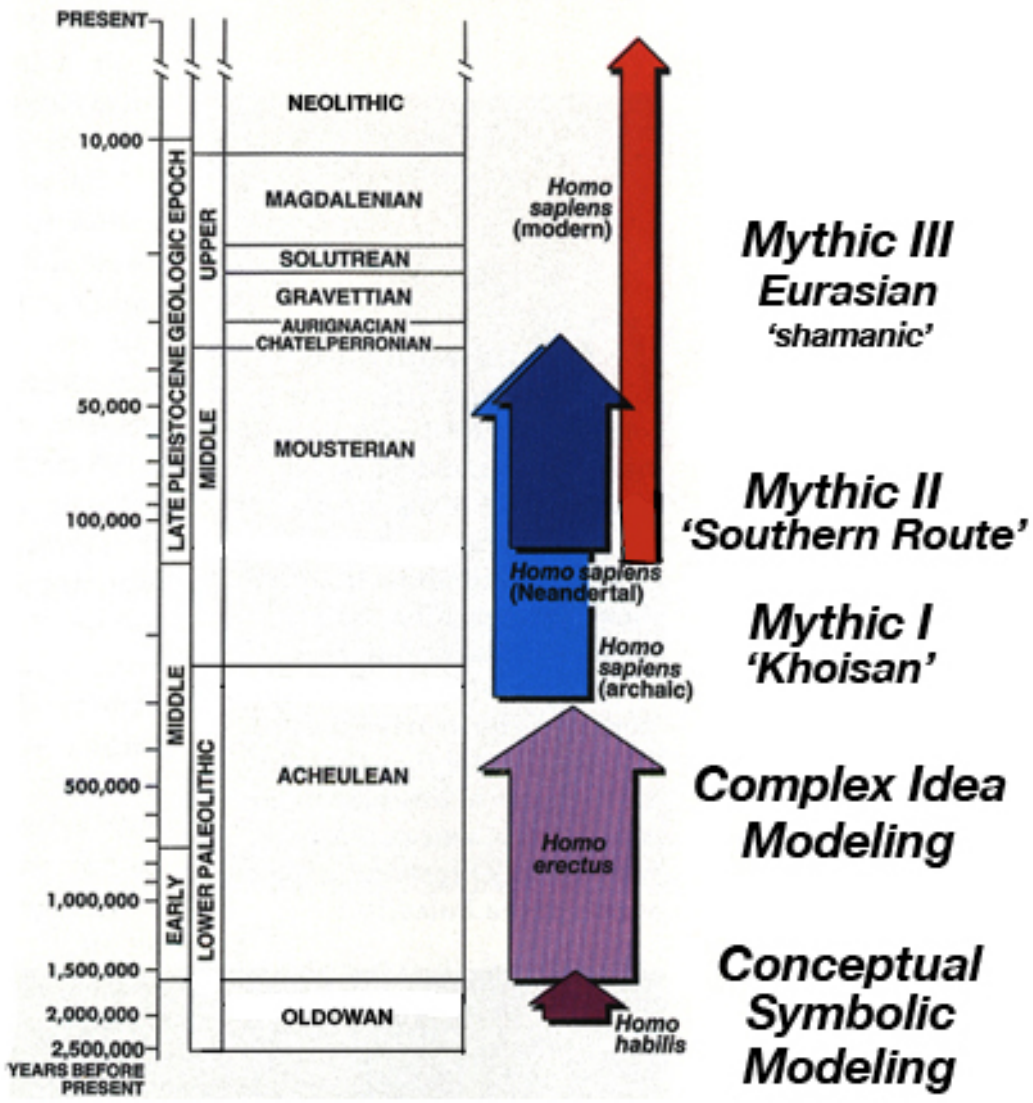
Two Million Years of Art in Human Evolution

AH 224 Paleolithic Art, Spring 2012

James Harrod, Ph.D.
Adjunct Instructor in Art History, Maine College of Art, Portland, Maine
Director, Center for Research on the Origins of Art and Religion
originsnet.org (pleistocenecoalition.com)

MYTHO-STRATIGRAPHY



4 Meme Model: 2MY Evolution of Art, Symbol & Myth

Era and Techné	*Four Meme Model* (James Harrod)
Oldowan EO ~2.6 to 2.0 Ma 'Classic' ~2.0 to 1.4 Ma Developed ~1.7 to 1.2 Ma	'Rudimentary Symbolic' = 2.0-3.5 yrs // human = great ape cognition (A. Russon 2004) = *Australopithecus* (similar cognitive level by triangulation to common great ape ancestor) First 'art object': 'animacy in stone'; 'animated spirit that inhabits the body' **Conceptual-Symbolic Modeling** = *Homo habilis/rudolfensis (out-of-Africa)* First Metaphor = 'core-seed-sustenance-essence in interpersonal interaction'; 'rhomboids of the mind' First Ethos = carnivore axis First Joke:' hit the baboon head' anvil (drill cupules)
Acheulian *(sensu lato)* EA ~1.7 to 1.0 Ma MA ~1.0 Ma to 500 ka LA ~650 to 200 ka FA ~300 to 150 ka	**Complex Idea Modeling** = *Homo erectus/ergaster (out-of-Africa)* Biface pairing of complementary shapes (*contraria sunt complementa,* Niels Bohr*; coincidentia oppositorum,* C. G. Jung*;* 'co-poiesis', Bracha Ettinger) Sheath, the Womb Source of Animacy (Life-Giver) & Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver) colorants, marking traditions, mortuary practice, adornments, anthropomorphs & zoomorphs
Middle Paleolithic / Middle Stone Age EMP ~300 to 40 ka MMP ~150 to 60(100) ka LMP ~60 to 30/35 ka	**Mythic I &II** EMP =*archaic Homo sapiens / MMP = Homo sapiens sapiens (out-of-Africa)* Beings of the Dreaming, Creatrix of Life-Forms, stone arrangements, landscape art, image representation, mortuary practices with grave goods; geometric 'signs' **I. 'Gaia'** (M. Witzel) = Khoisan **II. 'Gondwana'** (M. Witzel) = 'Southern Route' Africa to SE Asia & Australia
Upper Paleolithic / Later Stone Age EUP ~150 to 60 ka MUP ~40 to 20 ka LUP ~25 to 10 ka	**Mythic III** = *Homo sapiens sapiens (out-of-SW-Central-Asia)* **'Eurasian'** (Y. Berezkin) **'Laurasian'** (M. Witzel) = Shamanic 6 Worlds Shamanism; Soul Journey, Soul Retrieval; Mother-of-Animals, Master-of-Animals; Geometric Protolanguage, UP(E) array of 12 female and 12 male spiritual transformations (J. Harrod)

Templeton (2010, 2002): genetics = 3 waves out-of-Africa – 1.9 Ma; 650 ka; 130 ka; 1 out-of-Asia (recent)

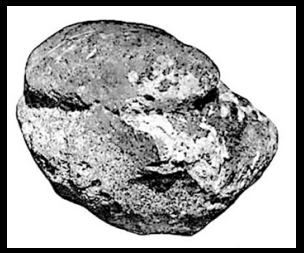
A New Paradigm

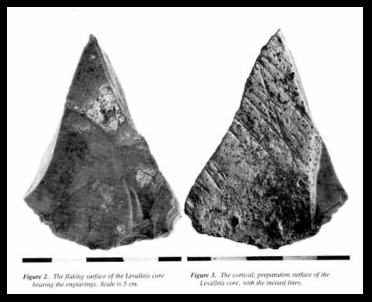
- Wave I: Dispersal of *Homo rudolfensis/habilis*, with classic Oldowan pebble-core tool tradition, out-of-Africa, ~2.0 Ma to 1.7 Ma

- Wave II: Dispersal of *Homo erectus*, with Middle Acheulian or Developed Oldowan-like tool tradition, out-of-Africa, ~1.0 Ma to 800 ka

- Wave III: Dispersal of *Homo sapiens sapiens* out-of-Africa or SW Asia with Mid-Middle Paleolithic technology, ~150 to 60 ka

- Wave IV: Upper Paleolithic → 60 ka Global Rock Art Heritage





THE FAR SIDE By GARY LARSON

"So what's this? I asked for a *hammer!* A hammer! *This* is a crescent wrench! ... Well, maybe it's a hammer. ... Damn these stone tools."

