

## **Deciphering Later Acheulian Period Marking Motifs (LA<sub>mrk</sub>): Impressions of the Later Acheulian Mind**

Abstract. Current archaeological evidence indicates that Early Paleolithic peoples used a repertoire of intentional marking motifs. Occurrences are generally dated to the Later Acheulian period, from around 600,000 to 200,000 years ago. Examples have been found across Eurasia. They appear limited to an array of about eight shape types: cupule, undulating line, convergent lines, divergent lines, arc, iterative strokes, geometric ‘shape of space’ and lattices. These marking motifs are not random marks, but display stereotypical patterns, which are combined in aggregates and distinctive pairs. This suggests a semiotic competence. A review of occurrences of motif pairs suggests that there is an underlying semiotic armature including the differential features of paired motifs and their common marking strategy, both technique and medium, and this serves to generate meanings and their resonances. I then suggest decipherments of Later Acheulian markings based on several principles, that each shape is a movement-form, that the forms mean their movement-forms, that their pairings mutually inter-define their meanings, that decipherment must be multileveled to correspond to the three levels of its armature, and that meanings are both expressive and iconic.

### **Objective**

The question is whether archaeological evidence of intentional markings during the latter part of the Early Paleolithic can be interpreted as language or symbol and, if so, whether they can be decoded?

Note: Since this study presents an overview of marking motifs from places as diverse as India and Europe, I refer to the overall set of motifs, which I view as symbols having intrinsic differential, opposition or complementarity features, as belonging to a ‘Later Acheulian marking system’ or ‘LA<sub>mrk</sub>’. While archaeologists generally use the term ‘Acheulian’ to refer to a specific cultural tradition, I am here using the term ‘Later Acheulian’ loosely to mean a period of prehistory, the Later Acheulian, roughly 600,000 to 200,000 years ago; it contained a number of distinct symbolic traditions not restricted to the ‘Acheulian’ cultural tradition, *sensu stricto*.

### **Introduction**

The search for the origins of symbol, language, art and spirituality requires the multidisciplinary effort of fields that include but are not limited to archaeology, paleontology, linguistics, anthropology, neuroscience, psychology, and the history of religions. The question of origins has been intensely debated within and across these disciplines and has resulted in voluminous publications. On one side are those who argue for a short chronology, such as Noble and Davidson (1996, 1993), Mithen (1996a, 1996b) and White (2003). They admit sparse antecedents for symbolism beginning around 100,000 years ago and a ‘creative explosion’ around 40,000 years ago; they deny symbol or art prior to *Homo sapiens sapiens* and that

singular objects can be explained by other means. Similarly Chase and Dibble (1987), Chase (1991) and Lindly and Clark (1990) assert that the existing Middle Paleolithic and earlier evidence is too sparse to reveal repetition of symbols that would indicate 'symbolic' conventions.

On the other side are those who argue that there is enough evidence for a long chronology with an incremental, 'gradualist' evolution of symbol and art throughout the course of human evolution. Edwards (1978) reviewed evidence on red ochre, handaxes, quartz crystals, etc. and concluded that it was time to "reform" our views of the Early Paleolithic. "It no longer seems adequate to describe the Neanderthal/Mousterian remains as the first and earliest evidence for aesthetic or non-utilitarian behavior." Duff, Clark and Chadderdon (1992) argued that the punctualist position would be falsified if new evidence were discovered or brought into the account or if just one artifact were convincingly shown to meet one or more criteria of symbolic behavior. They argue that Chase's criteria (arbitrariness, patterning) are too limited; they expanded the criteria to include symbol arbitrariness, standardization, repetitive patterning, rule out of functional or natural explanations, and evidence of role in physical performance. They review proposed Early Paleolithic symbolic artifacts to date, including some noted by Marshack and Bednarik, and concluded that "the roots of symbolism can be traced to the Lower and Middle Palaeolithic, but that evidence for a robust pattern documenting its presence is not found until the Upper Palaeolithic". Since Duff, Clark and Chadderdon more evidence has been found. Bednarik (2003, 1995, 1994a, 1994c and 1992b) provides comprehensive reviews of the evidence for Early Paleolithic symbolism or 'palaeoart' including ostrich eggshell beads; red ochre use; collection and curation of exotic objects (crystals, fossils, etc.); geometric discs; intentional marking motifs engraved on bone and stone from Bilzingsleben, Germany; cupule and meander petroglyphs from Bhimbetka, India; stone sculptures from Berekhat Ram, Israel; Tan Tan and Erfoud, Morocco. Harrod (2003, 2002a, 2002b, 1992) has argued the case for the existence of some five later Early Paleolithic sculpture traditions and precursor symbolism in the Early and Middle Acheulian periods and the Oldowan. Bednarik (1995:605) gives a summary critique of the short chronology view.

"Elucidation of the evolutionary context of the earliest production of humanly made, intentional markings is hampered by insufficient resolution in the relevant archaeological 'record,' failure to consider the effects of taphonomic selection on this 'record,' archeological biases against evidence purported to relate to early cognitive capacities, inadequate familiarity of some protagonists with the available relevant evidence, archeological conservatism predicated on the durability of unfalsifiable propositions, and tendency to interpret lack of a particular class of evidence as denoting the historical absence of the phenomenon it is thought to represent."

In this study, I draw upon the archaeology for the long chronology of symbol and art.

Before proceeding it is important to point out a current problematic in the definition of symbol. There is great confusion in the literature with respect to distinguishing between or conflating the definitions of 'symbol' and 'language'. Chase (1991) and others draw upon Pierce's semiotics to define 'symbol', as distinct from 'icon' and 'index', in terms of the arbitrary relation between signifier and signified. Conversely, Noble and Davidson (1996) suggest that "symbol-making" and the first "sign" or "symbol" arose when "calls and gestures" were used in an "iconic" manner: this was an interim step toward language and art (224). Here the two terms, sign and

symbol are used without discrimination. Is it not critical to distinguish 'sign' from 'symbol', and hence 'marking'? Isn't this one of the major contributions of the philosopher Derrida, 'that sign' (the arbitrary relation between signifier and signified) must be juxtaposed to 'writing', that which he also calls 'inscription', 'glyph' or 'graphematics'? If there is a distinction between sign and marking, is it there not the same distinction between sign and symbol? Freud, Jung and other psychoanalysts emphasize the distinction between sign and symbol. In effect, they argue that language, i.e., grammar, syntax, etc., resides on the left side of the brain and is linear in nature, while symbols are on the right side and are holistic. This is Freud's distinction between what he called primary and secondary process, in other words, discursive language and 'picture-thinking', that is, symbolism. A similar problematic occurs with the term representation. The philosopher Suzanne Langer emphasized that art, and by association symbol, belongs to the realm of presentation and not representation. Music, she argued, is purely presentational and not representational; she argued the same for the other arts as well.

In the line of such arguments it would appear to be of heuristic use to adhere to a distinction between sign and symbol.

### **General Method and Procedures**

Subjects. The current evidence for intentional markings is drawn from a review of archaeological and rock art literature as of 2003.

Procedures. In this study I use a method for inferring 'meaning' that I have developed to be applicable to archaeological artifacts that are potentially 'palaeoart' or 'palae-symbolism'. The method employs a series of action-principles in roughly sequential order.

Initial concerns are primarily archaeological. Principle 1: Select objects of secure archaeological provenance and dating. 2: Identify artifactuality, i.e., that the object is a human-made artifact or curated 'naturefact,' typically rock art or mobiliary engraving, stone sculpture, exotic objects, or other artifact of 'palaeoart.' 3: Determine taphonomic reliability—what survived, what didn't. 4: Accurately determine material features of the object and its context. 5: Identify and if appropriate rule out pseudo-operators or background noise, such as random cutmarks, carnivore marks, vascular grooves, parasitic holes or marks, natural fractures, trampling or abrasion marks, etc.; although any of these might be incorporated into a semiotic or symbolic intention and this might be decidable by context or 'in-text'. The application of these principles may be termed the 'archaeological moment' of interpretation.

Next identify indicators of possible semioticity. 6: Examine 'internal context' or 'in-text' to determine if marks are restricted in number, repeated, paired or otherwise associated, set in binary oppositions, correspondences, or have iconic potential and thus suggest basic design elements, motifs, a message or story. 7: Identify indications of semiotic operators in external context such as 'non-utilitarian' aspect, 'superfluity of form', paradoxical location in site, or comparative markings on related objects or sites. 8: If the subject appears semiotic, identify possible 'sign' mode or 'signifying competence', whether code, icon, signal, linguistic word, etc..

'Signs' (S=signifier/signified) as defined and characterized by the semioticians Pierce, Saussure, Uco. Four basic types of signs. Code = translates one of three types into another or into a secret encrypted language; an arbitrary mapping of one set of familiar signs onto another set of unfamiliar signs. Icon = likeness or likeness language; x 'like' y; a similarity or identity mapping, more or less stylized; or 'represents' y; icon + concept. Signal = a sign in a system meant to induce behavior change; signal + signified behavior (see Uco's analysis). Word = element in a linguistic system; arbitrary signifier + signified (concept, idea = semantic meaning; syntactic sense; and discourse sense).

9: If subject appears semiotic, identify possible symbolic mode or 'symbolic competence', whether classical metaphor or similitude based on analogy, diaphoric metaphor based on juxtaposition and energy-tension, emblem, or archetype. A symbol is the right brain, primary process complement of the sign and may be associated into a complementarity or a *coincidentia oppositorum* of metaphoric dimension.

Symbols of archetypal metaphor include 'world' cognitions such as mandala and chaos, prima materia; 4 or 6 elements, directions; hybrid species or fabulous monsters and expressions of the nonlinear psychodynamics of 'psychic energy' (Jung) such as vessel, ladder, jewel, seed of opposites, sexual intercourse, ocean, mirror. They include archetypes of self such as shadow, mother, father, androgyne, divine child, duende, Sophia and forms of creative rhythm such as cosmic vibration, color spectrum, heart beat, dance movements. They include pure geometric forms, movement or gesture-shapes of nonlinear dynamics of the life force ('libido', Jung) such as centering (circle, womb), choice (double line, pregnancy, bifurcation), unfolding (branch, birth) and flowing (meander, zigzag) and articulations of catastrophe and aftermath such as 'death and rebirth'

10: Reconstruct, decode and decipher the overall 'semiotic competence', i.e., the differential features and common medium that offers a structured capacity to articulate meaningful narrativity and discourse, including conceptual, thematic, semantic, pragmatic, syntactic and glyphic deep structure. At this point the method may draw upon structuralist grammar (N. Chomsky), structuralist semantics (A.J.-Greimas) and so on. This stage may be termed the 'structuralist moment' of interpretation.

A third stage applies principles of interpretation or hermeneutic. 11: Decipher 'meaning' or 'message' being communicated using differential features of the semiotic competence as employed in a particular subject-matter to generate and amplify a meaning 'for them' and a poetics of feeling-toned meaning 'for us.' 12: Consider limits of interpretation within a hermeneutic method or exegetic procedure amplifying meaning 'for them' and 'for us.'

Such a hermeneutic would entail a hermeneutic theory such as Hans-Georg Gadamer's with its concepts of 'prejudgment' and 'fusion of horizons' in the realm of 'history-effects' or that of 'reader response theory' such as Wolfgang Iser's theory of imaginal, aesthetic response of the reader to an artistic communication implied by the indeterminacy and gaps in any artists attempt to express meaning. For Iser a 'meaning-effect' arises in the virtual space between text and reader. A somewhat similar strategy is Jacques Derrida's with its 'deconstructive' notions of 'intertextuality' and 'difference'.

13: Explore amplification of archetypal symbols as 'thea/opoesis', that is as a poetic performative presencing of supernatural beings, spiritual principles, or divine powers.

For the notion of 'theopoiesis' see Hopper and Miller (1967).

This stage may be termed the 'hermeneutic moment' of interpretation.

A fourth stage of interpretation places the preceding results into the prehistory and history of religions. 14: Attempt to systematically reconstruct, within the limits of residual artifacts and contextual factors, tentative prehistoric beliefs and thea/ologies, rituals or myths or their underlying structural themes, based on the decoding of the semiotic competence and decipherment of actual products of this competence. 'Systematicity' criteria may include (a) coherence, consistency and comprehensiveness of accounting for the semiotic evidence; (b) a rigorous critical method, such as mythic group-theoretic structure (Levi-Strauss) or set-theoretic inclusion/exclusion dialectics (deconstruction and critical theories of privilege and marginalization).

Finally, the results are made available for cross-validation, prediction and testing, and revision. 15. Check adequacy of the decoding to the processual archeological context--a check on validity of the decoding. 16: Check the reconstruction against the evolutionary, stage-specific, model of mind (mental model, paradigmatic mental template) inferred from the archeological and 'cognitive archaeological' context. 17. Scan for precursors or survivals of the decoding--a further check on validity. 18. Amplify and check via ethnographic and mythological analogies, restricting analogies by factors such as geographic, cultural, and genetic propinquity.

