The Gallery at the Whitney

Painting in Time:

Discovery, Analysis, and Interpretation of a Roman Shield from Dura-Europos

Curated by Sarah Norvell

Yale College Class of 2015

September 2 through December 18, 2015

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This exhibit highlights the history of Yale's role in the excavation of the ancient site of Dura-Europos, in modern-day Syria, as well as the excavated artifacts now in Yale University Art Gallery's permanent collection. It also offers insight into the history of these excavated objects since they have left the field, including some objects that remain in a particularly fragile condition.

The exhibition draws particular attention to the intersections between the humanities and sciences that arose during the course of a technical study of a rare archaeological artifact: a painted wooden shield from Dura-Europos. Collaboration among art historians, classicists, conservation scientists, curators, historians, objects conservators, and paintings conservators has produced a multifaceted and comprehensive analysis of this object, addressing questions of its function, materials, and iconography.

The shield is intimately connected with warfare. It was produced during a time of war, as Roman forces stationed at Dura-Europos fought Sasanian invaders to retain their hold on the city. Its elaborate decoration and shape, however, suggest that it may have been intended for use as a parade shield rather than in combat. The shield's imagery connects it to the most iconic battle of all time, the Trojan War. Ironically, the object was saved for posterity by circumstances of conflict: the anaerobic environment of the earthen embankment into which the shield was deposited during the final siege of Dura-Europos ensured the preservation of its wood and layered paint surface. Moreover, the shield was indirectly discovered as a result of war, when bivouacking British soldiers accidentally unearthed Dura-Europos from the sands of oblivion in 1920.

Syria is now deeply embroiled in a devastating civil war. In the battle currently being waged by the Islamic State against their ideological enemies, some of the silent targets are important objects of shared cultural heritage, including artifacts from Mosul, Nineveh, and Palmyra, a city intimately connected with Dura-Europos in the second and third centuries BCE. Because of the extensive illegal looting and destruction of ancient sites encouraged by the Islamic State, it may never be known what exactly has been lost. With these considerations in mind, the exhibit also seeks to highlight the current state of the Dura-Europos site under this destructive regime.

Dura-Europos: A Brief History of the Site

Lisa R. Brody, Yale University Art Gallery

Home to a multicultural population and controlled at different points in time by Greeks, Parthians, and Romans, Dura-Europos was a city where Christians, Jews, and pagans worked and worshiped side by side during much of its history. Inhabitants spoke and wrote many languages, and their religious and ethnic diversity is reflected in the extraordinary objects discovered at the site.

Founded ca. 300 BCE by Macedonian Greeks, the city was originally called Europos. Excellent natural defenses were supplemented by a strong fortification wall. Within the city was an orthogonal street grid incorporating an agora, public buildings and temples, modest Greek-style houses, and a large private residence on the highest point of the city *(Figure 1)*. Outside the walls were farm plots and a necropolis. The official language, government, legal systems, coinage, and religion were Greek.

Occupied by Parthia ca. 113 BCE, the city remained under Parthian control until 165 CE and became known as "Dura" (Aramaic for "fortress"). Prosperity from trade routes along the Euphrates River and westward across the desert to Palmyra generated expansion and growth. Fortifications were strengthened and a major

