

Teaching Materials Associated With Module 4

History of Tool Use:

- The date for the earliest known lithic (stone) tools is constantly changing as new discoveries are made.
- Two stone-tool industries that are extremely well documented are the Oldowan and Acheulean industries.

Oldowan Tool Industry:

- Oldest known stone tool industry: ~2.5 to 1.2 million years ago
- Tools made by *Homo habilis*
- First discovered at Olduvai Gorge in Tanzania
- Tools found are mostly “choppers” which are stone cores with flakes removed from part of the surface, creating a sharpened edge that was used for cutting, chopping, and scraping

Acheulean Tool Industry:

- ~1.6 million to 200,000 years ago
- Longest running tool industry lasting over a million years
- Revolution in stone-age technology
- Product of *Homo erectus*
- Tools consisted primarily of stone handaxes, which were multi-purpose tools, used in a variety of tasks. These tasks included butchering and skinning animals, digging, and cutting plant materials.
- Similar to the Oldowan Tool Industry, these handaxes were created through a process of chipping flakes off of a core.

Importance of Tools:

- The invention of tools is often referred to as a biocultural evolution: “Culture can affect the direction of human evolution by creating non-biological solutions to environmental challenges”
- This potentially reduces the need to evolve genetic responses to environmental challenges. Normally, when animals move into new environments, natural selection, operating on random mutations, leads to evolution. The population's gene pool can be altered as a result of adapting to a new environment.
- With the invention of tools, different foods and plants could now be processed for the first time, expanding what is now available for use

What about animals that use tools?

- Refer to this video: <https://www.youtube.com/watch?v=IpkcwLabQq8>
- Although other animals are known to use tools, Hominid tool use is markedly different because of its use of planning, foresight, and modification.
- Hominid tool technology is something that is taught. As a result, it requires communication, cooperation, and the ability to learn new behaviors.

- Tool use in other animals tends to be opportunistic and involves very little, if any tool modification.

This module has been adapted from the following sources:

<https://anthromuseum.missouri.edu/minigalleries/handaxes/intro.shtml>

http://anthro.palomar.edu/homo/homo_4.htm

<http://humanorigins.si.edu/evidence/behavior/stone-tools/early-stone-age-tools>

<http://www.sapiens.org/evolution/homo-sapiens-and-tool-making/>