

A CASE STUDY OF SIX MONTEFORTINO HELMETS FROM THE
BATTLE OF THE EGADI ISLANDS (241 B.C.)

By

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ABSTRACT

Montefortino helmets quickly became the dominant form of head gear throughout Europe and the Mediterranean once introduced by the Celts. During the First Punic War, it was the helmet in use by much of the Roman forces, particularly the Southern Italian and Sicilian troops, and by the numerous mercenaries employed by Carthage. Due to its widespread use, by the time of the Battle of the Egadi Islands in March of 241 B.C., it is difficult to determine the point of origin for the six bronze Montefortino helmets recovered from the battle site, as they could potentially belong to troops on either side of the conflict. This research explores what the helmet remains can reveal about the possible financial states of both Rome and Carthage at the later stages of the First Punic War, the manufacturing process, and who could have utilized the helmet during the battle.

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By

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Chapter 1: Introduction

The Montefortino helmet, named for its find site and a common jockey-cap helmet used in Europe from the 4th to 1st centuries B.C., is relatively well documented in the archaeological record and is associated with the Roman Republic as the basic helmet of the soldier. To date, the majority of the Montefortino-type helmets found by archaeologists with provenience have been uncovered in funerary or votive contexts, taken from the site of the battle by the victors and dedicated to their gods in thanks. There is a much larger percentage in the Montefortino catalogue that were found by individuals with no training, and are important to the evolutionary record yet lack a complete academic value due to the dearth of information pertaining to their context. Furthermore, within the subset of those Montefortino helmets recovered and properly documented by archaeologists, there is an even smaller group of those without extensive battle damage or intentional destruction. With these points in mind, the importance of an addition of several Montefortino helmets in good condition from a single site recovered and recorded by archaeologists is extremely high to researchers. Such examples would allow for unique avenues of questioning that would only expand upon the knowledge of Montefortino helmets and Roman armor during the early Republic.

One such site that offers the opportunity to study a variety of objects, including helmets, in this beneficial state and context is the Egadi Islands battle site, investigated since 2005 under the co-direction of RPM Nautical Foundation and the Soprintendenza Del Mare, Regione Siciliana. The Egadi Islands are located off the northwestern coast of Sicily, near the city of Trapani, and are composed of three islands: Marettimo, Favignana, and Levanzo. The depth of the site ranges from 70-90 meters deep, preventing recreational divers from looting the area, and it appears that the rocky outcrops prominent on the ocean floor in the area have largely prevented fishing nets from damaging a large portion the site, since it is too costly for fishermen to drag their nets in the area

as they are typically only to be forced to cut them loose once they snag on the rocks. An in-depth analysis of the site conditions is presented in Chapter Three of this work.

In March of 241 B.C., this area served as the site of a decisive naval engagement between Rome and Carthage during the First Punic War, and was recorded by historians as the Battle of the Egadi Islands, the history of which shall be discussed further in Chapter Two of this work. The nature of naval warfare presents a unique area of investigation for archaeologists, as the aquatic battlefield can, to some degree, act as a protective environment for the artifacts from human interaction and allow for the remnants of the conflict to be studied without the impact of scavenging by the victors of the battle. RPM Nautical Foundation and the Soprintendenza Del Mare have retrieved a number of artifacts from this site, but those that pertain specifically to this work include six bronze Montefortino helmets, two cheek pieces with a hinge, and two rams from the PW-A sector of the Egadi Islands battle site. A third ram, Egadi 7, is believed to be from the same area and battle site, but was pulled up by fishermen and therefore lacks any provenience. These examples of Montefortino helmets, in conjunction with the iconography present on three rams, the dislocated cheek pieces, and the surviving historical record of the battle, offer a unique opportunity for a highly focused set of questions to be asked of the helmets by the author.

Origins of the Montefortino Style

One definition or general description of the type is, “The Montefortino helmet had its origins as early as the 4th century BC, amongst the same Celtic helmets that were to spawn the Coolus type. The Coolus type is defined as Celtic and Roman helmet with a hemispherical bowl and a rear neck guard, which existed simultaneously with the Montefortino helmet (Figure 1).

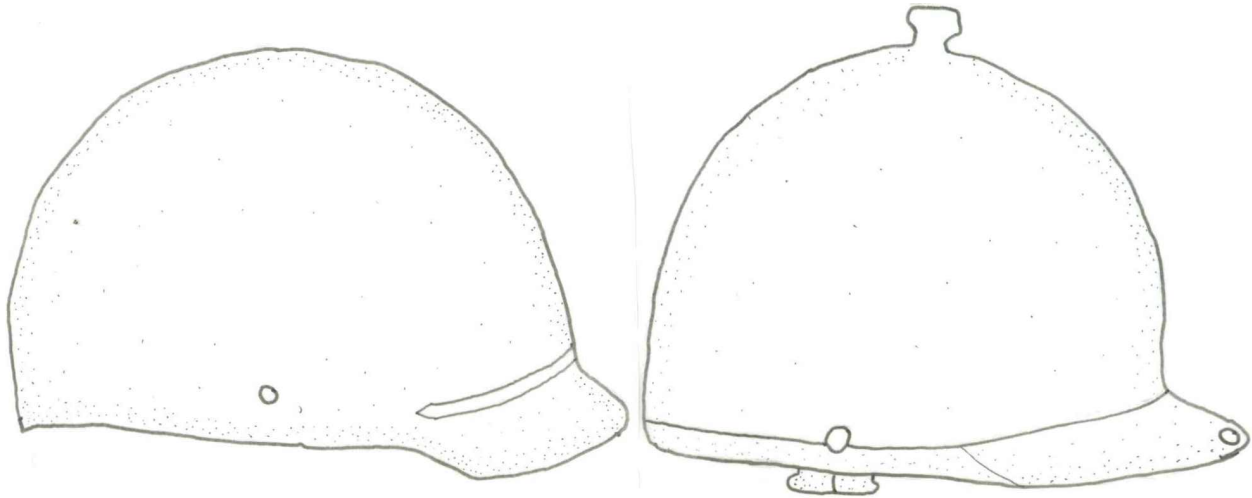


Figure 1: Coolus Helmet (left) and Montefortino Helmet (right) (Image by author, 2017)

With a hemispherical copper-alloy bowl beaten to shape, it was sometimes finished with a crest knob at the apex” (Bishop and Coulston 2009: 65). However, as many nationalities used this style of helmet, the subtle nuances of the hardware and the decorative styles must be evaluated to focus in on who may have used the Egadi Island examples. A large sample population of this style of helmet comes from Spain, which led to the classification of the Montefortino as a ‘Celto-Iberian’ type of armor (Quesada-Sanz 2005: 68 & 72). Though not present on the examples from the Egadi Islands, many other examples contain decorative elements described as the ‘La Tene’ style. This defines a late Iron Age Celtic civilization, named after the district of the same name at the eastern end of Lake Neuchatel in Switzerland, who utilized a curvilinear style of decoration. This unique artistic style was influenced by their contact with Greek and Etruscan civilizations south of the Alps around the mid-fifth century B.C., and spread through most of northern Europe until their losses to Rome around the first century B.C. However, though the term ‘Celto-Iberian’ was popular during the initial phases of investigation into the collection compiled from Spain, it may be a misnomer constructed as a result of early theories. It is believed that there are only a few true examples of Celtic or La Tene armor present in the region, and those that are believed to belong

to the category with little doubt are iron rather than bronze, which leads scholars today to conclude that the impact of Celts on the development of the Montefortino helmets or arms and armor in general in the Iberian Peninsula was greatly exaggerated early on in archaeology. It is now thought that the artifacts recovered, both of known and unknown provenance, may have come into the region for a variety of reasons including immigration, trophies of war, importation, and soldiers passing through on various campaigns, but are not proof of a widespread and prolific Celtic influence on the native population (Quesada-Sanz 2005: 68).

Comparison of Various Styles of Montefortino Helmets

The Montefortino style, named after the site where the first of this type was found at the Necropolis at Montefortino (Italy), was widely used throughout Spain and Italy, with each adopting the helmet from their Celtic neighbors (Paddock 1993: 469). Those found at the site of the First Punic War Battle of the Egadi Islands, a total of six as of the 2013 field season, are all decorated with the same ‘braided rope’ motif. However, there is a substantial assemblage of Montefortino style helmets found in other parts of Europe, particularly in Spain. These helmets reflect decorative styles symbolizing the various ethnicities of those that used this style of helmet who settled in the region, imported them, or brought them to Iberia as a spoil of war (Paddock 1993 & Quesada-Sanz 1997). These stylistic differences present a method through which the point of origin for the six helmets found at the Egadi Islands may be determined, helping to further identify the participants in the battle between Rome and Carthage which is only briefly described by Polybius in his *History* book 6.

It is reasonable to theorize that the majority of the items lost in the course of the engagement and thus the majority of the artifacts recovered belonged to the mercenaries fighting for Carthage during that naval battle. Additionally, the artifacts were on board the Carthaginian vessels bringing

supplies to the soldiers under siege in Sicily, and sunk during battle. If Rome sank a total of fifty ships and captured an additional seventy, as Polybius (*Histories*: I.61) states they did, then one can hypothesize that the majority of the artifacts at the battle site belong to the Carthaginian shipments or soldiers. This position is supported by the high number of amphorae that have been located and recovered in the battle zone that may have comprised a portion of the supply shipment destined for Sicily and the mercenary troops stationed there under the command of Hamilcar Barca. Presenting the multiple theories of ownership, the alternative view points and evidence are explored to better understand the changes in ownership for valuable pieces of armor during a prolonged conflict.

Egadi Island Montefortino Helmets

The following are brief descriptions of the six Montefortino helmets and their individual decorative elements to provide a quick reference of the catalogue in use for this investigation, with more detailed examinations and accompanying illustration occurring in Chapter 5:

PW11-0010

Along with the braided rope on this helmet, there is also a beaded line running the interior of the rope that has not been found on the other examples as of yet. There is also a hatching pattern on the neck brim.

PW11-0030

This helmet has been more extensively cleaned and preserved than the others, which has revealed unique elements visible on the crest knob. An incised pattern runs the outer circumference of the knob, along with a graffito of Punic or Celtic letters in the center of it.

PW11-0031

An incised line accompanies the braided rope and runs around the neck guard, not continuing

onto the bowl of the helmet. The crest knob also has a decoration of incised lines similar to the ones present on the neck guard, and it appears that there may be further markings on the crest knob that will become apparent with further cleaning.

PW11-0032

An incised line is present around the neck guard of this helmet running in the same fashion as the others with the braided rope.

PW12-0012

The degree of encrustation is too great to speculate about the fine decorative motifs on this helmet until further conservation takes place.

PW13-0004

Though the helmet is heavily encrusted, patches of stylistic elements are visible containing similar patterns to the other examples. There are incised lines on the neck brim, along with a hatch work design similar to PW11-0010 that runs around the circumference just above the rim and the braided rope.

Research Questions

This work investigates the six bronze Montefortino helmets recovered from the Egadi Islands site during the 2011, 2012, and 2013 field seasons. All six feature a remarkably high level of preservation, but also are at a high percentage of encrustation, with both due to the amount of time they spent on the floor of the Mediterranean Sea. Due to the relatively good condition of the objects, the following will be asked of the artifact assemblage:

Ownership

Is it possible to determine the country of origin for the owner of any of the Montefortino helmets from this collection? Studies of other helmets of the same style indicate that the decorative

markings present tend to group into particular geographic locations, which aid in narrowing down a point of origin for a helmet that was in widespread use throughout Europe and the Mediterranean regions. As all six examples display the same basic decorative patterns and stylistic choices, despite differences in size, which will aid in narrowing down a general location for either manufacturing or troop locale when compared to the existing catalogue of Montefortino. In addition, PW11-0030 is cleaned and has both a clear decoration and graffito marking on the crest knob atop the bowl, which will shed further light on whom this one particular helmet may have belonged to, and perhaps which side he fought on in the First Punic War. However, if the decorative markings and graffito point to two different areas, then this may be a sign of repurposed captured materials at a late stage in the war, which is indicative of another set of questions.

Financial

Do the helmets reveal anything about the financial state of affairs for either Rome or Carthage at the end stage of the First Punic War? As propositioned at the end of the previous section, if an artifact displays signs of repurposing after capture, does this indicate a sign of financial strain for a country, or just an opportunistic soldier wishing to improve his protective gear? In the Roman Legion, armor was furnished by the individual legionnaire rather than the state, the six helmets of the Egadi Islands therefore cannot answer this question. Though bronze was utilized for a wide variety of reasons during warfare, including armor, weapons, and rams, it was certainly not a cheap material and demands a significant financial expenditure by either an individual or a state. Polybius (*Histories* 1) hints at the status of each side's treasury towards the end of the war by providing an idea of military expenditures and rebuilding efforts undertaken by the states, and also by private individuals at the request of the Roman Senate. A few of the artifacts recovered from the Egadi Islands were analyzed to determine the chemical composition of the

bronze used to manufacture the item, which may indicate the financial strain hinted at by Polybius when taken into account with the standards of manufacturing.

Manufacturing

There is an extensive enough collection of the Montefortino helmets from the numerous regions that produced and used this helmet that it is possible to trace the standards of manufacturing from the fourth to second centuries B.C. This rise and decline in production quality created a typology of the helmet style, which is compared to the 6 examples recovered from the Egadi Islands to understand how where they fall in the typology and how they correlate to contemporary examples. It is clear that by the second century B.C., there was a sharp decline in the overall quality of product when compared to the examples from the fourth century B.C., but are the beginnings of this shift in standards present in the Egadi Island examples from the third century B.C.? A look at the typical manufacturing process sheds light on the professional standard expected of a well-crafted example, as will the level of attention to detail in the decorations. It may be that the financial burden on the individual soldier of supplying armor at such a late stage in this prolonged conflict, coupled with the expense of bronze and cost of labor, contributed greatly to the overall decline in the quality of Montefortino helmets produced in the mid-third century B.C.

Chapter 2: Literature Review

The Montefortino helmet is well represented in the archaeological record, but the instances of well-documented cases from known sites of conflict are few in the dissertation (Paddock 1993, Quesada-Sanz 1997 & 2005). Previous works on the subject speak to this unfortunate fact highlighting that large percentages of collections studied have no evidence of an excavation record for the Montefortino helmets due to the era in which they were recovered. As many were found during the Victorian period under the vogue of recreational archaeology, they ended up in private collections or with antiquities dealers who could not provide documentation. One benefit of this study of the examples recovered at the Battle of the Egadi Islands site is that a small catalogue of Montefortino helmets is established, with an accompanying detailed record of excavation, for a site that is tied to a specific point in history.

In “The Homogenization of Military Equipment Under the Roman Republic,” by Michael T. Burns (2003), the author endeavors to trace the shift from regional variations in Italic military equipment to the largely standardized selection of gear available for the Roman military legions at specific points in time. Part of this path towards a partial uniformity was the adoption of the Montefortino helmet. The two main sources of evidence are iconographic depictions and archaeological remains recovered primarily from burial sites. Burns lists one recovered from an Etruscan tomb in Orvieto, a tomb relief in Cerveteri, and a fresco in Nola as specific examples with details for the specific Montefortino examples. A fact which is largely detrimental to a cohesive scholarly examination into the evolution of the style of the helmets is in Burns’ study only 52 of the 145 total examples he examined, or roughly 35%, have a well-documented provenance.

Andrew L. Goldman (2014) discusses the issue of military equipment in the archaeological

record dating to the Roman Republic. Very early in the work he laments the fact that, “While investigation has taken place at a handful of formal camps, siege and garrison sites, much of the excavated material remains contextually problematic, having been recovered in the 19th and early 20th centuries under circumstances which lack sufficient documentation and methodological rigor for conclusive analysis,” a sentiment expressed by numerous articles when attempting to investigate aspects relating to the army of Republican Rome (Goldman 2014:2). Goldman acknowledges the issues with written sources from the era, such as regional bias or lack of first hand observations, and comments on the necessity of using them as an aid in understanding what has been found, though they should not be taken as the sole definition of what must be true on the subject. Goldman points out the new avenues of scholarship related to the army of the Roman Republic being pursued in the recent decades. These include experimental archaeology and revisiting previous finds and iconography with new knowledge discovered through experimentation. Also, the methodical excavation of new and known sites with proper protocols in place for the recording of information.

Goldman also discusses Polybius’ description of various pieces of arms and armor from book 6 of *The Rise of the Roman Empire*, written around 160 B.C. but describing the Roman army of the Second Punic War and the ensuing decades, approximately 220-170 B.C. This is close enough to the date of the Battle of the Egadi Islands that it can provide an applicable basis for the functionality and style of armor pieces. In section 4 of the article, “The Manipular Army and its Weapons,” the Montefortino helmet is specifically discussed as the type of helmet preferred by the Roman infantry by the middle of the 3rd century B.C. It also mentions it as the standard in use by the tribes of Spain and Gaul during that time period. It discusses a brief overview of the history, construction, and general components of the type, citing Polybius’ description and the

Ahenobarbus altar as evidence. Goldman (2014:21) states, though, that the officers of Rome did not adopt this style of helmet, choosing instead to keep the Corinthian and Attic inspired Greek helmets of the earlier periods, as they are depicted on monuments and paintings in these styles.

The article “Montefortino type and Related Helmets in the Iberian Peninsula: A study in Archaeological Context,” by Fernando Quesada Sanz (1997) attempts to create a classification table for helmets found in Iberia, though the author warns many pieces used in the study are of uncertain provenance, with little to no information known as to their find sites or context prior to excavation. It is also the first attempt by the author to dispel the incorrect classification of helmets under the Celtic “La Tene” category, as many early studies claimed they were from that stylistic group in order to posit a widespread incursion of Celtic culture during the Iron Age of Iberia. This idea originated with scholars such as A. Schulten (1914-1931) and H. Sandars (1913) in the early 1900s, and continuing on into the 1980s when Abasolo and Perez (1980) classified a helmet from Gorrita as a Celtic import, until Sanz’s reclassification of his works.

Sanz (1997:153) points out that many examples dating to the mid-3rd to mid-1st century B.C. are found in southeastern Spain, and arrived in the area from the Italian region during Roman activity, such as the Punic Wars. Of the approximately 60 helmets in the study, Sanz classifies 30 as true Etrusco-Italic Montefortino type; these were found in cemeteries, though recovered under questionable circumstances. Surrounding artifacts and the information available on the recovery sites date many of the helmets to the end of the 3rd century B.C. and the entirety of the 2nd century B.C. in the Alicante, Murcia, Albacete, and Eastern Andalusia cemeteries. Quesada Sanz (1997:155) notes, however, that the find of a helmet in any of these cemeteries is extremely rare when compared to arms, leading him to theorize that these were imported by mercenaries and allies fighting for Carthage during the Second Punic War, rather than pieces locally produced in Iberia.

In a later article, Quesada Sanz (2005), discusses the Montefortino helmets discovered in Spain at length to examine the distinction between ‘Celtic’ and ‘Iberian’ culture in Iron Age Spain. The weapon assemblages studied were divided into regional areas for a general typology in an overall attempt to disprove the influence of Celtic culture on Iberia that was a popular theory at the time of the article’s publication. This is an evolution of the ideas mentioned in his 1997 article, with new resources available to assist in the development of his interpretations.

Quesada Sanz (2005:68) states that although the jockey cap is a Celtic item found in areas that are Iberian, it does not prove a sub “Celt-Iberian” influence on the development of Iberian weapons. The helmets used in the study come from Iberian cemeteries in Murcia and Andalusia, shipwrecks, and other Iberian cemeteries, Alacaracejos and Soria, where they appear to have been discarded by mercenary soldiers. At the end of the study, Quesada Sanz concludes that the early examples from the First and Second Punic Wars reflect an Italic origin, rather than a Celtic, and were examples of prestige items for the deceased owners.

In “Roman Republican Weapons, Camps and Battlefields in Spain: An Overview of Recent and Ongoing Research,” Quesada Sanz and Eduardo Kavanagh de Prado (2006), discuss numerous projects they revisited in Spain starting in the 1990s after a resurgence in academic interest regarding the previously found artifacts that were not well documented at the time of recovery. The new research on Montefortino helmets discussed in the article deals primarily with those examples dated from the Second Punic War onwards, but they still may offer an insight into the cultural stylistic choices visible on the finds from the Egadi Islands. The number of known examples cited in the article are 60 in Iberia at the date of publication, which allows for the compilation of the index of examples tracing the chronological stylistic phases in correlation to the archaeological record. This typology does include a few specimens dated to the late 3rd century

B.C. that were located in funerary contexts in southeast Iberia.

A comprehensive overview of the evolution of arms and armor in Rome is given by M.C. Bishop and J.C. Coulston in *Roman Military Equipment: From the Punic Wars to the Fall of Rome* (2006), an updated version of their previous publication of the same title released in 1993. They state that a historical perspective was chosen to illustrate the changes throughout time for the Roman military as it allowed them to blend written sources with archaeological finds without allowing either to dominate their narrative and skew the resulting conclusions. The fourth chapter deals with the Republican period and notes in its introduction, “Lacking detailed archaeological evidence, dependent upon literary accounts of dubious merit, and occasional pieces of representational evidence, it is only comparatively recently that significant finds of artefacts from secure archaeological contexts have begun to appear,” (Bishop and Coulston 2006: 48). This expresses again the sentiment felt by numerous authors concerning the arms and armor of this era lacking proper context in the archaeological record. The brief section on Montefortino helmets, mentions that many examples are known from funerary contexts of private individuals who wanted to celebrate their military achievements primarily because Rome had no standing army at this point. Though because of activity in Iberia, such as the Second Punic War, there are finds located outside of cemeteries, such as at Caminreal, Alfaro, and Quintanas de Gormaz. A brief description on the origin and evolution of the Montefortino helmet follows, with specific mention of the changing style of cheek pieces, from three circles connected in a triangle to the Agen/Port style that allowed the wearer to maintain his peripheral vision. To close the section out, the description provided by Polybius in book 6 of his work is given and the altar of Domitius Ahenobarbus is mentioned as one of the few iconographic representations of the style available.

From the summaries of the sources used in this paper above, a pattern emerges of the current

studies and information available on the Montefortino helmet. The current catalogue available to scholars comes primarily from Iberia, with sixty examples of intact and fragmented segments known and available for research in museums. The majority of these came from cemeteries, though they were rare finds when compared to arms discovered in the same areas, and have little or no record of excavation due to the period of their discoveries being primarily in the Victorian era. Though Burns' article cites 145 examples of Montefortino helmets, only 35% have a known context outside of Iberia, illustrating a need for more examples excavated with proper protocols. Apart from the 1997 article by Quesada Sanz, none of the works attempts to discuss in detail the differences in decoration for the various cultures that utilized this style of helmet. They also fail to discuss the differences which existed even within the Roman army due to the numerous groups which came under their rule during the Republic. The lack of standardization of equipment until the creation of a standing army and the Marian Reforms are never touched upon either. What these various sources illustrate is that the finds from the Battle of the Egadi Islands site provide Montefortino helmets which are largely intact with proper documentation of their find spots and which can therefore be securely dated to the mid-3rd century B.C. Thus, the helmets from the Egadi Islands have great potential to enhance the scholarship on the evolution of this style for a period from which few examples survive.

