

**Archaeology**

Study of the past using *material culture* (trash, garbage)

Prehistory = period before written records

Historic archaeology = historic period (older than 50 yrs)

Preservation & Fragmentation of material culture (artifacts)

= Complex Puzzle

Goal: reconstruct past life-ways and change in life-ways thru time

Advantage over Cultural Anthropology??

Use of **Analogy** to reconstruct the past

Types of Data:

- **Artifacts** = any object modified by humans
- **Features** = soil or artifact pattern that reflects human activity (pits, mounds, structures, etc.)
- **Ecofacts** = subsistence remains (animal bone, botanical remains)

Collecting Data:

- **Sites** = concentration of artifacts, features, or ecofacts
- **Archaeological Survey** = systematic coverage of an area to locate sites or artifacts
- **Settlement Patterns** = distribution of sites over the landscape
- **Excavation** = digging & systematic recording of data
  - ✓ Grid, units & levels
  - ✓ Stratification = layer cake

Context = spatial association of artifacts, features, and ecofacts
Archaeology vs. Collecting  (context vs. isolated artifacts)

Archaeological sites = non-renewable resource

Rapidly disappearing thru development & vandalism
Legal Protection provided by Federal & State Historic Preservation Laws

If development is on federal land, federally funded or federally permitted then an archaeological evaluation must be conducted.

Indiana State Law prevents digging without a permit even on private land.

Cultural Resource Management (CRM)

Upper Paleolithic (H. sapiens)  Europe 35,000-10,000 BP

- Blade tools
- Antler & bone tools (harpoons & atl atl)
- Pressure flaking technique
- More varied tool kit
- Cave & portable art
- Hunters of big game

Peopling of the New World

Paleoindian = first people in Americas

Glaciers = lowered sea level = continental margins exposed

Route?  Asia to North America by the Bering Land Bridge

When?  Pre-Clovis vs. Clovis First

Pre-Clovis = Monte Verde, Chile (14,000 yrs BP)
Clovis

- 12,000 - 11,000 yrs BP
- fluted points (Clovis point)
- Mammoth, later other game like Bison = Big Game Hunting
- Kill sites in western US
- mostly Surface finds in eastern US

Mesolithic (Old World= Europe, Middle East)

- 12,000 - 8,000 yrs BP
- Climate change from ice age to warmer recent climate
- megafauna extinctions
- =vegetation change ( tundra/conifer forest to deciduous forest)
- more plant foods available
- rising sea level = drowned coast lines = increased marine resources (fish, shell fish, etc.)
- Major adaptation change: Hunter to Hunter & Gatherers
- diagnostic tools = microliths used in composite tools
- also, ground stone tools for plant processing
- use of seed bearing plants in Middle East = wild wheat & barley
- use of sickles for harvesting
- more permanent settlements
Domestication of Plants & Animals and Farming

Food Gathering to Food Producing

- Mesolithic to the Neolithic (11,000 to 5000 yrs BP)
- Domestication?
- genetic changes
- symbiotic relationship develops
- human/plant (animal) relationship develops
- both are dependent on each other for survival
- Plants (genotypic & phenotypic changes)
  - size change or number of rows
  - less fragile seed head
  - seed coat easier to remove
  - extends beyond its natural range
- Animals (first domesticate = dog)
  - Tameness, herding behavior (only some animals qualify)
  - selective butchering & slaughter based on age and sex
  - Middle East = sheep & goats
  - sheep: hairy to wooly coat (primary/secondary hair follicles)
- **Pastoralism** = food production based on raising domesticated animal

Hunting & Gathering vs. Farming

- leisure time?
- health?
- food yield?
• natural progression or are there causal or forcing mechanisms?

**Theories of Domestication**

Why does it take place??

