

Name:

ANT 3514- Introduction to Biological Anthropology
Modern Humans
Lab 11, Week of 11/17/03

The focus of this lab concerns the latest archaic *Homo sapiens* and anatomically modern humans. Students will answer questions concerning archaic *Homo sapiens* (including the Neanderthals), the origins of our species with regards to various interpretations of Multi-regional Evolution vs. Out of Africa.

Station 1: Multi-regional vs. Out of Africa

(in class) Regional continuity, also known as Multi-regionalism, argues that modern humans evolved independently in different geographic locations. Rapid replacement, also known as Out of Africa, maintains that modern humans evolved more recently, in Africa, and spread out replacing all other hominid species. An intermediate of these two models is called the partial replacement model. Sketch these three models from the chart provided. Be sure to include location, date, and the species involved in each theory.

Multi-regionalism

Out of Africa

Partial Replacement Model

Name:

Station 2: *Homo heidelbergensis* and AMH

Archaic forms of *Homo sapiens*, often referred to as *Homo heidelbergensis*, first appear between 800,000-500,000 years ago. This covers a diverse group of hominids, as indicated by the fossil evidence, which show features between *Homo erectus* and modern humans. There is no clear dividing line between late *H. erectus* and archaic *H. sapiens*, and many fossils between 500,000 and 200,000 years ago are difficult to classify as one or the other, however, it is clear that modern humans are direct descendents of these individuals.

At this station you will find:

- Homo heidelbergensis* (Steinheim)
- 2 early modern human crania: Zhoukoudian (Asia) & Cro-Magnon (Europe)

(in class) Compare and describe the following cranial features of these specimens.

	<i>Homo heidelbergensis</i>	Zhoukoudian	Cro-Magnon
Forehead (sloping/ rounded)			
Cranial vault (rounded/ square)			
cranial breadth (broad/ narrow)			
Eye orbits (shape and height)			
Robusticity (1-3 1= least, 3 =most)			

(at home) Using your answers in the table, are the observed differences more supportive of the Multi-regional or Replacement model described in Station 1? How so?

Name:

Station 3: Early Modern *Homo sapiens* and Modern *Homo sapiens*

At this station you will find:

- Skhul specimen (Israel, 115,000 years old)
- A Neanderthal cranium
- A modern human skull

List 3 features of the Skhul specimen that confirm that this individual belongs to *H. sapiens*?

What features might be viewed as more ancestral in the Skhul specimen?

Station 4: Femoral characteristics of Neanderthals and modern humans

At this station you will find:

- the femur of a Neanderthal (Spy)
- an early AMH femur (Skhul)
- a contemporary human femur (Jimmy Hoffa)

Complete the following table comparing femoral characteristics between these specimens.

	Neanderthal	AMH	Hoffa
Femoral Robusticity (1-3: 1=least 3= most)			
Head Diameter (1-3: 1= narrow 3 = broad)			

(at home) What accounts for the femoral differences between Neanderthal, Skhul, and Hoffa?

(at home) Who do you think was taller? Why?