

Chapter 12:  
The Origins, Evolution, and Dispersal of Modern People



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1. What's So Modern about Modern Humans?

- a. Skeletal traits: round, tall skull with vertical forehead, small brow ridges, and small face (flat- cheekbones) and teeth (front, esp) with a more gracile postcranial skeleton.
- b. have a mixture of archaic and modern traits (Skhul 5).

(a) Dolni Vestonice

(b) Atapuerca

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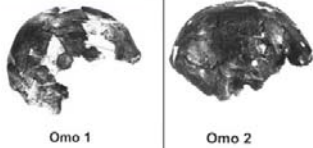
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2. Modern *Homo sapiens*: Single Origin and Global Dispersal or Regional Continuity?

- a. Evolution of modern humans began about 350,000 yBP with emergence of archaic forms.
- b. First modern *Homo sapiens* appeared in Africa, 200,000 yBP.
- c. Two main hypotheses
  - i. Out of Africa
    - 1) Modern *Homo sapiens* evolved in Africa, and then spread to Asia and Europe, where modern humans replaced the populations there.
  - ii. Multiregional Continuity
    - 1) The shift to modern humans took place regionally and did not involve replacement.




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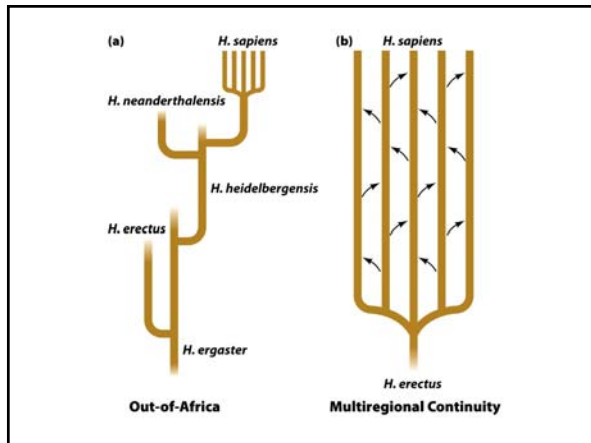
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins?

- a. Early Archaic *Homo sapiens*
  - i. Archaic *Homo sapiens* in Africa (350,000–200,000 yBP)
    - 1) Kabwe (Broken Hill)
  - ii. Early Archaic *Homo sapiens* in Asia (350,000–130,000 yBP)
    - 1) Ngandong (Java)
  - iii. Early Archaic *Homo sapiens* in Europe (350,000–130,000 yBP)
    - 1) Sima de los Huesos (Atapuerca)
  - iv. Early Archaic *Homo sapiens*' Dietary Adaptations
    - 1) Same tools and material technology as *Homo erectus* but diverse materials
    - 2) Reduction of dental complex with tool use

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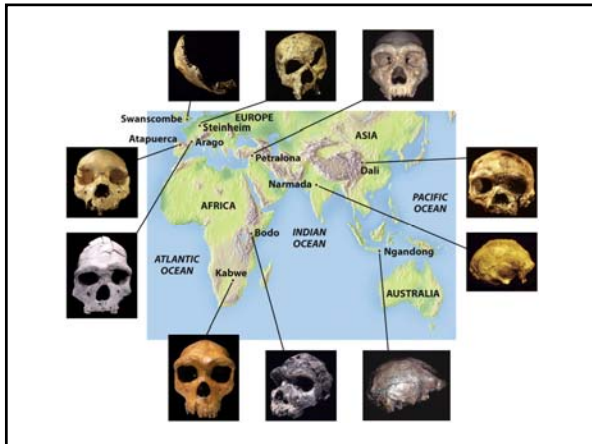
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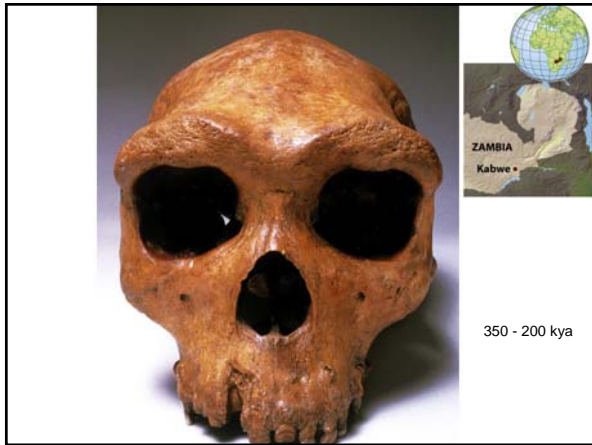
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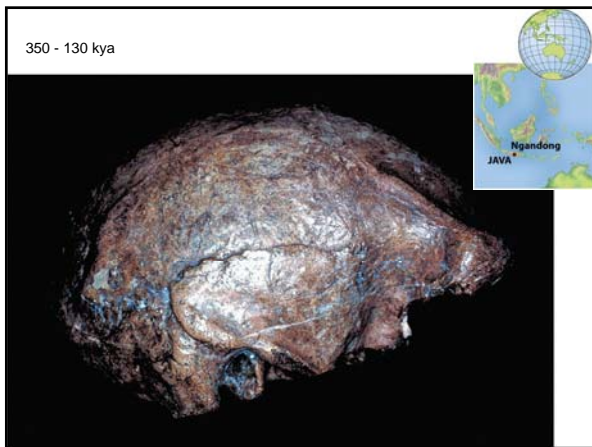
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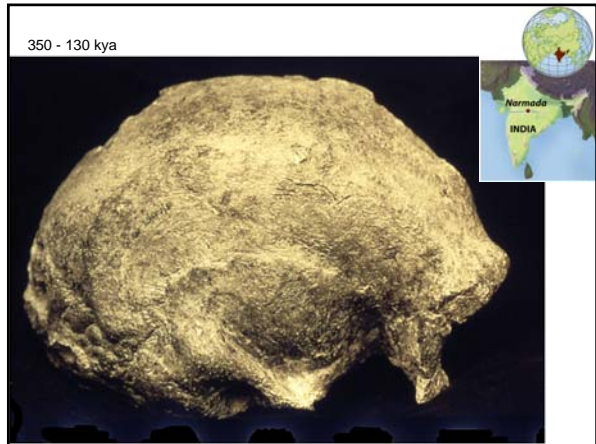
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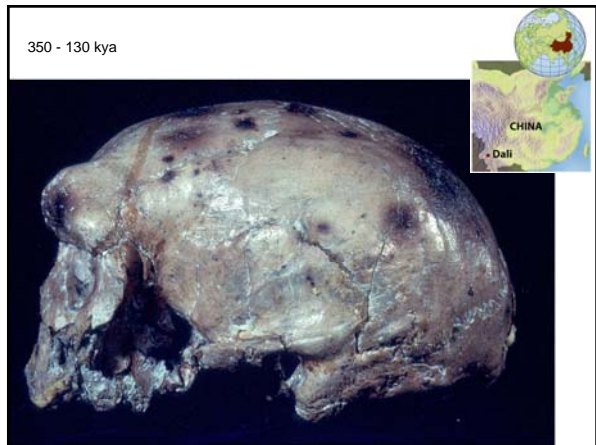
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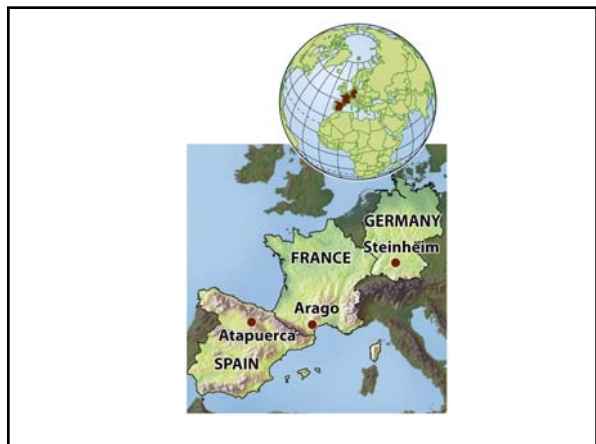
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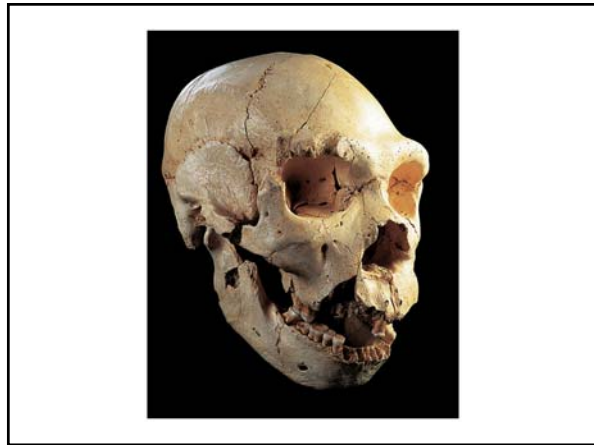
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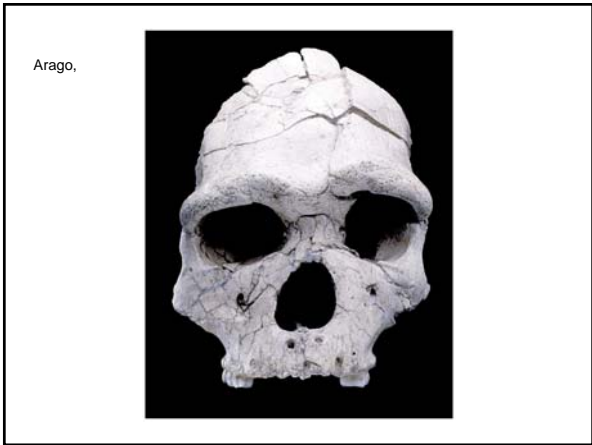
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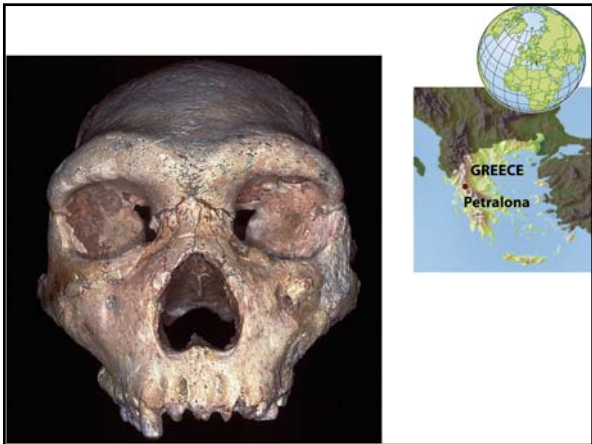
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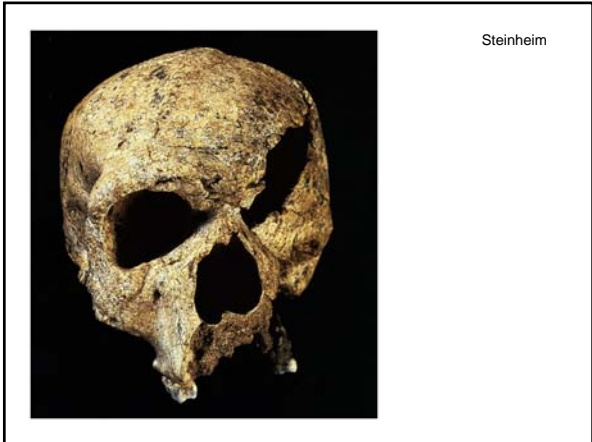
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins?

