Archaic behavior

• What sorts of behaviors are first seen among the archaic humans, including the Neandertals?

• What sorts of tools were they making?

• How were they hunting?

• What was special about their behavior?

• What do these mean about the human adaptation at this time?
Modern Humans

• What are Anatomically Modern *Homo sapiens*?

• Why are they so hard to define?

• What features are used to define anatomic modernity?

• When and where do these features first appear?
Spread of Modern Humans

• When and where do modern humans first appear?
• When do they appear elsewhere in the world?
• Do all modern humans across the world show the same morphologies?
• Where is the last place that we find modern humans?
Modern features

- high, rounded cranium (greatest breadth high on the parietals)
- less suprastructure development
- tall, nearly vertical frontal bone
- face larger under the cranium
Modern features

- mean cc 1350 (range 1000-2000)
- small teeth
- CHIN
- early ones show more primitive technologies, later share technologies with Neandertals
Modern variety
Herto Bouri
Ethiopia
160,000-154,000
Laetoli 18
129,000-108,000
Omo
130,000 - 60,000
Omo 2
Klasies River Mouth
118,000-60,000
Jebel Irhoud
127,000 - 87,000
Florisbad
100,000
African Moderns

- Earlier than elsewhere in the World
- 100,000-160,000
- Mosaic of morphologies, leaning towards the modern
Western Asia

• Moderns either simultaneous with Neandertals or leapfrogging them

• Mosaic
Chinese early Anatomically Modern date to about 70,000
Zhoukoudian
Upper Cave
30,000
Mungo
Coolbool Creek
14,000 ya
Asia summary

- Modern from at least 70,000
- With some very robust features
- On Australia from about 60,000
Cro Magnon
What is “Modern Behavior”? 

- language?
- complex tools?
- art?
- boats?
- exploiting new resources?
Getting to Australia....
"So what's this? I asked for a hammer! A hammer! This is a crescent wrench! ... Well, maybe it's a hammer. ... Damn these stone tools."
Tool industries

- Upper Paleolithic - modern humans
- Middle Paleolithic - Mousterian - Archaic humans
- Lower Paleolithic - Acheulean and Olduwan - early Homo
Pressure Flaking
Upper Paleolithic tools
The Atlatl or throwing stick was used in recent history by Eskimos and Australian Bushmen. Evidence from North America suggests 10 thousand years of use here.

Right - bottom side of a MesoAmerican atlatl.
Atlatl
Upper Paleolithic Northeast Asia
Venus of Willendorf
25,000 ya
Austria
Pendants and Figureine from Dolni Vestonice
25,000
South Africa Shell Beads - 75,000!
Neandertal ornamentation?

Spain, 50,000
Upper Paleolithic Clothing?

Bear tooth bead
18,000
Parietal art from
Upper Paleolithic Europe
South African Rock art

27,000
Zambia 35,000-40,000
Engraved Ochre - 75,000
Parietal Art, China
Aboriginal Rock art dates to as far back as 40,000 years
Wall Paintings from Queensland Australia
And then what?

- Significant anatomical and behavioral changes
- Modern humans spread around the world
- Population size greatly increases
Populating the Earth
Possible migration patterns of early humans:

- Y-chromosome route markers

00 Thousands of years ago

Source: The Genographic Project
Bering Land Bridge
**BERING LAND BRIDGE THEORY**

**PACIFIC COASTAL ROUTE THEORY**

**Walker Road, Alaska**
13,300 years old

**Hecate Strait, near Queen Charlotte Islands, B.C.**
A 10,200-year-old artifact was dredged up here from below 150 feet of water.

**Kennewick, Wash.**
A 9,500-year-old skeleton—the Kennewick man—was found here.

**Santa Rosa Island, Calif.**
A 13,000-year-old skeleton—the Arlington Springs woman—was found here.

**Clovis, N.M.**
The first Clovis artifact was discovered here in 1932. For much of the past century, archaeologists believe that Clovis people—big-game hunters who lived 13,000 years ago and made stone tools—were the first settlers of the New World.

**Los Tapiales, Guatemala**
12,900 years old?

**Tibito, Colombia**
13,600 years old?

**Pachamachay, Peru**
13,900 years old?

**Monte Verde, Chile**
Remains of a 14,700-year-old campsite represent the oldest known site of human habitation anywhere in the Americas. Excavators found a variety of stone and wood artifacts, animal hides and an ancient footprint.
Prior to the Upper Paleolithic, Africa was home to the largest human populations.

Upper Paleolithic (and in Africa, late MSA and LSA)
Intensification of populations shown by resource use, diet breadth, and geographic range expansion.

Long-term growth probably episodic.

Neolithic revolution: initiating in West Asia, China, India, Egypt.
Later in subsaharan Africa

Subsaharan Africa
Europe and West Asia

Population size (logarithmic)

Time (years ago)

100,000 ++ 50,000 40,000 30,000 20,000 10,000 0

10^4 10^5 10^6 10^7 10^8 10^9 10^10
New Tools
Mesolithic tools
Mesolithic Canoe
Replica of a Mesolithic Hut
Mesolithic fish trap, Ireland
Mesolithic Painting depicting Bow and Arrow
Okay. We've domesticated the dog, but we're having a little trouble with the cat....
Forget the experts; domestication of the dog only took about 8 seconds.
Neolithic Pots -- About 6000 years old