

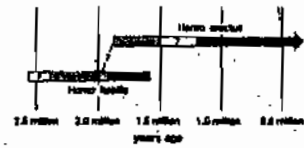
Homo ergaster/Homo erectus

Homo ergaster 1.8-1.5 mya (so far only in East Africa)

Homo erectus 1.2-0.2 mya (Africa, Asia, and Europe)

Evolutionary trends: *H. habilis*

History of Discovery



Eugene Dubois (1858-1940)

1891-92 Trinil, Java (calvarium and femur)

"*Pithecanthropus erectus*"



von Koenigswald 1930's (Mojokerto and Sangiran, Java)

Geological Survey of China

J. Gunnar Anderson

"dragon bones"

Zhoukoudian (460,000- 230,000 ya)

Davidson Black

"*Sinanthropus pekinensis*"

Pei Wenshong

Franz Weidenreich



Lantian County, Shensi Province (1.2 mya- 650,000 ya)

Olduvai Gorge (OH9)

Nariokotome (WT 15000) W. Turkana 1.6 mya

East Turkana: ER 3733 1.8 mya

Dmanisi, Republic of Georgia 1.7 mya

Atapuerca, Boxgoove, Salé

Anatomy

bipedal

thick bones

stature

large supraorbital tori

postorbital constriction

prognathic faces

platycranic

angled occiput

hint of sagittal keeling

chinless

750 - 1250 cc (900 cc)

teeth smaller than australopithecines



Human Culture

Acheulean Tradition

hand axes or bifaces

choppers, cleavers, hammers, flakes used as knives and scrapers



New subsistence patterns

Zhoukoudian Cave

Torralba and Ambrona, ne Spain

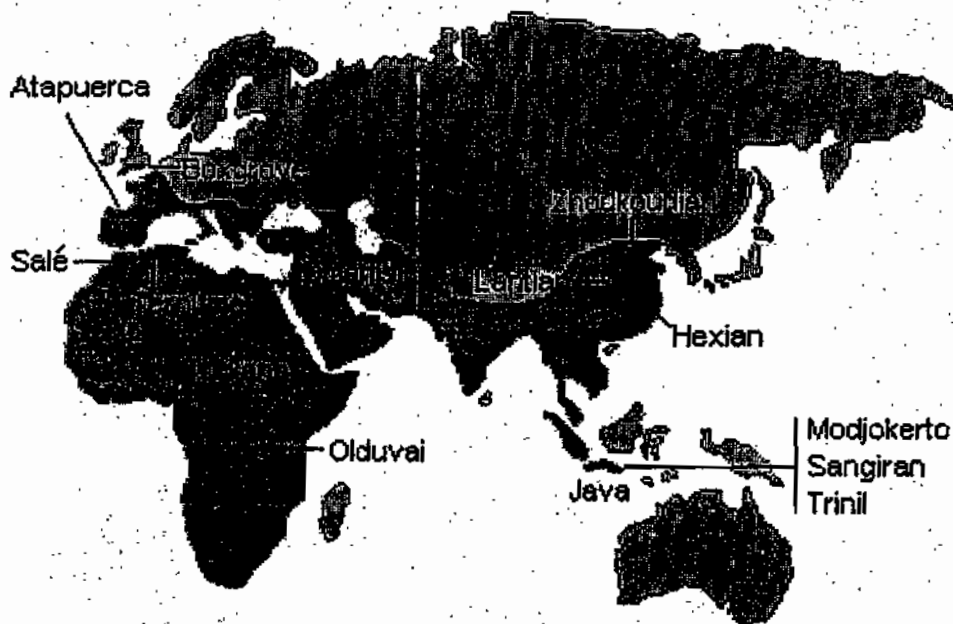
Olorgesaille, Kenya

Occupation of new environment

Important *Homo erectus* Sites

	<u>Date of Fossil (years ago)</u>	<u>Cranial Capacity (in cm.³)</u>
Africa:		
East Turkana	1,800,000+	848
Olduvai Gorge	1,400,000	1067
Ternifine	700,000	----
Salé *	400,000	900
Java:		
Modjokerto	1,800,000	----
Sangiran	1,600,000	813-1059
Trinil	700,000-500,000	----
China:		
Lantian	1,150,000-650,000	780
Zhoukoudian	460,000-230,000	850-1225
Hexian	250,000	1025
Europe:		
Dmanisi	1,500,000+	----
Atapuerca *	780,000+	----
Boxgrove *	524,000-478,000	----

* The Salé, Atapuerca, and Boxgrove fossils are considered by some researchers to be early archaic *Homo sapiens* or *Homo heidelbergensis* instead of *Homo erectus*.



Timeline for Human Evolution

This diagram shows roughly the times during which each hominid species lived. Ages are in millions of years, with each character position representing 100,000 years. This resolution is a little coarse to accurately represent the most modern species.