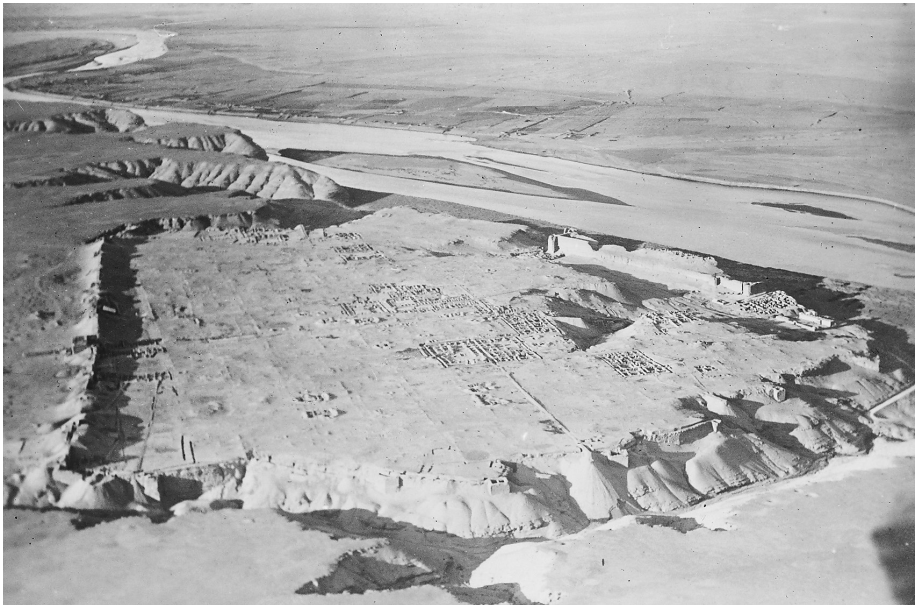

Figure 1: Aerial view of Dura-Europos during the excavations in the 1920s and 1930s by Yale University and the French Académie des Inscriptions et Belles-Lettres. Yale University Art Gallery, Dura-Europos Collection.

gate was constructed. Existing temples to Greek gods were rebuilt and expanded, while new temples were dedicated to Semitic gods such as Bel, Iarhibol, and Atargatis. Votive reliefs honored syncretic Graeco-Parthian/Aramaic gods such as Zeus Kyrios-Baalshamin, Artemis Azzanthkona, Tyche-Atargatis, Apollo-Nebo, and the Gaddé *(Tychai)* of Dura and Palmyra. Palmyrenes who resided at Dura also dedicated several shrines to their own deities, having imported Palmyrene limestone and sculptors for the undertaking. Despite the presence of Palmyrene inscriptions in temple dedications and the circulation of Palmyrene coins, the official language and laws of Dura remained Greek.

After a brief back-and-forth between the Romans and the Parthians in the early second century CE, the city fell to the Romans in 165 and became an important frontier garrison. Roman Dura was a city of many languages, religions, and cultures, with significant intermingling of Romans and locals. Documents preserved on parchment and papyrus reveal details of military and civilian life *(Figure 2)*. An amphitheater and public baths were constructed during this period, as were temples to Roman gods. Private houses were converted into places of Christian and Jewish worship and decorated with extensive figural wall paintings. A shrine to Mithras and other pagan temples were also adorned with wall paintings and cult reliefs.

When the Sasanians attacked the city in the early 250s, the Roman soldiers responded by reinforcing the western fortification wall with a massive embankment. The microclimate created by this embankment played a major role in the site's extraordinary preservation. A series of mines and countermines attest to the tactics employed by both sides during the conflict and provide important evidence of ancient siege warfare. Following the final Sasanian victory in 256 CE, Dura was abandoned.

Rediscovered by British troops in 1920, the site was examined briefly by archaeologist James Henry Breasted. Excavations took place in 1922–23 by Franz Cumont under the auspices of the French Académie des Inscriptions et Belles-Lettres. Following a brief hiatus, work continued in 1928, launching a ten-year collaboration between Yale University and the French Academy that was led by Yale professor Michael Rostovtzeff and directed in turn by Maurice Pillet (1928–31), Clark Hopkins (1931–35), and Frank Brown (1935–37). A new series of excavation and preservation campaigns by the Mission Franco-Syrienne d'Europos-Doura began in the mid-1980s, directed by Pierre Leriche. To this day public and scholarly interest in the site remains as intense as ever, and collaborative research projects continue to reexamine the remains of this important cultural crossroads.

