

# **Two Million Years of Art in Human Evolution**

**AH 224 Paleolithic Art, Spring 2012**

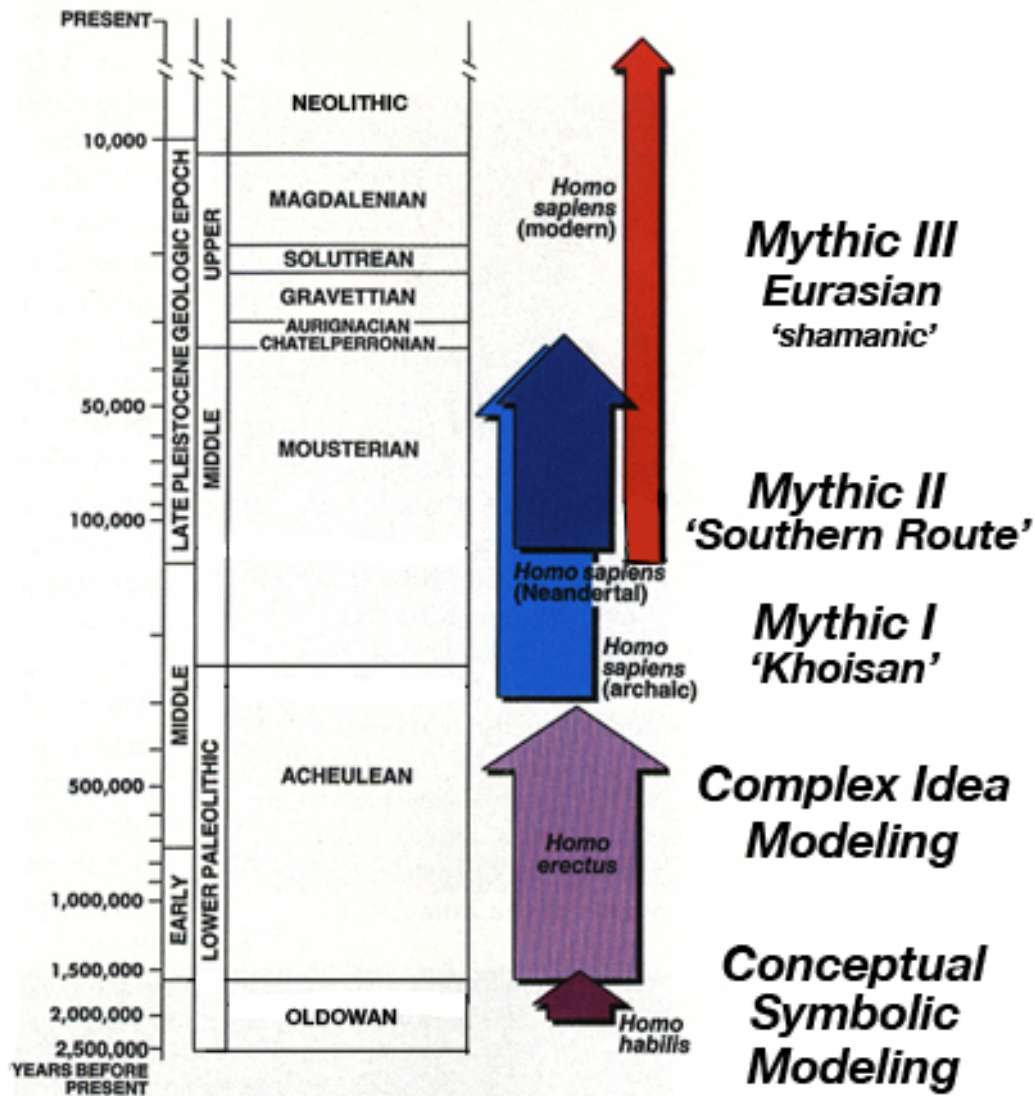
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[originsnet.org](http://originsnet.org) ([pleistocenecoalition.com](http://pleistocenecoalition.com))

# MYTHO-STRATIGRAPHY



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

<i>Era and Techné</i>	<i>Four Meme Model</i> (James Harrod)
<p><b>Oldowan</b>                      EO ~2.6 to 2.0 Ma                      'Classic' ~2.0 to 1.4 Ma                      Developed ~1.7 to 1.2 Ma</p>	<p>'Rudimentary Symbolic' = 2.0-3.5 yrs // human = great ape cognition (A. Russon 2004)                      = <i>Australopithecus</i> (similar cognitive level by triangulation to common great ape ancestor)                      First 'art object': 'animacy in stone'; 'animated spirit that inhabits the body'</p> <p><b>Conceptual-Symbolic Modeling</b> = <i>Homo habilis/rudolfensis</i> (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)</p>
<p><b>Acheulian</b>  <i>(sensu lato)</i>                      EA ~1.7 to 1.0 Ma                      MA ~1.0 Ma to 500 ka                      LA ~650 to 200 ka                      FA ~300 to 150 ka</p>	<p><b>Complex Idea Modeling</b> = <i>Homo erectus/ergaster</i> (out-of-Africa)                      Biface pairing of complementary shapes (<i>contraria sunt complementa</i>, Niels Bohr; <i>coincidentia oppositorum</i>, C. G. Jung; 'co-poiesis', Bracha Ettinger)                      Sheath, the Womb Source of Animacy (Life-Giver) &amp; Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver)                      colorants, marking traditions, mortuary practice, adornments, anthropomorphs &amp; zoomorphs</p>
<p><b>Middle Paleolithic / Middle Stone Age</b>                      EMP ~300 to 40 ka                      MMP ~150 to 60(100) ka                      LMP ~60 to 30/35 ka</p>	<p><b>Mythic I &amp; II</b> EMP = <i>archaic Homo sapiens</i> / MMP = <i>Homo sapiens sapiens</i> (out-of-Africa)                      Beings of the Dreaming, Creatrix of Life-Forms, stone arrangements, landscape art, image representation, mortuary practices with grave goods; geometric 'signs'</p> <p>I. 'Gaia' (M. Witzel) = Khoisan                      II. 'Gondwana' (M. Witzel) = 'Southern Route' Africa to SE Asia &amp; Australia</p>
<p><b>Upper Paleolithic / Later Stone Age</b>                      EUP ~150 to 60 ka                      MUP ~40 to 20 ka                      LUP ~25 to 10 ka</p>	<p><b>Mythic III</b> = <i>Homo sapiens sapiens</i> (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)</p>

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* 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

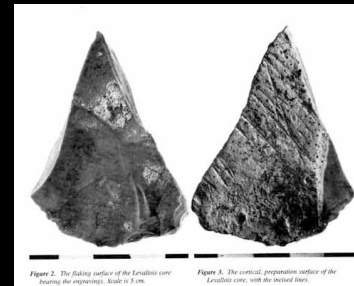
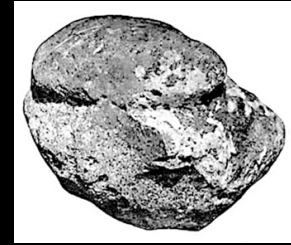


Figure 2. The flaking surface of the Levallois core showing the enlèvement. Scale is 3 cm.

Figure 3. The vertical, preparation surface of the Levallois core, with the lateral scars.

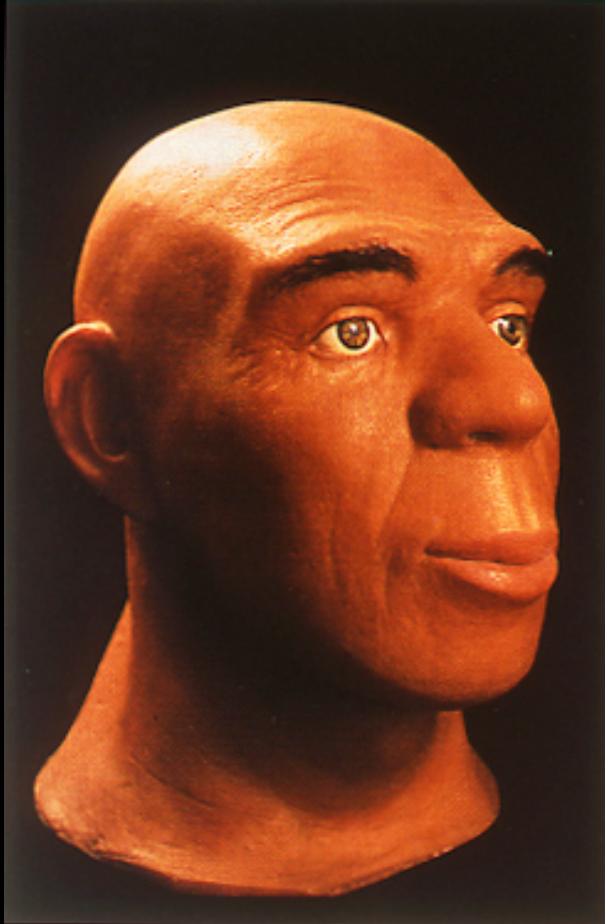


# Acheulian Period Palaeoart



*Homo erectus / Homo ergaster*

*Time Magazine, March 14, 1994*



*Homo heidelbergensis* ~530 kya

Reconstruction, Skull 5 Sima de los Huesos, 'Pit of Bones', Atapuerca, Spain  
*Archeology Magazine*, March 14, 1997.

28 MNI; 2 hyoid bones similar size and morphology to both Neanderthals and modern humans  
(Martinez et al 2009); some cranial deformities = severe disabilities implies special caretaking (Gracia et al 2009)

# 2<sup>nd</sup> Meme of the Evolution of Art, Symbol & Myth

<i>Era and Techné</i>	<i>2<sup>nd</sup> Meme: Complex Idea Modeling = Homo erectus/ergaster</i>
<p><b>Acheulian</b> <i>(sensu lato)</i> EA ~1.7 to 1.0 Ma MA ~1.0 Ma to 500 ka LA ~650 to 200 ka FA ~300 to 150 ka</p>	<p><u>Early Acheulian Period</u></p> <ul style="list-style-type: none"><li>• Play of complementary opposed shapes; art as geometric play</li><li>• First 'idea' as complementarity of abstract (geometric) : concrete (biomorphic) :: similarity : difference</li><li>• 'The medium is (part of) the message' – 'cutting into stone and bone'</li></ul> <p><u>Middle Acheulian Period</u></p> <p>Mode I ('Developed Oldowan') bipolar reduction (worldwide)</p> <p>Mode II Middle Acheulian biface shape pairs (e.g., E Africa: 'handaxe' &amp; cleaver; SW Asia: 'handaxe' &amp; trihedral pick)</p> <ul style="list-style-type: none"><li>• Stereotypical pairing of complementary shapes (<i>contraria sunt complementa</i>, Niels Bohr; <i>coincidentia oppositorum</i>, C. G. Jung; 'co-poiesis', Bracha Ettinger) = Sheath, the Womb Source of Animacy (Life-Giver) &amp; Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver) (Harrod 2003, 2002 online)</li><li>• Figurative sculpture art flaked zoomorphic, anthropomorphic, geometric and polymorphic sculptures, esp. in Mode I traditions</li></ul> <p><u>Later Acheulian Period</u></p> <ul style="list-style-type: none"><li>• 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)</li><li>• Regional traditions (Mode I and Mode II) of figurative sculpture art: decorated handaxes; flaked zoomorphic, anthropomorphic, geometric and polymorphic sculptures (worldwide)</li></ul>



