

The Uluburun Shipwreck Project: Interconnections through Trade in the Late Bronze Age Mediterranean World

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THE ELLIS SCHOOL

PITTSBURGH, PENNSYLVANIA

Subject: History: Origins of World Civilizations

Level: Grade 9

Length of Unit: Three weeks

Readings for the Teacher: Specific readings are included with each lesson.

Art of Ancient Cyprus. Boston: Museum of Fine Arts, 1972.

Baines, John and Jaromir Malek. *Cultural Atlas of Ancient Egypt.* New York: Facts on File, 2000. (Includes reproductions of tomb paintings and depictions of the weighing of gold with zoomorphic weights.)

Bass, George F. "Oldest Known Shipwreck"(see General Bibliography).

Bass, George F, Cemal Pulak, Dominique Collon, and James Weinstein. "The Bronze Age Shipwreck at Ulu Burun: 1986 Campaign." *American Journal of Archaeology* 93 (1989): 1–29

Breasted, James Henry. *Ancient Records of Egypt: Historical Documents.* Vol. 2. Urbana: University of Illinois Press, 2001. (Contains documents pertaining to the Eighteenth Dynasty).

Davies, Norman De G. and R. O. Faulkner. "A Syrian Trading Venture to Egypt." *The Journal of Egyptian Archaeology* 33 (1947).

Douglass, Amay and K. C. Smith, eds. "Archaeology Under Water." *Archaeology and Public Education 7.2* (1997). Washington, D.C.: Society for American Archaeology.

Gitin, Seymour, ed. *Recent Excavations in Israel: A View to the West.* Archaeological Institute of America Colloquia & Conference Papers, No. 1. Dubuque, Iowa: Kendall/Hunt, 1995

Lucas, A., and J. F. Harris. *Ancient Egyptian Materials and Industries.* Mineola, NY: Dover, 1999.

Moran, William L., ed. And trans. *The Amarna Letters.* Baltimore: John Hopkins University Press, 1992.

Muckelroy, Keith. *Archaeology Under Water* (see General Bibliography).

Pulak, Cemal. "The Site at Uluburun." *Archaeology and Public Education 7.2* (1997). Washington, D.C.: Society for American Archaeology.

Quirke, Stephen, and Jeffery Spencer, eds. *The British Museum Book of Ancient Egypt.* New York: Thames and Hudson, 1992. (Includes wall paintings from the tomb-chapel of Sobekhotep and the tomb of Menkheperaseneb.)

Smith, Shelley J., Jeanne M. Moe, Kelly A. Letts, and Danielle M. Paterson. *Intrigue of the Past.* Utah: Bureau of Land Management, 1993.

Stager, Lawrence E. *Ashkelon discovered: From Canaanites and Philistines to Romans and Moslems.* Reprinted from *Biblical Archaeology Review.* Washington, D.C.: Biblical Archaeology Society, 1991.

Tatton-Brown, Veronica. *Ancient Cyprus.* Cambridge: Harvard University Press, 1988.

Vermeule, Emily T. *Toumba Tou Skourou: The Mound of Darkness.* Boston: Harvard University-Museum of Fine Arts Cyprus Expedition, 1974.

Slides: For a complete list of Uluburun slides and ordering instructions, contact Institute of Nautical Archaeology, P.O. Drawer HG, College Station, TX 77841-5137.

Video: *Discoveries Underwater, the Oldest Shipwreck in the World.* Films Incorporated Video, 5547 N. Ravenswood Ave., Chicago IL 60640-1199

PART ONE: INTRODUCTION

The Ellis School is an independent, all-girls college preparatory school in Pittsburgh, Pennsylvania. In the Upper School, ninth through twelfth grade, there are approximately 150 students. The students are highly motivated and capable of engaging in sophisticated educational projects. The class size is small, usually under fifteen students, so it is possible to institute a wide variety of activities. The ninth grade Origins of World Civilizations course begins with a simulated archaeology excavation in which the students learn to reconstruct a civilization using primary source material (artifacts, ecofacts, and other features). At the end of the archaeology unit, the students are able to analyze the excavated culture in terms of social structure, ideology, and behavior patterns. They are then introduced to the analysis of written primary sources

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in their study of ancient Egypt. They analyze legal, medical, literary, and political texts in order to better understand Egyptian civilization. The students understand that texts must be viewed critically and the archaeological evidence cannot be ignored just because written sources are available.