Acheulian Period Palaeoart

Homo erectus / Homo ergaster

Time Magazine, March 14, 1994

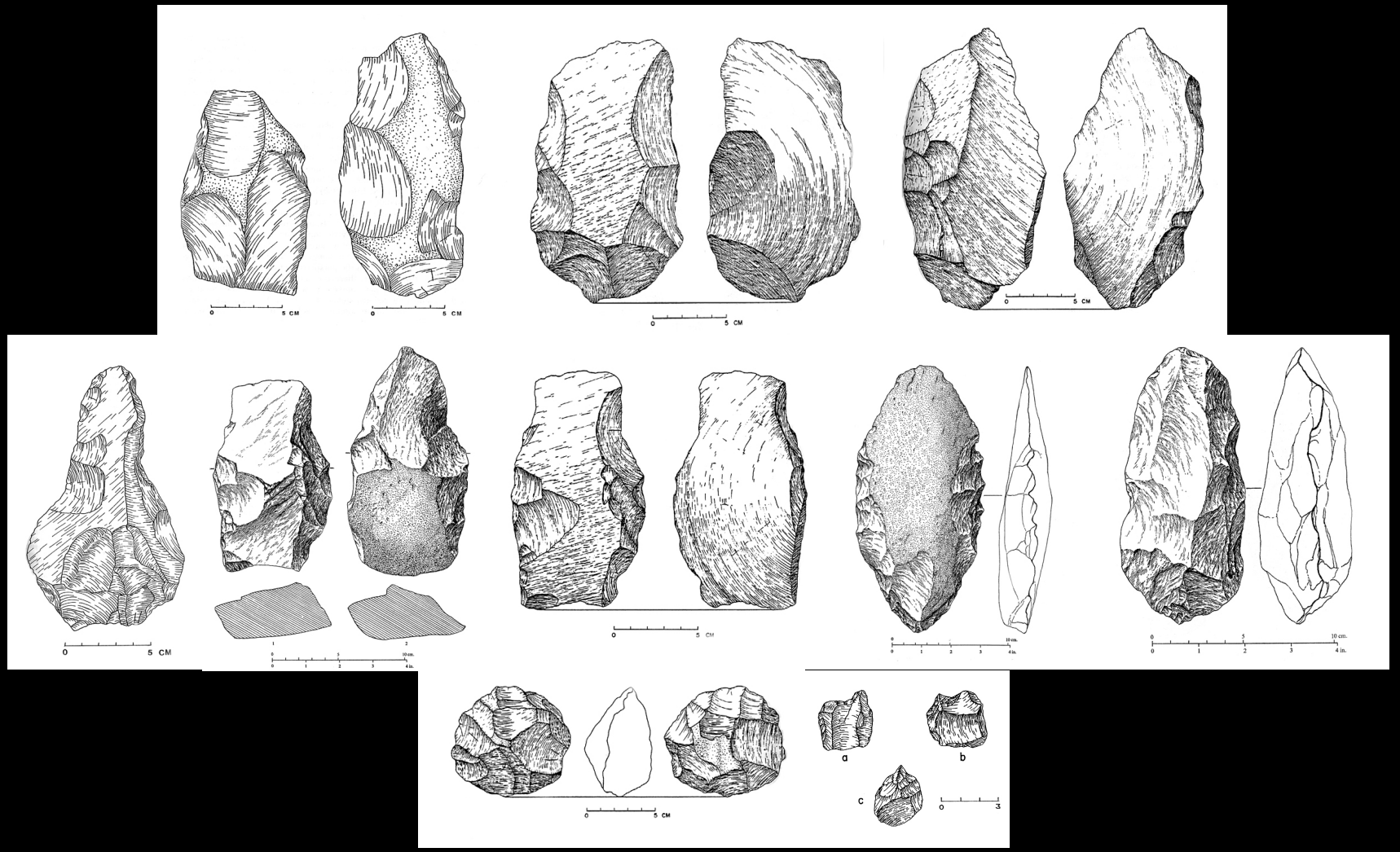
2nd Meme of the Evolution of Art, Symbol & Myth

Era and Techné	*2nd Meme: Complex Idea Modeling = Homo erectus/ergaster*
Acheulian *(sensu lato)* EA ~1.7 to 1.0 Ma MA ~1.0 Ma to 500 ka LA ~650 to 200 ka FA ~300 to 150 ka	<u>Early Acheulian Period</u> • Play of complementary opposed shapes; art as geometric play • First 'idea' as complementarity of abstract (geometric) : concrete (biomorphic) :: similarity : difference • 'The medium is (part of) the message' – 'cutting into stone and bone' <u>Middle Acheulian Period</u> Mode I ('Developed Oldowan') bipolar reduction (worldwide) Mode II Middle Acheulian biface shape pairs (e.g., E Africa: 'handaxe' & cleaver; SW Asia: 'handaxe' & trihedral pick) • Stereotypical pairing of complementary shapes (*contraria sunt complementa,* Niels Bohr*; coincidentia oppositorum,* C. G. Jung*;* 'co-poiesis', Bracha Ettinger) = Sheath, the Womb Source of Animacy (Life-Giver) & Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver) (Harrod 2003, 2002 online) • Figurative sculpture art flaked zoomorphic, anthropomorphic, geometric and polymorphic sculptures, esp. in Mode I traditions <u>Later Acheulian Period</u> • Complex ideographic marking or glyph traditions, e.g., cupule, undulating line, strokes, chevron, radiating ('fan motif') and convergent lines, embedded rectangles or 'lattice of space' (Harrod 2007a 'Bhimbetka Glyphs' compared to Kandinsky; Harrod 2007b, 2004 online) use of golden ratio (Feliks 2008, Feliks 2007), (e.g., Bilzingsleben, Germany; Bhimbetka and Daraki-Chattan, India) • Regional traditions (Mode I and Mode II) of figurative sculpture art: decorated handaxes; flaked zoomorphic, anthropomorphic, geometric and polymorphic sculptures (worldwide)

