

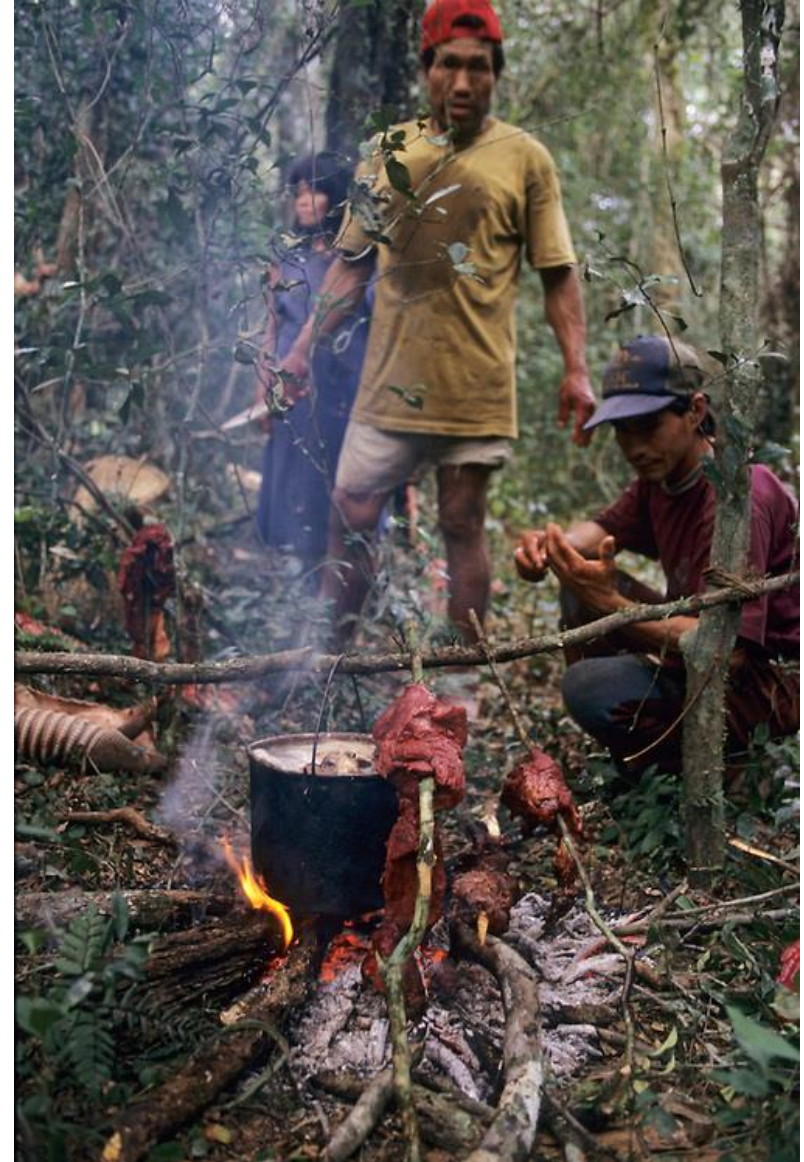
Human Evolution

Development of the Homo lineage: *Homo erectus* in Africa, Europe and Asia: hunting, tool development and archaeological record