In order to investigate the group these helmets may have come from, ancient European pagan religions and cultures were researched using *Myths and Symbols in Pagan Europe: Early Scandinavian and Celtic Religions*, by H.R. Ellis Davidson (1988). Though the helmets are most likely not from a Celtic mercenary, the owners could have been from neighboring areas of northern Europe, and this work establishes a number as examples for prominent symbols seen throughout numerous regions possessing the same meaning. Davidson (1988: 2) states in the introduction in

regards to the Celts, Germans, and Vikings that, “there are links between the cultures of these peoples, and striking resemblances between the religious symbols which they used and their pictures of a supernatural world...The Scandinavian Vikings were not converted to Christianity until about AD 1000, and so it is from their records that most of our information about gods and sacred places and supernatural realms is derived.” Due to the lack of records for the Gauls outside of a few biased Roman descriptions, the religious aspects of neighboring ethnic groups are used to extrapolate meanings behind symbols present on the helmet, particularly if multiple cultures display the same symbol and meaning which could indicate a widespread exchange of ideas in belief systems. The chapter entitled “Feasting and Sacrifice” contains descriptions of the various animals important to polytheistic religions of Europe (Davidson 1988: 45-56). The boar represents the sun and warrior and has similar meanings behind it in Celtic, German, Welsh, Scandinavian, Irish, and Anglo-Saxon tales and artwork. The bull, another prominent animal, is also featured in northern Europe and the Mediterranean with a connotation similar to the boar and its ties to warriors and the sun.

The interpretations made by Davidson are further investigated by the author of this paper through the use of translated examples of the source materials used to form meaningful extrapolations. These are utilized to present the alternative of a non-Roman soldier as the owner of one of the helmets through collecting and repurposing armor of fallen combatants. Though it is unlikely any of the 6 examples of Montefortino helmets recovered from the Egadi Islands are not Roman, the Graffito on the crest knob allows for the alternative ownership to be explored. Translations include the Scandinavian myths in *Myths of the Norsemen from the Eddas and Sagas*, translated by Helene A. Guerber (1895) under the title *Myths of Northern Lands*, and the prose interpretation of those same myths in *The Children of Odin*, by the Irish-American poet Padraic

Colum (1920) who drew from the *Prose Edda* and the *Poetic Edda*. The information put forth by Davidson concerning the content of the myths is verified while also allowing for further conclusions to be drawn in relation to the symbols on the Montefortino helmets found. As Davidson stated in her work, the Prose and Poetic versions of the *Edda* were compiled after the descendants of the Vikings had converted to Christianity. A chieftain from Iceland, Snorri Sturluson, compiled the *Prose Edda* before his death in A.D. 1241 in an effort to illuminate the ancient rituals and customs that were in the process of being lost by his people. The *Poetic Edda* was also written in Iceland by an unknown author shortly after A.D. 1270, and contains some summaries and direct quotes from Snorri Sturluson's work. Due to the redundancy of source material for the Scandinavian elements that are used to create hypotheses concerning the Gauls, any flaws with interpretation would be compounded by the extremely limited body of work and the fact that the available written sources may have drawn from one another.

Chapter 3: Historical Evidence

The author of any historical evidence must be investigated to determine if there is bias present in the record that needs to be compensated for when utilizing the works in an archaeological investigation. Polybius, for example, began work on his narrative after the First Punic War, he lived as a contemporary to the Second Punic War as a member of the Scipionic Circle, a group of close friends of Scipio, and provides a significant amount of detail on military preparations and the typical course of battles. The timeline of the Battle of the Egadi Islands, only once it is determined it is trustworthy, is presented to understand how the helmets came to be deposited at the site and offer a plausible point of origin for the pieces.

The Life of Polybius

Historically the most complete description of the Battle of the Egadi Islands is provided by Polybius in the first book of his *Histories*, which also is the most complete history of the First Punic War (264-241 B.C.) that survives into modern times. Polybius himself was born towards the end of the third century B.C. in the Greek city of Megalopolis, Arcadia, located in the Peloponnese, to a wealthy Achaean politician named Lycortas (Walbank 1979: 12). Due to the position of his birth, Polybius was trained to ride and hunt, and was eventually elected hipparch, an Achaean federal office, in 170/69 B.C., which provided him with the ability to grasp how the Roman Army operated and how to best describe this foreign force to his Greek audience (Walbank 1979: 13).

Although after the Battle of Pydna in 168 B.C. he was a hostage of Rome under the charge of the Scipio family, Polybius became friends with and tutor to P. Cornelius Scipio Aemilianus, the son of Aemilius Paullus, allowing him access to a number of influential Romans because of Publius' connection with both the Aemilii Paulli and Cornelii Scipiones (Walbank 1979: 13).

Polybius' Greek education was of benefit to P. Scipio Aemilianus, who utilized him as a mentor and a member of his 'Scipionic Circle' once he was given permission to reside in Rome despite being denounced by Callicrates, a pro-Roman Achean, to the Romans as one of a thousand Achaeans sentenced to death (Walbank 1979: 13-14). In 150 B.C., Polybius was invited by Scipio to Africa while he had Carthage under siege during the Third Punic War, which was around the time when he also published *Tactics*, a lost work on military advice (Walbank 1979: 14).

After the destruction of Carthage in 146 B.C as a result of the Third Punic War, Polybius negotiated between a group of Achaeans, who rose up against Rome, and the Roman conquerors, for lenient terms for his fellow Greeks. This is his last known public act, and afterwards he retired to Rome to write his *Histories*, which only partially survive into modern times from the original forty books (Heritage-History 2007).

The Battle of the Egadi Islands - Polybius' Description

Polybius (*Histories*: 1.60) records the following for the morning of 10 March 241 B.C.:

At daybreak the next morning he (Lutatius) saw that the strong breeze which was blowing up was favorable to the enemy, and that it would be difficult for his ships to beat up against the wind, as the sea had turned rough and boisterous. At first he could not decide what was the best course in these circumstances, but after a while he reflected that if he risked an attack now while the weather was stormy, at least he would be fighting Hanno and his sailors alone and before they had received any reinforcements.

The Roman fleet would most likely have been anchored off of the eastern shore near the tip of Levanzo island, across from Drepanum on the mainland of Sicily. This would have provided them with a safe point of anchorage on the island while also allowing them a vantage point to

intercept any incoming fleet of supplies to the Carthaginian troops stationed at Eryx. The Carthaginian fleet was anchored off the northern shore of Marettimo Island, the farthest of the Egadi Island group. From the position of the Carthaginian fleet, it is likely they did not know where the Roman fleet was anchored or the full extent of their opponent’s resources until they were able to view them while already under sail (Figure 2).

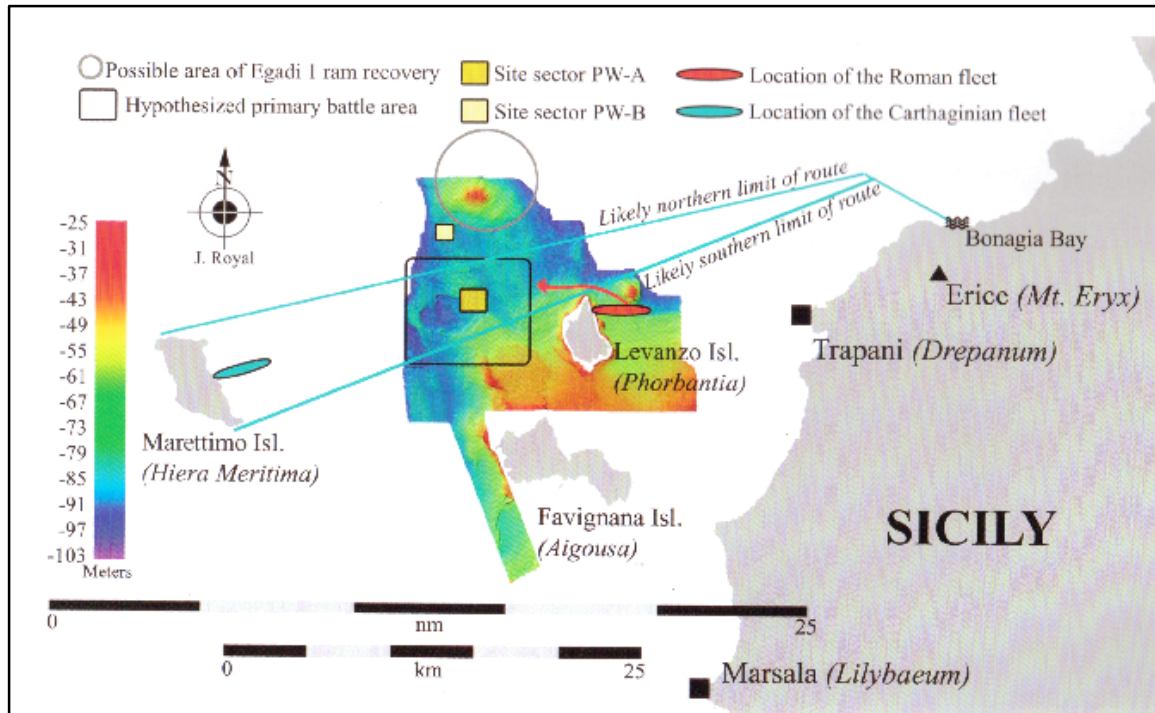


Figure 2: Map of battle landscape with survey area through 2011, site sectors, and hypothesized movements of fleets (Source: Royal 2012: 9)

Carthage was attempting to resupply the troops under Hamilcar’s command at Eyrx, and their vessels were weighed down by replacement arms and armor, amphorae of food, and various other living necessities that the camp would have run out of while under siege or harassment by the Roman army. In addition to the supplies, the vessels are believed to have been in a state of disrepair from the previous beaching of the fleet in 244 B.C., when the majority was decommissioned by the government under the advisement of their military commanders who

thought the cost of maintenance was unjustified, or may have belonged to merchant traders looking to profit from the state of the troops. A number of the Carthaginian ships might have been an older style of quinquereme captured from Rome during the battle of Drepanum (249 B.C.), where the Roman commander Pulcher suffered a major defeat to Adherbal and Hamilcar of Carthage, losing 93 ships out of a fleet of 120. However, the wind was coming in from the west at daybreak, an advantage which would allow the Carthaginians to use their sails to quickly cross and enter the port of Sicily.

Once it was clear to Hanno that Rome meant to challenge them despite the weather that day he:

lowered their masts...they closed with the enemy. This time the state of preparation of each force was exactly the opposite of what it had been at the battle of Drepanum, and since the conditions were the opposite, the results of the battle were the opposite. (*Histories*: 1.61)

However, as G. Lutatius intended to do battle, he prepared the fleet accordingly to allow for swift maneuverability with his well-trained crews:

The Romans had reformed their methods of ship building and had also removed all heavy equipment from their vessels, leaving only what was required for the battle. Their rowers worked in complete unison and gave excellent service, while their marines were all men selected from the legions for their indomitable spirit and thoroughly seasoned in battle. (*Histories*: 1.61)

The unnecessary equipment, perhaps masts, food supplies beyond water skins, and rigging lines, was likely left on the shore of Levanzo Island to ensure the extra advantage of speed and maneuverability. This was typical of navies going into battle in the ancient world if they knew they

were going to engage the enemy and Polybius' audience of Greeks were likely familiar with the 'heavy equipment' that was left ashore prior to battle, and thus this would not have been a detail he would need to describe to his audience (Rodgers 1971:302).

At this point, Polybius (*Histories*: 1.61) does not provide a description of the battle action, but rather skips to the end result of the conflict, stating that:

Fifty ships were sunk outright and seventy captured with their crews. The remainder raised their masts and, running before the wind - which fortunately for them veered round in the nick of time to help their escape - they made their way back to the Holy Isle (Hiera). The Roman consul sailed to Lilybaeum to join the army and there busied himself with disposing of the men and the ships he had captured; this was a large undertaking as the Romans had taken nearly 10,000 prisoners in the battle.

Rodgers (1917:303) theorized based on Polybius' description of the battle that the wind shifted during the battle, "and Hanno brought the remainder of his fleet back to Hiera, while the Consul was struggling to secure his prizes and get them safely to port against a head wind. The prisoners numbered nearly 10,000, which is another suggestion of small crews, i.e., 140 surviving prisoners per captured ship." The direction of the winds is not described by Polybius during the passage, but it may be possible to theorize the wind patterns based upon current knowledge of the seasonal sailing patterns in the Egadi Island area from modern times.

During the months of March and October, the beginning and end of the sailing season in the Mediterranean, the prevailing winds blow out of the North in what can be characterized as a violent and unpredictable pattern that can cause sudden storms and choppy seas when blowing opposite of the prevailing sea currents (Broodbank 2013:74) (Figure 3). If the wind was blowing in a westerly direction at the beginning of the battle, then it may have shifted to the opposite easterly

direction by the end of the battle to facilitate Hanno's escape while also impeding Lutatius' salvage operations to claim prizes from the Carthaginian fleet.

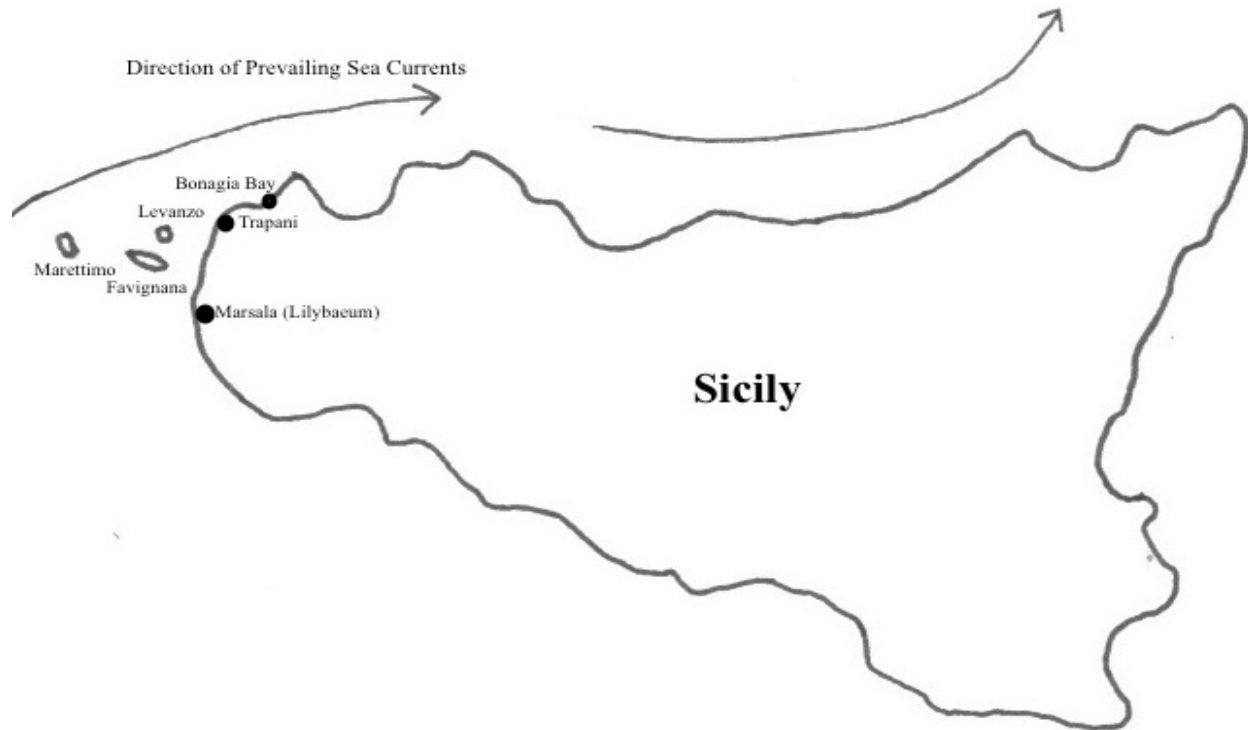


Figure 3: Map depicting Prevailing Sea Currents around Sicily from March to October (Image by author, 2017)

Lutatius returned to Lilybaeum on the mainland of Sicily, where he had already secured an area with his troops prior to the battle, and possibly in an effort to reinforce and booster the morale of the legionary troops that were stationed there to conduct the siege on Carthage's forces at Eyrx. This posed a particular problem to Carthage and their ability to continue the war, as Hamilcar Barca, their leading general for the First Punic War, was with his troops in Sicily awaiting the supply shipment. With this in mind, Polybius records that for Carthage:

the enemy had now gained control of the sea, which made it impossible for them to supply their own troops in Sicily...if they were to abandon and as it were betray these forces, they would be left without either the men or the leaders to continue the war.

Hamilcar Barca was the leading commander for Carthage, and the loss of him along with his troops would have drastically reduced any hope of a future contest with Rome, either to avenge the loss of this first war or to continue the conflict after the Battle of the Egadi Islands. The battle proved a devastating blow to Carthage, one they ultimately could not recover from, and prompted them to seek peace with Rome due to a desperate financial situation. Appian (*Sicilian Wars* Fragments) records the following regarding the negotiations between Rome and Carthage after this battle:

When the Carthaginians had met with two disasters on land at the same time, and two at sea where they had considered themselves much the superior, and were already short of money, ships, and men, they sought an armistice from [proconsul Gaius] Lutatius [Catulus] and having obtained it sent an embassy to Rome to negotiate a treaty on certain limited conditions.

With their own embassy they sent [Marcus] Atilius Regulus, the [former] consul, who was their prisoner, to urge his countrymen to agree to the terms. When he came into the senate chamber, clad as a prisoner in Punic garments, and the Carthaginian ambassadors had retired, he exposed to Senate the desperate state of Carthaginian affairs, and advised that either the war should be prosecuted vigorously, or that more satisfactory conditions of peace should be insisted on. For this reason, after he had returned voluntarily to Carthage, the Carthaginians put him

to death by enclosing him in a standing posture in a box the planks of which were stuck full of iron spikes so that he could not possibly lie down. Nevertheless peace was made on conditions more satisfactory to the Romans.

Another historian who also recorded the history of Rome was Appian, a Greek born in Alexandria who lived around the 2nd century A.D., but whose writings only partly survived. The details recorded by Appian are different from those written by Polybius, as he makes no mention of the former Consul Atilius Regulus' involvement in any negotiation or his fate at the hands of Carthage after he returned with those delegates. This may be because Appian's record was written long after both the war and Polybius' account, and the story of Regulus may be a fabrication on the part of Appian to provide a strong moral tale meant to illustrate the sacrifices made by upstanding Roman citizens during a prolonged period of war. Instead, Polybius (*Histories* 1.62-63) records:

There shall be friendship between the Carthaginians and the Romans on the following terms, provided that they are ratified by the Roman people...shall evacuate the whole of Sicily; they shall not make war upon Hiero, nor bear arms against the Syracusans nor their allies...shall give up to the Romans all prisoners without ransom...shall pay to the Romans 2,200 Euboean talents of silver over a period of twenty years.

However, when these terms were sent to Rome, the people did not accept them, but dispatched ten commissioners to examine the whole question. On their arrival they made no important changes in the terms, but introduced a few minor alterations which imposed more severe conditions on the Carthaginians. They reduced, for example, the time allowed for the payments of the indemnity to ten years, added

1,000 talents to the total, and demanded that the Carthaginians should evacuate all the islands lying between Sicily and Italy.

He states that this is the end of the negotiations between the two forces, with no mention of specific individuals apart from the negotiations between Lutatius and Hamilcar on Sicily just after the battle of the Egadi Islands. It has been theorized by A.N. Sherwin-White (1963:190-191) that when a historical event or figure impacts a large portion of the population, if an account exists that was written within approximately two generations of the occurrence, the process of a legend overtaking the facts may not happen in such a short time frame and that, “however strong the myth forming tendency, the falsification does not automatically and absolutely prevail.” Instead of calling Polybius into question over his lack of detail in this matter, it may serve to reinforce what information he does recount because he did not write details he could not have known or proven while composing his *Histories* after living through the Second and Third Punic Wars. This theory may serve to explain his lack of details concerning the Egadi Islands naval conflict, apart from the disposition of each force prior to battle; if he could not find an account of the fleet maneuvers or battle actions he would not write that section.

Conclusion

A historian must approach the surviving ancient sources with a degree of skepticism, as details could easily be altered to suit the intended audience or be lost when transcribed, and all available resources must be utilized to attempt a verification of the written record left to us. The Battle of the Egadi Islands may have been remembered by numerous authors, but it is the account given by Polybius which survives into modern times as the most complete description of a key battle which brought the First Punic War to a close. Using what is known about the geography of the area, including seasonal wind patterns and factors that affected the landscape of the seafloor,

and the recently discovered archaeological finds recovered from the islands, it is possible to analyze Polybius' account. With the current information available to archaeologists and historians, the record of the battle given by Polybius seems accurate in its description of the vessels involved and the likely destruction that would have occurred for the Carthaginian fleet of cargo ships as Rome proved victorious in this decisive final naval clash.

Military States of Rome and Carthage Prior to the Battle of the Egadi Islands

Military Status: Rome's Preparations for the Battle

Prior to the Battle of the Egadi Islands, Rome had suffered a major defeat at the battle of Drepanum in 249 B.C., which resulted in the destruction of the fleet and a shift towards land-based fighting. Until 241 B.C., Rome believed it was possible to win the war purely through their land army, as Polybius (*Histories*: 1.59) writes, "For the previous five years they had withdrawn completely from naval operations, partly because of the disasters they had suffered, and partly because of their belief that they could win the war by means of their armies alone." Due to the leadership of Hamilcar of Carthage, Rome realized that they would need to change their strategy if they wished to end the war in a timely fashion, sparing them from further financial burdens after twenty plus years of warfare. It was decided that Rome would again construct a fleet to seek a naval victory as, "they believed that this strategy, if they could strike the enemy a mortal blow, offered the only prospect of finishing the war successfully" (*Histories* 1.59).

Polybius (*Histories*: 1.59) records the following details of the construction of the fleet:

Yet the effort sprang from sheer resolution rather than material resources. There were no funds in the treasury to finance the enterprise; but in spite of this, thanks to the patriotism and generosity of a number of leading citizens, the money was found. Single individuals or syndicates of two or three, according to their means,

each undertook to build and fit out a quinquereme, which was fully equipped on the understanding that they would be repaid if the expedition was successful. In this way a fleet of 200 quinqueremes was quickly made ready, all of them constructed on the model of the ship originally captured from Hannibal, 'the Rhodian'.