Figure 2: Papyrus known as the Feriale Duranum (P. Dura 54). *Its Latin text records Roman festivals likely associated with the military. Beinecke Rare Book and Manuscript Library, Yale University.*

The Post-Antique Life of Dura-Europos

Carol Snow, Yale University Art Gallery

After its abandonment in 256 CE, the site of Dura-Europos remained virtually undisturbed until the twentieth century. While the Roman fortifications and intentional burial of structures on the perimeter of the city may have protected wall paintings and artifacts in those precincts, the final Sasanian siege tunneled under the city walls and towers and damaged buildings. Subsequent damage to other structures occurred through the natural seasonal cycles of erosion and through seismic activity along the Euphrates fault line. Collapse of built structures buried artifacts left behind by the inhabitants of Dura-Europos. Unlike many other ancient cities, Dura-Europos was not rebuilt, reoccupied, or raided for building materials; instead, it was left to the natural effects of earthquakes, wind, water, and sand.

The physical features of the site also contributed to the preservation of structures and artifacts. For strategic reasons, the city had been built on a bluff overlooking the Euphrates River. This unique location diverted water run-off away from the remains of the city. A limestone-rich soil further contributed to preservation by creating an alkaline burial environment and a stable chemical equilibrium. Both inorganic materials, such as stone, ceramics, glass, metals, and wall paintings, and organic materials, such as wood, leather, dyed textiles, bone, and even feather arrow quills, were so well preserved by this burial environment that Dura-Europos has been called the "Pompeii of the Syrian desert."

After the Treaty of Versailles transferred the area of modern-day Syria from Ottoman rule to a French mandate, the area was opened up to excavations by foreign archaeologists. Following the existing laws of *partage,* or "sharing," half of the finds remained in Syria and the other half (over 12,000 artifacts) were sent to Yale, where they constitute significant holdings in the Yale University Art Gallery's collection of Ancient Art. Examples of pagan and polytheistic sculptures and paintings are currently displayed alongside objects from military and everyday life, thus reflecting the diversity and multiculturalism of the Dura-Europos settlement.

Today, the Islamic State holds the area surrounding Dura-Europos. Large-scale illegal excavation of the site has been done by as many as a thousand people working with earth-moving equipment (i.e., bulldozers, backhoes) to remove stone sculptures, wall paintings, tiles, pottery, glass, bronze and silver coins, and gold jewelry *(Figures 3 and 4)*. It is believed that these artifacts are being sold on the black market to help finance acts of terrorism committed by the Islamic State.

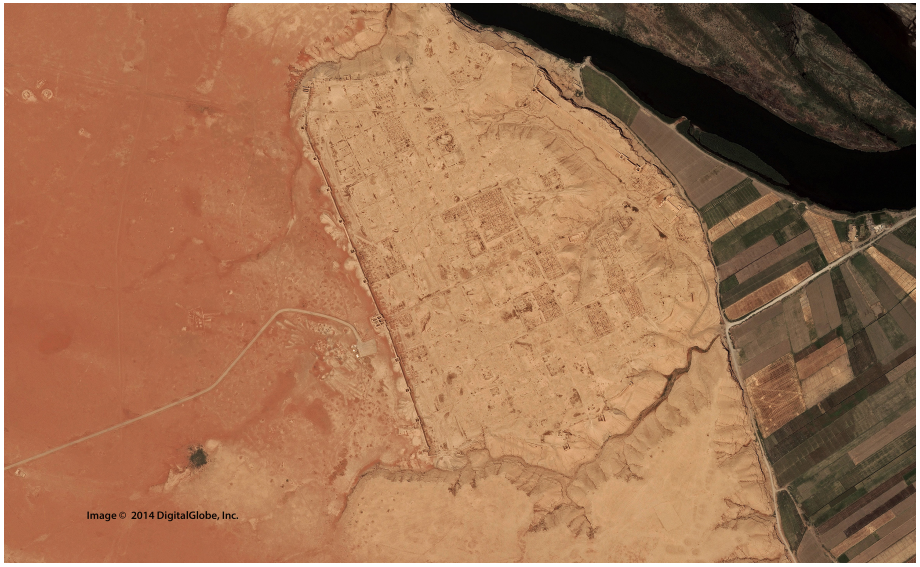

Figure 3: Aerial photograph of the site of Dura-Europos taken in June 2012. Areas of current excavation are not widespread. United States Department of State.