With respect to this method, I am not saying that every time a marking or exotic object appears in the archaeological record it is a signifier in a Later Acheulian protolanguage. I am saying that at least some of the markings or exotic objects have the capacity for such and when they are found associated at the same site, on the same object, or in the same design, it is not unlikely that we are seeing an intentionally operative syntactic contiguity that generates a semiotic competence or capacity.

Further, I will not be arguing the hypothesis that 'Mark X meant a, b and c to the people who made it.' Rather I will argue that Mark X as associated with Mark Y has through its differential features a capacity to symbolize; it has a capacity to generate a meaning-effect in the liminal space between then and now. Once the symbolic frame, the complementarity structures are decoded, the interpreter's task is to let these meaning-effects generate themselves. I elucidate for these marking motifs only a minimal semiotic capacity, albeit a profound one. How people back then articulated, understood or used this capacity I leave for now as undecidable.

### **Current Status of the Archaeological Evidence**

Currently, it appears from the available Later Acheulian archaeological record that there are at least eight (8) design elements ('form constants', 'motifs') and at least four (4) types of collected, curated, or utilized 'exotic objects'. I list by category of design element, the current extent artifacts, their site and dating, and some details about each object.

## 1. Cupule, dot

### Artifacts and Sites:



Auditorium Cave, India, Acheulian, >290,000 BP, cupule (along with meander line); possible other cupule sites of Acheulian age in India but dating uncertain. [Image courtesy Robert Bednarik]

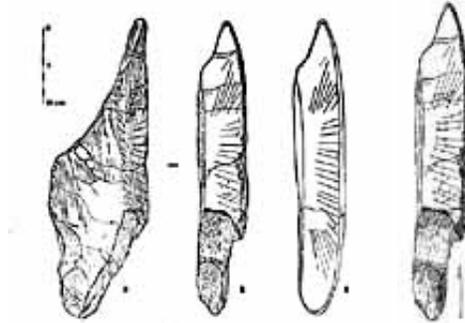
“Older still are the petroglyphs in Auditorium Cave (Bhimbetka Site III F-24), two of which were found covered by undisturbed Paleolithic strata . . . There is a large, circular cup mark on a massive floor boulder, and a pecked meandering line that approaches the cupule, then runs parallel to its edge for a distance before it veers off again and peters out. These heavily corroded marks were found in 1990 at more than 1.5 m depth in an existing excavation trench. They occur below a Middle Paleolithic occupation deposit, near its interface with the upper of two Acheulian horizons. (Bednarik 1993a:138).” For stratigraphy details see Bednarik 1993b, which also notes “the line approaches the large cupule from above, then follows part of its circumference, running parallel to it but maintaining some millimetres distance from its periphery, and veers off to right” (35). Further (Bednarik 1996:64) “. . . on the third day of my four trips to Bhimbetka, Dr. Giriraj Kumar and I noticed . . . in the western bedrock wall . . . four stone implements. Two of the latter were nondescript large flakes, but the two others permitted a cultural attribution: a large quartzite cleaver and a well-made ‘handaxe’, also of local quartzite. The biface, a typical pear-shaped, concave sided late Acheulian ‘handaxe,’ remains so tightly wedged into a cleft in the bedrock that its removal would involve the application of considerable force. This chance find permitted me to confirm the validity of Wakankar’s section drawing, and it proves beyond doubt that the petroglyphs were concealed by a substantial part of the Acheulian deposit. They are located less than two metres laterally from the in situ tools, but nearly a metre below them. Since the overlying substantial Middle Paleolithic layer consists entirely of carbonate-cemented material the possibility of post-depositional disturbance of the stratigraphy does not exist.” Bednarik (2002) notes that the beginning of the Indian Middle Paleolithic is dated from 200,000 to 150,000 BP and Indian Late Acheulian is >290,000 BP.

## 2. Undulating line, meander

Artifacts and Sites: Auditorium Cave, India, Acheulian, >290,000 BP, undulating line or meander (along with cupule) [see description above].

### 3. Divergent line motif (DLM), fan, rays, stars, radial lines, peripheral object marking strokes

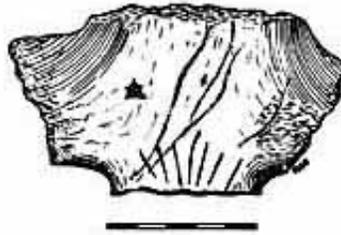
#### Artifacts and Sites:



Bilzingsleben, OIS11 c. 400,000 BP. Object #1=208.33, a percussion tool manufactured from a spall of elephant tibia, has one group of 7 stroke marks, a second group of 14 stroke marks, and a missing third section. [Image left: Mania and Mania 1988:fig.3; compare Bednarik 1995:fig. 1a; image right: Steguweit 1999: fig. 1]. Mania and Mania would reconstruct the object with a symmetrical third section of 7 stroke marks or 28 in all [which, if it were true might be interpreted as a lunar count]. Others reject postulation of a third section as speculation without any possible evidence.

Bednarik (1988:99) suggests that Bilzingsleben markings—as well as Stránská Skála markings, if re-confirmed by microscopic examination—reflect geometric aspects and overall shape of the object. “Each of the four [Bilzingsleben] artifacts Mania and Mania describe exhibits a different marking scheme, but there is a conspicuous common theme which identifies them as examples of a common ‘tradition’ (using the word without implying more than established, uniform and nonutilitarian behavior pattern). I see them as unequivocal responses to physical aspects of the artefacts. Psychologically they are responses to the shape of surfaces, perhaps to their edges... The configuration of the convergent lines on Artefact 3 reflects the outline of the implement and clearly focuses on its upper end. The trapezoidal form of the longitudinal surface on [Bilzingsleben] Artefact 1 is mirrored in the perfectly balanced arrangement of the markings. The seven lines near the pointed end of the object are about parallel to the trapezium’s oblique side, and the lines near the centre of the decorated facet are roughly perpendicular to its longitudinal edges.” “Moreover, precisely the same marking scheme is found on the elephantine vertebra from Stránská Skála . . . : again, a series of convergent lines is arranged along the edge of the bone, and is in perfect symmetry with the object’s overall shape.” Bednarik (1995): “There are still other consistencies in these early marking strategies. Most seem to be reactions to aspects of the form or shape of the surface decorated in their extent, orientation, and ‘focus’. For instance, the sets of seven convergent lines on the Stránská Skála vertebra...radiate from the object’s end; the bundles of lines on Bilzingsleben Artifacts 1 [#208] and 3 [#260.55] reflect the geometry of the support area ...Another consistency in early marking is that all the arrangements are recognizable as phosphene motifs: the convergent-lines motif so widespread in rock arts the world over and the structurally related radial motif ... are among the 15 phosphene motifs of modern humans; so are the sets of parallel lines, the dots (cupules)...” Bednarik (1995: 614, fig. 8 and 5) compares these three artifacts which appear to have DLMs to three similar looking DLM engravings from the Micoquian Middle Paleolithic site of Prolom II, c. 100,000 BP.

Comment: As these passages suggest, the CLM and the radial DLM are opposite and complementary patterns. There is some ambiguity in the various archaeological reports as to whether a particular set of stroke marks on the Bilzingsleben artifacts is a CLM or DLM. This might be resolved in part by a reexamination of the object using Marshack's criteria, namely that a stroke tends to begin more deeply inscribed than it ends. (The complementarity of the two motifs is evident in their pairing on the Stránská Skála object—granting that the intentionality of the stroke marks on this object is currently an open question.)



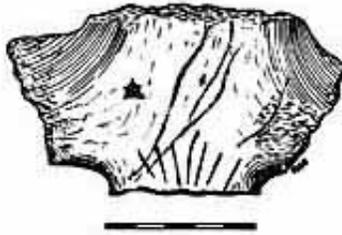
Stránská Skála, Brno, CZ, c. 600-700,000 BP, elephant vertebrae with 2 converging u-shaped, perhaps natural, lines with a fan of 7 divergent rays of v-shaped, clearly intentional grooves as well as pair of symmetrical, natural holes (Valoch 1987). (See caveat under CLMs. This object's intentionality and curation need further validation.)



Swanscombe Middle Gravels (OIS 11, ca. 400,000 BP) (*left*); West Tofts, Norfolk (dating not secure, probably OIS 7, ca. 200,000 BP) (*right*). Both artifacts are classified as belonging to the British 'Pointed Cordiform' tool tradition. In each case the biface is flaked around a fossil inclusion of radial form. A star-like five-pointed sea urchin is at the plan face center of the Swanscombe biface. Oakley (1973) notes that Swanscombe bifaces were found associated with flaked chert containing Jurassic fossil coral in which the corallites are on average five-sided pentagons, the chert source 193 km. from Swanscombe. At the center of the West Tofts biface is a scallop shell, which itself is a natural design of divergent rib lines radiating from a virtual point (detailed analysis Feliks 1998, with additional 'fan' motif artifact comparisons Feliks 2007; Oakley 1981, 1973).

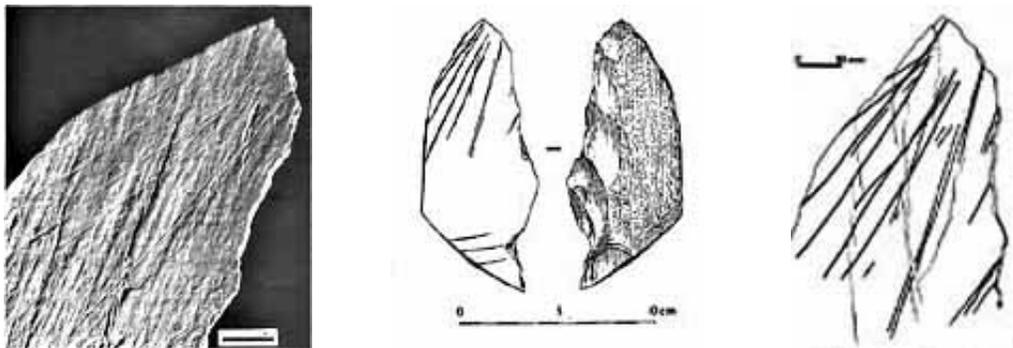
**4. Convergent line motif (CLM),** down converging lines, funnel shape, funnel that turn into meander

Artifacts and Sites:



Stránská Skála, Brno, CZ, c. 600-700,000 BP, elephant vertebrae with 2 converging u-shaped, perhaps natural, lines with a fan of 7 divergent rays of v-shaped, clearly intentional grooves as well as pair of symmetrical, natural holes (Valoch 1987) [*image* Bednarik 1995:fig.4].

Caveat. This artifact has only its original site reports and it would be of great interest for it to be reexamined using microscopy, etc. Based on analogous vertebrae D'Errico (1997:14) suggests that even the divergent rays are vascular grooves. Thus the presence or absence of intentional engravings is questionable. Also, whether or not the marks are intentional, whether the object was 'curated' has not been examined.



Bilzingsleben, OIS11 c. 400,000 BP. Object #3=260.55, a spall of an elephant extremity bone and a tool for woodworking, with extensive retouch on one edge, has one group of 5 "divergent lines" oriented to the pointed end of the object. All five lines are actually doubled lines, 4 with exactly parallel traces probably due to the engraving tool itself, while the fifth with not quite parallel traces appears to have been engraved over twice (Steguweit 1999). (A second group of three parallel marks at the opposite end, depicted in Mania and Mania (1988:fig. 5) and Bednarik (1995:fig1c and 2) is not mentioned by Steguweit 1999.) [*Image left: Mania and Mania 1988: pl. 12; center: Mania and Mania 1988: fig. 5; right: Bednarik 1995: fig. 2. ]*

Comment. While Bednarik, Steguweit and Feliks (2007) seem to think of the design as a divergent line motif (DLM), since the lines converge on a point—the point of the medium itself—I interpret it as a convergent line motif (CLM). I believe the marking strategy stands in contrast to the more spread out stroke lines of Bilzingsleben Object #1 and, if accepted as intentional, the Stránská Skála DLMs, both of which radiate not from a point, but from a side, an extended edge of the medium. It would be helpful to have a closer microscopic examination of the 5 lines to determine, if possible, whether they are engraved out from or in to the object’s point.