- b. Late Archaic *Homo sapiens*
  - i. Late Archaic *Homo sapiens* in Asia (60,000–40,000 yBP)
    - 1) Neandertals found in Amud, Kebara, and Tabun
    - 2) Shanidar site best known; several individuals with interesting life histories seen in their skeletons
  - ii. Late Archaic *Homo sapiens* in Europe (130,000–24,000 yBP)
    - 1) Krapina Neandertals, Vindija
      - a) Cannibalism




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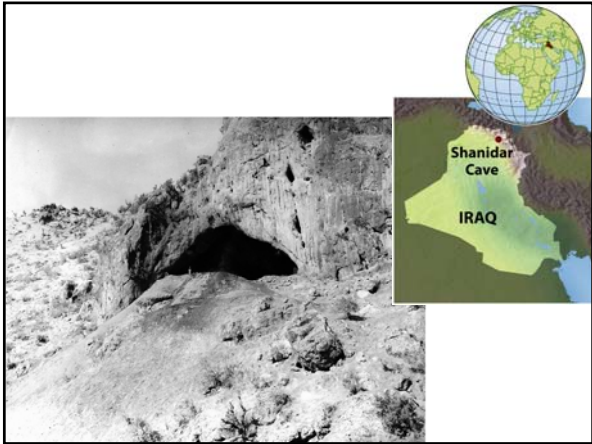
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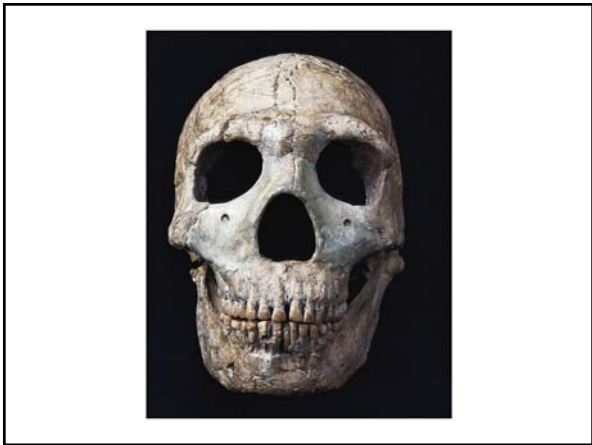
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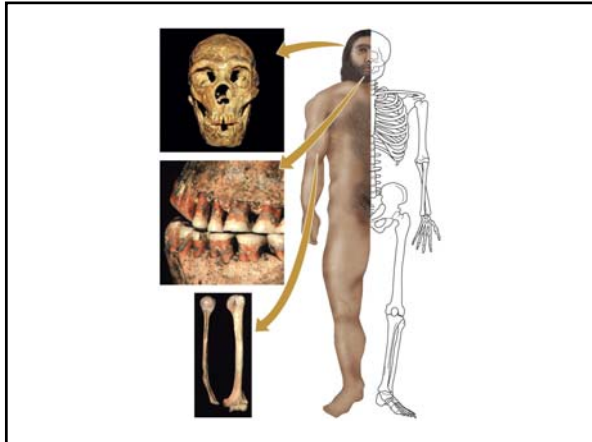
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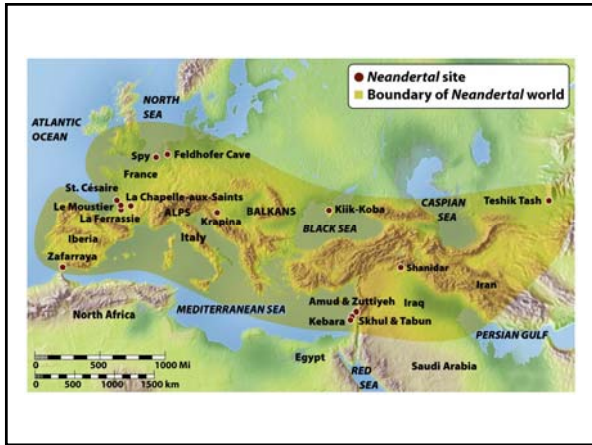
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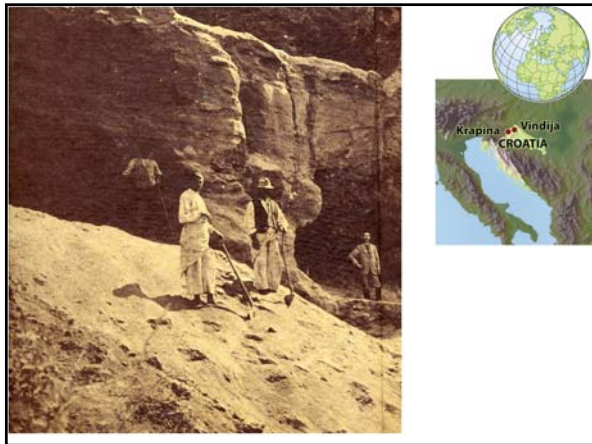
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins? (cont'd)

