

3.987 - Human Origins and Evolution

**Lecture 12: Stone Technology - Notes**

1) Methods of fracturing and shaping of stone for artifact manufacture

controlled shaping

percussion

pressure

pecking

abrading (grinding, polishing, drilling)

splitting

A) Percussion flaking

Principle of conchoidal fracture

Varieties of percussion flaking

Direct percussion

hard hammer

free hand

bipolar (uses hammerstone and anvil)

anvil percussion (uses only anvil)

controlled

“fling”

soft hammer

Indirect percussion (“punch” technique or “blade” technique)

involves use of a hammer and a punch

B) Pressure flaking

utilizes the principle of conchoidal fracture - but application of force is by direct sustained pressure, not high impact percussion, varieties include; normal pressure flaking by hand, use of a chest punch

C) Pecking/Pounding

D) Grinding/polishing/drilling/cutting

2) Materials suitable for flaking by conchoidal fracture

Volcanic origin - (lavas)

basalt

welded tuffs

phonolite

rhyolite

ignimbrite

obsidian

Chalcedony (crypto- or micro- crystalline silica)

flint

chert

agate

jasper

silicified wood

Others

opal

felsite

slate

silicified sandstone

crystal quartz

quartzite

glass

3) Tool types characteristic of the Oldowan Industrial complex

choppers

discoids

polyhedrons

subspheroids

unretouched flakes and fragments

(manuports)