The cost of a quinquereme was a massive undertaking for each private citizen who financed one, and it is questionable whether the wealthy volunteered for the project or if they were compelled to do so by the government, who softened the blow by promising to repay them if they were victorious. The rowers were supplied by the allies of Rome, as it was considered beneath a Roman to be an oarsmen rather than a soldier of the legion, though the allies did not necessarily have to be able rowers before being sent into service. The Roman commander Gaius Lutatius saw to their training and overall fitness prior to the battle through a variety of methods detailed by Polybius (*Histories* 1.59):

...he at once took possession of the harbor at Drepanum and the roadsteads near Lilybaeum. He then erected siege-works around Drepanum and made other preparations to blockade the city...So he did not allow the time to be wasted or his men to be left unemployed. The crews were rehearsed and drilled every day in the maneuvers that would be needed for the battle. He also paid particular attention to the training and discipline of his sailors, and by these methods he raised them in a very short time to the condition of trained athletes for the coming contest.

The building of the siege works and crew drills would maintain the physical fitness of each individual while also teaching those that were untrained how to perform the complex maneuvers in sync and what method of communication would be used to indicate each move in the confusion of the battle. Gaius Lutatius' method of constant drilling and training to prepare his troops was a

precursor to the military reforms that would become the standard later for the more stationary legions under the Marian reforms.

Military Status: Carthage's Preparations for the Battle

Carthage, upon learning that Rome had once again constructed a fleet with the intention of controlling the sea, revived their old fleet and prepared to re-supply the troops stationed at Eyrx on Sicily. However, their fleet was largely in a state of disrepair since the government had voted to disband it around 244 B.C. at the suggestion of Hanno. There was also no standing trained fleet of rowers, as the citizens thought it beneath them and the state relied on an untrained crew of slaves for this expedition to Sicily. Polybius (*Histories*: 1.61) implies that the state of disrepair was due to the hubris of Carthage without going into specifics, just prior to the engagement of the two forces.

The command of the expedition was given to Hanno, presumably a different Hanno than the one who voted to decommission the majority of the fleet. No history is provided for the Hanno given command at this time by Polybius. Perhaps because of the span of time that had passed since the First Punic War and his own life, along with the defeat Carthage suffered and a conscious will to not remember him on their part, it is difficult to determine which Hanno this was. Polybius (*Histories*: 1.60) records the following strategy for Commander Hanno:

This fleet was placed under the command of Hanno, who immediately set sail from Carthage and reached the so-called Holy Isle. His plan was to sail on as soon as possible to Eyrx without the Romans' knowledge; there he would unload his stores and so lighten the ships, take on board those of the mercenary troops who were best trained to fight as marines- together with Hamilcar Barca himself- and then engage the enemy.

The troops under Hamilcar were well trained veterans and mercenary soldiers that could challenge the Roman marines in combat once boarding began on the vessels, and also provide a morale boost to the Carthaginian rowers while demoralizing the Romans. Lutatius was able to anticipate this plan once in the area and formed his strategy based on this hypothesis on the eve of battle:

However, Lutatius received intelligence of Hanno's arrival and anticipated his intentions. He too embarked the best troops in the Roman army to fight as marines, and sailed to the island of Aegusa which lies off Lilybaeum. (*Histories*: 1.60).

This was the state of each fleet just prior to the battle as reported by Polybius, as well as their position relative to one another within the area of Sicily.

Chapter 4: Iconographic Representations of Montefortino Helmets

Entella Tablet IV (B1)

A series of carved stone slabs, called the Entella Tablets, were discovered in Sicily and surfaced on the antiquities market during the 1970s. One of these has a depiction of a Montefortino helmet inscribed upon it (Figure 4). Tablet IV or B1 is a proxeny decree, an arrangement where a citizen was selected by his city to host a foreign ambassador at his own expense in exchange for titles granted to him by the state, of Entella for Tiberius Claudius of Antium. The decree is inscribed on a bronze tablet, rectangular in body with a triangular pediment on top, and the Montefortino helmet, with 3 plumes of either feathers or palm fronds and a set of cheek pieces, is placed in the middle of the top of the tablet through lines 1-3. In addition to the plumes, there are hatch marks running what would be the brim of the bowl, a representation of the detailed decorations on the edge of the bowl, three dots on the top of each cheek piece that may be rivets anchoring them to the bowl, and one rivet in the middle of the bottom of each cheek piece, the projection which would have secured the ties from the chin strap riveted on the neck guard. The crest knob is not depicted but there is a gap at the top of the helmet that suggests the knob was possibly worn away but was included when the tablet was originally inscribed. This inscription is dated to the late 4th or early 3rd century B.C. and provides a rare representation of a helmet from the early republic period, a part which was often neglected from depictions of deceased soldiers to allow for the face to be clearly viewed on grave markers and monuments erected in memoriam.

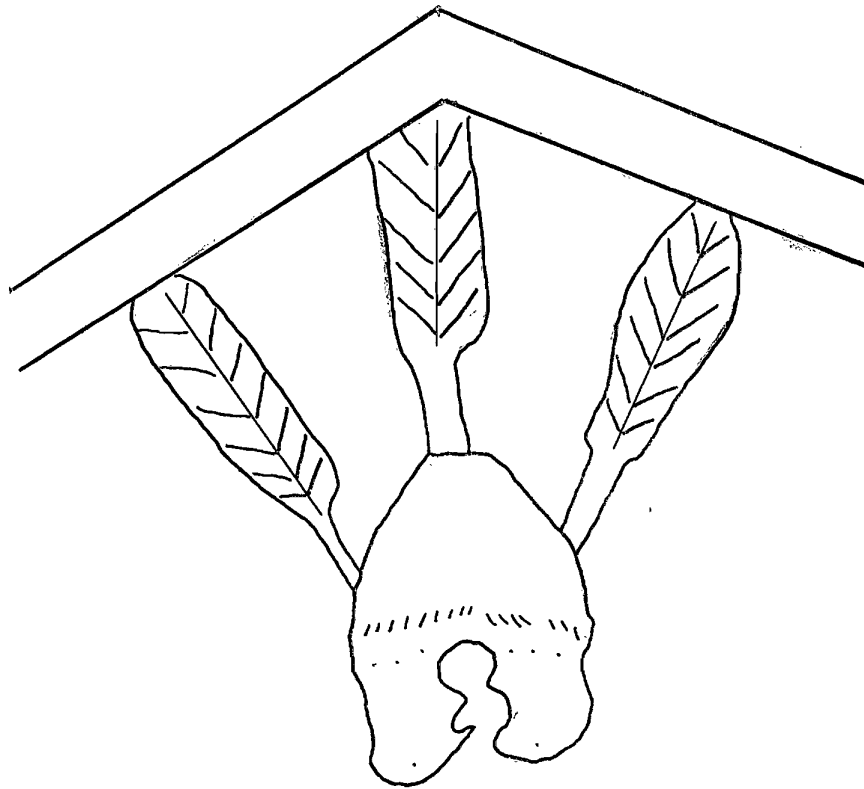


Figure 4: Illustration of Top Decoration from Entella Tablet IV (B1) (Image by author, 2017)

Altar of Domitius Ahenobarbus

One of the few iconographic representations of soldiers in uniform from the Republican Era comes from the Altar of Domitius Ahenobarbus, a misnomer for a series of bas reliefs commissioned by Gnaeus Domitius Ahenobarbus towards the end of the second century B.C. This series of reliefs decorate the column bases in the Temple of Neptune located in Rome on the fields of Mars, which could indicate that the works were undertaken after a naval victory by Domitius Ahenobarbus.

The temple contains a variety of scenes reflecting both Neptune and the duties of a consul of Rome, but amongst the carvings are four legionaries in full uniform. Two of these soldiers appear

in a scene depicting a census overseen by officials (Figure 5), one in a recruitment scene (Figure 6), and the last in what appears to be a sacrifice of livestock to Mars (Figure 7). Though the reliefs also include a cavalryman and an officer in full uniform, the helmets on those individuals differ from the legionaries, with the cavalryman depicted in a Boeotian helmet and the officer in one with no cheek pieces extending from the bowl (Bishop and Coulston 2006: 66). As the four infantrymen are all carved with helmets of the same overall style, they are considered as the ones depicting the Montefortino. Each has what appears to be a horsehair crest protruding from the top of the bowl, an attempt to depict the decorative elements around the rim of the bowl with a border line delineating the slightly pronounced ‘wicker’ edge, a downward sloping neck brim, and attachment points on the sides for cheek pieces, which extend from there to the chin of the infantryman. Though the crest decoration differs from the one shown on the Entella IV tablet and the description provided by Polybius (6.23), by the time of Caesar’s war in Gaul, it appears that certain legions were known for unique crest adornments and perhaps those serving under Domitius Ahenobarbus were accustomed to using a horse hair type crest to identify their legion (Bishop 1990:161).



Figure 4: Two Soldiers from Altar of Domitius Ahenobarbus (Image by author, 2017)



Figure 5: Recruitment Soldier from Altar of Domitius Ahenobarbus (Image by author, 2017)



Figure 6: Soldier from the Altar of Domitius Ahenobarbus (Image by author, 2017)

Chapter 5: Archaeological Work at the Battle of the Egadi Islands

The record of the battle of the Egadi Islands spans from Polybius' *Histories* book 1.59 to 1.61, a small account for a naval victory which allowed Rome to pressure Carthage into terms of surrender after almost twenty-three years of warfare. The Italian government seized a bronze ram in 2004, which led to the location by RPM in 2005 of the battle site after extensive research into the available historical records. This allowed for historians to evaluate Polybius' account based on the archaeological evidence recovered. Through numerous field seasons conducted by RPM, over 270 square kilometers of the seafloor have been mapped and surveyed by RPM using, "multibeam echosounder mapping combined with verification of anomalies using a Remotely Operated Vehicle [ROV]" (Tusa and Royal 2012: 11). The specific equipment in use for the principal survey methods of the site are:

Remote sensing with a multibeam echosounder and verification of anomalies with a Remotely Operated Vehicle [ROV]. Both survey and verification were carried out with RPMNF's research vessel *Hercules*. This is equipped with a hull-mounted EM3002D multibeam echosounder from Kongsberg Maritime division, which emits in excess of 500 individual sonar beams at a maximum rate of 40 times per second, on two frequencies, 297 and 303 MHz. The system has a depth-resolution rating of 1 cm. The ROV is a Panther XT small work-class vehicle from Seaeye division of SAAB; among the attachments are an HD camera, two Hydro-Lek multifunction manipulators, and a suction system (Royal and Tusa 2012: 26).

A number of artifacts are recovered by RPM from the site, including ten bronze rams, seven bronze helmets, and numerous amphorae, which held objects such as iron nails, coal, possible ballast stones, two bronze cheek pieces for helmets, and assorted pottery sherds. It is the rams and

helmets which lend the strongest confirmation to the dating of the site to the First Punic War and the account of Polybius, due to the inscriptions on the rams and helmet style which can be dated to certain periods. The rams which have inscriptions intact are all in Latin, and the portions which have been translated typically state which consul or wealthy Roman commissioned the construction of the vessel. This may lead some to believe that a number of Roman ships were sunk in whatever battle these rams belonged to, yet when the iconography on the cowl, the top sloping front portion of the ram (Figure 8), is investigated, it leads to the suspicion that these belonged to Roman vessels that were captured and reused by Carthage. The quality and decoration style of the Montefortino helmets suggest a date around the mid to late 3rd century B.C., as the decline in manufacturing standards of that style of helmet begin to show in the archaeological record around that time.

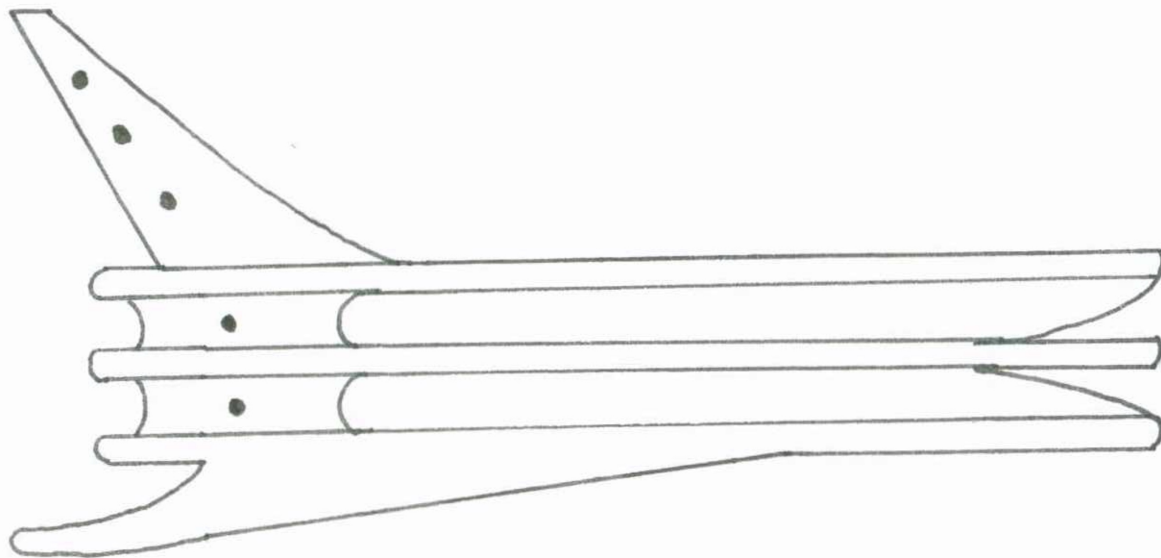


Figure 8: Depiction of Ram (Image by author, 2017)

The numerous amphorae raised from the site in sector PW [Punic War]-A contain a mixture of Punic and Greco-Italic V/VI; those identified in the sector but left on the seabed are also of the same varieties. They are scattered on the sea floor with no discernible concentrations different

from how amphorae are found in the wrecks of ancient merchant vessels, which suggests that they were expelled from cargo vessels or warships as they foundered after being struck by an opposing warship, as opposed to cargo dropped from regular merchant ships traveling through the area around the same period. This would support the description from Polybius of Carthage using its fleet to attempt to resupply the troops located in Sicily under Hamilcar Barca, who had already been under siege from Rome for several years.

However, the effect fishing nets trawling through the region have had on the battle site cannot be ignored, as they altered the original depositional area of a number of artifacts. An area designated as part of the battle, the sector west-northwest of Levanzo Island, has scarce artifact remains and almost no macro fauna present, but the ROV camera revealed numerous furrows created on the floor by dragnets combing the sea. The sector designated as PW-A is approximately 7 km west of Levanzo Island and encompasses from the edge of a wide open sandy area, with signs that it has been heavily dragged over in the past, to a rocky outcrop to the west that has protected a number of artifacts associated with the battle. Due to this rocky environment, it is necessary to use an ROV in order to provide visual confirmation of the objects, as the rocks have similar sonar pings on the sonars as the amphorae, helmets, and rams present on site. It is believed that due to the rocks creating an inhospitable fishing environment, those items located in sector PW-A, including the Montefortino helmets, represent either the original deposition of the artifact or a slight disturbance to the point of origin.

The Six Montefortino Helmets from the Egadi Islands

All of the Montefortino helmets found at the Egadi Islands site are believed to have come from the Battle of the Egadi Islands, 10 March 241 B.C., during the First Punic War between Rome and Carthage. Despite the high percentage of encrustation on all the artifacts, 80% or higher, it is possible to discern the same braided rope decoration on each helmet running the circumference of

the bowl and the neck guard at the base of the helmet. This stylistic element appears to represent a part of a wicker helmet that perhaps served as a precursor to the bronze ones in use during the battle, a theory based on the depiction of the same style of helmet on two rams (Egadi 7 and Egadi 8) that seems to have a woven element resting around the crest knob and tied together under the chin or possibly joined with the cheek guards. The braided rope is repeated around the upper circumference of the crest knob on those four that still have the knob intact, though it is difficult to discern the surrounding decorations due to the encrustation on each.

An element of hardware that is present in only one example outside of this grouping is a riveted neck guard located at approximately the center of the neck brim (*see figure 17*). Despite the encrustation on them, at least the outline, if not the actual rivet, is visible as circular bolts on the topside and square nuts on the underside of the brim. On PW13-0004, an additional element of the rivet has survived as a flat piece of metal held in place by the square bolt on the underside of the brim, with both ends of the flat piece curved into loops, possibly for another bolt or nail to be run through to secure the hanging neck guard. All six also have rivets visible, two on each side of the same circular bolt and square nut, to secure the hanging cheek pieces at the locations that are considered the ‘ears’ for the wearer; however, two possible cheek pieces have been found to date inside an amphora that cannot be connected to any particular style of helmet, nor have any decorations become visible on the item after conservation to help tie it to a particular helmet. Though not a stylistic element, the independent neck guard is an extremely useful identifier to narrow down the possible point of origin for the mercenaries who wore the helmet. The six share the same basic decorative elements, but there are a number of small differences that bear mentioning as they may help to identify a distinction of personal preference or military unit among the soldiers.

PW11-0010

This Montefortino helmet measures at 23.4 cm but it should fall in the upper-range of measurements for the six found on site so far, as the height once the missing crest knob is estimated in is 26.0 cm, but the following recorded amounts after the height are abnormal and do not fit in with the patterns presented by the other five. It has an extremely large external diameter from both neck guard to brim (29.6 cm) and ear to ear (25.0 cm), giving PW11-0010 a short and somewhat rounded silhouette. However, of the four helmets broken in the bowl area, it has the thinnest dome measurement at the mid-height point at 0.1 cm, which could perhaps indicate a piece that was produced for an individual with a lower budget as it is 0.1 - 0.5 cm thinner than the others, or it could simply be the result of weathering from currents on the ocean floor. The neck guard is the longest of all the helmets at its center point (3.5 cm), with a moderate angle of 40°, an angle repeated on another of the Egadi Island helmets (PW11-0030).

The braided rope pattern appears on this helmet and runs the circumference of the combined neck brim and bowl, but there is also a beaded line running the interior of the rope on the bowl that has not been found on the other five as of yet. In addition to the braided rope on the edge of the neck brim, there is a hatching pattern on the interior of the brim that may be an attempt to add the ‘wicker basket’ element of the ancestral woven helmets. However, this helmet is almost 90% encrusted, with approximately 35% of the dome missing and no crest knob present, removing or obscuring much of the surface area that is decorated on the other Montefortino helmets (Figures 9 & 10).

PW11-0030

This example from the Egadi Islands site had an initial lower percentage of encrustation when recovered from the ocean floor, allowing for a more thorough and revealing initial report on the finer details, such as the decorative elements, present on the surface of the helmet. The braided

rope decoration, a motif that seems to be included on all the Montefortino helmets recovered from the battle site to date, is present on this piece as well, running the exterior length of the bowl and the brim combined. The helmet is, for the most part, remarkably intact in terms of the bowl, brim, and crest knob, though the attaching hardware (i.e., cheek pieces and neck guard) indicated on the helmet with bolts, is not present nor were there any pieces resembling these protection measures recovered near the artifact. One of the most unique elements on this artifact are the decorative markings and the graffito on the crest knob located at the apex of the bowl. Though all but one helmet recovered either had a crest knob or displayed evidence of one that had broken off from the bowl at some indeterminable point in time, the knob atop this example had a small degree of encrustation that allowed for the unique markings to be viewed with clarity during the initial investigation of the artifact immediately after its recovery (Figures 11 & 12).

A series of incised lines run the entire outer circumference of the upper bulbous portion of the crest knob, perhaps another decorative aspect meant to evoke the memory of an ancient wicker element that was part of an earlier version of the Montefortino helmet. The braided element present on the rim of the bowl also runs the upper circumference of the bulb near the flattened top that is incised with an element that is the only one of its kind on the Montefortino helmets found at the Egadi Islands battle site. The most unique feature of this helmet is the decorative element and possible graffito present on the top of the crest knob. These elements will be discussed at length later, but to introduce them, it appears to have a circle in the center with sixteen lines of varying lengths radiating outward and forming eight spokes or rays along with two Punic letters overlaid atop the decorative image (Figures 13 & 14).

PW11-0031

This example is heavily damaged, missing approximately 45% of its dome, and also about 95% encrusted, but a series of decorations are still visible on the surviving portion of the bowl, the

intact brim, and complete crest knob. The braided rope is present on the bowl and brim combined, continuing the trend present on the previous helmet from the Egadi Islands (PW11-0030) discussed. On the neck guard there is an additional decoration of incised lines present that run parallel to the braided rope design but they do not continue onto the bowl of the helmet. However, this line pattern is present around the uppermost circumference of the circular bulb on the crest knob, and resembles the decorative pattern on the perimeter of the bulb of PW11-0030.

This particular example is the second tallest (26.0 cm) of those recovered so far from the site, though the measurements for its diameter from neck guard to brim (27.3 cm) and ear to ear (23.8 cm) are greater than the two tallest examples (PW11-0032 and PW12-0012). It also has an incredibly shallow neck guard in comparison to the others, measuring at only 15 degrees, though that is equal to the angle of PW11-0032. The crest knob is the second tallest (2.8 cm) and widest (2.7 cm) of those four examples present across the six Montefortino helmets found, which could indicate that the size of the crest knob was made in proportion to the helmet, or that it was formed of whatever excess bronze was gathered to that point after the desired thickness for the bowl was achieved (Figures 15 & 16).

PW11-0032

This Montefortino helmet is the largest example found at the Egadi Islands site to date. The measurements fit in the size range of what is typical of the style when compared to the others from the site, except for the previously discussed inconsistencies present in PW11-0031. As of now, this is also one of two completely intact examples recovered, with no breaks present along the dome and a complete crest knob at the top. As many Montefortino helmets recovered on land are heavily damaged for a variety of reasons, blows received during a battle, deposited as a form of tribute at a temple once rendered unsalvageable, or simply broken through weathering over the passage of time, this intact example is of great importance to the archaeological record of Montefortino

helmets.

The rope decoration is also present around the rim of the bowl in a style extremely similar to the others from the site. It is difficult to tell if there are any variations along the braided rope/incised line/dot motif on this piece when compared to the other five found due to the high degree of encrustation obscuring details on the surface, but it appears as if the general style present on the others is adhered to in PW11-0032. The crest knob is approximately a full centimeter taller (3.3 cm) than the other three crest knobs present, with a diameter of 2.9 cm that creates a more squat, bulbous silhouette atop its taller wide frame (Figures 17 & 18).