b. Late Archaic *Homo sapiens* (cont'd)

iii. The Neandertal Body Plan: Aberrant or Adapted?

1) La Chapelle-aux-Saints studied first by Boule

a) Boule influenced thinking about the Neandertals

b) Thought Neandertals had bent-kneed gait

c) Thought Neandertals were primitive and stupid

2) Cold adaptation of Neandertals

a) Large nasal aperture

b) Large infraorbital foramina

c) Stocky build, short limbs

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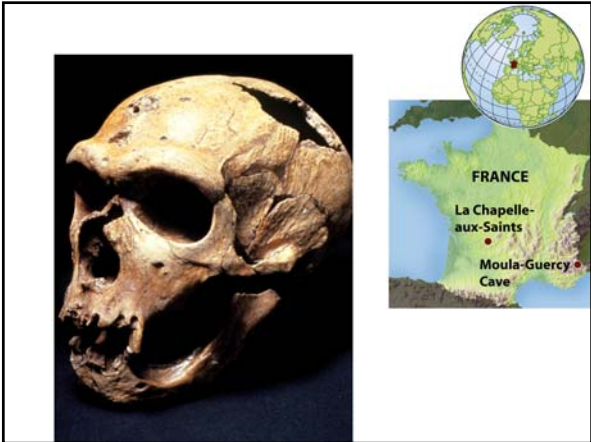
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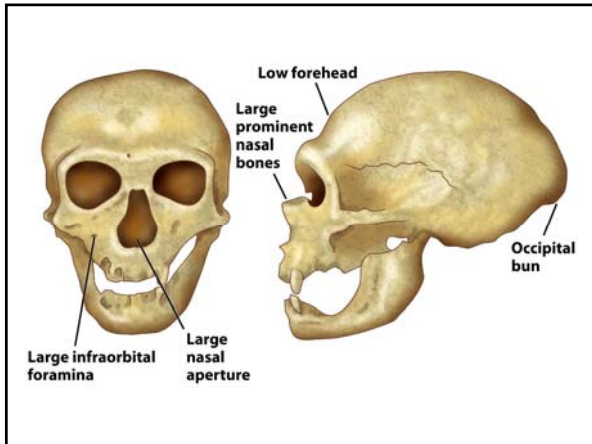
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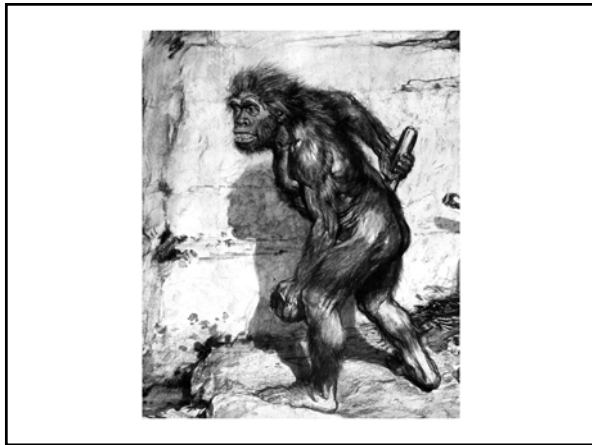
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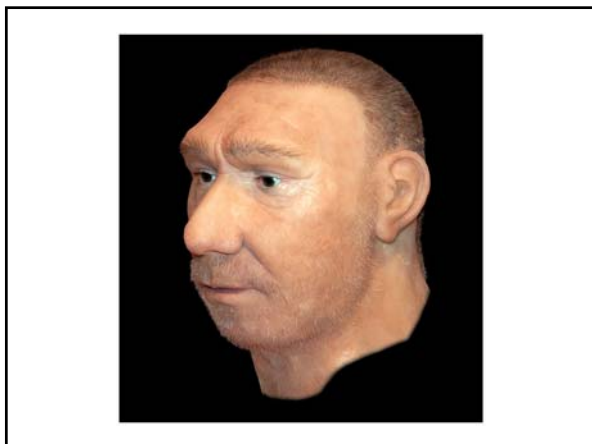
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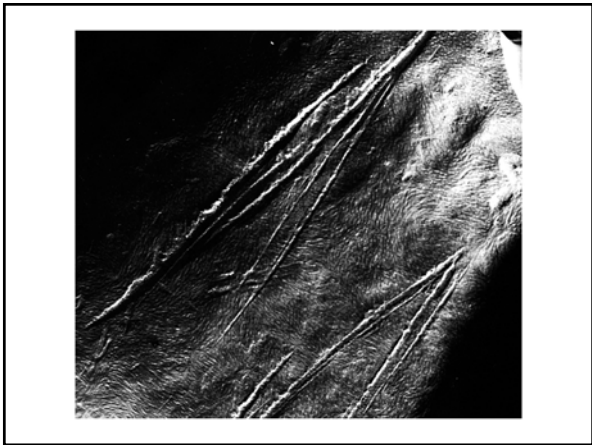
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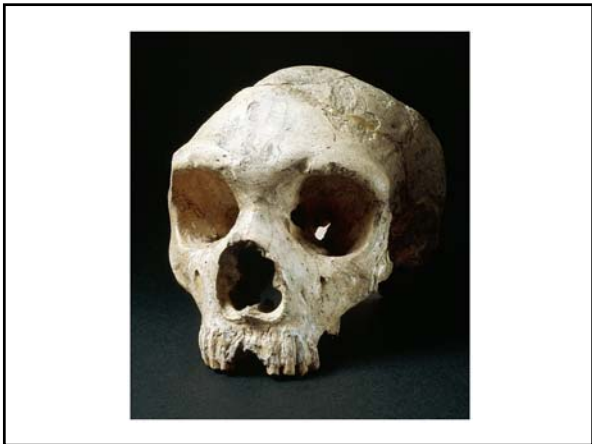
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins? (cont'd)

