

00D166F

LRN: 00D166I

Project Number: JLS-003 - 48

ARCHAEOLOGY OF TECHNOLOGY

An Interactive Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

By

---

**Erik J. Nelson**

---

**Jeromy V. Range**

Date: February 22, 2000

Approved:

  
\_\_\_\_\_  
**Professor Jeffrey L. Singman, Major Advisor**

# Table of Contents

	Page
Abstract	ii
Acknowledgements	iii
1. INTRODUCTION	1
1.1 History of the City of Dura-Europos	
1.2 Literature Published on Dura-Europos	
1.3 The Dura-Europos Exhibit at Higgins Armory	
2. ARTIFACTS	
2.1 Research at Yale University	
2.2 The Pieces In Historical Context	
3. THE DISPLAY	
3.1 Layout and Design	
3.2 Construction	
3.3 Final Product	
4. APPENDICES	
5. BIBLIOGRAPHY	

## **Abstract**

This proposal, prepared for Higgins Armory Museum Worcester, explores the scientific method of archaeology and its impact on relics in Higgins Armory Museum from the Dura-Europos dig in Syria in 1927 and nine seasons thereafter. Using Literature on archaeology, the city of Dura-Europos, and the Dura-Europos dig, this project examines Higgins Armory Museum artifacts from the Dura-Europos dig, with respect to their original archaeological discovery. The final product is an exhibit based on the city with respect to nine artifacts from storage in the Higgins Armory Museum collection.

## **Acknowledgements**

We would like to acknowledge and thank the following for their support in our project:

Professor Susan B. Matheson, curator of the Yale Art Gallery, for assisting us in researching the original records of the dig.

Bill McMillan for assisting us with making our display meet the requirements for Higgins Armory.

Severin J. Ritchie for allowing us to use the Physics Lab to construct our display.

Higgins Armory Museum for their support during the production of this special exhibit

## 1. INTRODUCTION

### 1.1 History of the city of Dura-Europos

Dura-Europos was never truly an important city in an historical context. Nevertheless, since it was classified as an “ordinary” city during the time in which it existed, it provided archaeologists valuable insight as to the day to day life.

The city was founded approximately 300B.C. (The exact date is not known) as a military colony under the Seleucid Empire. After Alexander the Great had died, many areas along the Euphrates were divided up and numerous cities, fortresses actually, were built. The title Dura is actually Semitic for “fortress”. The original population was made up of Macedonian and Greek soldiers who were given land in return for military service if it was needed. This obligation was passed down from generation to generation, as it was permanently tied to the land. There were also local Semitic inhabitants, often wives and servants of the Macedonians. This caused a fusion of divinities between Greek (which was the official religion) and Semitic divinities such as Zeus-Baalshamin. However, very few artifacts from this time period survived.

Around 150 BC, the Parathians were forming a new empire, and battled the Seleucids for control over the territory from Bactria to the Euphrates River. By 141 BC they had taken Babylon, and around 113 BC they took Dura-Europos, seemingly without a struggle. This introduced another culture into the city. However, the Parthian rule was very tolerant and allowed much autonomy in the city. The Parthians adopted Greek as the official language and the Greek currency. Babylonian, Aramaic, Arabic and Phoenician gods were worshipped along with local divinities that were already

worshipped. There was sufficient prosperity to allow the building of new temples as well, including a rebuilding of the largest temple, that of Artemis-Nanaia.

After the Parthian conquest, Dura knew peace and prosperity for two centuries. Much of this prosperity was due to the city's positioning along trade routes, allowing merchants to sell to passing caravans. The city also served as a political center, from which the provincial governor would administer his territory. However, by approximately mid-1st century BC the Romans were challenging the Parthians for control of the Tigris-Euphrates valley. The first few attacks by the Romans were disasters as they could not defeat the formidable and heavily mailed Parthian cavalry. However, in A.D. 113 the Roman emperor Trajan began his eastern campaigns and captured Dura in AD 116. Yet after Trajan died in AD 117, the new emperor Hadrian restored the old frontiers and Dura once again was under Parthian rule.

Dura finally came under Roman control permanently in AD 165 under the Emperor Lucius Verus. He installed a garrison and expelled all the Parathions from the city. Dura became a Roman colony around AD 211 and remained so until it was destroyed in AD 256.

Rule under the Roman Empire brought significant changes to the city, and not all for the better. Part of the city was designated as living quarters for the soldiers. The garrison began small, but was eventually enlarged putting a strain on the city and eventually walling off the entire northwest section of the city to form the Roman camp. Much of the city was razed and rebuilt to accommodate this change and only two temples that predated the Roman occupation were left standing. However, a large new temple was built and dedicated to Jupiter Dolichenus, an oriental god popular among the Syrians

who made up most of the legions that were stationed in the city. Shrines to other gods popular among the Romans were also built during the Roman occupation.

