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Q2(a)

## **What are the physical and cultural characteristics of Homo erectus? Discuss its phylogenetic status**

UPSC Civil Services Mains 2021 · Anthropology GS 1 · 20 marks · Homo erectus

(b) Homo erectus: Africa (Paranthropus), Europe (Homo erectus heidelbergensis), Asia (Homo erectus javanicus, Homo erectus pekinensis).

### **Core demand of the question**

- Discuss the physical and cultural characteristics of Homo erectus. Comment on its phylogenetic status
- Write about 250 words for 20 marks

### **Revision summary**

Erectus combines a keeled, torused skull with a modern body plan.

Nariokotome shows long legs and endurance walking.

**Acheulian** tools and a wide **Old World range** mark the culture.

Java and Zhoukoudian are classic Asian fossils; Africa is often called ergaster.

- **Phylogeny:** stem cosmopolitan Homo, with splitters keeping several names.

### **Introduction**

Homo erectus is the first hominin with a long-legged, large-bodied build, a thick skull, and a wide **Old World range**. Culture and anatomy travel together. Phylogeny is still argued.

### **Body**

#### **Physical characters**

- Brain size commonly 750-1100 cc, well above australopiths, below later sapiens. The vault is low, with a supraorbital torus, nuchal torus, and sagittal keeling in many Asian fossils.
- The face is prognathic but less so than habilines. Teeth are smaller than australopiths. The mandible lacks a chin.
- Postcrania, from **Nariokotome** (KNM-WT 15000) and related finds, show long legs, narrow pelvis, and endurance-walking build. Sexual dimorphism is reduced relative to robust australopiths.
- African fossils often labelled **Homo ergaster** are thinner-boned. **Java** (Trinil, Sangiran) and **Zhoukoudian** show the classic thick Asian pattern. **Dmanisi** is smaller-brained and variable.

#### **Cultural characters**

- **Acheulian** handaxes and cleavers dominate African and western Eurasian sites. East Asia often shows Mode 1 cores and flakes, the old Movius line debate.
- Controlled use of fire is argued at some caves; hearths are clearer later. Systematic hunting and scavenging of large mammals appear with the long-legged body.

- Out-of-Africa range by about 1.8 million years, from Africa to **Java** and the Caucasus, is itself a cultural-ecological fact: tools, meat, and social care of a slow-growing child.

### Phylogenetic status

- Erectus is widely treated as a chronospecies on the line toward later Homo, ancestral to **Heidelbergensis** and then sapiens and Neanderthals in many textbooks.
- Splitters keep **ergaster**, **erectus** sensu stricto, **antecessor**, and **Dmanisi** as separate. Lumpers keep one polytypic erectus.
- It is not a failed side-branch like robust australopiths. It is the first cosmopolitan Homo. Whether every Asian erectus left descendants is open.

### Flow diagram

Homo erectus -> Thick vault long legs  
Homo erectus -> Acheulian fire range  
Homo erectus -> Stem Homo  
Stem Homo -> Heidelbergensis sapiens  
Stem Homo -> Asian erectus Java

### Conclusion

Erectus is a thick-skulled, long-legged, **Acheulian**-bearing hominin of Africa and Asia. Phylogenetically it is the stem cosmopolitan Homo, whether one species or a grade.

### Facts & figures

#### Dubois

Named Pithecanthropus erectus from Trinil, Java, the type of the Asian hypodigm.

#### Nariokotome boy

A nearly complete early African skeleton showing tall, linear build.

#### Acheulian

Bifaces associated with erectus-grade hominins in Africa and western Eurasia.

#### Dmanisi

Georgian fossils showing small brains and high variation at the gates of Eurasia.