- b. Late Archaic *Homo sapiens* (cont'd)
  - iv. Neanderthal Hunting: Inefficient or Successful?
    - 1) Established Mousterian tool tradition
    - 2) Butchered animal bones found
    - 3) Animals processed for food
    - 4) Chemical evidence indicates importance of meat in diet.
  - v. Neanderthals Buried Their Dead
    - 1) European, western Asian sites indicate burial; others do not.
    - 2) Spy, La Chapelle-aux-Saints, Amud, Tabun, also individuals from Shanidar

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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins? (Late Archaic *Homo sapiens* Neanderthals Talked)

- 1) Some argue Neanderthals could not produce range of sound necessary for language.
- 2) Kebara hyoid bone suggests that Neanderthals could talk.

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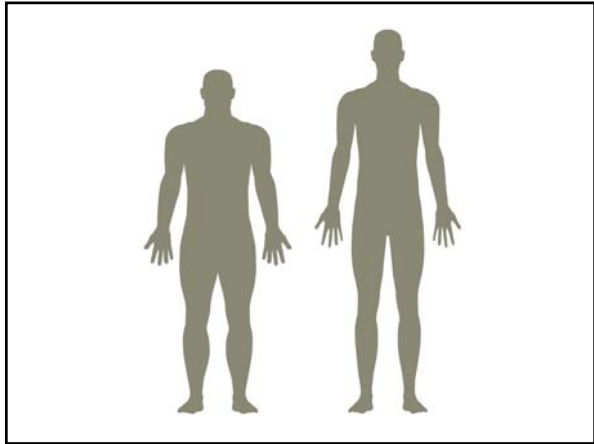
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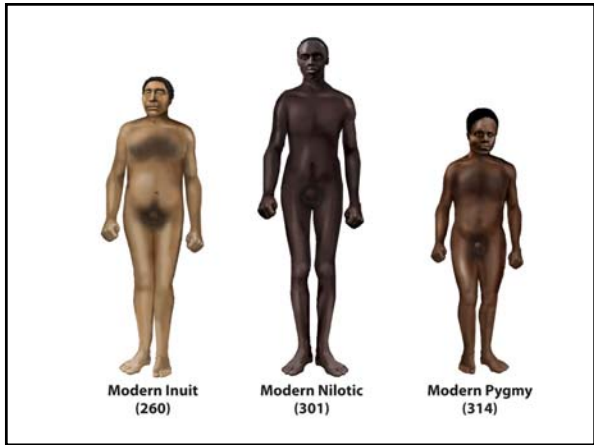
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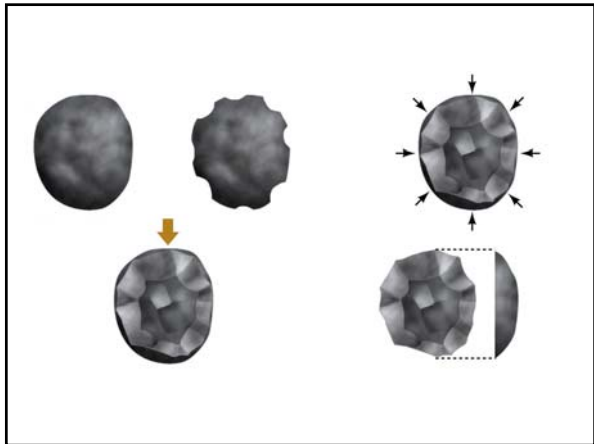
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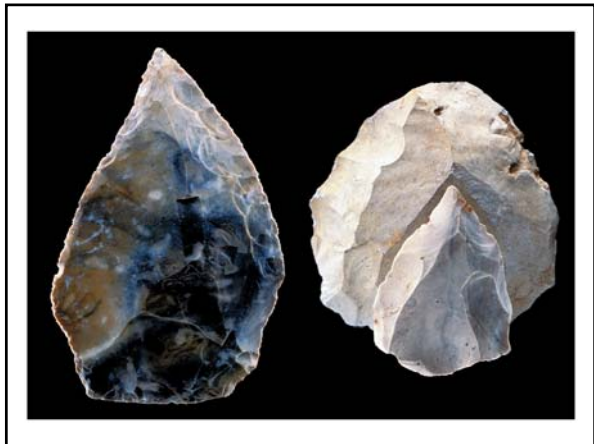
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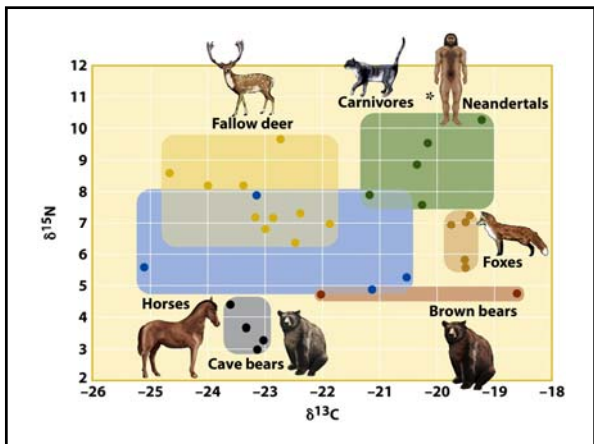
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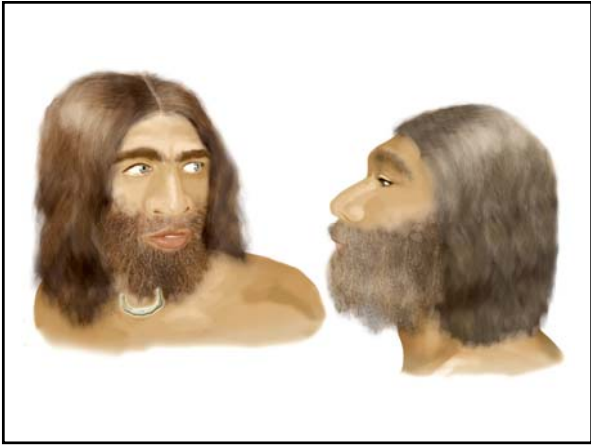
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins? (cont'd)

c. Early Modern *Homo sapiens*

- i. Early Modern *Homo sapiens* in Africa (200,000–6,000 yBP)
  - 1) Herto, Aduma, Awash Valley, Omo
- ii. Klasies River Mouth Cave, Hofmeyr
- iii. Early Modern *Homo sapiens* in Asia (90,000–18,000 yBP)
  - 1) Skhul, Tianyuan Cave, Zhoukoudian
- iv. Early Modern *Homo sapiens* in Europe (35,000–15,000 yBP)
  - 1) Oase, Predmostí, Dolni Vestniece