## 5. Arc, multiple arcs, crescent, convex or concave



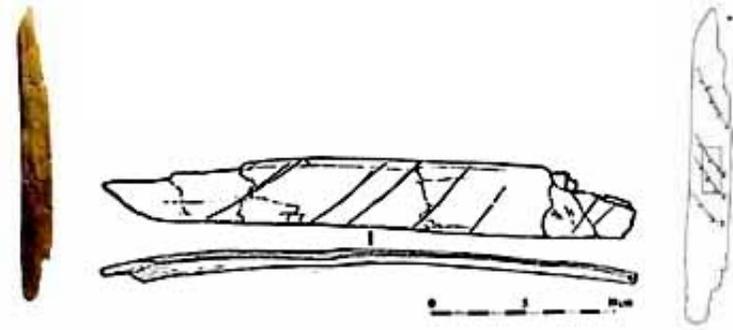
Artifacts and Sites: Bilzingsleben, OIS11 c. 400,000 BP, two parallel arcs on the polished surface of an ivory point (*image* Bednarik 1995: fig. 3a; compare Mania and Mania 1988:94, where it is listed as possibly an intentional marking strategy). Steguweit (1999) does not examine this piece. Its intentionality is open to question. While the intentionality of the marks on this object is open to question, for the purposes of this study I will accept them as intentional until proven otherwise. From the drawing it appears that there may also be two or more iterative stroke lines; this too needs to be tested.

## 6. Iterative stroke lines

Two artifacts from Bilzingsleben, Germany appear to consist of iterations of stroke marks that appear to be, at least to a great degree, parallel (Mania and Mania 1988; Bednarik 1995; and Steguweit 1999). I suggest calling them ‘iterative stroke marks’. They are basically vertical line motifs, single vertical lines repeated in roughly parallel fashion. They appear to me to be neither convergent nor divergent and they do not appear to mirror the shape of their supporting medium as to the markings on Bilzingsleben artifacts #1 and #3.

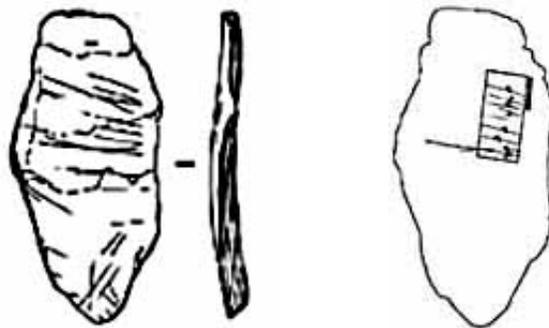
Comment: Bednarik (1988:99) considers all four artifacts, #1, #2, #3 and #4 as having similar marking motifs. “Each of the four [Bilzingsleben] artifacts Mania and Mania describe exhibits a different marking scheme, but there is a conspicuous common theme which identifies them as examples of a common ‘tradition’ (using the word without implying more than established, uniform and nonutilitarian behavior pattern). I see them as unequivocal responses to physical aspects of the artefacts. Psychologically they are responses to the shape of surfaces, perhaps to their edges. The narrow, slightly convex surface of the rib fragment [Object #2; see below] invited a bold design of prominent, oblique lines.” I would characterize Artifacts #1 and #3, as Bednarik (1995) does, as divergent or convergent line motifs that also mirror the shape of their support medium. Artifacts #2 and #4, which do not seem to mirror their shape nor to be particularly divergent or convergent, I propose as a distinctly different motif, iterative stroke marks.

Caveat: I do not rule out that a particular object may reflect an artistic intent to combine both iterative and CLM/DLM features. This could possibly be the case for Object #4=182.32 if it were determined that the marks at the pointed end of the object were intentional as then the upper marks would reflect the shape of the flat end and these latter marks the pointed end. It could also be the case for Object #1 if it were intended as a tally in multiples of 7 and this were not merely a coincidence in the eye of the beholder.



Artifacts and Sites: Bilzingsleben, OIS11 c. 400,000 BP, Object #2=219.34, a large mammal rib bone, with its ends chopped off and its surface partly smoothed and polished. The surface displays “four parallel oblique lines arranged at different distances. Each marking consists of three single lines of an overlapping order at the ends, forming together one straight mark. Parallel to these four lines, two other but incomplete oblique lines are positioned in keeping with the relative direction of the four” (Mania and Mania 1988: 94). [*Image left:* Mania and Mania 1998: pl. inside cover; *image center:* Mania and Mania 1988: fig. 4, compare Bednarik 1995:fig.1b; *image right:* Steguweit 1999: fig. 2]. [Mania and Mania’s 1988 illustration shows a seventh line (at position 5)—perhaps not counted because not intentional (?); Steguweit (1999) uses a laser scanning microscope to confirm intentionality, but only published analysis of the first four lines from left.]

Comment: The 1<sup>st</sup> unit from left (=4<sup>th</sup> in Steguweit’s schematic) might be considered as containing an intentional Y-mark or it might be accidental. Such Y-marks are found in later Upper Paleolithic notational (counting) systems examined by Alexander Marshack.



Bilzingsleben, OIS11 c. 400,000 BP, Object #4=182.32, a thin flat slice of bone, has 7 roughly parallel stroke marks at regular intervals of 3 mm., all uniform and engraved by the same tool. The first and fifth element more than twice as long as the others and composed of

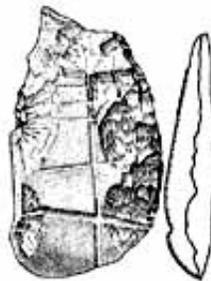
two lines crossing at an acute angle [X's] (Mania and Mania 1988: 94). [*Image left: Mania and Mania 1988: fig 6, compare Bednarik 1995:fig. 1d; image right: Steguweit 1999: fig. 3.*] Steguweit's (1999) laser analysis and microscopic photo rather indicate either 8 lines or 7 lines with the first unit being an 'X' of two crossing lines; the fifth and sixth unit do not cross.

Comment: The X-mark appears in later Upper Paleolithic notational (counting) systems examined by Alexander Marshack. Whether the Bilzingsleben X mark is intentional or accidental has not been determined.



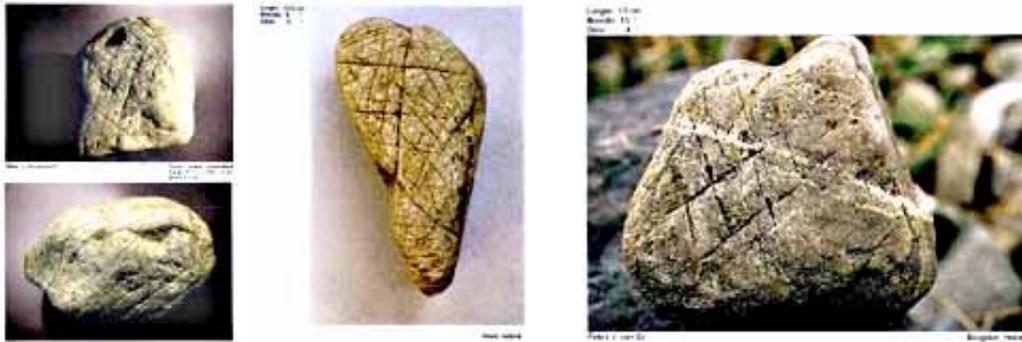
Port-Launay en Ecoflant (Maine-et-Loire), "Inter Riss I-Riss II" (OIS 9, ca. 300,000 BP), below a "Middle Acheulian temperate fauna" (? OIS 8) "os avec incisions regulieres" (de Lumley 1976: fig 1, no. 6). This piece appears to be an example of iterative stroke marks. It needs further examination and confirmation.

**7. Lattice (tree, ladder, net, grid, crosshatch, order)** [lattice = an open structure of crossed strips or bars; tree = a hierarchical structure or support having a main vertical post or stem and side branches, horizontal crossing lines; ladder = a framework of two parallel sides connected by rungs or narrow cross pieces used for climbing; net = regular pattern of threads, lines crossing each other with space between the threads; grid = a network of evenly spaced or parallel horizontal and vertical lines, making network of quadrilaterals; crosshatch = set of parallel lines that cross each other to yield shading in a drawing or engraving; order = arrangement of items that indicates relative importance, size, number, status in a matrix]



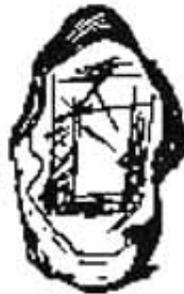
Artifacts and Sites: La Grotte de l'Observatoire, Monaco, "Rissian", lozenge-shaped biface having a natural lattice consisting of one vertical line centrally placed and 6 cross lines, the

lines' separation diminishing as they proceed upward (de Lumley 1976:835, fig.12.5). The lattice-tree is the result of a natural mineral inclusion that has weathered differently than the remainder of the biface surface (Bednarik, 2003, personal communication). I suggest that the maker of this biface intentionally incorporated the contrasting colored inclusion with its natural lattice-tree shape symmetrically into the biface in a manner similar to the West Tofts, Swanscombe and Cys-la-Commune bifaces that incorporated fossils and inclusions in their symmetries.



Possible intentional lattice-net patterns engraved on stone, Pampau, GR, >400,000 BP, and Asselt and Beegden, NL, >400,000 BP (Van Es and Benekendorff 2001) [Images courtesy Van Es and Benekendorff, *image left*: Pampau, GR; *center*: Asselt, NL; *right*: Beegden, NL.] These pieces need further examination and validation as intentional engravings. As they are each from secondary deposits no evidence for or against curation of the objects is available. As I am unaware of any accidental, natural way in which these objects could have been imprinted as they are, I will accept them as tentative supporting evidence for the lattice-net motif, until a convincing argument is given to reject them.

**8. Shape of space**, hexagonal, pentagonal, rhomboid, triangular, circular, or other imaginal space, created by inscription or by sculpturing solid object



Artifacts and Sites: Bilzingsleben, OIS11 c. 400,000 BP, “double rectangle” engraved on a tarsal bone from a forest elephant (Mania and Mania 1988:94)[*image*: Bednarik 1995: fig. 3c]. Bednarik (1995:608) observes of the same object that it is “a very complex arrangement” and “neither the structure of the marking nor its relationship to its support suggests a utilitarian origin. The bone is hardly suitable as a cutting board and no alternative explanation has been offered for the marks.” Bednarik suggests that there is “an apparent

relationship between the spatial distribution of the incisions and the borders of the available area which random markings would not be expected to reflect, and the marking strategies apparent seem to indicate a sophisticated level of intentionality.” Steguweit (1999) does not examine this object. I accept it as tentatively valid until proven otherwise.

Comment: Bednarik’s transcription of the engraving shows what appears to be one rectangle engraved inside another rectangle. The rectangular border zone created between the two rectangles is marked with many parallel and perpendicular strokes and chevron shapes that might be intended as divergent and/or convergent line motifs. The superposition of the rectangles with overlapping lines gives the appearance of a lattice design; the border area, crosshatching.



Bilzingsleben, OIS11 c. 400,000 BP, an “apparently nonutilitarian marking occurs also on a quartzite slab; it is a well-executed D-shape” or “arcuate design” (lower left) “engraved with a number of strokes and it seems that the artisan experienced problems in shaping the curved part of the figure symmetrically, correcting the line several times in the process. To my mind this clearly indicates intentionality” (Bednarik 1995). Steguweit (1999) does not examine this object. I accept it as tentatively valid until proven otherwise.

Comment: To me this mark is ambiguous; it may have been a poorly made circle or square, or intended to be a combination of half of a rectangle and half of a circle, that is, a ‘shape of space’ and ‘arc’ or two ‘geometric shape of space’ motifs.



Swanscombe biface (OIS 11), West Tofts biface (OIS 7), La Grotte de l’Observatoire (Rissian) biface [described above]. I am arguing that Later Acheulian bifaces can be interpreted to represent the LAMrk ‘shape of space’ if they occur paired with an inscribed LAMrk. The intentional interrelationship, pairing biface shape with DLM on the West Tofts biface is convincingly demonstrated by Feliks (1998).

## **Other Non-utilitarian Artifacts ('Exotic Objects').**

There are other 'non-utilitarian' artifacts, which, though not 'marking strategies' or 'inscriptions' strictly speaking, appear nevertheless to have the potential to be signifiers of something in the late Early Paleolithic, c. 500,000 to 100,000 years ago. If so, they are signifiers in which, so to speak, the medium is the message.

There is a continuation of use of red ochre and exotic crystals from earlier eras of human evolution (summaries in Bednarik 1994a, 1994b, 1994c, 1992b; Edwards 1978). The collection of exotic objects continues from the Oldowan through the Middle Acheulian (Gesher Benot Ya'aqov, Israel—quartz crystals and polished wooden plank). Later Acheulian examples are listed below.

