- archaeology
  - explanation of (past) human behavior using physical remains
- antiquarianism
  - exploitation of human past for personal gain
- explanatory foundations
  - Lyell’s Old Earth; Boucher de Perthes; Darwin; Thomsen & Worsaae; Tylor & Morgan
  - social Darwinism
  - scientific method
    - critical thinking = consider alternatives
    - observation, hypothesis, theory
    - physical remains → observation
    - data do not change; perspectives do
- culture and adaptation
  - culture vs. Culture
  - behavioral archaeology

- Beliefs, behaviors, material products shared among members of a social group
- learned behavior
- archaeological study of Culture?
- see textbook...
- Culture history
  - what, when, where?
- Culture process
  - how, why (causality)?
  - post-processual theory
  - why (meaning)?
- archaeological investigation
- how, why (causality)?
- fits between organism and environment
- archaeological investigation
- what, when, where?
- culture vs. Culture
  - physical remains

- How? 
  - The PROXIMATE causes that lead a behavior to be expressed in the way that it is/was in a given instance → mechanistic explanations that point to the structure and function of a behavior

- Why? 
  - The ULTIMATE causes that led to the evolution (development) of the specific behaviors (and not others) → dynamic explanations that point to how a system changes through time and/or space

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**Kobe’s Reverse Slam**

**arctic vs. tropical technological complexity**

HOW and WHY?
archaeology

- explanation of (past) human behavior using physical remains

- behavior: archaeology distinguished from other branches of anthropology and the social sciences in...
  - emphasis on study of human behavior, particularly those behaviors that leave physical traces
  - culture = a system for the inheritance of behavior
  - culture = learned behavior

- biology and language are integral parts of culture, but many aspects of biology and language do not leave a physical trace

antiquarianism

- exploitation of physical remains of (past) human behavior for personal gain
- relevance to modern archaeology?
  - the roots of explanatory archaeology → Interest in the past comes first

portable technology

physical remains of behavior

non-portable technology

antiquarianism

- … is also alive and well …

Black Mesa Anasazi Bik & Wht Painted Canteen/Pottery

Bidder or seller of this item? Sign in for your status

Current bid: US $500.00 (Reserve not met)

Time left: 4 hours 14 mins
Start time: Jan-05-05 18:54:24 PST

Seller Information

Email to a friend | Watch this item in My eBay

Listed in categories: Collectibles > Cultures, Ethnicities > Native Americans > Pre-1940 > Pottery
antiquarianism
line between antiquarianism and legitimate archaeology is fuzzy

The Elgin Marbles at the British Museum. Plundered from the Parthenon in 1803. Annually 5.5 million people see the Elgin Marbles! Imagine if each person spent only $1 in the museum…

from antiquarianism to archaeology?
- a “backward-looking curiosity”
- natural human interest in origins and ancestors
  - are we psychologically programmed to be interested in the past?
- past is knowable, the future is uncertain…
  - evolution has designed us to be interested in the past because it is a good guide to the future

modern archaeology emerges when the physical remains are seen as a basis for explaining what will happen in the future (or between two points in time)

<table>
<thead>
<tr>
<th>Time 1</th>
<th>Time 2</th>
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<tbody>
<tr>
<td>Today</td>
<td>Tomorrow</td>
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<tr>
<td>2000 BC</td>
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quickly look at sequence of changes in thought…
Archbishop James Usher’s (1581-1656) “Young Earth” provided no time for human history to be considered “changeable”.

If nothing changes there is no need to predict the future.