The Uluburun project follows units on archaeology, Mesopotamian civilizations, Egyptian civilizations, and the Minoan and Mycenaean world. This Late Bronze Age shipwreck clearly shows students that all of these civilizations were connected through trade and the material culture and ideas were spread throughout the Mediterranean world. It also reinforces their study of archaeology as a tool for reconstructing ancient civilization.

After analyzing the archaeological evidence from the Uluburun shipwreck, marine archaeologists from the Institute of Nautical Archaeology at Texas A&M University have determined that this ship sank off the coast of Kas, Turkey in about 1316 B.C. The ship is important for studying trade in the Late Bronze Age Mediterranean because it carried items from at least eight ancient civilizations: Mycenaean, Eastern European, Cypriot, Canaanite, Kassite, Assyrian, Egyptian, and Nubian. Its cargo, which may have been a royal one, was mainly composed of raw materials, although manufactured goods were also present. The main cargo included ten tons of Cypriot copper in the form of ingots and one ton of tin, also in the form of ingots. These raw materials are rarely found on traditional archaeological sites because they were made into bronze as soon as they reached their destination.

This cedar vessel was of typical Canaanite mortise-and-tenon design. Archaeologists speculate that it sailed from the Canaanite coast from either Byblos or Ugarit, both major Late Bronze Age ports. In addition to its design, there are other indications that the Uluburun shipwreck was a Canaanite ship. The 149 amphoras aboard were Canaanite, as were the tools used to repair the ship. There were four Canaanite oil lamps that had been used to provide light during the voyage, and the ship's stone anchors were of a type used on the Canaanite coast. The stone weights uncovered by archaeologist reflect the Syro-Palestinian weight system and were probably used to weigh commodities that were put on board the ship.

This Late Bronze Age ship was fifty feet long, and it carried a captain and three or four crew members. Canaanite and Mycenaean merchants also traveled on the ship. Sections of two Mycenaean gold necklaces of a type worn only by high ranking people, and two Mycenaean bronze swords and knives found in the shipwreck indicate that a pair of "Greek" merchants was on board. The personal items belonging to these merchants were found in the stern of the ship where the captain and important passengers slept. The sailors were housed in the bow of the ship.

Archaeologists think that the ship sailed from the Canaanite coast to Cyprus for a load of copper ingots because all of the copper on the ship came from two sites in Cyprus. It then

set sail for Mycenae, possibly on its way to Egypt with a royal cargo. A sudden storm may have caused the ship to sink off the coast of Turkey. The loss of this ship and its extensive cargo must have been devastating in the Late Bronze Age, but it has left us with a very valuable time capsule.

The goal of the unit is to have students analyze a specific archaeological excavation to discover the extensive trade connections between civilizations in the Mediterranean region in the Late Bronze Age. The unit has two sections: (1) Introduction; (2) A set of thirteen lessons, first in outline form, and then with detailed descriptions.

Through the study of this material, students should be able to analyze the collection of artifacts from the shipwreck and answer questions about the types of commodities that were being traded, their possible origins, destinations, and uses, and the methods that were used in trading.

This unit is planned with the following additional objectives in mind:

- To foster critical-thinking skills through the analysis of archaeological data (including the use of cross-dating).
- To encourage cooperative learning by having students work in problem-solving groups.
- To foster the view that archaeology is a serious scientific pursuit, not a treasure hunt.
- To help students distinguish between primary and secondary contexts and understand the significance of context.
- To teach students the effective use of primary source material (archaeological data, texts, and wall-painting).
- To teach the concept of cultural diffusion through trade (transmission of material culture and ideas).
- To teach about the use of technology in the analysis of archaeological data.

PART TWO: SET OF THIRTEEN LESSONS

(See detailed day-by-day descriptions in Part Three.)

Day One: (1) Students will study a map of the eastern Mediterranean to determine where the ship sank; and (2) students will locate the artifacts found on the ship on a diagram of the shipwreck.

