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DOCTORAL THESIS
(Summary)

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DEALUL FURCILOR – ROMAN NECROPOLIS AT APULUM. A BIOARCHAEOLOGICAL ANALYSIS

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SUMMARY

The study of human skeletal remains is a fundamental aspect of understanding human history. Skeletal remains provide information aiding in the reconstruction of the behaviour and lifestyle of past populations, addressing topics such as demography, palaeopathology, activity, diet, burial rites, and social organisation. The purpose of this study is to present the results of new osteological analyses undertaken on a sample of the human remains recovered from one of the Roman necropolises at *Apulum*, Dealul Furcilor.

As of 2022, there have been over 1200 inhumation and cremation burials recovered from Dealul Furcilor. Prior to this research, these remains have only undergone limited osteological analysis. This is an unfortunate consequence of the archaeologists who make funerary discoveries traditionally elaborating on stratigraphy, funerary inventory, and architectural structures, whilst rarely discussing the human remains in osteological detail. This has caused a separation of data interpretation and an incomplete understanding of funerary discoveries in Roman Dacia. While recent studies have aimed to contextualise Roman death, much of this research still focuses on a single feature of the process, such as the funeral, or funerary monuments. Recently published books, papers and theses by archaeological specialists have begun to consolidate information regarding the funerary inventory, burial catalogues and archaeological structures from Dealul Furcilor and other necropolises from *Apulum*, and have been heavily influential in the formation of this study, however, none of these have undertaken osteological analysis.

The focus of this thesis is primarily the osteological analysis of the human skeletal remains; however, it is important to contextualise the results. Accordingly, background information is provided on wider Roman Dacia and the city of *Apulum*, including geography, history, and previous archaeological analyses.

The main aim of this study is to combine new osteological evidence with the pre-existing archaeological evidence in order to reconstruct the demographic composition, health, and burial rites of the population buried at Dealul Furcilor, *Apulum*, and hopes to address the following key research questions:

- 1) What was the demographic composition of the individuals buried at Dealul Furcilor?
- 2) What can be inferred about the health of the population?
- 3) How did Roman mortuary practices vary within the necropolis and are there any demographic or pathological patterns to these variations?

This attempt at reconstructing the composition and funerary beliefs of this sample from Dealul Furcilor aims to begin the development of a comprehensive, informed exploration into the lives, health and the deaths of the people buried here. This thesis attempts to provide historical and archaeological

context, osteological analysis, and spatial analysis of the funerary landscape of Dealul Furcilor. The results of this study will hopefully serve as the basis for further research in the area.

The procedure that was established and followed in this research has allowed for a large-scale analysis of osteological material from an understudied cemetery population dating to the Roman province of Dacia. The methodology used on the skeletal remains from Dealul Furcilor allows for future comparative work to be undertaken, and future work on this site to be easily linked to this analysis. Future large-scale analysis of necropolises from Roman Dacia can provide a broader understanding of the province as a whole, with this analysis providing an important first step from which to draw conclusions.

This study arguably provides the most detailed analysis of an osteological sample from Apulum yet conducted, with a number of new researches currently underway, which hopefully highlights the potential for further osteological analysis on the Roman remains from Apulum and insight into the possible biocultural behaviour of the citizens themselves.

This thesis is structured in 8 main chapters, accompanied by a number of figures and tables illustrating the results of the analysis.

Chapter 1 provides a brief introduction to funerary archaeology in Roman Dacia, and covers in brief a summary of the themes and aims that will be approached in this thesis, followed by an insight into the current state of research and historiography and limitations to the research.

Chapter 2 provides a broad overview of Dacia, from the pre-Roman population through to its incorporation into the Roman Empire, an insight into the geographic and archaeological landscape of the territory, an overview of the formation of *Apulum* and its archaeological and geographical setting, and finally an overview of the Roman mortuary practices undertaken both across the whole Roman Empire and specifically at Dealul Furcilor. Dacia represents an important area of archaeological investigation in Roman studies. It had a short life within the Empire, having been annexed during the peak of the Roman Principate's power, and remaining within the Empire until the onset of its decay. During the second and early third centuries, after Dacia was conquered and incorporated into the Roman Empire, Roman imperial rule is generally accepted to have been at its height, and the empire had supposedly "refined its approach to conquest and further organisation of new provinces", and following its provincialisation, a new, rich and varied material culture developed within Dacia. Studying the necropolises of Roman Dacia should then help us understand not only the health and demography of the Roman occupiers and the occupied peoples of Dacia, but also to some extent, the cultural incorporation, or 'romanisation', of the conquered peoples.

Chapter 3 presents the materials involved in this study. The human remains from Dealul Furcilor are mostly located between the National Museum of Alba Iulia, warehouses in Alba Iulia owned by the museum, and at the University of Alba Iulia. There have been c.1,234 burials excavated

from Dealul Furcilor, however there are not c.1,234 surviving sets of remains available for osteological analysis. A large part of this research consisted of processing and archiving the remains. During this process, there were many obstacles: grave cards were missing, photos were missing and many of the remains themselves were missing. Of the excavated cremations, only c.40 sets of remains with known archaeological context were located for possible analysis. Due to the small size of this sample, a decision was made to not include these in the study. Instead, the focus was placed on inhumation burials.