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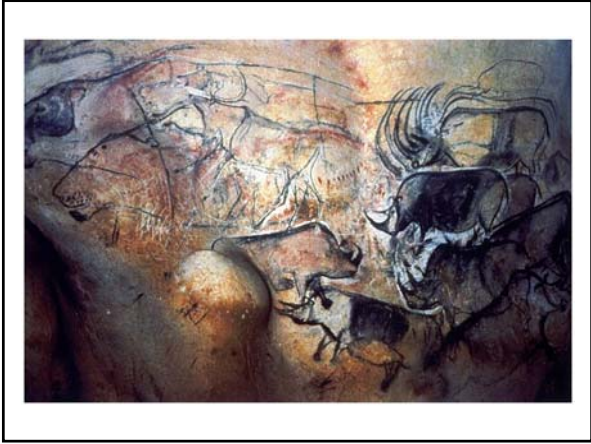
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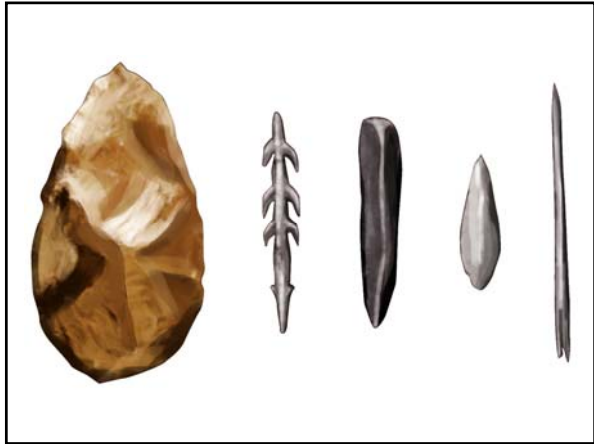
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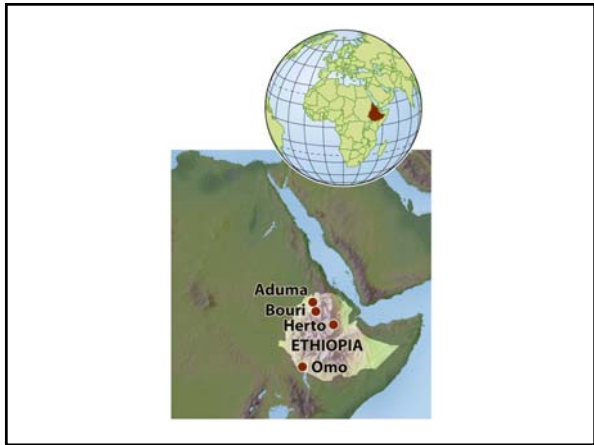
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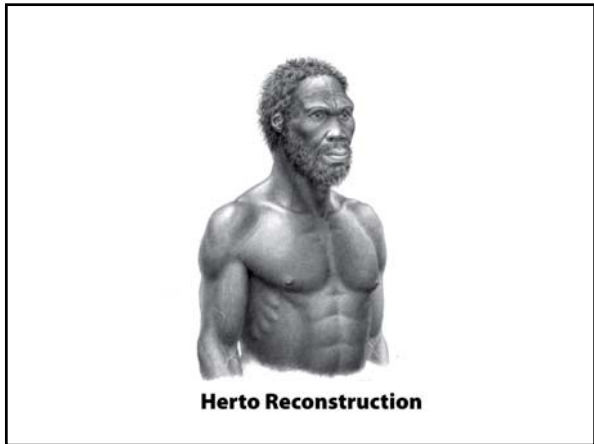
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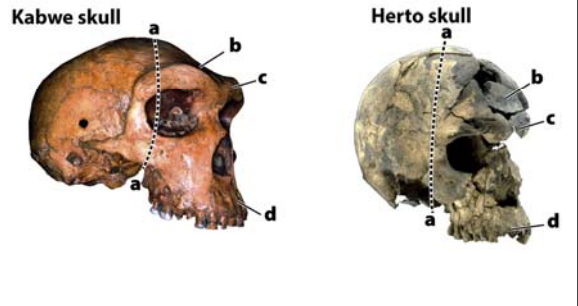
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**Biology:**  
**Anatomy of the first modern humans**