### **9. Red ochre**

Artifacts and Sites: The use of red ochre, for which evidence appears in the Early Acheulian at Olduvai BK, c. 1.1-1.4 MYA, two lumps of manuported ochre (Leakey 1958), and Middle Acheulian Wonderwork Cave (800-900,000 BP) (Bednarik 1993c), continues into the Later Acheulian. Tan Tan, Morocco, 300-500,000 BP, figurine is red ochred (Bednarik 2001). Twin Rivers Cave, Zambia, c. 350,000-400,000 BP, pigment and grinding equipment (BBC News 2000);

Hunsgi, India, c. 200,000-300,000 BP, striated (used) hematite (Bednarik 1990a);

Bečov, Czech Republic, c. 250,000 BP, rubbed ochre, rubbing stone, and ochre powder (Marshack 1981);

Terra Amata, France, c. 300,000 BP, 73 pieces from yellow brown to dark red some with ends worn smooth (de Lumley 1966; but Wreschner 1981 suggests these were apparently neither abraded nor intentionally fired);

Ambrona, Spain, red siltstone manuport, apparently trimmed (Howell 1966: 129, but Butzer 1980 possibly only natural cleavage).

### **10. Quartz crystals**

Artifacts and Sites: Zhoukoudian, China, some 20 quartz crystals (Pei 1931);

Gudenus Cave, Austria, Acheulian level, fragment of large crystal with several facets (Bednarik 1988);

Singi Talav, India, lower Acheulian level, >390,000 BP, 6 complete quartz crystals from different crystal flowers and probably transported to site (D'Errico et al 1989; Bednarik 1994b).

**11. Geometric solids**, intentionally flaked stone yielding geometric, symmetric properties, spheroids, circular disks, crescents, triangles, rhomboids, pentagons, hexagons, tetrahedrons, pyramids, and so on.

Artifacts and Sites: Maihar, India, Acheulian level, centripetally flaked sandstone disk (Bednarik 1992a) and similar chalcedony disk Bhimbetka, India, Acheulian (Kumar 1990;

Bednarik 1992a); Zhoukoudian and Lantian, China, Acheulian level (summarized Bednarik 1994c, 1992b); CCC and Heidelbergian traditions in Northwest Europe, spheroids, crescents, disks, triangles, rhomboids, and tetrahedrons (Matthes 1964/65:7; Wouters, Franssen and Kessels 1981).

Comment: Spheroids and subspheroids occur at many Acheulian period sites, e.g., at Olduvai Gorge; P. R. Jones (Leakey 1994:275-283) argues convincingly that they are the accidental result of using naturally occurring quartzite debitage 'chunks' as hammerstones.

## 12. Geometric fossils, naturally occurring fossils with geometric, symmetrical properties

Artifacts and Sites: Swanscombe Middle Gravels, c. 400,000 BP, two pieces of chert from containing Jurassic fossil coral in which the corallites are on average five-sided pentagons, manuports from 193 kilometers away (Oakley 1973, 1981); Saint-Just-des-Marais, France, Acheulian, scraper with five-pointed echinoid cast (Oakley 1973).

Comment: Compare pointed Acheulian flint handaxe from Swanscombe Middle Gravels with centrally embedded five-pointed echinoid, *Conulus* sp. *Left*; also West Tofts, Norfolk handaxe of flint with centrally embedded shell of Upper Cretaceous bivalve mollusk, *Spondylus spinosus* (Oakley 1981).

### Note on 'Non-Artifacts'

Some objects once thought to bear intentional markings now appear not to be human made artifacts.

1. Pech de l'Azé II (Layer 8), France, fragment of ox rib with arc-and-meander-like marks, Acheulian (Bordes 1972:62, fig 17). Based on stratigraphy, pollen analysis and tool stylistics, Bordes dated the object to Riss I/Riss II interglacial, thus between about c. 300-340,000 BP; though subsequent ESR dating of layers 6-9 yielded 130-162,000 BP or Final Acheulian (Grün and Stringer 1991). Bordes (1972:62) viewed it as "clearly intentional." He described it in more detail in Bordes (1969), distinguishing the seemingly intentional marks from the random cutmarks on the same piece of bone. Alexander Marshack (1977) made a careful microscopic analysis of these markings, concurring with Bordes and proposing that it consisted of three units, left to right, two arcs, two convergent lines, and multiple light strokes, and appeared to belong to a tradition of 'meanders' that continues in the Upper Paleolithic. Subsequently Marshack retracted this position and asserted that the marks were vascular grooves. This was reconfirmed by D'Errico (1997) reexamined the object and determined that all the 'intentional' markings were vascular grooves. This however leaves unexamined the question of whether the object was 'curated' perhaps for its vascular groove patterns. On the other hand, if my semantic analysis of LAmrk is valid the three motifs in association – arcs, funnel-CLM, meander – don't seem at first glance to make any sense, crossing over, as they do, three different resonance structures. It seems a very unlikely combination in the Early Paleolithic, in any event, more like the aggregates of motifs that Marshack identifies in Upper Paleolithic 'funnel-meander' motifs.

## Discussion

Several hypotheses might be put forward for the import of these Later Acheulian marking motifs. They may be considered ‘decorations’ or ‘doodles’ and that’s all. That would be the null hypothesis. It is the ‘that’s all’ that is problematic. Highly sophisticated communicatory designs may also have a decorative aspect, as is the case with many cases of so-called ‘primitive’ art. Doodles may have multi-determinate significations as in the ‘squiggle game’ employed by the psychoanalyst Donald Winnicott. In any event, it need only be shown that a particular set of markings has a semiotic capacity to rule out the null hypothesis. Whether or not those who made the markings used that capacity would still remain a question though it might be answered based on both internal and contextual factors.

R. G. Bednarik (1995: 614) takes the next step; he argues that one “consistency in early marking is that all the arrangements are recognizable as phosphene motifs: the convergent-lines motif so widespread in rock arts the world over and the structurally related radial motif are among the 15 phosphene motifs of modern humans [Kellogg, Knoll and Kugler 1965]; so are the sets of parallel lines, the dots [cupules]”. Again (Bednarik 1994:176) observes “the prefigurative art of the world, I have claimed...is derived from phosphene motifs, and it therefore consists of arrangements and combinations of a known series of form constants (Bednarik 1984, 1986, 1987).” I would agree; available evidence I review herein suggests that all eight marking motifs at least to some extent, correspond to eight to ten of the 15 basic phosphene form groups identified by Kellogg, Knoll, and Kugler (1965). These correspondences are indicated in Table 1.

Bednarik takes a further step. He proposes that the Early Paleolithic markings belong to a first phase of a ‘graphic evolution’ characterized by a reflective or mirroring response to the medium itself. Bednarik (1994): “[In the] formative phase of art production initial marking strategies may have developed from a striving for optimal arousal, by the reaction of ‘stimulus-seeking’ hominids to existing marks, edges, shapes and surface aspects, who emphasized and ‘decorated’ such features.” Bednarik (1990b: 6): “I have proposed [1988] that the most archaic art in the world consists of ‘responses to edges or surface aspects, enhancing them or making them more interesting.’ I observed that selection would favour strategies providing optimal arousal and that stimulus-seeking behavior (Berlyne 1960) is therefore a biological imperative, providing cybernetic feedback and a more stimulating visual environment’.”

<b>Phosphene Form Groups</b>		<b>Later Acheulian Marking Motifs</b>			
1	Arcs			Arc	
2	Radials			Divergent Line Motif	
3	Waves			Undulating Line	
4	Lines			Iterative Stroke Marks	
5	Combined fig.			[Combinations of Marking]	
6	Circles			Cupule	
7	Multiple fig.			[Iterations of Marking Motifs]	
8	Odd figures				
9	Quadrangles			Shape of Space	
10	Spirals				
11	'Poles'			Convergent Line Motif	
12	Lattices			Lattices	
13	Triangles			Shape of Space	
14	Fingers				
15	'Cherries'				

Note 1: Phosphene form groups and images scanned from Kellogg, Knoll, and Kugler (1965).

I would tend to agree with the “optimal arousal” hypothesis, with the caveat that “response to the medium” appears to be a feature shared by all 8 marking strategies and all six types of curated exotic objects; response to edges or object shape is a feature characteristic primarily of just one complementary pair of signs, namely CLMs and DLMs. Further, I would construe the various categories of response to medium as a similarity between associated categories of marking forms within an overall resonance structure of complementarity, i.e., ‘identity in difference’. It is the creation of such resonance structures that allows two form-motifs to interact with their opposing differential features and thus gain semiotic capacity.

It is my hypothesis that Later Acheulian markings are distinctively more than ‘phosphenes’, ‘scribbles’, ‘doodles’, ‘mirroring responses’ to the shape of an object, or ‘decorations’. There is something ‘semiotic’ evident in these markings. There may well also be something semiotic in the six types of curated ‘exotic objects’ found at Later Acheulian sites.

## First-Order Results

First, Later Acheulian markings are more than random engravings. Though the evidence is still sparse, these marks seem to display stereotypical, repeated shapes at multiple sites and on multiple objects at particular sites.

Second, there appear to be distinct motifs, limited in number. I suggest that current evidence indicates about eight identifiable shape-types or motifs. They can be categorized as cupule, undulating or meandering line, convergent lines, divergent lines, arc, series of strokes, lattice and a motif I call geometric 'shape of space'.

Third, while some occurrences of these motifs are singular; others evidence combinations and aggregates of motifs. In some cases marks are reiterated two or more times, as, for example, the double arc and double rectangle at Bilzingsleben. An iteration of stroke marks suggestive of some kind of tally can be taken as one motif, the iterative stroke mark. In another occurrence at Bilzingsleben up to five of the eight motif types appear aggregated into a single design.

Comment. Combination and aggregation of geometric shape types occurs in Australian Panaramitee and Eurasian Upper Paleolithic art. I am arguing that similar combinations of symbolic elements appear to occur as early as Later Acheulian period.

Fourth, perhaps most interesting from a semiotic point of view are instances in which distinct motif types are paired. Consider the following four associations, which coincidentally cover all eight Later Acheulian motifs.

- Bhimbetka, cupule and undulating groove associated on a single object (rock surface).
- Bilzingsleben convergent and divergent line motifs on different objects in contiguity in the same habitation site. To be verified as intentional or curated: Stránská Skála, convergent and a divergent line motif associated on a single object (bone vertebra). (The same two motifs might also be identified on the Bilzingsleben 'double rectangle' design; close microscopic analysis is needed to verify the traces of these two motifs.)
- Bilzingsleben, iterative stroke lines and arcs—assuming the latter are further validated--associated on different objects (polished ivory point and long bones or bone fragments) in habitation site contiguity.
- Bilzingsleben, 'shape of space' and lattice associated on a single object (metatarsal bone) combined in a single design—assuming this object is further validated.

The prime example of different motifs paired is the cupule and undulating line at Auditorium Cave, Bhimbetka. Another example, requiring further verification, is the combination of convergent and divergent line motifs on bone from Stránská Skála.

Thus, Later Acheulian intentional markings evidence stereotypical repeated shapes, a distinct and limited number of motifs, combinations and aggregates of motifs and pairings of different motifs. These features suggest that these engravings are more than random marks, doodles or decorations, or even entoptics. These features suggest that a semiotic competence is at work.

Later Acheulian marking motifs have the characteristics of signifiers or symbols that were associated in a symbolic syntax.

If Acheulian marking motifs indeed have a semiotic competence then they can be decoded and deciphered. I repeat: decoding and decipherment is possible.

Comment. I suggest several general caveats for any such decipherment. (1) Deciphered meanings arise in a virtual or liminal space between then and now. (2) To arrive at a decipherment we must hue to the shapes themselves, their intrinsic features, only using contextual evidence as secondary confirmation and ethnographic analogies as tertiary confirmation. (3) Deciphered meanings are restricted by their corresponding complementarity resonance structures, i.e., the set of differential and shared features of the marks.

### **Tri-Level Resonance Structures: A Semiotic Armature for Encoding Later Acheulian Marking Motifs**

It appears that there is a semiotic resonance structure latent in each of the four distinctive pairings of marking motifs: cupule and undulating line, CLM and DLM, arc and iterative stroke marks, and lattice and shape-of-space. In each of these four associations there is an implicit 'identity in difference'. Each pair shares a common marking strategy or technique in a common medium but an opposition between its two 'form constants'.

Convergent and divergent (or radial) line motifs (CLMs and DLMs) are clearly opposites in shape. They share in common that they are 'cutmarks' on bone. As noted by Bednarik CLM and DLM also appear to be "reactions of 'stimulus-seeking' hominids to existing marks, edges, shapes and surface aspects"; they may mirror or replicate shape aspects of the supporting medium. Bednarik's observation offers more than he may have initially thought. It is a clue to the semiotic potential of the Later Acheulian markings. What I detect is that there is a similarity in marking strategy or technique, namely 'intentional cutmark' as well as a common medium, bone, but oppositional difference in shape: convergence versus divergence. CLMs and DLMs thus are embedded in a complementarity structure of identity in difference and difference in identity.