## Later Acheulian Period Symbolic Behaviors

<p>Collection/manuporting of exotic objects</p>	<ul style="list-style-type: none"> <li>•Wonderwerk Cave, South Africa, ~350ka; exotic quartz crystals and small ‘pretty’ colored river pebbles (<i>BJ1992; BR2003, BR1993</i>)</li> <li>•Hoxne, UK, Lower C, MIS11 (Hoxnian) ~350-400 ka; closely packed clusters of bones, many hundreds of minute pieces of the broken skulls of deer, horse, and aurochs—‘the three most important sources of food for the hunters’—indirect evidence for plaited baskets or bags, and these may have had function in ‘some form of ceremonial or magical rite’ (<i>WJ1982</i>)</li> <li>•Swanscombe, Upper Middle Gravels, MIS 11, ~ 400 ka; Acheulian; 2 pieces of chert containing Jurassic fossil coral in which the corallites are on average five-sided pentagons; associated with handaxes; manuports, only known location for coral-bearing chert in Britain being 193km away (<i>OK1973; OK1981</i>); these reflect the emergence of “art as human behaviour” and “higher thought” (<i>OK1981</i>)</li> </ul>
<p>Exotic tools</p> <p>bifaces: too big, too small, too heavy, too many, not used, exquisite shaping</p>	<ul style="list-style-type: none"> <li>•Some African handaxes H: 2’, 25 lbs (<i>Pfeifer 1976: 326</i>)</li> <li>•Boxgrove, UK, MIS 13, ~470 ka; ‘puzzling’ handaxe discard pattern: at 2 butchery sites, handaxes carried in or flaked on the spot but none discarded; conversely hundreds discarded at a spring in still sharp, non-worn-out pristine condition; microscopic analysis shows fine polish due to gently flowing water, but no other residue or usewear (<i>PM1998: 274, 287</i>); similarly for other sites (<i>WJ1982: 103</i>)</li> <li>•Furze Platt, UK, MIS 8-10 or 9 ~300 ka; giant handaxe, 7.5 lbs, 15.6”, likely nonutilitarian (<i>WJ1982: 103</i>)</li> <li>•Shrub Hill, UK, MIS 9, ~300 ka, giant handaxe, length 29cm (12”), likely nonutilitarian (<i>WJ1982: 103</i>)</li> <li>•Wolvercote, UK, plano-convex handaxes ‘too good’ (<i>Wymer 1982: 103</i>)</li> <li>•Cuxton, Kent, UK, ~230 ka = MIS7; giant handaxe &amp; giant cleaver; ficron, L: 307mm (1’) (2nd longest in UK after Furze Platt), 1418g (3.13 lbs), ‘exquisite workmanship’ ‘almost flamboyant’, + cleaver, L: 179 mm (7”), W: 134 mm (5”), cleaver edge by 2 ‘immaculate’ opposing tranchet blows, ‘workmanship extraordinary’, ‘too large and heavy for this modern human to wield’ (<i>WF2004</i>) [Note: symbolic pairing of ficron handaxe and cleaver as if survival of Middle Acheulian thematics (<i>JBH</i>)]</li> </ul>
<p>Geometric artifacts: circles, rhomboids, triangles</p>	<ul style="list-style-type: none"> <li>•Maihar, Satna, Madhya Pradesh; flat centripetally flaked sandstone disc, ~70mm diameter, too soft to be a tool (<i>JN Pal; BR1992; BR1993</i>)</li> <li>•Bhimbetka, Wakankar Trench, Acheulian, flaked chalcedony stone disc (<i>Kumar 1990; BR1992; BR1993</i>)</li> <li>•Ohle Pit, Groß Pampau, Germany, MIS12-13 ~423-524 ka, possibly also MIS11; circles, crescents, triangles, rhomboids, pentagons, etc. (<i>Benekendorff online</i>)</li> <li>•Jabeek, NL, ~200-500 ka, ‘Jabeekian’ (Chopper-Choppingtool Complex [CCC]); crescents, disks, triangles and rhomboid, rhomboid anvil (<i>WA1981</i>)</li> <li>•Ede II, Lunteran-Goudsberg, Netherlands, ≥ MIS 7, ~230 ka; ‘Heidelbergian facies of CCC’, rhomboid (<i>FC1983, FC1980</i>)</li> </ul>

## Later Acheulian Period Symbolic Behaviors (continued 2)

<p>Use of pigment</p>	<ul style="list-style-type: none"> <li>•Wonderwerk Cave, South Africa, ~&gt;350 ka; abundant ochre fragments at every level; site of extensive ochre mining from Acheulian to recent times</li> <li>•Ambrona, Spain, ~350 ka; red ochre (<i>RW1988</i>)</li> <li>•Terra Amata, France, MIS 9 ~300 ka; 75 bits of colored pigment, yellow, brown, red, purple, most with traces of artificial abrasion, manuported into site (<i>BP1997</i>)</li> <li>•Maastricht-Bélvèdere; NL, Site C MIS 7 or 9, Acheulian with Levallois; Site C: 14 concentrations of red pigment, probably red ochre; Site K: possible red ochre (<i>RW online</i>)</li> <li>•Lunteran-Goudsberg, NL, Ede II ≥MIS 7, ~230 ka; colored pigment (red and yellow ochre, manganese, and white chalk or kaolin) on some plaques and anvils (<i>FC1983, FC1980</i>)</li> </ul>
<p>Self-adornment</p>	<ul style="list-style-type: none"> <li>•Bedford, UK, MIS11, ~400 ka; 2 fossil sponges with natural perforations and microchipping around holes (<i>W. Smith 1884: 375; RS2009</i>)</li> <li>•El Greifa, Libya, E, ~200 ka, Late Acheulian; three (3) fragments of ostrich eggshell disc beads (<i>BR1997</i>)</li> <li>•Repolusthölle, Austria, ~ 130-220 ka, 1 perforated wolf incisor, possibly a bead for pendant (<i>BR2000, BR1997</i>), but not microscopically examined (<i>DF1997</i>)</li> </ul>
<p>Pecked, abraded, incised, serrated or notched objects</p>	<ul style="list-style-type: none"> <li>•Wonderwerk Cave, South Africa, Later Acheulian, ~350 ka, two (2) ironstone slabs bear engraved sub-parallel lines</li> <li>•Port-Launay en Ecoufant, Maine-et-Loire, France, Later Acheulian, OIS9 ~300 ka; bone incised with pairs of stroke marks (<i>DH1976</i>)</li> </ul>
<p>Marking traditions: 'cupule', stroke line marks, meander line, etc</p>	<ul style="list-style-type: none"> <li>•Bilzingsleben, Germany, OIS11a ~400 ka; Micro-CCC ('Developed Oldowan'), 5 intentionally incised bones, multiple sets of subparallel and parallel and rayed stroke lines; nested rectangles, V's, arcs (<i>MD1988; SL1999; BR1995; BR1988</i>); lines converging on 'invisible source point', use of golden ratio, cognitive analogy (<i>FJ2012, 2010, 2008, 2007</i>); I suggest #6 be called a 'lattice of spaces', reflecting 'embeddedness' typical of phrase structure grammars (<i>JBH</i>)</li> <li>•Bhimbetka, Madhya Pradesh, India, Auditorium Cave, possibly ~400 ka; cupule and undulating groove, made from pebble tool level (<i>BR2005</i>) and Chief's Rock, 9 cupules, red pigment marks (<i>BR2005, KG1996</i>). I have compared this petroglyph to Kandinsky <i>Point and Line to Plane</i> (<i>Kandinsky 1979: fig. 1, in HJ2007a</i>)</li> <li>•Daraki-Chattan Cave, Madhya Pradesh, walls covered with &gt;500 cupules; 2 engraved grooves; 1 hematite nodule; exfoliated slabs bearing cupules and engraving hammerstones in non-Acheulian pebble tool strata (<i>BR2005, KG1996</i>)</li> <li>•Ohle Pit, Groß Pampau, suburb of Hamburg, Germany, MIS12-13 ~423-524 ka, possibly also MIS11; marking motifs: 3 stones, each with crosshatch (net) pattern (<i>VEJ2001</i>)</li> </ul>

## Later Acheulian Period Symbolic Behaviors (continued 3)

Spoken language	Sima de los Huesos ('Pit of Bones'), Spain, ~530 ka; hyoid with modern morphology (MI2008; Martinez et al 2009) (circumstantial evidence)
'Decorated bifaces', combine geometric artifact and image/representation	<ul style="list-style-type: none"> <li>•Swanscombe, UK, Middle Gravels, MIS 11, ~ 400 ka; handaxe with 5-pointed rayed sea urchin fossil at plan face center of gravity (<i>OK1973; OK1981</i>), possible 'profile face' at side; suggests representation of 'female birthgiver' (<i>JBH</i>)</li> <li>•Gainneville, Seine-Maritime, Normandy, ~450 ka; 21.5cm, poor provenance (<i>Overstreet 2001 online</i>), light-brown circular shape and white crescent arc shape</li> <li>•La Morandi�re, Gi�vres, Loire, 370±110 ka, 'decorated with eye' centered, upper (<i>Despri�e et al 2009: fig. 21</i>)</li> <li>•Wolvercote, OS9, ~300 ka; H: 8.5" (<i>WJ1982: pl. 14</i>); suggests profile face left and 2<sup>nd</sup> profile face right' (<i>JBH</i>)</li> <li>•Gesher Benot Ya'aqov, Israel, ~750-780 ka; cleaver (<i>GN2006: cover</i>); suggests representation of 'one eye open / one eye closed (in pain)' theme (<i>JBH</i>)</li> <li>•West Tofts, Norfolk, UK, MIS7 (?), H: 5.5", fossil scallop shell, symmetrically centered in plan face' (<i>OK1973; OK1981</i>); remarkable degree of bilateral and gravity centering; the fossil bivalve itself has bilateral symmetry suggests it was intentionally used as analogical motif (<i>FJ1998; 2006</i>); also suggests representation of 'female birthgiver' (<i>JBH</i>)</li> <li>•La Grotte de l'Observatoire, Monaco, MIS6-8, with lattice shape like abstract 'tree' approximating axis of biface (<i>DH1976: fig. 12.5</i>); natural inclusion (<i>BR personal communication</i>)</li> <li>•LunTERAN-Goudsberg, NL, Ede II, ≥MIS 7, ~230 ka; 'Heidelbergian facies of CCC', thick pentagonal 'grand biface', 19.3 cm (<i>FC1983, FC1980</i>); suggests possible 'female figurine' (<i>JBH</i>)</li> </ul>
Image/Representation	<ul style="list-style-type: none"> <li>•Berekhat Ram, Israel, ~350-500 ka, 35mm high, reddish tuff, partially worked, 'female figurine'; natural anthropomorphic shape enhanced with artificial grooves (<i>GN1986, GN1995; MA1996, MA1997, DF2000</i>)</li> <li>•Tan Tan, Morocco, ~300-500 ka; quartzite, naturally anthropomorphic, modified with grooves to emphasize 'arms', 'legs', 'head', with traces of red, black, and white paint pigment (iron and manganese) (<i>BR2001, BR2003</i>)</li> <li>•Erfoud, eastern Morocco, ~200-300 ka; manuport, silicified fragment of fossil cuttlefish cast, naturally shaped, has 'life-size shape of a penis', found in association with Later Acheulian bifaces of similar patination (<i>Fiedler in BR2002</i>)</li> <li>•Proposed zoomorphic, anthropomorphic and polymorphic figurines (worldwide, examples here from Europe): Gross Pampau, GR; Hamburg-Wittenbergen, GR; Swanscombe, UK; Clacton, UK; V�rtessz�ll�s, HU; Boukoul, Beegden NL</li> </ul>
Stone/bone arrangements/depositions	Bhimbetka, Madhya Pradesh, Auditorium Cave, possibly ~400 ka; 1 Acheulian handaxe and 1 cleaver, and a few flakes, wedged tightly in a wall crevice ( <i>BR1996</i> );
Mortuary practice	Bodo, Ethiopia, 550-640 ka ( <i>rhodesiensis</i> skull cutmarks; defleshing); Trinchera Galeria, Atapuerca, Spain, ~350 ka (colorful amygdaloid biface, among bones <i>Homo heidelbergensis</i> ; deposition); Pontnewydd Cave, Wales, UK MIS7 ~195-251 ka (5 MNI <i>Homo archaic</i> ; caching)