Figure 4: Aerial photograph of the site taken in May 2014. Illegal excavation pits cover ~90% of the site and have extended even beyond the ancient circuit wall. United States Department of State.

Iconography of the Shield Depicting Scenes from the Trojan War

Sarah Norvell, Yale College Class of 2015

During the 1934–35 excavation season at Dura-Europos, archaeologists uncovered a remarkable cache of three painted wooden shields. Found missing their umbones, the central defensive element that protects the bearer's hand, and decorated with elaborate figural scenes, the shields were most likely never used in combat but instead displayed on important military occasions. Michael Rostovtzeff and Clark Hopkins, the excavators of the shields, were fascinated by their unique iconography. Drawing upon their knowledge of conventional iconographic precedents and of Greek and Roman literature, Rostovtzeff and Hopkins strove to accurately identify the figures and scenes depicted on the shields. They identified the imagery of one as an Eastern warrior god—possibly Iarhibol, a Syrian deity closely associated with the Roman Army. The two other shields were identified as depicting scenes from the fall of Troy and the battle between the Greeks and the Amazons.

Although the shields generated great interest at the time of their excavation and much forthcoming scholarship was initially promised, the intervention of World War II and the subsequent decades spent in storage postponed a comprehensive study of their rich iconography. However, scholars were able to utilize detailed watercolors of the shields painted by Herbert Gute at the time of their excavation. Most research has focused on finding literary, mythical, and iconographic evidence to revise Rostovtzeff and Hopkins's speculative interpretation.

In analyzing the iconography of the shield, some figures are readily recognizable because of the security of their places within both the mythical and well-established iconographic traditions. For instance, one can identify Priam, king of Troy, with relative confidence: not only does his memorable death at the hands of Neoptolemus form the emotional climax of Book 2 of Virgil's *Aeneid*, but there also exists a long iconographic tradition, particularly prevalent in Greek vase painting, of portraying Priam on the ground in front of an altar, struggling in the final moments before his death *(Figure 5)*.

Figures with less fixed iconographic conventions, however, are much more difficult to identify. One such figure that has eluded positive identification is that of

Figure 5: Detail from Herbert Gute's 1935 watercolor of the shield showing a fallen figure reaching toward an altar. This figure is typically understood to represent Priam, the king of Troy, in the final moments before his death at the hands of Neoptolemus. Yale University Art Gallery, Dura-Europos Collection.

the Trojan woman located next to Priam in the bottom scene of shield. Attired in a green skirt and an orange blouse, and wearing her dark hair piled atop her head, the female figure is conclusively identifiable neither by her clothes nor by any other attributes. Hopkins and Rostovtzeff identified her as the ill-fated prophetess Cassandra based on her proximity to the Priam figure *(Figure 6)*.

What most distinguishes this figure from the several anonymous Trojans standing in the background is not only the preeminence of her position but also her gender: the artist most likely did not situate this lone female figure prominently in the midst of several males without meaning. A clue to the identity of this Trojan woman may lie in her unique gesture. She appears to reach toward the figure of the horse, physically touching its shoulder with her hand.

Based on her prominent position next to King Priam and her physical contact with the horse, this woman could possibly be identified as Helen, who in Homer's *Odyssey* is accused by Menelaus of touching the wooden horse in order to taunt the soldiers inside: "Three times you waltzed around the hollow ambush, trying it with your touch, and you called aloud the chieftains of the Danaans by their names, imitating with your voice the wives of all the Argives" (*Odyssey* 4.277–80). Although no other depictions of this scene are found in iconographic portrayals of Helen, the Homeric literary tradition may serve to support this

Figure 6: Detail from Herbert Gute's 1935 watercolor of the shield showing an unidentified female figure. Although Hopkins and Rostovtzeff believed that this figure is meant to represent Cassandra, evidence from the Homeric literary tradition may support identification of the figure as Helen. Yale University Art Gallery, Dura-Europos Collection.

identification. While conclusive identification for this intriguing female figure may never be reached, a growing interest in reevaluating the iconography of this shield promises to shed further light on this issue.