In the civilian section of the city, the major changes were the construction of baths and an increase in the crowded conditions. Unfortunately, the existence of the Necropolis outside the city and the desire for protection inside the walls of the city prevented the development of a suburb of the city. As a result, most of the inhabitants lived in subdivided houses.

The city demographics during this time had also changed a great deal. The original Macedonian settlers had intermarried with local residents, and as such the primary inhabitants of the city appear to be Semitic and Iranian. The Roman soldiers were all raised locally and also of Semitic or Syrian origin. Civil documents were still written in Greek, and many of the laws were based on Hellenistic prototypes. A small Jewish community was established by the late 2<sup>nd</sup> century. Christian congregations also gathered to worship privately, though most worship was still performed in secret to avoid persecution. There were also many other varieties of religions still practiced, including old Greek gods of the Seleucid era and Semitic gods, and the more recently introduced Roman gods.

In the 3<sup>rd</sup> century the Sassanian Empire was strengthening in the east. In AD 256 the Sassanians invaded Syria and after a disastrous defeat at Edessa in AD 258 the Romans were forced to sue for peace. The Sassanians had defeated all the cities along the Euphrates River to Antioch, including Dura. This time, however, Dura did struggle before it was defeated. Along the western walls embankments were built to provide protection against battering rams and a direct attack, but they only succeeded in part.

The Sassanians managed to lay siege to the city, and then undermined two guard towers and built an assault ramp near one of them. More mines were later built, but these appear to have originated inside the city, which suggests that they were countermines dug by the Romans. These were supported by timbers, which later could be burned to collapse the tunnels and as a result collapse the structures above them. However, once the defenses were breached the city seems to have surrendered since there appears to have been no fighting inside the city walls. The inhabitants of the city appear to have been driven out or sold into slavery, and there is no record of settlement from this time onward. The city remained abandoned until British soldiers discovered it in 1920. The inscription found on the Main Gate identified the city: "I thank the fortune of Dura".



## 1.2 Literature Published on Dura-Europos

A large amount of material has been written on the subject of Dura-Europos. The majority of the technical reports were filed during the nine seasons when the excavation was taking place. In later years, as the data was analyzed, subsequent reports and books were printed.

The nine seasons of work were composed and edited by M. Rostovtzeff, N.P. Toll and P. Baur, who led the Yale excavation. These findings were published as the dig was actually taking place, and act as a log and journal. The books focusing on the dig deal with facts and not aesthetics, and are a useful tool for visualizing the city as it was found. The books describing the nine seasons are useful as references to locate the various sections of the city, and also for determining where the artifacts were found. This has been our main resource to locate the origins of the Dura-Europos artifacts that are currently at the Higgins Art Museum.

After the completion of the dig, the data was collected at Yale and analyzed. Later works were then published on various aspects. An example of this was when Rostovtzeff published Dura-Europos and its Art in 1938, providing a means for establishing the different cultures and religions of the city as well as giving a more comprehensive history of the people who lived in the city through their artwork.

During the 1940s through the early 1970s, very little was written about the find, even though it was labeled as the “Pompeii of the East” due to its rich archaeological finds. Though no reason is explicitly given, it can be assumed that a more detailed analysis was being performed on the materials that were found. Then in the late 1970s and early 1980s there was a revival in publications on Dura. The books had more of a

tendency focus on the history of the city itself, based on the artifacts found in the dig. Various curators of the Yale Collection and the Yale University Art Gallery are responsible for writing these books. Again, there was a tendency to focus mostly on the artwork that was found. The reason for this was that through the artwork, there was an expression of how the many different cultures were combined into a mixing pot of culture. In Susan Matheson's Dura-Europos, published in 1982, she melds the basic known history of the city with the artwork that was found. This provided a better understanding of the people who inhabited the city as well as giving facts on the timeline of events for the city's history.

Since this project covered the actual dig itself, we used P. Bahn's Archaeology, Theories, Methods, and Practices. This provided us with a means of understanding the actual dig process and procedures not included in the dig reports. Combined with the nine seasons of preliminary reports and subsequent publications, we hoped to be able to give a concise report on the dig itself as well as being able to tie in the importance of the city. The end result was a base of knowledge that allowed us to amplify and update the current exhibits at the Higgin's Armory Museum

#### 1.4 The Dura-Europos Exhibit at Higgins Armory Museum

The display at Higgins Armory Museum focuses on siege warfare around the third century AD. Artifacts representing different aspects of siege warfare, including horse armor and catapult stones dominate the display. Other examples of items that are included are pilums and mail embedded with bones from a deceased soldier. The exhibit also includes many diagrams describing how the siege was carried out, including the construction of mines and how the city was conquered.