PW12-0012

This example is equal to PW11-0032 in height at 27.1 cm, but falls short of that artifact's external diameters, measuring in at 24.4 cm from the neck guard to the brim and 20.4 cm from ear to ear - approximately 3.0 cm shorter than the comparative measurements of PW11-0032. It has the shortest neck guard of the sample at 2.55 cm, but an extreme angle measurement of 60°, allowing for a slightly greater overhang of metal along the uppermost edge along the base of the wearer's skull. There is a significant portion of the helmet missing from the rear area, estimated at around 40%, due to a break that occurred at an undetermined point. This break allows for a measurement of the thickness of the bronze at the mid-height, which records at 0.22 cm, the second thickest on record of those recovered from the site that were broken. As the range of thicknesses of the four broken helmets is 0.1 - 0.642 cm, perhaps a measurement of 0.22 cm should stand as a figure more representative of a normative construction as it is quite similar to the 0.20 cm of PW11-0031.

Again, as with the other six Montefortino helmets found on this site, the braided rope decoration is present on this helmet and runs the circumference of the bowl and neck guard combined (Figures 19 & 20).

PW13-0004

This example, though it measures at a height of only 22.8 cm, falls in the average range of heights for the helmets recovered at 25.0 cm once the height of the broken crest knob is taken into account, with a proportional exterior diameter of 25.5 cm for the neck guard to brim and 19.5 cm from ear to ear. In a manner similar to PW11-0010, which is 1.0 cm taller than this example, the length of the neck guard at its center point is 3.57 cm, the longest of the six helmets, with a mid-range angle measurement of 33°. Within the small sample size of the Montefortino helmets from the Egadi Islands, there is a pattern of shorter helmets having the longest neck guards, perhaps this reflects a correlation between shorter leather pieces that would hang from the neck brim as additional protection.

Though the helmet is heavily encrusted, with around 98% of the surface area covered by marine growth, patches of stylistic elements are visible containing similar patterns to the other examples. The braided rope decoration is visible in patches around the lower outer circumference of the bowl and neck brim, implying that it continues in the same manner as is present on the other five helmets. There are also incised lines on the neck brim, along with a hatch work design similar to PW11-0010, that runs around the circumference just above the rim and the braided rope. Unfortunately, the bulbous top of the crest knob is not present on PW13-0004, but the stem of the knob remains and has a diameter of 1.54 cm, which might indicate that the bulb itself was slightly larger in size than the one present on PW12-0012, which had a maximum diameter of 1.60 cm (Figures 21-23).

Cheek Pieces

The amount of data discernible from the two cheek pieces is limited due to their poor state of preservation, but it is possible to determine a few points from their general shape (Figure 24). Each displays forward projections on the bottom edge that would have curved slightly inward

along the jawline to protect the lower half of the chin. These pieces, when attached to the helmet, would have connected at the side rivets, which are on the bowl in alignment with the ears of the wearer, and are present on all six Montefortino helmets. It does not seem that these two artifacts were originally attached to the same helmet, though they do appear to be of the same design style common to similar Montefortino helmets found elsewhere.

Conclusion

During the First Punic War, Carthage employed a number of mercenaries, among them Gauls, to engage in the majority of the fighting against the Romans. However, both sides had adopted the same style of helmet for the majority of their soldiers, but as the Egadi Islands helmets seem to contain elements that cross over the categories (e.g., independent riveted neck guard and hollow crest knob), perhaps they represent a blending of styles unique to the mercenaries. If one soldier required a helmet and had it made by an individual familiar with another style of Montefortino helmet, perhaps the smith took the requested elements native to the client and incorporated it into his own 'standard' Montefortino to aid in the mass production for the unit or tribe of the soldier.

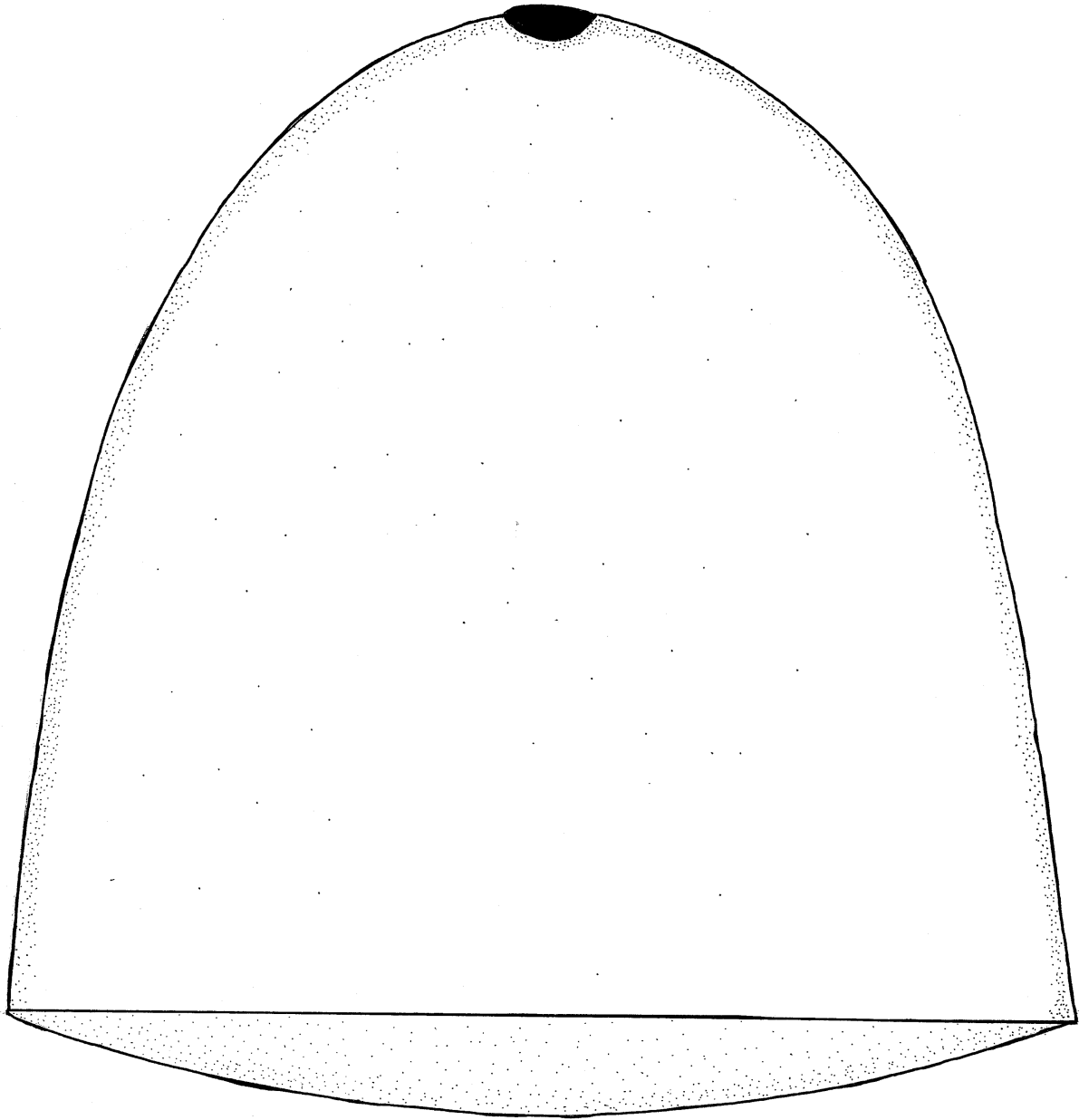


Figure 9: PW11-0010 Rear View (Image by author, 2017)

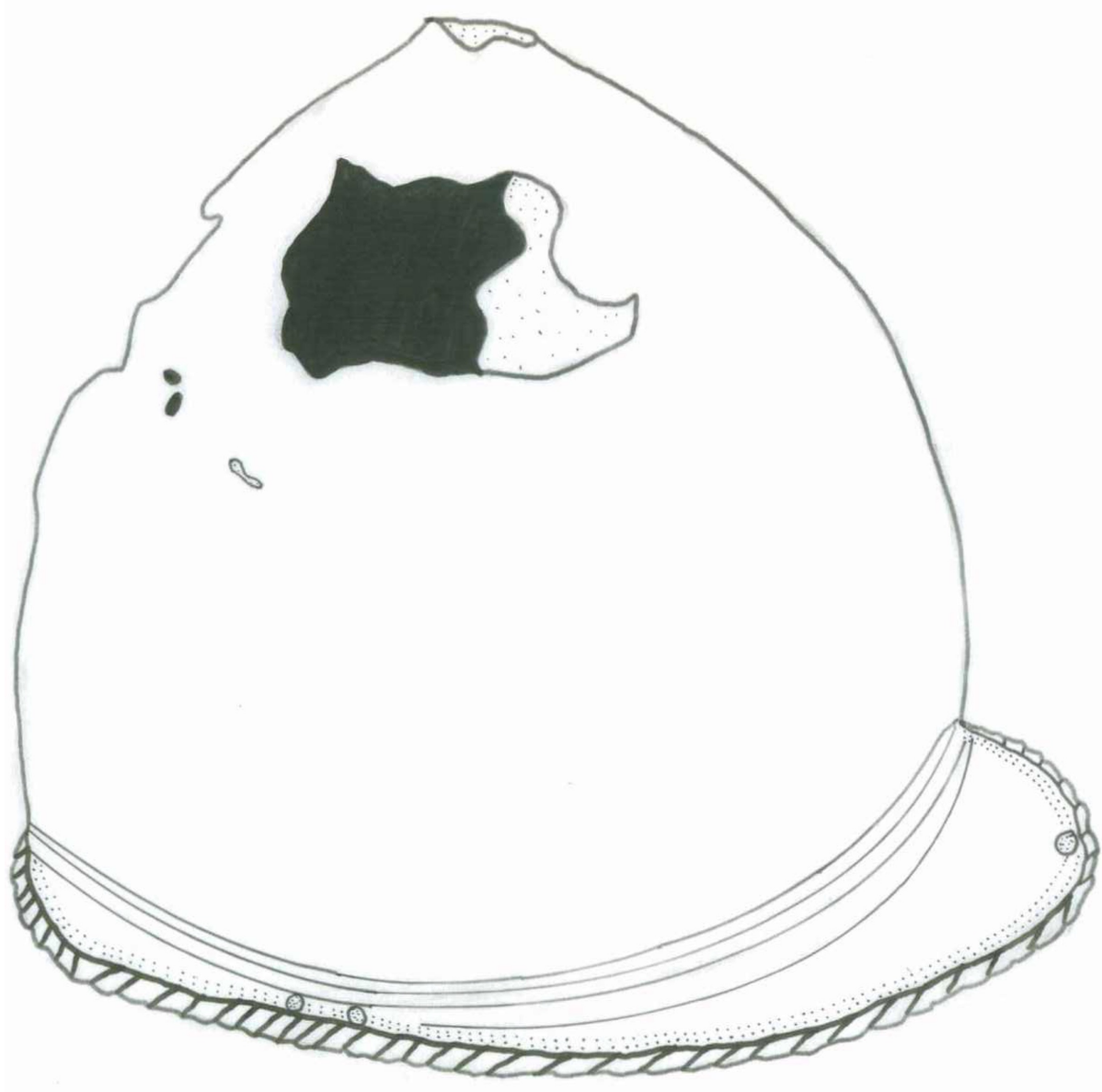


Figure 10: PW11-0010 Side View (Image by author, 2017)

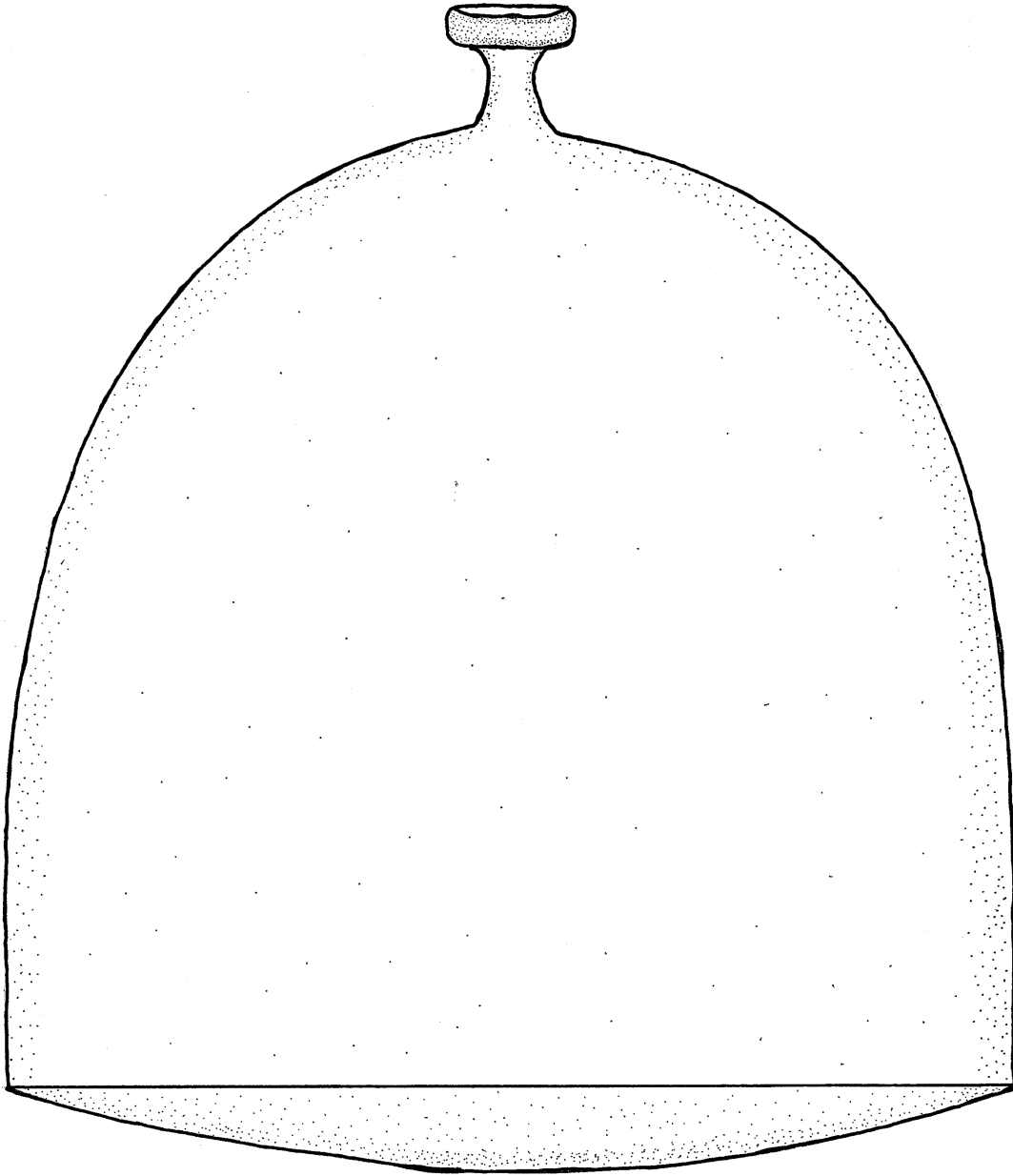


Figure 11: PW11-0030 Rear View (Image by author, 2017)

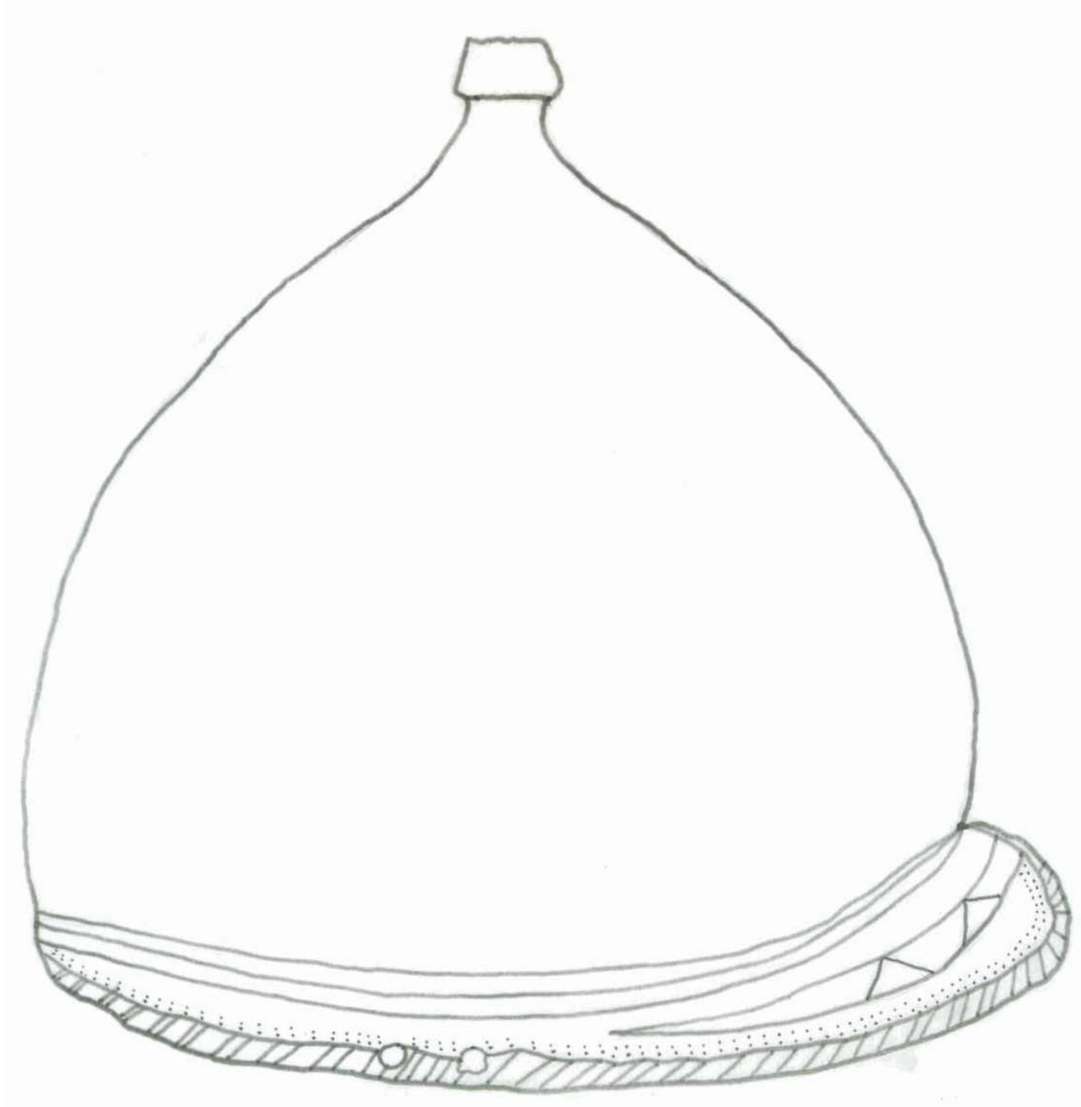


Figure 12: PW11-0030 Side View (Image by author, 2017)

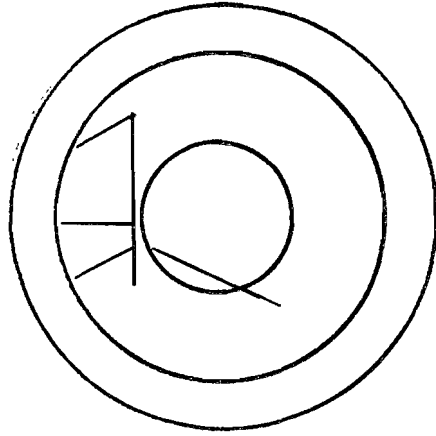


Figure 13: Punic Graffito on Crest Knob of PW11-0030 (Image by author, 2017)

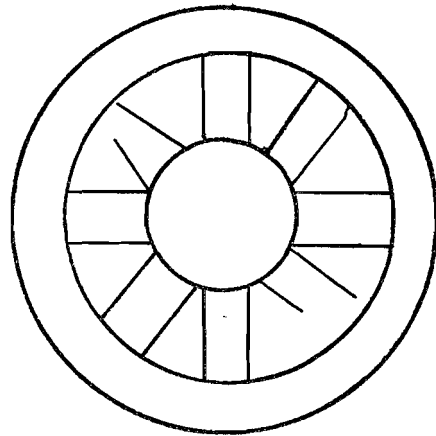


Figure 14: Decorative element on Crest Knob of PW11-0030 (Image by author, 2017)

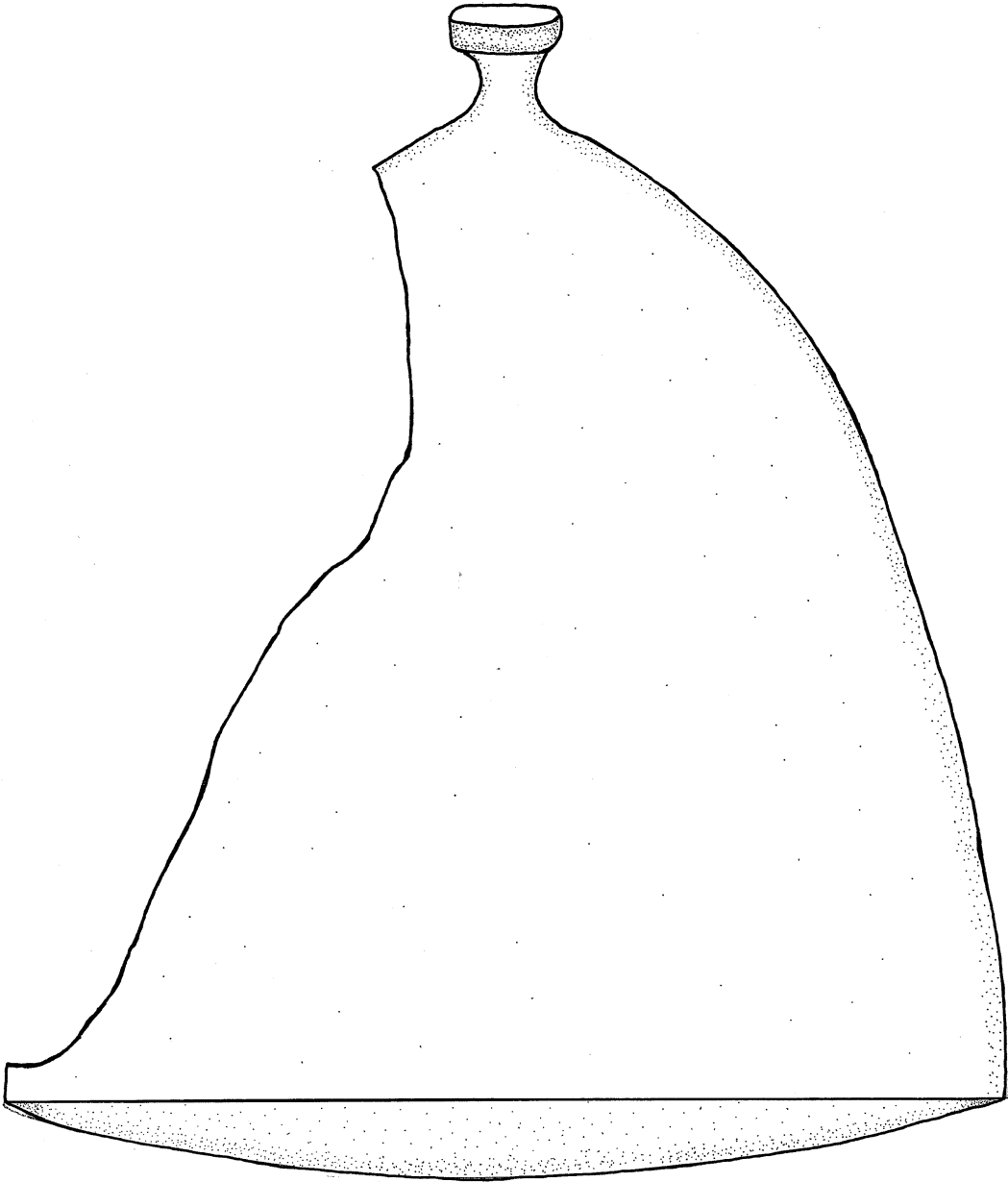


Figure 15: PW11-0031 Rear View (Image by author, 2017)

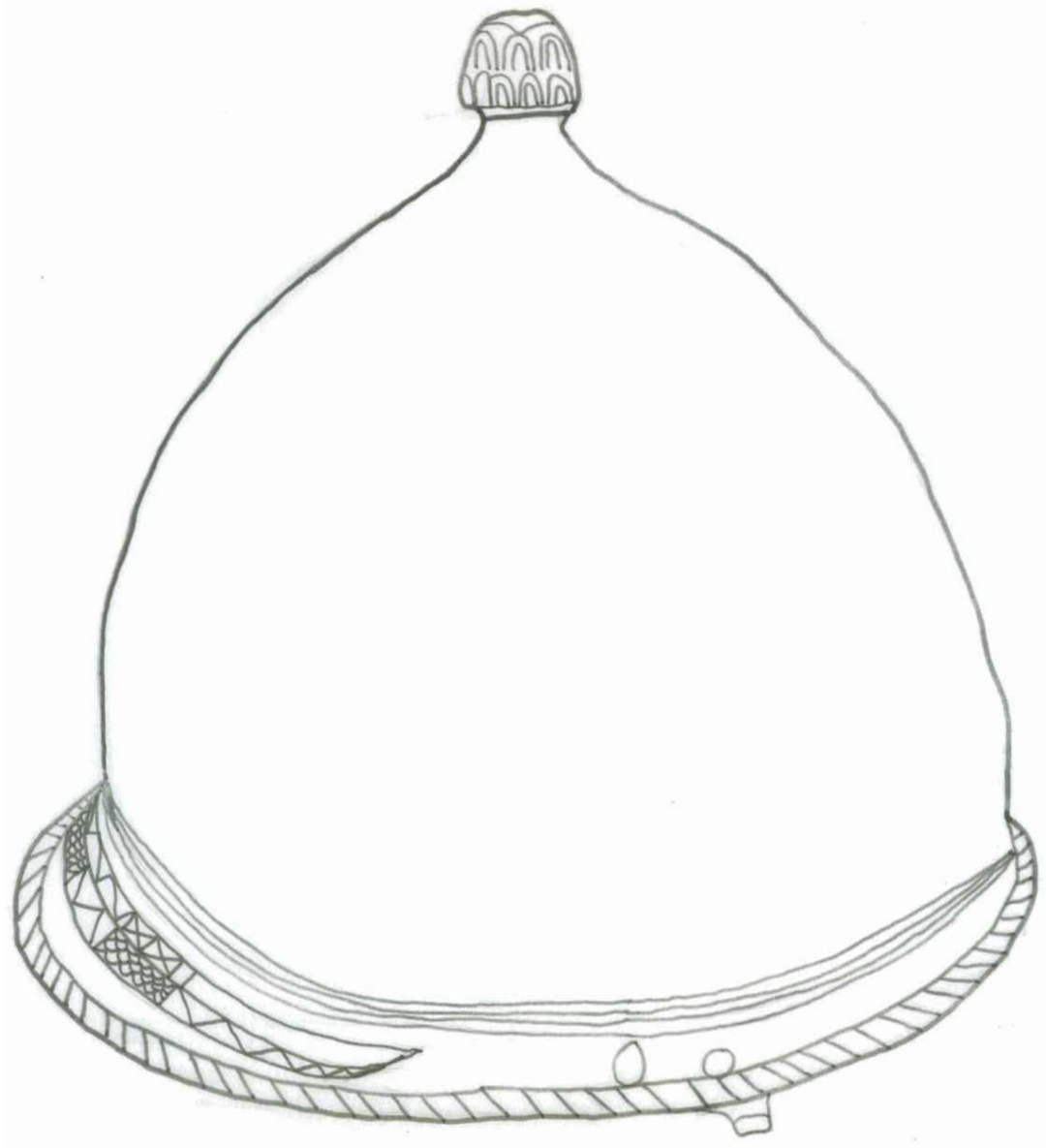


Figure 16: PW11-0031 Side View (Image by author, 2017)

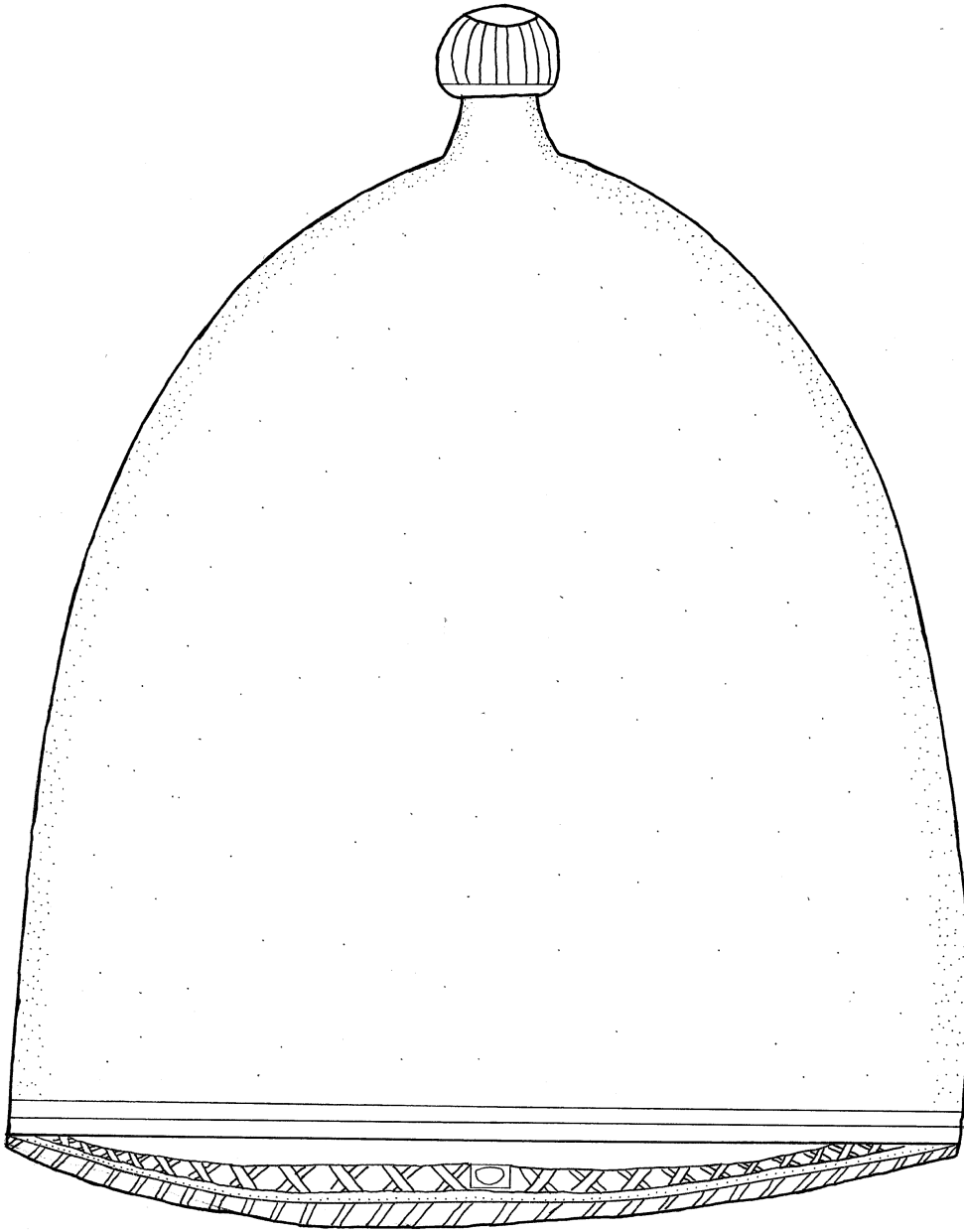


Figure 17: PW11-0032 Rear View (Image by author, 2017)



Figure 18: PW11-0032 Side View (Image by author, 2017)

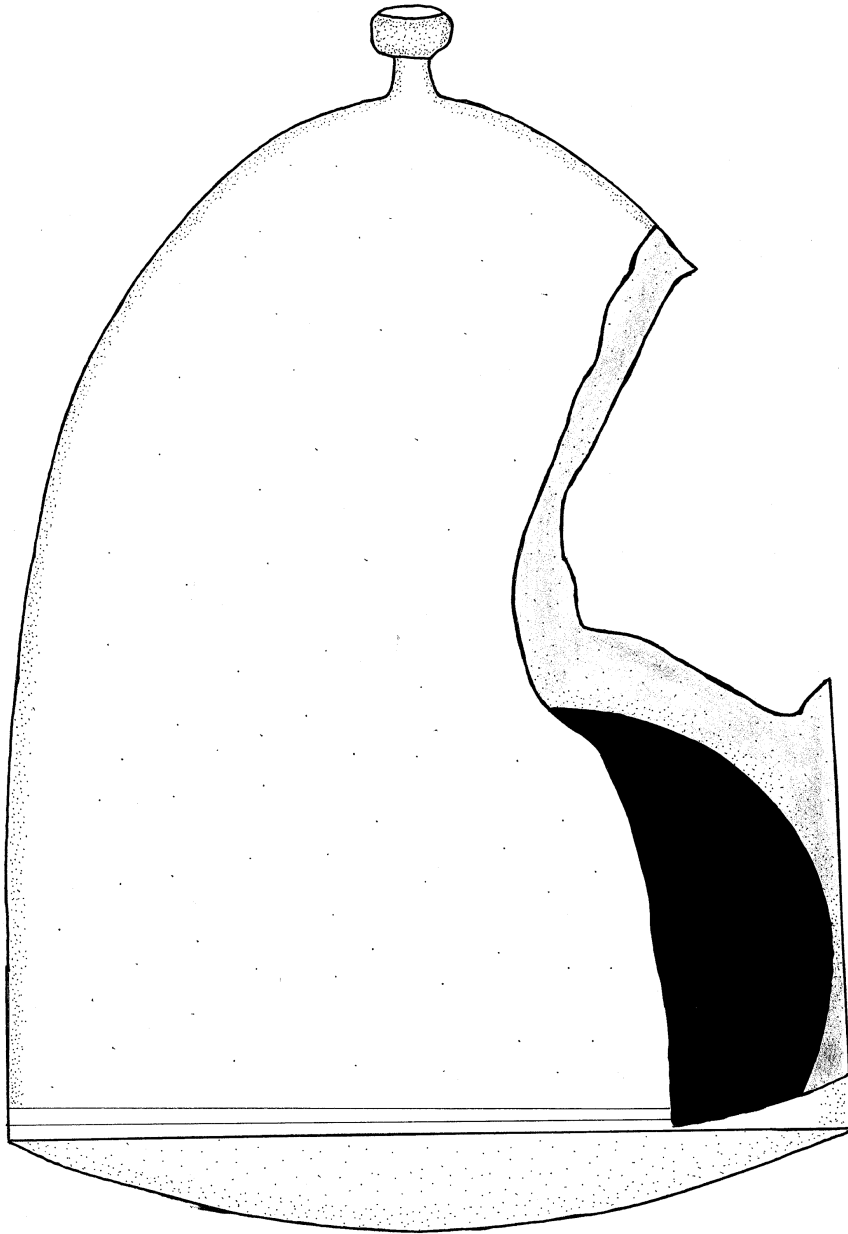


Figure 19: PW12-0012 Rear View (Image by author, 2017)

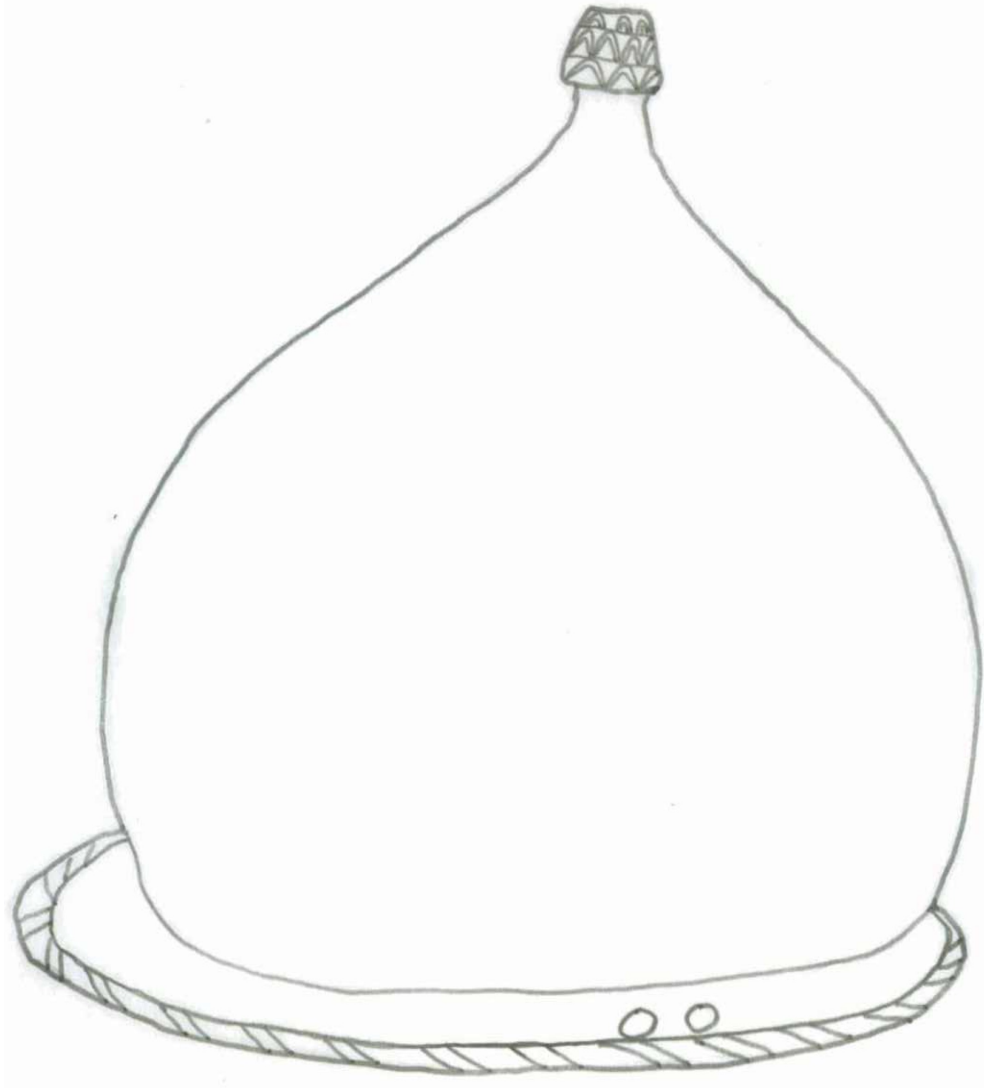


Figure 20: PW12-0012 Side View (Image by author, 2017)

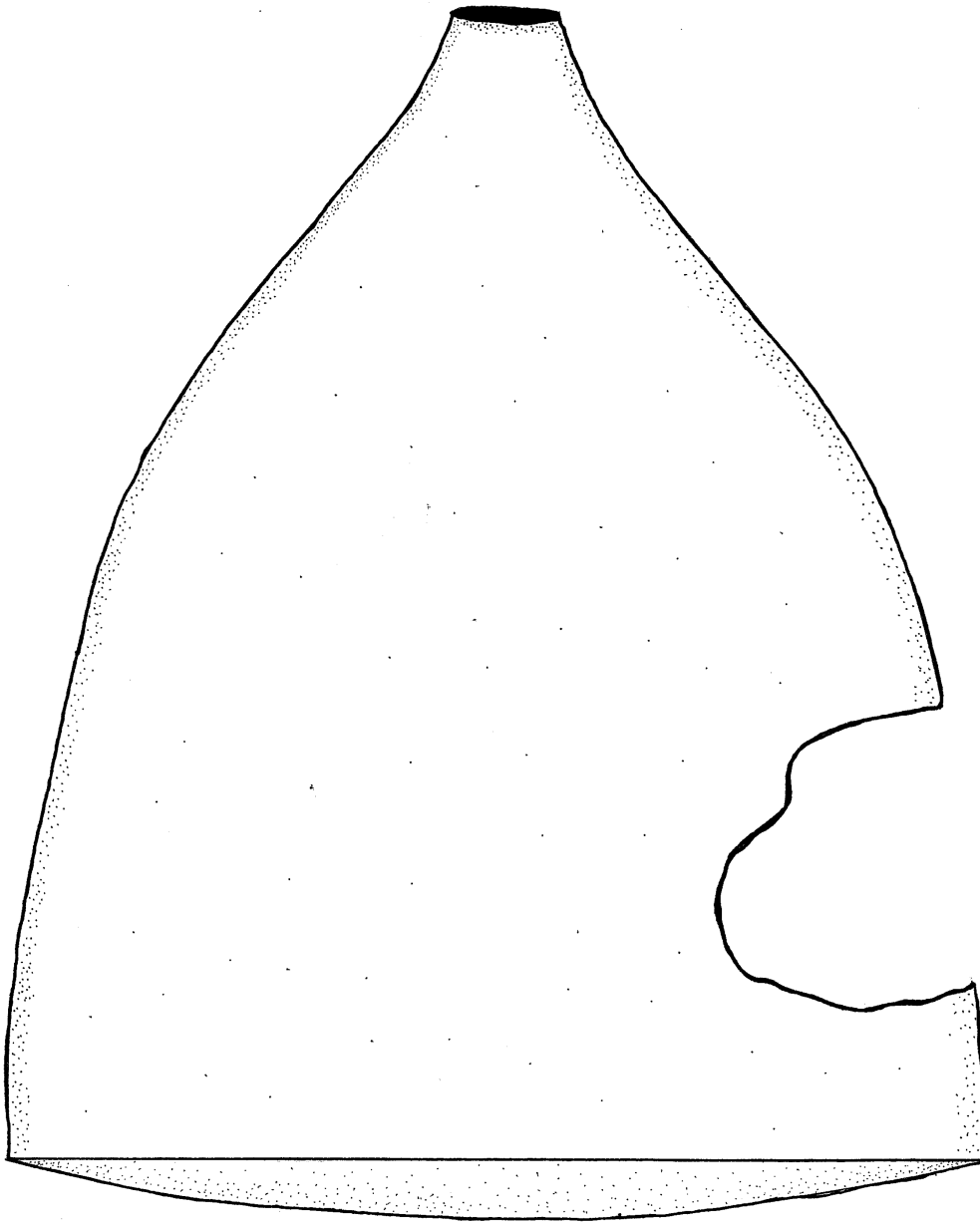


Figure 21: PW13-0004 Rear View (Image by author, 2017)

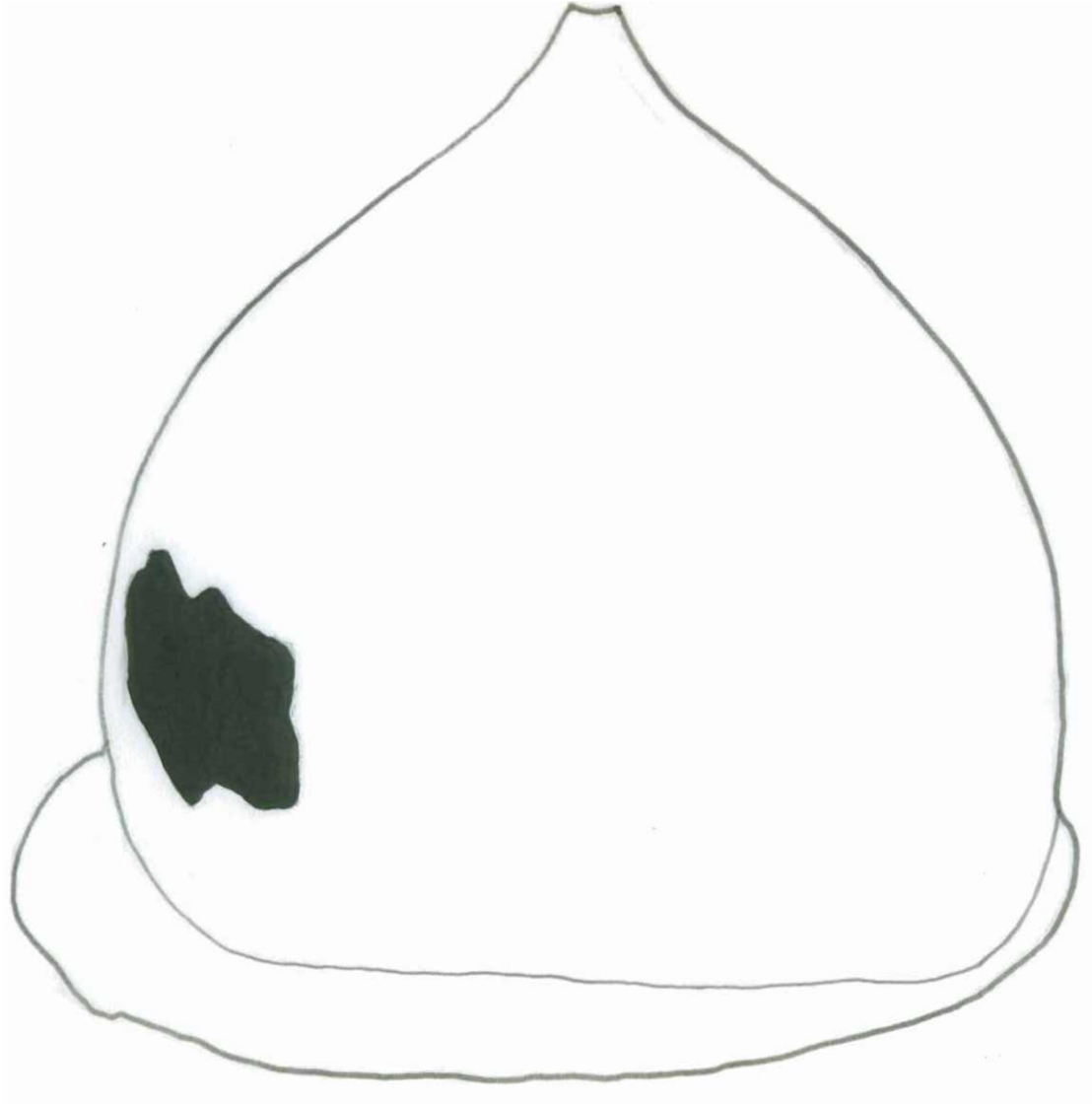


Figure 22: PW13-0004 Side View (Image by author, 2017)

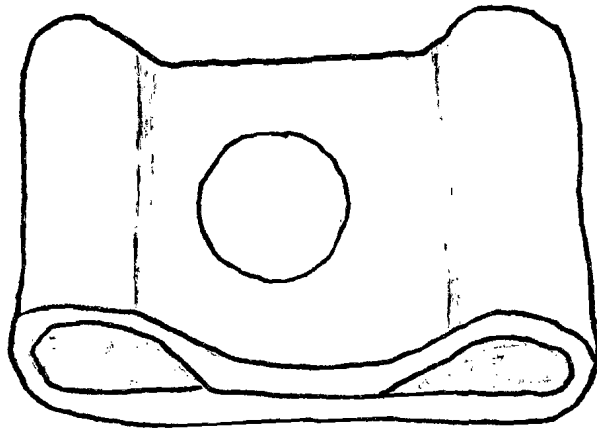


Figure 17: Neck Hinge from PW13-0004 (Image by author, 2017)

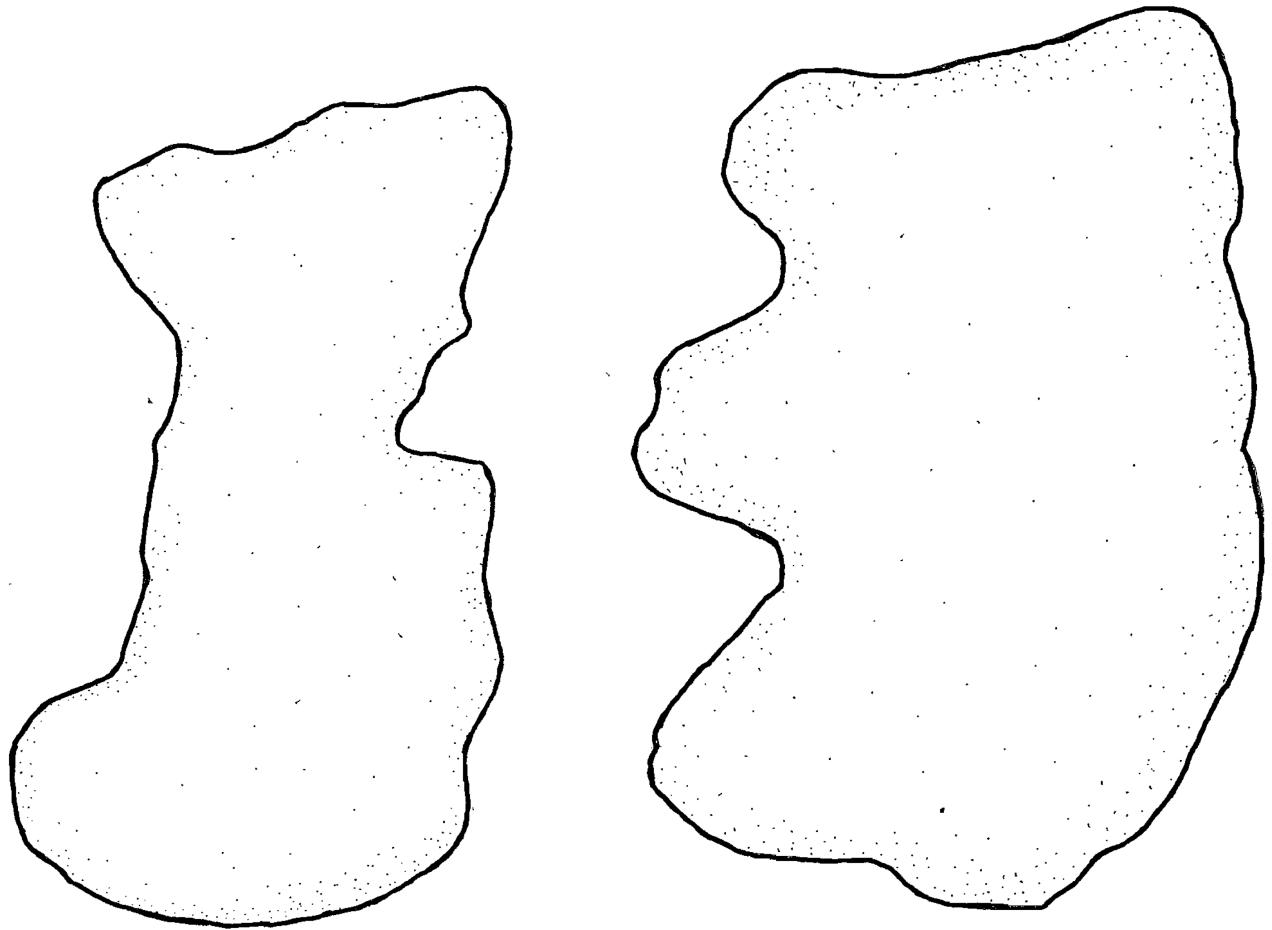


Figure 24: Cheek Pieces PW11-0034-001 (L), PW11-0034-002 (R) (Image by author, 2017)

Table 1 – Dimensions of Egadi Island Montefortino Helmets (in cm)

	PW11-0010	PW11-0030	PW11-0031	PW11-0032	PW12-0012	PW13-0004
Max Height	23.4*	21.2	26.0	27.2	27.1	22.8**
Max Diameter NG-Brim	29.6	24.3	27.3	27.2	24.4	25.5
Max Diameter Ear-Ear	25.0	19.8	23.8	23.1	20.4	19.5
Max Diameter w/o NG	26.1	21.8	24.8	24.5	22.5	22.5
Length of NG at center	3.5	3.1	3.1	3.0	2.55	3.57
Diameter Ear-Ear at mid height (internal)	21.0	18.4	19.4	20.2	19.0	16.4
Diameter NG-Brim mid height (internal)	23.4	19.8	21.6	22.2	20.0	23.0
Thickness NG (center)	0.3	0.4	0.4	0.5	0.62	0.4
Thickness Brim (center)	0.4	0.4	0.7	0.7	0.76	0.3
Thickness at break mid height	0.1	NA	0.3	NA	0.22	0.64
Knob Height	NA	2.3	2.8	3.3	1.98	Broken
Knob Max Diameter	NA	2.4	2.7	2.9	1.6	1.54***
Rope Decoration	Yes	Yes	Yes	Yes	Yes	Yes
Approximate NG angle	40°	40°	15°	15°	60°	33°
Circumference Max Height	6.86	6.16	5.87	5.52	8.4	5.5
Est. Circumference w/ Rim	160.54	130.69	152.68	149.54	153.31	160.22
Est. Circumference mid height	139.49	120.01	128.81	133.20	125.66	144.51
Percent Encrusted	90	80	95	95	95	98
Missing Dome Percentage	35	NA	45	NA	40	NA

*Estimated Original Height: c. 26 cm

**Estimated Original Height: c. 25 cm

***Diameter of crest knob at break point (missing bulb)

Rams recovered from the Egadi Islands that bear Montefortino Helmet Motifs

On the cowls of the Egadi 7, 8, and 10 rams, there are molded depictions of an individual wearing the Montefortino-style helmet in use by the Roman army at the time, but the faces on the Egadi 7 and 8 rams appear to have been chipped off prior to sinking. The other details of the helmet, including the woven piece with three large feathers or palm fronds stuck on it and tied atop the crest knob of the helmet, is a practice which is attested to in Polybius (*Histories* VI.23):

In addition to these they have two pila, a brass helmet, and greaves (ocreae)...Besides these each man is decorated with a plume of feathers, with three purple or black feathers standing upright, about a cubit long. The effect of these being placed on the helmet, combined with the rest of the armor, is to give the man the appearance of being twice his real height, and to give him a noble aspect calculated to strike terror into the enemy.

The details of the image described by Polybius are clearly visible on the rams' cowl, despite the centuries spent on the sea bed, including the 'woven' strands of the basket and the lines separating the individual feather strands or palm pieces. The faces of the wearers of the Montefortino helmets are non-existent and appear to have jagged tool marks, perhaps indicating removal, which is in stark contrast to the surviving details present on their helmets. If the faces belonged to a deity of Rome or were a general depiction of a Roman soldier, then Carthage might have removed them from the captured vessels prior to their own use, yet would have paid little attention to the helmet as that style was also used by their mercenary army.

The rams found at the Egadi Islands site were cast in what is known as the lost wax casting method, a costly technique that allowed for a one-time only mould to produce a unique piece. A form would be sculpted out of wax; in the case of the rams this was done directly onto the bow timbers to create an exact match to the individual warship. It would then be coated in a clay mantle,

fired to allow the wax to melt out through an opening in the piece, and filled with the molten bronze. Once cooled, the clay was broken open to remove the piece, thus destroying the mold and preventing another piece from being produced. Though each ram created using this method is unique, the Egadi 7, 8 and 10 rams are decorated with a similar image on the cowl of the ram, a molded decoration of a Montefortino-style helmet with three plumes, perhaps either feathers or palm fronds, projecting from the top of the helmet, as described in Polybius' *Histories* 6.23. These plumes appear to be attached to the helmet by a mound, perhaps a woven mat or basket that is placed over the crest knob and then tied down around the area of the cheek pieces. A crest pin is not visible as either part of the three fronds or as an extension of the woven piece placed around the crest knob, but this may have been a detail that was neglected for artistic sake during the molding process. As the inscription present on each ram is in Latin, these rams may have belonged to Roman ships that were captured in battle against the Carthaginians and then reused in their own fleet. Depending on which point during the war these rams were cast, the lack of variation in design between all the Egadi rams could perhaps be attributed to a rushed process that promoted a more "cookie cutter" approach to cowl decoration and inscription, and thus the similarities between the three Montefortino helmets present on Egadi rams 7, 8, and 10.

The Egadi 7 Ram

The Egadi 7 ram was reportedly raised by local fishermen in an area northwest of Levanzo Island, but the provenience cannot be verified by archaeologists with any degree of certainty. Despite this, the measurements of the ram have produced figures similar to the other Egadi rams, with its general measurements of driving center length and height, inlet width, and fin thickness falling in the middle range and providing some support in placing the ram in the same time period as the others (Tusa & Royal 2012: 25). The 'woven' elements in the crest knob area depicted on this ram are more prominent than on the other two, and there is an additional incised line running

around the edge of the bowl that is not present on the Egadi 8 ram. Two of the three feathers, the middle and the right side, are not visible past the mid-way point, while the third is almost entirely intact though the inscribed lines within the feather are partially worn away (Figure 25). The inscription on the cowl of the ram reads F. QVAISTOR PROBAVET, and though the specific name of the quaestor is worn away, the inscription serves to celebrate his efforts and the overseeing of fleet finances (Tusa and Royal 2012: 44).

The Egadi 8 Ram

Egadi 8 was recovered during the 2012 field season by RPM Nautical foundation in the PW-A sector of the battlefield. The Latin inscription is in the same style as the Egadi 7, proclaiming that it was ordered by the quaestor identified by name, suggesting that it was cast towards the end of the war when those that could afford to sponsor the construction of a warship wanted to advertise their support of the state. Again, a Montefortino helmet with three plumes and two cheek pieces with no face is depicted on the cowl, but the amount of detail is slightly less than on the Egadi 7. It does not appear to be a lack of attention to detail during the casting process, as there are still the woven pattern running the perimeter of the bowl and as an addition to the crest knob. The three feathers on top are not cut off or worn away like those on the Egadi 7 example, but the incised interior lines are not visible or were never present to begin with (Figure 26).

The Egadi 10 Ram

It was not possible to recover the Egadi 10 ram from sector PW-A during the 2013 field season, but photographs were taken by ROV while attempts were made to raise it and a Montefortino helmet is visible on the cowl. In the photographs, the ram is resting on its side and a small portion of the cowl is submerged beneath the sand, but two plumes, the center and the one to the right of it, are visible along with three-quarters of the outline of the bowl. The footage of the cowl suggests that the center plume has incised lines present in its interior, but it is entirely possible

this could change once it is recovered and subject to conservation as the details on the still image could be the result of shadows. It is unclear whether the face is included or missing from this depiction as there is heavy marine growth covering the center of the helmet and obscuring the edges of the image (Figure 27).

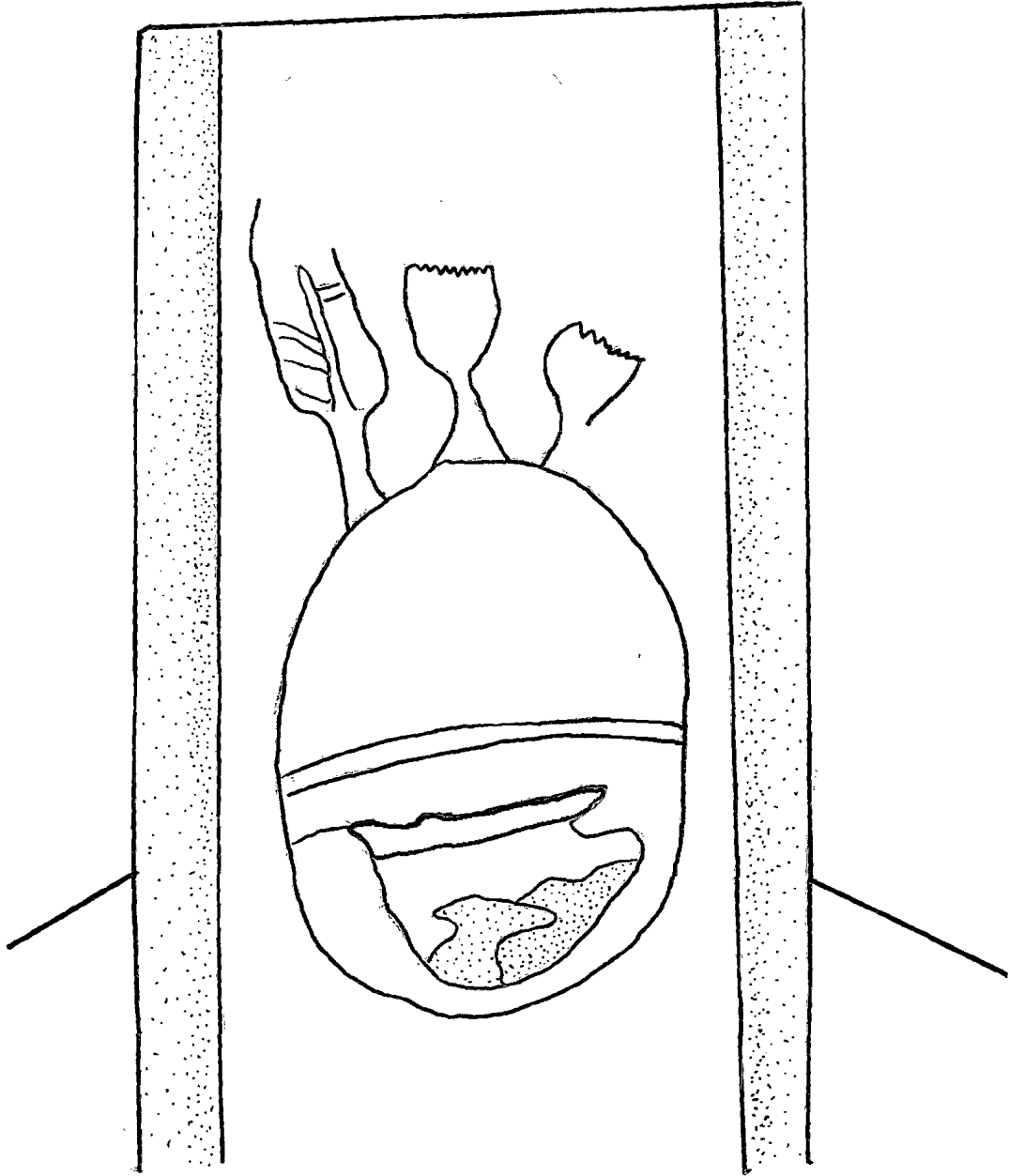


Figure 25: Image of Montefortino Helmet on Cowl of Ram 7 (Image by author, 2017)

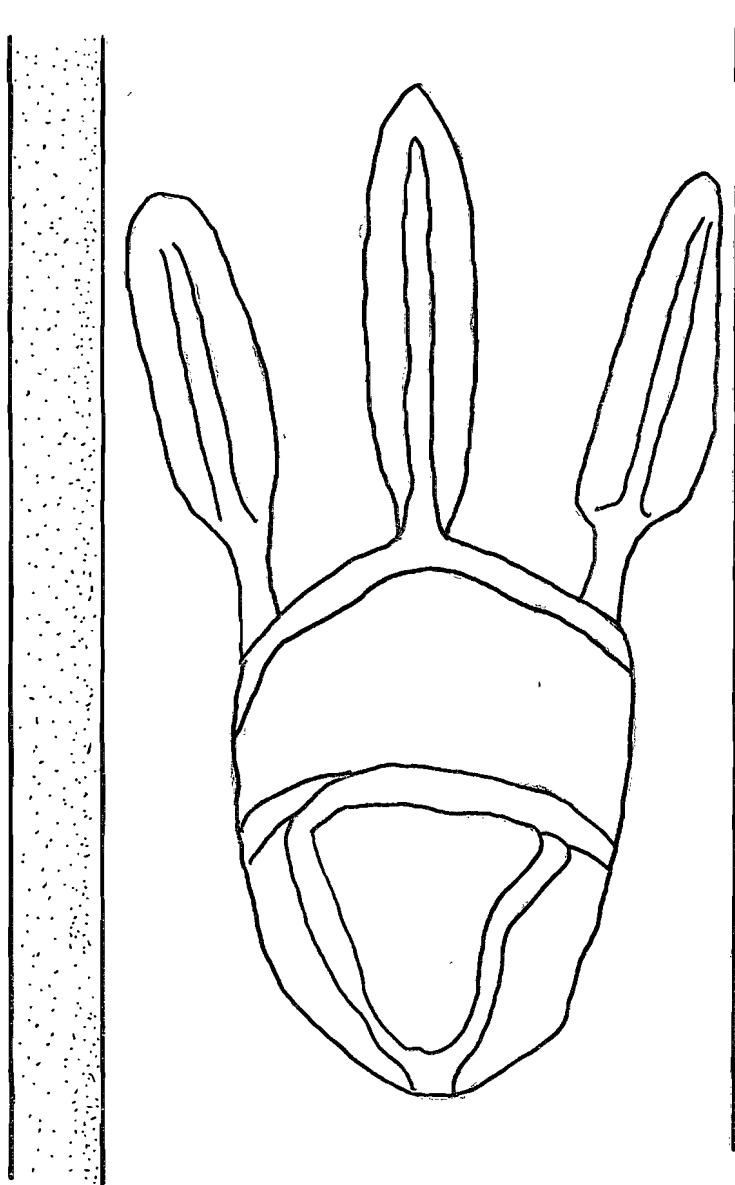


Figure 26: Image of Montefortino Helmet on Cowl of Ram 8 (Image by author, 2017)

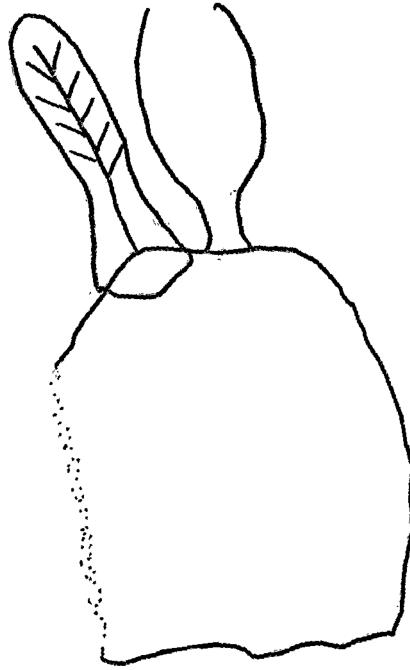


Figure 27: Image of Montefortino Helmet on Cowl of Ram 10 (Image by author, 2017)

Chapter 6: Manufacturing Process

Each member of the Roman army was responsible for supplying their own arms and armor during the First Punic War, as Marius' reforms (107 B.C.) had not yet been created. It is unclear how the mercenaries on the Carthaginian side armed themselves with equipment resembling those used by Gallic tribes, but it is probable that they also armed themselves with items produced locally by craftsmen on a small scale similar to how the Romans armed themselves. To determine how small scale production was undertaken in a general sense, archaeological evidence in the form of graffiti and frescos can indicate how the Romans may have gone about this. Since the First Punic War took place before the reforms of Gaius Marius (107 B.C.) standardized many aspects of the legions, and the soldiers were still responsible for supplying their own armor once they entered service, the smaller localized scale of production will be taken to also represent how the Gallic tribes outfitted their citizens. The Roman army by the second century B.C. had widely adopted the style, "A certain degree of latitude could be expected in items of equipment which were not essentially representative of a particular fighting method. This is most prevalent in defensive equipment, such as helmets and armor, whose use, quality and style may vary considerable depending on wealth, status, and other factors. Thus, the Montefortino helmet and mail armor could be incorporated into the Roman panoply without any fundamental change to the fighting methods and tactics practiced" (Burns 2003: 64). As the Montefortino style of helmet was in use by a variety of regional groups involved on both sides of the conflict, the style of production could be indicative of a specific area's methods of construction.

The manufacturing process is assembled from evidence left by Romans, while the structure of bronze dictates the way in which a smith can work and shape it into the desired item. Those artisans belonging to the tribes of Gaul most likely operated in the same manner as the local Italic

smiths, utilizing similar if not identical tools to produce the Montefortino helmets. As the invading Celtic warriors introduced the style into Italy, “Aside from being an effective piece of protective headgear, it must be borne in mind that the Montefortino helmet had been in use among many of the Italic peoples since the fourth century. The very fact that this helmet was not Italic in origin may have added to its popularity in the aftermath of the Roman conquest. The Montefortino may have been considered a neutral form of helmet, which did not carry any ethnic or political overtones that could be associated with either the conquerors or the vanquished,” and the manufacturing process was standardized by the second century B.C., with the decorations creating distinctions between regions (Burns 2003: 74).

