Acheulian Adaptations

What changed?

Homo: Encephalization

<table>
<thead>
<tr>
<th>Time (my)</th>
<th>Volume (cc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>750</td>
</tr>
<tr>
<td>1.0</td>
<td>850</td>
</tr>
<tr>
<td>1.5</td>
<td>1000</td>
</tr>
<tr>
<td>2.0</td>
<td>1200</td>
</tr>
<tr>
<td>2.5</td>
<td>1400</td>
</tr>
</tbody>
</table>

Out of Africa After 1.8 mya

Fire?!

Technological change

Controlled use?
Koobi Fora

Burnt patches

Bush fire

Swartkrans

J. Desmond Clark

Kalambo Falls

Kalambo Falls site

Acheulian

- No bones
- Sedimentary disturbance
- Water-logged
  - botanicals
Living floors: charred logs

Fire?
- Africa:
  - Burnt patches 1.5 mya
  - Burnt bones in caves 1.0 mya
  - Burnt logs 0.3 mya
- Eurasia:
  - Zhokoudien ???

Butchery tool?

Big game hunters?

Hunting in Europe?
- Spain: Torralba & Ambrona

Hunting in Europe?
- Spain: Torralba & Ambrona
Big Game Hunters?

Bones + stones

Boxgrove, England

Boxgrove

Spears in Germany

- SchoÃningen site
  - Water-logged
- 400,000 bp
  - 6.5 foot Wooden spears
  - 40 flake tools
  - 10,000 horse bones
  - butchered

- + Puncture wound
Terra Amata, France

- 350,000 years ago

Acheulian artifacts

- Flakes from different levels
- Living floors?

Technological change

- Oldowan
- Acheulian
- Home bases?
  - weapons
  - fire
  - Bifaces

Refitting