### A Brief History of Archaeology

- **Archaeology = Explanation** of past human behavior using physical remains
- Foundations:
  - James Usher: “Young Earth”
  - Charles Lyell: Uniformitarianism
  - John Ray: “fixity of life”
  - Carl Linnaeus: Intermediate forms
  - Boucher de Perthes: “Pre-Adamites” controversy
  - Thomsen and Worsaae: regular stages

### Archaeological Explanation: Culture, Adaptation, and Evolution

- Empirical foundations:
  - Change and Time
  - How and Why?
  - Selection
    - Charles Darwin and Theory of Natural Selection
    - What about behavior?
      - Culture=
      - Cultural variation=
      - Innovation=
      - Adaptation=
        - Biological and Cultural

### What is the archaeological record?

- **Contexts**
  - Systemic context=
  - Archaeological context=
- Transformational processes
  - Primary context=
  - Secondary context=
- Archaeological Data
  - Artifact =
  - Feature=
  - Ecofact=
  - Site=
  - Region=
- Archaeological research: discovery, recovery, reconstruction, explanation

### Dating the Archaeological Record

- Chronometry=
- Relative versus absolute dating
- Stratigraphy
- Radiocarbon ($^{14}$C)
- Potassium-Argon (K-Ar)
- Dating gap=
- Direct versus indirect dating
Early Hominids and Their Behavior

- Hominid = bipedal locomotion: benefits? Skeletal features?
  - Basal Hominids
  - Primitive Australopithecines
  - Derived Australopithecines
  - Early Homo
- Oldowan Industry
  - Elements of stone technology: raw material=, hammer=, core=, flake=, tool=
  - Interpretations of stone-bone associations

Homo erectus and Dispersal

- Expensive tissue hypothesis=
- H.erectus, H. ergaster, H. antecessor
- Migration vs dispersal
  - climatological explanations
  - biological explanations
  - behavioral explanations

Neanderthals: Geography, Biology & Culture

- Archaic H. Sapiens
  - Regional populations in Africa, Europe, and Asia
- Neanderthals
  - Material Culture (Middle Paleolithic)
  - “Survival of the Unfit”
  - Burial evidence
  - Ritual cannibalism
- Classification: H. neanderthalensis or H. sapiens neanderthalensis?

Origins of Modern Humans

- Anatomically modern human=
- Multiregional model=
- Replacement model=
- Weak replacement model=
- Key process that ties it all together?
- MtDNA evidence
The Symbolic Revolution

- Upper Paleolithic adaptive advantage?
- Klein’s “Great leap forward”
- Language=
- Symbolic behavior
  - symbol =
  - ocher, ornaments, mobilary and parietal art
- Functions of symbolic behavior?

Human Dispersals

- Australia and the Pacific
  - Sunda versus Sahul shelves
  - Dispersal prerequisites: Watercraft?
- AMH in Sunda (40-35ka)
- AMH in Sahul (<50ka)
- The Americas
  - Bering Land Bridge
  - Dispersal prerequisites: Arctic adaptations?
  - Ice Free Corridor v Coastal Route
  - Early Sites v. Clovis

Post-Midterm Material

Climate, Population & Intensification

- Late Glacial Climatic Sequence
- Holocene: seal levels rise, changes in vegetation, megafaunal extinctions
- Population growth, carrying capacity, restricted mobility/territory size
- Population growth, intensification, social complexity
  - Simple hunter-gatherers=
  - Complex hunter-gatherers=
- Intensification=
Origins of Agriculture

- Synchronous origins
- Domestication=
- Theories
  - “Solitary genius” & Childe’s “Oasis hypothesis”
  - Population pressure
  - Climate change
  - Social theories
  - “Readiness” v. accident
- Transformation of human life: health consequences, population growth

Domestication in the New World

- Mesoamerica
  - Mesoamerican trinity= maize, beans, squash
  - Cucurbits (Guila Naquitz, Oaxaca 10-8ka)
- Andes 10ka; 4-5ka
  - Cucurbits; camels-quina-potatoes; cotton
- American Southwest
  - Turkeys; Trinity at 4-3.5ka at earliest
- Eastern North America
  - Goosefoot, marsh elder, gourds (oily seeds)
  - Earliest maize ca. 1.7ka → Cahokia 900-1200 AD
- Old World/New World comparison
  - Use of wild precursors; sedentism

Domestication in the Old World

- Identifying domesticates
  - Large seed size; Semi-tough rachis; Seed quantity
  - Small body size; Excess males
- Founder domesticates in SW Asia =
- SW Asian sequence
  - Kebaran: simple hunter-gatherers 14-12.5ka
  - Natufian: complex hunter-gatherers 13-10ka
  - PPNA: simple agriculture 10-9.5
  - PPNB: mature agriculture 9.5-8ka
- Founder domesticates in East Asia
  - South China & Yangzi: rice-buffalo
  - North China & Yellow River: millet-pig-dog
- Ceramics versus pottery

Emergence of Social Inequality

- Urbanism=
- State=
- Social complexity=
- Traits of cities & states (pay attention to overlap)
- City/state formation
  - Multivariate models
  - “Urban revolution”
  - Systems theory
  - Single mechanisms: irrigation, trade, warfare
  - Social theories: why give up autonomy?
- Marx and economic, ideological, and political power of the state=
Mesopotamia

- Northern Mesopotamia
  - precipitation agriculture
  - Hassunan; Samarran; Halafian=
  - Quasi independent cultures coalesce to same thing?
- Southern Mesopotamia = Sumeria
  - irrigation agriculture mandatory
  - Ubaid=
  - Uruk period (6-5.2ka)=
  - Rapid urbanization
- Sumerian world system & City-states
  - City-states: Uruk, Eridu, Ur
  - Formal trade networks; competitive instincts?; ethnic co-residence

Writing Technologies

- Speech & Social Memory
  - limited sounds → infinite ideas
- Symbols ↔ ideas
  - Pictographs, figurines, physical mnemonics
- Symbols ↔ sound
  - Explosion of combinatorial complexity
- Literacy and the state
  - Sumeria: Economic power=
  - China: Ideological power=
  - Maya: Political power=
- Power and the impact of literacy
  - Traditions/customs→laws/regulations
  - Social memory→institutional memory

The Archaeology of War

- Hobbes v Rousseau
- Warfare= Organized purposeful actual/potential lethal force
- Archaeology of war
  - Defensive and aggressive markers
  - Settlement systems
  - Burials
  - Sites (destruction)
  - Technology
  - Iconography/history
- Alternative Explanations?
- Purpose/causes of war
  - Competition; elimination of people
  - Acquisition of resources/territory
  - Acquisition of prestige

Mesoamerican Civilization

- Preclassic; Classic; and Postclassic Periods
- Highland
  - Massive urbanization
  - Valley of Mexico, Teotihuacan
- Lowland
  - Moderate urbanization
  - Maya
  - Idyllic view versus brash reality
Collapse of Civilization

- defining collapse
  - population dispersal…
  - population dislocation and urban abandonment…
  - state collapse…
  - cultural collapse…
- internal vs. external
- social vs. ecological

Archaeology & the Public

- multiple ways that the archaeological record destroyed
- the archaeology of identity
- political uses of archaeology (nationalism)
- what is our responsibility

THANK YOU!