# Later Acheulian

## Symbolic Behaviors

- Collection/manuporting of exotic objects: Wonderwerk Cave; Hoxne; Swanscombe
- Use of pigment: ocher nodules and wear faceted crayons: Wonderwerk Cave; Ambrona; Terra Amata; Maastricht-Bélvèdere; Ede II NL
- Self-adornment: Bedford UK; El Greifa Libya; Repolusthölle Austria
- Pecked, abraded, incised, serrated or notched objects: Wonderwerk Cave; Port-Launay;
- Marking traditions, including 'cupules': Bilzingsleben; Bhimbetka; Daraki-Chattan; Pampau
- Geometric artifacts: Maihar India; Bhimbetka; Jabeek NL; Ede II NL; Pampau;
- Image/Representation: Decorated bifaces, at least 9 sites: Israel, UK, France, Monaco, NL; Figurines: Berekhat Ram; Tan Tan; Erfoud; also Swanscombe; Clacton; Vértesszöllös, Hamburg-Wittenbergen; Pampau; Boukoul NL; Beegden NL
- Stone/bone arrangements/depositions: Bhimbetka handaxe cleaver flakes in crevice
- Exotic tools (too big, too heavy, too many, unused, exquisite): Boxgrove; Shrub Hill; Furze Platt; Cuxton
- Mortuary practice: Bodo (defleshing); Atapuerca (biface deposition); Pontnewydd (caching)



## **Handaxe Puzzle: Some Too Big, Too Small or Too Good to be used as tools**

For instance some African handaxes 2' h, 25 lbs (Pfeifer 1976: 326);  
Furze Platt, 7.5 lbs, 15.6"; Shrub Hill 12" or plano-convex Wolvercote handaxes 'too good' (Wymer 1982: 103)  
Stanley Ambrose holding large handaxe, around 11.8" h  
photo University of Illinois at Urbana-Champaign News Bureau



Cuxton, Kent, UK: large ficron and cleaver, OIS7 ~230 ka  
'exquisite extraordinary workmanship, almost flamboyant, too large and heavy for this modern human to wield' (Wenban-Smith F, 2004)

L: handaxe 307mm (1'); R: cleaver 179mm (7") x 134mm (5")

Photo: BBC News 20 June 2006

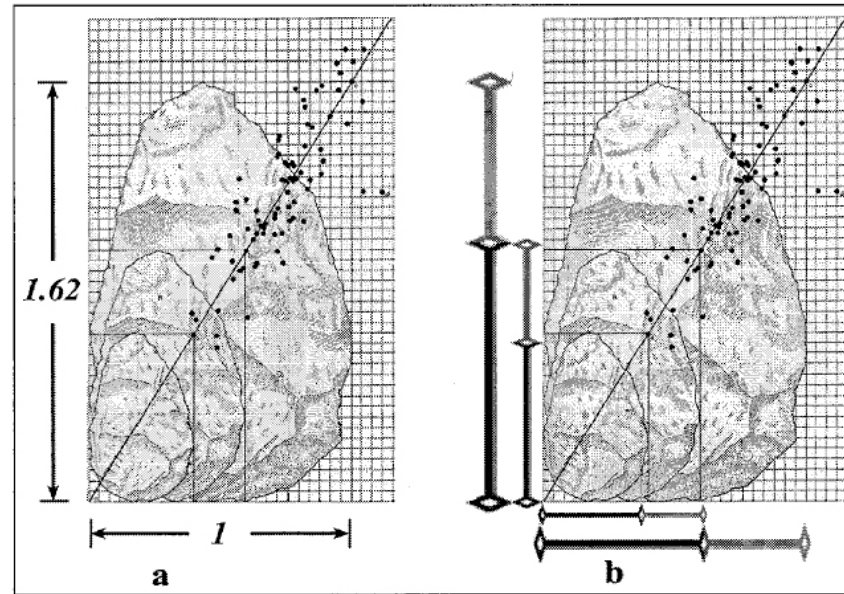


Figure 2.1. Long-time awareness and use of the Phi ratio, 1.618. (a) Gowlett's observation regarding consistency of handaxe ratios from Kilombe, Kenya, over a wide range of sizes (the largest is 17cm), c. 700,000 BP. (Graphic by John Gowlett 1993. *Ascent to Civilization: The Archaeology of Early Humans*. Used with permission of The McGraw-Hill Companies. Ratio numbers were added for clarity.) While not identified as the "golden ratio," it is now known as the general ratio of choice for handaxes during the Acheulian. (b) Gowlett's homage to the ratio in his graphic layout choices, representing the most efficient example of Phi's ubiquitous role in human creativity.

## Acheulian Handaxes and Golden Ratio

Feliks, John (2008: Fig. 2.1)

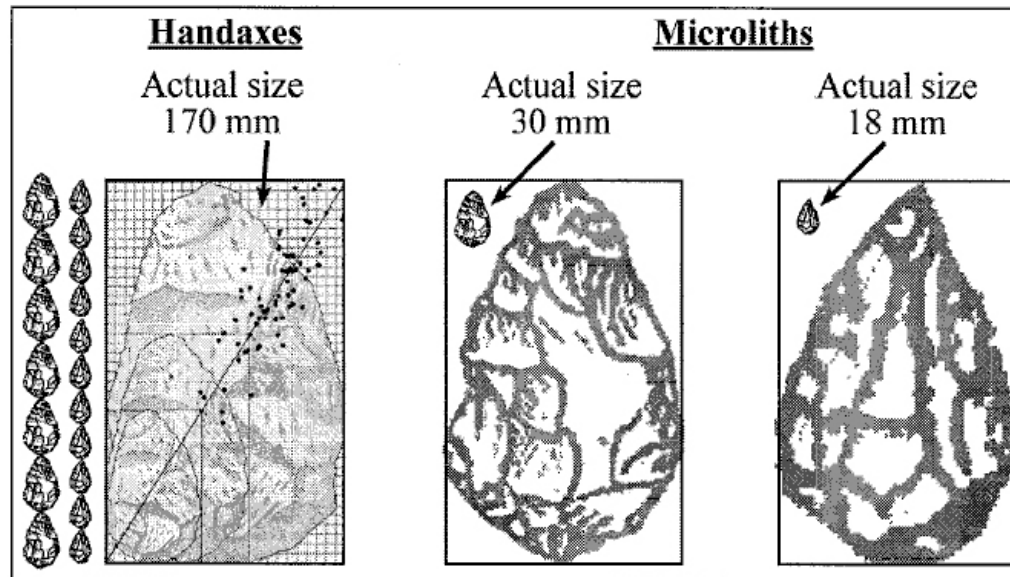


Figure 2.4. Gowlett's phi ratio discovery demonstrated to perfection by the Bilzingsleben microliths. This is the earliest evidence of miniaturization adhering to an identifiable mathematical ratio. Each enclosing rectangle is a "golden rectangle" in the ratio 1.618. The microliths and largest Acheulian handaxe have been equalized in size so that their identical ratios are readily seen. The several insets show the microliths as they compare in actual size to the handaxes, being up to 11 times smaller. (Kilombe handaxes, Gowlett 1993. Bilzingsleben microliths, Svoboda 1987.) The microliths also represent the earliest evidence for miniaturization of a pre-established technology, 350,000 years before the comparable histories of gears and microchips. Since microlithic tools are traditionally associated with highly advanced cultures, their presence at Bilzingsleben helps to confirm deliberate sophistication of the site's engravings.

## Acheulian Handaxes and Golden Ratio

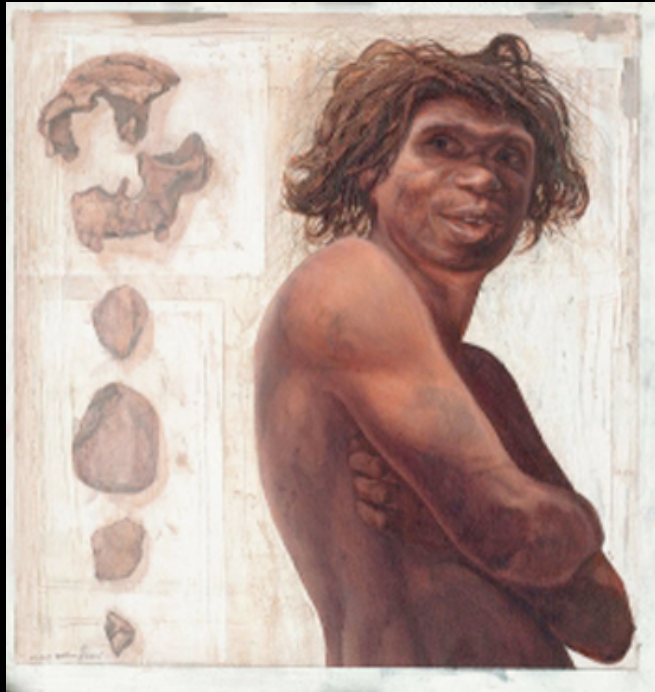
Feliks, John (2008: Fig. 2.4)





Sima de los Huesos, Atapuerca, Spain, >350 ka  
(probably 400-500 ka)

photos, <http://tempsreel.nouvelobs.com>



Adolescent, *Homo heidelbergensis*  
Sima de los Huesos, Atapuerca, Spain, >350 ka

photos, <http://tempsreel.nouvelobs.com>



'Handaxe', associated with MNI 27 *Homo heidelbergensis*  
Status of remains suggests mortuary ritual – cache deposition  
Sima de los Huesos, Atapuerca, Spain, >350 ka (400-500 ka)

Finely flaked quartzite; Carbonell, E (2003)  
photo, online



**Female Figurine, Berekhat Ram, Israel  
~350-500 BP**

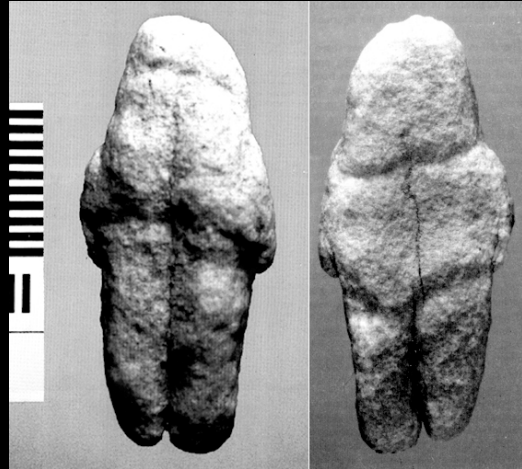
35 mm. high, reddish basaltic tuff, partially worked  
Photo: Alexander Marshack in Bahn and Vertut (1997: Fig. 2.2)  
Goren-Inbar (1986)