Next week non-human primates HG
theories

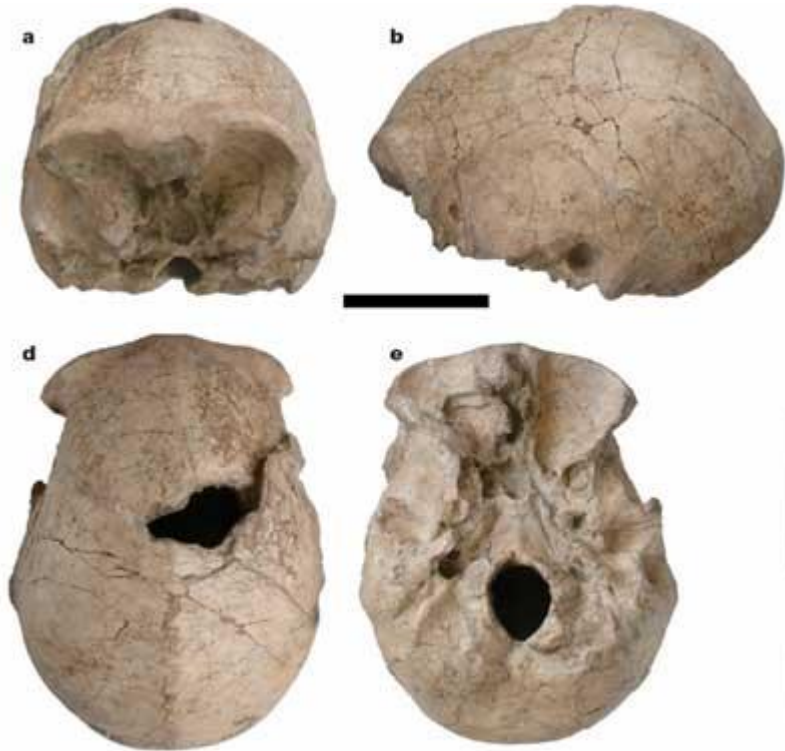
Overview

- Introduce *Homo erectus*
- New tools – new tool debates
- Hunting behaviour – Africa, Europe and Asia
- Adoption of hunting – biological drivers
- Hunter-Gatherer models
 - Modern H-G-F groups
 - Non-human primates

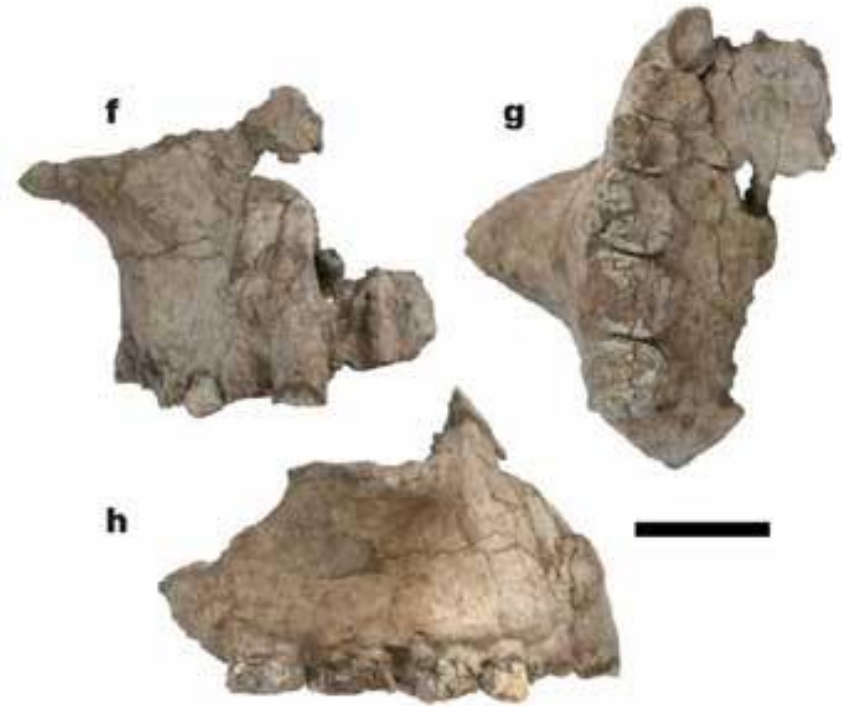


Where does *Homo erectus* come from?

Did *Homo erectus* evolve from *Homo habilis*?



KNM-ER 42700, dated to 1.55 million years ago it is older than *Homo habilis*. This is *Homo erectus*



KNM-ER 42703, dated to 1.44 million years ago over 100,000 years more recent than the KNM-ER 42700. This specimen has been identified as *Homo habilis*.