Another reason for similar methods of production come from the composition of bronze itself, which is usually created with a ratio of 8:1 of copper and tin, or an infusion of 8 to 10% tin with copper. Unfortunately, Paddock does not provide more specifics into the mixture beyond the general percentages for the optimum bronze mixture. In the case of the six helmets related to the battle site, they were found to be pure bronze, meaning there was no addition of lead to the helmets as there was to the rams also found on site. With the composition of bronze being “standardized” to a certain degree, it can be said that, “the methods of manufacture described below are identical, they are without doubt all necessary in the shaping of a helmet and since the properties of bronze are determined by its constituents and are, therefore, to a great extent immutable, so are the methods for working it” (Paddock 1993: 55). As such, the scenes of metalworking left by the Romans will be taken as evidence for how the Gauls would have also produced Montefortino helmets.

One such depiction of a smith’s forge comes from a graffito left at the catacomb of Domatilla, where a smith and his assistant are seen working with a variety of tools necessary to

the shaping of a sheet of metal into a piece of armor (Figure 28). Among these tools are the hooded forge, necessary for heating the bronze to the proper temperature while protecting the smith, tongs (*forceps*), a raised anvil (*incus*), and a hammer (*malleo*). These items are also depicted in a fresco from House VII in Pompeii titled “The Forge of Vulcan” (A.D. 50-79), in which the god Vulcan is seated before an anvil, hammer raised over a piece of metal held between tongs, while a pair of cyclopes assists him with hammers held above their heads ready to strike down on the piece in progress (Figure 29). Though these images were not created during the First Punic War, the tools in use by smiths during the second century B.C. and the process would have been essentially the same.

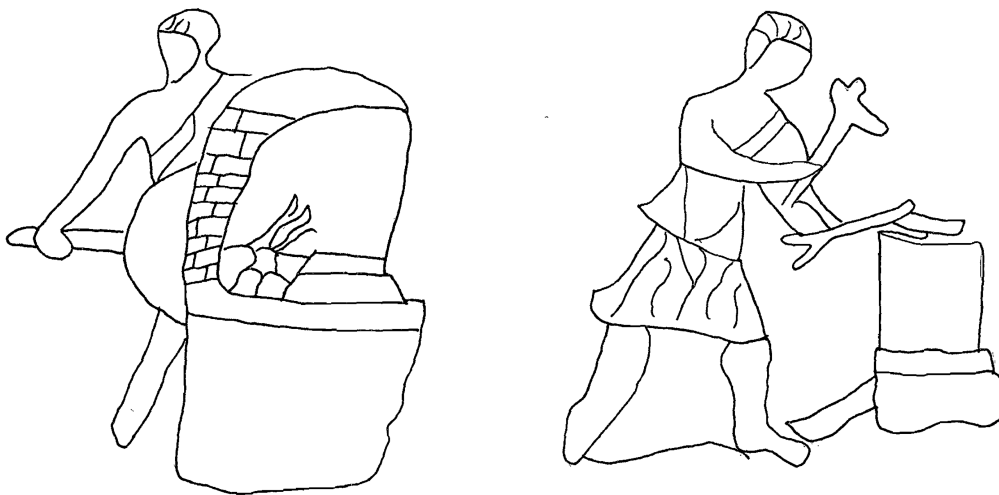


Figure 28: Graffito in Catacomb of Domatilla (Image by author, 2017)

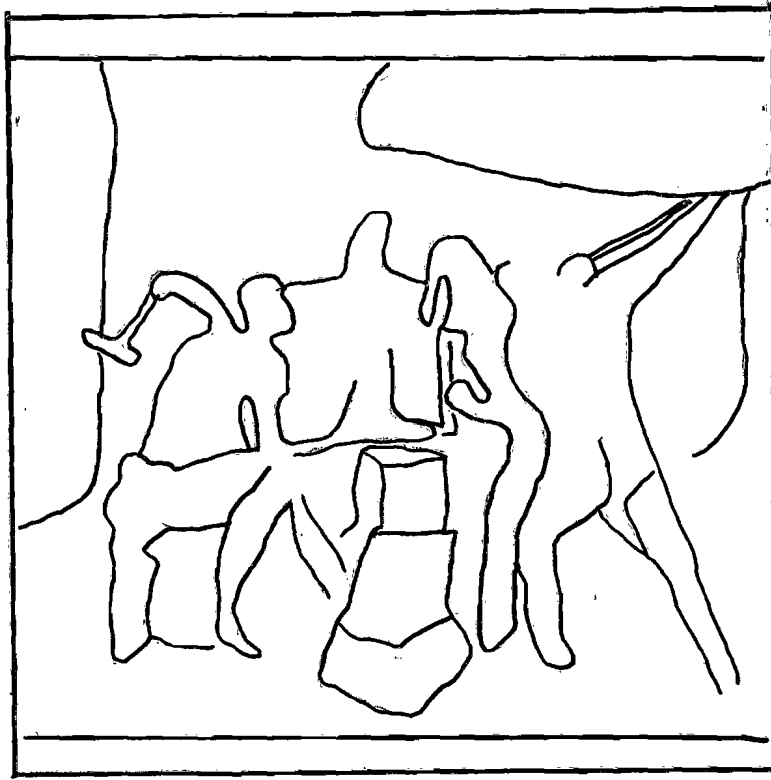


Figure 29: The Forge of Vulcan (A.D. 50-79) (Image by author, 2017)

The process would have begun for the armorer with the purchase of the raw materials, in this case an ingot of bronze. Though he could have perhaps created the alloy himself, it is reasonable to assume that a smelter would have crafted the ingot for purchase by metalworkers. This ingot would then be hammered into smaller sections, resulting in the creation of a sheet which could be heated and shaped into a helmet whose size is, “calculated on the basis of the diameter of the original sheet of bronze being equal to the diameter of the finished article plus its height” (Paddock 1993: 58). For the Egadi Helmets, the size of the diameter of the bronze sheet used to construct each one is taken to be the maximum height measured plus the maximum diameter measured from the neck guard to the brim, as this is a higher figure than the maximum diameter measured from ear to ear, in order to provide a cautious estimation of the original sheet size. This sheet was heated

in a hooded charcoal fueled forge held at a temperature between 426-676 degrees Celsius until it glowed “cherry red” in order to anneal the bronze, increasing its ductility and making the cold working process easier. The bronze sheet would be quenched after heated to further soften it as, “bronze which is allowed to cool slowly in fact becomes approximately twenty-five percent harder than bronze which has been quenched” (Paddock 1993: 56).

Table 2 – Approximate Diameter of Bronze Sheet Needed to Produce Each Helmet

Helmet	Approximate Diameter of Bronze Sheet (Max Height + Max Diameter NG-Brim)
PW11-0010	55.6 cm
PW11-0030	45.5 cm
PW11-0031	53.3 cm
PW11-0032	54.3 cm
PW12-0012	51.5 cm
PW13-0004	50.5 cm

Next, a series of concentric circles would be marked out from a central point with a compass as a guide for the smith for a technique called raising. Using a crosspein hammer, which has one blunt face and one narrow end, he would have struck with the narrow end from the outer edge inwards in evenly spaced hits with an equal amount of force to prevent any pile up of the bronze towards the outer edges, though a greater thickness on the outer edge would occur to form the lower rim. This shaping would occur on a, “specially cut depression in a tree trunk or sand bags,” for support in forming the first shallow bowl shape prior to reannealing the bronze for further shaping (Paddock 1993: 58). Afterwards, the shallow bowl was placed atop a raising stake, a blunted bar with a rounded head, and the raising process continued along with occasional reannealing until the proper depth for the bowl was achieved. In the case of the Montefortino style of helmet, “an allowance would have to be left at the apex of the bowl from which to form the crest knob” (Paddock 1993: 58).

The shaping of the crest knob would occur with the smith using the same crosspein hammer to draw up the excess metal at the apex in a manner similar to how the bowl was shaped, concentric blows focused in a smaller area from inside the helmet. Once the area was properly swelled, the metal would be drawn in until a neck and hollow bulb were formed atop a thinner rounded raising stake. The final shaping of the bowl would then occur on the original stake until a consistent thickness to the helmet was achieved, in the case of the Egadi Island helmets this ranged from 0.1 cm to 0.2 cm when measured at breaks in the bowl occurring at mid-height. The neck brim was formed simply by forcing the excess metal towards the rear and then drawing it out in the same hammering technique until it reached a length of 3.0 - 3.5 cm at its center. A rounded rim on the outer edge was formed by “caulking” it with a hammer, meaning the brim was inverted atop a sand bag and the edge was thickened through hammering the excess material towards the outer edge, creating a lip up to 7 or 8 mm on some Montefortino helmets (Paddock 1993: 60).

Prior to the start of the cleanup process, the helmet would be annealed once more, then another hammer with a rounded flat side, similar to the modern day planishing hammer, would be used to smooth out the marks left as a result of the raising process. This hammer left its own unique marks on the surface, but these were typically buffed out once the helmet was ground and polished in the glazing process just after decorating. In the case of the Montefortino helmets found at the Egadi Islands site, the decorations appear to be a mix of two techniques known as repousse and engraving. The former, “is executed from the inside of the helmet with punches and crosspein hammers. The helmet is placed face down on a pad of some material that will yield to the force of the blows given but which will at the same time support the metal...The best substance for this purpose is pitch, which is brittle when cold and so is usually mixed with brick dust” (Paddock 1993: 61). Though this was a typical method of decorating, the designs which appear on the

Montefortino helmets appears to be a result of engraving due to the simplicity of the artwork. The woven rope, cross hatching, and rows of small dots could be done from the outside with the use of a hammer, chisel or a file in various combinations. Paddock (1993: 62) notes that, “Quite often on helmets of the later 2nd and 1st centuries B.C. the incised decoration was simply added with a file,” due to the large quantities produced for prolonged wars at the time.

Montefortino helmets have a set of rivets on the left and right sides to attach cheek pieces in addition to a piece of metal looped on either end and attached with a single rivet to the neck brim. These rivet holes were punched or drilled onto the piece after decorating was completed to prevent the rivets from impeding the decorators’ process. The hasps, sheets of metal which rest between the bulb of the bolt and the bowl, featured on these helmets present as scrap metal hastily folded over and riveted to the bowl with little or no effort made to trim or neaten the edges in any way, which may be in part because the helmets in this study come from the end of a war that lasted over two decades, it may be more appropriate to describe these. Traditionally, a hasp is formed by, “a small thin sheet of bronze, usually under 0.7 mm thick, shaped by simply hammering it over on itself around an iron rod and then attaching it with two or more rivets to the inside lower edge of the helmet bowl” (Paddock 1993: 65). The description of a hasp allows for scraps of bronze to be utilized for its construction, and the one present on PW13-0004 appears to be of that nature, with rough, unfinished edges folded over to construct the two loops. All six examples of the Montefortino helmet have the same pattern of rivets visible despite their varying degrees of encrustation.

There are only two cheek pieces (PW11-0034-001 & PW11-0034-002) recovered from the Battle of the Egadi Islands site to date, and they are not believed to represent a set but rather two individual pieces from Montefortino styles of helmets. These most likely attached at the side rivets

present on all six helmets recovered from site, and not at the rear rivet present on the neck brim, One possible use of the rear rivet on the neck guard is discussed by Paddock (1993: 580), who theorizes that, “This double loop fastening served as a third point of attachment for a narrow strap used for securing the helmet. The lace passed round the back of the head and beneath the wearer’s ears ensuring that the helmet stayed firmly in position. It then passed to the point of the chin, where its ends were crossed and pushed over projecting studs on the cheek pieces.” However, the only two cheek pieces discovered are highly corroded with no attachment studs visible and the rings which would have held the straps present in the double loops of the rivet did not survive, rendering it difficult to produce further interpretations on the cheek pieces from the battle site with any degree of credibility.

Once the acid wash to cleanse the surface of the bronze occurred in the last stage of production, the final element required for the wearer was padding, as the metal itself was not enough to disperse the force of a blow to the head nor provide any degree of comfort. Leather did not present a viable option for the interior padding due to its natural tendency to become brittle and break down when exposed to constant moisture, such as the wearer’s perspiration, thus forcing the owner to provide costly replacements of the interior lining on a regular basis. Quilted linen armor is known from this period as an alternative to more expensive plate or mail armor, and it would be a more plausible option to line the interior with this than leather. The stuffing might have been scrap fabric, wool, or perhaps grass that was sewn into squares or strips designed to prevent the interior padding from pooling in one area and negating the impact absorption it was meant for. The lining would also be affordable to produce and replace as perspiration, wear, and damage dictated for each class of soldier. Another potential material is felt, mentioned as the lining to Odysseus’ boar’s tusk helmet in the *Iliad* (X: 265), which also served as a simple cap predating

the metal Pilos and Boeotian helmets in Greece (Paddock 1993: 70). Whichever material lined the Montefortino helmets, it must have been secured to the interior with a substance that could act as a glue, as there are no stitching holes punched into the bowls. Pitch or another type of resin are possible substances that could be heated to coat the interior and secure the lining quickly and easily both at home and when camped in a foreign field for battle.

Differences in the Manufacture of Montefortino Helmets from the Fourth Century B.C. to the Second Century B.C.

Early examples of Montefortino helmets dating to the fourth and third centuries B.C. often show a great deal of care in production and decoration, a degree of artistry and wealth not present in those recovered from the Egadi Islands. However, the degradation in quality for those found on the battle site is not uncommon for other examples of this style found in Iberia that are dated to the second century B.C. This may indicate a widespread change in production that could have originated due to the length and scale of the First Punic War, a scarcity in raw materials, and a widespread adoption of the style by more areas once fighting began there.

The reasons behind the widespread adoption of Montefortino helmets provide clues as to why there was a declining standard between the fourth and second centuries B.C.:

One of the reasons must be that it was good enough to provide an acceptable amount of protection for the type of fighting it was being used in. Another reason was that its simple bowl design was vastly easier to produce, and for this reason may have been much cheaper. These technical and economic advantages must have been increasingly apparent when we look at the growing scale and duration of wars being fought by the Romans and their allies. Other types of helmet may have been just too time consuming and costly to produce on the same scale. What seems to support this view is that by the second century Montefortino helmets had become much less refined than the earlier examples from the fourth and third

centuries. Paddock states that second and first century helmets ‘show a considerable decline in the standards of manufacture and finishing, and exhibit all the signs of hurried or mass production.’ The fittings for cheek pieces and chin straps on these later helmets were made from scrap metal, and show no signs of trimming or tidying up. The appearance of Latin makers’ stamps in the second century, which are never found on earlier examples, implies an increase in the scale of production. New methods of manufacture, such as spinning helmets on lathes in the first century, show a continuous concern with mass production. The preparation required to set up a lathe, and then to prepare blank helmet forms for spinning, would only have been worthwhile if they were to be produced in large numbers (Burns 2003: 74).

Acceptable levels of protection for different ranks of soldiers combined with ease of production led to its popularity, yet the length of the First Punic War led to mass produced examples from the Roman legions. The Latin makers’ marks evident on those found in the region of Italy are not present in the Egadi Island finds, though the visible rivets do not appear to be trimmed or shaped as they are in earlier examples. As it stands, there is only one etched personal graffito visible on any of the six bronze helmets that could indicate either ownership or manufacturer by an individual. It is also a possibility that as the popularity of and demand for Montefortino helmets grew, more individuals grew familiar with the process of production and it could be carried out by less skilled free artisans or slaves while the higher quality parade/officers’ armor was carried out by master craftsmen to ensure the expert degree of the work. Paddock (1993: 491) states that, “Finally the crest-knob would have been filled with lead to hold the crest pin and the lining added,” the pin refers to a small metal stake with a circle on the head that could have held the crest used to denote the rank and position of the soldier, as described in Polybius (6.23). Out of the six

Montefortino helmets recovered, four have intact crest knobs and one has the stem of the knob present, but there is no evidence that any of them were filled in with lead or has a hole drilled into the bulb to support a crest pin. This perhaps denotes a cultural difference between one helmet belonging to a Gaul and another from a Roman soldier, as the examples studied by Paddock were Italic in origin.

Conclusions

There are three types of Montefortino helmets identified by Paddock (1993), Types V, VI, and VII, that date to the same period of time these helmets originated in, the late 3rd to early 2nd centuries B.C. Once the Egadi Island examples are compared to Paddock's catalogue, it is the stylistic elements and height which allows for the identification of the helmets as Type VI (Figure 30). This particular Montefortino is described by Paddock (1993: 515):

These helmets are characterized by a high conical, one piece bowl. They are generally considerably larger in all respects than the previous forms. They have deep flattened neck-guards of half oval section. The lower edge of the helmet bowl is thickened to produce a moderately thick rim (3-6 mm). This type of helmet is always equipped with a truncated conical crest-knob which is decorated either with two rows of scale pattern and a rosette on the top or more simply...with incised triangles. The helmet bowl itself is decorated with a narrow cable surmounted by up to six rows of fluting including two or more rows of incised herring-bone pattern.

The Cheek-pieces are of an exaggerated bicuspid form and very thick. They are always fitted with a chin-strap stud of type B which is riveted directly through cheek-piece. The hinges on these helmets are attached by two rivets.

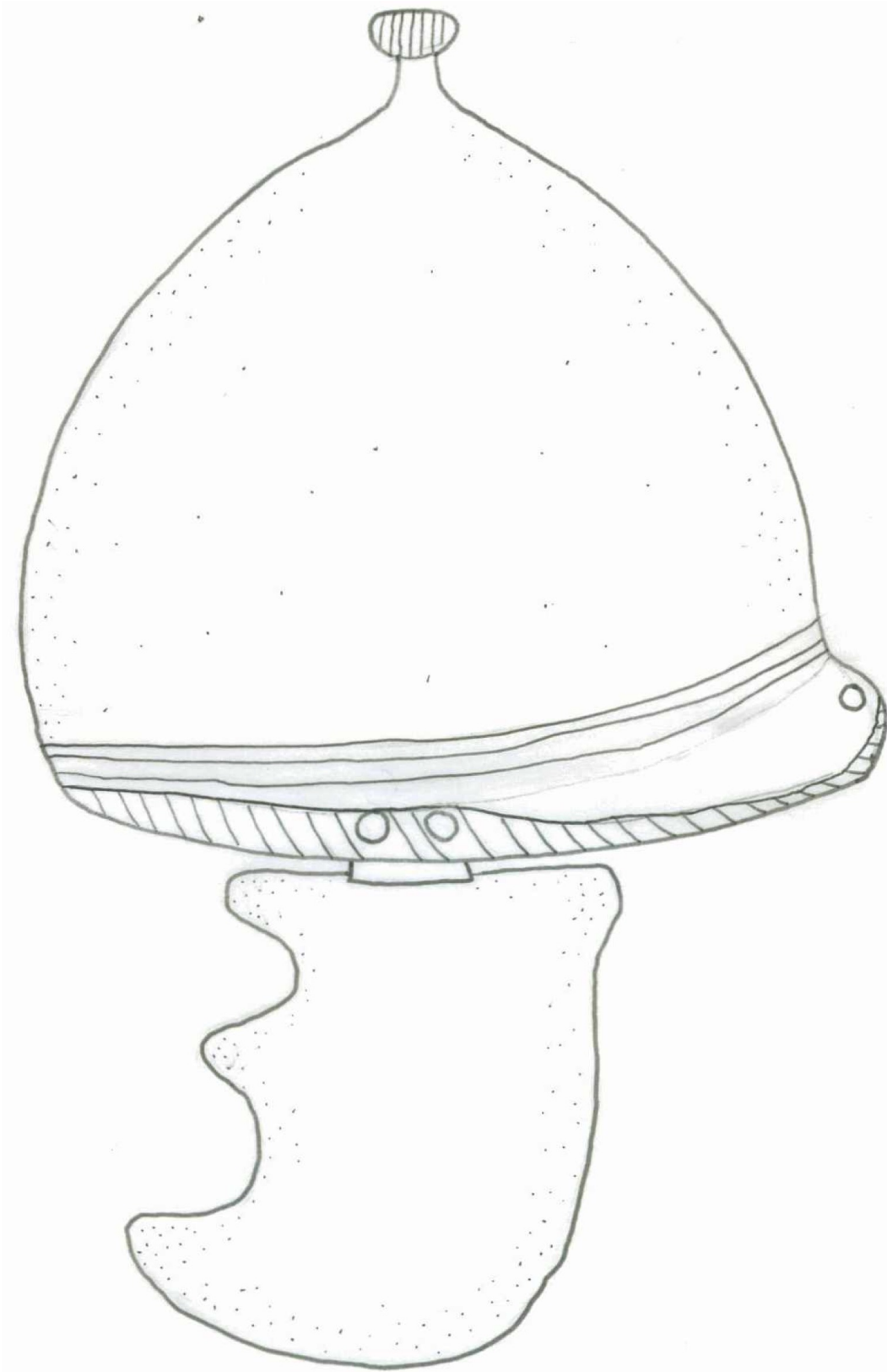


Figure 30: Example of Type VI Montefortino Helmet (Image by author, 2017)

The 19 examples assembled by Paddock (No. 78-96), is the tallest grouping of Montefortino in the catalogue, range in height from 20.5 cm to 26.1 cm, which accommodates the majority of the Egadi Island helmets ranging from 21.2 cm to 27.1 cm. Interestingly, all but one of the Type VI helmets can be traced back to Italic origins (12 of the 19 having definitive contexts), with the four tallest of them recovered from a shipwreck in Heraclea Minoa. The taller helmets appear to originate in Sicily or Southern Italy in Paddock's catalogue, which points to that as a regional variation rather than a result of design for a client's physical specifications (Paddock 1993: 477-478).

The decorative elements on the six are the same in terms of their broad patterns of the braided rope and incised herring-bone pattern, which again falls into the Type VI identification definition. This indicates that they originated in a particular region that had a singular style, which would vary in small ways for a variety of reasons, including an individual manufacture's signature design work or client preference. Paddock (1993: 45) notes that there were two known production centers active in Southern Italy until the 3rd century B.C. at Puglia and Reggio Calabria which dealt in the manufacture of Bronze armor, though it is difficult to trace the scope of individual workshops in operation prior to the widespread manufacturing of the 2nd and 1st centuries B.C. as the Romans began expanding their reach. That each is inscribed to the degree that the markings were still visible immediately upon recovery despite the encrustation speaks to the high degree of craftsmanship that would soon disappear from the manufacture of Montefortino helmets once the uniform standards went into effect for the Roman army under the Marian reforms and the rise of the Type VII and VIII Montefortino helmets, characterized by simpler decorations along the bowl and crest knob, a bulbous or flat sided bowl, a flattened or deeply sloping neck guard, and a thinner rim (Paddock 1993: 515-516).