This exhibit focuses on the majority of the display towards the military aspect of Dura-Europos. In storage there were many items that were found throughout the city and had relevance in day to day life. These included hairpins, surgical instruments, hammers, and the like. Therefore, where the current display focuses on the definition of siege warfare during that time period, using Dura-Europos as an example, we provided a supplementary exhibit of Dura-Europos as a typical city during that time period.

## 2. ARTIFACTS

### 2.1 Research at Yale University

Research at Yale University consisted mostly of page by page searches of individual pieces. Taking the Yale University artifact number, we attempted to locate it in the original diaries. From this we were able to obtain the original descriptions, the exact date that the piece was found, and the original reference number. We were unable to find information on all the artifacts, however, due to two main reasons. First was that the Yale University numbers were assigned by the art gallery, and the diaries contained a different reference number. On some occasions, the Yale University number was penciled in on the dig notes, but not all. The second reason was that a batch of artifacts assigned the number 1938.5999.\*\* have no records in the original dig. They were sent to the Yale University Art Gallery, and due to problems in the log taking they were assigned that general number. As a result, no specific information was available for them.

Using the original reference number, we were able to cross-reference it with the reports of the nine seasons of Dura-Europos (the tenth season was not published due to the death of a lead excavator). Using this information, we were able to gain much more information on the individual piece such as where it was located, the type of dwelling it was located in, and other artifacts that were in the area. This allowed us to better conjecture what the piece was used for (e.g. if a knife was found in the house of a priest or a soldier, we could understand if that piece was used for ceremonial purposes or warfare).

The following are pictures of the artifacts we were able to locate in the logs, along with information collected on the specific piece:

1933.679 /2165.9 26 bronze scales (counted as one object)



Found: G3-K3  
Reference: Pg. 67 of 1931/32 Excavations  
Found in Private house section G3 next to a relief of Heracles

1932.1720 / 2165.6 Iron pilum or lance tip



Original Ref Number: E1184

This pilum was found in the Citadel's south west tower.

1933.694a/ 2165.Q88 Iron dagger blade with tang



Found in section F3-2, an amphitheater/bath Dec 13, 1932.

Original reference number: F849a-e

1932.1717/2162.2 Iron knife blade



Found in section E7W13, Feb 26, 1932, in the temple of Azzanathkona  
Possibly found in either room W15 (vestubule or resting place for entrance) or W16 (antichamber to room W15)

1933.622a/ 2165.Q143 Iron ring with flat back



Original Reference Number: F494a-e  
Found in section F3, by the North Wall on Nov 30, 1932  
Contained a bath of the Parthian period.

1934.437/ 2238.3 Iron hammer, small



This hammer was found in section N8A2. Its original reference number was G1154.c.

1933.714 F1329/ 2499.2 Fragment of mail



Found in section B2-D11, on Jan 21, 1933



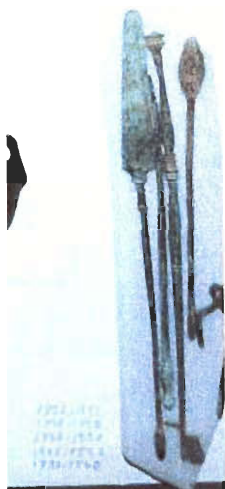
## 1938.2589 / 2499.1 Bronze bell



Although there was no information specifically on bells, there were numerous references to them in files contained at Yale. Since all the bells were very similar, it may be assumed that they were used for the same purposes.

Note: The next five pieces were grouped together and labeled as surgical instruments in the Higgins Armory listing; however it was found that they were located in different areas of the city and may not have been used for medical purposes. We only have one picture containing the group of instruments in the interest of not handling the pieces any more than necessary.

1932.1541/ 2499.12 Surgical instrument



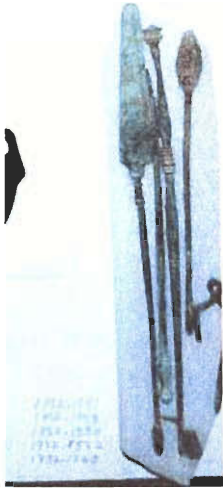
Found in section E7W on Jan 27, 1932.  
Possibly found in room W3 (living quarters of priest?)  
OR  
Found in room W7 (altar room) Found with a few coins and  
a terra cotta figurine.

1932.1548 / 2499.13 Surgical instrument



Original Number E601  
Found in a private house in section G1-40 on Dec 9,  
1931. Ref.: Pg. 49 in excavation book  
Labeled as possible spoon like object.

1932.1550/ 2499.14 Surgical instrument



Original Reference Number E1266  
Found in section G2-60, (a street with apparent shops) on Feb 13, 1932. Ref. pg. 65, excavations book.