Day Two: (1) Discuss context in archaeology; and (2) discuss classification of artifacts; and (3) each group will devise a way to classify the artifacts from the shipwreck.

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Day Three: (1) Divide the class into four groups; (2) discuss classification of artifacts; and (3) each group will devise a way to classify the artifacts from the shipwreck.

Day Four: (1) The artifacts will be classified by type of material and each group will get a list of the artifacts in their category; and (2) discuss the principle of cross-dating in archaeology.

Day Five: (1) Show slides of the artifacts on the ship but do not discuss their origin or significance; and (2) indicate what each artifact is called, for example, amphora, rhyton, diptych.

Day Six: (1) The entire class will determine what research questions they are going to consider; (2) each group will be given pictures of significant artifacts in their category and the number of each artifact on the shipwreck diagram so they can locate the artifacts on the site plan; and (3) each group will be given evidence that will help them analyze the artifacts in their category in order to answer the research questions.

Days Seven and Eight: (1) Students will analyze the artifacts in their category; and (2) students will enter the information about each artifact into a computer database. They will include a picture of the artifact on the hard copy.

Day Nine: (1) A chief archaeologist from each group will report to the entire class the results of their research; and (2) the entire class will discuss the meaning of all of the evidence and how it answers the research questions.

Day Ten: (1) Consider the evidence on the artifacts that was sent out for analysis by experts in other fields (dendrochronology, ship construction, etc.); and (2) final conclusions—answers to our research questions.

Day Eleven: (1) Slides of the underwater excavation; or (2) alternative—video: *Discoveries Underwater, the Oldest Shipwreck in the World*.

Day Twelve: (1) Each group will put together their typed site report—information in the database and the conclusions on each group of artifacts; and (2) the chief archaeologist from each group will type the overall conclusions—answers to the research questions.

Day Thirteen: (1) Turn in the completed research report on the Uluburun shipwreck; and (2) assessment essay.

PART THREE: DESCRIPTIONS OF LESSONS (CLASSROOM PROCEDURES)

Note: all references to resources in parentheses below are to items listed in the "Bibliography" at the beginning of this unit.

DAY-BY-DAY DESCRIPTIONS

Day One

1. The students will study a map of the eastern Mediterranean which shows that location of the Uluburun shipwreck and all of the countries that contributed items to the ship's cargo.

2. They will each be given a diagram of the shipwreck (from Bass, Pulak, et al., in Bibliography). The picture shows the artifacts and their location on the ship. The significant artifacts are numbered and the numbers correspond to a list of the artifacts.

Day Two (on Context)

1. The students will look at a list of the items on the ship and match the significant artifacts with the numbers in the diagram. We will discuss as a class the importance of context in archaeology.

Questions to answer:

Where were these artifacts found on the ship?

What artifacts were found together (in association)?

Is it important to consider context even in a shipwreck?

What can this tell us?

I will provide the students with certain information that they will need in considering the context of this shipwreck, e.g. valuable items were found in the stern of the ship with the captain; the sailors and their personal possessions were in the bow; merchants traveled on cargo ships.

Instruction on different types of context in archaeology. (See Smith, Moe, et al., *Intrigue of the Past*, pp. 19–21 for a lesson on context.)

1. Excavations on land (primary context- undisturbed; secondary context- disturbed).

2. Underwater archaeology (secondary context- disturbed by treasure hunters; primary context as in the case of the Uluburun wreck- undisturbed except for the natural transformational processes such as animal life and ocean currents).

Day Three

The class will be divided into four groups (three or four students in a group). Class size is usually fifteen or sixteen students. There will be a lesson on classifying artifacts in order to study them. (See Smith, Moe, et al., *Intrigue of the Past*, pp 27–29 for classification and attributed.)

1. We will consider the different ways that artifacts can be classified (by material type, color, or function).

2. Artifacts from the Uluburun ship will be classified by type of material:

Group #1- copper, tin, and bronze artifacts*

Group #2- stone and wooden artifacts *

Group #3- precious metals and raw glass*

Group #4- pottery and contents*

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*See "Artifacts on the Uluburun Ship" for list of artifacts.

Each group will also get several artifacts in the category "Other Artifacts." These will include things like the carnelian beads, ostrich eggs, and ivory tusks. I will assign these to the group.

