

Name:

ANT 3514- Introduction to Biological Anthropology
Modern Humans
Lab 6 Week of 6/13/05

The focus of this lab concerns late archaic *Homo sapiens* and anatomically modern humans. Students will answer questions concerning archaic *Homo sapiens* (including the Neanderthals), and the origins of our species with regards to various interpretations of human evolution.

Station 1: Multi-regional vs. Out of Africa

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 Hominin 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 the locations and species involved in each theory.

Multi-regionalism

Out of Africa

Partial Replacement Model

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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 skulls which have features of both *Homo erectus* and modern humans. There is no clear dividing line between late *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) & Dordogne (Cro-Magnon=Europe)

Compare and describe the following cranial features of these specimens.

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

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?

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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 which confirm that this individual belongs to *H. sapiens*?

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

Station 4: Trends in modern *Homo sapiens*

At this station you will find three modern human skulls from our collection. Fill in the table below by comparing the various cranial features of the skulls provided.

	1	2	3
Orbits (round/oval/rectangular)			
Vault (round/ oval/ tall/ short)			
Zygomatrics (flared/ receding)			
Nasal Aperature (broad/ narrow)			
Midface (narrow/broad, long/short)			

Discuss what might account for the observed intra-specific variation?