• regional populations
  – Africa: Kabwe, Herto
  – Europe: Sima de los Huesos, Petralona
  – Asia: Jinnuishan, Dali
• archaic Homo sapiens
  – larger brains 1300 cc
  – more rounded skulls
  – archaic = primitive
• Biological species =
• Morphological species =
• Neanderthals >100–32 ka
  – Western Europe & West Asia
  – robust, big-brained hominid
  – cold adapted
• Neanderthal behavior
  – seasonal landscape use
• Middle Paleolithic 200–32 ka
  – Mousterian
  – Standardization
  – Levallois core technology
  – geographic variants of Mousterian
    • Norms vs. Adaptation?
• “survival of the unfit”
  – La Chapelle-Aux-Saints 35 ka
• Neanderthal burial
  – La Ferrassie 35 ka
  – Dederiyeh, Syria <75 ka
• Ritual Cannibalism!
  – Krapina 30.7 ka
• H. sapiens neanderthalensis
• cultural or acultural?

Kabwe (Broken Hill), Zambia
archaic H. sapiens, >125 ka

Herto, Ethiopia 160 ka
archaic H. sapiens

AFRICA

Jinnuishan (Gold Ox Hill), China
archaic H. sapiens
160-200 ka

EAST ASIA

Steinheim, Germany, 200-240 ka
Bilzingsleben, Germany, 228 ka
Arago, France, 250 ka
Sima de los Huesos, 300 ka
Swanscombe, England 225 ka

Dali, China
archaic H. sapiens
100-200 ka (?)
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• Biological species = organisms are of the same species if they can successfully reproduce and their offspring are fertile

  • “can produce more of us…is one of us…”

• many different reasons why two populations of organisms might not be able to reproduce

• Morphological species = organisms that share an arbitrary level of similarity in gross biological (e.g., skeletal) features

  • “looks like us…is one of us…”
**neanderthal adj** 1: ill-mannered and coarse and contemptible in behavior or appearance [syn: boorish, loutish, oafish, swinish]

**Neanderthals (Neandertals) >100 – 32 ka**
- large brain 1600-1700 ml!
- massive brow ridges
- occipital bun
- robust post-cranial skeleton
- cold adapted

**seasonal landscape use & specialized hunting**
- essential in temperate (sub-arctic!) environments
- large(ish) social groups and information sharing

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Middle Paleolithic (Mousterian) 200 – 32 ka
Levallois Core Technology = **Standardization**

Blade = flake two times as long as wide
Point = flake that converges to sharp point
Flake = all other shapes

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“survival of the unfit” = Neanderthal social security?
La Chapelle-aux-Saints 35 ka

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La Ferrassie “grave yard”

Unintentional Burial

Intentional Burial and Grave Goods!

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• “It is clear from the archaeological record that meat – fat or muscle or other tissue – on the bone was not the only part of the body that was consumed. Braincases were broken open, and marrow was often removed from long bones. In these two examples, stone hammers split the upper arm bones lengthwise, exposing the marrow.”

• Species or Subspecies?
  – *Homo sapiens Neanderthalensis*?
  – *Homo Neanderthalensis*?

• cultural or acultural?
  – culture =
  – burials and cannibalism…