Analysis and Conservation of the Shields

Anne Gunnison, Yale University Art Gallery

Erin Mysak, Yale University Institute for the Preservation of Cultural Heritage

Irma Passeri, Yale University Art Gallery

The three oval painted shields found stacked together at Dura-Europos are extraordinarily rare examples of ancient painting techniques on wood. Despite the excitement generated by the discovery of the shields in 1935, there has been no comprehensive analytical study of these finds since they were analyzed by chemist Rutherford J. Gettens and conservator George L. Stout at the Fogg Art Museum at Harvard University that same year. Since 2004, however, interest in the three shields has been renewed by their publication in Simon James's final report on the military equipment from Dura and the inclusion of one of the shields in the Mary and James Ottaway Gallery of Ancient Dura-Europos at the Yale University Art Gallery.

Herbert Gute, the on-site excavation artist at Dura, assisted in excavating and treating the shields before painting highly detailed watercolors of them. The technical examination report compiled by Stout noted: "Caked clay was removed mechanically in the field. The surface was brushed with one thin and (after drying) with one thick coat of polyvinyl acetate [PVA] in organic solvents." Today, this treatment has resulted in the lifting and tenting of the fragile paint and preparatory layers and the obscuring of the original decoration with trapped dirt and discolored, glossy PVA.

While the initial analysis and pigment identification of Gettens and Stout is instructive, a more comprehensive study of the shields is assisting in a better understanding of ancient painting techniques and materials, which in turn will inform the proposed conservation treatment to stabilize the shields. Pigments, binding media, glues, and fibers are being identified with analytical techniques such as X-ray fluorescence [XRF], scanning-electron microscopy with energy-dispersive X-ray spectroscopy [SEM-EDX], Fourier transform infrared spectroscopy [FTIR], Raman spectroscopy, and polarized light microscopy [PLM].

Prior to analysis, all three of the shields were photographed by Yale University Art Gallery photographers under normal, raking, ultraviolet [UV], and infrared [IR] light. Gute's original watercolors of the shields had initially been thought to be optimistic projections of what survived on the shields, but IR imaging proved otherwise, showing complex and well-wrought paintings, especially on the shield depicting scenes from the Trojan War featured in this exhibition *(Figure 7)*.

Figure 7: Detail of the infrared reflectography image. This imaging technique exposes details of the painted surface that are not visible under normal light.

This shield is composed of thin vertical wood planks, butt-joined with glue along their edges with the grain oriented vertically. It may once have had a slight convex surface, although its preservation makes it difficult to determine the original curvature. The wood, tentatively identified in 1935 by Yale School of Forestry professor Samuel Record as *Pinus halepensis* (commonly known as Aleppo pine), was coated with a thin layer of glue and vegetal fibers. The surface was then prepared with a thin ground layer of calcium-based white and lead white, as indicated by XRF, into which support-providing plant fibers were also mixed. These fibers would have reduced the effects of the joins between planks on the painted surface and imparted stability to both the support and the preparatory layer. In a few locations, small pieces of plain-woven textile have also been found below the ground layer *(Figure 8)*. Under the guidance