Each group will be given pictures of the significant artifacts in their group with the number of the artifact on the site map (KW number, which stands for Kas Wreck number). They will also be given information about the artifact on the back of the picture. The picture will be mounted on poster board and laminated.

Questions to answer:

1. Why are these our categories?
2. Why wouldn't you expect to find artifacts made of cloth, bone, or wood in a shipwreck? (You have only a few items that are not made of metal or clay.)

Day Four

Lesson on how archaeologists analyze data. (See Smith, Moe, et al., *Intrigue of the Past*, pp. 49–52 for a lesson on cross-dating.)

We will discuss the principle of cross-dating. Cross-dating can indirectly establish a date for artifacts and sites. Artifacts, such as pottery, were made in distinctive styles through time. You can compare the artifacts from the Uluburun wreck with those found at other sites in the Mediterranean world to determine where they came from and the date of the artifact. Often cross-dating is the only method archaeologists have to determine the age of a site. We will also discuss how texts and wall-painting can be used to reconstruct an ancient site.

Each group will be given evidence that will help them analyze the material remains in their category. I will give them picture of pottery that will contain information on the back about the site and civilization where they were found. I will also give them reproductions of tomb paintings with the pertinent information on the back (date, location, description of the scene).

Examples:

1. A painting from the Dynasty 18 tomb of Kenamun, Mayor of Thebes, which depicts a Syrian trading venture to Egypt (Davies and Faulkner in Bibliography for this unit).
2. They will have relevant texts such as some of the Amarna letters (Moran in Bibliography).
3. Another important text indicating that the ivory on the ship could have come from Syria is an inscription from the tomb of Amenemhab, who was an officer in the army of Thutmose III. He tells about an elephant hunt in Syria in which Thutmose III killed 120 elephants (Breasted in Bibliography).
4. All of these pictures and texts will be laminated and mounted on poster board so they can be reused.

Day Five

The Students will look at slides of the artifacts found on the ship so that they can get a good idea of the size and color of the artifacts.

Special Points

1. Many students are not familiar with terms like amphora, rhyton, diptych, etc., and these artifacts can be discussed during the slide presentation.
2. The students will be given a visual image of the artifacts, but they will not be given specific information about the artifacts.
3. The slides of the excavated artifacts will create excitement for the project.

Day Six

The students will come up with research questions before they start to analyze the data. They will consider what they want to determine from the archaeological evidence.

Sample Questions:

1. What was the date of the shipwreck?
2. Where was the ship coming from?
3. What do the items on board tell us about trade in this period?
4. What kinds of materials were being traded?

Days Seven and Eight

Each group will put together a report on their artifacts. What can they tell us about the artifacts they are analyzing and how can they answer their research questions? I am going to give them information (evidence) from which they can draw conclusions about their artifacts, but they will have to sift through the material and use critical-thinking skills in order to answer their research questions.

For instance: In order to analyze the scarab of Nefertiti, I will give the students information about the Amarna Period. They will have already studied this period in their unit on Egyptian history. They should certainly be able to determine that this shipwreck happened after Akhenaten and his wife Nefertiti came to the throne. They will have discovered the earliest date for this shipwreck (*terminus a quo*).

I will give them the information on the back of the scarab about its condition when it was excavated; it was very worn. If they are astute, they will not definitely date the shipwreck to the time of Akhenaten's reign, but will realize that it could date to a later period.

The students will enter their information on each artifact into a computer database. This will be the results of the research from each group. For instance:

Artifact _____

Picture of Artifact _____

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Description _____

Location on ship _____

Artifacts found in association with it _____

Possible date of artifact _____

Evidence:

Possible origin of artifact _____

Evidence:

Possible use of artifact _____

Evidence:

Day Nine

There will be a section in the typed report for the results of the research on the whole category of artifacts that the group will be responsible for.

What can this group of artifacts (copper, tin, and bronze) tell us about Mediterranean trade?

Can anything in your group of artifacts tell us who was on board ship?

Can your group of artifacts tell us about the type of trade that was taking place?