Early Acheulian

Early Acheulian Symbolic Behaviors

Collection/manuporting of exotic objects + red pigment	Gadeb, Ethiopia, Site 8E, 0.7 to ~1.5 Ma (WM1979) several pieces of red basalt, which when rubbed yielded red pigment, but no direct evidence of use *(CJ 1979; OK1981)*
Pecked, abraded, incised, serrated or notched objects + Marking traditions, including 'cupule', meander line	Gadeb, Ethiopia, Site 8E, 0.7 to ~1.5 Ma 11 rounded cobbles with pits, similar to Olduvai, Melka-Kontouré, 'nutcrackers' *(WM 1979)* or 'cupules' MNK Main, Olduvai Gorge, Tanzania, Developed Oldowan B, between Tuff IIC ~1.34 Ma? And Tuff IIB ~1.53 Ma? 'of 143 sub-spheroids, 12 massive, this largest, 14.5 lb. (Leakey M. 1976. *Olduvai Gorge: Excavations in Beds I & II*: Pl. 21 and p. 153) natural point and meander line, apparently intentionally worked round to center & emphasize the marks (JBH and cf. Bhimbetka glyph)
Exotic tools	Peninj, Tanzania, 1.4-1.7 Ma phytoliths on 2 of 3 handaxes, 1 of 2 flakes, suggest chopping wood, on 1 flake removing cortical fibers from branches, likely *Acacia*; fibers on inner surfaces suggest protection or hafting or possibly from use (DM 2001); biface shaping, application of symmetrical and asymmetrical complementary geometric shapes, apparently playful aesthetic (Harrod J. 2003. 'Notes on Early Acheulian Stone Tools') MNK Main, Olduvai Gorge, Tanzania, Developed Oldowan B, between Tuff IIC ~1.34 Ma? And Tuff IIB ~1.53 Ma? 'lava, 6.5 lbs, pointed both ends, chipped utilization on sides; also utilization indentation 23mm wide, 5 mm deep chipped on one face only' (Leakey M. 1976. *Olduvai Gorge: Excavations in Beds I & II*: Pl. 20 and p. 150; ? potential female figurine (JBH) Gadeb, Ethiopia, Site 8E, 0.7 to ~1.5 Ma 4 well-made ovate obsidian 'handaxes', for which only known source of obsidian was ~100 km away *(WM 1979)*

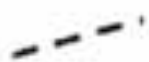
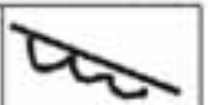


Early Acheulian Bifaces (Peninj and Olduvai Gorge, Tanzania)

Top: Peninj, 1.4-1.7 Ma (Wynn T. 1989. *The evolution of spatial competence,* fig. 9, 10, 12, 19)

Middle, Bottom: Olduvai Gorge, EF-HR, 1.5-1.66 Ma (Wynn T. 1989. *The evolution of spatial competence,* fig. 29, 30, 20, 25)

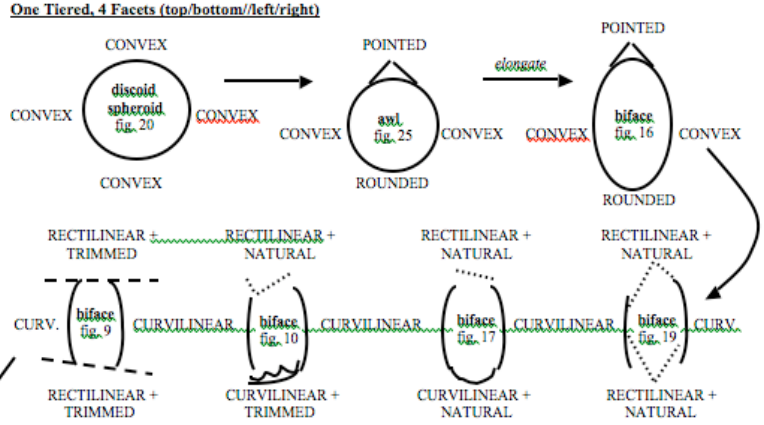
(Leakey M. 1976. *Olduvai Gorge Beds I & II*, fig. 66, 63, 67)

EDGE		NATURAL snap, break, 'unnatural'	TRIMMED	
EDGE		RECTILINEAR Angular	CURVILINEAR	
SIDE		POINTED	ROUNDED	
SIDE		CONCAVE	CONVEX	

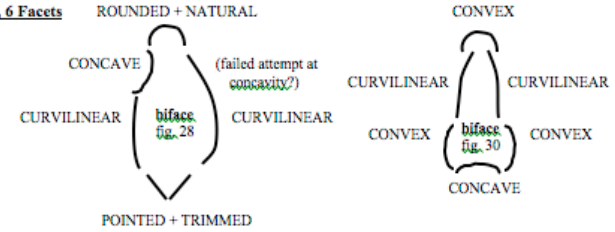
EARLY ACHEULIAN BIFACES – LOGIC MODEL OF SHAPES

Peninj MHS and RHS, West Natron, Tanzania (c. 1.4-1.7 MYA)
and Olduvai Gorge EF-HR, Tanzania (c. 1.3-1.5 MYA)
(Using illustrations of typical tools from T. Wynn, The Evolution of Spatial Competence)

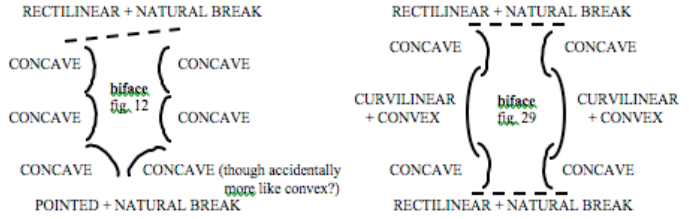
One Tiered, 4 Facets (top/bottom//left/right)



Two Tiered, 6 Facets



Three Tiered, 8 Facets



EDGE		NATURAL snap, break, 'unnatural'	TRIMMED	
EDGE		RECTILINEAR Angular	CURVILINEAR	
SIDE		POINTED	ROUNDED	
SIDE		CONCAVE	CONVEX	

EARLY ACHEULIAN BIFACES – LOGIC MODEL OF SHAPES

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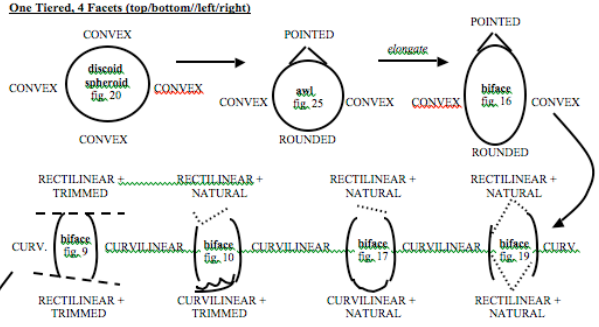