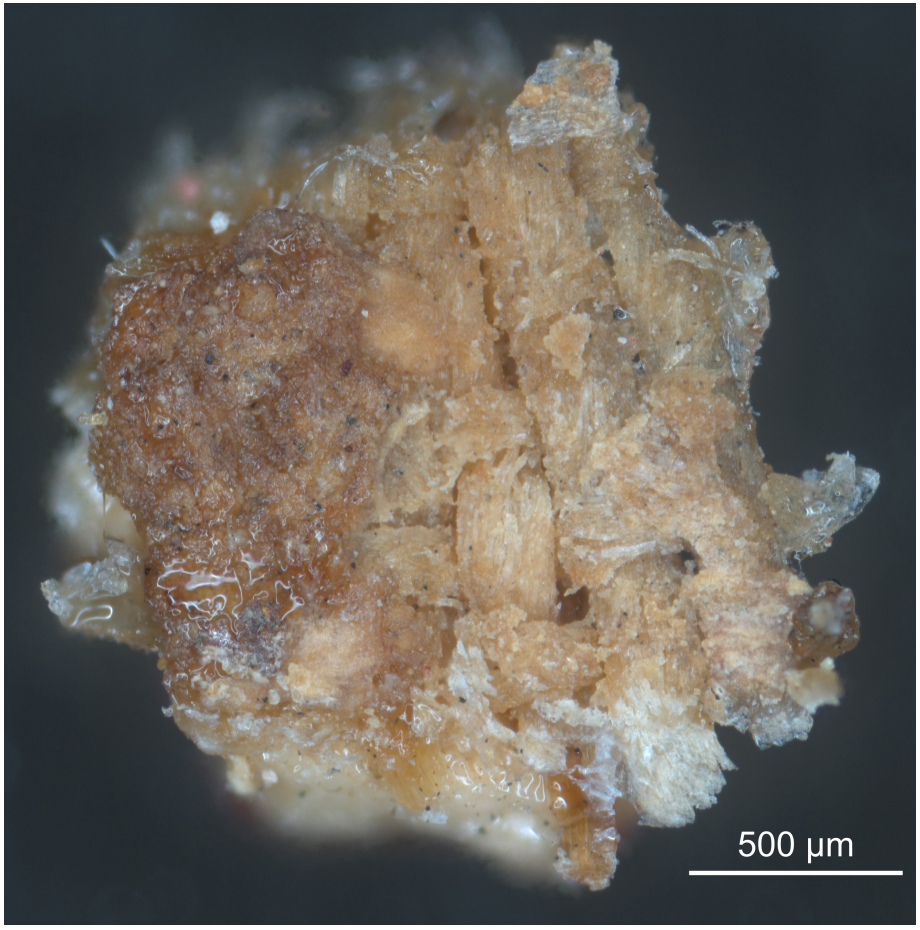

Figure 8: A small sample shows the plain-woven textile, made from bast fibers, and the original paint layers applied on top. The shiny residue is PVA consolidant that was applied to the shield in 1935. Yale University, Institute for the Preservation of Cultural Heritage.

of conservator Debora Mayer, fiber analysis of a thread removed from a small sample indicated that the woven textile was made with an S-twist bast fiber, possibly flax (the plant from which linen is made).

Analysis suggests that the painted layers on top of the preparation layers contain the following pigments: calcium-based whites including gypsum and chalk, lead white, orpiment, red lead, organic red (likely madder), vermilion, indigo, iron oxide and/or earth pigments. Removal of microscopic samples has begun, and allows the examination of how the decorative paint layers were built up on the wooden support. There are multiple preparation layers, including a white calcite layer containing fibers mixed in, a pink preparation layer made from an organic red, likely madder, iron-based reds, and gypsum, and thinly applied decorative paint layers used to create the visible surface. By imaging the brushstrokes with reflectance transformation imaging [RTI], the type of paintbrush used by the artist for both drawing and painting may also be determined.

Under the microscope, minute craquelure, typical of an old tempera (protein—i.e., milk or egg-based) medium paint, can be seen in the paint layer. FTIR analysis has identified a protein in an area of ancient glue where the pieces of wood were joined, but not in the paint layers. Matrix-assisted laser desorption/ionization [MALDI] mass spectrometry, a state-of-the-art technique for protein analysis, is being used to determine the species of animal used to make the glue. Analysis of the top paint layer with FTIR indicates the presence of a wax that may have been used as a paint binder in a method called encaustic painting, common in Late Egyptian painting.

The shield is a highly important and extremely rare example of ancient painting. Because of its fragility, establishing a program of conservation to stabilize the paint layer and reduce the effects of old treatments is imperative. Complete technical analysis and identification of materials is assisting in planning and implementing this treatment.