Homo erectus variability

- *Homo erectus* (*senso stricto*) in Asia
- *Homo ergaster* in Africa

BUT it is okay to call them ALL *Homo erectus*....Fewer species, better preserved fossil and archaeological records, major problems with dating/chronology



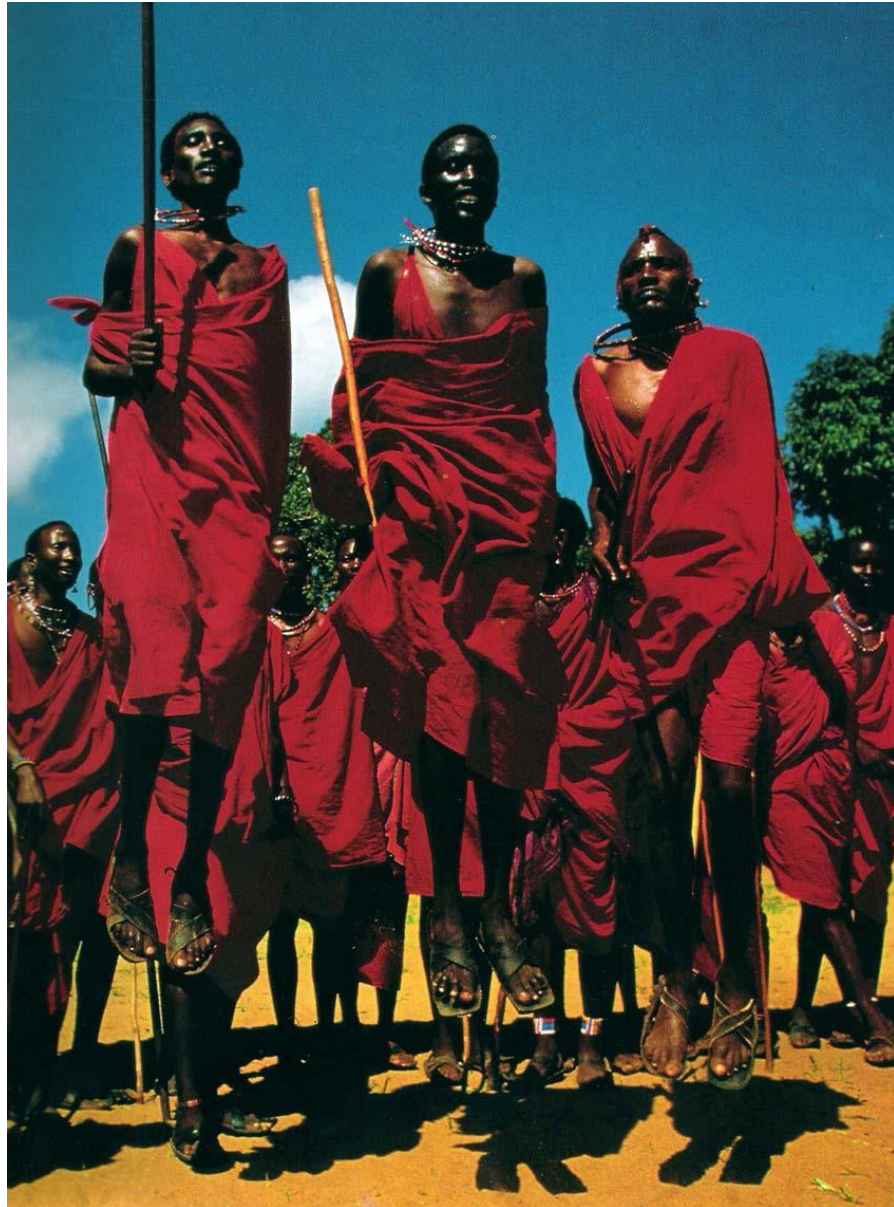
Large skulls, ca. 800 cc, short flat face,
smaller dental arch, low, long skull shape.
Classic features are the flattening to the back
of the skull and prominent eyebrows



Turkana Boy

- 1.6 mya
- 1.68 m (5'6") tall
- 8 years old
- Ruggedly built but modern looking
- 900 cranial capacity

Turkana Boy and Masai





Oldowan stone tools, appear and become increasingly 'worked' over the surface of the tool. This is known as the Developed Oldowan
Note the lack of uniformity of shape



This stone tools, known as the Acheulean (after type site St Acheul in France, are found from around 1.6 million years ago to around 250,000 years ago
Note the uniformity of shape.