Interestingly, the same logic holds for the Bhimbetka petroglyphs. Cupule and undulating groove are both pecked into stone, but their shapes are opposite: the cupule is pecked at one point over and over; the undulating groove is pecked moving along. There is similarity in technique (pecking or pounding) and in medium, stone, but oppositional difference in shapes, point versus line, vertical movement versus horizontal movement. Again, we see two form constants placed in context of complementarities.

What about the other two associations? Can they be analyzed in a similar manner? It appears so. Like CLMs and DLMs, arcs and iterative stroke lines have the same marking strategy; they are cutmarks on bone or ivory. Unlike (or opposite) CLMs and DLMs, they do not seem to mirror the edges and shapes of their medium (at least not in the limited instances available). The medium is a variable background for inscription, and the inscription in each of our examples involves repetition (iteration). While the marking strategy for arcs and iterative stroke lines is

the same, their respective forms might be deemed opposite, for the former is curved and the latter straight. Further the medium is now a variable medium, a medium in general—it can be either bone or stone and probably other media as well, perhaps as tattoos on skin. Thus the two motifs share in common the medium as medium, any medium.

The complementarity logic implicit in the fourth association of ‘geometric shapes of space’ and lattices is less obvious, but nevertheless detectable. First, a look at the shape patterns suggests that they can be viewed as opposites with shared features. Each as the definition of lattice suggests is ‘an open framework’; each is a ‘world’, a ‘cosmos’ or ordered and ordering world. Each is an organized space, but each is an organized space with a difference. The ‘geometric shapes of space,’ whether circle or rectangle, are created by the ‘external bounding’ of empty space, an emptiness. The Bilzingsleben ‘double rectangle’ engraving makes it quite evident that the shape is about ‘bounding, boundary, boundary areas, or borderlands’. In contrast, or opposition, the lattice is created by ‘filling in’ or ‘filling up’ an emptiness. Here again we have opposite gestures or movement-forms. Here the marking strategy inscribes the motifs in a way like that of the CLM and DLM. The Bilzingsleben ‘double rectangle’ geometric ‘shape of space’ does seem to reflect the shape of its somewhat rectangular bone medium (in which case we have a ‘triple rectangle’!). The same might be said for the ‘D-shaped’ engraving, which mirrors the shape of the quartzite slab, two rectangular sides, two curved sides, though rotated 90° and congruency being only topological. The l’Observatoire tree-like lattice also is cognizant of its biface support and placed symmetrically on its center pole. So we might say that the marking strategy for lattice and geometric shape of space are identical; each involves a reflection on the shape of the medium in which it is engraved. In addition, as in the case of arc and iterative stroke marks, the medium may be bone or stone; it is variable. The medium can be viewed as ‘medium as medium’, in a sense, an abstraction of medium, the medium as imaginal realm that is simultaneously as real as a piece of bone and stone.

In sum, the extent set of eight Later Acheulian form constants encompasses four pairs of ‘opposites in similarity’, four complementarities of movement-forms. From this analysis it appears that Later Acheulian engravers place certain phosphene-like forms into a resonance structure of ‘differential features’ held together by a similarity of marking strategy and medium. Each LAmrk motif pairing has a common underlying feature and simultaneously an opposing difference. Such a tri-level ‘structure’ appears to have been the basic way of encoding Later Acheulian marking motifs.

It is not easy to find a name for such a ‘structure’. I have tended to call it a complementarity resonance structure, but the word ‘structure’ is too static. So is the word ‘frame’. In a sense it is a ‘semiotic or communicative device’ that serves to generate meaning, but the word device or mechanism seems too mechanical. Perhaps, it could be called a tri-leveled ‘armature’.

Etymology. Armature = armor; a part of an animal or plant serving for offense (teeth, claws) or defense (shells, thorns); wire wound round a cable; a piece of soft iron placed in contact with the poles of a magnet; a revolving part of an electric motor or generator; a framework which a sculptor uses to support the clay or other substance for modeling a figure. When Bell invented the first telegraph machine, it described it as containing a “harmonic armature”. In addition to these standard dictionary definitions, armature is also a term in music composition theory. Classical music and atonal music are said to have radically different armatures.

It is somewhat analogous to a sculptural or musical armature; an armature of art making, but this too seems too static an image. It is even more like the armature of an animal's claws by which it makes contact with and grasps the world, its interface with the world. The term armature would thus stress both the gestural nature of the semiotic device of LAmrk and its function of grasping and hence understanding the life-world.

Comment. Compare Levi-Strauss' notion of armature as organizing the multileveled themes of a myth; Derrida's notion of meaning as not arising except in the act of 'inscription' and his notion of 'graphematic structure'; and Heidegger's notion of being-in-the-world of Dasein as an act of understanding, speech and *Befindlichkeit*.

In terms of the neuroscience of language, the objectification into a medium of a glyphic signifier and its marking strategy may have its substrate in the right superior prefrontal (BA 9), which is associated with font and letter recognition, whether oral, visual or gestured, in contrast to left BA 9, associated with the organization of thinking and writing, goal-tree sequences, alternations, inductive logic and intention to say.

This armature is at and, at the same time is, the very intersection where two design motifs make contact, like zygote and egg, and give rise to a second-order tension between their tensions, which, as artists know, is the creative act. In this act, which takes place in a kind of imaginal space, which is also the real place of contact (inscription), transformation occurs; something becomes alive. In philosophical terms, we might say this semiotic act is the conception of the artwork or of abstract ideas. It is critical to notice that for the Later Acheulians this happening occurs in action and contact; it occurs in a gesture of inscription that inscribes a gesture form or two or more gesture forms in association.

In any event, this is how the Later Acheulian semiotic competence is put into effect, or is capable of generating meaning-effects.

One could stop right here with the minimal position that such resonance structures exist and not go on to attempt their decipherment. In this case, one might argue that the Early Paleolithic engravers of the Later Acheulian period, 500,000 to 100,000 years ago, admired such complementarities and oppositions and inscribed them with a 'playful' or 'aesthetic' or 'decorative' intent only. This may have been so and the veracity of the interpretation would have to be tested. On the other hand, what I will now argue is that the complementarity resonance structures of 'form constants', 'marking strategies' and 'medium' constitute a semiotic competence and it can be deciphered.

How cognizant its users were of this armature and how they actually employed its communicative power requires a hermeneutic of decipherment and contextual data to assist confirmation of its value. That the structures were not merely 'decorative'—for at a minimal level they could well have been so—is suggested by theses I discuss elsewhere. These include that Oldowan hominids had a mimetic-metaphoric and conceptual competence (Harrod 1992); that Early Acheulian hominids applied symmetry forms to bifaces in a playful and aesthetic manner at the same time that the bifaces had a spiritual significance (Harrod 2002a); that Middle Acheulians utilized 'biface pairings' to articulate spiritual concepts (Harrod 2002b) and that

Later Acheulian period cultures produced stone sculptures having ‘representational’ or at least ‘presentational’ function (Harrod 2003). In other words, people of the later Early Paleolithic had a mental template fully capable of utilizing the semiotic competence that I here decode.

Note: Drawing on the Piagetian theory of child development with respect to intelligence, Wynn (1996, 1989) suggests that Later Acheulian bifaces exhibit an intelligence at the stage of fully developed ‘concrete operations’. Since many contemporary *Homo sapiens sapiens* do not develop beyond this stage to that of formal operations, we may assume that some *Homo erectus* hominids had intelligence capacities similar to that of many modern *sapiens sapiens*. If so they would be perfectly capable of creating some sort of symbolic systems.

Interestingly, while this study presents the Later Acheulian markings as though they comprised one integrated suite—which I call ‘Later Acheulian marking motifs’ or ‘LAMrk’ for short—it is rather the case that the resonance structures of ‘difference or opposition in identity’ seem to occur in pairs. Such is the case with the cupule and undulating line at Bhimbetka or the CLMs/DLMs at Stránská Skála. This would accord with the notion (Wynn 1996, 1989) that the ‘mind’ of a late Early Paleolithic artisan was capable of concrete operations, but not yet formal operations. It appears from the available evidence that it was a singular resonance structure of identity and difference that was sufficient for signification, although structures might be combined as in the Bilzingsleben ‘double rectangle’ engraving.

Before attempting to decipher particular Later Acheulian marking motifs, I state again the basic inference. Later Acheulian marking motifs appear to have been generated by an active armature for encoding meaning(s) that involved pairing of motifs to constellate differential features within a common marking strategy and common medium. In a sense, this basic armature was used to inscribe ‘complementary resonance structures’. Perhaps not so much a single geometric shape, but in pairs, as cupule and meander, the motifs gained their differential features—a term I take from structural phonology. Differential features are one or more binary oppositions or antinomies of features that occur between two geometric shapes and mutually inter-define the key symbolic characteristics of each. In this respect one might call cupule and undulating line and other Acheulian marking motifs ‘graphemes’. It is because such marking motifs have differential features within a shared resonance structure that they can bear symbolic meanings. The existence of these structures of differential and shared features gave Later Acheulian marking motifs their semiotic competence and framed their symbolic meaning-potential.

### **Hermeneutical Principles for Decipherment**

If there is such a Later Acheulian semiotic competence, a tri-leveled armature for encoding meanings by pairing distinctive marking motifs using a common marking strategy (technique and medium), then the next step would be to decipher occurrences of paired glyphs.

In order to decipher Later Acheulian markings in the light of the LAMrk semiotic armature, I propose four hermeneutical principles, analogous to hypotheses. First, I suggest that Later Acheulian marking motifs are movement-forms. I do not take the final form of the engraving as some sort of static image of some thing or object in the world, but rather as a gesture, a movement, something alive. Their shapes are the result of gestural movement, as is the manner

in which they are combined. Not only the shape itself, but also the marking strategy (pecking stone, cutmarks in bone, etc.) is a movement-form, the result of a gesture.

Comment. In terms of the neuroscience of language, relating of signifier to gesture movement may have its neural substrate in the left inferior temporal and fusiform (L BA 20, 37), which is the node for attentive processing of sublexical orthography (37) and visual word form, whether ASL or spoken language (VWFA, post20-37), application of the ‘orthographic lexicon’ of written and gestural signs, store for whole-word images of words; ‘naming’ objects or ‘meaningless shape’ (20), or animals (37) (vs. action naming and pantomiming in Wernicke and tools in 21); naming spatial relations with ASL classifier constructions (iconic, schematic); Kanji ideograms but not Kana alphabetic characters (in Wernicke); metaphor appreciation; lesion 20 yields alexia with agraphia; lesion disconnect 37 to 20 yields pure alexia. In contrast, R inferior temporal BA 20 = object recognition; lesions yield object agnosia; 37 = pattern, shape, 3-D shape recognition. ‘Naming’ suggests ‘referring to’ and a signifier-reference relation or signifier modality, perhaps as a bilateral connection BA 20, with L BA 20 for sign modalities and R BA 20 for symbol modalities.

On the role of gesture in the nature and evolution of language see Armstrong, Stokoe and Wilcox (1995). Interestingly, they argue that language could not evolve by a leap from no language to language, but requires incremental steps, and one of these would be vocal and visible gesture, ‘iconic gesture nouns and gesture verbs’ (159-161, 198) and language would arise from the pairing of visible events and visible gestures (185)

Second, I hypothesize that the meaning(s) of each marking motif can be derived from the very nature of its shape—what I would call ‘movement-form’—and, to use Bednarik’s phrase, its ‘marking strategy.’ In short, movement-forms mean just what they are, that is, their gestured movement shape. The signified is equivalent to the signifier. Convergent lines mean converge; divergent, diverge. A cupule means contact this point; a meander, flow with the undulating movement of life.

Comment. In terms of the neuroscience of language, such a signifier-signified relation may have its neural substrate in the left middle temporal (L BA 21), the node for linking the lexical mediation system of Broca and Wernicke with experience to enable the naming of objects; nomenclature or conceptual systems, proper names, common nouns, general concepts; in contrast to R BA 21, associated with metaphor appreciation, understanding the moral of a story, encoding of macro-level semantic information, thematic representation; affect-laden autobiographical remembering.

Third, in a pairing of motifs, the signified meaning of any shape is mutually inter-defined with the differential features of its opposed shape. A movement form is a tension that is set in tension with another kind of tension.

Comment. In terms of the neuroscience of language, differential features have their neural substrate in the left Wernicke area (L inferior parietal 39/40/posterior superior temporal 22), the node for taxonomies and classes; differential features, phonemes (Jakobson, Saussure); sememes, semantic meaning, and semiotic squares (Greimas); Lakoff body ‘image schemas’; word opposites and antinomial thinking; in contrast to the R-Wernicke area for affective prosody, chunking, focus, rhythm, pitch, humor and the Penfield-Jaynes ‘hallucinatory command’ area.

With respect to the latter, I have been led to favor deciphering Later Acheulian markings as verbs and in the imperative mood.

Thus, any decipherment must be multileveled, corresponding to the full armature of differential features and shared technique and media in complementarity resonance structures.

