Becoming “modern”

Biology:
Loss of diversity

Culture:
Creativity & communication

Human?

Modern?

Behavior

Genetics  Anatomy

Ethiopia 160,000 yrs ago

First moderns

~200,000 - 120,000

120,000 years ago
By ~150,000 years ago populations in Europe evolve into neanderthals.

By ~150,000 years ago populations in Africa evolve into anatomically modern humans.

75,000 - 50,000 years ago populations of neanderthals and moderns overlap. A relationship? Neanderthal burial 60,000 years ago. Modern burial 90,000 years ago. Cutmarks: not always buried. Modern burials 90,000 years ago. Cutmarks: not always buried. Modern burial 90,000 years ago.

Evidence found

**Multi-regional Hypothesis**
- Hybrid anatomy in Europe?

**Replacement Hypothesis**
- Earliest moderns in Africa
- Distinct populations in Near East

Modern?
- Behavior
- Genetics
- Anatomy

Mt DNA inheritance
- in egg, not sperm
- only lineages with daughters are “visible”

Mt DNA: African Eve

Cousins?

Trail of mtDNA
- Ancestral gene pool
- Descendant gene pool
- Female A
- “Eve” Female B
- Female C
- Female D
- Male
- Female

Genetics
- Mt DNA
- Inheritance in egg, not sperm
- Only lineages with daughters are “visible”

African Eve
- Cousins?
Mitochondrial DNA

500,000 years of separation?

Evidence found

Multi-regional Hypothesis

Replacement Hypothesis
– mtDNA suggests modern "eve" from Africa
– Neanderthal sequence data

Modern?

Behavior

Genetics
Anatomy

Shared technology

Biological Diversity
Cultural Diversity

Archaeological evidence

Modern Homo
Mousterian / Middle Paleolithic
Archaic Homo
Acheulian

Today
First foliate points

Soft hammer percussion

African Middle Stone Age

2 important sites:
- Blombos Cave
- Klasies River Mouth Cave

Early art?

Early moderns in Africa

South African Middle Stone Age sites:
- Skeletally modern
- Flake tools +
  - Bifacial points
  - Bone tools
  - Ochre = symbols
  - Art?
- Hunting & first seafood
- Repeated, seasonal use of sites
- Hearths (cooking?)

Evidence found

Multi-regional Hypothesis
- Shared Middle Paleolithic technology

Replacement Hypothesis
- Early symbolic tools in Africa
End of biological diversity 25,000 year ago

Biological Diversity

Cultural Diversity

Moderns move in ~40,000

Upper Paleolithic

a sense of style

Upper Paleolithic

New technology
– Material culture: tools and symbols

Efficient hunter-gatherers
– Ice Age extinctions
– Global Colonizers

Long-distance social networks
– Cooperation for survival