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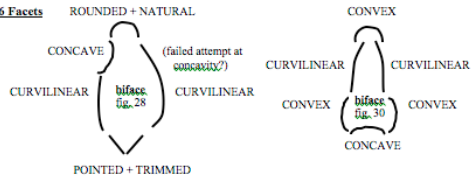
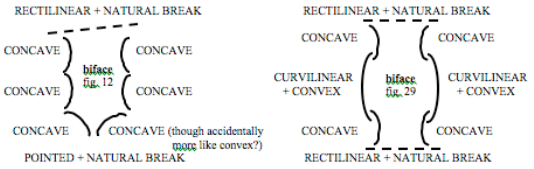
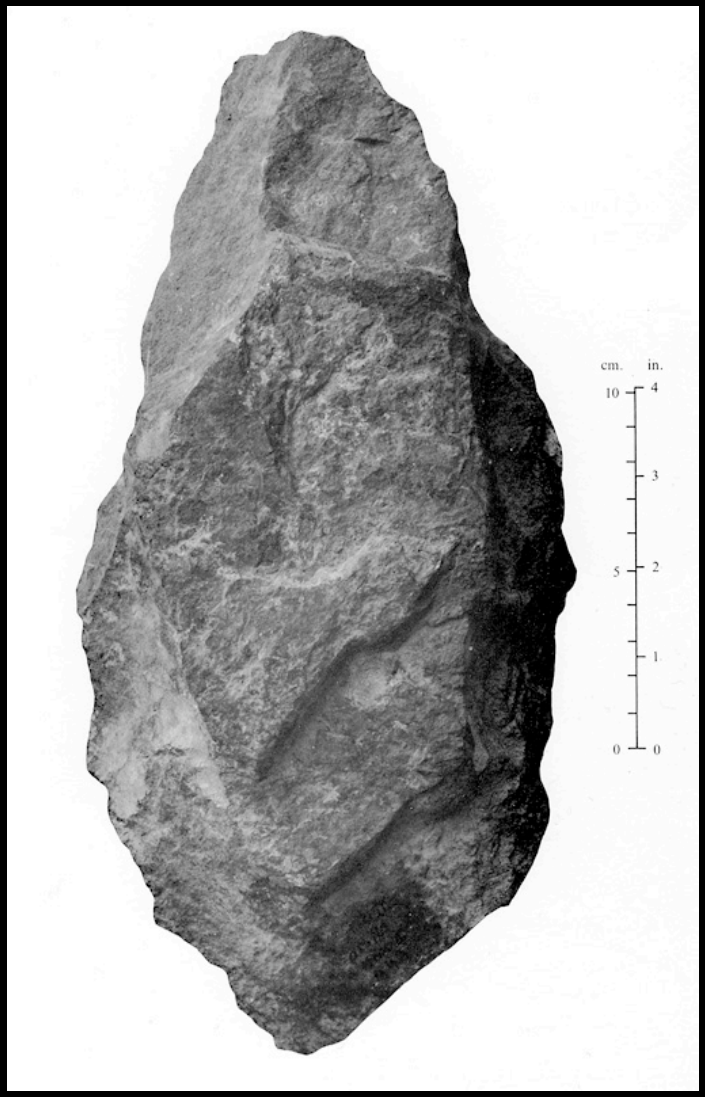


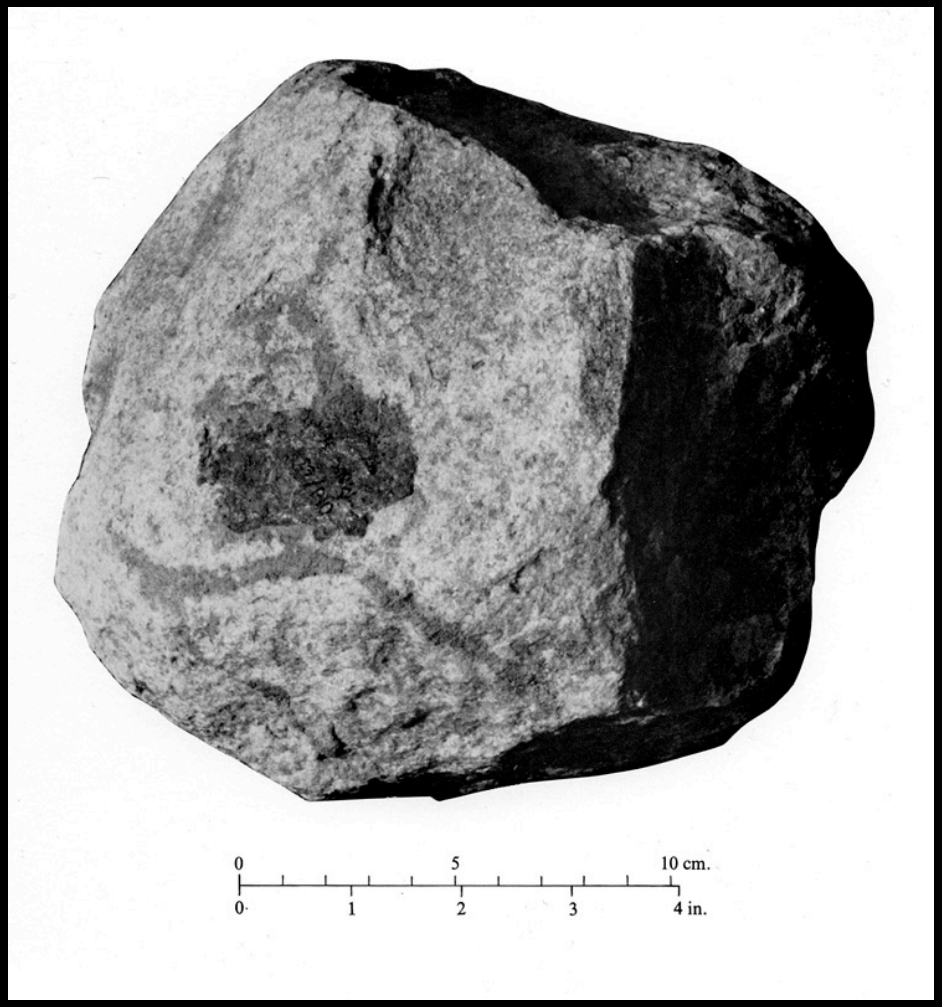
Three Tiered, 8 Facets





Early Acheulian or Developed Oldowan-B Biface (MNK, Olduvai Gorge)

MNK Main, Olduvai Gorge, Tanzania, Developed Oldowan B, between Tuff IIC ~1.34 Ma? And Tuff IIB ~1.53 Ma? 'lava, 6.5 lbs, pointed both ends, chipped utilization on sides; also utilization indentation 23mm wide, 5 mm deep chipped on one face only' (Leakey M. 1976. *Olduvai Gorge: Excavations in Beds I & II*: Pl. 20 and p. 150); possible female figurine (JBH)



Early Acheulian or Developed Oldowan-B Sub-spheroid (MNK, Olduvai Gorge)

MNK Main, Olduvai Gorge, Tanzania, Developed Oldowan B, between Tuff IIC ~1.34 Ma? And Tuff IIB ~1.53 Ma?

‘ of 143 sub-spheroids, 12 massive, this largest , 14.5 lb. (Leakey M. 1976. *Olduvai Gorge: Excavations in Beds I & II*: Pl. 21 and p. 153)

apparently flaked around to center and emphasize the natural dot-point and meandering line; cf. Bhimbetka glyph (JBH)

Meme #2A: Early Acheulian: Play of Symmetric and Asymmetric Shapes

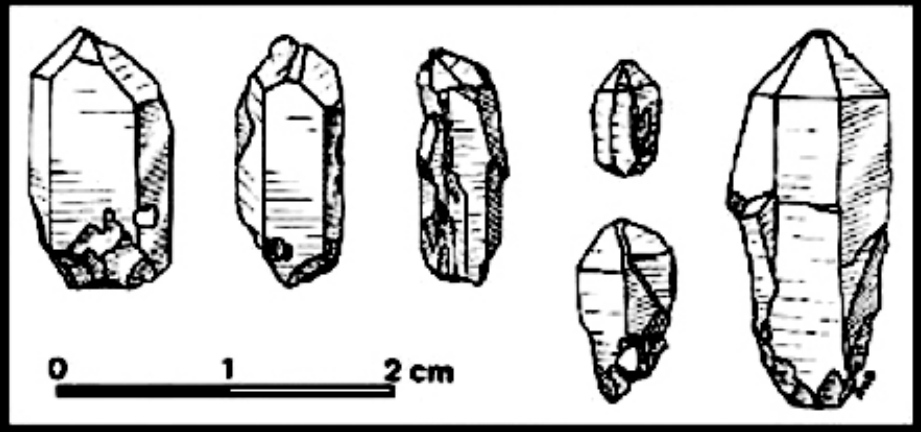
It’s all about the play of making shapes,

playfulness of creative imagination

with respect to symmetric and asymmetric complementarity of opposite shapes.