A fourth corollary hypothesis is that Later Acheulian marking motifs are primarily symbolic, both expressive and iconic, and probably also denotative signs. As a distinctive movement-form a particular motif means just what its gesture movement-shape evokes and it can symbolize and denote things that have an analogous movement-form. They seem to have the capacity to have both analogical and metaphorical functions and everyday and archetypal (spiritual) dimensions. (For definition of some of these terms see Addendum on Symbol, Metaphor, Diaphor, and Archetype.)

Comment. On the one hand Later Acheulian marking motifs seem to partake of expressive form, which evokes emotion, feeling, mood, state of being in objectifiable form or figuration. As movement-forms, they are expressive like dance movements or music. At the same time, these motifs appear to be iconic. An icon is a symbol that resembles the thing it represents; it is a representational evocation of an objective correlative. Each motif is both symbol and sign; these two communicative modes were not yet fully differentiated at this stage of evolution. Acheulian marking motifs do not seem to have yet differentiated into the distinct modes that we know in later rock art as psychograms and pictograms—to use terms proposed by Anati.

In terms of the neuroscience of language, symbolic modality may have its neural substrate in the inferior temporal (BA 20), which plays a role in metaphor appreciation as well as word form and naming or indicating, or the anterior temporal (BA 38), the node for discourse and narrativity, with its precursor in monkey 'call system neurons'.

### Attempt at a Decipherment

I will take up each motif in conjunction with its associated motif and indicate by a diagram the differential and shared features of the two motifs.

#### 1. and 2. Cupule and Undulating Line.

<b>Cupule</b>	<b>Undulating Line</b>
<b>Pecking</b>	
<b>Stone</b>	

At Bhimbetka a cupule and undulating groove are associated on a single object, a sloping rock surface. As Bednarik observed there is a large, pecked circular cup mark and a pecked meandering line that approaches the cupule, runs parallel to its edge for a distance and then veers off again and peters out. Cupule and undulating groove are both pecked into stone, but their shapes are opposite: the cupule is made by pecking at one point repeatedly; the undulating groove by pecking while moving along forward and/or backward. They share a common marking strategy or technique, pecking stone, but the two have an oppositional difference in shape, point versus line, and vertical movement versus horizontal movement.

I hypothesize that this is a semiotic complementarity resonance structure, capable of generating both symbolic and sign-like (lexemic or sememic) communication. Each motif may be deciphered as meaning just what it is. It means just what its movement-form is. More precisely, cupule and meander mean just what the difference or tension of their movement-forms conveys or communicates.

I suggest the following decoding, with comments on possible survivals and subsequent ethnographic analogies. These I admittedly use—consciously and unavoidably, with a certain detachment and with an eye to Gadamer’s notion of ‘prejudgment’—to help tease out the lexemic definitions.

The Bhimbetka petroglyphs appear to have at least three levels of potential semantic codes. First, there are the differential features between cupule and undulating line as design motifs. Cupule (or dot) and undulating line are two opposite ‘gesture-movement-forms’. While they may indeed be derived from phosphene forms, their juxtaposition produces a kind of ‘symbolic syntax’ that empowers their capacity for semantic encoding. Second, cupule and undulating line share a common method of production or inscription. A cupule requires a pecking gesture in place, over and over repeating the making of contact with a particular spot, ‘this place’. An undulating line requires a similar pecking gesture but in a meandering motion, over and over repeating the making of contact along a line of movement. Just as I hypothesize that the design motifs and their differential features were inherently signifying—they signified the movement-forms that they mimicked—so I hypothesize that the shared technique of pecking, striking into the rock, added a second signifying code. Third, both cupule and undulating line share a common medium. They are made in stone. They are petroglyphs. So I suggest that Later Acheulian artisans were aware that what they were engraving was stone and ‘stone’ itself was a

third level of signification. Finally the petroglyphs were made in a rock shelter. They were both placed in a rock shelter that has an intrinsic numinous ('sacred') quality, as attested by the hundreds of thousands of years of rock art performed there and the numinous quality that one senses on entering that particular shelter. The deposition in the rock wall—in a certainly non-utilitarian manner—of two bifaces, one handaxe and one cleaver—which I have elsewhere argued is a symbolic pairing in itself—reinforces the interpretation of the shelter as a place of—to use Eliade's phrase—hierophany, where one experiences the advent of sacred power. In sum, cupule and undulating line appear to be embedded in a complementarity resonance structure of 'identity and difference' that carries a rich capacity for generative semantics and a semantics that speaks of the Later Acheulian sense of the sacred.

Cupule and undulating line are design motifs, gesture-movement-forms, and as such, especially as juxtaposed, are intrinsically significant. To repeat, I hypothesize that the very shape of these markings was in itself symbolic.

### Cupule

To illuminate the symbolic, evocative nature of these two shapes I know of no better place to turn than to the painter and theorist of art, Wassily Kandinsky (1979); for his writing *Point and Line to Plane* begins its exploration on the nature of form in painting with the very shapes of which we are speaking, point and line.

Kandinsky begins his theoretical statement on the nature of painting with a discussion of one of arts most basic elements, the point. All that Kandinsky says is applicable to the cupule, which beginning with a point is repeatedly pounded or 'marked' until it grows into a dense infinity of points, a cupule.

Because of the relevance of Kandinsky's analysis for the internal meaning of the point-cupule movement-form, I will not skimp on quotations. Kandinsky observes

“The geometric point is an invisible thing. Therefore, it must be confined as an incorporeal thing. Considered in terms of substance, it equals zero. Hidden in this zero, however, are various attributes that are 'human' in nature. We think of this zero—the geometric point—in relation to the greatest possible brevity, i.e., the highest degree of restraint, which, nevertheless, speaks. Thus we look upon the geometric point as the ultimate and most singular **union of silence and speech.**” (25).

This is precisely what happens as the point is repeatedly pounded into the cupule. It becomes audible and as it becomes audible the silence, the sacred place itself, also is listened to. The restraint that is felt is, perhaps, the awe at the mystery of it all, the hush and respectfulness that one feels in the presence of the sacred in a sacred place.

Kandinsky continues.

“It is like a shock (sickness, accident, sorrow, war, revolution) that jolts us out of our everyday, habitual, 'lifeless state into vigorous feeling', and especially like similar

disturbances that come from within us, out of our own inwardness.” “As we gradually tear the point out of its restricted sphere of customary influence, its inner attributes—which were silent until now—make themselves heard more and more. One after the other, these qualities—inner tensions—come out of the depths of its being and radiate their energy. There effects and influence upon human beings overcome ever more easily the resistances they set up. In short, the dead point becomes a living thing” (26-27). “... the point has been torn out of its customary state and prepares to leap out of one world into another” (28).

In other words, the point, that is, the cupule, leaps into the ‘other world’, which is the other world in relation to this one that is established through the art of cupule making. This may also be interpreted as similar to Eliade’s distinction between the ‘profane’ of the everyday world and the ‘sacred’ that is experienced as terror, fascination and transcendence. In another sense the ‘mark’ floats upon its medium as though ‘meaning’—like mind itself of which it is an expression—were layered over the medium or arose from the medium. Kandinsky says:

“In the latter [the medium] it frees itself from dependency, from the practical-useful. Here it begins its life as an **independent being** and its subordination transforms itself into an inner-purposeful one. This is the world of painting. The point is the result of the initial collision of the tool with the material plane, with the basic plane. . . The basic plane is impregnated by this first collision” (28).

Thus, philosophically speaking—and by implication this philosophical notion was first apprehended in the Later Acheulian as manifest in such marking motifs—the cupule gives rise to the very idea of being itself as it ‘begins its life as an independent being’. Thus ‘meaning’—here the ‘world of painting’, which is in this case also a ‘world of signifying’—and ‘being’ arise together.

Further, this advent of ‘being’—which is a beginning of ‘life’ or aliveness in consciousness—is like a conception of new life, for as Kandinsky puts it: ‘basic plane is impregnated by this first collision.’ In the striking of rock on rock one hears this ‘first collision’ repeated over and over again. And in this shock, which contains the whole sorrow and pain of the human condition, there is an impregnation and a conception of something new, something over and above the medium—which only now ceases to be merely stone and transforms itself into a ‘medium’ for that which arises anew—that is ‘being’ and ‘life’. Kandinsky observes that

as the point is widened out it verges on and then may cross over into the “embryonic existence” of the plane (30).

[This parallels the difficulty of contemporary archaeologists to delimit a cupule from a grinding hollow, that is, something that is more like the plane itself, merely an indentation in the plane, which uses the plane as a base for grinding.]

Kandinsky goes on to say that the point

“makes a certain **statement** which is organically bound up with the utmost **restraint**. **The point is the innermost concise form**. It is turned inwards. It never completely loses this characteristic . . . Its tension is, even in its last analysis, **concentric**”. . . The point is a small world cut off more or less from all sides and almost torn out of its surroundings . . . Its fusion with surroundings is minimal . . . On the other hand, it maintains itself firmly in place and

reveals not the slightest tendency to movement in any direction whatsoever . . . Furthermore, it neither advances nor recedes. Only its concentric tension discloses its inner kinship with the circle . . . The point digs itself into the plane and asserts itself for all time. Thus it presents the **briefest, constant, innermost assertion** . . . Therefore, the point, in its outer and inner sense, is the **proto-element of painting** and especially of the ‘graphic’” (32).

Thus, the point—and all this applies even more so to the cupule—bears within itself a tension, a tension between restraint and assertion, which characterizes its inwardness. The point is inwardness and inwardness is a tension. Further, the tension, held in the art itself of its making, is like a shock of human suffering that establishes solitude, the solitude of inwardness. This establishes the creative potential as not only communal performance, but simultaneously in its inwardness as separatedness from the nexus of the social group. This is the beginning of art and the beginning of the spiritual and of spiritual evolution. This is the beginning of new and higher values that simultaneously grow out of the oldest and most primordial values. It is the individual, dyad or a group torn out of their customary surroundings by a shock—whether deprivation, abuse, trauma or other suffering—who are given the potential for this leap into the other world and for this production of creative, spiritual values. Kandinsky says:

“In nature as in art, the point is ‘a self-contained thing, full of possibilities’” (39).

This is the potentiality, empowerment, and transcendence signified by the cupule.

With Kandinsky’s insights, I suggest that the Acheulian cupule appears to have the following meanings:

*Contact this place, presencing this ‘here-ness’, this place, over and over, listening as it becomes audible with the silence that you also hear in this place. Contact the restraint that you feel as awe at the mystery of it all, the hush and respectfulness that you feel in the presence of the sacred. Let this ‘other world’ leap into presence as the sacredness you feel in this world for this world with your feelings of terror, fascination and transcendence.*

*Contact, impregnate and fertilize this presence that is the ancestral presence of this place, which mysteriously provides for you in spite of suffering. So let it be a kind of praise and thankfulness that you hold in a tension of restraint and assertion, a self-containedness, full of possibilities. Contact, strike into it, dig into it, as into your utmost desire.*

*Abide here, holding the tension of this place that is like a shock, a wounding, a shattering, that yet yields in the darkness light and a solitude that can be heard. This is the solitude of inwardness that is also your creative potential. It is a shock again and again like a staccato rhythm, measuring out beginning and end, finitude, limit, death and beginning again. It is the agony of once, and the release of once again.*

*Contact this tension which is not only a creative potential for communal performance, but simultaneously in its inwardness a separateness from the nexus of the social group, in the place of the beginning of art and spiritual value. For you were torn out of your customary surroundings by a jolt, whether deprivation, abuse, trauma or other suffering; therefore, pulsing into the solitude of your creative tension, allow the leap into the new. Abide here;*

*dwell here in this place of sacredness. This is the place where it happens, where it is done, where it is performed, the advent of this place where your life begins to happen.*

This is a lot to say and may seem to be free association. Indeed it is free association, for there is no other method for decoding the possible meanings of the mark, yet it is not random speculation, since the goal is to let the inherent design of the movement-form and its resonance structure constrain the range of possible meanings. The goal is to let the design itself with its inherent substance and form in resonance with its ‘opposite’ release the differential features that establish the semantic core of the marking motif’s meaning. Then the possible meanings can be tested against other contextual archaeological and semiotic factors and if need be revised accordingly. The proposed meanings are by no means the last word.

### Cupule—Analogies

At this point, several ‘ethnographic analogies’ may be considered. I try to optimize their relevance by selecting them from prehistoric marking traditions, contemporary hunter-gatherer subsistence traditions, or contemporary cultural commentary pertaining to the intrinsic nature of the shapes. Some of the analogies contain nuances that triggered identification of semantic themes I have used in decoding the Later Acheulian markings.