The students are archaeologists trying to make sense out of the artifacts excavated in this shipwreck. Each group will choose a chief archaeologist to report to the entire class the results of their research on their group of artifacts. We will brainstorm as a class on the meaning of all of the evidence. We will try to answer the questions:

In what time period would you date this ship? Why?

What can this ship tell us about international relations?

What can the cargo or the results of your research on the cargo tell us about the type of trade carried on in this period of history?

Can you draw any conclusions about the people who were on board this ship?

Day Ten

Follow-up on additional research—final conclusions. As archaeologists we had to consult experts in other fields in order to analyze some of the data. A piece of wood from the ship was sent to a laboratory for analysis (tree ring dating). The students will be given an explanation of this dating method. (See Smith, Moe, et al., *Intrigue of the Past*, pp. 56–62 for a lesson on dendrochronology.) The wood from the Uluburun was dated to 1316 B.C. using dendrochronology.

It was also determined that the wood used in the ship's construction was cedar, a type of wood indigenous to Canaan (the famous cedars of Lebanon). An expert on ship construc-

tion analyzed the mortise-and-tenon-with-pegs construction of this ship. We will discuss the different types for ship construction in the ancient Mediterranean World. What does this tell us about where our ship might have come from?

How can archaeology help us understand pictorial evidence from tomb paintings? We will analyze the picture from the tomb of Kenamun of a Syrian ship unloading its cargo in Egypt. What do we see in this picture? Can you analyze what is happening in this picture better now that you have the archaeological evidence from the Uluburun ship? Originally Egyptologists thought that the pithoi on this ship were filled with water. What do we now know about the contents of pithoi on ships? How can archaeology help to elucidate textual and pictorial evidence?

Day Eleven

Show slides of the Uluburun shipwreck from the Institute of Nautical Archaeology. This will help the students to understand the techniques of underwater archaeology and show them how similar they are to those used when excavating sites on land. They are very familiar with excavation techniques from their experience on their simulated dig (archaeology unit). Alternative: show a video on underwater archaeology, *Discoveries Underwater, the Oldest Shipwreck in the World*. This will give the students a better feel from underwater archaeology.

Day Twelve

Students will complete their typed report with a section on their overall conclusions. They should include their observations about the interconnections between civilizations in the Late Bronze Age Mediterranean world.

Day Thirteen

Assessment: Each student will write a report on what methods of the archaeologist were used in dating the Uluburun shipwreck and determining where it came from, who was on board, where the cargo originated, and how various artifacts were used. They should also indicate what this shipwreck tells us about trade in the Mediterranean during the Late Bronze Age and about the interactions of cultures.

ARTIFACTS FROM THE ULUBURUN SHIP

For analysis by groups 1,2,3,4. KW stands for Kas Wreck (the Uluburun ship sank off the coast of Kas, Turkey). The numbers after KW correspond with the numbers on the map of the shipwreck.

Pottery and Contents

149 Amphorae—Canaanite (several at KW 844)

Contents:

Terebinth resin, 1 ton (pistachio plant). In Egyptian texts the word *snt* may refer to this commodity from the Syro-Palestinian coast (used for ritual fumigation).

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Orpiment (used in paint and mixed with wax on writing tablets; see diptych)

Olives (1 amphora)

Wine (1 amphora)

Almonds, safflower, figs, pine nuts, grapes, pomegranates, black cumin, sumac, coriander, wheat, and barley

When Ugarit on the Syrian coast was excavated, a large number of Canaanite amphorae were found.

10 pithoi—Cypriot (KW 251, KW252, KW 253)

Contents:

18 pieces of pottery in one pithos

Base ring bowl, Cypriot (KW 730)

Milk bowls, Cypriot (KW 1059)

White juglets, Cypriot (KW 1058)

Oil lamps, Cypriot (KW 1059)

Shallow bowl with wishbone handle, Cypriot (same area as above)

Pitcher with trefoil mouth (KW812)

Whole pomegranates in one pithos

Olive oil in one pithos

When Ugarit was excavated, 80 Cypriot pithoi were found in one room.

