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THE PRESUMED SKULL OF ATHALARIC, KING OF THE OSTROGOTHS (AD 516–534): QUESTIONING OF A CENTURY-OLD ATTRIBUTION AND PALEOPATHOLOGICAL STUDY

INTRODUCTION AND AIMS OF THE STUDY

The "Luigi Cattaneo" Museum of Anatomical Waxes of the University of Bologna houses a skull (*Figure 1a*, 3D virtual reconstruction *Figure 1d*) labelled as *Skull of Athalaric, King of the Ostrogoths (Cranio di Atalarico, Re degli Ostrogoti)*, which represents the object of the present analysis, aimed at assessing the genuineness of the attribution as well as the health status of this individual. To achieve this goal, a multidisciplinary approach including historical, archival, anthropological, paleopathological, paleoradiological analyses and radiocarbon dating was implemented.

HISTORICAL RESEARCH

Medieval historical sources, particularly Cassiodorus, Paul the Deacon and Bishop Agnellus of Ravenna,

cursorily mention the demise of king Athalaric (AD 516–534) at a young age, likely 15–16 years old. Procopius of Caesarea (490/507 – ca. 565) is more detailed in his description in that he ascribes Athalaric's death to the debauched lifestyle the Gothic nobility had imposed on him. While this may be interpreted as a corrosive attack on the impossibility, as A. Kaldellis puts it (Kaldellis 2012), "of uniting barbarian manliness and Roman learning in a Gothic ruler", the precise references to a wasting disease and heavy drinking habits could be the evidence of diabetes mellitus (Frye 1995), likely of a juvenile type. A similar interpretation, involving a barbarian ruler accused of heavy drinking when in fact he might simply have suffered from diabetes, was put forward in the case of the Roman emperor Maximinus Thrax (Armocida *et al.* 2020)

Although one may speculate that Athalaric, along with members of his family, might have been buried

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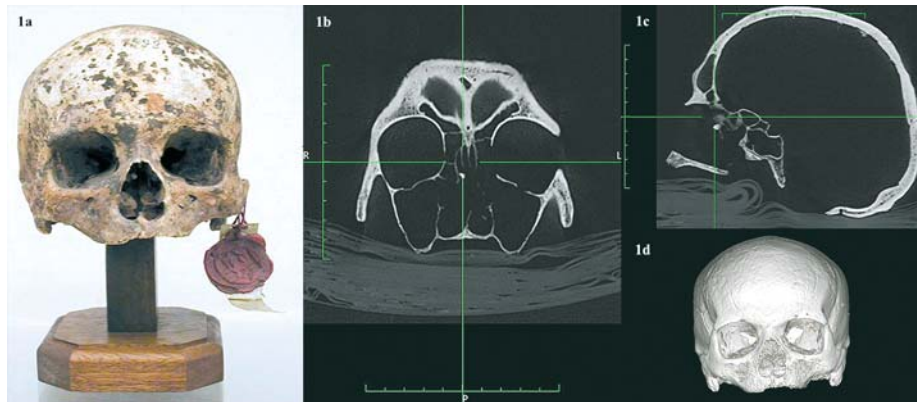


FIGURE 1: a, The so-called skull of Athalaric (frontal view) in the "Luigi Cattaneo" Museum. From Prof. Ruggeri's private archive; b, CT scan image (coronal section) of the skull with localization of an ethmoid osteoma (image by Elena Varotto); c, Sagittal section of the same as in 1b (image by Elena Varotto); d, 3D virtual reconstruction of the skull (frontal view).

inside the Mausoleum of Theoderic in Ravenna, we agree with B. M. Deliyannis when the scholar writes that "[t]here is no record [...] of the burial place of [...] Athalaric" (Deliyannis 2010).

Ultimately no information is currently available on the destiny of Athalaric's mortal remains.

ARCHIVAL RESEARCH

The skull ended up in the museum of the Institute of Anatomy after being donated to the Bolognese Professor Luigi Calori (1807-1897) by Cardinal Carlo Oppizzoni (1769-1855), as traditionally reported in the museum files.

Studying the clergyman's correspondence in the Bologna Archiepiscopal Archives (Archivio Arcivescovile di Bologna, Segreteria Arcivescovile 107, fascicolo 53), we discovered that the skull, together with the remainder of the skeleton, was found in 1838 during excavations in the Bologna hills. The person who attributed the human remains to king Athalaric was one of the most important numismatists of the day, Filippo Schiassi (1763-1844), who had been consulted on a medal found with the skeleton. Finally, Cardinal Oppizzoni was asked where the remains of Athalaric ought to be reburied, since the Ostrogothic king's actual faith, Arianism or Catholicism, was unknown. In those days, this post-mortem religious dispute was perceived to be more important than a comprehensive study of the remains, hence no anatomical data are available on the lost segments of the skeleton.

ANTHROPOLOGICAL ASSESSMENT

The individual's sex was determined to be male based on cranial morphology, while his age at death was preliminarily estimated to be 50+ (senile/old adult) considering extensive *ante-mortem* tooth loss and alveolar resorption on the maxillary bone (Buikstra, Ubelaker 1994). However, due to the fact that periodontal disease and dental lesions can also occur at a younger age (for instance as a complication of diabetes), age at death of this individual was estimated from the degree of closure of ectocranial sutures (Meindl and Lovejoy 1985) by combining a visual observation of the sutures with a verification on the 3D virtual reconstruction from CT scans using OsiriX MD v.11.0.3 because of some erosion of the external compact bone of the skull due to taphonomic phenomena. The mean of vault sutural ages is 48.8 ± 10.5 (standard deviation), while that of lateral-anterior sutural ages is 56.2 ± 8.5 , thus yielding a mean age of 52.5 years of age at the time of death, *de facto* confirming the previously estimated age independently of pathological alterations.

PALEOPATHOLOGICAL AND PALEORADIOLOGICAL STUDY

An osteoma of the ethmoid bone (right side) can be seen on CT scans as well as the maxillary resorption caused by *intra vitam* tooth loss (coronal and sagittal sections, figs. 1b-c) (Aufderheide, Rodríguez Martín 2005).

RADIOCARBON DATING

The tested sample yielded AD 1510–1650 with a 68.2% probability.

CONCLUSION

The anthropological data (a senile/old individual) and absolute chronology (16th–17th centuries AD) are not compatible with the researched profile, that is an individual deceased at the end of his adolescence in the 6th century AD. The remains of king Athalaric are yet to be discovered, hence any retrospective diagnosis on his cause of disease and death will continue to rely on the available historical sources, without the possibility to match that information with hard biological evidence.

From a mere osteological perspective, at the cranial level, it can be excluded that the individual whose skull has been examined here suffered from any major pathological conditions.

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