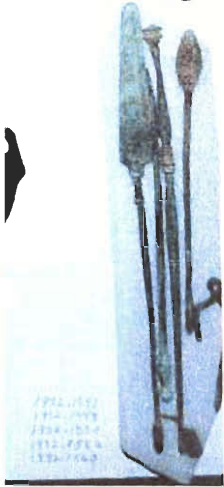
1932.1552/ 2499.15.1-.2 Surgical instrument



Found in section E7(an alleyway), on Dec 27, 1931.  
Labeled as possible hairpin

1932.1560 / 2499.16.1-.2 Surgical instrument

Note: high quality



Labeled as bronze tweezers  
Found in section C7g5 (a private home).

1932.1506 E319 / 2499.18 Fish hook



Found in section C7a6, on Nov 17, 1931.

1932.1508 E1277 / 2499.19 Fish hook



Found in section G1,81, on Feb 15, 1932.

1933.690a/ 2165.Q50 iron head with socket



Found in section C3B7??, on Feb 9, 1933.  
B7 is a room of house, private in section C3.  
Block of private houses surrounding a roman bath.

## 2.2 The pieces in Historical context

Research for the historical context of each piece included a search for books or articles that could compliment what we already knew about the pieces from our research at Yale. We narrowed our research to include only the individual pieces that would be displayed in our exhibit.

The first piece that we researched was a piece of Bronze armor HAM # 2165.9 26. We were able to discover that this type of armor was typically used in the Roman cavalry. The armor's design originated in the ancient middle East, and it was most noted for being strong and flexible. This type of armor could have been made from bronze or iron. We found adequate materials covering this type of armor in *Armor of the Roman Legions* and *The Roman Imperial Army*.

The Pilum HAM # 2165.6 was particularly interesting to research. Pilums were the national arm of the Roman infantry. They were used chiefly as a missile, thrown just before an attack with the sword. Pilums were usually riveted to a wooden shaft by iron nails or wooden pegs. Wooden pegs were used if the pilum head was meant to break off easily. Our main sources used for the history of Pilum were *Synopsis of Ancient Arms and Armour* and *The Roman Imperial Army*.

The iron knife found in the Temple of Azzanathkona was particularly difficult to research. Azzanathkona was believed to be a combination of the Roman goddess Artemis and a local god. We used *Mesopotamian Religious Architecture. Alexander through the Parthians*, for research concerning Azzanathkona.

We used *Roman Crafts* as a primary resource concerning the Iron Hammer found in section N 8. We were only able to estimate that this hammer was most likely a carpenter's hammer. By comparing illustrations of tools in *Roman Crafts* we decided that it most resembled those used by carpenters.

From *The Bronze Age* we were able to determine how the bronze instruments were most likely made, and how some of them may have been used. The lost wax technique seemed like the most likely candidate for the construction of these particular items. The lost wax technique involved the construction of a wax model of the item, then molding clay around to item to be fired. The wax would melt away leaving a mold of the item. We were also able to determine that the bronze pins could have been either hair or clothing pins. It was common to wrap a piece of string around the head of a pin, insert it into the clothing, and wrap the string around the end of the pin to hold it into place.

We were given some idea of how the tweezers and the spoon may have been used from *Greek, Etruscan and Roman Bronzes*. The tweezers could have been used to remove facial hair or splinters. The spoon could have been used as an ear probe, or to mix and apply medications.

By inspecting the bronze spatula it is possible to estimate its various uses. It could have been used to stir and spread medications, or as a painter's tool. It is also possible that it could have been used as a cauterizing instrument.

### 3. THE DISPLAY

#### 3.1 Layout and Design

We decided to focus our display on artifacts revolving around daily life either from a military or a civilian standpoint. We also decided that it would be important to show where the pieces came from within the city of Dura-Europos. Our exhibit introduced artifacts currently in the Higgins Armory Museum storage. We used a clay model that we constructed to represent the city in a three-dimensional setting. We also used a transparent map attached to the underside of the top of the case cover to supplement the three-dimensional model. We used nine of the Dura-Europos artifacts for our exhibit. Each artifact has an artifact card that will describe each piece and where in the city it was found. We included an illustration to aid in the description of the bronze armor. In addition we lathed a rough copy of one of the pins in order to illustrate how it would be used to secure clothing. The copy was used in the exhibit, and attached to a piece of cloth in order to aid the pin description.



