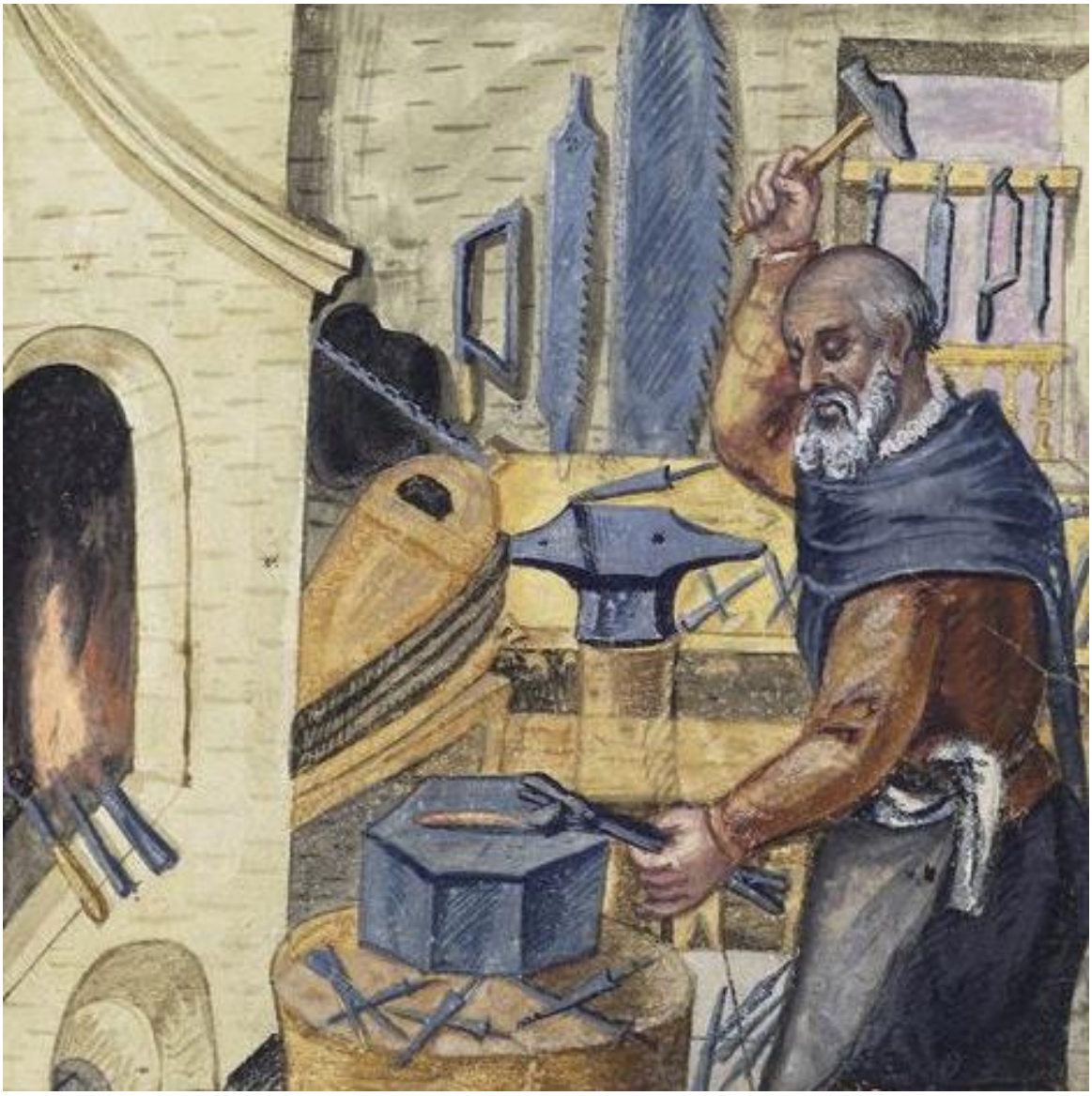
A Metallic Past of the Chalcis Region: On the Byzantine & Crusader Metal Artifacts Recovered at Kastri & Feges during the 2022 Season of the HMC Project

Niemeijer, Dagmar

A Metallic Past of the Chalcis Region

On the Byzantine & Crusader Metal Artifacts Recovered at Kastri & Feges during the 2022 Season of the HMC Project



A blacksmith in his workshop. Drawing of a blacksmith forging metal in his workshop during the medieval period.

Dagmar Niemeijer

S2874520

Cover-page figure © Medieval Britain, n.d.

(https://medievalbritain.com/type/medieval-life/occupations/medieval-blacksmith/).

A Metallic Past of the Chalcis Region

On the Byzantine & Crusader Metal Artifacts Recovered at Kastri & Feges during the 2022 Season of the HMC Project

Author: Dagmar Niemeijer

Student number: 2874520

Course: Bachelor Thesis, 1083VBTHEY

Supervisor: Prof.dr. J.A.C. Vroom

Leiden University, Faculty of Archaeology

Sellingen, 06-08-2023

Final Version 1.1

Acknowledgments

First and foremost, I want to thank my supervisor Prof.dr. Joanita Vroom for her guidance during the writing of my thesis. I am grateful that I got the opportunity to work with the materials that were recovered during the HMC project and to be involved with the archaeology of Greece, specifically the hinterland of Chalcis.

In addition, I want to thank Ritchie Kolvers for providing me with drone pictures and information about the project, which allowed me to create a more complete overview of the sites of Kastri and Feges.

Finally, I would like to thank my family and friends for their love and support throughout this stressful period.

Table of Contents

List of Figures

List of tables

1. Introduction

Chalcis (Greek: Χαλκίδα) is the capital of the Greek island Euboea and operated as a harbor from the Byzantine to Ottoman periods (ca. 7th – 19th centuries). It was part of an extensive trade- and exchange network. (Kontogiannis, 2019, p. 115). We know that Chalcis was connected to other parts of the Mediterranean through seaborne because there are well-documented populations from this period (Kontogiannis, 2019, p. 116), but there is relatively little known about the regional hinterland of Chalcis.

During the summer of 2022, Leiden University initiated two surveys on Euboea at the sites of Kastri and Feges. These surveys are part of a Field School and a research project; 'The Hinterland of Medieval Chalcis', which is directed by Prof.dr. J.A.C. Vroom. There is not much known about this region yet. Only a few archaeologists and researchers have ever written about sites in this area, for instance, Peter Lock (2012). Therefore, the goal of the HMC project is to gain more insight into the post-Roman hinterland of Chalcis and its settlements, as well as the distribution of goods from the harbor capital into the rest of the island.

The campaign will last 5 years and focuses on sites easily recognizable in the modern-day landscape (personal communication, R. Kolvers, February 2023). Throughout the project, the team uses survey archaeology to estimate which places would be suitable for excavations in the future. During the survey of 2022, the team recovered six distinguished metal artifacts divided over the two sites mentioned above.

Throughout this thesis, I intend to present and discuss the metal artifacts that were recovered during the summer of 2022. Most of these objects can be dated to the Late Byzantine and Crusader periods. These periods will be the main focus of my research. One of the recovered metal objects (object D, which is the cast of a bullet) dates back to the 19th/20th century CE. Consequently, object D will not be included in this bachelor thesis.

1.1. Research problem and research questions

The research problem of this thesis is similar to the dilemma that was forwarded during the HMC project. There is simply too little information available about the hinterland of Chalcis. Even though surveys were carried out at Kastri and Feges, there were not many accessible sources that mentioned these sites. There has not been enough exploration in this area and most of the reports that were available for the public were written in Greek.

The materials that were discovered at Kastri and Feges could help us shed more light on the exchange systems as well as the functioning of settlements in the hinterland of Chalcis. Therefore, my goal is to gather information about the artifacts and the roles that these sites fulfilled within a wider context. I will try to create a proper and practical database that could be used during future research.

To accomplish this, I will try to answer two main research questions and one sub-question. My main research questions are:

- How can the metal object finds that were recovered during the 2022 season of the Hinterland of Medieval Chalcis project help us in defining the functioning of the sites of Kastri and Feges during the Byzantine and Crusader periods?
- Is it possible to determine the wider socio-economic context of the hinterland of Chalcis as part of a regional network according to these metal finds?

An important sub-question that can be addressed to formulate an answer to the two main questions is:

- What was the original purpose of the metal artifacts that were recovered at the sites of Kastri and Feges?

1.2. Methodology

To answer my research questions, written sources, and catalogs were used. The written sources provided me with more information about some objects, as well as site formation processes and settlement types. The catalogs were used for visual comparison between the metal artifacts that were discovered during the surveys at Kastri and Feges and similar items from other sites. These catalogs helped me determine the function of the artifacts as well as the trading networks in which they were involved

1.3. Thesis outline

This thesis is divided into 6 chapters. This introduction chapter includes some general information about the project, the metal artifacts that were recovered from the sites, and my research problem and questions.

Chapter 2 provides the background information for my research. This chapter consists of an extensive background study of the two sites of Kastri and Feges, including matters such as the geography and regional context, the settlement types of these sites, the locations of the artifacts that were found, and a general introduction to metallurgy in the Mediterranean.

Chapter 3 focuses on the materials and methods that were used during my research. The materials consist of metal artifacts from the 2022 season. Chapter 3 contains a brief summary of the visual characteristics of the artifacts, as well as information about the context that they were found in. The

second part of this chapter explains the methodology that was used during the examination of the artifacts. Chapter 4, is a summary of the results of my research.
Chapter 5 entails the discussion. During this chapter, I elaborated on the limitations of this research. This chapter also includes my suggestions for future investigation of the hinterland of medieval Chalcis. Finally, in Chapter 6, my 2 main questions and 1 sub-question are answered.

2. Background

2.1. The sites: Kastri and Feges

2.1.1. Geography and regional context

Kastri is located 15,31 kilometers north of Chalcis and 3,54 kilometers north of Psachna, the closest well-known town. Feges is located 16,86 kilometers in the northeastern direction of Chalcis, and 7,31 kilometers (north)east of Psachna. With a division of 7,10 kilometers, the sites are positioned relatively close to each other. Both sites are situated in the center of the island of Euboea close to the Messapios River, and in close proximity to the Greek mainland and the capital city of Athens (see Figure 1).

