

Lectures 16 - 17: Key terms, concepts and questions to ponder

You should become familiar with the following terms, concepts, people and places from your readings in Campbell *et al.* and the reader for these two lectures. You should also give some consideration to the problems and issues mooted in the "To Ponder" section.

Vocabulary*Homo ergaster*

Nariokotome (KNM-WT-15000)

Dmanisi (Georgia)

KNM-ER-1808

hypervitaminosis A

*Homo erectus**Pithecanthropus*

Trinil

Ngandong

Sinanthropus

Zhoukoudian (Choukoutien)

taurodontism

Homo antecessor

Atapuerca

Lower Palaeolithic / Early Stone Age (Mode 1 and 2 technologies)

Acheulian Industrial Complex

Olorgesailie

bifaces

Kilombe

handaxes

Terra Amata

cleavers

Berekhat Ram

Schöningen

Homo floresiensis

Chopper/Chopping Tool Tradition

"Movius line"

soft hammer percussion

levallois core technique (prepared core technique)

To Ponder

-) Provide short answers for the "Review Questions" in Chapters 10 - 13 of Campbell *et al.*
-) What sort of factors, physical and/or cultural were probably involved with the expansion of *Homo erectus* (*ergaster*) from tropical African regions to the rest of Eurasia?

-) Did *Homo erectus* apparently stagnate with regard to material culture, as Campbell *et al.* suggest (p.308, #2).
-) Are there strong reasons for arguing that hunting, the development of male and female roles and home bases first evolved with *Homo erectus*, as opposed to with earlier forms of *Homo*, like *habilis* or *rudolfensis*?
-) How would we recognize evidence of intraspecific violence among early hominids?
-) How much may the vagaries of archaeological preservation of organic materials have influenced our perception of the cultural capabilities of *Homo erectus*?

Lectures 16 - 17: *Homo ergaster*, *erectus* and slowly emerging modern human behaviors - additional notes

More skulls of *Homo ergaster* from Dmanisi

Vekua, A., D. Lordkipanidze, G.P. Rightmire, J. Agusti, R. Ferring, G. Maisuradze, A. Mouskhelishvili, M. Nioradze, M. Ponce de Leon, M. Tappen, M. Tvalchrelidze, and C. Zollikofer.
2002 A New Skull of Early *Homo* from Dmanisi, Georgia. *Science* 297:85-89. (5 JULY 2002)

Abstract: Another hominid skull has been recovered at Dmanisi (Republic of Georgia) from the same strata in which hominid remains have been reported previously. The Dmanisi site dated to ca. 1.75 million years ago has now produced craniofacial portions of several hominid individuals, along with many well-preserved animal fossils and quantities of stone artifacts. Although there are certain anatomical differences among the Dmanisi specimens, the hominids do not clearly represent more than one taxon. We assign the new skull provisionally to *Homo erectus* (= *ergaster*). The Dmanisi specimens are the most primitive and small-brained fossils to be grouped with this species or any taxon linked unequivocally with genus *Homo* and also the ones most similar to the presumed *habilis*-like stem. We suggest that the ancestors of the Dmanisi population dispersed from Africa before the emergence of humans identified broadly with the *H. erectus* grade.

Lordkipanidze, D., A. Vekua, R. Ferring, G.P. Rightmire, J. Agusti, G. Kiladze, A. Mouskhelishvili, M. Nioradze, M. Ponce de Leon, M. Tappen and C. Zollikofer.
2005 Anthropology: The earliest toothless hominin skull.
Nature 434, 717 - 718 (07 April 2005)

Abstract: The site of Dmanisi in the Eurasian republic of Georgia has yielded striking hominin, faunal and archaeological material as evidence for the presence of early *Homo* outside Africa 1.77 million years ago, documenting an important episode in human evolution. Here we describe a beautifully preserved skull and jawbone from a Dmanisi hominin of this period who had lost all but one tooth several years before death. This specimen not only represents the earliest case of severe masticatory impairment in the hominin fossil record to be discovered so far, but also raises questions about alternative subsistence strategies in early *Homo*.

An offspring of *Homo erectus* ?

Brown, P., T. Sutikna, M. J. Morwood, R. P. Soejono, Jatmiko, E. Wayhu Saptomo & Rokus Awe Due
2004 A new small-bodied hominin from the Late Pleistocene of Flores, Indonesia.
Nature 431:1055-61.

Abstract: Currently, it is widely accepted that only one hominin genus, *Homo*, was present in Pleistocene Asia, represented by two species, *Homo erectus* and *Homo sapiens*. Both species are characterized by greater brain size, increased body height and smaller teeth relative to Pliocene *Australopithecus* in Africa. Here we report the discovery, from the Late Pleistocene of Flores, Indonesia, of an adult hominin with stature and endocranial volume approximating 1m and 380 cm³, respectively—equal to the smallest-known australopithecines. The combination of primitive and derived features assigns this hominin to a new species, *Homo floresiensis*. The most likely explanation for its existence on Flores is long-term isolation, with subsequent endemic dwarfing, of an ancestral *H. erectus* population. Importantly, *H. floresiensis* shows that the genus *Homo* is morphologically more varied and flexible in its adaptive responses than previously thought.