Middle Acheulian Symbolic Behaviors

Collection/manuporting of exotic objects	Singi Talav, Didwana, Thar Desert, Rajasthan, India, >800 ka *(CG2010);* 6 complete quartz crystals *(BR2003, BR1993; BR1994; JH2005;* D'Errico, Gaillard and Misra 1989] Gesher Benot Ya'aqov, Israel, ~750-780 ka *(GN2000)* angular quartz crystals occur in the same deposit as two naturally perforated 'bead-like' crinoid fossils natural to site *(GN1991*) Zhoukoudian Cave, China, Loc. 1, Layer 5-10, ~600-800 ka (BN2004), Upper 8, Quartz Horizon 2: ~20 quartz crystals, 1 perfect fully faceted, probably from 7 kilometers away and spheroids (Pei 1931:120; BL1985; BR1991) 16R Dune, Thar Desert, Rajasthan, >390±50 ka *(MS1992, JH2005),* quartz crystal manuports *(PSo2001*)
Use of pigment	Hunsgi II and V, Hunsgi Valley, Karnataka, India, >350 ka ocher nodules and hematite with wear facets and striations, evidence for 'pigment crayons' *(NN2003; BR1990; BR1993; BR1994)*
Pecked, abraded, incised, serrated or notched objects	Gesher Benot Ya'aqov, Israel, ~750-780 ka 46 pitted cores, blocks and slab; 8 pitted flakes and flake tools; extensive evidence for edible nuts, including varieties requiring hammer and anvil to crack open, so infer that was use of pits (GN2002)
Spoken language (circumstantial evidence)	hyoid with modern morphology, Sima de los Huesos ('Pit of Bones'), Spain, ~530 ka (MI2008; Martinez et al 2009)
Exotic tools	bifaces: handaxe and cleaver/trihedral pick, sometimes paired (Harrod J. 2002. 'Notes on Middle Acheulian Spirituality' online)



Middle Acheulian Exotics

- Singi Talav, Didwana, Thar Desert, Rajasthan, >800 ka *(CG2010);* 6 complete quartz crystals from different crystal flowers and probably transported to site, no use-wear, too small for tool manufacture, non-local *(BR2003, BR1993; JH2005); (figure above)* Bednarik (1994 fig. 4) after D'Errico, Gaillard and Misra (1989)

- Gesher Benot Ya'aqov, Israel, ~750-780 ka *(GN2000),* where angular quartz crystals occur in the same deposit as two naturally perforated 'bead-like' crinoid fossils natural to site *(GN1991*)

- Zhoukoudian Cave, China Locality 1, Layers 5-10, 600-800 ka (BN2004), Upper 8, Quartz Horizon 2: ~20 quartz crystals, 1 perfect fully faceted, probably from 7 kilometers away and spheroids (Pei 1931:120; BL1985; BR1991)

- 16R Dune, Thar Desert, Rajasthan, >390±50 ka *(MS1992, JH2005),* quartz crystal manuports *(PSo2001*)

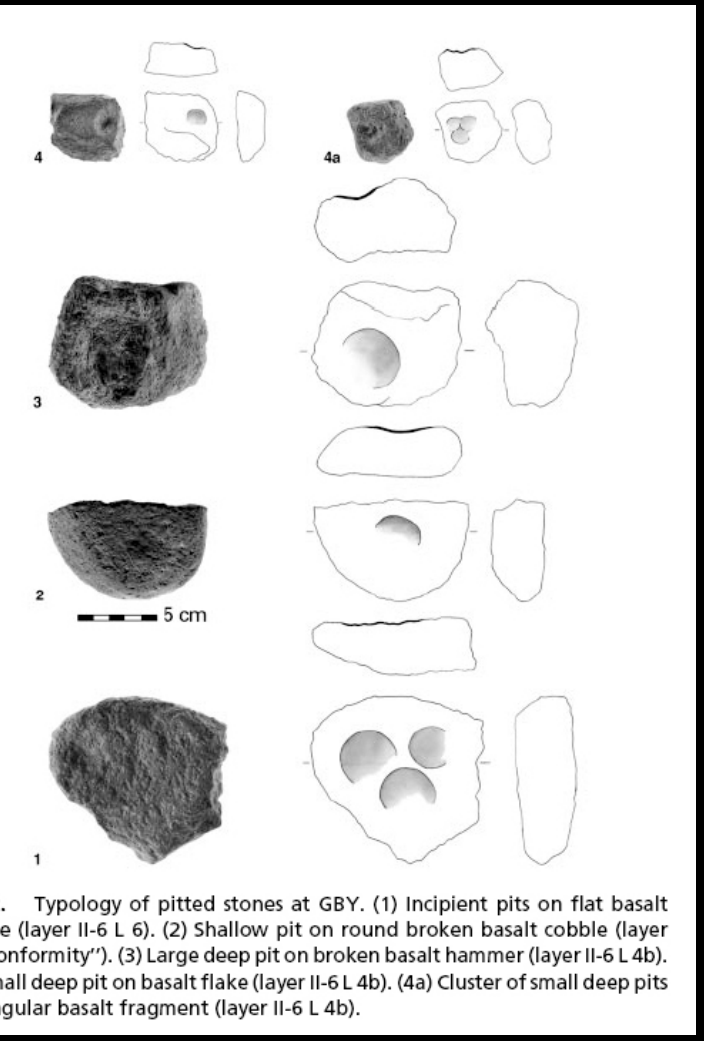
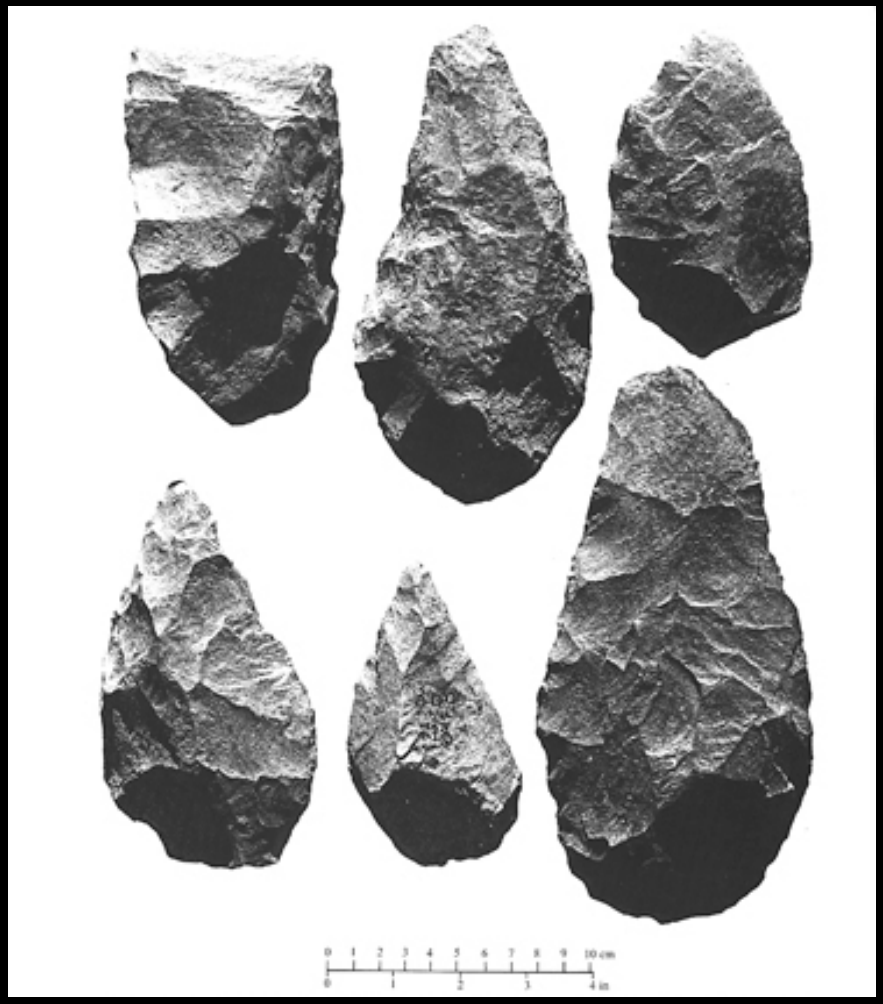


Fig. 2. Typology of pitted stones at GBY. (1) Incipient pits on flat basalt cobble (layer II-6 L 6). (2) Shallow pit on round broken basalt cobble (layer "Unconformity"). (3) Large deep pit on broken basalt hammer (layer II-6 L 4b). (4) Small deep pit on basalt flake (layer II-6 L 4b). (4a) Cluster of small deep pits on angular basalt fragment (layer II-6 L 4b).