Olorgesailie, Rift Valley
in Kenya





Acheulean stone tools, the main tool kit associated with *H. erectus*. They can be up to 2.5 kilos to carry – here a long one.....



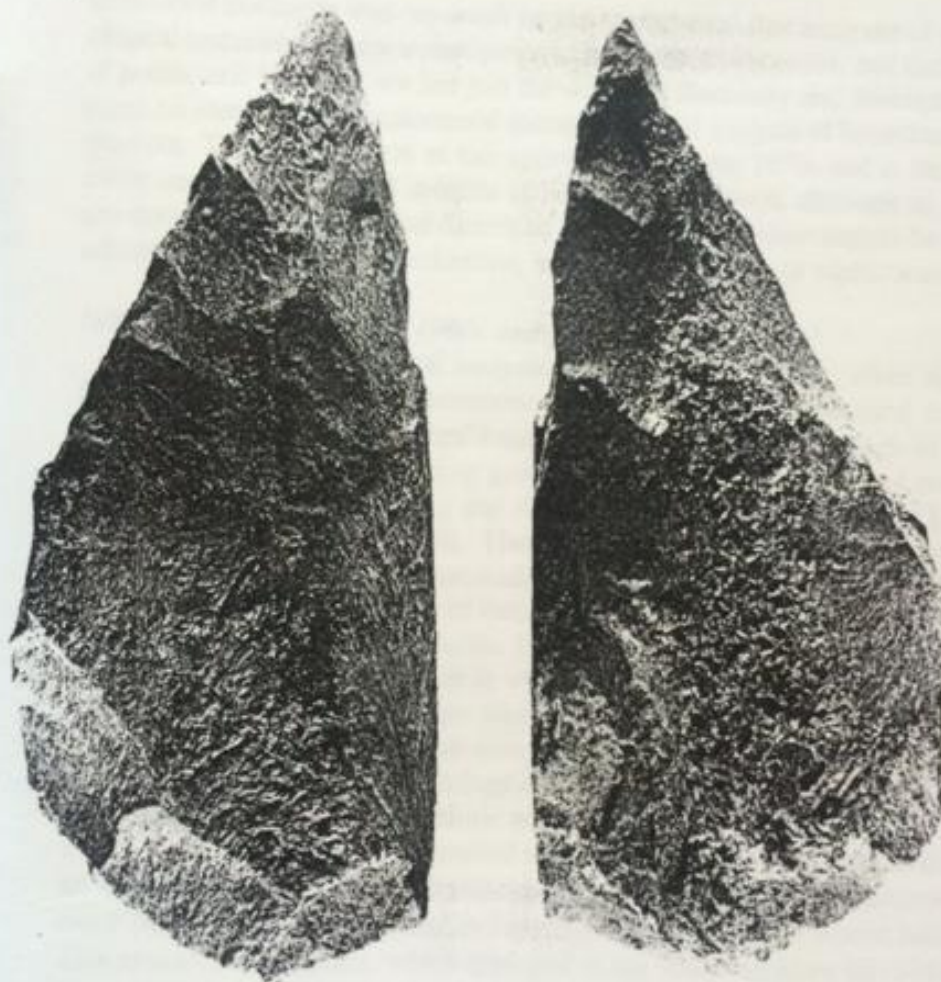


Figure 2. Biface on Elephant Bone from Castel di Guido

Length = 18.7 cm, width = 8.2 cm, and thickness = 5.6 cm. Courtesy of A.M. Radmilli, director of excavations.



Size is important; we just don't know why in their case

Four giant stone hand axes – dating to Middle and Late Stone Age periods, between 150,000 and 10,000 years ago. were recovered from the dry basin of Lake Makgadikgadi in the Kalahari Desert.

(Credit: Image courtesy of University of Oxford)

<http://www.sciencedaily.com/releases/2009/09/090911134624.htm>



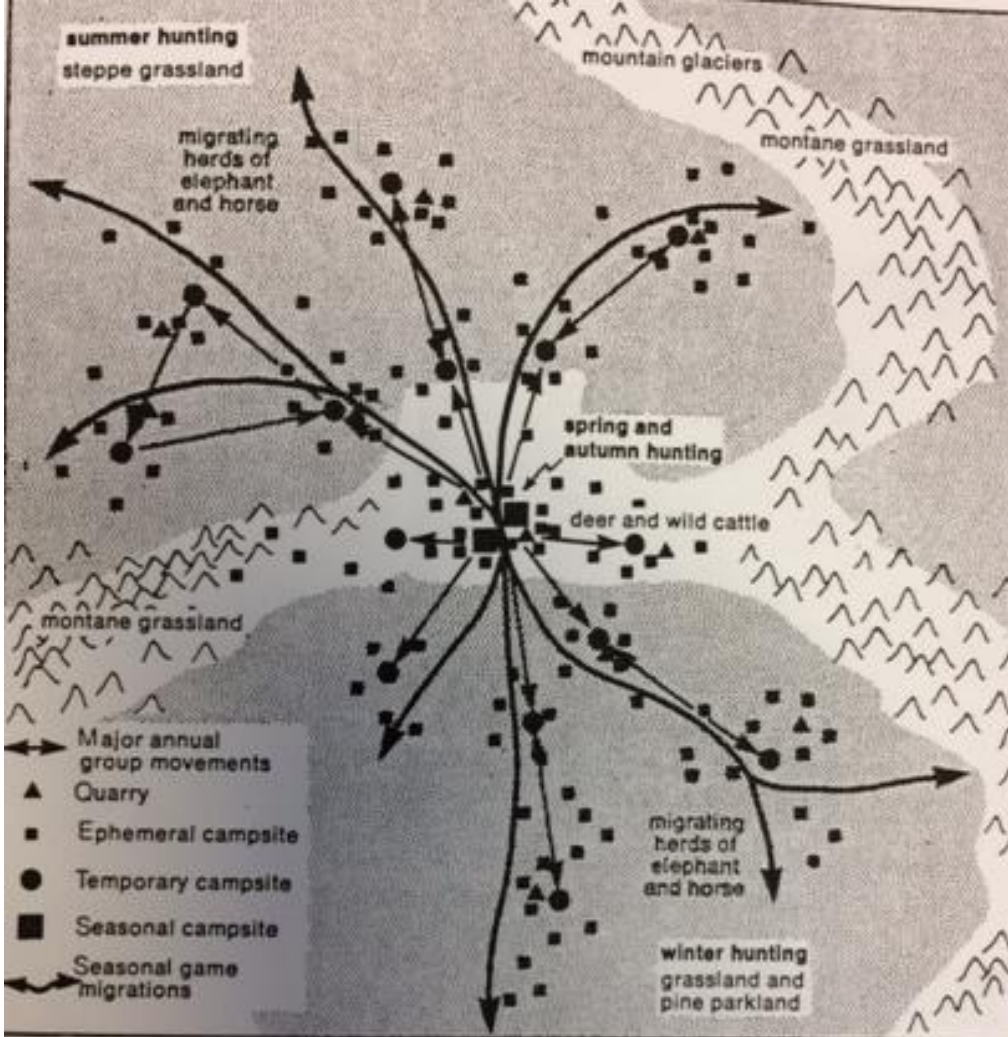
Site of Peking Man's cave home



The Chinese fossils come from a series of caves, the most famous of which is Zoukoudinan (ZKD)



Around 51 individuals identified at ZKD – traditional interpretation saw them as the hunters but see Binford and Binford, may have been the diner rather than the dinner



Big game hunting

- Torralba and Ambrona, NW Spain
- Seasonal hunting with the herds
- Elephant, horse, deer, wild cattle
- Dots and spots show seasonal campsites





Mammoths de Berezovka, Zdenek Burian, 1961,
encres sur carton, 42,5 x 31 cm.



Dépeçage d'un mammouth, Zdenek Burian, 1961,
encres sur carton, 44 x 32,5 cm.

Site of Boxgrove, nr Chichester, West Sussex

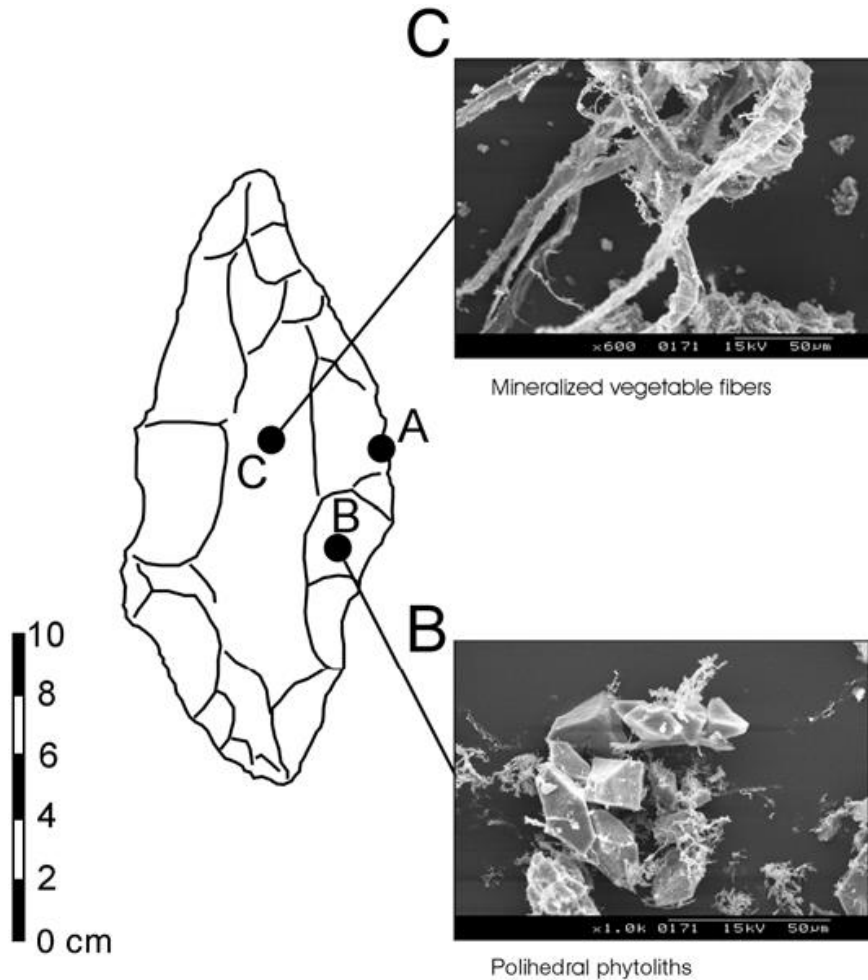


View of the site with animal bones, stone tools, raw material to make the tools and a hominid in the fine grained Slindon Sands



Butchers of Boxgrove: reconstruction of the butchery of the large fauna, in this case Rhinoceros of which four were recorded at the site along with an abundance of stone tools and a carnivore damaged hominid tibia!

Tools not all for meat....



Woodworking activities by early humans:
A plant residue analysis on Acheulian stone
tools from Peninj, (Tanzania)

Dominguez-Rodrigo *et al.* (2001)

Residue analysis (plant fibres, phytoliths),
polish on the stone

Use wear analysis suggests wood (as
opposed to other plant materials).

Wood of this age (1.5 m.y.) does not survive

Main difference – raw material, type, size etc.



Trading places



Patten, R. 1993, Speaking through stones, a study from northern Australia *World Archaeology* 26:172-84