

WOH 1012 LECTURE NOTES

I. Prehistory

A. Geological Time Scale

1. Presolar Era (18–4.6 billion years?)
2. Formative Era (4.6–3.6 billion years)
3. Archeozoic Era (3.6–1.5 billion years)
4. Proterozoic Era (1.5 billion–540 million years)
5. Paleozoic Era (540–245 million years)
 - a. Cambrian Period (540–500 million years)
 - b. Ordovician Period (500–440 million years)
 - c. Silurian Period (440–410 million years)
 - d. Devonian Period (410–360 million years)
 - e. Mississippian Period (360–325 million years)
 - f. Pennsylvanian Period (325–290 million years)
 - g. Permian Period (290–245 million years)
6. Mesozoic Era (245–65 million years)
 - a. Triassic Period (245–190 million years)
 - b. Jurassic Period (190–136 million years)
 - c. Cretaceous Period (136–65 million years)
7. Cenozoic Era (65 million years–Present)
 - a. Tertiary Period (Paleogene/Neocene) (65–1.8 million years)
 - (1) Paleocene Epoch (65–54 million years)
 - (2) Eocene Epoch (54–38 million years)
 - (3) Oligocene Epoch (38–23 million years)
 - (4) Miocene Epoch (23–5 million years)
 - (5) Pliocene Epoch (5–1.8 million years)
 - b. Quaternary Period (1.8 million years–Present)
 - (1) Pleistocene Epoch (1.8 million years–10,000 years)
 - (2) Holocene Epoch (10,000 years–Present)
8. Understanding the length of Geographical Time
 - a. Distance method
 - b. Arm method
 - c. Time method

B. Taxonomic Classifications

1. Tree of Life.
 - a. Domain *Eukaryotes* (Organisms with nucleated cells, including plants)
 - b. Kingdom *Animalia* (Animals).
 - c. Phylum *Chordata* (vertebrates and relatives).
 - d. Subphylum *Vertebrata* (animals with backbones).
 - e. Class *Mammalia* (mammals).
 - f. Subclass *Theria* (Therian 'live bearing' Mammals)

- g. Infraclass *Eutheria* (placental mammals)
 - h. Order *Primates*.
2. Order: *Primates*. (Earliest primates 65-85 million years old)
 - a. Suborder: *Strepsirrhini* (Lemurs, galagos, lorises, etc) “wet nosed”. (50 mya)
 - b. Suborder *Haplorrhini* (monkeys, apes and tarsiers) “dry nosed”.
 3. Suborder *Haplorrhini*.
 - a. Infraorder: *Simiiformes* (monkeys & apes)
 - b. Infraorder: *Tarsiiformes* (tarsiers) (45 mya)
 4. Infraorder: *Simiiformes*.
 - a. Parvorder *Catarrhini* (Old World monkeys and apes)
 - b. Parvorder *Platyrrhini* (New World Monkeys) (40 mya).
 5. Parvorder *Catarrhini*.
 - a. Superfamily *Cercopithecoidea* (Old World Monkeys, Baboons.) (25 mya)
 - b. Superfamily *Hominoidea*.
 6. Superfamily *Hominoidea*.
 - a. Family *Hylobatidae* (Gibbons and lesser apes) (15 mya)
 - b. Family *Hominidae* (Great Apes and Humans)
 7. Family *Hominidae*.
 - a. Genus *Pongo* (Orangutans)
 - b. Genus *Gorilla* (Gorillas)
 - c. Genus *Pan* (Chimpanzees)
 - d. Genus *Homo*
 8. Genus *Homo*
 - a. Species *Homo sapiens*
 9. Extinct members of family *Hominidae*
 - a. Genus *Ardipithecus*
 - (1) Species *Ramidus* (4.4 mya)
 - b. Genus *Australopithecus*
 - (1) Species *Anamensis* (4 mya)
 - (2) Species *Afarensis* (Lucy) (4-2.5 mya)
 - (3) Species *Africanus* (Southern Ape) (3-2.5 mya)
 - (4) Species *garhi* (2-3 mya)
 - c. Genus *Paranthropus*
 - (1) Species *Aethiopicus* (2.6 mya)
 - (2) Species *Boisei* (Zinj) (2.3-1.2 mya)
 - (3) Species *Robustus* (2.1 mya)
 - d. Genus *Kenyanthropus*
 - (1) Species *Platyops* (3.5-3.2 mya)
 - e. Genus *Homo*
 10. Genus *Homo*
 - a. Species *Rudolfensis*
 - b. Species *Habilis*
 - c. Species *Erectus*