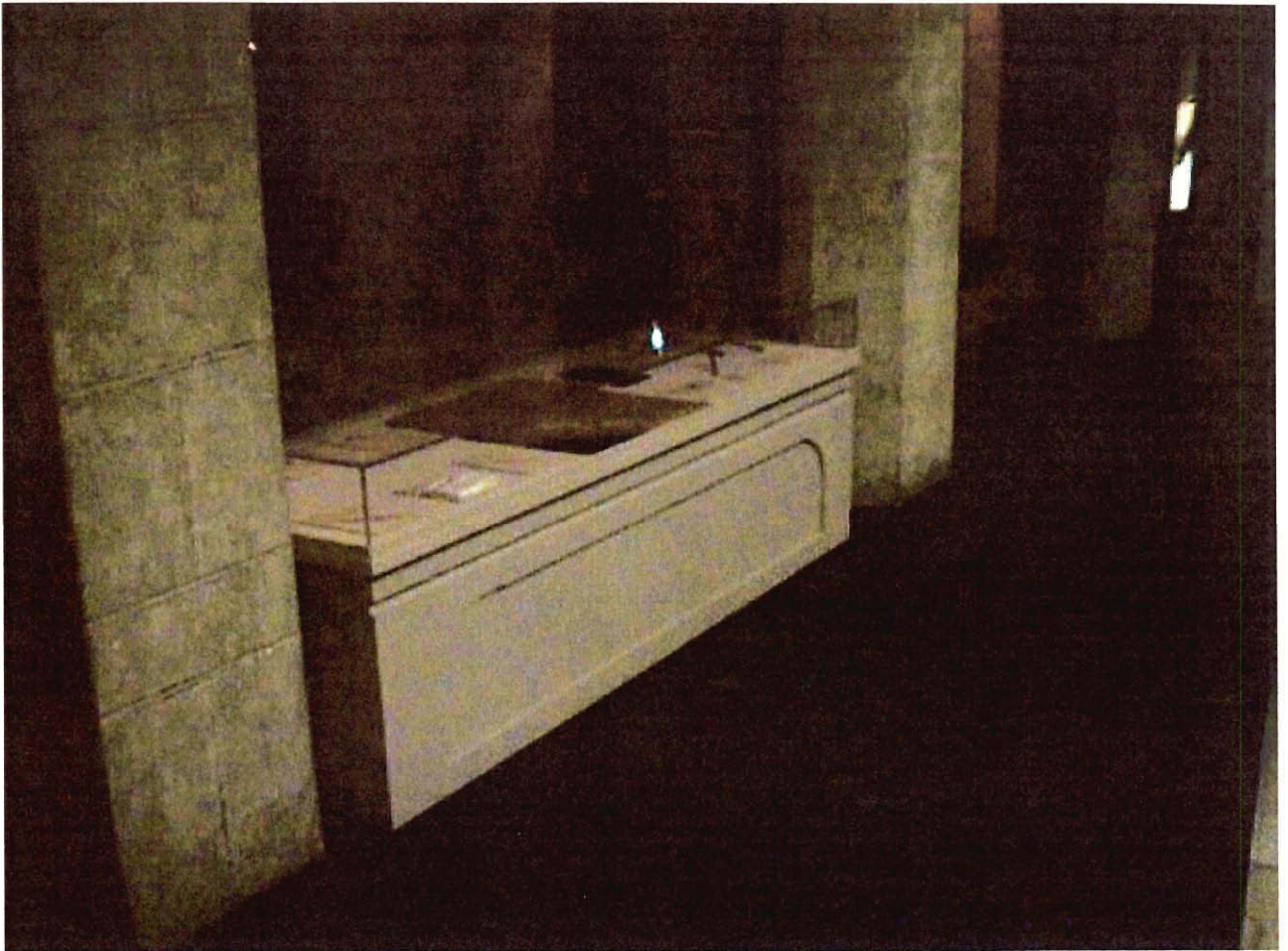
### 3.2 Construction

We took the time to construct the exhibit case ourselves in order to save money and to get the specifications that were desirable for our particular exhibit. Considering the closeness in subject to the current Dura-Europos exhibit it was decided that our exhibit would best be displayed next to the current Dura-Europos exhibit on the third floor of the Great Hall in Higgins Armory Museum. In order to fit between two pillars we were forced to come up with a dimension of about 30" X 92". We constructed the case out of plywood and 2X4's. The case was painted for aesthetic reasons, and the case cover was given a complementary border to aid in its fit onto the case. The overall height of the case is about two foot eight inches. We constructed the plexiglas cover ourselves using a polymer resin that would bond the joints together adequately. Each artifact has a description card and is mounted upon an individually crafted stand.

### 3.3 Final Product



3.3 cont.





3.3 cont.