Generally speaking, I do not argue that one can project contemporary or recent hunter-gatherer interpretations of these marking strategies into the past. Rather, I am looking to see what kinds of feeling-toned values arose in relation to a particular marking strategy, and, if the differential features of the particular Later Acheulian marking motifs suggest something similar, then I might draw upon it in the decoding. The analogies only suggest amplification of a given decoding; one might discard all the analogies and a decoding would still stand, albeit with fewer nuances.

Analogy 1.1. Flood (1997) observes that cupules are among the earliest art of Australia along with digital fluting, abraded grooves, meanders, straight lines, and arcs. To get a handle on the function of cupules she notes (146-148) that Mountford in the 1940’s witnessed cupules being pounded during an Aboriginal increase ritual at a site in the Musgrave Ranges in South Australia. The purpose of an increase ritual was “to propagate the creative powers of an Ancestral Being and thereby increase the population of the natural species associated with that Being”, in this case the pink cockatoo and its eggs. The boulder was the body of a totemic being killed in the creation myth. The cupules symbolized her wounds. The pounding of the cupule with a small stone “causes the release of the *kuranita* [life essence] of cockatoos” which “rising into the air in the form of dust, fertilizes the living female cockatoos, causing them to lay more eggs.” This is one of many examples recorded by Mountford of rubbing a rock surface to release its life essence in order to maintain or increase subsistence resources. Flood concludes that cupules are “a form of gestural rock art, where it is the action involved that was important and the mark left behind was just an incidental by product.” Some cupules are made on rock gongs, the sound activates the site as sacred or calls people together; echoes are also used to activate sites (Josephine Flood, personal communication, 2000).

Analogy 1.2. Paralleling Flood’s comment about rock gongs, Meldrum (1992) explores the rhythmic of repetitive pecking in the production of cupule and linear groove petroglyphs. She hypothesizes that these elemental or ‘archetypal’ motifs provided “potential *avenues of*

*experience* of altered states of consciousness through their manufacturing” (347). Some sites are known rock gongs. She rejects out of hand the idea that they have any signifying properties. Actualist experiments by several independent investigators produced pecking at rates of 100 to 128 blows per minute, capable of stimulating neurophysical and neuropsychological driving responses which function to induce altered states. [Note: The anthropologist and experiential trance worker Felicitas Goodman has found that the optimum trance rhythm is 200-210 beats per minute. If so, then the petroglyph experimenters are operating at 50% of the optimal rate.]

Analogy 1.3. Also from Australia, in contemporary Central Australian Walbiri art, circles—a form that might be considered similar to a cupule—can signify ‘waterhole, well, campsite, breast, hill, rockhole, fire, fruit, egg, cave, cloaca, base of a tree, stone, and so on’ (Flood 1997:155-158). When I asked what cupules signify, a Wardaman elder replied with a series of possible interpretations (personal communication 2000). These included “put blood in it for body painting”; “message sticks go out and people arrive here”; “this is their place to stay”; [a mnemonic device, it means] “tell a story, many cupules, many stories.” Similarly Bud Hampton has concluded about Wardaman cupules (personal communication 2000) “some are gestural, some are written communications” and they seem to have two primary functions: (a) behavior to rub rock to release life-spirit-essence during ritual and for increase; (b) some are marks for storytellings, record cultural events and the Law. Cupules mean “trade going on here”; “stop, like a period”; “people dropping from Rock Wallabies”; “to assist people to understand laws”; and “they store libraries.”

All these significations, I suggest, might be summarized as: to activate a place as sacred and as a place at which to stay, stop, or dwell in order to listen to a religious story, instruction, or otherwise engage in ritual activity (trade, body painting, ceremony).

Analogy 1.4. Anati (1993) argues that a ‘dot’ mark in the worldwide tradition of Evolved Hunter rock art indicates the verb ‘to do’ or some of its extensions, like ‘to reach the goal’ (120); ‘a power addressed’ [i.e., a being who is a source of action, accomplishment, actualization] (141); or ‘it was done, achieved, happened, took place, came to be, event’.

Analogy 1.5. The notion of ‘dwelling’ may have been similar to that found in the German poet Hölderlin’s words so often reflected on by Heidegger: “*dichterisch, wohnet / Der Mensch auf dieser Erde*”—“poetically, dwells / the human upon this earth.” In other words, through the dwelling-effect of semiosis, cupules effect a feeling-tone and reality of dwelling on the earth and, simultaneously, of opening the heart to ‘the human,’ ‘humanity,’ ‘humanness’.

Analogy 1.6. The dance movement therapist Gabrielle Roth (1989) identifies five ‘sacred rhythms’ at the heart of all dance and all of life: flowing, staccato, chaotic, lyrical, and stillness. A full pattern of dance, like lovemaking, moves through all five, beginning with flowing and then staccato rhythms. [Note the perfect analogy: cupule : undulating line :: staccato : flowing.] She describes staccato in terms such as “busting the half-waking dream with pulsating energy. It’s as if you’re caught in a sudden storm, waves pounding, your body being carried by the tempo. You begin to move in sharp, *staccato*, defined ways, each movement having a beginning and end. You fuse with the beat of the drums, and your arms and legs become percussive instruments, beating the floor and the space around. You’re staccato incarnate, torso twisting sharply, arms flashing, feet pounding, one with your pulse, living on air, exhaling into one movement, and breathing life in with the next” (32).

## Undulating Line

An undulating line is a variation on the second fundamental element of painting and the graphic arts, the line. Again, in *Point and Line to Plane*, Kandinsky (1979) characterizes with a finely nuanced account, the very nature of the line itself.

“There exists still another force which develops not within the point, but outside it. This force hurls itself upon the point, which is digging its way into the surface, tears it out and pushes it about the surface in one direction or another. The concentric tension of the point is thereby immediately destroyed and, as a result, it perishes and a new being arises out of it that leads a new, independent life in accordance with its own laws. This is the line” (54). “The geometric line is an invisible thing. It is a track made by the moving point; that is, its product. It is created by movement—specifically through the destruction of the intense self-contained repose of the point. Here, the leap out of the static into the dynamic occurs. The line is, therefore, the **greatest antithesis** to the pictorial proto-element—the point” (57).

The static point put in motion is a line, which is inherently dynamic. Like the point the line is also ‘a new, independent life in accordance with its own laws,’ and thus a revelation of ‘being’, that is a new form of life. Further, the two motifs, point and line, and by implication cupule and undulating line, express ‘the greatest antithesis’. They are ‘proto-elements’ of art that are in tension with each other as radical opposites.

“Quite apart from differences in character which are determined by the inner tensions, and quite apart from their processes of creation, the original source of every line remains the same—the **force**” (92). “In the final analysis, all line forms can be reduced to two cases: (1) application of one force and (2) application of two forces: (a) single or repeated, alternate action of both forces, (b) simultaneous action of both forces” (57). The application of one force from without yields the straight line, which is “**the most concise form of the potentiality for endless movement**”. By movement is really meant “tension” which is “the force living within the element and represents only one part of the creative ‘movement’”. The second part is the direction, which is also determined by the ‘movement’ “ (57-58).

The line, like the cupule, is in itself a tension of forces. It is the antithesis of the cupule as the potentiality for endless movement is the antithesis of staccato movement, i.e., movement with a finitude, a beginning and ending, a once, although perhaps, also, a once again.

“The application of two alternate forces results in angles; two simultaneous forces which are not equivalent, curved lines (68, 79). “A complex curved or **wave-like** line can consist of (1) geometric parts of a circle, or (2) free parts, or (3) various combinations of these. These three types cover all the forms of the curve. Some examples confirm this rule” (85). Kandinsky then gives a series of examples of undulating waveforms. A sin-wave has “uniform alternation of positive and negative pressure” and “with alternating tensions and release” (85). More irregular are ‘free-waves’ which may have irregular alternation of positive and negative pressure, strengthening or weakening amplitudes, various accentuations of thickness, ascending or descending moments, and so on.

The undulating line is then a sequential repetition of concave shape and convex shape. It is a tension between constantly alternating pressures. It arises from the alternating of the non-equivalency of two positive and two negative pressures with alternating tension and release. It

marks strengthening and weakening, ascending and descending movements. It marks a tension that continuously reverses itself and revolves, hence revolutionary, or at least evolves and is evolutionary. It is also the incompleteness, so to speak, of the circle as it does not return upon itself. Therefore, it is in the continual act of opening and re-opening itself as it moves onward. In the sin-wave this forward directedness is regular; in the meander it is irregular with every new moment a surprise, the advent of a new direction. This gives it its peculiar kind of aliveness, its peculiar expression and force of being alive.

Drawing upon the innate characteristics of the undulating line in itself and for itself with respect to the point (cupule) and taking into account some relevant nuances of ethnographic analogies, I propose the following for the semantics of the undulating line motif

***Move negotiating the constantly alternating pressures from right and left, pressing forward and keeping the movement going, despite the continually alternating and unbalancing nature of these forces [as in bicycling, canoeing, or just walking]. [push < L. pulsare = to strike, beat, knock; stir, move, influence, affect.]***

***Move with the alternating force of two positive and two negative pressures with alternating tension and release. Move with the forces as they strengthen and weaken. Move in touch with the ascending and descending movements of your life and evolve. Follow the force that continually opens and re-opens itself as it moves onward. In this irregular forward directedness let every new moment be a surprise, the advent of a new direction for evolution, the peculiar expression and force of being alive. Sense the exaltation and solemnity at the announcement of that which leads onward, the birth of the leaders, the leading principles, ascending and descending.***

***Move with the undulating, fluid movement of the force of life, moving like undulating clouds of moisture, turbulent rain, dew drops, spring rivulets, streams, rivers, ripples and waves on the sea. Move with the undulating movement of life forms, the undulating movement of fetal life in amniotic fluid, fish movement in waters, worm, snake, bird wings flapping in the air, the undulating course of your life. It is all you will ever know of eternity, this movement that would flow forward endlessly undulating with life.***

***Let this effort, no matter how small, how subtle, push and pulse through you. Let it undulating like breathing, in and out, like the heart's pulse, the flow of your blood, your body's undulating, pulsing aliveness. Move with this force for healing injury and trauma, in its movement from paralysis to flexibility and undulating aliveness, from inertia to forward movement, effective, re-balancing itself despite the imbalances that one daily confronts.***

### **Undulating Line—Analogies**

As in the case of the cupule, here too analogies appear to be survivals of the Later Acheulian thematics.

Analogy 2.1: Marshack (1977) examined Upper Paleolithic meander markings. Engravings from Solutrean and later Upper Paleolithic sites typically consisted of multiple units, including 'funnel'

or 'comet' shape, core meander, side branches, sometimes a thinner, fading away line at one end of a meander, and subsidiary single or parallel strokes or zigzags. They evidence being repeatedly re-used and renewed and thus appear to have "constituted a part of a participatory, periodic art" (301). Meanders from sites such as Gargas, Rouffignac, Marsoulas, La Pileta, Pech Merle and Altamira emphasize the serpentine meander; some also trail off at the end in faint threads. At Marsoulas and La Pileta, the meander patterns have short branches that veer off the main path. Pieces of engraved limestone from Romanelli cave (c. 8500 BC) exhibit each of the three motifs of the 'meander' design and in one instance the meander is filled with precisely engraved running angles (zigzags). Having argued elsewhere that Upper Paleolithic zigzag is a "sign or symbol of water" as it is in Neolithic and later civilizations of Europe, Middle East, and Egypt, Marshack suggests that the multi-unit meanders represent rivers or streams and were not representational images of water but "iconographic acts of participation in which a water symbolism or a water mythology played a part" "and may have had a relation to the continuous flow of other processes, seasonal, biological, ceremonial and ritual. The 'river' and its sequence of sets and subsidiary marks may have represented the *unreal* river of a shamanic journey or effort" (315). In an attempt to decipher Upper Paleolithic geometric signs as a coherent, structured symbol system, drawing upon Marshack's analysis, Harrod (1987, 1997) characterizes the meander as a sign signifying 'flow, fluid movement-form, and also pursuit'.

Analogy 2.2. Flood (1997:154) describes a ceremony from Western Australia at a site where two totemic Watersnake Beings went into the earth and transformed themselves into a waterhole. During the ceremony one man mixes red ochre with the water and spreads it around the rim of the pool, while three other men inscribe elaborate serpentine designs with their fingers in the wet mud. "Soon the entire surface of the mound facing the waterhole was covered with these finger markings, some vertical and some twisting and turning, which the men said represented the ancestral Watersnakes." Flood compares this ritual marking to that of the earliest Australian rock art, digital fluting on cave walls, while suggesting that that art may not have been referential but rather "gestural."

Analogy 2.3. In contemporary Walbiri art, the undulating line signifies 'snake, smoke, string, tail, lightning, water flowing' (Flood 1997:158). In other words it signifies kinds of undulating movement.