d. Species *Sapiens***C. Humans and Evolution**

1. Introduction
2. Evidence of Divergence from common ancestor
 - a. Evidence
 - (1) Genetics
 - (2) Similar social institutions
3. Differences between apes and hominids
 - a. Bipedalism
 - b. Loss of hair
 - c. Larger brain
 - d. Development of language
4. Physical vs. Behavioral change
5. Family tree
6. Possible reason for split
 - a. Climatic changes
7. Earliest Hominids
 - a. *Toumai* (6-7 million years old)
 - (1) Michel Brunet, Djurab desert, North Chad
 - b. *Ardipithecus ramidus* (4.4 million years old)
 - (1) Tim White, Ethiopia
 - c. *Australopithecus anamensis* (4 million years)
 - d. *Australopithecus afarensis* (Lucy) (3.18 million years)
 - (1) Donald Johanson, Hadar Ethiopia
8. From Australopithecines to Genus Homo
 - a. *Australopithecus africanus*
 - b. *Australopithecus robustus*
 - c. *Homo habilis* (1.8 million years)
 - (1) Mary Leakey, Olduvai Gorge in Tanzania
 - (2) Olduvan Industrial Complex
9. Olduvai Gorge, Tanzania
 - a. Koobi Fora, Keyna
10. Hominids after 3 million years ago
 - a. Two broad groups
 - (1) Australopithecines and *Homo habilis*
 - (2) All later human forms
 - b. Development of a larger brain
 - (1) Why?
 - (2) EQ measure (Encephalization quotient)

D. Homo erectus or Homo ergaster (1.6 million years ago)

1. Background
 - a. Lake Turkana
 - (1) Turkana boy
2. They evolved in many different environments
 - a. Ice Age or Pleistocene Epoch, 1.8 million years–10,000 years
3. Physical Characteristics
 - a. Hairlessness
 - (1) Melanocortin receptor gene
4. Tool making
 - a. Acheulean Industrial Tradition
5. Domestication of Fire
 - (1) Escale, France
6. Hunter or Scavenger?
7. Expansion of *Homo erectus*
8. Population
9. Later *Homo erectus*

E. Neanderthals (*Homo neanderthalensis*).

1. Background
 - a. Neander Valley Germany, 1856
 - (1) Thomas Huxley
2. Differences between Neanderthals and anatomically modern *Homo sapiens*
3. Tool makers and Hunters
 - a. Mousterian stone-industry
4. Lifestyle
5. Burial of Dead?

F. From Archaic *Homo sapiens* to Anatomically Modern *Homo sapiens* (last 200,000 years)

1. Evidence in Africa
 - a. Three types of Archaic *Homo sapiens*
 - (1) Early Archaic *Homo sapiens*
 - (2) Late Archaic *Homo sapiens*
 - (3) Anatomically modern looking *Homo sapiens*
2. Differences between modern and archaic humans
3. Theories on the origins of modern *Homo sapiens*
 - a. Multi-regional Hypothesis
 - b. Out of Africa or Replacement Hypothesis
 - (1) Use of Molecular biology
 - (a) Allan Wilson, Rebecca Cann, and Mark Stoneking in 1987
 - (b) Mitochondrial DNA

- (2) Genetic Analysis of Lice (2004)
 - (a) Modern human head lice, *Pediculus humanus*
4. Expansion of anatomically modern *Homo sapiens*
 - a. Southwest Asia—90–100,000 years ago
 - b. Southeast Asia—75,000 years ago
 - c. Europe—45,000 years ago
 - d. Australia—40–50,000 years ago
 - e. Central Asia—25–35,000 years ago
 - f. Siberia—18,000 years ago
 - g. Alaska—15,000 years ago
 - h. North America—15,000 years ago
5. Technological and cultural changes
 - a. Bow and arrow, atlatl, and bone and wood tools
 - (1) Eyed needle was probably most important
 - (2) Allowed for creation of multi-layered tailored clothing to survive in extreme cold
 - b. Figurines, wall paintings and rock carvings
6. Origins of Human Art
 - a. Altamira Cave
 - (1) Santander, Spain
 - b. Lascaux Cave
 - (1) South-central France
 - c. Types of Art
 - (1) Mobile art
 - (2) Immobile art
 - d. Interpretations of the cave paintings

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II. Neolithic Revolution or Origins of Agriculture

A. Background

1. Archeological Ages
 - a. Paleolithic “Old Stone Age”
 - (1) Lower—2 million–150,000 years ago
 - (2) Middle—300,000–35,000 years ago
 - (3) Upper—40,000–8,000 years ago
 - b. Mesolithic—End of Ice Age to beginning of Agriculture
 - c. Neolithic—8000–3000 years ago
 - d. Bronze Age—3000–1000 years ago
 - e. Iron Age—1000 years ago
2. Background
 - a. Pleistocene Societies
 - b. Main agricultural plant species
 - (1) Wheat, barley, millet, rice, maize, and potatoes
3. Domestication
 - a. Definition
 - (1) “Coevolutionary process in which any given taxon diverges from an original gene pool and establishes a symbiotic protection and dispersal relationship with the animal feeding upon it”
4. Agriculture
 - a. Sedentary life
 - b. Inertia in village agriculture
5. Early Domestication and Agriculture
 - a. “third choice”

