Members of Our Genus
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Homo Habilis

- 2.2 – 1.6 m.y.a., Pliocene, E. & S. Africa, (C.C.?)
- ~615 c.c. Name means: “handy man” (why?)
- 1st hominid to make & use stone tools!
- Oldowanan tool culture: unifacial core tools pebble choppers
- Splitters: 2 species, Larger: *H. rudolfensis* Lumpers: 1 species (H.r. c.c. ~750 c.c.) What were they doing w/ the tools?
- Scavenging animal remains (not hunting just yet)
- How do we know? Stone cache sites, cut marks on bones
Pleistocene (1.8 mya)

- Epoch of the ice ages (Pleist rhymes w/…iced!)
- Massive ice sheets covered much of the northern hemisphere
- Genus Homo diversifies during this time frame
Homo Erectus

- 1.8 m.y.a. – 250,000 y.a., 1st orig. in E. Africa, c.c.?
- ~950 c.c., name means “upright man” not based upon…
- Tool culture: Achulean, bifacial core tools, very effective…
- Handaxe a.k.a “swiss army rock”
**H. Erectus cont’d**

- Definitive evid. of purposeful use of fire benefits?
- Protection, warmth, light…most of all, facilitates development of culture
- Features: sagittal keel, supraorbital torus, no chin bone, ↑ sexual dimorphism
Homo erectus

- Does something no hominin has done before?
- 1st hominin to migrate out of Africa to much of the Old World
- How did they reach Indonesian islands? (Hint: ice age oceans)
- Sea level significantly lower (several hundred ft.), as a result: land connection between S.E. Asia & Indonesia
- Splitters: H. ergaster (Africa) & H. erectus for the rest

**Homo sapiens neandertalensis**

- Lived from ~ 150,000 y.a. to ~30,000 y.a.
- Europe & Mid. East. Cranial capacity?
- Mean: 1450 c.c.’s! (Larger than ours, but brain to body sz. ratio is slightly lower)
- Genus & species name: “man the wise”
- Subspecies: “neander valley” in Germany
- Short, stocky & heavily muscled, heavy brow ridge, sloped forehead
- Occipital bun
Neandertal culture

- Mousterian tools: bifacial flake tools (Levallois technique)
- Cared for their elderly, buried their dead (flower offerings)
- Cave paintings: symbolic self-expression
- Language: DNA evidence & fossil hyoid strongly suggest linguistic capabilities equivalent to ours
Neandertals cont’d

• Evidence of cannibalism amongst Neandertals:
  • Gustatory vs. Ritual cannibalism
  • Gustatory: for dietary purposes
  • Ritual: spiritual purposes, oft. part of a funerary ritual

• Recent evidence suggests a diff. conclusion:
  • http://www.scientificamerican.com/blog/60-second-science/post.cfm?id=neandertal-cannibalism-maybe-not-2009-04-02
  • http://www.youtube.com/watch?v=lsSOcwY79ig
Homo floresiensis

- Flores Island, Indonesia, ~95,000 – 12,000 y.a.
- Flores separated from Indonesia by deep ocean trench, not possible to have walked, even during ice age
- Nicknamed “The Hobbit” for small status (~3 ½ ft. tall adult)
- Lived side by side w/ modern humans
**H. Floresiensis cont’d**

- Island dwarfism: natural selection favors smaller body sz. on an island w/ lmtd resources, thus: dwarfed species
- Brain scan & endocast suggests not simply a microcephalic (small headed) human
- [http://www.sciencedaily.com/releases/2009/05/090506144307.htm](http://www.sciencedaily.com/releases/2009/05/090506144307.htm)
Anatomically modern humans (A.M.H.)

- *H. sapiens sapiens*: recall the meaning? ~175,000 y.a.
- First emerged in East Africa, migrated out ~70,000 y.a.
- Definitive evidence of big game hunting
- Tools: blade & bone flake tools
- Art: cave paintings, decorated artifacts, venus figurines (may have been fertility symbols)
- [http://www.youtube.com/watch?v=sZ2WoHFc7eE](http://www.youtube.com/watch?v=sZ2WoHFc7eE)
Modern Human Origins

• What happened to all of the human species before ours?
• How did the transition take place?
• Multiregional Evolutional (MRE): After H. erectus left Africa, human group evolved throughout old world in their separate locations, prob’s?
• Oft. Used as a basis for theories of human race, criticized as an extreme form of scientific racism
• African Origin Models:
• African Replacement: modern humans evolved in Africa ~200,000 y.a., then migrated out, replacing pre-existing human groups
Modern Human Origins

• African Assimilation: suggests that modern human 1st arose in Africa, & intermixed w/ pre-existing human groups, incorporating genes of non-African groups

• Fossil evidence: specimens show mixture of modern human traits w/ more primitive features
Genetic Evidence

- MtDNA evidence: suggests an African “Eve”
- Y Chromosome DNA studies: support African origin, oldest versions of Y chrom. DNA found amongst Khoisan men of the Kalahari Desert

http://www.sciencedaily.com/releases/2008/04/080424130710.htm
http://www.accessexcellence.org/WN/SUA05/ychrom.php
Holocene (10,000 y.a.)

- Current epoch that we are now living in
- Evidence to suggest that we are living in the midst of another mass extinction event, in fact, the biggest one yet