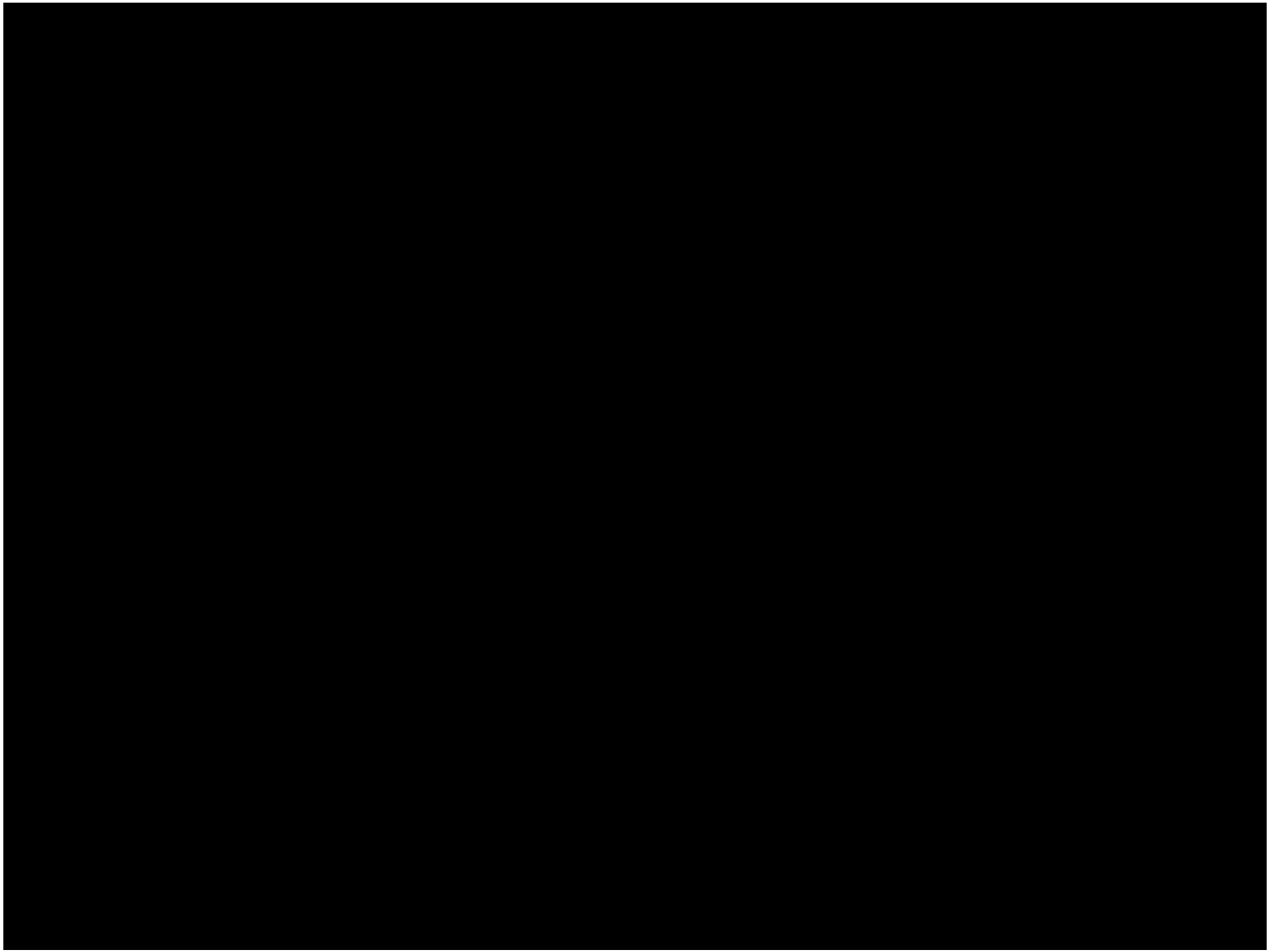
Gesher Benot Ya'aqov, Israel, ~750-780 ka

46 pitted cores, blocks and slab; 8 pitted flakes and flake tools; extensive evidence for edible nuts, including varieties requiring hammer and anvil to crack open, so infer that was use of pits (GN2002). Pits on flakes??? Utilitarian and non-utilitarian???



Olduvai Gorge: Middle Acheulian cleaver and handaxes

Olduvai Gorge, Bed IV, HEB Level 3, 600–800 ka
1 cleaver, 5 handaxes, fine-grained green phonolite
photo: John Reader; Leakey (1994: pl. 15)



Road to Olorgesailie, Kenya

Photo James Harrod

Olorgesailie Museum Park HQ

Photo James Harrod

Olorgesailie walk to Site A. Excavated M. Leakey and L. Leakey

Photo James Harrod

Olorgesailie Site A – Member 10: ~ 662±4 kya (Deino and Potts 1990)
Handaxes, cleavers, other artifacts, cobbles, blocks – all transported to the site. Excavated M. Leakey and L. Leakey 1943-1947 Photo James Harrod

Olorgesailie Site A – Member 10: ~ 662±4 kya (Deino and Potts 1990)
Handaxes, cleavers, other artifacts, cobbles, blocks – all transported to the site. Excavated M. Leakey and L. Leakey 1943-1947 Photo James Harrod

Olorgesailie Site B – Member 7: ~ 974±7 kya -1.0 Ma (Deino and Potts 1990)
Excavated M. Leakey and L. Leakey (1943) Photo James Harrod

Olorgesailie Site B – Member 7: ~ 974±7 kya -1.0 Ma (Deino and Potts 1990)
Handaxes, cleavers, flakes, spheroids, cobbles and blocks. Bones 80+ *Theropithecus oswaldi*,
adult and juvenile bones smashed for marrow. Excavated M. Leakey and L. Leakey (1943) Photo James Harrod

The Catwalk site, Olorgesailie

Olorgesailie, Member 7, H/6 A, ca. 800 ka

Predominantly handaxes and cleavers, some scrapers, picks; *H. erectus*

photo: James Harrod

Olorgesailie, Catwalk Site Shed

Photo: James Harrod

Olorgesailie Catwalk Site, Member 7: ~ 974±7 kya -1.0 Ma (Deino and Potts 1990)
Large handaxes, cleavers average 23 cm, largest 33cm, average 1.6 kg, largest 2.7 kg. Discovered M. Leakey; re-excavated Glynn Isaac (1963-65)
Photo James Harrod