Acknowledgments

This exhibit was made possible at the invitation of the Whitney Humanities Center and comes as the culmination of a yearlong Frank Goodyear Curatorial Fellowship in the Department of Ancient Art at the Yale University Art Gallery. I am particularly grateful to Kathryn Slanski for her interest in the project and her constant support. I would also like to thank Lisa Brody, Anne Gunnison, Erin Mysak, Irma Passeri, and Carol Snow. Their extensive help, guidance, and insight have been invaluable. A huge debt of gratitude is also owed to Megan Doyon, Milette Gaifman, Emily Greenwood, and Susan Matheson for their contributions toward and support of this project.

Sarah Norvell
Yale College Class of 2015

For information on efforts to protect the cultural heritage of Syria, see the following websites:

http://www.unesco.org/new/en/safeguarding-syrian-cultural-heritage/

http://www.dgam.gov.sy/

http://eca.state.gov/cultural-heritage-center/syria-cultural-heritage-initiative/imagery-archaeological-site-looting

Suggested Reading

ROMAN SHIELDS

Bishop, M. C., and J. C. Coulston. *Roman Military Equipment: From the Punic Wars to the Fall of Rome.* Oxford: Oxbow, 2006.

D'Amato, R. *The Arms and Armour of the Imperial Roman Soldier: From Marius to Commodus,* 112 BC – AD 192. London: Frontline, 2009.

James, S. *Excavations at Dura-Europos.* Final Report volume 7, *The Arms and Armour, and Other Military Equipment.* London: British Museum Press, 2004.

Webster, G. *The Roman Imperial Army of the First and Second Centuries AD.* London: Black, 1969.

MATERIAL ANALYSIS AND IMAGING TECHNIQUES

Artioli, G. *Scientific Methods and Cultural Heritage: An Introduction to the Application of Materials Science to Archaeometry and Conservation Science.* Oxford: Oxford University Press, 2010.

Chaplin, S., N. Eastaugh, R. Siddall, and V. Walsh. *Pigment Compendium*. London: Routledge, 2008.

Gettens, R., and G. Stout. *Painting Materials: A Short Encyclopedia.* 1942. New York: Dover, 2011.

Kirsh, A., and R. Levenson. *Seeing Through Things: Physical Examination in Art Historical Studies.* New Haven: Yale University Press, 2013.

Objects in the Dura-Europos collection of the Yale University Art Gallery that are featured in the exhibition

Shield painted with scenes
from the *Iliad*
Ca. AD 200–256
Poplar planks and pigment
Yale-French Excavations at
Dura-Europos
1935.551

Shield painted with the battle of
the Greeks and the Amazons
Ca. AD 200–256
Poplar planks and pigment
Yale-French Excavations at
Dura-Europos
1935.552

Shield painted with a warrior god
Ca. AD 200–256
Poplar planks and pigment
Yale-French Excavations at
Dura-Europos
1935.553

Shield (scutum)
Ca. mid-third century AD
Painted wood and rawhide
Yale-French Excavations at
Dura-Europos
1933.715

Herbert J. Gute
American, 1907–1977
Shield painted with scenes
from the *Iliad*
1935/36
Watercolor
Commissioned by the University
1936.127.26

Herbert J. Gute
American, 1907–1977
Shield painted with the battle of
the Greeks and the Amazons
1934/35
Watercolor
Commissioned by the University
1936.127.27

Herbert J. Gute
American, 1907–1977
Shield painted with a warrior god
1934/35
Watercolor
Commissioned by the University
1936.127.28

Gallery Talks for Painting in Time

MATERIAL ANALYSIS OF ANCIENT OBJECTS
Thursday, September 24, 12:00 PM

INTERPRETING ANTIQUITIES
Wednesday, October 14, 4:00 PM

CULTURAL HERITAGE AND TERRORISM
Thursday, November 12, 4:00 PM

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