Figure 1. *Annotated Google Maps chart. Kastri, Feges, Psachna & Chalcis are highlighted on this chart. (After: Google Maps, modified by author).*

The geography of the island is diverse and can be divided into three distinct regions: the northern part with fertile soils and forests, the center of the island with its mountainous topography, and the barren southern part (Borowiec & Salata, 2018, p. 1). The sites of Kastri and Feges are both situated on the slopes of Mount Dirfi, which is, with an elevation of 1743 meters, the highest mountain of Euboea (Borowiec & Salata, 2018, p.1). The terrain of both sites is rocky and covered with loose stones and debris.

A distinction that can be made between the two sites, is the shape and appearance of the sites. Firstly, Kastri is situated on a flat rock plateau on top of a big hill (see Figure 2). Plateaus can be either dissected or volcanic plateaus. Since there are no volcanoes close to the site, the plateau in question is most likely formed as a consequence of an earthquake or movement in the earth's crust. This process takes place when two plates collide and one slides over the other (this is called a convergent movement, which results in the subduction of one of the plates. A dissected plateau often

has a slope with one of the ends of the plateau moving in an upwards direction. This feature is visible in the pictures of Kastri. The eastern end of the plateau is lifted, whereas the western end is more or less connected to the rest of the landscape.
Secondly, there is not a lot of vegetation present at this site. The eastern end of the plateau is completely bare. This is caused by the overgrazing of goats (personal communication, R. Kolvers, February 2023). The remaining part of the plateau consists of bushes and a few bare trees. This part of the plateau was used for agricultural purposes.

Figure 2. *The site of Kastri. Overview photograph of the plateau site of Kastri. (Kolvers, R., 2022).*

In contrast, Feges is located on the steep slope of a hill (see Figure 3). A lot of debris slid down the slope, which results in heaps of rocks and finds. The vegetation at Feges is much more prominent than at Kastri. There are a lot of trees and bushes. This makes it harder to recognize Feges in the surrounding landscape. Mount Feges is situated on and has been naturally formed. This type of steep, pointy hills can be found throughout the Greek peninsula (personal communication, J.A.C. Vroom, May 2023). These hills similarly have been formed by convergent plate movements. Though, instead of the plates sliding on top of each other, these two plates collided and caused a mount to erupt.
The advantages that the mount that Feges is situated on provides, have been exploited by settlers. Settlers saw the potential of the hill and built a tower on top of it.

So, to conclude this section, the main differences between Kastri and Feges are the difference in the amount of vegetation, and the fact that Kastri is a flat rock plateau most likely formed by a convergent plate movement, which resulted in the subduction of one of the plates, whereas the hill Feges is

situated on was probably formed by a convergent plate movement, which resulted in the collision of two plates.

Figure 3. *The site of Feges. Overview photograph of the motte-and-bailey site of Feges. (Kolvers, R., 2022).*

2.1.2. Settlement types

Kastri

As previously mentioned, Kastri is situated on top of a flat rock plateau. The elevation of the site enabled the inhabitants of Kastri to oversee a great share of the immediate surroundings, as well as some higher grounds in the distance. This makes the site suitable as a lookout point and a military basis. This hypothesis can be substantiated by the name of the site (which translates to castle or watchtower in English), as well as the visible structures and artifacts that were found at the site.

Firstly, the southwestern part of the plateau still contains the ruins of defensive walls. These walls have disappeared on the northeastern end of the plateau due to erosion and rock tumbles. In addition to the walls, surveyors discovered two defense mechanisms and a watchtower at the northeastern end of the plateau. The main entrance of the fortified settlement is located on the southeastern part of the plateau. Here, there is a gap in the ongoing walls, which would have been the gate. Aside from the defensive structures, the archaeologists also found a potential church with a fresco on the inside and a chapel with a window facing east, and an agricultural space on the southern end. For more information about the locations of the structures, see Figure 4.

Secondly, supplementary to the structures, some artifacts related to military activity were recovered at the site. These include pieces of armor, coins, and a tiny dice made of animal bone. Dices and board games were used by soldiers to map out strategies (Jankovic, 2018, p. 249), or just to relax during their leisure time. Some of the coins that were recovered are of Venetian origin (personal communication, R. Kolvers, February 2023). The hypothesis suggested by the archaeologists is that people started living in Kastri around the 13th century CE in search of political and military safety (personal communication, R. Kolvers, February 2023).

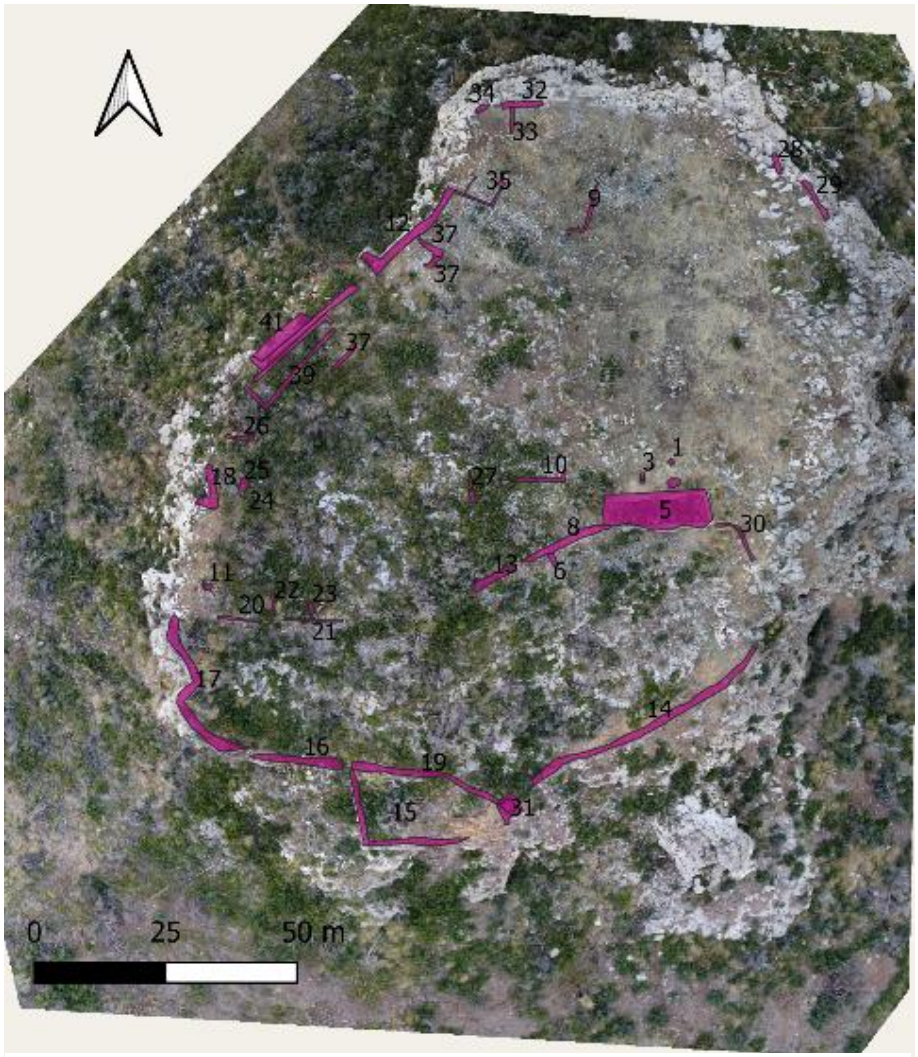


Figure 4. *An annotated map of the site of Kastri. The structures that were found at Kastri have been annotated and numbered in purple on this map. (Kolvers, R., 2022).*

Feges

The structure of Feges looks similar to a motte-and-bailey structured settlement. These kinds of settlements were prominent during the Medieval Ages in Northwestern Europe and originally consisted of two parts. The upper part of the structure is the castle, which is reserved for the wealthy and prestige people, such as a lord. The fortified tower is built on top of the 'motte' (*The Motte and Bailey Castle*, n.d.). The bailey is the lower part of the structure, where the soldiers and servants lived and carried out their daily tasks.

The only way you could enter the tower on top of the hill was by using a staircase or a bridge. These were often made of timber, which made it easy to set them on fire when under attack. (*The Motte and Bailey Castle*, n.d.). In Northwestern Europe, both the motte and the bailey were surrounded by a ditch. This ditch is the result of transferring earth from here place to the motte. The ditch was used as an extra defense mechanism in the form of a dry moat. A dry moat often contained sharp objects or obstacles to slow down intruders (*The Motte and Bailey Castle*, n.d.).

When comparing Feges to the classic form of a motte-and-bailey settlement, some things come to mind.

Although the motte-and-baileys in northwest Europe were constructed on an artificial hill made by settlers, the hills that were used for this purpose in Greece were formed by natural processes. The Greek landscape provides a lot of suitable places to build an elevated settlement. It is unclear whether these settlements were called motte-and-bailey.

The similarities lie in the fact that both the classic motte-and-bailey and Feges both consist of a tower located at the top of a hill and a settlement at the foot of the hill. However, there is no dry moat present at the site of Feges and as previously stated, Feges is situated on a natural hill.

Feges can be divided into 4 distinctive parts, namely; a Crusader-era settlement (number 3), a hilltop site (number 2), a graveyard with pre-Christian burials (number 1), and a pre-Roman settlement (number 4) (personal communication, R. Kolvers, February 2023) (see Figure 5). The settlement of Feges was situated south of the hilltop side. One of the remaining structures in the settlement is that of a two-story longhouse. We have reasons to believe that there might also have been a church at this site. This can be substantiated by the fact that the archaeologists found a marble block. Marble was used as decoration in churches during the Byzantine period. It is not known to me whether or not the marble block displays an inscription. The other finds from Feges primarily consisted of metal objects. Most of these were found on the slope between the tower and the settlement. The site is seriously affected by treasure hunters and metal detectors. Hence, most of the artifacts are no longer in their original context.