• **Oasis Theory** - V. Gordon Childe
  - environmental desiccation
  - symbiosis in Oasis areas

• **Nuclear Zone** - Robert Braidwood
  - Zagros Mountains
  - gradual familiarity with wild plants in animals

• **Population/Ecology Theory** – Lewis Binford and others
  - transhumance = exploit resources in different environments on a seasonal basis.
  - select favorable traits in the short term
  - artificial habitats beyond wild plant range
  - population increase at end of Mesolithic restricts movement = settled life

• **Barley Domestication**
  - 9000 BP = tougher seed head = harvesting easier
  - 8000 BP = “naked” barley = processing easier
  - 7500 BP = 2 to 6 row barley = more productive

• **SE Asia**
  - rice by 5000 BP
• yams, taro between 8800 to 5000 BP

• Old World animals = dog, sheep, goats, cattle, horse, pig, chicken

• New World
  • Mexico (4500 BP)
  • corn, beans, & squash
  • corn = small grass like grain to a large cob
  • root crops = potatoes, sweet potatoes, tomatoes, pumpkin, sunflower
  • animals = turkey, dog, guinea pig, llama

  Neolithic
  • domesticated plants & animals
  • farming
  • sedentary
  • ceramic vessels
  • groundstone tools
  • sickles
  • woven textiles
  • trade of exotic materials
Rise of Cities
(Urbanism, State-Level Society, Civilization, Complex Society)

Characteristics:

- intensive farming = surplus (irrigation)
- large, densely populated cities (Teotihuacan = 125,000 @ AD 700)
- Concentration of surplus (centralized storage & redistribution)
- Full-time specialization of labor (craftsman, military, priests, artisans)
- Class Structure
- State or central political organization (taxation, coercion)
- Long-distance trade

other less useful traits: monumental architecture, astronomy, art, etc.

Archaeological Evidence?

Class Structure (egalitarian vs. classes)

- burial goods (variation age & gender; quantity)
- servants or retainers buried with ruler
- size of dwellings (residential vs. public)
- elaborate architecture
- written documents (business transactions, legal code, land ownership)
Why did Complex Society Develop?

- Hydraulic Theory = irrigation canals
- Trade Theory = local and long distance exchange
- Warfare-Population Theory
  - environmental limits
  - population increase
  - warfare & military, centralized control

Where did Complex Society Develop?

Old World: Mesopotamia, Egypt, Indus Valley, China

HUMAN VARIATION

Race = population within a species that differs in the frequency of the variants of some genes.

- Mongoloid
- Negroid
- Caucasoid

- difficult to place the vast amount of variation into a few categories
- races are statistical abstractions
- no sharp breaks between categories

Clinal Variation = continuum of physical (genetic) variation

- skin color varies north-south
- blood type varies east-west

- skin color = amount of melanin
  - protects against ultraviolet radiation
  - skin cancer?
  - infants & sun burn/over heating vs. Vitamin D & rickets
  - equator to north latitudes
  - lowered reproduction
Race is political & social label; many times defined by culture as much as physical appearance.

Intelligence and IQ Tests

- no single measure of IQ
- IQ is made up of traits that are inherited separately
- culturally biased test
- environment important

IQ results
- Black vs. White, but
- Urban vs. Rural
- Large vs Small Families
- First vs. Second Born

Within-Group variation greater than Between-Group variation!

Lactose Intolerance

- lactose in milk
- need lactase enzyme to digest milk
- this is a recessive genetic trait commonly absent in Asian, African, & native Australian pop.
- but in 80% of N. European pop.

Famine Relief

- milk supplements to treat malnutrition (powdered milk)
- lactose intolerance = diarrhea, cramping, even bone degeneration

- need to understand this type of genetic variation within human pop.
Nature of Culture

Culture = abstract concept

“culture is a set of rules & standards that results in acceptable behavior”

actual behavior vs. abstract beliefs & perceptions

Society = people who occupy a specific locality who share a common culture

social structure or organization = relationships that hold a society together
(kinship, class, occupation)

No human societies without culture, but there are other animals with societies!!

Culture is not uniform among members: gender roles, ages roles, classes, etc.

Pluralistic Societies = marked degree of sub-cultural variation

Characteristics of Culture

- Culture is Shared = shared set of ideals, values & standards of behavior

  (people from different cultures stranded on a island have a common goal of survival, but not a culture.)

- Culture is Learned (not biologically inherited)

  enculturation = process of transmitting culture from one generation to another.
  (aculturation?)

We have many biological needs, but many different way of meeting those needs.
  food, clothing, houses, etc.

- Culture is based on symbols
  language=powerful method of transmitting culture
• Culture is Integrated
  integrated whole; not random assortment of customs
  economics, religion, social organization, politics all connected
  system = whole greater than the sum of its parts

• Culture is always changing, not static.
  different rates of change.

Adaptation= living and reproducing successfully in a particular environment

reaction to the environment can result in different responses
  Hot summers day
    physiological
    behavioral
    cultural