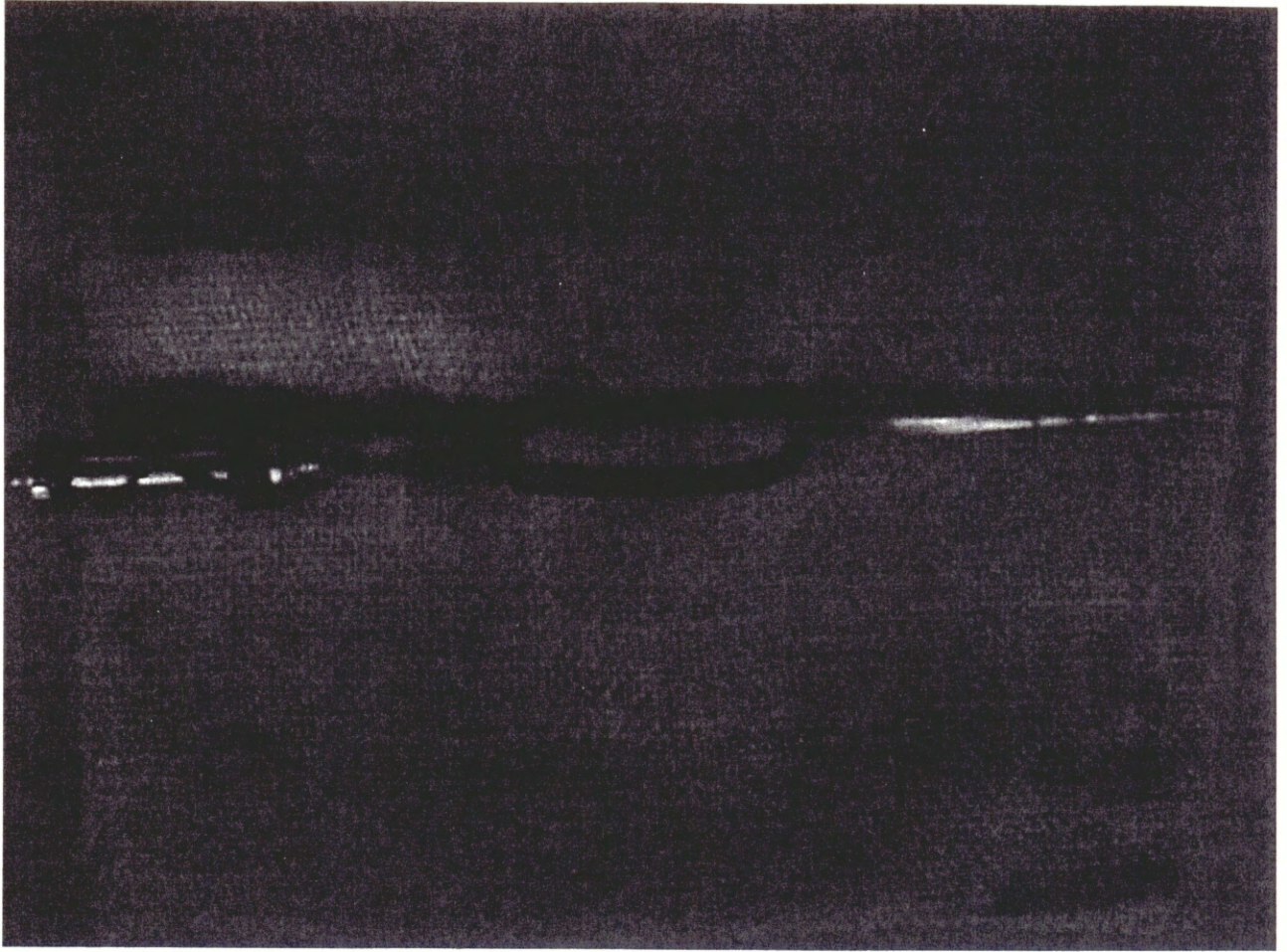


3.3 cont.

overhead decal



3.3 cont.





3.3 cont.

**Fragment of Scale Armor (Lionel Sproston), not later  
than 250 C.E.**

**Roman**

**Bronze**

**Loaned courtesy of Yale University Art Gallery (1933.679,  
2165.9)**

**Found in a private house in section G3. Roman and  
Sassanian cavalry, as well as auxiliary troops, typically  
used such armor. Scale armor originated in the ancient  
Middle East. It was strong and flexible, although bulky, and  
was made of either bronze or iron.**

3.3 cont.

**Spatula, not later than 256 C.E.**

**Roman or Sassanian**

**Bronze**

**Loaned courtesy of Yale University Art Gallery**

**(1932.1550; 2499.14)**

**This spatula was found in a street lined with shops in section G2. This might have been used as a medical instrument to stir and spread medications, or a painter's tool for preparing and mixing colors.**



3.3 cont.

**Tweezers, not later than 256 C.E.**

**Roman or Sassanian**

**Bronze**

**Loaned courtesy of Yale University Art Gallery  
(1932.1560; 2499.16.1-.2)**

**These tweezers were found at a private home in section C7.  
Their shape illustrates how little they have changed over  
the past 2000 years. Tweezers like this could have been  
used to remove splinters or facial hair.**

3.3 cont.

**Spoon, not later than 256 C.E.**

**Roman or Sassanian**

**Bronze**

**Loaned courtesy of Yale University Art Gallery  
(1932.1548; 2499.13)**

**Found in Section G1, this was perhaps a tool for removing  
earwax, or a spoon for mixing and applying medications.**

### 3.3 cont.

The following are the texts for each of the nine items we chose for the display.