## Later Acheulian 'Symbols of Potency /Potentiality'

Composite images not to scale

### Top: Female figurines

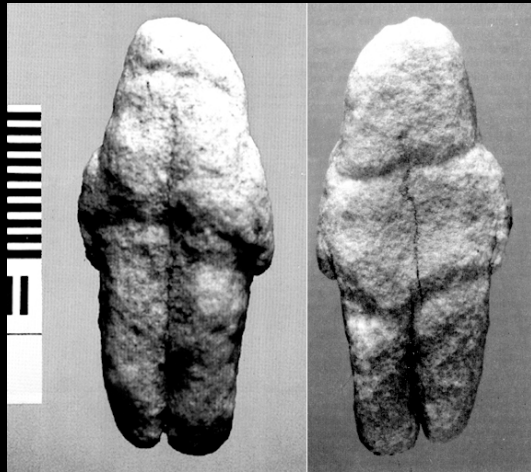
- Tan-Tan, Morocco, ~300-500 ka  
(anthropomorphic figurine, painted with red ochre, unlike nearby tools; photo Robert Bednarik 2001)
- Berekhat Ram, Israel, ~350-500 ka  
(female figurine, 35 mm. high, reddish basaltic tuff, partially worked, Goren-Inbar 1986; photo: Alexander Marshack in Bahn and Vertut 1997: fig. 2.2)



### Bottom: Phallic figurine

- Erfoud, Morocco, ~200-300 ka  
(Site A-84-2, phallic figurine, silicified fragment of fossil cuttlefish cast; found in dense cluster of Later Acheulian tools of similar dark patination; collection, Lutz Fiedler, Marburg University; photo Robert Bednarik 2001: fig. 2)





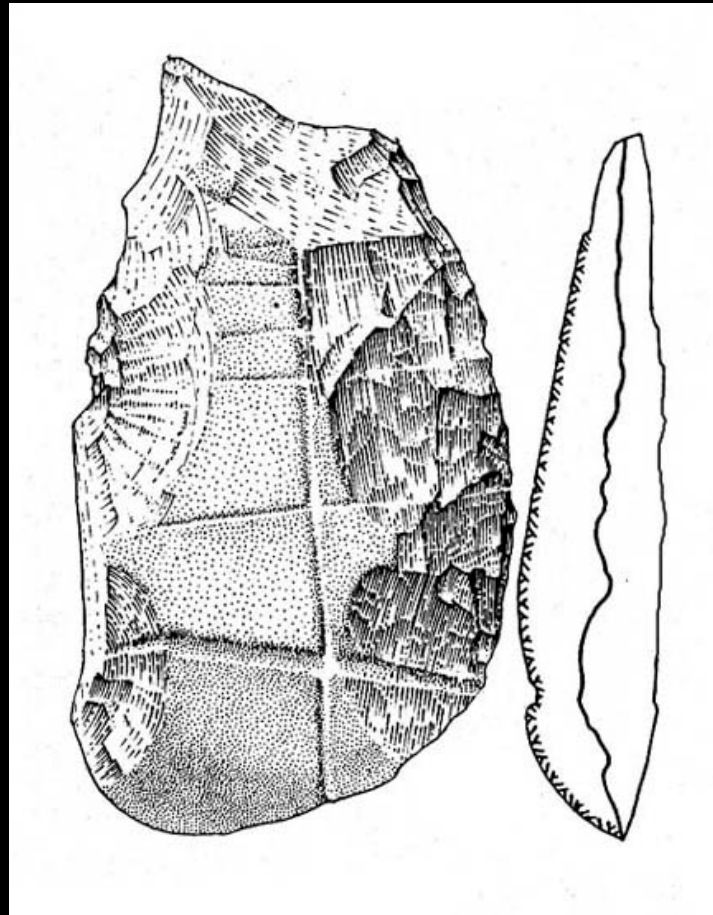
## Tan-Tan, Morocco, ~300,000-500,000 BP

Anthropomorphic Figurine, painted with red ochre, unlike nearby tools  
photo Robert Bednarik (2001)



**Erfoud, Morocco, ~200,000-300,000 BP**

Site A-84-2, phallic figurine, silicified fragment of fossil cuttlefish cast  
Found in dense cluster of Later Acheulian tools of similar dark patination  
Collection, Lutz Fiedler, Marburg University  
photo Robert Bednarik (2001: Fig. 2)

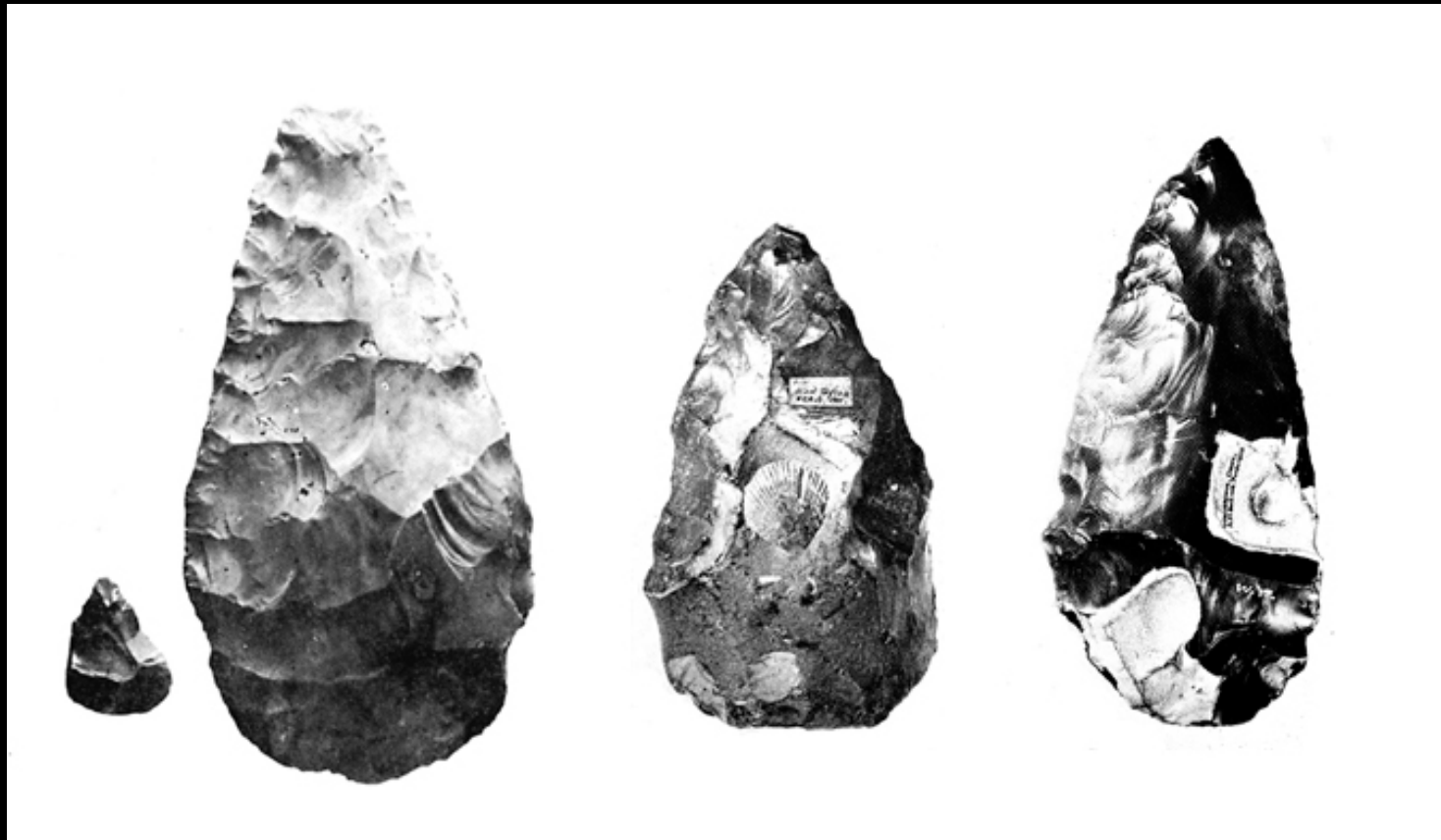


**Biface with markings, Later Acheulian  
La Grotte de l'Observatoire, Monaco**

Lozenge-shaped biface having 1 vertical line and 6 cross lines, with separation diminishing upwardly  
illustration, H. de Lumley (1976: Fig. 12.5)

examined, Robert Bednarik (personal communication), natural markings caused by eroded inclusions





## Later Acheulian 'Symbolic' Handaxes, Britain

Composite images not to scale

- L: giant handaxe, pointed cordiform, ~15.6" h, 7.5 lbs, Furze Platt, Maidenhead (Oakley 1961, pl. 1)  
M: handaxe, ~5.5" h, West Tofts, Norfolk, Final Acheulian or MP, ~100 ka (photo Colin Renfrew in Pfeiffer (1982))  
R: pointed cordiform, ~8.5" h, Wolvercote, MIS9, ~300,000 BP, photo Wymer (1982: pl. 14)

APPROACHES TO ANTHROPOLOGICAL ARCHAEOLOGY

## Axe Age

Acheulian Toolmaking from Quarry to Discard



Edited by  
Naama Goren-Inbar and Gonen Sharon

### This is Definitely Not a Face

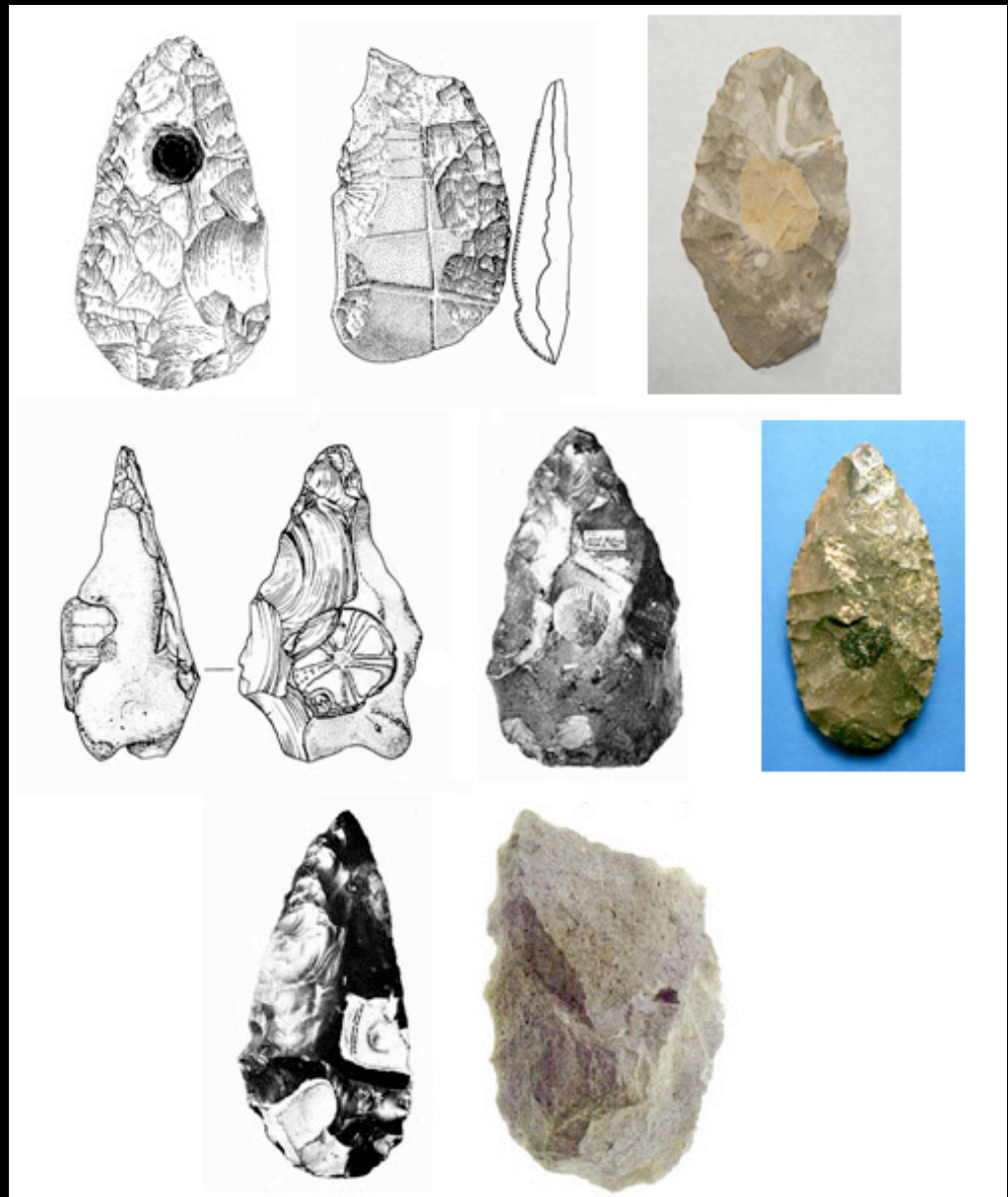
Gesher Benot Ya'aqov (GY), Israel, probably MIS 18 ~687-726 ka; cleaver  
N. Goren-Inbar & G. Sharon (eds). 2006. *Axe Age: Acheulian Toolmaking, from Quarry to Discard: Approaches to Anthropological Archaeology*; cover; photo Gabi Laron);  
'probably MIS 18, one of several with 'eye', eroded vesicles in basalt, remarkable for cleavers normally made with attention to homogeneity of material' (Goren-Inbar, *personal communication*, 2010)

# Later Acheulian 'Decorated Bifaces'

Composite images not to scale

## Top: Biface + Embedded Geometric Shape

- La Morandière, Gièvres, Loire, 370±110 ka (Despriée et al 2009: fig. 21)
- La Grotte de l'Observatoire, Monaco, OIS6-8 (de Lumley 1976: fig. 12.5)
- Gainneville, Seine-Maritime, Normandie, ~450 ka (21.5 cm, poor provenance, Overstreet 2001 online)



## Middle: Biface Birthgiver

- Swanscombe, UK, OIS11 ~400 ka (Oakley 1973: pl. 1A)
- West Tofts, Norfolk, ? OIS7, h. ~5.5" (photo Colin Renfrew in Pfeiffer 1982)
- Cys-la-Commune, Aisne, France, OIS5e (photo & collection JBH courtesy Jan Evert Musch)

## Bottom: Biface + Face/Mask

- Wolvercote, OS9, ~300 ka  
H: 8.5" (photo Wymer 1982: pl. 14)
- Gesher Benot Ya'aqov (GY), Israel, probably MIS 18 ~687-726 ka; cleaver (N. Goren- Inbar & G. Sharon (eds). 2006. *Axe Age: Acheulian Toolmaking, from Quarry to Discard: Approaches to Anthropological Archaeology*: cover; photo Gabi Laron); "probably MIS 18, one of several with 'eye', vesicles in basalt, remarkable for cleavers normally made with attention to homogeneity of material (Goren-Inbar, *personal communication* 2010)

# Later Acheulian 'One Eye Open & One Eye Closed'

Composite images not to scale

Top:

- SW Asia, cleaver (N. Goren-Inbar & G. Sharon (eds). 2006. *Axe Age: Acheulian Toolmaking, from Quarry to Discard: Approaches to Anthropological Archaeology*: cover)
- Groß Pampau, GR, MIS12-13 ~423-524 ka, possibly also MIS11 (Benekendorff 1990).

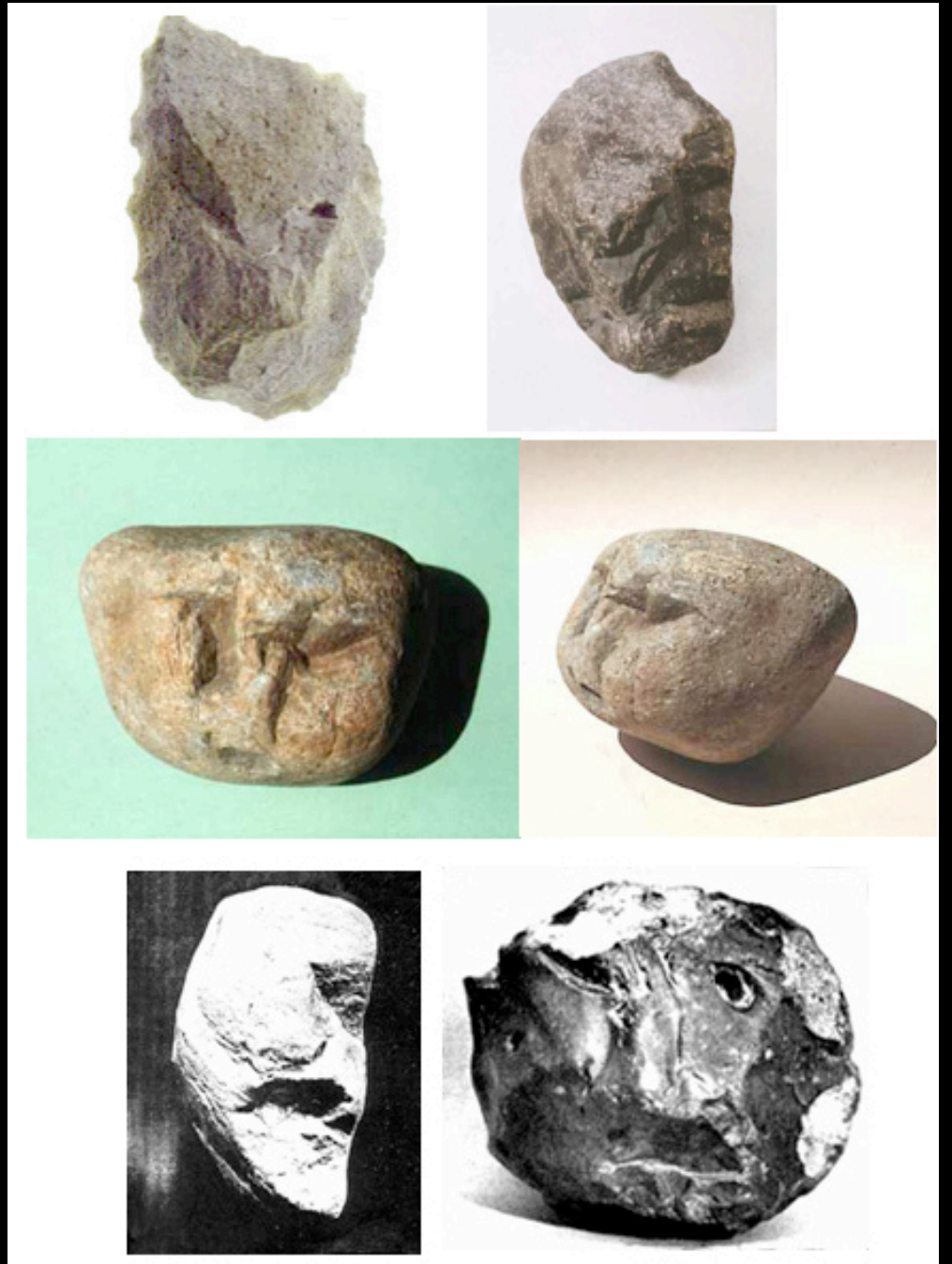
Middle:

- Groß Pampau, GR, OIS7-OIS13, mostly OIS9 ~300 ka to OIS11 ~400 ka front and side views, (Photo, collection, JBH courtesy Benekendorff)

Compare to Khoisan Baboon Myth  
(baboons knock out one eye of Mantis' child)

Bottom:

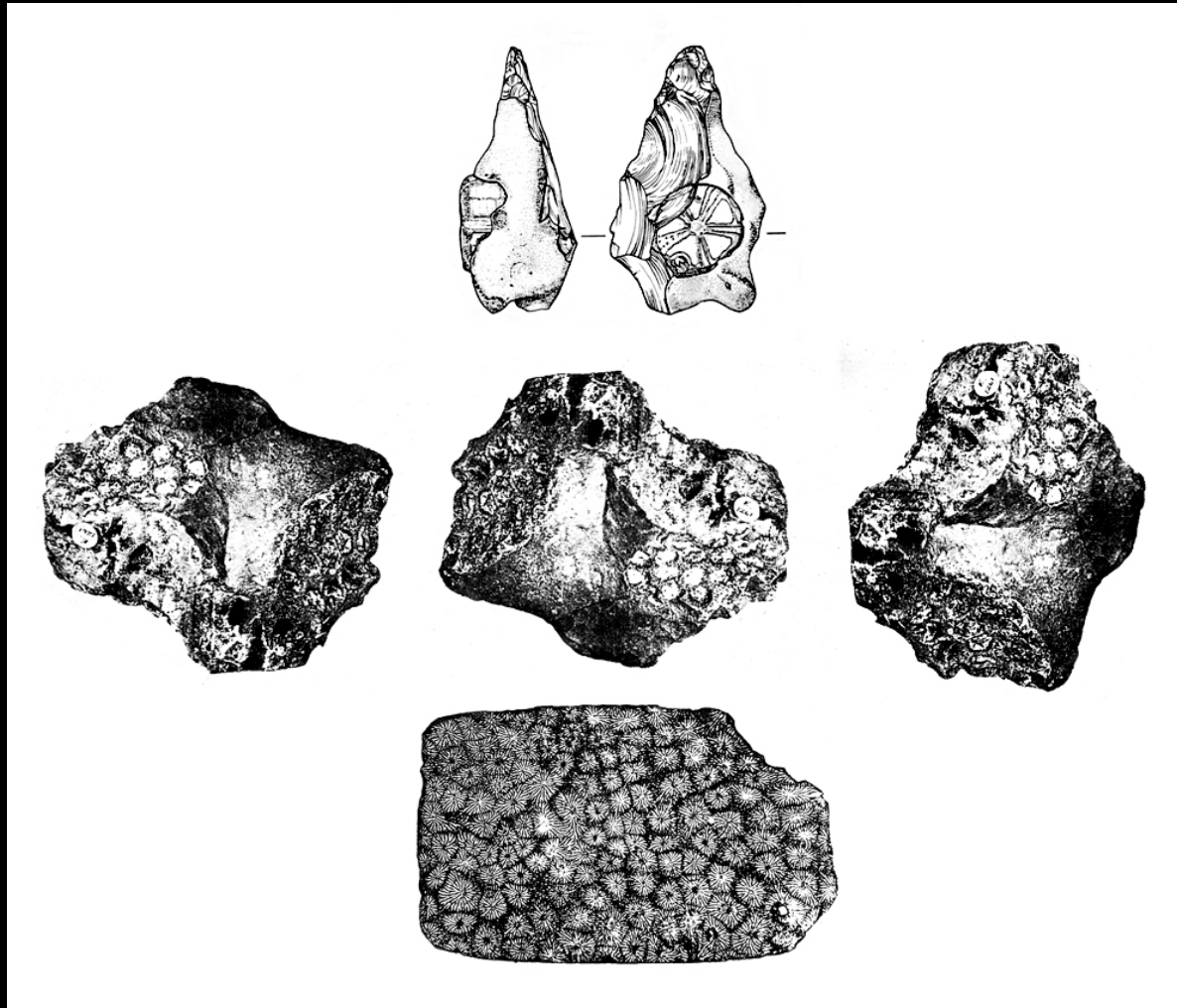
- Hamburg-Wittenbergen, GR, OIS7 ~230 ka (Matthes 1963: Taf. 5.2)
- Hamburg-Wittenbergen, GR, OIS7 ~230 ka (Matthes 1964/1965: Bild 63)





Cys-la-Commune, Aisne River Valley, France,  
Final Acheulian, Eemian, ~115-127 ka

photo James Harrod. Courtesy, Jan Evert Musch, purchased from a Cys-la-Commune antiquarian shop, with identification as coming from Cys-la-Commune Eemian gravels; collection James Harrod



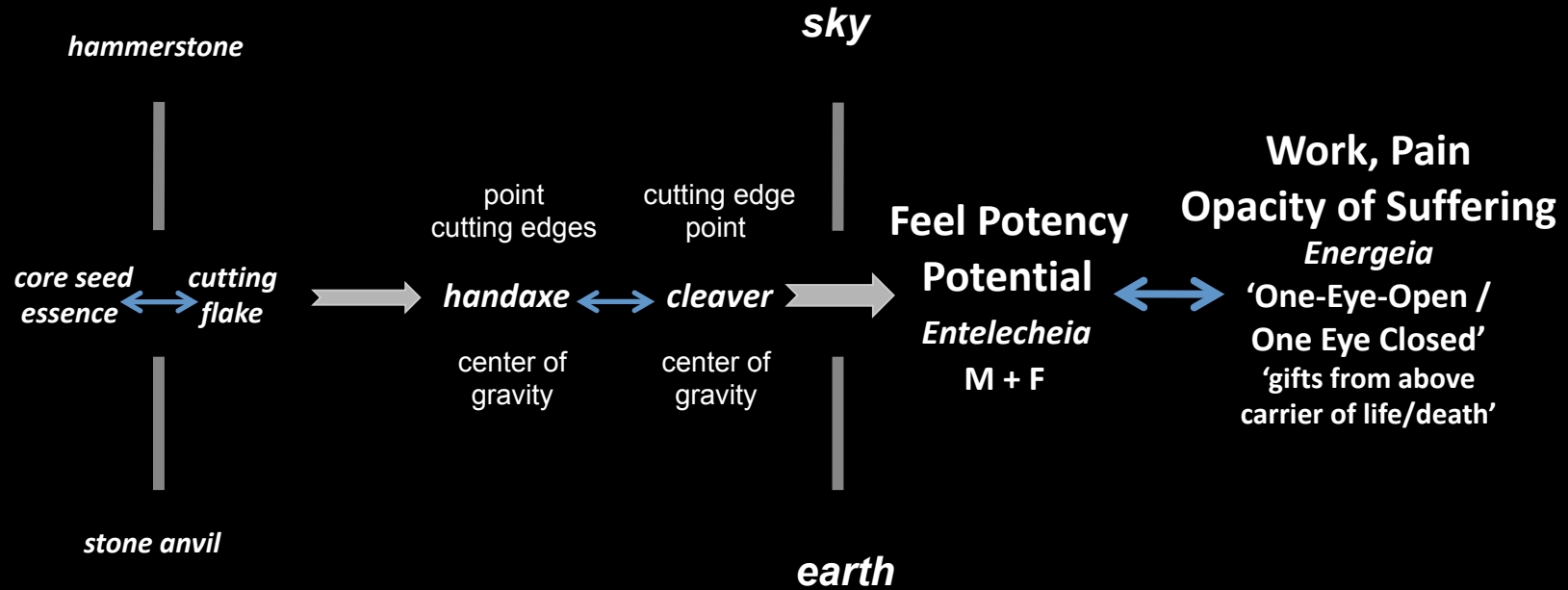
## Swanscombe, England, 400,000 BP

Swanscombe, Kent, England, Upper Middle gravel, MIS11, ~400 ka  
Top: handaxe with fossil 5-pointed urchin; Middle: flake, manuported chert with fossil coral *Isastraea oblonga* flakes; Bottom: polished section of coral chert, shows pentagonal pattern, called 'starrystone', Weymouth, Dorset  
Oakley (1973: pl. 1A)

# Meme #2C Later Acheulian: Combination Polymorphic Symbols = Mythologems?

On background of Middle Acheulian symbolic complementarity: Sheath, Womb Source of Animacy (Life-Giver)  
& Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver)

- 'Decorated Biface ('handaxe')'
  - Biface + Embedded Geometric Shape (circle 'eye', lattice) e.g., la Morandiére, Gièvres, Loire; Grotte de l'Observatoire, Monaco
  - Biface + Embedded Geometric (fossil 'rays', 'womb' marking + 'Female Birthgiver') e.g., Swanscombe Middle Gravels; West Tofts; Cys-la-Commune; Galeria, Atapuerca, red biface mortuary ritual (?)
  - Biface + Face/Mask e.g., Wolvercote; Boukoul (van Es); Beegden (van Es)
- Predator + Human + Geometric + Prey e.g., Swanscombe Middle Gravels
- Human + Animal (lion, etc.) e.g., Hamburg-Wittenbergen; Pampau (UB); Boukoul; Beegden
- Mask Face: One Eye Open and One Eye Closed e.g., Hamburg-Wittenbergen; Pampau; Boukoul
- Elephant (or mammoth) + female (vulva) + egg (sun) ± bird ± lion e.g., Boukoul; Beegden; Clacton (Parkes)
- Male + Female, 'Kissing couple' (?) e.g., Hamburg-Wittenbergen; Pampau; Boukoul; Beegden
- Male + Female + 2 or more Animals e.g., Warlingham, Surrey, 'marriage licenses' (Williams)?



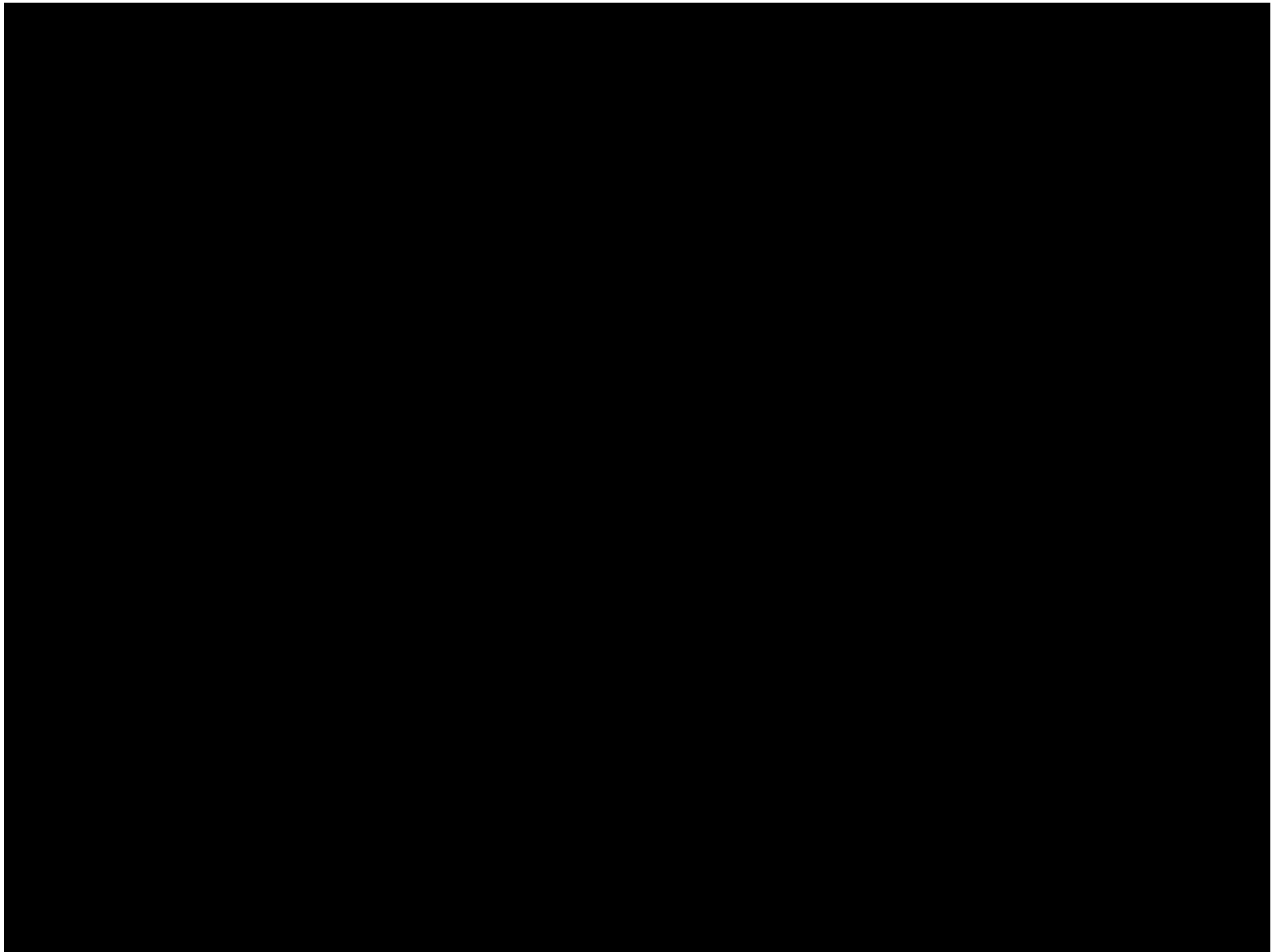
## Meme #2C Later Acheulian:

Idea Complex Model = 'Lattice of Space'

Handaxe: Sheath, Womb Source of Animacy (Life-Giver) → Seed Potency, Potentiality, *Entelecheia*; both 'Male and Female' gendered symbols

Cleaver: Vehicle, Cutting Spirit, Energy of Initiative (Death-Giver) → Manifest Work in Reciprocity, *Energeia*; compare thematics of 'One Eye Open / One Eye Closed' = pain, suffering, opacity of suffering + (feline, leopard / human face) 'gifts from above . . . to be concretized, manifested in work in reciprocity' + qua 'vehicle' = 'that which carries' (net bag that carries cutting tools, baby sling, food; but also 'my body', cf. Canetti, Bushman 'carrying the carcass presentment')





**Later Acheulian Period**  
**Marking Motifs**

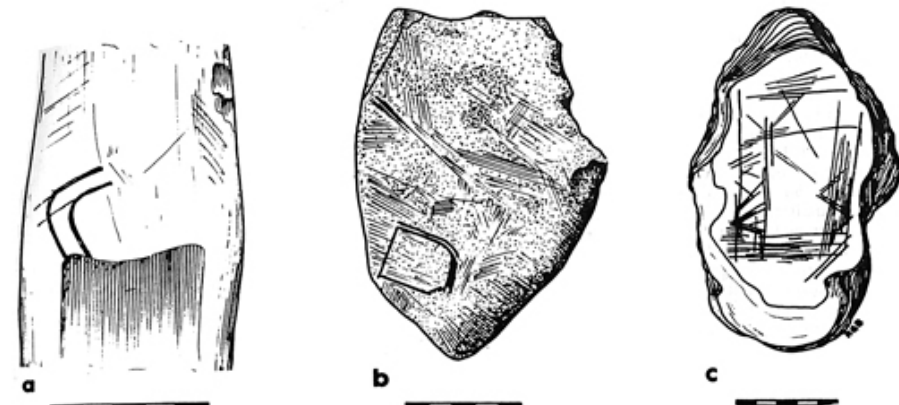
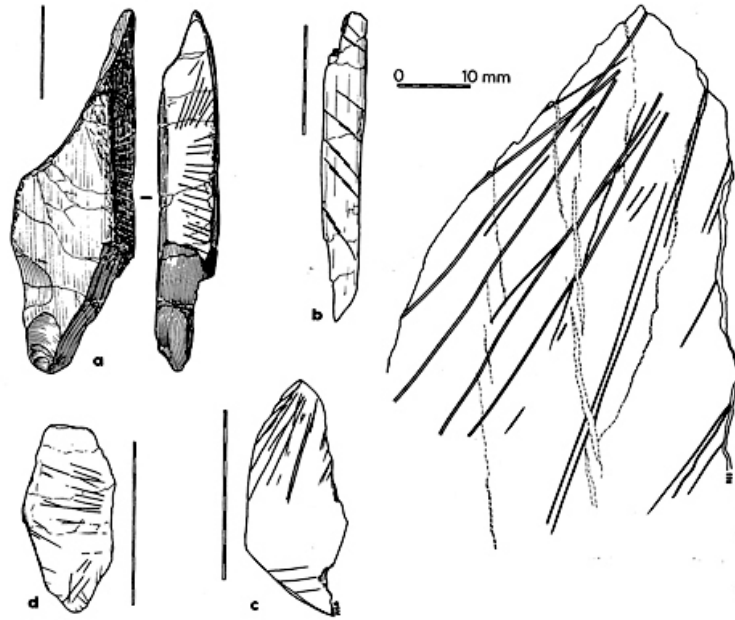


FIG. 3. Engravings on further objects from Bilzingsleben. a, double arc on a polished ivory point; b, arcuate design on a quartzite slab; c, geometric arrangement on a metatarsal bone. Scales 5 cm.

## Later Acheulian Marking Motifs, Bilzingsleben, Germany, OIS11, ~400,000 BP

illustrations, Bednarik, R.G. (1995: Fig. 1 and 2) Concept-mediated marking in the Lower Paleolithic. *Current Anthropology* 36,4:605-634.

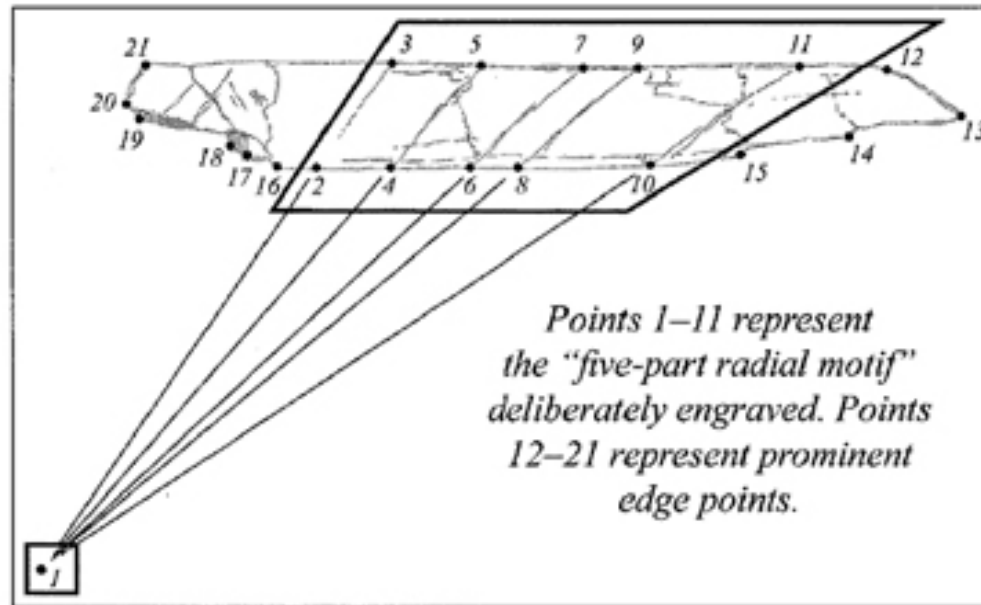


Figure 2.5. Numbering system used in studies associated with the radial motif of Artifact 2.  
Note #1: Lines which do not participate in the radial motif are not focused upon in this particular series. Note #2: Although part of a larger set including triangles, trapezoids, parallelograms, only studies related to phi via circles and rectangles are focused upon in this paper. Artifact 2 after Mania and Mania 1988. Artifact 2 is the flat rib bone of a large mammal, and measures 286mm in length by 36mm in width.

Incised bone Artifact #2: Concept of the Invisible Point of Divergent Line (Radial, Fan or Radiance) Motif  
Bilzingsleben, Germany, OIS11, ~400,000 BP

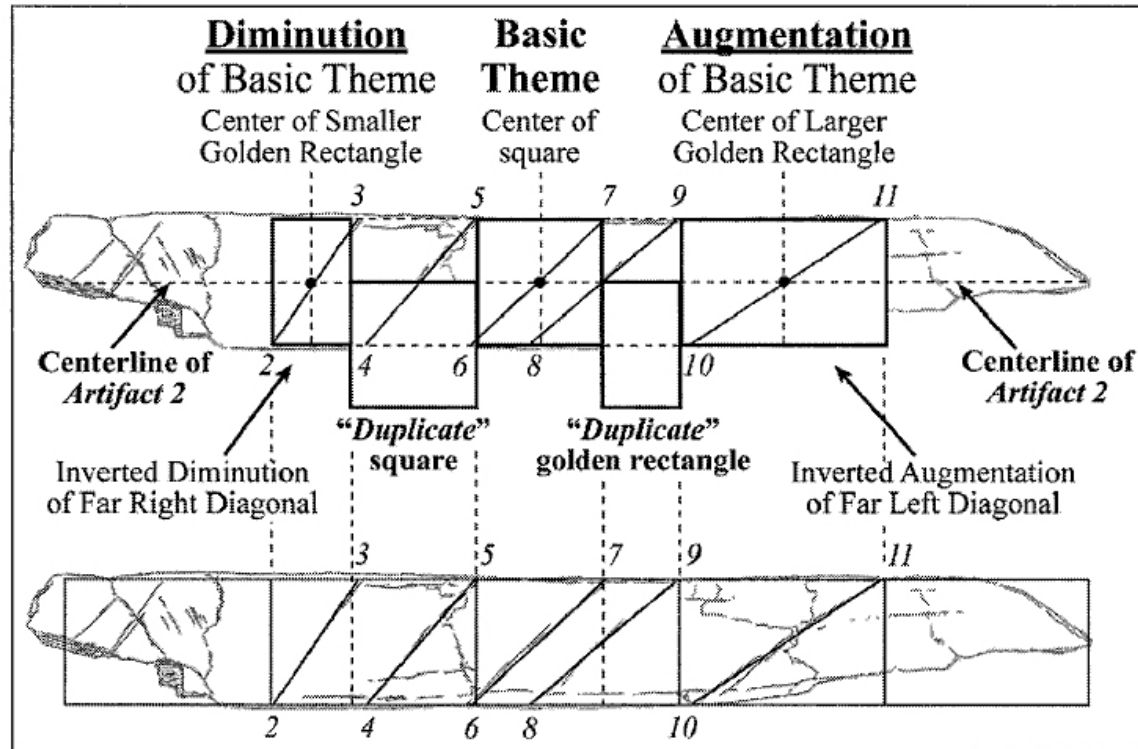


Figure 2.8. Diminution and augmentation in the Artifact 2 golden groups. These and other terms were appropriated from Bach fugue writing and are useful tools for exploring analog structures in language (e.g., revisiting the deep and surface structure of Chomsky's "universal grammar") and mathematics (e.g., progressive fractals, logarithm), to name only two. They can provide insights into many other disparate areas of the pre-sapiens psyche.

The Music of Bilzingsleben  
 Incised bone Artifact #2: Golden Ratio groups  
 Bilzingsleben, Germany, OIS11, ~400,000 BP

Feliks, John (2008: Fig. 2.8)

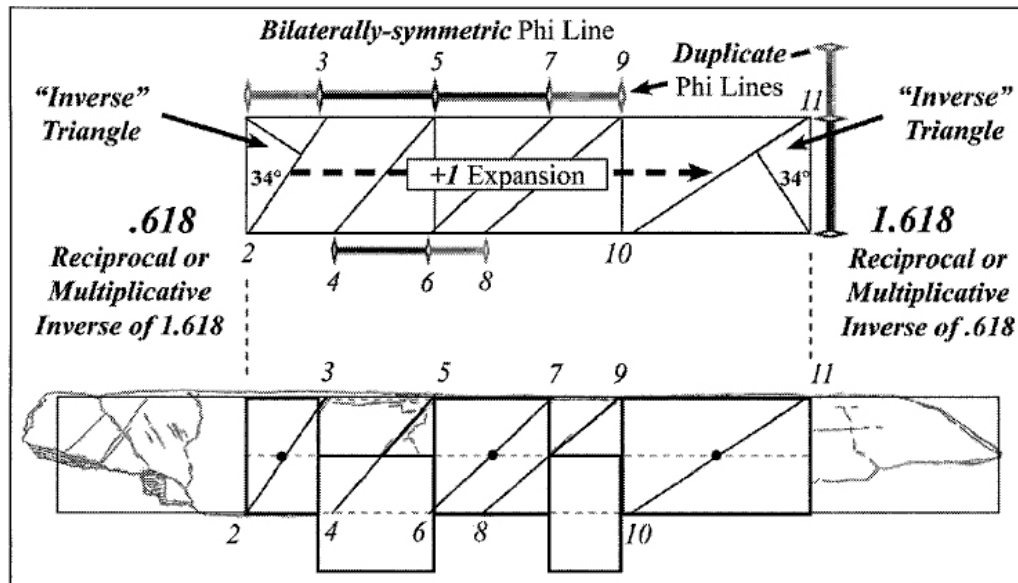


Figure 2.9. Inverse triangles in the Artifact 2 golden groups. This is another example of how fractals offer access to multiple levels of pre-sapiens knowledge simultaneously. It is not unlike how a musical composition may be appreciated on the level of sound, but can also be understood silently by way of a musical score. The fractal qualities of this particular artifact are detailed in Part I, The Graphics of Bilzingsleben, and extend even further to the compound structure of each individual line. Like music, geometry such as that of Artifact 2 communicates universally, and has no dependence upon text or representational images. This supports Chomsky's idea that language is separate from thought (see also Pinker 1994).

