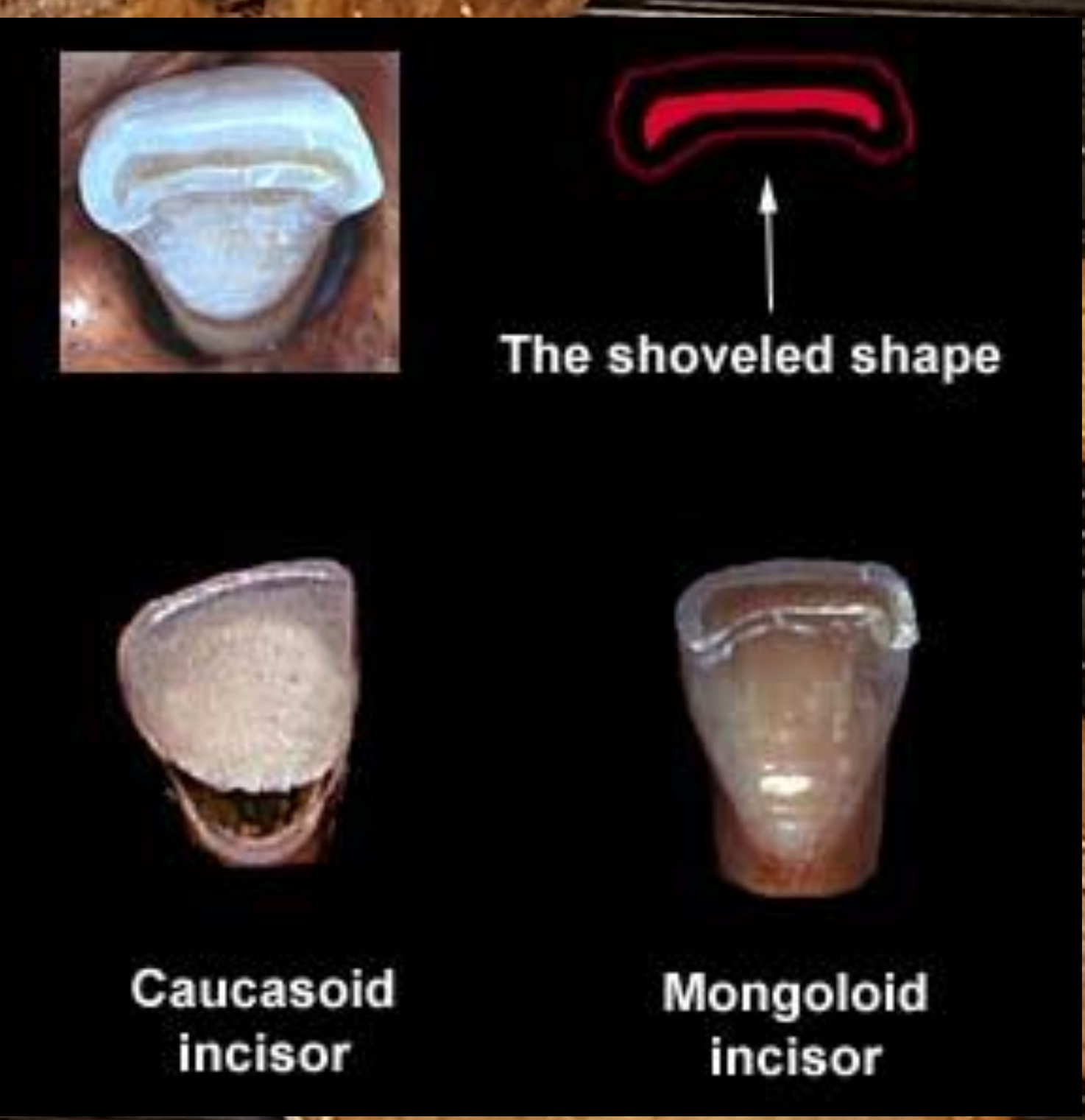


Fig. 2: An example of shovel vs. non-shovel shaped incisors

References

Burns KR. 1999. Forensic anthropology training manual. Upper Saddle River, NJ: Prentice Hall
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