

Killer Apes !

Alternative hypotheses?

- Bob Brain's alternative:
 - How can bones get into caves?
 - *Images* text pp 24-26

Interpretive criteria

<ul style="list-style-type: none"> ■ Dart <ul style="list-style-type: none"> - Abundance of bones not natural - Bones deliberately modified as tools - Bones damaged by tools - Association with hominids 	<ul style="list-style-type: none"> ■ Brain <ul style="list-style-type: none"> - Bones accumulate naturally in caves - Bones broken naturally - Bones damaged by carnivores - Association: <ul style="list-style-type: none"> ✦ all are prey
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Summary

- Osteo-donto-keratic "culture" & Killer Ape hypothesis not supported
- *Australopithecus africanus* was not a mighty hunter, but more likely one of the hunted

Gona site, Ethiopia



of fine
ts
stream

Gona site, Ethiopia

- Layers of fine sediments
 - Lake & stream margins
- Earliest known site
 - Stone artifacts



First Sites in East Africa

- Stone tools
 - How do we recognize them?
- How can we date the sites?
- Next week:
 - Who made the tools?
 - What were they used for?



Why are these "artifacts"?

- Flaked by hand
 - Sharp flakes
 - Cores with several flake scars




Why are these "artifacts"?

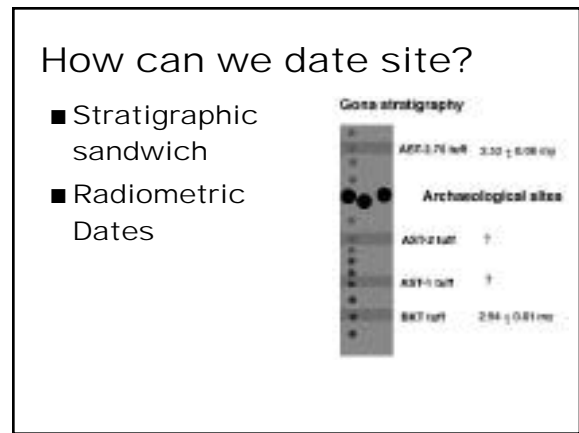
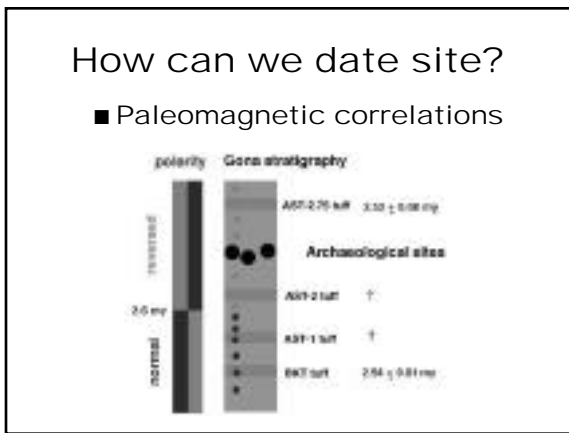
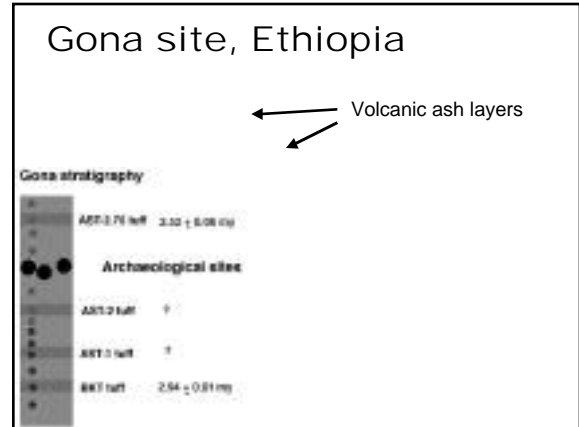
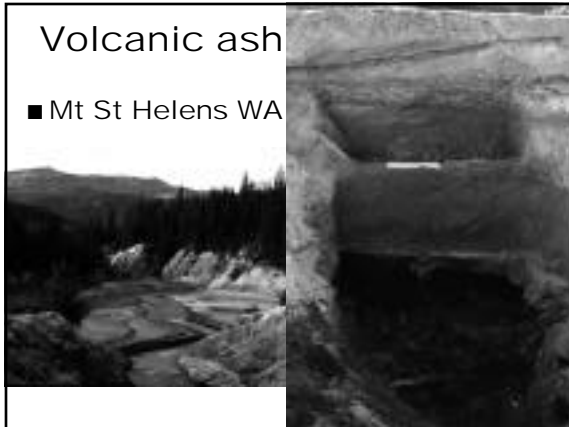
- Unnatural context
 - Big rocks in fine sediments



Rift Valley sites



- How old?
- Volcanos
 - ❖Eruptions of ash



How can we date site?

- Radiometric Dating
 - Radioactive decay
 - ❖ Volcanic rocks
 - ❖ Potassium - Argon
 - ❖ $K^{40} \rightarrow Ar^{40}$
 - ❖ Half-life = 1.3 billion years
- Images pp 22-23

K/Ar demo