Chapter 7: Analysis of Symbols

Symbols become increasingly important when attempting to identify the helmets due to their widespread use by the Romans, Carthaginians, and various mercenary groups employed by Carthage, primarily the Gauls, throughout the First Punic War. Unfortunately, there is only one helmet to date that has two unique markings revealed by the cleaning process that could lead to identify which ethnic group the artifact belonged to. PW11-0030 has a decorative element that is extremely crude in its craftsmanship, but would typically be a rosette for the helmets of Type VI. However, due to the encrustation, apparent lack of detail, and the potential Punic graffito, other possibilities for the decoration are entertained here to provide a broad viewpoint, especially if the helmets did not originate in Sicily or was altered afterwards by another soldier to reflect their cultural beliefs. If the decoration is not a rosette, it could indicate what appears to be a multi-rayed sun or a crude eight-spoked wheel and a Punic graffito letter incised atop the crest knob, with the potential letter incorporated into the sun or wheel symbol (Figures 9 & 10). Due to the Punic letter, an investigation into the potential meaning of the other unknown symbol begins with the primary mercenaries employed by Carthage, the Celts and the Gauls.

The other decorations that appear in conjunction with the unique symbol on the crest knob must be mentioned as the effort to incise the symbols into the bronze would indicate that they would not be made frivolously. Unfortunately, PW11-0030 is heavily encrusted and the details of the decorative elements are difficult to discern, though the broad idea of them may be seen. Around the symbols under discussion in this section, there is a circle encompassing the area that has dimension to it, creating a valley between the symbol area and the edge of the crest knob. Running the circumference of the knob are vertical ridges that appear to be confined to the bulb of the knob; the stem is not visible due to marine growth. The same growth prevents other decorative elements

that may exist elsewhere on the helmet, such as around the brim of the neck guard, from being observed and evaluated in conjunction with the unknown symbols.

Interpretation 1: Sun

One possibility for the decoration is that it is the sun, a symbol which is known to hold a variety of meanings in the early pagan religions of Northern Europe. In relation to the helmet, the sun was depicted on various pieces of armor to symbolize the strength of one of three animals also related to the cycle of the sun, the horse, the bull, and the boar, depending on the area the individual was from. Knowledge of these three animals and their connection with the journeying sun comes from iconographic representations as well as surviving myths.

The boar was a symbol of strength for many areas during the period of the First Punic War, and was utilized by both the Romans and the Celts for their military units. Though it represented the Twentieth Legion of Roman later, early on in time, “Celtic beasts are recognizable as spirited and vigorous fighting animals, appropriate symbols for warrior. Boars might be placed on swords and shields, and warriors wore them as crests on helmets” (Davidson 1988: 48). There are later records of the Celts describing tactical formations in battle, namely the wedge formation, “the Roman *cuneus*, known to the Germans and Scandinavians as *caput porci* (boar’s head) or *svinfylking* (swine formation)” (Davidson 1988: 50). Apart from the Celtic tribes, the boar was prominent in Norse mythology as a herald of the sun forged by the dwarves of gold and given as a gift to Freyr during a presentation of three gifts meant to astound the gods and best Loki. Though this is a Norse tale, the association of the boar with the sun carries into Celtic depictions as, “it is the dorsal bristles, rather than the tusks, that are emphasized in Celtic iconography...this might be to stress the ferocity of the beast, but it might also be based on the link between the boar and the sun” (Davidson 1988: 50). The gold was said to shine so brilliantly when the dwarves presented it to the Vanir gods, but the spectacle of the boar was its ability to inflate itself and float through the

sky, illuminating the darkness, much like the sun's travels in the sky.

The second animal associated with the sun by early pagans was the bull, which is depicted typically by its head on a variety of objects that survive in the archaeological record. As described by Julius Caesar (*Gallic War* VI: 2), in the German region, the hunt of the bull was a test of valor and a rite of passage for young men. For the Celts in Gaul, the bulls, "are often depicted with three horns, presumably to emphasize the horned head as a power symbol, while knobs placed on the ends of the horns may be another expression of this, or to emphasize a link with the Other World" (Davidson 1988: 51). The tie to the sun comes from a mount found at the grave of the Frankish King Childeric, it is in the shape of a bull's head with a sun depicted in lieu of the typical third horn (Davidson 1988: 51).

For those groups to the north in Northern Europe, "the horse in its turn was an animal which could be associated with the journeying sun and was an important religious symbol in the North from the Bronze Age onwards" (Davidson 1988: 53). Its meaning was varied as was its role throughout each ethnic region. H.R. Ellis Davidson (1988:53) notes that:

A horse could carry a departed hero to the realm of the dead, and is shown doing this on many of the memorial stones set up in Gotland in the Viking Age. Like Freyr's boar, Odin's horse [Slepnir] travelled swiftly through the sky and down into the realm of death. In the first century AD, the sacred horses of the Germans were held to understand the will of the gods more clearly than their priests could do, according to Tacitus, so that they were used for divination. The Celts seem to have associated horses with the gods in the pre-Roman period, since they were shown along with birds of prey in the great sanctuaries of southern France...Like the boar and the bull, the horse was a powerful symbol both for fertility and for warfare.

All three animals are connected to warfare, a soldier's strength and abilities on the battlefield, but their associations with the sun vary in strength. The boar has the strongest ties with the symbol because of the Norse myth concerning the gift of the golden boar to the Vanir god Freyr, as it is described in the myth:

In spite of the pain, the dwarf kept on blowing, and when Sindri returned, he drew out of the fire an enormous wild boar, called Gullin-bursti, because of its golden bristles, which had the power of radiating light as it flitted across the sky, for it could travel through the air with marvelous velocity (Guerber 1909: 73).

And now, strange to tell, from the roaring fire
Came the golden-haired Gullinborst,
To serve as a charger the sun-god Frey,
Sure, of all wild boars this the first.

(Pigott *Oehlenschlager*: The Dwarfs in Gruerber 1909: 73)

Though the surviving tale comes from Norse mythology and a much later date than the helmet, it could hold an element of an earlier widespread myth concerning the boar's connection to the sun that transformed to adapt to changing pantheon. There are numerous connections between Celtic and Norse religions that allow for the boar to transcend one culture of myths to spread across Northern Europe.

Interpretation 2: Wheel

Taranis

An alternative interpretation to the symbol is that it is a crude depiction of an eight-spoked wheel, which for some cultures was an alternative symbol for the sun itself because the wheel represented the wagon or chariot which carried the sun across the sky. For the Celts, the wheel god was prevalent in the region of Gaul, where he was named Taranis. He is described as the god of

Thunder for Gaul, Britain, Ireland, the Rhineland, and Danube regions and is represented by a six or eight spoked wheel that also associates him with the sky and sun in addition to his role as a thunder god. For comparison, later Romanized depictions of him associate Taranis with Jupiter, and there are statues that show a bearded man holding a thunderbolt in one hand with a wheel resting under his opposite hand. Outside of Gaul, he was equated with the following deities: Taireann [Irish], Thor [Norse], Donar [Germanic], Sami [Horagalles], and Dunor [Anglo-Saxon].

The name is known from *Pharsalia*, a later composition by the Roman poet Lucan that discussed the campaign of Caesar during the Gaulic War. He was named as part of a trinity of bloodthirsty gods [Teutates, Esus, and Taranis] that demanded human sacrifices, with the altar of Taranis compared to that of Diana:

tu quoque laetatus converti proelia, Trevir.
et nunc tonse Ligur, quindam per colla decore
 crinibus effusis toti praelate Comatae,
et quibus immitis placatur sanguine diro
 Teutates horrensque feris altaribus Esus
et Taranis Scythicae non mitior ara Dianae.

You, Trevir, also rejoiced that battles were turned away; and you, Ligurian, with hair now cropped, though once you excelled all the long-haired land in the locks that fell in beauty over your neck; and you also who propitiate with horrid victims the ruthless Teutates, and Esus whose savage shrines make men shudder, and Taranis, whose altar is not more benign than that of Scythian Diana. (Lucan *Civil War* (trans. Duff) 1928: 441-446).

There is some confusion over this passage, namely the comparison to Diana and why Lucan would have linked a Roman goddess with a barbaric god, but when the time in which he wrote his

piece is considered, an explanation becomes clear. Though the subject matter concerns the civil war between Caesar and Pompey, Lucan began his work around A.D. 61 under Emperor Nero and though he made the obligatory tribute to Nero at the beginning of his work, he ultimately had a falling out with the Emperor and was forced to commit suicide in A.D. 65. During the work, the Roman Empire began to face more threats from those they considered 'barbaric,' among which was the war with Parthia, the British revolt of Boudica, and the First Jewish War. These threats from forces Rome thought uncivilized may have influenced Lucan to establish the beginnings of greatness for these people, much as Homer established the epic rise of Greece through the *Iliad* and *Odyssey*. As C.M.C. Green (1994: 67) speculated:

The word play between immitis and non mitior is the climax of the tricolon; indeed, the moral force turns on the echo. Teutates is not benign [immitis], Esus is horrifying [horrens], and the altar of Taranis is no more benign [non mitior] than the altar of Diana. Diana is the standard of comparison because she was Greco-Roman and because her implacable demand for human sacrifice was integral for both epic and tragedy.

If Roman soldiers were to fight these barbarians, and the empire was forced to negotiate rather than outright conquer them, perhaps these cultures were on a rise to challenge the supremacy of Rome. Homer established the epic tragedy for the Greeks, and Virgil inherited that literary tradition for Rome, so Lucan was laying the groundwork for the rise of the Celts through his poem by linking Taranis to Diana, the goddess responsible for one of the most tragic elements of the *Iliad*.

It should be considered that Lucan greatly exaggerated the role and bloodlust of Taranis, but the work is mentioned because the Romans recognized him as a formidable god in the Celtic Pantheon. As Caesar encountered the Gauls during his campaign there and the Romans had

become somewhat familiar with them, they can be used as a source for a religion that did not leave an extensive written record of their beliefs for the period of the First Punic War, and Taranis would share elements with his older counterpart of the wheel god.

There are examples in the archaeological record of wheel brooches and miniature wheels in Celtic regions that represented the wheel god as a whole and Taranis specifically. Miranda Green (1979: 351) describes them:

The brooches may have been made entirely for decorative purposes, but it is arguable that they combine functional with ritual features, and that the owner considered it lucky to wear an amulet of the Celtic Sky-God. Wheel brooches are not particularly common either in Britain or on the continent. They are known in military contexts at, for instance Pfunz and elsewhere, e.g. Tongeren, Juslenville Cemetery, Haulchin, Elouges, and Lavacherie... True model wheels in Britain are of interest since they form part of a fascinating group of miniature tools and other miniature objects, which are common in Britain and on the Continent both during and indeed before the Roman era.

One stone wheel mould has been found at Gateshead near Newcastle, England that resembles the style of the symbol atop the crest knob (Green 1979:Plate XV). The mould appears to have groupings of lines in pairs of two like the crest knob, which may form spokes of a wheel rather than rays of a sun, though there may be fewer groupings on the stone, six spokes total, than on the knob. The crudeness of the mould is what relates it to the knob style, though it may have been a common 'quick design' for armor that is not present in large amounts in the surviving pieces (Figure 31).

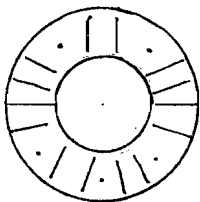


Figure 31: Wheel Press Mould (Image by author, 2017)

Rota Fortuna - “Wheel of Fate”

The concept of Fortuna for the Roman world cannot be understood without looking at the Greek Tyche, as the two are closely linked in ideology and iconography in both areas and throughout the Mediterranean world. Initially, for the Greeks in writing, Tyche had multiple origins as either the daughter of Aphrodite and Zeus or Hermes, or one of the Oceanids, the daughters of Oceanus and Tethys, but was concerned with the daily lives of the lower born classes in terms of agriculture and trades. She was not yet the deity or idea that would shape the destinies of entire nations and great leaders, as she eventually became to authors of the ancient world such as Cicero, Pliny, and Pindar. As Greek ideas spread across the Mediterranean region, so did Tyche, leading to the establishment of a prominent temple to her in Syracuse, Sicily around the end of the fifth century B.C. to express the importance to the cult of Tyche in the role of the city in terms of commerce and prominence as a center of the Western Greek world (Arya 2002:151). During the First Punic War, the city was an ally of Rome against the Carthaginians while under the rule of Hieron II, an individual known for his Hellenizing influence and staunch support of Rome during his lifetime, providing both troops and supplies to the Roman army.

In her imagery, both Tyche and Fortuna are most often depicted with a cornucopia, to represent abundance, and with her hand on a steering oar, to indicate the role in commerce, guiding the lives of men, and the fate of nations. Her connection with the rudder increased Fortuna's importance with port cities and sailors, as her ability to both give and take fortune from men could

lead them to safety or disaster, similar to the dangers of sailing in the open Mediterranean waters. She was thought to be of a mercurial nature, a force not to be trusted or relied upon that could benefit the cruel and unworthy just as easily as she could the righteous man, though one could hope to gain an advantage over her through intelligence and thoughtful action. As Naude (1964:83) describes her from the work of Ammianus Macellinus, “She is fickle and variable...and her inconstancy is emphasized by creating her in the image of a breeze. She is basically hostile and unfeeling...She upsets men’s lives, and she strikes swiftly and unexpectedly with the turning of her wheel.” An example of her standing in 241 B.C. survived in the writings of Valerius Maximus (3.1), as a retelling of a passage from the writer Nepotianys:

There was a rumor that Lutatius Cerco, the man who finished off the first Punic War, wanted to cast lots and pick them up at random in the temple of Fortune at Praeneste. When the Senate learned of this, it forbade him to consult a foreign oracle and rely on its answers...The Senate’s action was very beneficial and made his auspices reliable Roman ones. By starting off from the altars of his own country, he was able to devastate the very prosperous Aegates Islands right before the eyes of the Carthaginians.

The individual Lutatius Cerco was the Consul of Rome in 241 B.C. along with A. Manlius Torquatus Atticus, and was also the brother of Gaius Lutatius Catulus, the Roman proconsul who is credited with the victory of the Egadi Islands (Smith 1873: 186 & 192). Lutatius Cerco was seeking to gain insight at the Temple of Fortuna Primigenia into his course of action by consulting the *sortes praenestinae*, a group of oak slips kept in a wooden box, which the *sortilegus* (young boy of the temple) would draw one out at random during a ceremony that did not survive into present day (Richardson 1976). As the city of Praeneste was, at the time of the First Punic War, only an ally of Rome responsible for providing soldiers in times of conflict and allowing Roman

exiles a place to go, the Senate might have viewed the goddess as a Grecian deity, and therefore not one to whom the fate of Rome should be entrusted to.

The wheel of fate, or *Rota Fortuna*, has its earliest written instance in the works of Cicero, specifically *Ad Pisonem* first, during the late Republic, but that does not preclude the possibility that Tyche and Fortuna, as a revolving force known to give one moment and take back her gifts later, could be represented on a small personal scale by a wheel for an idea that most likely existed long before it was recorded. There is an artistic example of *Rota Fortuna* in a mosaic from Pompeii, titled *Memento Mori* (Figure 32), dated to between 30 B.C. and A.D. 14, that depicts a skull (death) resting upon a butterfly (the soul) while balanced on a wheel (fortune). The skull is surrounded by prosperity on the right and poverty on the left, reminders of the fickle nature of Fortuna to all those that viewed the mosaic. Due to her importance to port cities of commerce and to sailors, Fortuna or Tyche, depending on his culture, may have been personally invoked by a naval soldier as an attempt to assuage her and survive any engagement he became involved in. Though the earlier passage indicates that neither may have been considered a true Roman deity during the third century B.C. by the senate, the symbol and goddess Tyche/Fortuna belonged to the Mediterranean region, and could represent a Roman soldier, one of her many allies, or a region where the Greek concept of Tyche had taken root as a deity of fate, providence, or chance.



Figure 32: Memento Mori (30 B.C.-A.D.14) (Image by author, 2017)

Conclusion

If the symbol is a wheel rather than a sun, and Taranis is the primary god in Gaul associated with the wheel, then his connection with other warrior gods (e.g., Thor) makes it plausible that a mercenary from northern Europe would want to invoke his strength and protection during battle. However, if the individual possessed stronger cultural ties to the Mediterranean region rather than Gaul, than the wheel could represent a *Rota Fortuna*, and thus either the goddess Tyche or Fortuna and the idea that a man's fate may change in an instant as the goddess' mood dictates. Based upon the style of the symbol, with what appears to be groups of two lines together and a sizable gap between each grouping, I suggest that the stronger interpretation lies in the eight spoked wheel rather than a sun with sixteen projecting rays, given the historical remains of wheel presses and their designs, and that the soldier was trying to invoke a deity connected with a wheel rather than an element of the sun.

Chapter 8: Financial

As presented in chapter four on the manufacturing process of the Montefortino helmets, the quality of the product began to decline around the 3rd century B.C., but in order to understand perhaps why this change took place, one should look at the broader effects of warfare on each side; particularly, the military preparations at the end of this prolonged conflict for each side should be analyzed as they greatly impact the availability of raw materials during the armament process. Both Polybius and Appian left accounts of the financial status of Rome and Carthage just prior to the Egadi Islands, while Polybius provides a detailed record of the rebuilding of the Roman fleet and Carthage's lack of preparation for naval warfare around 241 B.C., allowing for the impact of these actions on the construction of the helmets to be inferred from the circumstantial data.

Financial Status

The fragments that have survived from Appian's *Sicilian Wars* record the following financial state for both Rome and Carthage in 252 B.C.:

Both Romans and Carthaginians were destitute of money; and the Romans could no longer build ships, being exhausted by taxes, yet they levied foot soldiers and sent them to Africa and Sicily from year to year, while the Carthaginians sent an embassy to Ptolemy, the son of Lagus, king of Egypt, seeking to borrow 2000 talents. He was on terms of friendship with both Romans and Carthaginians, and he sought to bring about peace between them. As he was not able to accomplish this, he said: 'It behooves one to assist friends against enemies, but not against friends.'

With this information regarding each state's treasury, the financial status can be gauged for both sides eleven years later, prior to the Battle of the Egadi Islands. In 252 B.C., Rome turned its

attention from Africa back to Sicily, with a total of sixty ships to supply their armies in Sicily (Rodgers 1964: 293). However, the Sicilian front began to take a toll on the Roman army, and the Consuls of 251 B.C. voted to build an additional fifty ships, most likely quinqueremes, for the fleet, bringing the total number of vessels to 110 quinqueremes entering the siege of Lilybaeum around 250 B.C. Polybius (*Histories*: 1.41) records that the consuls set sail for Sicily with a total of 200 ships, though modern estimates place the number closer to 120 warships. The difference between the ancient source and modern estimate may be explained by what vessels were counted as part of the fleet total; Polybius could have taken the smaller vessels, like the triremes, into account, while the modern estimate only counts the quinqueremes.

The battle of Drepanum in 249 B.C. was a crushing Roman defeat that devastated the fleet as, “the remaining ships of the fleet, which numbered ninety-three, were all captured by the Carthaginians together with their crews, except for those who ran their vessels ashore and managed to escape” (Polybius *Histories* 1.51). Shortly afterwards, what remained of the Roman navy was eliminated under the command of Lucius Junius Pullus on the way to Lilybaeum in Sicily. He encountered Carthaginians while rounding Cape Pachynus and Polybius (*Histories* 1.54) writes:

The two Roman fleets, however, were caught by the storm off a stretch of coast which offered no shelter whatever and were annihilated, the destruction being so complete that not even one of the wrecks could be salvaged. In this totally unforeseen fashion, then, the Romans had both of their fleets put out of action.

It was in this weak, ruined state that the Roman Navy entered into their construction of a new fleet just before the Battle of the Egadi Islands, for one final push at a victory to end the costly war. Carthage, at this point, had the opportunity to control the waters around Sicily without any

opposition, yet they failed to capitalize on their advantage over the non-existent Roman fleet due to poor advice from one of their commanding officers.

Reflection of Financial Status in the Egadi Islands Helmets

The historical records tell us that both sides were in a dire state financially, due to the rebuilding of the fleet multiple times and prolonged sieges on the Roman side and supply shipments and mercenary pay on the Carthaginian side. However, it is likely Carthage was withholding pay from the mercenary groups by the end of the war as the Mercenary War broke out soon after the end of the First Punic War due to Carthage's failure to pay for services rendered. Do these financial hardships endured by the governments reflect themselves in the six helmets recovered from the Egadi Islands, despite the fact that they would have been purchased by the individual soldier on either side of the conflict? Chapter four discusses the visible signs of declining quality present in Paddock's Type VII, chiefly in the decoration styles, as this type of helmet showed popularity in many parts of Europe from the fourth through first centuries B.C. It is noted that in terms of construction, the neck guard edge is noticeably thinner when compared to the higher quality Montefortino helmets Paddock used to assemble a 'manufacturing standard' for the type. Though it seems a small point, it perhaps served as a quick way to cut costs slightly without sacrificing the necessary protective thickness of the bowl, as would the hollow crest knob present on the four helmets where they still remain intact, which were filled with lead to support the crest pin used to support the ornamentation discussed by Polybius (6.23) (Paddock 1993:491). Such simple cost cutting measures, combined with the overly simplistic decorative elements, would serve to lower the price of the product for the consumer soldiers. The similar style of all six helmets also speaks to an 'assembly line' manufacturing style, which would allow for a quick turnout of product, though they would lack individualized elements, and provide a cheaper

alternative to the common man. These reflect the overall financial strains present throughout the economies of Rome and Carthage towards the end of the First Punic War spread from the governments themselves and affected the citizens throughout the area.

Chapter 9: Conclusion

The six Montefortino helmets recovered from the Egadi Island battle site present a unique archaeological opportunity to study a contained assemblage of armor from a dated conflict with an accompanying written record. Few records exist of armor during the early Roman Republic, and though the number of examples from the site are few, it is a start of compiling the picture of a typical soldier during the mid 3rd century B.C. Though at this time it is difficult to pinpoint ownership of any of the helmets recovered, due to the lack of identifying marks, a number of observations can still be made about this style of helmet in widespread use across Europe and the Mediterranean regions. These helmets are all decorated in a similar fashion, with a braided cable, herring bone pattern, and incised lines/dots running the circumference of the bowl and brim, which indicates a singular region of manufacture as many Montefortino in catalogues have different stylized markings based on the point of origin. The abnormally tall bowls of the majority of the Egadi Island helmets correlate to the Paddock Type VI, specifically those which originated in Southern Italy and Sicily, which may indicate a regional variation of the helmet in greater use at this time.

The First Punic War was a precursor to the mass production and standardization of armor that would come about under the Marian Reforms in 107 B.C., and that is visible in the Egadi Island Montefortino to an extent. As mentioned, the standardization in decoration for these helmets might indicate an attempt to increase production rates of armor at such a late stage in the costly war, though they are of a high quality and well decorated, a trait which would disappear in later types of Montefortino helmets. These finds present the beginning of an opportunity to further investigate how prolonged conflict affected both Rome and Carthage during the First Punic War,

and no doubt future field seasons will broaden our understanding of the armament in use during this conflict

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