4 Canaanite oil lamps that had been burned, probably used on the ship at night

Wall brackets (KW 759 and KW 1001)

Pilgrim flasks, 3 sizes (large, KW 747; medium, KW 795 and 776), contained figs, or figs were used as stoppers

3 Mycenaean stirrup jars, possibly for oil storage (KW 905)

Terra-cotta kylix (near gold chalice), Mycenaean and of a style popular in the early 14th century B.C. (KW 57). Associated with these artifacts is a Mycenaean jug, dated by its shape and faded decoration to the time of the pharaoh Akhenaten of Dynasty 18 or earlier.

Beaked Mycenaean jug, probably LH IIIA (KW 725)

Mycenaean cup

2 pilgrim flasks (KW 791)

Coarse-ware stirrup jars (KW 1188 and KW 1198). They contained almost every type of seed recovered from the wreck. They are similar in shape and painted decoration to LH IIIA2–IIIB stirrup jars from the House of the Wine Merchant at Mycenae.

Coarse-ware stirrup jar (KW 790)

Copper, Tin, and Bronze

354 ox-hide ingots of copper (four-handled and two-handled types). All seem to come from 2 sites on Cyprus (10 tons of Cypriot copper, center of the ship and near the rock outcrop).

121 bun ingots (discoid), signs on ingots scratched into the surface (anchor design, etc.), mark of the one who controlled this commodity

1 ton of ox-hide tin ingots (N11 and N12 on the map grid)

5 tin vessels

Tools: trident, adzes, axes, saw, tongs. These are common Syro-Palestinian or Canaanite tools, used to make ships or trade items, or for the upkeep of the ship (near KW 905).

Needles (for repairing fishing nets)

1 Canaanite sword (identical short sword found at Akko on the Canaanite coast)

2 Mycenaean bronze swords (one found 3 ft. from the Canaanite sword) (could belong to the owners of the 2 Mycenaean gold necklaces worn only by high-ranking people)

2 curved Mycenaean bronze knives (could also belong to the owners of the gold necklaces) (KW 800)

1 bronze dagger (one like it at Tell el-Ajjul, a Canaanite city)

3 types of spears: Mycenaean, Canaanite, and from the Balkans

Pear-shaped mace heads

Bronze axe heads, from the Balkans (Romania), may indicate that there was a merchant from farther north on board

Weights in animal forms: sheep, one fly (lead core and bronze on the outside)

Bronze pin, Mycenaean, for a cloak, possibly belonging to one of the merchants

Bronze hoe (KW 839) (near 3 sickles, several arrowheads, and 4 fishhooks)

Bronze chisel (KW 748) (common type in Canaan)

Bronze fishhook (KW 924) (type commonly used throughout the eastern Mediterranean)

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Bronze fishhook (KW 1225)

Bronze balance-pan weights, one water fowl shape (KW 873) and one recumbent animal (KW 727)

Bronze cauldrons and bowls (poorly preserved)

Tin pilgrim flask (KW 1085) (see Lucas, p. 253, reference to a Dynasty 18 tin pilgrim flask)

Bronze finger cymbal (KW 923)

Bronze razor (KW 749)

Large bronze fishhook with barb on outside (KW 1225)

The Uluburun ship's cargo matches a description on the Amarna tablets of royal tribute shipped from Near Eastern rulers to the Egyptian pharaoh, probably a royal cargo. The Amarna tablets mention the great quantities of copper shipped from Alasia (Cyprus) to Egypt.

Stone and Wood

Stone weights (reflect the *shekel*, Syro-Palestinian weight system; 3 sets of weights on board indicate that there must have been 3 merchants because you don't trust someone else's weights) (KW 701)

African black wood, imported to Egypt from central Africa via Nubia (tomb of Rekhmire [Dynasty 18] logs and elephant tusks brought by Nubians) (near KW 761). The Egyptian pharaoh Hatshepsut recorded in her temple at Deir el-Bahri that her expedition to Punt (somewhere in Africa) brought back ivory and ebony (African Blackwood)

Book, carved from wood, covered with wax mixed with orpiment diptych, used by merchants to keep lists of cargo (KW 737)

Stone ceremonial scepter-mace

Cylinder seals: 2, hematite, old, worn, and recarved; 2, quartz (KW 714 and KW 881). One hematite seal, original Mesopotamian design cut c. 1750 B.C., 4 centuries later, Assyrian design. One quartz seal is Kassite, foreign invaders who ruled Babylonia around the time the ship sank.