Mental Template of Conceptual Inversions  
 Incised bone Artifact #2: Inverse Triangles  
 Bilzingsleben, Germany, OIS11, ~400,000 BP

Feliks, John (2008: Fig. 2.9)

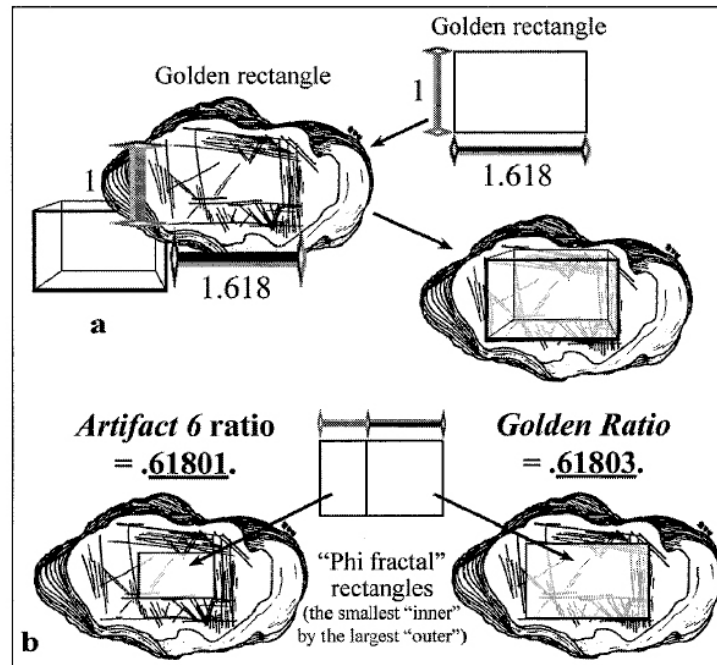
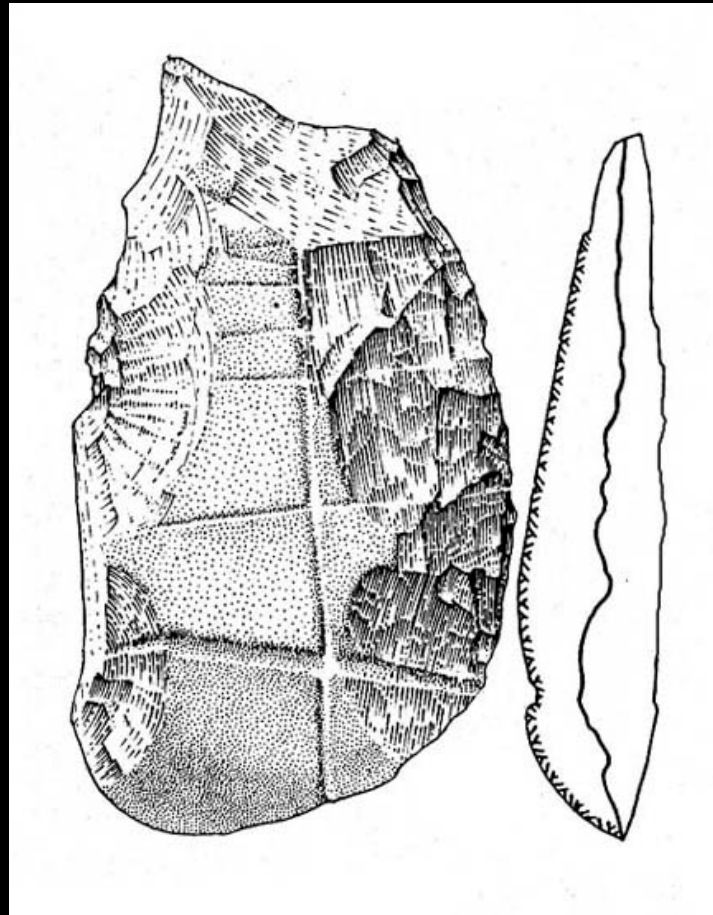


Figure 2.12. Confirmation of Phi awareness via deliberately engraved golden rectangles. (a) Artifact 6 golden rectangle and depth representation. (b) Artifact 6 fractal rectangles with phi carried out to five decimal points, supporting the idea of “phi-based conceptual units.” Artifact 6 is the tarsal joint bone of a straight-tusked elephant, and measures 170mm in length. Bilzingsleben Artifact 6 drawing from Bednarik 1995. Used with permission. EXACT MEASUREMENTS for Figure 12b: The smaller Golden Rectangle (implied by its lower right  $90^\circ\angle$ ) is 48.351mm x 29.939mm. The larger Golden Rectangle (implied by its lower left  $90^\circ\angle$ ) is 78.236mm x 48.444mm. To figure the ratio between the two: 48.351 divided by 78.236% = 61.801% or .61801. The Golden Mean carried out to five decimal points is .61803. If the measures are correct it suggests either innate or deliberate Phi awareness to within 2 hundred-thousandths accuracy.

## Incised Artifact #6: Golden Ratio Rectangles Composition Bilzingsleben, Germany, OIS11, ~400,000 BP

Feliks, John (2008: Fig. 2.12)














**Biface with markings, Later Acheulian  
La Grotte de l'Observatoire, Monaco**

Lozenge-shaped biface having 1 vertical line and 6 cross lines, with separation diminishing upwardly  
illustration, H. de Lumley (1976: Fig. 12.5)

examined, Robert Bednarik (personal communication), natural markings caused by eroded inclusions



## Later Acheulian Marking Motifs

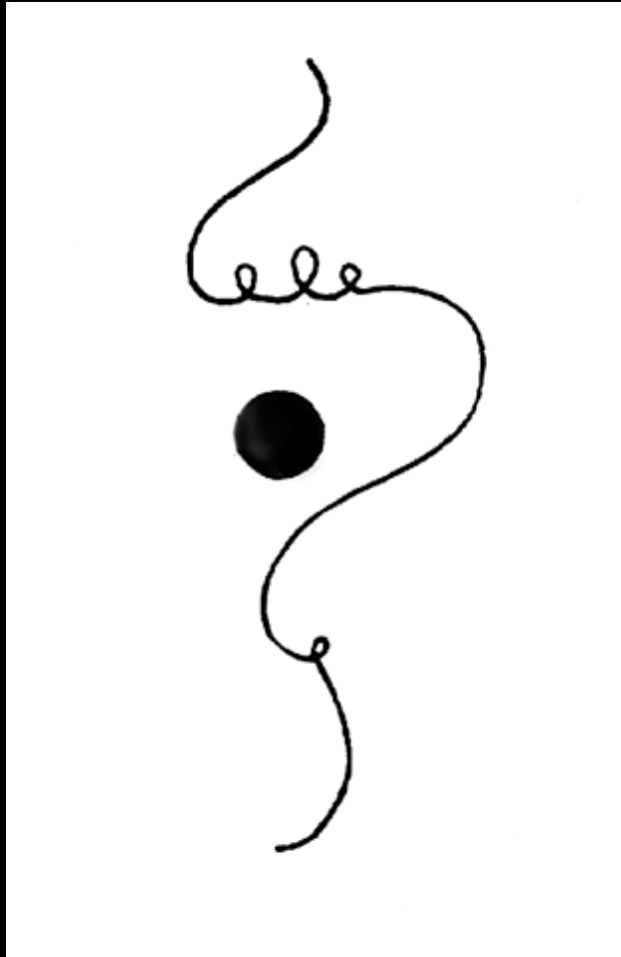
- |    |                                  |   |
|----|----------------------------------|---|
| 1  | Cupule                           |    |
| 2  | Undulating Line                  |    |
| 3  | Convergent Line Motif            |    |
| 4  | Divergent Line Motif             |   |
| 5  | Arc                              |    |
| 6  | Iterative Stroke Marks           |    |
| 7  | Lattice                          |    |
| 8  | Shape of Space                   |   |
| 9  | [Iterations of Marking Motifs]   |    |
| 10 | [Combinations of Marking Motifs] |    |

# THE BHIMBETKA GLYPHS



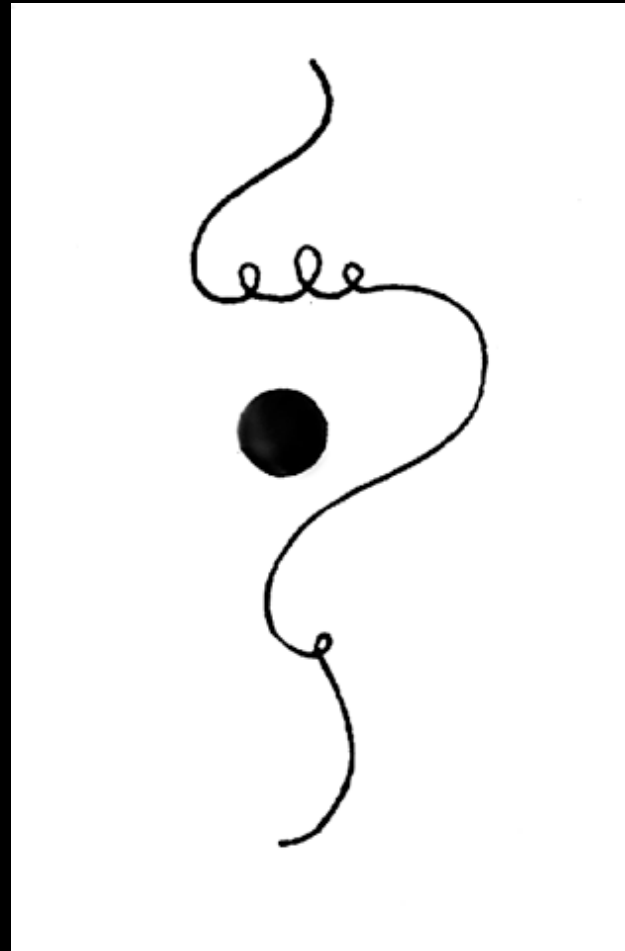
## Bhimbetka Glyphs

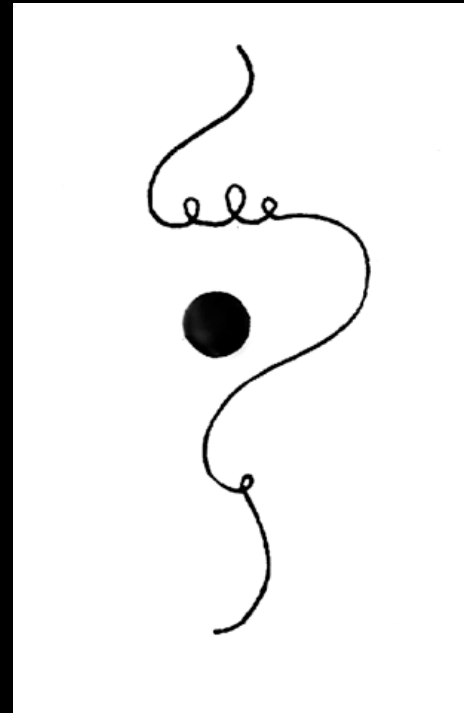
Auditorium Cave, Bhimbetka, Central India  
photo Robert Bednarika



## Point and Undulating Line






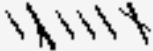
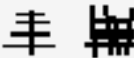



Wassily Kandinsky  
*Point and Line to Plane* (1979: fig 2)





**The Bhimbetka Semiotic Armature**  
*contraria sunt complementa*

<i>Cupule</i>	<i>Undulating Line</i>
<i>Technique: Percussive pecking</i>	
<i>Medium: Stone</i>	

Later Acheulian Marking Motifs		
1	Cupule	
2	Undulating Line	
3	Convergent Line Motif	
4	Divergent Line Motif	
5	Arc	
6	Iterative Stroke Marks	
7	Lattice	
8	Shape of Space	
9	[Iterations of Marking Motifs]	
10	[Combinations of Marking Motifs]	

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