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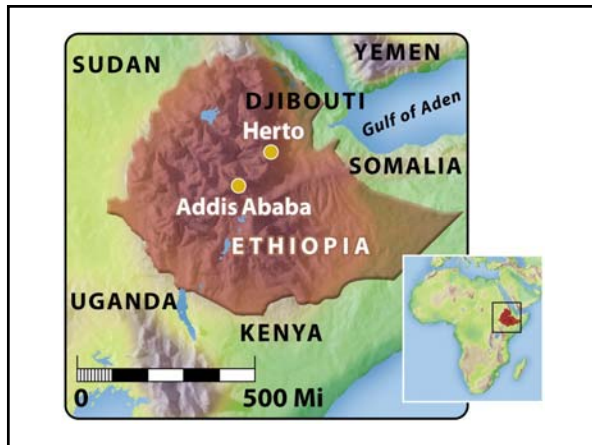
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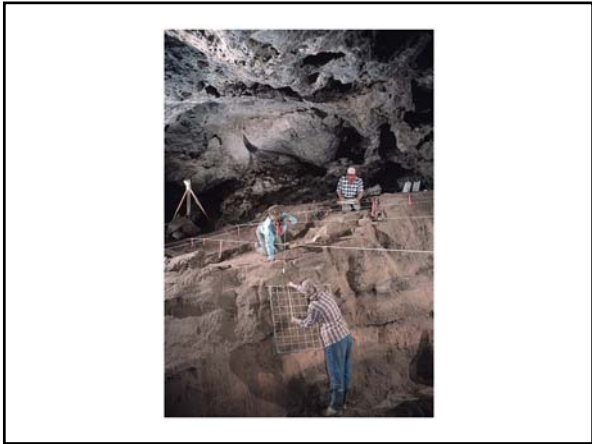
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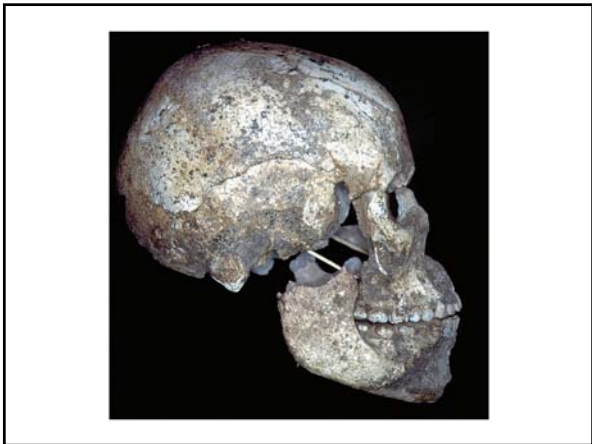
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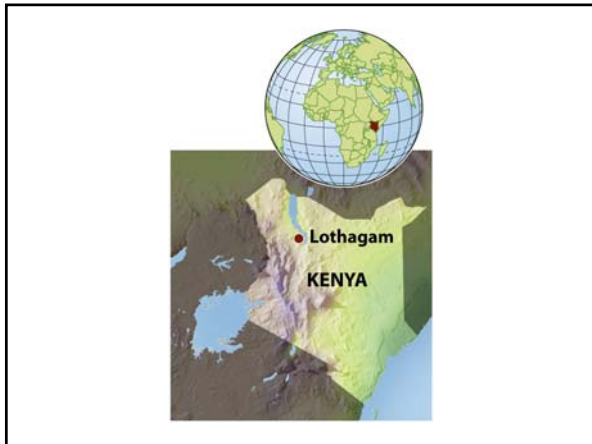
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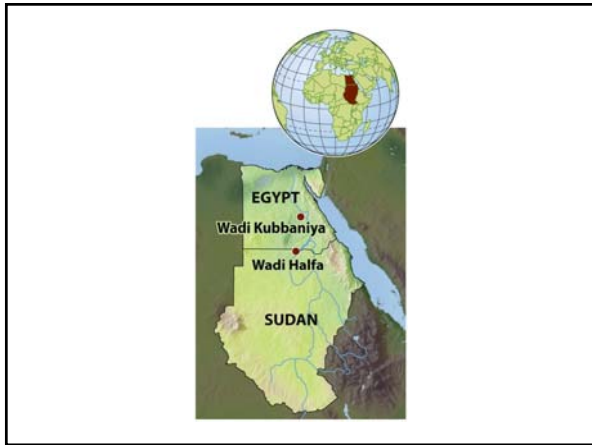
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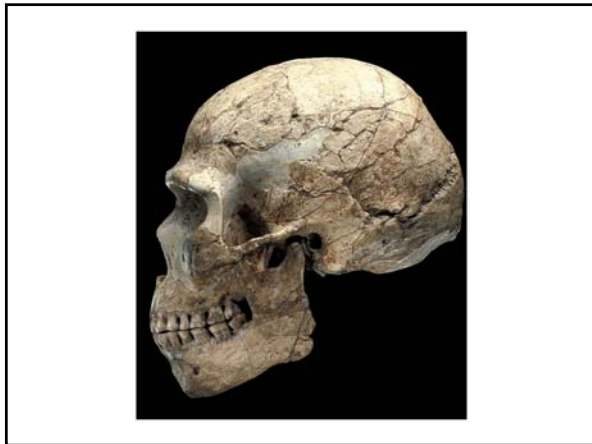
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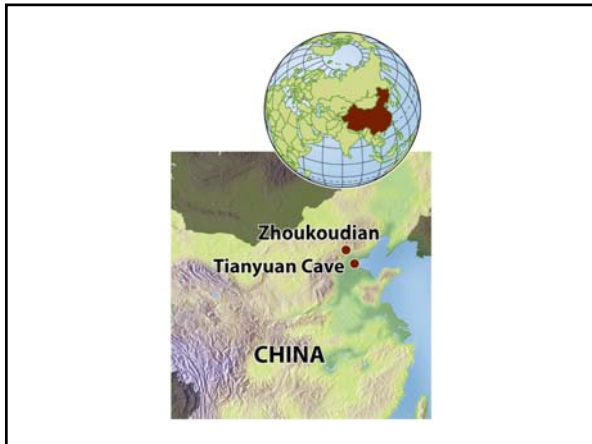
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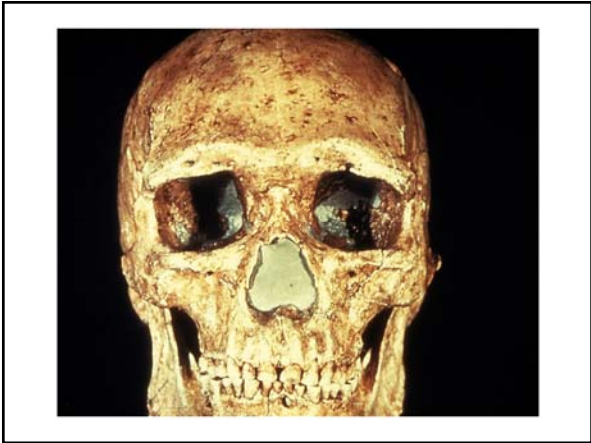
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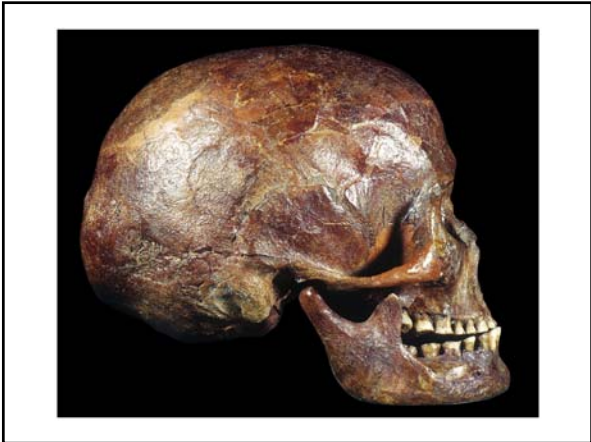
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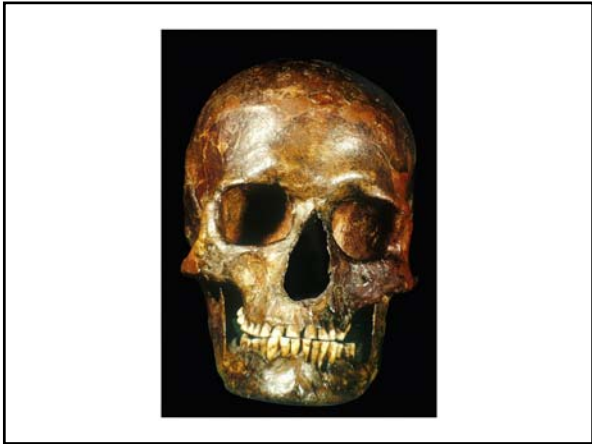
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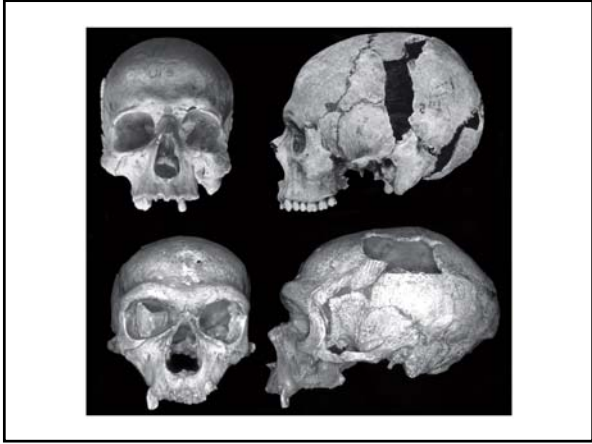
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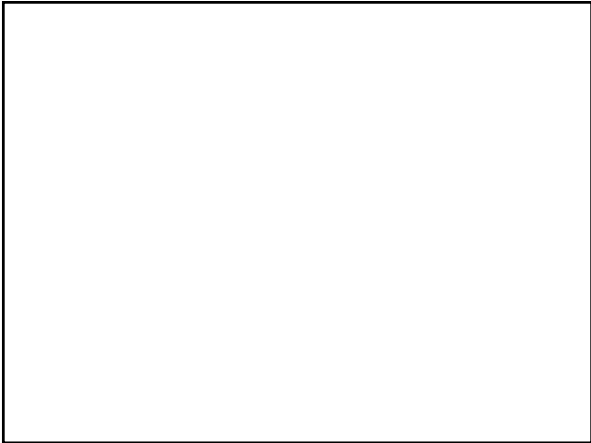
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3. What Do *Homo sapiens* Fossils Tell Us about Modern Human Origins?