Olorgesailie Catwalk Site, Member 7: ~ 974±7 kya -1.0 Ma (Deino and Potts 1990)
Large handaxes, cleavers average 23 cm, largest 33cm, average 1.6 kg, largest 2.7 kg. Discovered M. Leakey; re-excavated Glynn Isaac (1963-65)
Photo James Harrod

Olorgesailie - View North
Photo James Harrod

Olorgesailie - View SW
Photo James Harrod

Olorgesailie - Site E, F: – Member 1: ~ 992 ±39 kya (Deino and Potts 1990)
Site E: *Elephas recki* humerus, hippo and equid bones, crude handaxes, flakes. Excavated L. Leakey
Photo James Harrod

Olorgesailie Site F 'Hippo' – Member 1: ~ 992 ±39 kya (Deino and Potts 1990)
Single hippo carcass; core-tools, scrapers, choppers, small, crude handaxes, flakes. Excavated L. Leakey (1944); tool inventory G. Isaac (1976)
Photo James Harrod

Olorgesailie Site F 'Hippo' – Member 1: ~ 992 ±39 kya (Deino and Potts 1990)
Single hippo carcass; core-tools, scrapers, choppers, small, crude handaxes, flakes. Excavated L. Leakey (1944); tool inventory G. Isaac (1976)
Photo James Harrod

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Single hippo carcass; core-tools, scrapers, choppers, small, crude handaxes, flakes. Excavated L. Leakey (1944); tool inventory G. Isaac (1976)
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Photo James Harrod

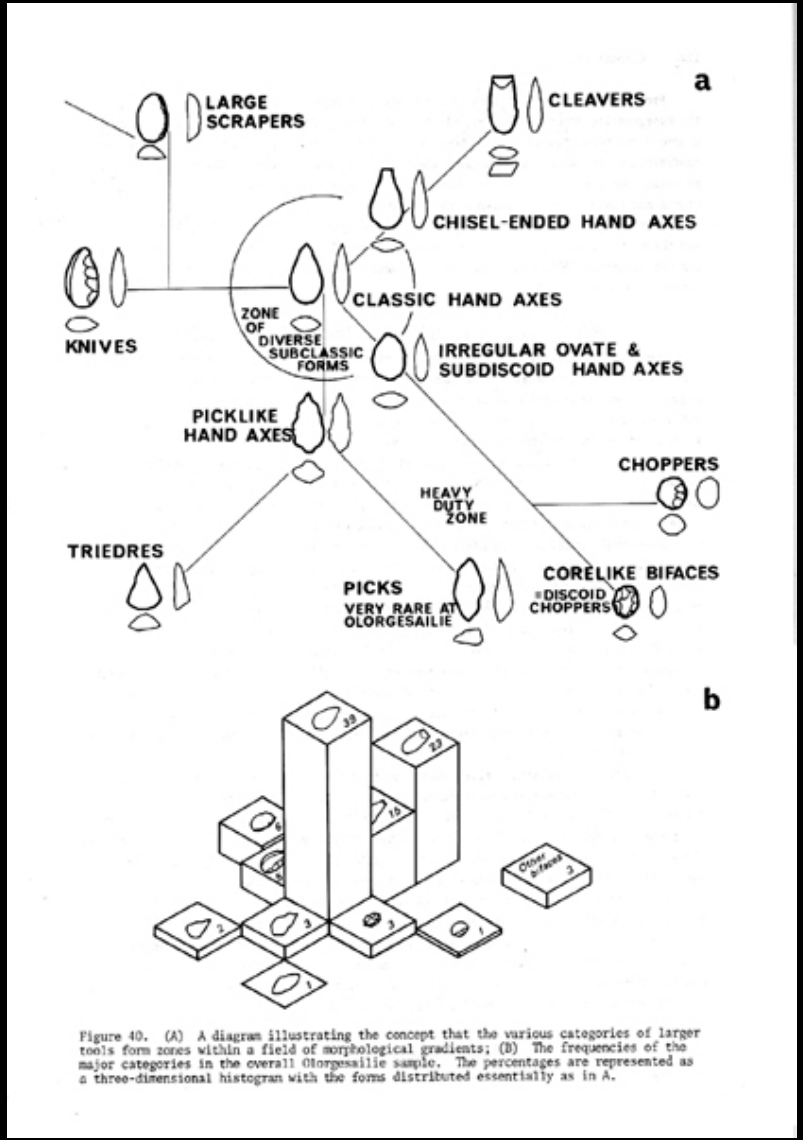
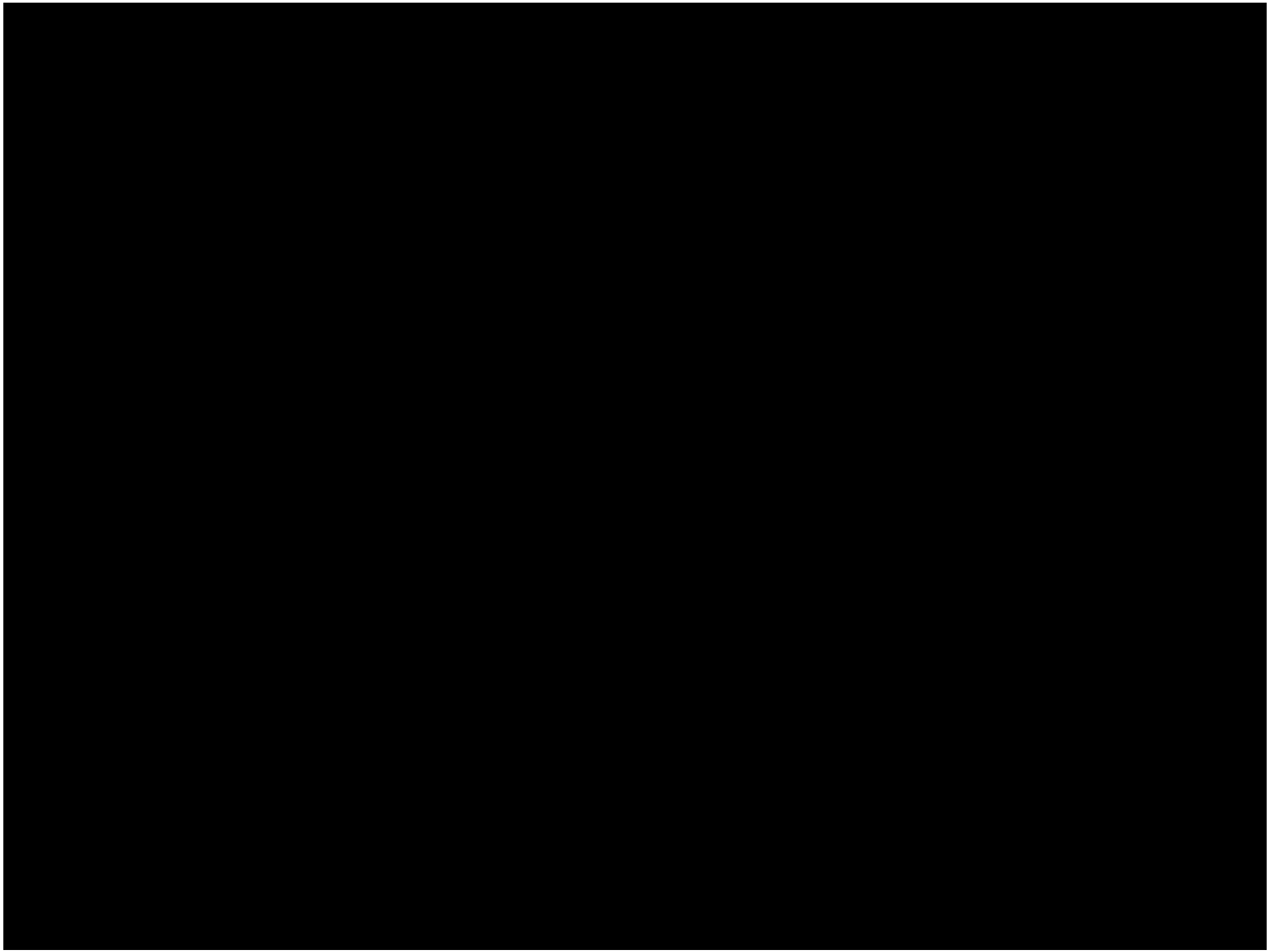


Figure 40. (A) A diagram illustrating the concept that the various categories of larger tools form zones within a field of morphological gradients; (B) The frequencies of the major categories in the overall Olorgesailie sample. The percentages are represented as a three-dimensional histogram with the forms distributed essentially as in A.