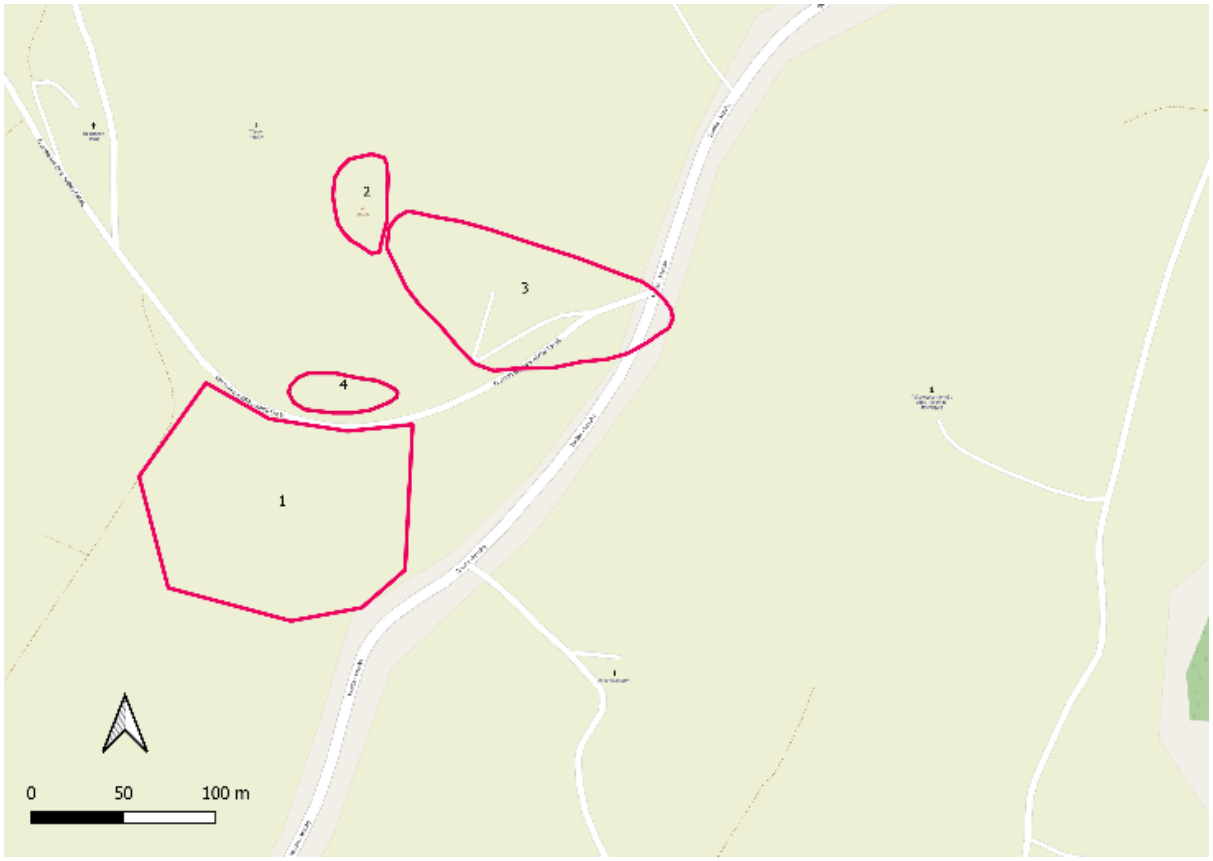


Figure 5. *An annotated map of the site of Feges. The specific sections that divide Feges into four have been annotated and numbered on this map. (Kolvers, R., 2022).*

2.1.3. Locations of the artifacts

Most of the metal artifacts that are being examined during this bachelor thesis (objects A, B, E, and F) were discovered at Kastri. Only one object (object C) was found at Feges. Throughout the project, the finds were numbered and recorded through GPS points. There are two abnormalities in the documentation of my sample. Firstly, FNR12 (Kastri) does not have any GIS information, though it was found at the same place as FNR13 & FNR14 (Kastri). Secondly, FNR209 (Kastri) has not been measured with the GPS, but we do know that this artifact belongs to grid L-92. The following table provides a brief overview of the objects, their find numbers, the grid, and the places they were found.

Table 1. Overview of the artifacts, their find numbers, grid number, and the find place.

Object	Site	Find number	Grid	Location
A	Kastri	FNR12		Slightly northeast of the center
B	Kastri	FNR64		At the northeastern ridge
C	Feges	FNR60		Southern slope of the tower
E	Kastri	FNR13		Slightly northeast of the center
F	Kastri	FNR209	L-92	N.A.

Note. Table created by author using information from Vroom, J.A.C. & Ouellet, J., 2022.

For more information about the locations of the artifacts, see Figure 6 for the GPS points of the artifacts that were found at Kastri, and Figure 7 for object C (FNR60) that was found at Feges.

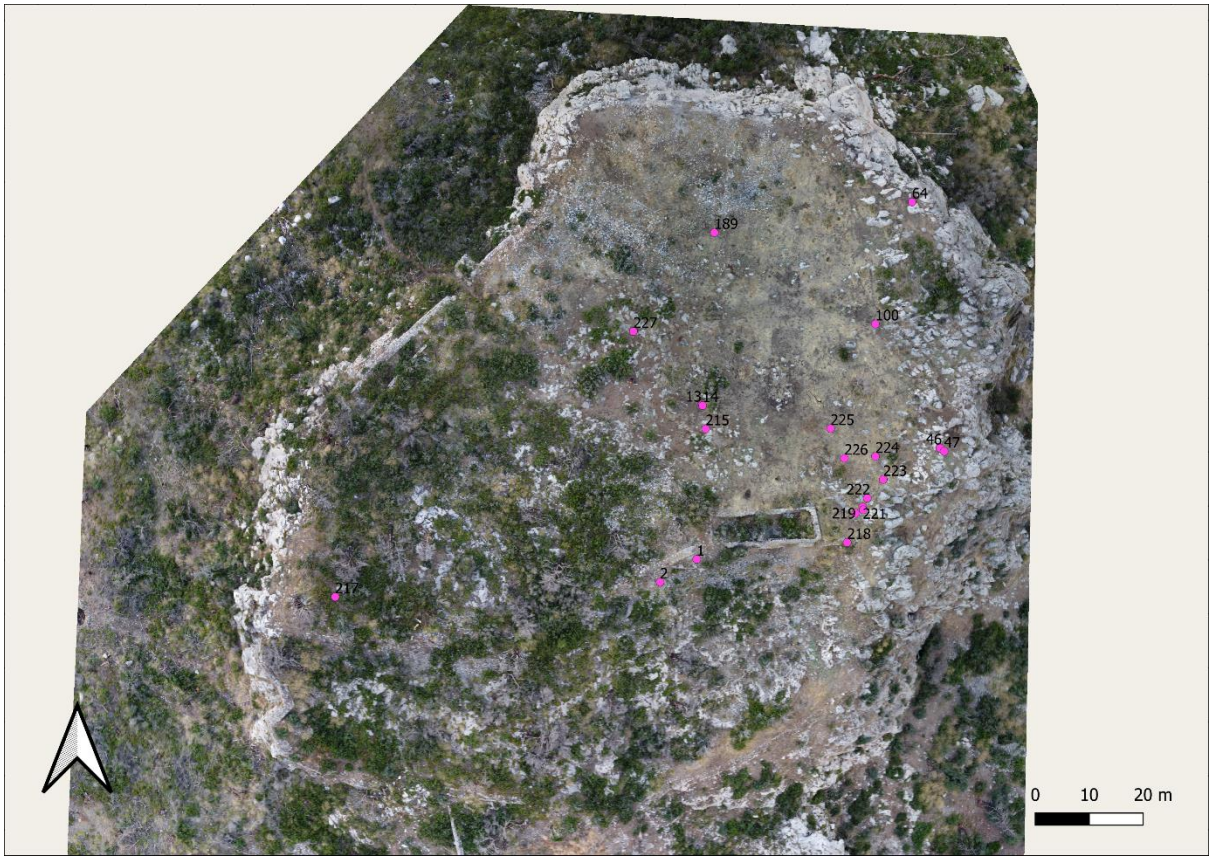


Figure 6. *Overview GPS points at Kastri. Overview of all the GPS points of the finds that were recorded during the surveys at Kastri, including indications of objects A, B, and E. (After Kolvers, R., 2022, modified by author).*

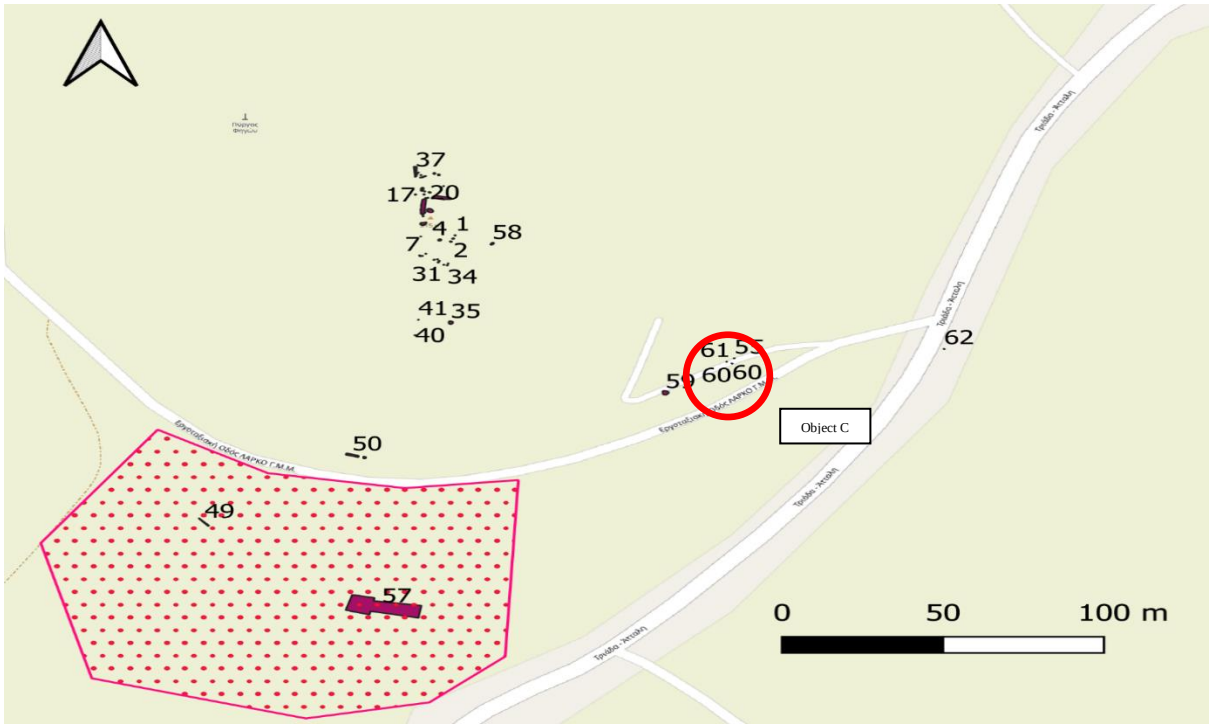


Figure 7. *Overview GPS points at Feges. Overview of all the GPS points of the finds that were recorded during the surveys at Feges, including an indication of the crucifix, object C, find number 60. (After Kolvers, R., 2022, modified by author).*

2.2. The Byzantine and the Crusader periods in the region

The artifacts that are being discussed in this bachelor thesis date to the Byzantine and Crusader periods. These periods overlapped around the 11th and 12th centuries and influenced and affected each other. This section provides a brief overview of the most important events for both periods.

Byzantine period

After the fall of the Western Roman Empire in 476 CE, the Eastern Roman Empire continued to exist until the fall of Constantinople in 1453. Constantinople was founded by Emperor Constantine the Great (306-337) in 330 (Aföldi, 1947, p. 10). This marks the beginning of the Byzantine Empire. During the reign of Constantine the Great, the most prominent problems dealt with religion. Even before the foundation of Constantinople, Constantine encountered some drastic religious changes in the Empire. The most well-known example is the Edict of Milan in 325. This document entails the agreement of Constantine I and Licinius to tolerate Christianity within the Roman Empire (Bright, 1869, p. 4). Later, Christianity became the obliged religion and Greek replaced Latin as the official language (Gregory, 2010, p. 2). Within the religious sphere, there were some debates and issues to be resolved. One example is the Iconoclastic Controversy during the 8th and 9th centuries. This conflict concerned the Iconoclasts and the Iconodules (Brown, 1973, p. 1). The Iconoclasts disapproved of icons being worshiped in the church since these items were not blessed from above. This controversy leads to an even larger divide between the two groups. Eventually, during the Council of Nicaea (787), the use of icons was affirmed (Brown, 1973, p. 1).

During the reign of Emperor Justinian I (527-565), the borders of the empire were expanded and the empire reached its prime extent after he re-conquered parts of the western Mediterranean (Gregory, 2010, p. 2). After a period of successes, some losses followed. Byzantium was defeated at the Battle of Manzikert in 1071 by the Seljuk Turks and lost most of its provinces in Asia Minor during the 7th century, such as Egypt and Syria (Stephens, 1968, p. 2). Even though the empire got back onto its feet and started to flourish once more, some 200 years later disaster struck again. In 1204, during the Fourth Crusade (1202-1204), Constantinople got sacked by the relentless crusaders who showed no remorse for the citizens (Phillips, 2011, p. 13). Byzantium became weaker and lost some of its power. The Byzantine Empire lost a lot of territory to the Ottomans during the war of the 14th and 15th centuries, which eventually lead to the fall of Constantinople in 1453 when it was sieged by Ottoman armies (Gregory, 2010, p. 402). The fall of Constantinople coincided with the fall of the Byzantine Empire.

Crusades

The Crusades (1095-1204) were a series of religious wars that took place during the 11th and 13th centuries and were initiated and supported by the Latin Church. One of the main goals of these expeditions was to recapture the Holy Land from Islamic rule. Pope Urban II (head of the Catholic Church from 1088 to 1099) launched the First Crusade in 1095 after his speech at the Council of Clermont in November 1095 (Somerville, 1974, p. 55). During this speech, he urged Christian armies to join the Crusade and defeat the Seljuk Turks (Halsall, 1997 & Chazan, 1987, p. 2). The First Crusade led to the establishment of four Crusader states: the Kingdom of Jerusalem, the County of Tripoli, the Principality of Antioch, and the County of Edessa. However, Greeks did not have that much influence in these states (Lile, 1993, p. 246). The fall of Acre to the Mamluks in 1291 meant the end of the Crusades (Jaspert & Jestice, 2006, p. 162). Attempts were made to launch new Crusades, but they never took off after this defeat.

Over the course of these periods, Greece experienced significant cultural and political changes. The fall of the Byzantine Empire in 1453 marked the beginning of Ottoman rule in Greece. Greece became divided into vilayets, which are administrative districts. Thessaloniki became one of these vilayets (Lapavitsas & Cakiroglu, 2019, p. 5) These regions were governed by appointed officials. Furthermore, Islam was introduced to Greece and to gain economic and social profits, many Greeks converted to Islam. However, Greek Orthodox Christianity remained a major force too (Tsitselikis, 2004, p. 1).

2.3. Metallurgy and iron processing

All of the artifacts presented in this thesis are made of metal. The hypothesis for most of them is that they were made of iron. Hence, this section offers insight into the timeline and history of metallurgy, as well as information about the iron production process.

"The earliest stages in the development of Mediterranean metallurgy appear after about 5500 BC" (Kassianidou & Knapp, 2005, p. 216). Metallurgy most likely spread from east to west, since its place of origin lies in the Near East. Around 3000 BCE (Bronze Age), metallurgy began to flourish in the Aegean, as seaborn and trading systems began to develop (Kassianidou & Knapp, 2005, p. 217). The Aegean is rich in copper. There were a lot of production and smelting sites around the beginning of the Bronze Age, in particular in Cyprus (Kassianidou & Knapp, 2005, p. 219). Originally, bronze was created by adding arsenic to copper. Later, they started adding tin instead of copper because of its advantages over arsenic. Arsenic is highly toxic, whilst tin is safe to work with. Tin is not naturally abundant in Greece, so it was mostly imported from other regions. During the Early Bronze, the

production and trade in metals started to become more prominent and there was an increase in the number of production sites (Kassianidou & Knapp, 2005, p. 230).

Through examining archaeological remains, we can determine if there was a production site at a certain place. A site could be recognized by tools such as hammers, which were used in the mines. Secondly, deforestation can also be linked to production sites, since a lot of wood was needed in the process of smelting. Furnaces were another important sign that a workshop could have been established at this place. Workshops might have been established in secure and easily defensible places since metals were extremely valuable (Kassianidou & Knapp, 2005, p. 234). Iron production sites could be easily recognized through the characteristics mentioned above, as well as slag remains at the site. The transition from bronze to iron is widely accepted to be a gradual process. Bronze remained the most prominent metal throughout the Iron Age I (12^{th} – 5^{th} centuries) (Eliyahu-Behar, et al., 2013, p. 4319).

Figure 8 displays all the stages and the life cycle of an object within the iron production process. The first step is to acquire iron ores from a mine. Secondly, the ores are smelted in a furnace, which was often called a bloomery (personal communication, A.N. Brysbaert, 2022). The smelting temperature for iron is 1000+ degrees in Celsius. The charcoal in the bloomery causes the iron to separate from the ores and form slag. The smelted iron was transferred to molds to create ingots, this is the smithing stage. The third step in the process is to reheat the ingots and forge them when they are still hot with, for example, a hammer. During this step, you can determine the final shape of the object (personal communication, A.N. Brysbaert, 2022).

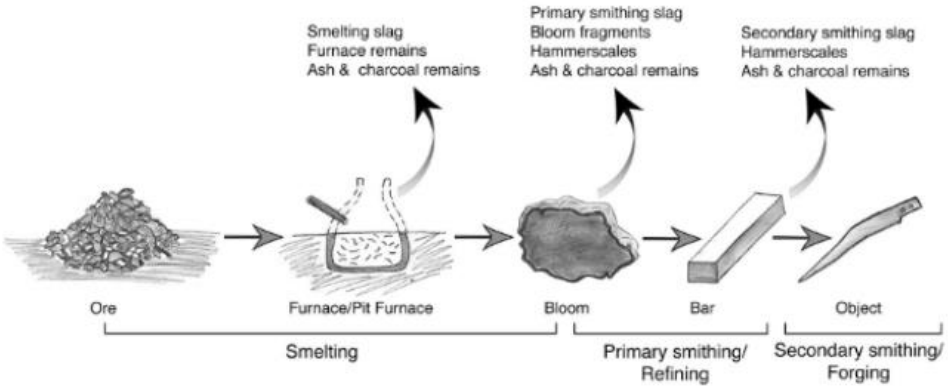


Figure 8. *The iron production process. A schematic drawing of the steps of the iron production process, including smelting, smithing, refining, and forging. (Eliyahu-Behar et al., 2013, p. 4321).*

3. Materials and methods

3.1. Materials

The metal collection that was found during the 2022 season of the HMC consists of 6 objects, one of which (object D) is from a different period. This study focuses on the Byzantine and Crusader periods, and therefore only examines the 5 artifacts that date to these periods. These artifacts include a piece of scale armor (object A), a key or belt loop, this has yet to be determined (object B), a crucifix (object C), a belt loop (object E), and lastly, a collection of several smaller pieces of metal, which were most likely part of a box (object F) (Vroom & Ouellet, 2022). All of the artifacts, except for object C, are thought to be made of iron, though this has not been verified in the laboratory yet. Object C is presumably made out of bronze (personal communication, J.A.C. Vroom, January 2023). The following section will provide a short description of the appearance of the artifacts, the find place, and the hypotheses that were proposed about the function of the artifacts during the HMC project.

3.1.1. Object A: Piece of scale armor

Object A is a small, somewhat square-shaped metal plate. It has a width of about 3 centimeters as can be seen in Figure 9. The metal is blackened and has some white inclusions. There are some tiny holes on the left side of the artifact. This site also shows some signs of oxidation, as the metal turned brownish/orange on this side. This could be the result of the effects of the weather over a long-time span. Lastly, the surface is uneven. Object A is found at Kastri, in the middle of the plateau. It is thought to be a piece of scale armor.

Figure 9. *Close-up picture of object A. The measurements of object A, a piece of scale armour. (Vroom & Ouellet, 2022).*

3.1.2. Object B: Key/belt loop

Object B is shaped like a metal rod with a circular opening on the right side. It is about 4 centimeters long. This artifact is heavily oxidized. As with object A, the left side of the metal turned orange. Aside from the color, a thick crust of oxidation formed around the actual object., especially on the inside of the circular opening. This object was found at Kastri too. It was found at the ridge of the plateau. Object B was originally thought to be a key. However, during a second careful examination, the director detected a small curve at the end of the rod (positioned on the left side of Figure 10) (personal communication, J.A.C. Vroom, February 2023). In addition to the curve, there is also a rectangular hole at this site. The curved end suggests that this artifact could be a belt loop. Further research about this object is necessary to form a well-informed conclusion.

Figure 10. *Close-up picture of object B. The measurements of object B, it still needs to be determined whether this is a key or a belt loop. (Vroom & Ouellet, 2022).*

3.1.3. Object C: Crucifix

Object C is the center part of a crucifix. The distinct shape of the cross is still recognizable, as the left part of the cross is partly intact as well. There is some iconography present, though it is hard to say what is depicted here. Presumably, it has something to do with Christianity and the crucifixion of Jesus. The artifact is about 1,5 centimeters wide. The main color of the metal is brownish/red. The metal is affected by oxidation. This can be identified by the large bodies of green patina that are present on the elevated parts of the iconography (see Figure 11). In opposition to the other artifacts, this object shows a different kind of oxidation. The green color can inform us about the kind of metal we are dealing with. This object is thought to be made out of bronze.

Figure 11. *Close-up picture of object C. The measurements of object C, the center part of a bronze crucifix with iconography depicted on it. (Vroom & Ouellet, 2022).*

3.1.4. Object E: Belt loop

Object E is identified as a metal belt loop. It only entails one-half of the original artifact, as these kinds of belt loops are most of the time square-shaped. Similar to most of the other artifacts, the color of the artifact is primarily black. The surface is not even and contains several cavities. The object is about 12 centimeters long. It would have been twice as wide as depicted in Figure 12.

Figure 12. *Close-up picture of object E. The measurements of object E, a piece of a belt loop. (Vroom & Ouellet, 2022).*

3.1.5. Object F: Pieces of a box

The fifth and last object that is included in this research consists of several smaller pieces of metal. There are at least four nails in the collection, as well as three flat pieces of metal. The longest nail is about 5 centimeters. This artifact is the most challenging one to study since there are so many components to it. Some of the parts are not easily recognizable and cannot be placed into a distinctive category, such as the one top right (see Figure 13). The colors of the different components are highly diverse. Some objects are brown/orange, whilst others are black and green in color. This could indicate the usage of diverse metals since their colors after oxidation differ from each other. Green is mostly linked to bronze and copper, whereas the brownish/orange color is a distinctive characteristic of iron oxidation. The hypothesis proposed by the staff of the HMC project is that these smaller pieces of metal belonged to one metal box (Vroom & Ouellet, 2022).

Figure 13. *Close-up picture of object F. The measurements of object F, a collection of small metal finds, which are hypothesized to have belonged to a box. (Vroom & Ouellet, 2022).*

3.2. Methods

This study is primarily based on literary research. Since there is not much published yet about the hinterland of Chalcis, I relied on the information that could be gathered on the internet and through personal communication. I used catalogs and published articles and spoke to some of the students and staff who are currently involved with the project or conducted the surveys last year.

The students were able to tell me more about the project and the methods they used during the 2022 season. Some of the students sent me their daily reports, which helped me gain more insight into the day-to-day tasks that were carried out. They could tell me more about the way the finds were recovered and what the sites looked like.

The staff sent me drone photographs and maps on which the find locations, structures, and elevations were highlighted. They also provided a document with photos of the finds as well as a short description of what it could be, and a find number. I used these find numbers in combination with the maps to see where the artifacts were found.

Catalogs were used for visual comparison of the metal artifacts from Kastri and Feges and metal artifacts from other sites. This enabled connections between types and trade routes of specific items to be detected.
The articles were used as a form of background information, as well as to gain a better understanding of the processes involving metallurgy and the studied periods.

4. Results

4.1. Object A: Piece of scale armor

During the Byzantine and Crusader periods, soldiers used a lot of different armor types, such as chain mail and plate armor. Scale armor was a popular type of armor during the Crusades around the 12th – 13th centuries. It was well-suited to protect soldiers and knights against attacks that involved cutting because it covered the whole body. Since it was lighter than other types of armor, it made it easier for the soldiers to move at high speed (Keen, 1999, p. 149).

Scale armor consists of tiny plates, often made from metal, that were tied together with rope, or sewn onto a fabric. Most of the time these plates were shaped like fish scales (oval/rounded) (Nicolle, 1999, p. 29). This made me question whether or not the piece of scale armor the archaeologist found belongs to the same category. Since this one is rectangular shaped and this shape is not frequently described in historical contexts.

After some more research, I came across a recreation of a medieval helmet. The piece around the neck looks similar to the scale that was found last summer. This part of the helmet is called an aventail. This is a flexible part that covers the neck and shoulders. The scales were attached only at one side of the scale and layered horizontally. This corresponds with the tiny holes that were discovered in object A.

Not only humans made use of armor. Animals wore protective gear as well. This is called barding. Byzantine horse armor was usually made from scales, whilst Crusader horse armor was made of plate metal. This was heavier than the Byzantine variant. Horse armor was used as a source of protection as well as to demonstrate power and wealth (Capwell, 2015, p. 7). Since the sites of Kastri and Feges are relatively isolated from other sites, it is highly possible that they used animals, such as donkeys and horses to help them in battles, farming, and transportation. Barding was often decorated with inscriptions or symbols.

To conclude this section, object A is believed to be a piece of scale armor. It is not possible to specify to which part of the armor it belonged. The most logical explanation is that it was part of an aventail, as depicted in Figure 15, but it could also have belonged to barding or another piece of armor.
The fact that armor was found at the site suggests that it was inhabited or frequently visited by soldiers. It might have been a base for the soldiers.

Figure 14. *An aventail made from scale armor. Object A might have been part of an aventail. From Steel Mastery, n.d. (https://steel-mastery.com/battle-ready-scale-aventail.html).*

4.2. Object B: Key/belt loop

Since there is still some uncertainty about object B, I will discuss both options in this section.

The first option, and first guess as to what object this is, is a key. Keys were used to unlocking doors, chests, and boxes and played an important role in keeping your belongings and valuable items such as jewellery boxes locked away. Though, this was not the only function a key held in Byzantine and Crusader times. It was a symbol of power, ownership, and authority. If you owned a key, everyone knew you possessed something. Besides keeping personal belongings locked away, keys were also used to secure towers, gates, and bridges. This was of great importance during warfare.

Keys were also of great religious importance. They were used as symbols. In Christianity, keys were symbols of the key to heaven that was given to Saint Peter by Jesus Christ (Klein, 1999, p. 420). Additionally, Virgin Mary was frequently depicted holding a key as a symbol of her role as the mediator between heaven and earth and the mother of Jesus. In Greek mythology, keys were associated with Hecate, the goddess who held the key to the underworld (Henrichs, 2015, para. 4).

The most common key during the Byzantine and Crusader periods was the so-called turning key (Vikan & Newsbit, 1980, p. 3). This key consists of a circular end with an elongated cylinder at the side of it. Attached to this cylinder at right angles was another piece of metal, which would have served as the part that entered the lock. This part is not present in object B. If object B is in fact a turning key, this part must have been broken off. Figure 16 displays an example of a toothed key from the Byzantine period.

If this object is in fact a key, we might have to look for a lock close to the place where object B was discovered. The object was found relatively close to the northeastern edge of the plateau of Kastri. If there would have been a tower or gate at this place, this could be a valuable argument.

The second explanation is that object B is a belt loop or buckle. This hypothesis came to light after a second examination of the artifact by the project director. During this examination, she noticed a slight curve at the end of the artifact, as well as a rectangular hole right before the ridge. The curve caused reason for doubt since keys are straight so they would fit into the lock. Belt loops might have been curved to close well around the body. More information about belt loops will be provided in section 4.4. Object E. Though, Figure 16 provides a visual comparison of what object B might have looked like if it was a belt loop. It is similar in shape, as it has a rectangular part on the right side and a circular hole on the left side. It still does not explain what the function of the rectangular hole might have been.

So, to conclude this section, it is still not clear whether this object is a key or a belt loop. Based on the slight curve of the object, I hypothesize that it was a belt loop. If it was a key, the most distinctive part of the key is missing, which makes it difficult to identify it as a key. Though, there is something to say for both these types of artifacts. Further examination and cleaning of the object is necessary to form a well-founded conclusion.

Figure 15. *Toothed key dating to the Byzantine period. Example of a Byzantine key that could be used to open a lock. After Fagan Arms, n.d. (https://www.faganarms.com/products/medieval-european-door-key-1), modified by author.*

Figure 16. *Belt buckle dating to the Byzantine period. This belt buckle consists of two parts, one circular part, and one rectangular part. This resembles the same composition as object B. After Mutual Art, n.d. (https://www.mutualart.com/Artwork/BELT-BUCKLE-WITH-TWO-WALKING-BIRDS/AF2E8D3E3AD41E8B), modified by author.*

4.3. Object C: Crucifix

Crucifixes were used as religious symbols during the Byzantine and Crusader periods in the Mediterranean. Even though there were several different religious traditions, those who continued to identify themselves as Christians started to create distinctive art. The crucifix is one of the most prevalent forms of religious art and was a symbol of Christian faith and devotion during this time (Jeffreys, Haldon & Cormack, 2008, p. 152). During the Byzantine period (4^{th} – 15^{th} centuries), it was an essential component of the Christian religion. It represented the sacrifice of Jesus Christ. This was often depicted on the crucifix too. Throughout the Crusader period (11^{th} – 13^{th} centuries), the crucifix continued to play an important role in religious art. Crusaders brought their crucifixes with them, as they went on journeys. This allowed a great gift- and exchange network to be set up.

One of the cities that played an important role in the production and distribution of crucifixes in Greece was the city of Thessaloniki during the Byzantine period (Evans & Wixom, 1997, p. 493). Since a large number of the residents were Christian, Thessaloniki became a center of religious and artistic production. Many of the crucifixes were exported to other regions in the Mediterranean. During the Crusader period, Chalcis itself became a center of trade. It was known for its wooden crucifixes.

As for the crucifix that was found at Feges, it is difficult to determine what is depicted on the cross. It looks like a head with a halo around it, but this cannot be said with certainty.

The crucifix is a sign that the site of Feges had connections to larger production sites. This crucifix might have been produced in Chalcis or Thessaloniki, or it was brought there by Crusaders who carried it with them on their journey. The crucifix as a religious symbol ties in with the hypothesis of a potential church structure at Feges. During the Byzantine and Crusader periods, crucifixes were also used as burial gifts within certain traditions and cultures. The suffering and crucifixion of Jesus Christ, as resembled by the crucifix helped people to honour the deceased. It was also a representation of the deceased's devotion to their faith. This practice was mostly used by Christians, specifically Catholics. As mentioned before, a large marble block was found at the site of Feges. This block might have belonged to a church. Another way the marble block could have been used is as a surface to write epitaphs or locations on (Athanasoulis & Vassileiou, 2018, p. 46). Churches were often (and are still) surrounded by graveyards. Therefore, the marble block could also hint at a possible graveyard at the site of Feges. If that is indeed the case, the crucifix might have been a burial gift instead of a clothing accessory or decoration. Further examination and research at the site could help us answer this question.

4.4. Object E: Belt loop

Belt loops were an important clothing item during the Byzantine and Crusader periods. They were used to attach belts to clothing and allowed a more secure fit and the ability to carry weapons. Belt loops were most of the time made from metal, but could also have been made from fabric or leather (Lewandowski, 2011, p. 18). They were often decorated with designs and patterns. Belt loops have been used since ancient times, but became more widespread during the Byzantine and Crusader periods (Elliott, 2007, p. 52). They were mostly used for their practical function to hold up clothes, but they were also used as a sign of wealth. The more decoration, such as jewels, the wealthier the wearer was. Some were even decorated with animal motives. This comprises the Sicilian-Byzantine type (Daim, 2010, p. 63).

In Greece, belt loops were specifically prominent during the Byzantine period in the 4^{th} – 15^{th} centuries (Ball, 2006, p. 102). Greece was an important trading center and had connections all over the Mediterranean. The trade network allowed for the belt loops to be made. These were made from resources and materials from other places in the Mediterranean. When the Crusaders entered Greece, they introduced new styles and designs of belt loops, which were quickly adopted by the Greeks (Ball, 2006, p. 139). They became more elaborately decorated. After the Crusaders settled in Greece and started to travel back and forth during the Crusades, they often brought back belt loops that they retrieved during their travels. These were then also incorporated into the local clothing traditions (Daim, 2010, p. 61).

Several types of metal belt loops existed during the Byzantine and Crusader periods. Firstly, the single belt loop. These were used to hold scabbards or small pouches. Secondly, the double belt loop. This type of loop allowed for the attachment of two belts on either side of the loop. These were used for larger pouches and weapons. The third type is the decorative belt loop. These were highly ornate and were used to add a decorative element to the belt. They were mostly worn by the wealthy (Netherton & Owen-Crocker, 2019, p. 121).

The belt loop that was found at Kastri is only one-half of the original artifact. This belt loop would have been square-shaped. Since this is such a small piece of the loop, it is impossible to tell whether or not it would have been a decorated belt loop. It might have been the end of the belt loop, where the belt would have gone through.

Another comparison can be made with a Medieval statue that is being exhibited at the Archaeological Museum ‘Arethousa’ in Chalkida. This statue was recovered from the Greek Orthodox Agia (holy)

Paraskevi church and resembles the mother of Christ holding her baby in her arms. The church displays several other artworks and sculptures of Byzantine tradition (Simosi, n.d., p. 233).
The reason why this sculpture is intriguing for this research project is that a belt is incorporated into the statue. The belt can be found around the waist of the woman. The type of belt that is used here is not suited for military purposes. Rather, it is being used as an accessory to prevent the clothes from loosening. The belt loop on this belt is square-shaped and might resemble what the belt loop from Kastri would have looked like during the time it was worn (personal observation, J.A.C. Vroom).

The presence of a belt loop at Kastri suggests that this might have been a place where Crusaders would go and take residence for a short period. Additionally, belt loops were also used for military purposes. This could mean that Kastri was a place with military activity, such as the housing of soldiers.

4.5. Object F: Pieces of a box

Metal boxes were commonly used for storage, display, and transportation of valuables during the Byzantine and Crusader periods in Greece (Tourta, 2018, p. 133). These valuables included things such as holy relics and jewellery. The boxes might have been decorated with engravings or designs, though it is not possible to detect this for object F, since it is broken into several tiny fragments.

Some boxes were specifically made for religious purposes. Examples of these types of metal boxes are the casket or reliquary, which were used to store relics. These religious boxes were often made of bronze, silver, or gold (Jeffrey & Cormack, 2008, p. 924). The metal box that was recovered during the survey in 2022 is presumed to be made of iron. This led me to believe that this specific box is not of religious importance. Aside from religious boxes, there were metal boxes that were used to store coins or jewellery. These were called treasure boxes. These boxes were smaller than reliquaries and were made of bronze and iron, and therefore correspond more closely to object F (Hilsdale, 2014, p. 254). Lastly, the simplest boxes were the everyday boxes. These were used for storage and transportation and were humbler in design. They were made of the least expensive metals, iron or brass (Netherton & Owen-Crocker, 2019, p. 53).

Metal boxes were often rectangular or cylindrical shaped with a hinged lid (The Metropolitan Museum of Art, 2011, p. 24). Some of these boxes had locking mechanisms to store away valuable items. This was probably the case for the religious boxes since the relics were of great worth. The box could be created using two methods. The first method entails bending and shaping a single sheet of metal into the desired shape by using tools such as hammers. The sheet would be soldered together to close the gaps and create a strong joint (Gudenrath, n.d., p. 47). The second method entails the usage

of several smaller pieces of metal that were joined together. This technique was often used for rectangular boxes with a lid. The sides, bottom, and lid would have been created from separate sheets, and later soldered together (Gudenrath, n.d., p. 47). An example of sheet metal in object F is the thin metal pieces on the bottom row in the middle and the upper row on the right side (see Figure 18). The lid would have been attached by using hinges.

Nails could be used to reinforce the joints or to attach handles. The collection of object F contains several nails. Nails played an important role in the creation of boxes and other objects or structures. They were mostly used as a way to join pieces of metal or wood (Kusoglu, 2015, p. 120). They were used to secure the lid to the rest of the box and added an extra layer of protection against damage or theft. The production of nails required skill and knowledge of metallurgy.

The production process of nails during the Byzantine and Crusader periods began with selecting the raw materials. These materials were heated in a forge until they became malleable. The metal would then be placed on an anvil where it would be shaped into long rods, using a hammer and a chisel. The rods were cut into shorter rods, which eventually would become a nail. The nails were placed into a nail header, which is a tool that has a hole in one side and a flat surface on the other side. The blacksmith would strike the flat surface with a hammer to flatten the end of the nail to create a head. The tip of the nail was created by removing a section of the end of the nail with a cutter. The last step in the production process of nails was to smoothen the surface and remove any rough edges. This was done using a nail file, commonly a rough stone or metal tool (Aspery, 2000, pp. 38-41).

Something else that caught my attention in this picture is the metal piece beneath the large nail in the middle. It seems far too delicate to be a nail or part of the metal box. I think this might have been a utensil that has been stored in the box. After further investigation, I worked on two metal utensils that look similar to the artifact that was found at Kastri.

The first option is a razor blade. Razor blades from the Byzantine period look similar to the artifact in Figure 18 and were typically made of bronze or iron (Singh, 2008, p. 391). It has a small handle and a larger body at the end. The reason why I eventually abandoned this theory is the fact that the artifact is triangular/rounded at both edges. Razor blades are only worked on one side.

The second option is a cosmetic spatula. These were often made of bronze or silver and had flat, spoon-like ends (Lefka, 2019, p. 136). The end of the artifact (left in Figure 18) is thin and somewhat oval-shaped but can still be considered pointy and sharp, whilst the other side of the artifact is thicker and more rounded with a knob at the end. This thicker part might have been the handle. As you can tell from Figure 19, the artifact shares a lot of similarities with the visual comparison that I found.

Nevertheless, the sharp edges and pointy end could indicate another use for this item. Therefore, another option will be presented here.

The last option is an arrow- or spearhead. The catalogue of the Byzantine Museum of Argolida includes a picture of a spearhead that was found at the prehistoric site of Tiryns and dates to the 6 – 7 centuries. The artifacts look very similar. They both consist of a blade-like end which is somewhat triangular and pointy in shape. Both of the artifacts are the thinnest in the middle and bend outwards again at the end of the handle. The only noteworthy difference between them is the shape of the handle and the size of the artifact. The artifact that was found at Kastri has a more rounded and thinner end (depicted on the right side of Figure 18), whilst the artifact that belongs to the museum has a square-like end that is considerably thicker. The spearhead contains a sharp ridge across the middle of the surface and a hollow cone-shaped end, which could be attached to a wooden shaft as can be detected in Figure 19. Besides the shape, the artifact is considerably smaller. Therefore, it might be an arrowhead instead of a spearhead.
Even though the artifact from the catalogue dates to another period, it is possible that traditions carried on and the form of the spear- and arrowheads stayed close to their original design. To determine or exclude this option, we need to know whether or not the artifact from Kastri contains a hole in the rounded end.

The use of boxes highlights the importance of trade and commerce in Greece. The production not only required skilled craftsmen but also access to raw materials. Without an extensive trade network, these craftsmen would not have been able to create the boxes. Even though this section primarily focused on a metal box, this box might have also been made of wood. In that case, the body of the box would indeed have been made of wood, whilst the nails, the lock and key, and the corners of the box were created with metal. This reinforced the vulnerable parts. The metal was used for the lock and key construction, as it is flexible and easy to bend.