The majority of the remains from the earlier excavations are lost, likely in storage at the institutions where the original excavators were based, or at other institutions associated with the excavators. Of those earlier excavations, only one excavation from 2008 had remains available for analysis. From the excavations dating from 2013 onwards, with remains whose location was known, there was only contextual and published data for the 2015 Petrascu Sorin and 2016 Racz Endre excavations. From the 2008 to 2012 excavations, a number of inhumations were missing. Many of these burials were recorded and given context numbers, but in actuality only consisted of a few fragments of bone due to poor preservation or having been robbed in antiquity. Of the remains that were present, an attempt was made to reconstruct contextual information and to an extent, this was successful. Where this was not possible, analysis was undertaken but individuals were recorded as ‘?’ burials.

Chapter 4 provides the methodology used in the analysis, a justification for the approaches taken, and a discussion of the limitations of certain methods. The osteological analysis on the inhumation remains from Dealul Furcilor was carried out to ascertain: the condition of bone present, completeness of the skeletons, inventory of skeletal material, demographic assessment, stature calculation, and pathological investigation. Osteological analysis aims to provide comparable demographic profiles that can aid the analysis and interpretation of pathological conditions by age and sex, and aid in the calculation of stature. Osteological data can complement and enhance the interpretation of archaeological material. The results of this analysis are presented in **Chapter 5**.

Chapter 6 provides in-depth discussion and analysis of the remains, with regards to comparative populations. This chapter explores the findings of this study with consideration of the known archaeological evidence from *Apulum*. As with Dealul Furcilor, many necropolises from comparative legionary sites in Roman Dacia and surrounding Roman provinces have not undergone extensive osteological analysis. This makes it almost impossible to statistically compare the findings of this study with populations from broadly similar chronological, geographical and/or ecological backgrounds. Instead, comparisons have been made where possible with contemporary populations, but the results will instead be discussed broadly within the context of the Roman Empire. Comparative discussion of pathology relies on comprehensive study of remains. Therefore, this analysis remains an important step in understanding the population of Roman Dacia and how the population changed with Roman occupation, but more analysis is needed to provide a more comprehensive contextual picture. This section instead compares cemeteries from the wider Roman Empire in an attempt to understand

where Roman Dacia sits within the wider understanding of provincial populations. The first section addresses the possible sample biases that likely have an effect on the remains studied in this thesis, and implications this has on our understanding of the population from Dealul Furcilor. Following that, this chapter draws together the osteological evidence for other aspects of the population such as demography, stature, and pathological patterns within the sample.

The skeletal remains found at Dealul Furcilor-Apulum represent not only the wider population, but also allow an insight into the lives of the individuals. **Chapter 6** discussed the traditional population-level, quantitative results of osteological analysis. However, while the results allowed an insight into the wider population, each individual skeleton from Dealul Furcilor has its own story to tell. **Chapter 7** collates all of the available information for a select number of individuals in order to highlight a “life story” on an individual level, in a way that population-level study cannot. The following three osteobiographies will attempt to shed light on the experiences of illness, injury, and cultural modification of the body at Dealul Furcilor.

Finally, **Chapter 8** summarises the main findings, a short discussion on the potential for future study, and concluding remarks. Supporting information for the recording and statistical analyses of osteological material, and a CD ROM of all Excel databases including all raw osteological data are available in the appendices. There have been several key questions answered by this study. Firstly, the demographic composition of this population has been affected by the presence of the military. This is no surprise; there was a lack of noticeable local power post-conquest, leaving the Roman army, soldiers and veterans with a crucial role in the development of the Dacian province, particularly regarding urbanised centres which evolved around legionary camps, like Apulum. Secondly, a broad understanding of the health of the population has been outlined and discussed within its historical and cultural context. And thirdly, no clear variation in mortuary practices affected the population, however due to the method of rescue-excavation, cultural variation was hard to see; especially regarding liminal spaces, of which none have been excavated to any degree.

The primary importance of the burial assemblage from Dealul Furcilor lies in the multitude of information it provides about the intricate history of the population from Apulum. The intricacy of their history lies in the burial rites, cultural interaction with Roman Dacia and the wider Roman Empire, and the demographic and pathological profiles of both the wider population and on an individual level. Many of these intricacies have been described in the chapters above. However, it is only when we put all of the fragments of information back together that we can begin to understand, and perhaps raise questions, about the current understanding of the inhabitants of Apulum.

Taken in isolation, the conclusions drawn from this analysis are important, but a large-scale comparative study of health in Roman Dacia, comparing cemetery populations from other urban centres that evolved around Roman castra would be beneficial to our understanding of the population here.

Archaeologists must try to recognise local, cultural and regional patterns of funerary behaviour and treatment affecting those buried at Dealul Furcilor, and other necropolises at Apulum. It is hoped that the results of this analysis, as outlined in Chapter 5 and discussed in more depth in Chapter 6, will benefit other archaeologists and bioarchaeologists attempting to establish a bioarchaeological understanding of the population Dealul Furcilor, and sites across the wider province of Roman Dacia.

The future importance of this study therefore lies in its contribution to Roman archaeology in this region. As a large assemblage, the results of this study can be used as a source of comparison for material from other sites across Roman Dacia and throughout the Roman Empire.

Overall, analysis of the remains from Dealul Furcilor-Apulum identifies a diverse, melting pot of cultural interaction, with a flexible funerary ritual. This study arguably provides the most detailed analysis of an osteological sample from Apulum yet conducted, with a number of new researches currently underway, which hopefully highlights the potential for further osteological analysis on the Roman remains from Apulum and insight into the possible biocultural behaviour of the citizens themselves.

Keywords: Dealul Furcilor, *Apulum*, Roman Dacia, bioarchaeology, osteoarchaeology, necropolis, Roman era, palaeopathology, funerary archaeology, diet, health, disease, demography.

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