Middle Acheulian, Glynn Isaac Statistical Analysis of Types of Larger Tools, Olorgesailie

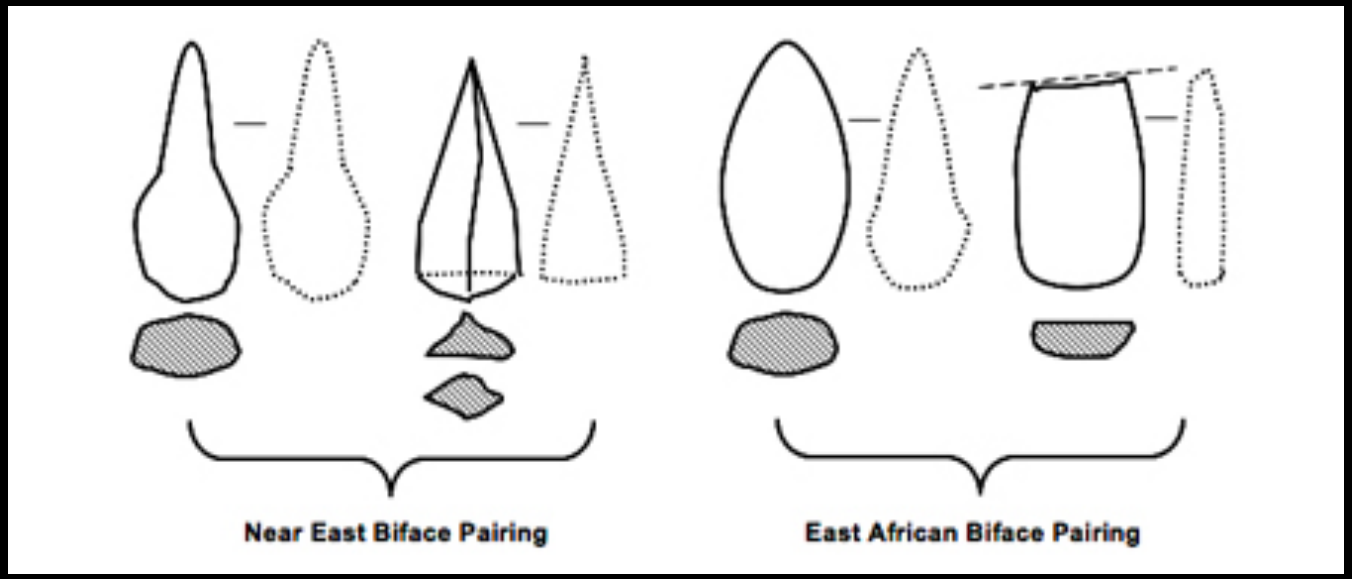
Isaac GL. 1977. *Olorgesailie*: fig. 40.

Photo: James Harrod



St. Acheul, France: ‘handaxe’ and cleaver

photo Willard Whitson in Tattersall online (2008: fig. 5)

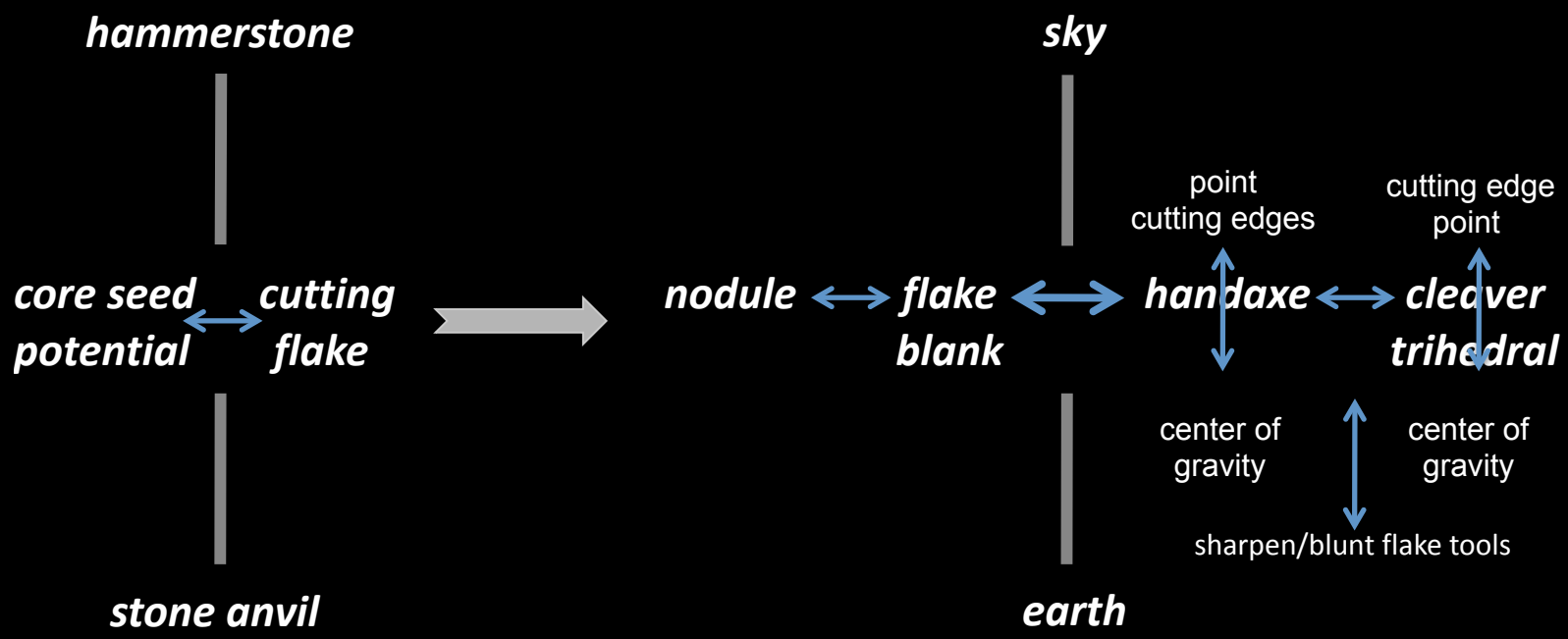


Regional Middle Acheulian Traditions: Abstract Complex Idea Modeling (Biface Pairing)

L: Lanceolate handaxe and trihedral or quadrahedral pick

R: Handaxe and cleaver

illustration: James Harrod



Meme #2B Middle Acheulian: Idea Complex Model = 'Lattice of Space'

from Homo habilis to Homo erectus

Sheath, Womb Source of Animacy (Life-Giver)

Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver)