

ANP 203: Introduction to Archaeology



Week 3

January 28: Archaeology Today

3:00 – 4:20 pm

Lesson Objective:

1. Students will be able to describe the scientific method and the three levels of archaeology theory
2. Students will be able to apply their knowledge of the scientific method and three levels of archaeology theory to solve a real world problem

Materials:

- Scientific Method Activity:
http://anthropology.si.edu/writteninbone/leavy_neck.html
http://www.losttownsproject.org/gallery/main.php/images/main.php?g2_imageId=82

Work Completed Before Class:

- Reading:
 1. K&T Chapter 2

Lecture:

- Lecture: Archaeological Inquiry
 - Scientific Approach
 - Work through the scientific method together
 - Introduce the activity
 - Archaeological Inquiry
 - Low Level Theory
 - Middle Level Theory
 - High Level Theory
 - Continue the activity
 - How can we reconstruct the past?

Scientific Method Activity

Students will be given an archaeological situation and must go through the scientific method.

1. Define the problem
2. Establish a hypothesis
3. Determine empirical implications of the hypothesis
4. Collect appropriate data
5. Test the hypothesis
6. Reject, revise or retest as necessary

Once the method is complete, they will go through this again with a paradigm

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Will discuss which paradigm works better, why each is good and bad, and how we can combine them to make better reconstructions (divide sheet in half)

Discussion about the methods- which helps us with this investigation?

Lecture Part I

We talked a little about the scientific method yesterday. If you remember, there are six elements:

1. Define a problem
 - a. Based on what we know so far, what is the problem that we want to solve?
2. Establish one or more hypotheses
 - a. Using your current knowledge of the situation, what are some of the hypotheses of what happened here?
 - b. Create both a hypothesis and a null hypothesis
3. Determine what evidence is needed
 - a. Based on your hypothesis, what evidence will you need to either disprove or prove that this is what happened here
4. Collect data through excavation or observation
5. Test the hypothesis using the data
 - a. Does the evidence support or reject your hypothesis
6. Reject, revise and/or retest hypotheses as necessary
 - a. Based on your findings, determine what further evidence you will need, revise the hypothesis based on the evidence and retest it, or design a new hypothesis if the evidence doesn't support it at all
 - b. If the evidence does support your hypothesis, explain why it supports it and what potential other hypotheses it could also support, this will help you determine what other evidence you need to make this argument stronger

We are going to put this to the test today and conduct an archaeological investigation using the scientific method

So I'm hiring you into my archaeology company. We've been assigned a new case we need to investigate.

Welcome to Anne Arundel County, Maryland. We are investigating an archaeological site in the historic town of Leavy Neck, which was occupied during the 17th c. when American colonists were first settling the New World.

In 1991, the foundations and flooring of a historic house was discovered and decades later they are finally removing the house. You are helping with this excavation.

The 2003 excavation revealed a circular soil stain in the first quadrant, known as feature one. The archeologists recognized the soil characteristics as markers of the remains of a house cellar. Feature one was only 12-ft square. The small feature would have been located under the floorboards of a simple domestic dwelling. A common way of discarding household trash was to dump it into a cellar hole dug below the floorboards. The soil in feature one was rich in ash (from a fireplace or hearth in the dwelling) and various types of trash. Many artifacts dating from 1655 – 1680 were uncovered, including a 1664 coin minted in the Isle of Wight, a piece of window lead stamped with a maker's mark and the date 1663, North Devon wares (pottery), lead-back tin glazed plates, tobacco pipe fragments, white metal buttons, and oyster and animal bone remains.

We need your help to better understand what happened here!

Activity Part I

Activity Page 1: Think-Pair-Share

With the people around you in either pairs or small groups, work together to use the information we have to answer the questions on page 1:

1. Define a problem
2. Establish one or more hypotheses
3. Determine what evidence is needed
4. Determine the specific data needed
5. Explain how you would use the data to test the hypothesis

Give students around 5-10 minutes for this, circulate room to help answer questions and see progress

Discussion Part I

As a group, discuss the various problems, hypotheses, and evidence. Allow groups to compare and conflict with one another, get as many competing hypotheses as possible for this stage

Lecture Part II

So in order to investigate this more, we are going to need to apply some knowledge of theory to the study

Remember as you read in your books, there are three levels of theory: low, middle and high.

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Low-level:

- Low level theory is facts and data about objects
- It is considered theory because it answers a why question
- These are the low level clues we need to collect to piece the puzzle together, this is the raw evidence that helps us build up our argument

So what are the low-level theoretical facts we need to get at for our investigation?

- Skeleton: Based on the bones, it was determined that this was a teenage male from European descent. He suffered from poor nutrition, had minor back injuries, and was fighting a bad infection that harmed his bones. He also had a fracture on his wrist that he incurred around the time of death, and is consistent with self-defense injuries.
- Ceramics: The ceramics found lying over the remains are all rather inexpensive and mostly broken. They date from the mid to late 19th century.

Now, how does this change your investigation- take a couple minutes and write down a response.

Activity Part II

Activity Page 2, Question 6: Think-Pair-Share

Reject, revise or retest as necessary with the low-level evidence: How does all this evidence change your interpretation? What do you think happened?

Give students around 3-5 minutes for this, circulate room to help answer questions and see progress

Discussion Part II

As a group, discuss the new evidence and how this changes the hypotheses. Allow groups to compare and conflict with one another, get as many competing hypotheses as possible for this stage

Lecture Part III

Next is middle level theory

This is where we connect that archaeological data with the human behavior that actually produced it. We move up one level in asking why things are happening. So how does that low-level evidence connect with real human behavior? How do we determine what actions left this evidence behind when we can't actually view it?

There are a couple way that we can interpret behavior:

1. Historical records
2. Compare the evidence with evidence found at other sites
3. Examine modern populations using ethnoarchaeology
4. Conduct experiments using experimental archaeology

Middle-Level Evidence

-Historic Comparison: This burial is very different from others found in this region and period. Most people were buried in cemeteries and had deep burials with some type of marker regardless of their status. This burial is shallow and not in a cemetery.

-Modern Comparison: This burial is similar to modern day murders by relatives or family members. Often when people want burials to go unnoticed, they will bury the individual in an unmarked grave- unfinished basements are popular for this type of burial because the body doesn't need to be moved from the house and most people won't dig in the basement.

-Text: Historical records show that a family settled on Leavy Neck in 1662. A husband, wife, a son and two daughters, and two unnamed indentured servants were starting a small plantation. Archaeological evidence indicates that the house was abandoned by the 1680s. Virginia statute in 1661 forbade the private burial of servants so that mistreatment or foul play could be noticed.

How does this change your interpretation and hypotheses?

Activity Part III

Activity Page 2, Question 7: Think-Pair-Share

Reject, revise or retest as necessary with the low-level evidence: How does all this evidence change your interpretation? What do you think happened?

Give students around 3-5 minutes for this, circulate room to help answer questions and see progress

Discussion Part III

As a group, discuss the new evidence and how this changes the hypotheses. Allow groups to compare and conflict with one another, get as many competing hypotheses as possible for this stage

Lecture Part IV

High-Level Theory

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These are the ultimate questions- the big ones that would change our interpretation of the past- why did we develop agriculture? why do some countries develop differently than others?

Of course, the goals you set and how you approach these lofty questions is framed by your paradigm- we don't have time to address this, but since you've read it in your books you are already experts on the topic.

Final question in your activity- what is the high level theory question that this could help address, what is the big *why*

Activity Part IV

Activity Page 2, Question 7: Think-Pair-Share

What is a high-level theory question that this could help answer?

Give students around 3-5 minutes for this, circulate room to help answer questions and see progress

Discussion Part IV

As a group, discuss the big questions that this could help answer, and discuss the true nature of archaeological data. We can't actually ever solve the murder-mystery, but we can create better interpretations about the past.