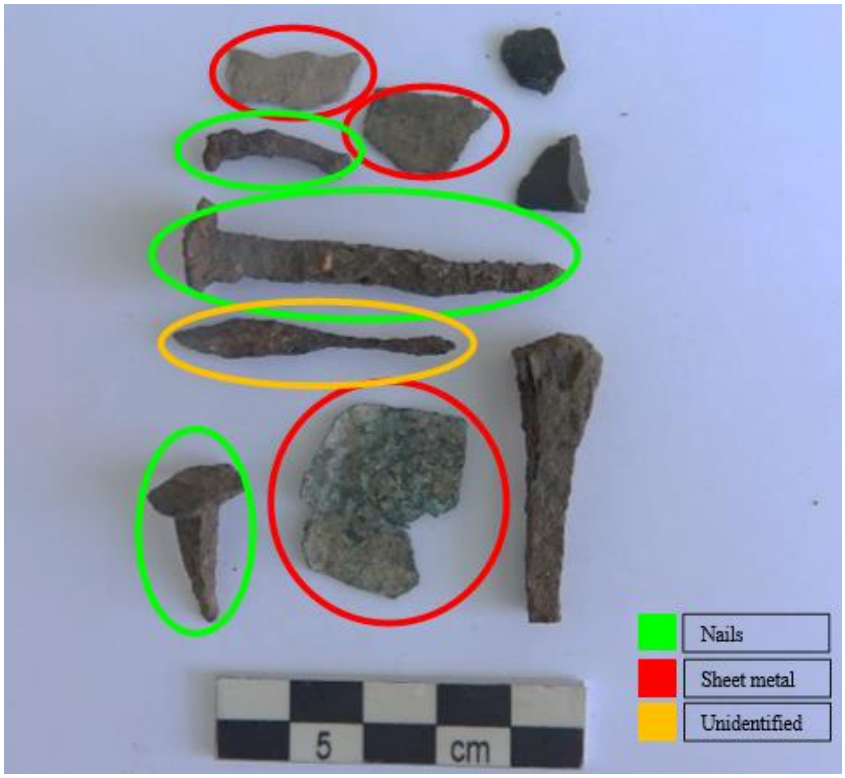


Figure 17. *Annotated picture of object F. The pieces of the box with indications of nails, metal sheet pieces, and the unidentified piece. (After Vroom & Ouellet, 2022, modified by author).*

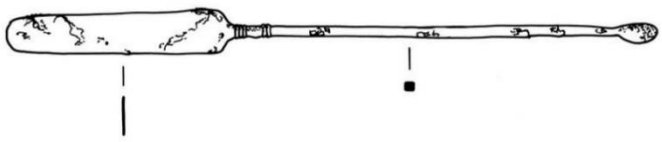


Figure 18. *A Byzantine period cosmetic spatula. The unidentified piece from the collection of object F might have looked similar to this spatula (British Museum, museum number: EA4184, https://www.britishmuseum.org/collection/object/Y_EA41847)*

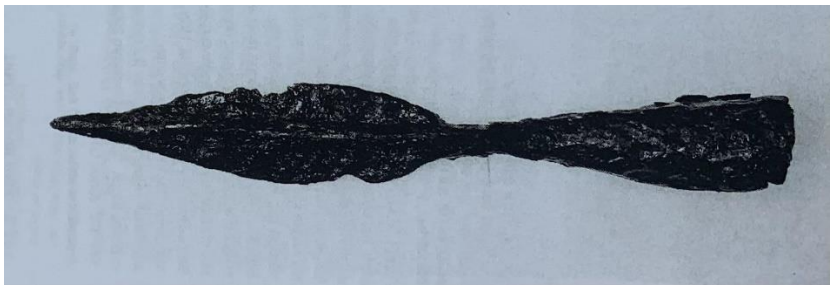


Figure 19. *A spearhead from central Europe dating to the 6-7th centuries. The unidentified piece from the collection of object F might have looked like this spearhead or an arrowhead. The resemblance can be noticed in the pointy end and the thin center part. (Athanasoulis, D. & Vassileiou, A., 2018).*

5. Discussion

5.1. Limitations of this research

Most of the results in this thesis are presumptions. The results are based on literary research and visual comparison only. Since there is not much known about the region yet, it is hard to compare the sites of Kastri and Feges to their vicinity. The few sources that are written about similar sites, have been written in Greek or have not been published yet.

5.2. Suggestions for further research

To create a more complete overview of the metal artifacts that were found at Kastri and Feges during the summer of 2022, the artifacts must be examined in a laboratory. It might help to remove the excess dirt and oxidation. This would enable more detailed inspections to be carried out since the features are more prominent after the cleaning process. This process would specifically help with describing and identifying objects A, B, C, and F. Following is a brief recommendation for further research for each of the metal artifacts that were examined during this bachelor thesis.

- Object A, the piece of scale armour, needs to be examined for holes. These holes could indicate that this object was attached to another piece of armour.
- Object B, the key/belt loop, needs to be cleaned and oxidation needs to be removed, especially on the circular end of the artifact. I am curious as to if the slight curve in the object might disappear after it is cleaned.
- Object C, the crucifix, similarly needs to be cleaned. By cleaning the artifact, it might be easier to recognize the scene that is depicted on it.
- Object F, pieces of a box, foremost need to be re-examined. I am particularly interested in the unidentified artifact for which I posed several hypotheses. If there is indeed a hole at the end of the artifact, it might have been a spearhead.

It might also be useful to investigate the marble block and look for inscriptions. This way it might be possible to determine whether or not this block was used for a cemetery or church. This makes it also determines whether or not object C, the crucifix, was used as an accessory, or a burial gift.

Furthermore, I hope that more Field Schools and research projects will be carried out within the region of the hinterland of Medieval Chalcis to provide future researchers and archaeologists with more information about this important and still-to-be-explored landscape.

6. Conclusion

There is not much information available about the Hinterland of Chalcis, besides from several Greek sources. Therefore, the main aim of this thesis was to gather more information about this region and provide a clear and concise overview of my findings to be used during further research.

During the summer of 2022, Leiden University initiated two surveys on Euboea at the sites of Kastri and Feges. These surveys are part of the research project; 'The Hinterland of Medieval Chalcis', which is directed by Prof. J.A.C. Vroom. Throughout these surveys, 6 metal artifacts were recovered. This thesis discusses 5 of these items that date back to the Byzantine and Crusader periods (about the 4^{th} – 13^{th} century). These include a piece of scale armor, a key or belt loop, a crucifix, a belt loop, and a collection of several smaller pieces of a metal or wooden box.

To conclude this research, I will now try to formulate an answer to my research questions:

1. *How can the metal object finds that were recovered during the 2022 season of the Hinterland of Medieval Chalcis project help us in defining the functioning of the sites of Kastri and Feges during the Byzantine and Crusader periods?*

The metal artifacts that were found at Kastri consisted of a piece of scale armor, a key or belt loop, another belt loop, and some pieces of a metal or wooden box. The piece of scale armor, and the possible key could hint to a military base at Kastri. The armor was either used by soldiers or horses during wars as protection. The potential key might have served as a way to close off towers or gates when the enemy attacked or to safeguard valuable items during times of looting. Belt loops were sometimes used as a way to carry weapons with you, as well as to keep clothing secure. Lastly, the metal box was used to store valuable items. The production of this object required skills and knowledge of metallurgy, as well as access to raw resources and tools. This might indicate that the site had a workshop. My hypothesis for Kastri is that it was a base for armies, where they could look out for enemies over great distances and had several ways to protect themselves. These include the defensive walls of the site that are partly still standing today.

Only one artifact, the crucifix, was recovered at Feges. The crucifix indicates that there was religious activity at Feges, specifically Christianity. The crucifix might have been brought there by Crusaders during their travels. It could be related to the marble block that was found at the slope of Feges, which might have been part of a church or a cemetery. The marble block needs to be examined further to determine if it belonged to a church or a cemetery. This might also make it easier to determine whether or not object C was used as an accessory or as a burial gift.

2. *Is it possible to determine the wider socio-economic context of the hinterland of Chalcis as part of a regional network according to these metal finds?*

The hinterland of Chalcis was closely connected to other parts of Greece and the Mediterranean. Kastri and Feges acquired raw materials from other sites to create metal artifacts. The scale armor that was found at Kastri might suggest that this was an important military basis in the region. Belt loops were especially prominent in Greece during the Byzantine period (4^{th} -15^{th} centuries). These were part of a large network since Crusaders often took new belt loops with them after travels. This enabled the Greek belt loop to take on different forms and looks. Boxes were often used for transportation and storage of goods or food. The presence of a box at the site suggests that Kastri traded with other sites in the region.

The crucifix that was found at Feges indicates contact with larger production sites in Greece. One of the most prominent producers of crucifixes during the Byzantine period was the city of Thessaloniki. There might have been a trade route between these sites. Furthermore, crusaders often brought crucifixes with them on journeys. The presence of a crucifix indicates that this site played an important religious role during the Crusades and Byzantine periods.

Sub-question: What was the original purpose of the metal artifacts that were recovered at the sites of Kastri and Feges?

<u>Object A:</u>

The piece of scale armor was used by armies to protect themselves against the enemy. Scale armor is more flexible than other types of armor and thus makes it easier to move relatively fast. The type of scale armor that is being examined here was linked to an aventail (the extension of scale armor of a helmet), but it might have been used on other parts of the body. Additionally, scale armor could also have been used for barding, which is horse armor.

<u>Object B:</u>

Throughout the process of researching this object, it became clear that we do not know enough about this object to determine whether or not this is a key or a belt loop. There is a slight curve at the left side of the artifact, which might indicate this has been a belt loop. Though, this might alter after cleaning the access dirt and oxidation of the artifact. If this was a key, it would have been a symbol of ownership and authority. The key would have been used to safeguard personal belongings and as a display of wealth and power.

<u>Object C:</u>

The crucifix was used as a religious symbol. It resembles the suffering of Jesus Christ and stands for Christian faith and devotion. This item has probably been brought to the site by traveling Crusaders. It might have been worn as a necklace or other accessory. Another purpose that this item could fulfill

during the Byzantine and Crusader period was that of a burial gift. It is still unknown which of the two hypotheses accounts for this artifact.

Object E:

The belt loop was an accessory that was used to uphold clothing and keep it from moving. In the military, it could also be used to store your weapons and utensils around your waist. This allowed quicker access to weapons to protect yourself when there was an enemy nearby.

Object F:

The metal or wooden box that was found at Kastri might have been used as a way to store or display personal or valuable items. It is difficult to determine what type of box this was and what its content was. Apart from the nails, there were some other unidentified artifacts. I examined one of them in greater detail and concluded that this might have been either a razor blade, a cosmetic spatula, or a spearhead. Further research might help indicate what kind of artifact this is. This artifact could say something about what the box was used for and to whom it might have belonged.
Overall, a box suggests there has been trade at the side. Boxes have been used as ways to transport or store goods over a greater distance.