Modern Behavioral and Cultural Transitions Happened First in Africa

- i. Painting, hunting, fishing, tool production, jewelry
- ii. Once thought these originated in Europe
- iii. At Katanda (Africa) catfish remains found from as early as 75,000 yBP

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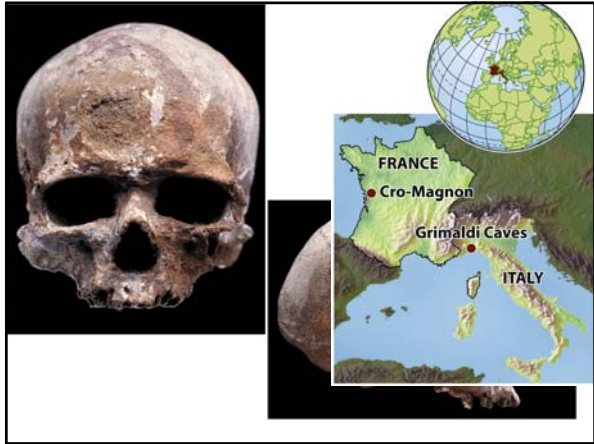
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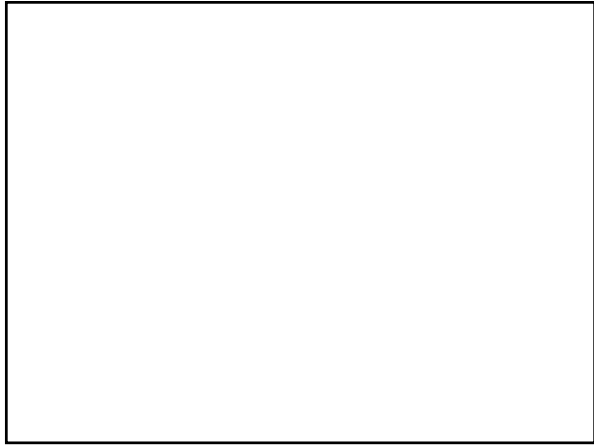
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4. How Has the Biological Variation in Fossil *Homo sapiens* Been Interpreted?

- a. Ancient DNA: Interbreeding between Neandertals and Early Modern People?
  - i. Overlap in dates between *Homo sapiens* and Neandertals suggests coexistence, interbreeding.
  - ii. Supports "out of Africa" model
- b. Living People's Genetic Record: Settling the Debate on Modern Humans' Origins
  - i. Neandertals and early modern people
    - 1) mtDNA shows similarity between Neandertals and dissimilarity with modern humans.
    - 2) Lack of samples, time depth leading challenges to DNA analysis and interpretation.

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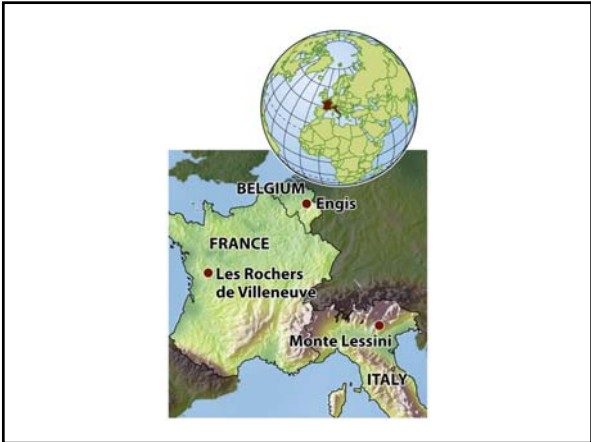
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4. How Has the Biological Variation in Fossil *Homo sapiens* Been Interpreted?

b. Living People's Genetic Record: Settling the Debate on Modern Humans' Origins (cont'd)

ii. Genetic Records

- 1) Rebecca Cann and colleagues found sub-Saharan populations more genetically diverse than other populations.
- 2) Two possible explanations
  - a) Populations have been in existence longer, so have more genetic mutations.
  - b) Large population sizes influence genetic diversity, where larger populations have more diversity than smaller populations.

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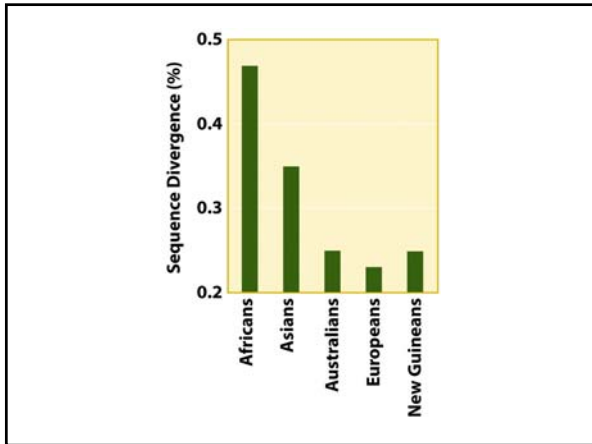
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## Chapter 11

5. Assimilation Model for Modern Human Variation: Neandertals Are Still with Us
- Discordance in the fossil and genetic record suggests that current models do not adequately explain modern human origins.
  - Neandertals contributed to modern gene pool in Europe and Asia.

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6. Modern Humans' Other Migrations: Colonization of Australia, the Pacific, and the Americas
- Initial spread of population out of Africa, into Asia and Europe
  - Spread to other parts of the world
  - Down Under and Beyond: The Australian and Pacific Migrations
    - Australia
      - Lake Mungo, 40,000 yBP
      - Similarities with *Homo erectus*
    - Pacific
      - Southeast Asia point of origin
      - "Hobbit" man discovered in 2003
  - Arrival in America: The First Americans
    - Physical evidence, DNA links Native Americans to East Asian populations.
    - Anatomical differences from recent Native Americans