24 stone anchors (largest 500 lbs.) (type used on the Levantine coast but unknown in the Aegean). There were a lot of anchors because they got stuck on the bottom of the sea and it was impossible to get them out. They used stone because bronze was too malleable.

Whetstone (KW 701)

Stone mace head (KW 278)

Steatite seal blank (probably Mycenaean) (KW 819)

Precious Metal and Raw Glass

175 raw glass ingots. Discoid ingots of cobalt blue, turquoise, and lavender glass are probably objects referred to as mekku-stones in Bronze Age tablets as items traded from the Syro-Palestinian coast; glass molds found at Amarna in Egypt. This is the earliest evidence of raw glass being traded.

Thousands of faience beads (some near KW 701)

Blue glass relief bead (Mycenaean) (KW 829)

2 gold necklaces (a few pieces of the necklace). Only high ranking people in Mycenae could wear this style. Might indicate that 2 important Mycenaean were on board, possibly merchants.

1 gold chalice (no good parallels found so far) (near KW 57)

Gold pendant, falcon holding 2 snakes in each claw, Canaanite design

Astarte pendant, figure holding a gazelle in each hand (gold pendants were folded for easy transport by merchants) (KW 703)

Large gold roundel decorated in repoussé with four-pointed star (KW 756)

Gold-clad bronze female figurine, Canaanite; may have served as the ship's protective deity.

Nefertiti gold scarab—the inscription is worn (used to date shipwreck). This is the only gold scarab known bearing the name of Queen Nefertiti (KW 772). Mycenaean like Egyptian scarabs and many are found on Mycenaean sites.

Egyptian gold ring, cut in half with a chisel (other damaged jewelry: crushed gold flower, hoard of precious metal scraps) (near KW 772 and KW 703)

Gold rectangular pendant depicting a woman with a flounced skirt (KW 757). The skirt is similar to one worn by the wife of a Syrian merchant in a painting in the Dynasty 18 tomb of Nebamun at Thebes.

Gold horn-shaped pendant (KW 892)

3 bits of scrap gold (KW 956)

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Gold bar (KW 928)

4 silver bracelets, Syro-Palestinian design

Other Artifacts

Beads of agate, carnelian, jasper, quartz, seashell, ostrich eggshell, and amber. This is the first amber bead of definite Baltic origin found outside Greece.

Ostrich egg shells with a hole in the same place, decorated, for use as containers or vases (near KW 761)

Astragals, or knuckle bones, used to tell the future or an early form of dice for gambling

Two dozen sea shell rings with bitumen on the outside for inlay (none of the inlays survived), rings from Mesopotamia (KW 801) (One on the mouth of stirrup jar KW 1198)

Elephant ivory; section of tusk and full-size tusks, from Nubia or Syria. The Dynasty 18 tomb of Rekhmire depicts chiefs from Retnu (North Syria) bringing as tribute copper ingots, elephant tusks and Canaanite amphoras. Text from the time of Thutmose III says that he killed 120 elephants in Syria. Egyptian Dynasty 18 tomb painting (tomb of Rekhmire) shows Nubians bringing ivory to Egypt as tribute. Hatshepsut's funerary temple at Deir el-Bahri contains scenes and texts about her expedition to Punt (somewhere in Africa).

The expeditions brought African ivory back to Egypt.

Hippopotamus ivory, 12 tusks from Nubia or Syria (3 hippo teeth, KW 252)

2 ivory duck-shaped containers, Cyprus (Where did the ivory come from? Egyptians made duck-shaped containers out of wood and ivory.)

Tortoise carapaces (sound-boxes for stringed musical instruments)

Large number of scarabs—many were old seals

5 faience ram-head containers—rhytons (cups) (resemble other from Cyprus and Syria). They may have been made in one shop near Ugarit on the Syrian coast (KW 707)

1 faience rhyton (cup) in the shape of a woman

Lead net and line sinkers

Agate cylinder-seal blanks (KW 840 and KW 973)

Rock-crystal bead (similar to one from a Late Minoan tomb) (KW 767)

100 lead fishing-net weights in 2 sizes (near KW 905)