Charles Lyell’s “Old Earth”

Sir Charles Lyell
1797-1875

Uniformitarianism = processes that observe in the present also operated in the past

minor process x long time = big result

enough time for change

big result ÷ minor process = long time

Jacques Boucher de Perthes (1788-1868)
- stone implements with the bones of extinct animals
- proof that humans were also part of the “Old Earth”
- time for life-ways to have changed dramatically

Christian Jurgensen Thomsen (1786 – 1865)
- proposed regular sequence of changes in technology for Old World
- The “Three Age System”: Stone → Bronze → Iron

Jens Worsaae (1821-1885)
- successfully tested “Three Age System” with stratigraphic excavations
  - layers with stone were lower (and therefore older) than those with bronze, which were lower than those with iron
- documented same sequence of changes outside Denmark
  - “Three Age System” was applicable on a very broad scale
  - i.e., all societies went through these regular stages!!! WHY???
The Origin of Species by Means of Natural Selection (1859)

- why did human societies change in similar ways in different places?
- a common mechanism

Charles Darwin (1809-1882)
- The Origin of Species by Means of Natural Selection (1859)
- genetics, culture and behavior are systems that are naturally designed to change so as to increase fertility and reduce mortality

Early modern archaeology conflated notion of change with progress

Herbert Spencer (1820-1903)
- economist who coined the term “survival of the fittest”
- was acutely aware of implications for society
- roots of “Social Darwinism”
  - it is “natural” for the strong of society to get stronger and the weak of society to get weaker
  - appropriate to try and engineer society (not just markets) by weeding out the “weak” and sustaining the “strong”

Lewis Henry Morgan (1818-1881)
- classify techno-social-ideological-moral systems into stages
  - savagery → barbarism → civilization

Edward B. Tylor (1832-1917)
- challenged idea that “primitive” societies “degenerated” from civilizations
- showed (using archaeological evidence) that high civilizations were product of evolutionary change from more simple forms of society

A comment on Social Darwinism

- Social Darwinism
  - late 19th early 20th century view that human social institutions also evolved via “survival of the fittest”
  - used as tacit justification for social inequality and, later, eugenic policies of many governments

- Misuse of a theory does not make it wrong
- the misuse of nuclear fission does not make the fact that atoms can be made to fission any less factual, nor the theory used to describe it wrong (or inherently immoral)

- **Science as one route to sound explanation**
  - science, general sense = “knowledge acquired by study”
  - science, specific sense = “the acquisition and organization of knowledge through observation, hypothesis testing, and theory building”
  - science is a METHOD

- **Theory/Model** = a summary of the patterns and regularities of behavior
  - a law-like statement

- **Hypothesis** = a set of predictions that should hold true if a model/theory is an accurate description of reality

- **Observation/Test** = information (data) collected with the aim of assessing the validity of an hypothesis

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<th>recap to this point</th>
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<tr>
<td>Lyell</td>
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<td>Spencer-Tylor-Morgan</td>
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Scientific Method

- Theory/Model
- Hypotheses
- Test/Observation
- Revision/Organization

**DEDUCTIVE**

**INDUCTIVE**

- archaeology is a historical science
- only one chance to excavate a site and collect data!
- critical thinking = consider multiple alternatives
- “heart” of archaeological theory-building is to use “multiple working hypotheses”

- model 1 → hypotheses 1
- model 2 → hypotheses 2
- model 3 → hypotheses 3

- Reject 1 & 2
- OBSERVATION
- provisionally accept 3

- archaeology
- explanation of (past) human behavior using physical remains

(past)?

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<thead>
<tr>
<th>Behavioral Archaeology</th>
<th>Material Objects</th>
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<tr>
<td>Past</td>
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<tr>
<td>traditional archaeology</td>
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The Garbage Project

- Established in 1973 in Tucson, AZ
- Examine American behavior through their garbage
- Followed up with survey of households
- Findings…
  - people often lie about how much booze they drink
  - 1973 beef “shortage” led to runs on supermarkets; most was eventually thrown away unused

Readings for Week 1

- TODAY:
  - A&S Chapter 2, 3
  - Reid et al. (on class website)

- Tuesday:
  - A&S Chapter 4

- NEXT Thursday:
  - Waters; A&S Chapter 5, 6