B. Origins of Agriculture in Southwest Asia

1. Background
2. Domestication
 - a. Wheat, barley, rye, oats, sheep, and goats
 - (1) Onion, garlic, lentils, peas, chickpeas, turnip, carrots, flax, olive oil, fig, walnut, date palm, almond, grapes, apples, pears, plums, onions, lettuce, parsley, poppy
 - b. Wheat and barley
 - (1) Rachis
 - (2) Glumes
3. Specialized tools
4. Archaeological Record
 - a. Tell Abu Hureya, Euphrates Valley in Syria
 - b. Natufian cultures
 - c. Evidence for Domestication
 - (1) Presence of an animal species outside its natural range

- (2) Morphological changes
 - (3) Abrupt increases in the number of some species relative to others
 - d. Jericho, 8350–7350 bc
5. Other Old World Domesticates
- a. Europe
 - (1) Strawberry, hops, currants, raspberry, clover
 - b. Africa
 - (1) African rice, sorghum, tef, pearl millet, yam, palm oil, watermelon, melon, okra, coffee
 - c. Southeast Asia (India, Indochina, Pacific Islands)
 - (1) Asian rice, yams, taro, coconut, orange, lime, tangerine, grapefruit, mango, banana, cucumber, eggplant, plantain, nutmeg, sugar cane, hemp
 - d. China
 - (1) Asian rice, millet, soybeans, turnip, yams, chestnut, apricot, peach, Chinese cabbage, ginger, tea, ginseng
6. New World Domestication
- a. Mesoamerica
 - (1) Maize, tomatoes, sweet potatoes, beans, squash, peppers, cotton, cacao, avocado
 - b. North America
 - (1) Sunflower, strawberry, grape, pecan, blueberry, cranberry
 - c. South America
 - (1) Peanut, beans, potato, cotton, cashew, pineapple, pepper, squash, coca, tobacco

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III. Evolution of Socially Complex Cultures

A. Background

1. Diffusion vs. Independent Development
2. Culture in Iraq about 6000 bc
3. Same area about 3000 bc
4. Psychological effects of social complexity

B. Social and Cultural Typologies

1. Bands
 - a. Copper Eskimo, African pygmies, Kalahari Bushmen, and Australian Aborigines
 - b. Characteristics
 - (1) Patrilineal
2. Tribes
 - a. Pueblo Indians maize farmers and New Guinea yam cultivators
3. Chiefdoms
 - a. Symbolism
 - b. Precontact Nootka of British Columbia and early Hawaiian societies
4. States
 - a. Mesopotamia, Egypt, the Indus Valley, China, Mesoamerica and Peru
5. Empires
6. Summary
 - a. Specialization
 - b. Exchange

C. Origin of Writing

1. Definition
2. Invention of writing
 - a. Mesopotamia, Egypt, China, Mesoamerica, Indus Valley
3. Types of Writing
 - a. Pictographic
 - b. Logographic/Logophonetic
 - (1) Chinese, Egyptian, Mesoamerican languages (Maya, Aztec), Cuneiform, Sumerian, Akkadian, Japanese
 - c. Syllabic
 - (1) Meroitic, Cherokee, Old Persian
 - d. Alphabetic writing
4. Egyptians
 - (1) R^c-mss (Ramses, Rameses or Riamesesa)
5. Origins of Phonetic Alphabet

- a. Proto Sinaitic
 - b. Ugaritic, 1400 bc
 - (1) Ugarit
 - c. Phoenician, 1050 bc
 - (1) It inspired Hebrew, Greek and Aramaic
 - d. Reasons for the development of Alphabetic language
6. Transmission of Alphabet
- a. Greek
 - b. Romans
 - c. Carolingian Minuscule

D. Time and Chronology

1. Origins
2. The Day
3. Lunar Calendar
 - (1) Metonic Cycle
4. Solar Calendar
5. The Seven day week
 - a. Solis, Lunae, Martis, Mercurii, Iovis, Veneris, Saturni
 - b. Sun, Moon, Mars, Mercury, Jupiter, Venus, Saturn
6. Julian Calendar, 46 bc
 - a. Julius Caesar
7. Gregorian calendar, 1582
 - a. Pope Gregory XIII
8. Chronology
 - a. Eponyms
 - (1) Greeks and Romans
 - b. Regnal years
 - (1) Egyptians
 - (a) Sothic cycle
 - c. Cycles
 - (1) Olympiad Cycle, Indiction tables, Chinese astrology
 - d. Eras
 - (1) Birth of Christ, *hijra* of the Prophet Muhammad
 - (2) Foundation of Rome in 753 bc
 - (3) Seleucid Era, 311 bc
 - (4) Nabonassar Era, 26 February 747 bc
 - (5) Zoroastrian Era, 16 June ad 632
 - e. Hebrews

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IV. Mesopotamia “land between the rivers”

A. Background

- a. The walled city of Jericho, 8000 bc

B. Sumer

1. Sargon the Great (2370–2200 circa)
2. *Epic of Gilgamesh* (In British Museum)
 - a. Enkidu
 - b. Humbaba
 - c. Utnapishtim
3. Achievements
 - a. Ziggura)

C. Babylon

1. Code of Hammurabi (1700 bc) (In Louvre)