#### Item #1

Scale Armor

Roman or Sassanian

Bronze

Yale University Art Gallery 1933.679

Higgins Armory Museum 2165.9

Found in a private house in section G3. The Roman cavalry or Sassanians typically used this type of armor. The armor's design originated in the ancient Middle East. It was strong and flexible, and could be made from either bronze or iron.

#### Item #2

*Pilum* Head

Roman

Iron

Yale University Art Gallery 1932.1720

Higgins Armory Museum 2165.6

This head for a *pilum*, or Roman javelin, was found in the Citadel's southwest tower. *Pilum* like this were the national arm of the Roman infantry. They were thrown just before an attack with sword. *Pilum* heads were usually riveted to a wooden shaft by iron nails or a wooden pin, so they would break off and remain in the enemy or his shield.

#### Item # 3

Knife Blade

Roman

Iron

Yale University Art Gallery 1932.1717

Higgins Armory Museum 2162.2

Found in the Temple of Azzanathkona, this knife could have been used in ritual sacrifices. Azzanathkona is believed to be a combination of the Roman god Artemis, and a local deity. This blending of Roman and local deities was common in Roman times.

#### Item # 4

Hammer

Roman or Sassanian

Iron

Yale University Art Gallery 1934.437

Higgins Armory Museum 2238.3

This hammer was found in section N8. The end of the handle is chisel shaped, and suggests that a carpenter could have used this hammer.

Item # 5

Pin  
Roman or Sassanian  
Bronze  
Yale University Art Gallery 1932.1541

This pin was found in the living quarters of a priest at the Temple of Azzanathkona. It was made by the "lost wax" technique, where clay was molded around a wax model, then heated. The wax would melt, leaving a clay casting of the pin.

Item # 6

Pin  
Roman or Sassanian  
Bronze  
Yale University Art Gallery 1932.1552  
Higgins Armory Museum 2499.15.1-2

This pin was found in the alley of section E7. Refer to the illustration for a description of the proper use of the pin.

Item # 7

Tweezers  
Roman or Sassanian  
Bronze  
Yale University Art Gallery 1932.1560  
Higgins Armory Museum 2499.16.1-2

These tweezers were found at a private home in section C7. The shape of the tweezers illustrates how little they have changed over the past 2000 years. Tweezers like this could have been used to remove splinters or facial hair.

Item # 8

Spoon  
Roman or Sassanian  
Bronze  
Yale University Art Gallery 1932.1548  
Higgins Armory Museum 2499.13

Found in Section G1, this could be either a tool for removing earwax, or a spoon for mixing and applying medications.

Item # 9

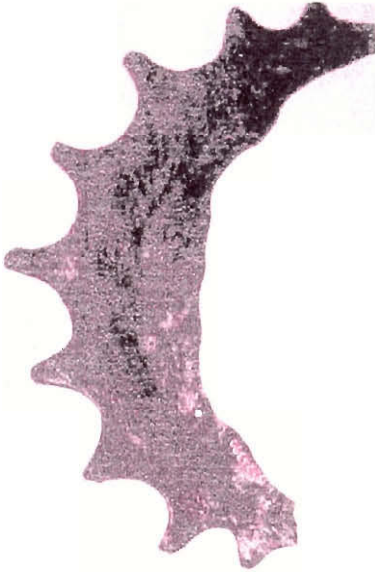
Spatula  
Roman or Sassanian  
Bronze  
Yale University Art Gallery 1932.1550  
Higgins Armory Museum 2499.14

This Spatula was found in a street lined with shops in section G2. This could be a medical instrument used to stir and spread medications, or a painter's tool for preparing and mixing colors.

#### 4. APPENDICES

The following are photos and information on items that were either unimportant, or lacked sufficient information for our purposes.

1932.1930 / 2499.26 Crown shaped bronze fragment, part of standard?

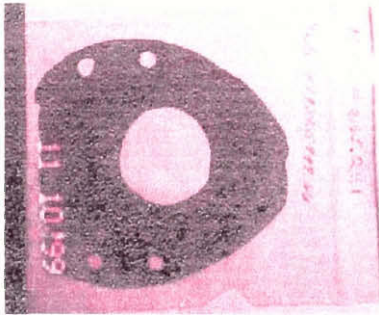


1938.5002 / 2499.33 Iron links from a bit



1938.5999.65/2165.Q93 Iron blade fragment (tip)  
Note: may relate to 2165.Q89

1938.5999.66/ 2165.Q111 Iron Horseshoe



1938.5999.67/ 2165.114 Iron button or rivet

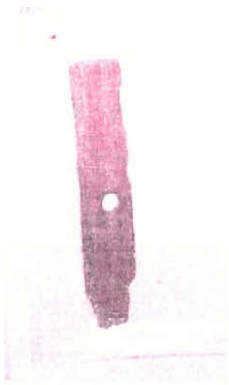


1938.5999.68/ 2165.Q127 Iron fragment with bronze rivet





1938.5999.70 / 2165.Q164 Wood fragment, triangular cross section



1938.5999.71 / 265.Q245 Bronze armor scale



1938.5999.72/ 2165.Q256 Bronze handle fragment ring around broken pointed end: May be a pen/stylus