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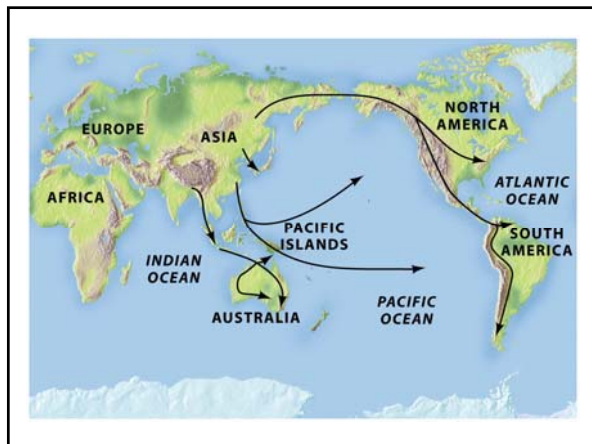
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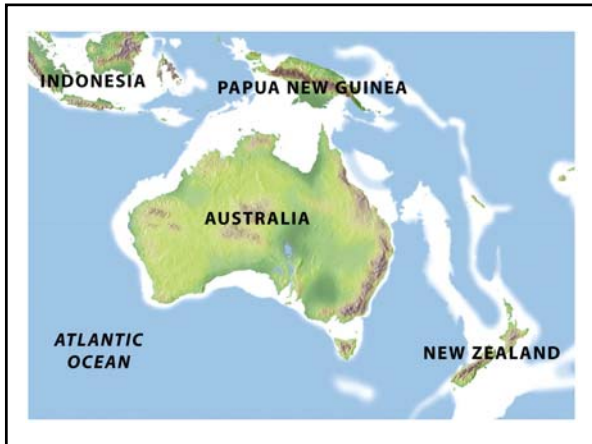
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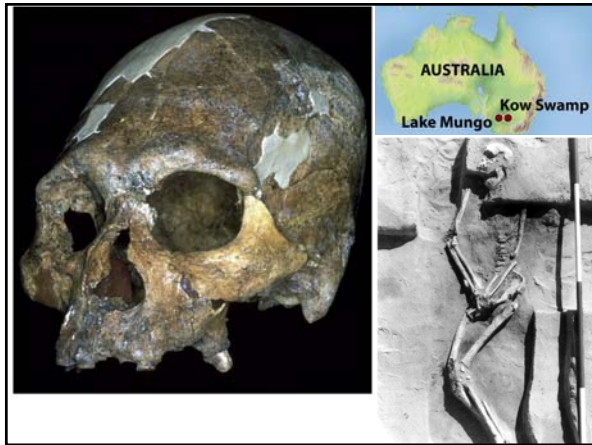
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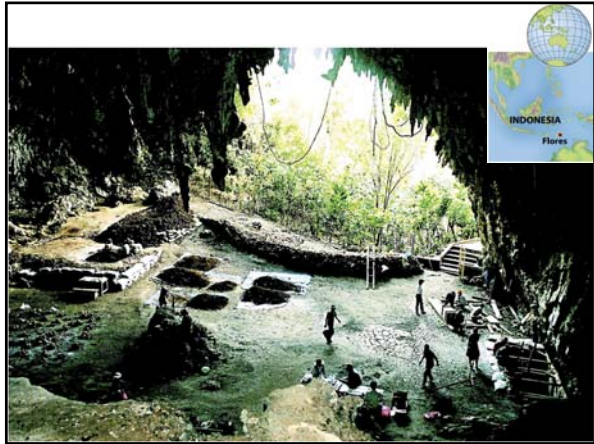
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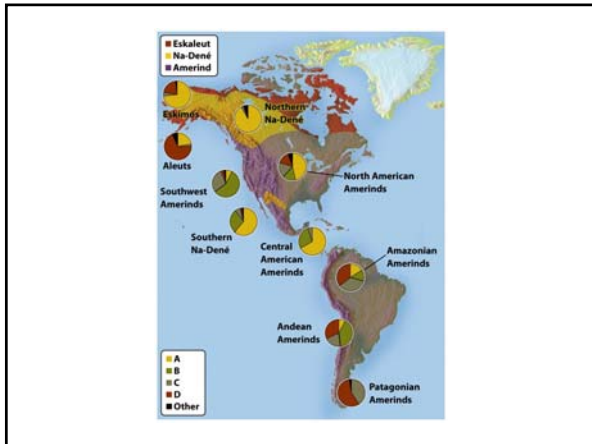
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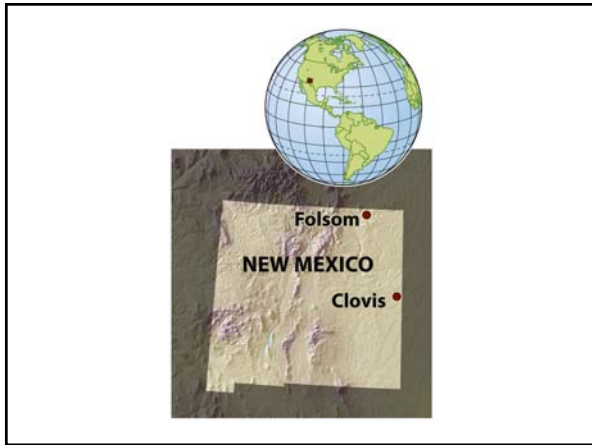
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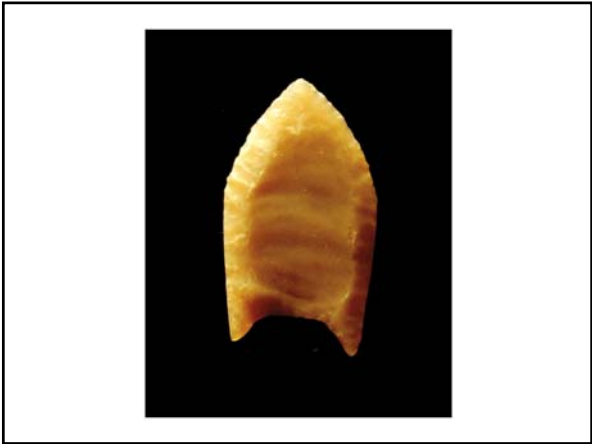


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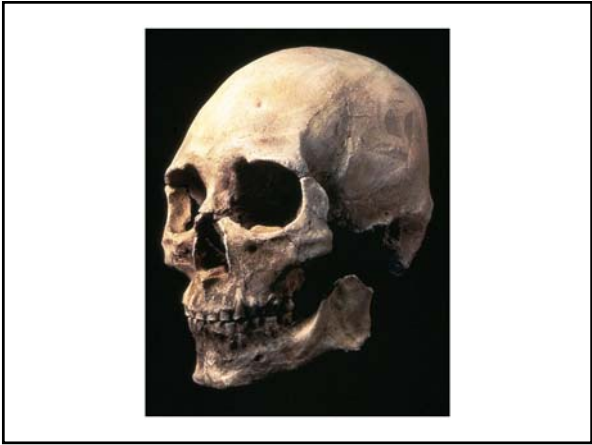
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**Our Origins StudySpace**

- Quizzes
- Ebook Links
- Outlines
- FlashCards

**Google Earth AnthroTours**

[www.wnorton.com/college/anthro/our\\_origins](http://www.wnorton.com/college/anthro/our_origins)

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Norton Media Library  
Independent and Employee Owned

This concludes the Norton Media Library  
Slide Set for Chapter 11

**Our Origins**  
**Discovering Physical Anthropology**

by  
Clark Spencer Larsen

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**Dolni Vestonice**



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**Atapuerca**



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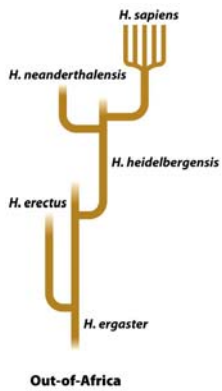
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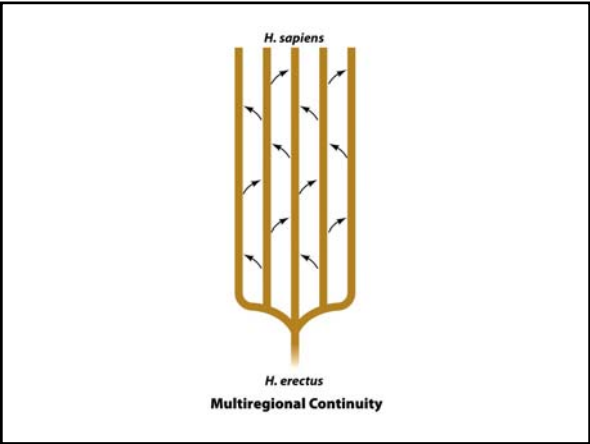
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