Abstract

In the summer of 2022, 6 metal artifacts were recovered from the sites of Kastri and Feges during the "Hinterland of Medieval Chalcis" project, which is directed by Prof. J.A.C. Vroom. 5 of these metal artifacts are being discussed in this bachelor thesis. These 5 items consist of a piece of scale metal, a key or belt loop, a crucifix, a belt loop, and several pieces of metal belonging to a box. The artifacts made it possible to identify the activity and roles of Kastri and Feges.

The piece of scale metal was used by soldiers as a source of protection during war. It could have been part of an aventail, barding, or another part of scale armor. Secondly, belt loops could be used to carry weapons around your waist, or as an accessory to secure clothing. New types of belt loops were introduced by Crusaders who traveled and traded with other regions. The walls that are still present at the site were defensive walls. These artifacts and structures imply that there was military activity at the site of Kastri. The box that was found was probably used for the storage and transport of goods, indicating that Kastri might have been part of a trade network.

The crucifix at Feges tells us that this site was involved with and visited by Christians. The cross is the sign of faith and belief of the Christians. The Crusaders often brought crosses with them on their travels. In correlation with the marble block that was found at this site, it could resemble a religious place with a possible church structure or graveyard.

To form well-founded conclusions, additional research is necessary. The sites of Kastri and Feges need to be further examined. The metal artifacts that were found need to be cleaned and excessive oxidation needs to be removed. After the cleaning process, the artifacts can be studied in detail to look for characteristics that might help identify the objects.

In de zomer van 2022 werden 6 metalen artefacten gevonden op de sites van Kastri en Feges tijdens het project "Hinterland of Medieval Chalcis", dat wordt geleid door prof. J.A.C. Vroom. 5 van deze metalen artefacten worden besproken in deze bachelor scriptie. Deze 5 objecten bestaan uit een stuk schaalpantser, een sleutel- of riemlus, een kruisje, een riemlus en verschillende stukken metaal die bij een doos horen. De artefacten maakten het mogelijk om de activiteit en rollen van Kastri en Feges te bepalen. Aan de hand van de artefacten kan er iets gezegd worden over de mogelijke activiteiten die plaats hebben gevonden in Kastri en Feges, net als de rollen die deze sites gespeeld hebben in het lokale netwerk.

Het stuk schaalpantser werd door soldaten gebruikt als een bron van bescherming tijdens oorlog. Het kan onderdeel zijn geweest van een aventail, barding of een ander onderdeel van schaalpantser. Riemlussen werden gebruikt om wapens om je middel te dragen, of als accessoire om kleding op zijn plek te houden. Nieuwe soorten riemlussen werden geïntroduceerd door kruisvaarders die reisden en handeldreven met andere regio's. De muren die nog aanwezig zijn op de site waren verdedigingsmuren. Deze artefacten en muren impliceren dat er militaire activiteiten moeten hebben plaatsgevonden in Kastri. De doos werd waarschijnlijk gebruikt voor de opslag en het transport van goederen, wat erop wijst dat Kastri mogelijk deel uitmaakte van een handelsnetwerk.

Het kruisje in Feges vertelt ons dat deze site betrokken was bij en bezocht werd door christenen. Het kruis is het teken van geloof en geloof van de christenen. Daarbij brachten kruisvaarders vaak kruisen mee op hun reizen. In verband met het marmeren blok dat op deze plek werd gevonden, zou het een religieuze plek met een mogelijk kerkgebouw of kerkhof kunnen zijn geweest.

Om weloverwogen conclusies te kunnen trekken is aanvullend onderzoek nodig. De sites van Kastri en Feges moeten verder worden onderzocht. De gevonden metalen artefacten moeten worden schoongemaakt en overmatige oxidatie moet worden verwijderd. Na het reinigingsproces kunnen de artefacten in detail worden bestudeerd om te zoeken naar kenmerken die kunnen helpen bij het identificeren van de objecten.

Bibliography

Alföldi, A. (1947). On the foundation of Constantinople: a few notes. *The Journal of Roman Studies*, *37*(1-2), 10-16.

Aspery, M. (2000). *The craft of the blacksmith.* Astragal Press.

Athanasoulis, D., & Vassileiou, A. (2018). *List of the permanent exhibition.* Byzantine Museum of Argolida.

Ball, J. (2006). *Byzantine dress: Representations of secular dress.* Palgrave Macmillan.

Ball, J. (2013). *Dress in Byzantium.* Routledge.

Borowiec, L., & Salata, S. (2018). Notes on ants (Hymenoptera: Formicidae) of the Eboea island, Central Greece. *Annals of the Upper Silesian Museum in Bytom Entomology*, *27*, 1-15. https://doi.org/10.5281/zenodo.1485235

Bright, W. (1869). *A History of the Church from the Edict of Milan, AD 313, to the Council of Chalcedon, AD 451*. James Parker.

Brown, P. (1973). A Dark-Age crisis: aspects of the Iconoclastic controversy. *The English Historical Review*, *88*(346), 1-34.

Capwell, T. (2015). *Horse armor in Europe.* Royal Armouries Museum.

Chazan, R. (1987). *European Jewry and the First Crusade*. University of California Press.

Daim, F. (2010). Byzantine Belt Ornaments of the 7th and 8th Centuries in Avar Contexts. *Intelligible Beauty'. Recent Research on Byzantine Jewellery. British Museum Research Publication*, *178*, 61-71.

Eliyahu-Behar, A., Yahalom-Mack, N., Gadot, Y., & Finkelstein, I. (2013). Iron smelting and smithing in major urban centers in Israel during the Iron Age. *Journal of Archaeological Science*, *40*(12), 4319-4330.

Elliott, L. (2007). *Clothing in the Middle Ages.* Greenwood Press.

Evans, H. C., & Wixom, W. D. (Eds.). (1997). *The glory of Byzantium: Art and culture of the Middle Byzantine era, A.D. 843-1261*. Metropolitan Museum of Art.

Gregory, T. E. (2010). *A history of Byzantium* (Vol. 19). John Wiley & Sons

Gudenrath, W. (n.d.). *The Techniques of Renaissance Venetian Glassworking.* The Corning Museum of Glass.

Hilsdale, C. J. (2014). *Byzantine Art and Diplomacy in an Age of Decline.* Cambridge University Press.

Jankovic, M. A. (2018). Archaeology of taste: Board games and dice games of Moesia Superior. *Reflections of Roman Imperialisms*, 236-263

Jaspert, N., & Jestice, P. G. (2006). *The Crusades*. Routledge.

Jeffreys, E., Haldon, J., & Cormack, R. (Eds.). (2008). *The Oxford handbook of Byzantine studies.* Oxford University Press.

Kassianidou, V., & Knapp, A. B. (2005). Archaeometallurgy in the Mediterranean: The social contect of mining, technology, and trade. *The Archaeology of Mediterranean Prehistory*, 215–251.

Keen, M. (1999). *Medieval warfare: A history.* Oxford University Press.

Klein, P. (1999). *The Catholic Source Book: A Comprehensive Collection of Information about the Catholic Church.* Houghton Mifflin Harcourt Religion.

Kontogiannis, N. D., & Orfanou, V. (2019). The Chalcis treasure: A 14th-15th century hoard from Euboea, Greece. First thoughts and preliminary results. *Byzanz Zwischen Orient Und Okzident*, 13, 115-125.

Kusoglu, I. (2015). Microstructural formations during the production of Early Byzantine iron nails from Hadrianoupolis in Paphlagonia (north-central Turkey). *Kovove materially-metallic materials, 53*(3).

Lapavitsas, C., & Cakiroglu, P. (2019). *Capitalism in the Ottoman Balkans: Industrialisation and modernity in Macedonia*. Bloomsbury Publishing.

Lefka, A. (2019). *Medieval Greek and Byzantine cosmetics: A social and cultural history.* Routledge.

Lewandowski, E. J. (2011). *The complete costume dictionary.* Scarecrow Press.

Lile, R. J. (1993). *Byzantium and the Crusader states*. Clarendon.

Netherton, R.., & Owen-Crocker, G. R. (2019). *Medieval clothing and textiles.* Routledge.

Nicolle, D. C. (1999). *Arms and armour: Western Europe and the Crusader states.* Greenhill Books.

Phillips, J. (2006). *The Fourth Crusade and the sack of Constantinople* (3rd ed., Vol. 13). Penguin Random House.

Simosi, A.G. (n.d.) *Areas.* Archaeological Museum of Chalcis.

Singh, U. (2008). *A history of ancient and early medieval India: From the Stone Age to the 12th century.* Pearson Education India.

Somerville, R. (1974). The Council of Clermont (1095), and Latin Christian Society. *Archivum Historiae Pontificiae,* 55-90.

Stephens, A. T. (1968). The battle of Manzikert: Genesis of international cultural cultivation. *Tarih Arastirmalari Dergisi, 10,* 73–84.

The Metropolitan Museum of Art. (2011). *Medieval Art: A Resource for Educators.* The Metropolitan Museum of Art.

Tourta, A. (2018). *Byzantine and Post-Byzantine Art and Archaeology of Macedonia.* Routledge.

Tsitselikis, K. (2004). The legal status of Islam in Greece. *Die Welt des Islams, 44*(3), 402-431.

Vikan, G. & Newsbit, J. (1980). *Security in Byzantium: locking, sealing, weighing.* Dumbarton Oaks Publication.

Sources

Halsall, P. (1997). *Medieval Sourcebook: The Speech of Urban II at Clermont, 1095*. Fordham University. (n.d.). Retrieved April 30, 2023, from https://sourcebooks.fordham.edu/source/urban2-5vers.asp

Henrichs, A. (2015). Hecate. In *Oxford Research Encyclopedia of Classics.* Oxford Classical Dictionary. Retrieved June 14, 2023, from https://doi.org/10.1093/acrefore/9780199381135.013.2957

The Motte and Bailey castle. (n.d.). Durham World Heritage Site. Retrieved April 18, 2023, from https://www.durhamworldheritagesite.com/learn/architecture/castle/motte-and-bailey