1938.5999.73/ 2165.Q280 Bronze and iron fragment, bronze inserts



1938.5999.53 / 2165.Q48 Iron head with socket

1938.5999.54 / 2165.Q49 Iron head with socket



1938.5999.58/ 2165.Q54 iron head with socket

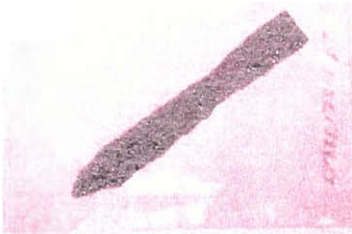
1938.5999.59/ 2165.Q55 iron head with socket



1938.5999.56/ 2165.Q52 Iron head with socket



1938.5999.57/ 2165.Q53 iron head with socket



1938.5999.60/ 2165.Q75.1-.2 two iron fragments, larger one with socket (part of one whole)



1938.5999.61/ 2165.Q78 Iron socket



1938.5999.48 / 2165.Q41 Iron Fragment, square bolt head



1938.5999.52 / 2165.Q42 Iron Fragment, spear or quarrel head



1938.5999.44 / 2165.Q32 Iron Fragment, blade?



1938.5999.45 / 2165.Q36 Iron fragment, bolt head?





1938.5999.41 / 2165.Q6 Tanged iron fragment



1938.5999.42 / 2165.Q9 Circular iron fragment w/ traces of bronze

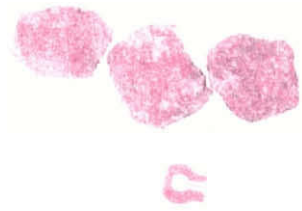


1938.5999.46 / 2165.Q37 Iron fragment, arrow head?

1938.5999.47 / 2165.Q40 Iron fragment, bolt head?



1938.5999.43 / 2165.Q13.1-.33 iron domed discs-all part of one globular form (counted as one object)



1938.5999.49/ 2165.Q43 Iron fragment, spear/lance tip

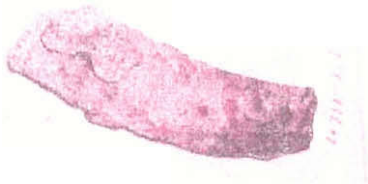


1938.5999.63/ 2165.Q83 Flat iron fragment, 1 edge turned



1938.5999.64/ 2165.Q89 Iron blade fragment

Note: may relate to 2165.Q93



1938.2589 / 2499.1 Bronze bell



1938.2590/ 2499.3 Bronze bell



1938.2588 / 2499.23 Bronze bell



1938.5001 / 2499.25 Scraper

## 5. BIBLIOGRAPHY

Bahn, P. *Archaeology, Theories, Methods, and Practices*. London: Thames and Hudson, 1996.

Baur, P., and Rostovtzeff, M. *The Excavations at Dura-Europos*. New Haven: Yale University Press, 1929.

Child, G. *The Bronze Age*, Cambridge.

Guido, Manjo. *The healing hand: man's wounds in the ancient world*. Cambridge: Harvard University Press, 1975.

Hopkins, C. *The Discovery of Dura-Europos*. New Haven and London: Yale University Press, 1979.

Karcheski, W. *Arms and armor of the Art Institute of Chicago*. Boston: Little Brown, 1995.

Matheson, S. *Dura-Europos*. New Haven and London: Yale University Art Gallery, 1982.

Richter, G. *The Metropolitan Museum of Art: Greek, Etruscan and Roman Bronzes*. New York. n.d.

Robinson, R, F.S.A. *The Armour of the Roman Legions*, Newcastle upon Tyne, Frank Graham. n.d.

Rostovtzeff, M. *Dura-Europos and Its Art*. Oxford: Clarendon Press, 1938.

Rostovtzeff, M. *The Excavations at Dura-Europos*. New Haven: Yale University Press, 1946.

Rostovtzeff, M. *The Excavations at Dura-Europos*. Volume II. New Haven: Yale University Press, 1946.

Rostovtzeff, M. *The Excavations at Dura-Europos. Preliminary Report of Sixth Season of Work October 1932-March 1933*. New Haven: Yale University Press, 1936.

Strong, D; and Brown David. *Roman Crafts*. New York: New York University Press, 1976.

Young, P. "Return to Dura-Europos", *History Today*, 47:11(1997), 31-32.