Analogy 2.4: Steiner (1974:6): "[Isadora] Duncan, [Maud] Allan, and [Ruth] St. Denis . . . wished to create an art of dancing based on natural movement and expressing an inner soul impulse. They observed the movements in Nature (Duncan found that all Nature was traversed by a continuous undulating movement) and sought to reproduce them."

Analogy 2.5: The dancer become movement therapist Emile Conrad (2002) discovered that wave-like, undulating micro-movements are at the heart of all life and could be used to heal spinal injuries and other physical and emotional trauma. She describes 'continuum movement' in these terms: "Growth, creativity and learning are non-linear flowing events, encouraging an ability to adjust and innovate in response to the unpredictable changes and challenges of life." "Since bodies are mostly made up of water, Continuum emphasizes fluidity. The breath is considered the source of all movement. Creating wave motions within the body by using a variety of breaths and sounds is an important component of the discipline." In Haiti she "steeped [herself] in ancient snake-like movements that seemed to spring from the earth itself." From this experience she "started a movement inquiry that was eventually called Continuum. Through intricate wave motions, I began to explore these questions: As living systems can we engage in the formative tendency of life more directly? As intelligent beings, can we live in a culture but not be bound by it? Does our organism have a destiny separate and apart from the concerns of personality? What

we commonly refer to as a body is basically movement that has become stabilized. When we see a newborn, essentially we are looking at the movement of water made flesh. We are seeing a fluid system meeting the vibrational field of the earth, where an elegant exchange begins to take place. ...The fluid presence in our bodies is our fundamental environment; we are the moving water brought to land...The web between our fingers, the membranous dura mater and esophagus, the suspiciously protozoan curve of our brains and viscera that lie pulsating in water, are vestiges of ancient worlds here before we were, resonating in us through their varied undulating messages.... In movement there are no objects. There is only fertile probability awaiting an urging...We are also the flowing expression of a divine and complex intelligence that has formed us for a purpose we may never know...As intrinsic movements become more abundant, a neurologically rich matrix is created for the budding of new neural pathways. I believe that our ability to innovate lies within our biological core...We are the process of life constantly unfolding itself. The universe we are living in is in a constant exchange of information and nourishment. I see this as a fundamental activity of the human on this planet and perhaps beyond our Earth as well. Blood, rivers, oceans, cerebro-spinal fluid, all fluids are in a state of resonance, a unity without boundary.”

Analogy 2.6: As noted under ‘cupule’, Gabrielle Roth (1989) identifies five ‘sacred rhythms’ at the heart of all dance and all of life: flowing, staccato, chaotic, lyrical, and stillness. A full pattern of dance, like lovemaking, moves through all five, beginning with flowing and then staccato rhythms. [This is a perfect analogy: cupule : undulating line :: staccato : flowing.] She describes the flowing rhythm in these terms: “sweet parabolas of sound, and you become a continuum of movement, creating an infinity of shapes as you move up and down, rising and sinking like a heavy sun. Breathing deeply in and out, there are no sharp edges to your movement, only curves, endless circles of motion, each gesture evolving into the next. Your body has become a sea of waves—powerful constant rhythmic motion rooted in the earth, relaxed and centered, flowing in all directions” (32).

### **Cupule and Undulating Line**

As Kandinsky observed, point and line are fundamental (‘primitive’) formal elements of the whole of geometry (the sense of space) and they are the fundamental elements of painting and the graphic arts as such. Further, as derived from phosphenes, point (dot, cupule) and undulating line are fundamental elements of human vision both of the everyday world and of the inner world. Finally, as Kandinsky noted, point and undulating line each are a tension of opposites. When juxtaposed they create a tension of tensions, an opposition of oppositions, a complementarity and a symbol of wholeness. They constitute a highly complex and sophisticated ‘identity of differences’.

It seems no coincidence that Kandinsky (1979: fig. 2) begins *Point and Line to Plane* with the most basic of all artistic compositions: the combination of a point and an undulating line. This is precisely what we find at Bhimbetka. Kandinsky’s definition of ‘composition,’ also illumines the juxtaposition we see in these Acheulian petroglyphs.

“The action of the force on the given material brings life into the material, which expresses itself in tensions. The tensions, for their part, permit the inner nature of the element to be expressed. An element is the objective result of the action of the force on the material. The line is the clearest and simplest case of this creative process which always takes place in exact obedience to

law and, therefore, allows and requires an exact law-abiding application. Thus, a **composition** is nothing other than an **exact law-abiding organization** of the vital **forces** which, in the form of tensions, are shut up within the elements” (92).

Kandinsky notes the resonance of point versus line.

“Point—rest. Line—inwardly animated tension created by movement. The two elements—their intermingling and their combinations develop their own ‘language’ which cannot be attained with words. The exclusion of ‘trimmings,’ which hush and obscure the inner sound of this message, lends the greatest brevity and precision to pictorial expressions. The pure form places itself at the disposal of the living content” (112).

As Kandinsky feelingly observes both point and line are tensions of forces. The point is a tension of forces, the force of inscription and the force of the silence that resounds from it. The line is also a tension, a tension of the pushing force and direction of that force. The undulating line is the action of two tension-forces the pushing force and a second pair of forces altering the direction of movement.

The Bhimbetka composition places cupule in juxtaposition with its antithesis the undulating line. Thus it places two tensions in tension with each other. Perhaps, we should say, the two tensions are placed in both tension and juxtaposition to each other. So it is not merely that its complementary resonance structure puts cupule and undulating line in tension in a way similar to a metaphor (diaphor, archetypal or radical metaphor or anti-metaphor), but the association results in a design that is even more complex. It is a tension between two tensions, a tension of tensions! This Acheulian marking tradition produces a design, which appears at first glance simple or ‘primitive’, but on further examination may be seen to be not so simple.

Compare Kandinsky (1979:31): “It must, however, always be emphasized that elements completely pure in tone which radiate a single colour do not really exist; that even those elements designated as ‘basic’ or ‘proto-elements’ are not primitive but are, on the contrary, of a complex nature. All concepts having to do with the ‘primitive’ are likewise only relative concepts. Our ‘scientific’ language is, therefore, equally but relative. The absolute we do not know.”

Still there is something more to notice about the Bhimbetka cupule-and-undulating line. In contrast to their differences, both cupule and undulating line share an identical marking strategy: a stone hammer is used to peck or pound each motif into stone. To make cupule and undulating line requires an intense repeated forceful effort, striking the stone again and again. This intense pecking generates a sound, a rhythmic sound, and rock dust, and perhaps even sparks. At the same time as it creates a formal design it creates in its medium its substance.

Further, the shared marking strategy creates a common medium, a similarity and identity that supports the differential features between cupule and line, finitude and endlessness. The shared marking strategy makes the medium part and parcel of the semantics of the associated motifs.

The stone that is pecked asserts its own voice—and silence. It asserts its own meaning; it has its own ‘semantic competence’. It becomes a power, a presence; it speaks, and it is an ancestral being that speaks to us.

Analogy 1+2,1. When Flood (1997:150) asked her Wardaman “informants in the Victoria region the reason for the many thousands of short abraded grooves—lines rubbed on rock ledges and on the rims of rock slabs—and also for the pounding marks where the edges of the rock shelter walls had been hammered with a stone, the answer in both cases was the same—‘It is to bring out the power in the rock’.” A site may be imbued with the sacred presence of an Ancestral Being and it is believed that rubbing the rock will release its power. This may be done as a private act or in the course of clan rituals.

Stone itself has a power in itself and this power is paradoxical. On the one hand, stone readily evokes hardness, brute reality, necessity, the reality principle, no coping with live without forcefulness, no living without resistance, without suffering. On the other, it symbolizes stability, groundedness, rootedness in and of the earth, reality rather than illusion or fantasy, endurance, and, perhaps, even indestructibility.

Analogy 1+2,2. Eliade (1958a:216) under “stones as manifesting power” notes that “the hardness, ruggedness and permanence of matter was in itself a hierophany in the religious consciousness of the primitive. And nothing was more direct and autonomous in the completeness of its strength, nothing more noble or more awe-inspiring, than a majestic rock, or a boldly-standing block of granite. Above all, stone is. It always remains itself and exists of itself; and more important still, it strikes. Before he even takes it up to strike, man finds in it an obstacle—if not to his body, at least to his gaze—and ascertains its hardness, its roughness, its power. Rock shows him something that transcends the precariousness of his humanity; an absolute mode of being. Its strength is its motionlessness, its size and its strange outlines are none of them human; they indicate the presence of something that fascinates, terrifies, attracts and threatens, all at once.” Eliade (1959a) observes that “a sacred stone remains a stone . . . but for those to whom a stone reveals itself as sacred, its immediate reality is transmuted into a supernatural reality. . . . [F]or primitives [sic] as for the man of all pre-modern societies, the sacred is equivalent to a power, and, in the last analysis, to reality. The sacred is saturated with being. . . . [The profane is the unreal.] Thus it is easy to understand that religious man deeply desires to be, to participate in reality, to be saturated with power (12-13).” “[R]eligious man can live only in a sacred world, because it is only in such a world that he participates in being, that he has a *real existence*. This religious need expresses an unquenchable ontological thirst. Religious man thirsts for *being*” (64).

The resistance of stone—in which the human, poetically, dwells—is the resistance of psychic and physical inertia as of the hardness of reality.

Analogy 1+2,3. Long (1986:178, 197) speaks of the opacity of the suffering of the marginalized and oppressed as like that of stone. He describes “a religious consciousness that has experienced the ‘hardness’ of life, whether the form of that reality is the slave system, God, or simply life itself. It is from such a consciousness that the power to resist and yet maintain one’s humanity has emerged.” “The oppressed have faced the hardness of life. The world has often appeared as a stone. . . . Hegel spoke of a form of consciousness as the lithic imagination, that mode of consciousness which in confronting reality in this mode formed a will *in opposition*. This hardness of life was not the oppressor; the oppressor was the occasion for the experience but not the datum of the experience itself. The hardness of life or of reality was the experience of the meaning of the oppressed’s own identity as opaque. Reality itself was opaque and seemed opposed to them.”

Simultaneously, it is the subject's resistance that makes contact with a power to resist oppression. Stone is the resistance to those who would marginalize or oppress. Stone is both object and subject; stone symbolizes itself as resistant and its own reverse, resistance to oppressive hardness and the flinty heart. Stone and the striking against stone to create a movement-shape symbolizes the incomprehensibility of suffering, whether marginalization, starvation, sickness, old age and death, abuse, trauma, or spiritual 'sickness unto death', and the miracle of resistance, the survival of spirit against suffering. Stone reminds us that deprivation and all forms suffering are absolutely inexplicable to reason and yet the stone-like earth of the ancestral spirits endure and even fertilize new life into a resistance that pulses and moves with life. This is the double or mirror 'spirit' of stone at the heart of human adaptation and human evolution that is symbolized by the making of cupule and undulating line.

At Bhimbetka cupule and undulating line are two symbols embedded in a syntactic relationship and also two halves of a symbol in a metaphoric relationship of expressive movement. Cupule and undulating line are an association of two primordial tensions of forces. The artisan has placed them together in such a way that the undulating line "approaches" the cupule and "follows part of its circumference" (Bednarik), while maintaining a very slight, subtle separation, and then meanders a way.

The undulating line 'touches' the cupule without breaking its boundary, thus maintaining its integrity, ever so gently caressing it. This approach and touch evokes *a gentleness and love that both asserts itself and is silent, as it acknowledges and honors all that is signified by stone. In so doing it approaches and contacts the wall itself. Before the wall, which is the reality and power of stone, this repeated and forceful striking evokes the absolute opacity and incomprehensibility of human brutality and suffering to reason and the resistance of the human spirit to domination. It evokes an exaltation and annunciation of the leading principles of contact with the here and now hard reality of life and moving with the undulating flow of the movement of all living things, alive. Thus the double spirit of life expresses itself before this wall. If in approaching the wall, we feelingly dwell upon the earth, striking the stone, in a kind of brokenness and exaltation, fertilized with the resistance to marginalization, oppression and abuse, then we may move on toward the mystery of our evolving future.*

All this is evoked by the complementarity resonance structure of cupule and undulating line pecked in stone.

All this belongs to one of the fundamental meaning-forms of 'the mind' in the consciousness and communication of a Later Acheulian people, who were our ancestors 400,000 years ago.

### 3. and 4. Convergent and Divergent Line Motifs

Convergent line motif	Divergent line motif
Cutmarks	
Bone	

At Bilzingsleben convergent and divergent line motifs are associated on different objects in contiguity in the same habitation site. (The same two motifs might also be identified on the Bilzingsleben ‘double rectangle’ design; close microscopic analysis is needed to verify the traces of these two motifs.) Admittedly, these particular markings have been described ambiguously as convergent or divergent. At Stránská Skála a convergent and a divergent line motif are associated on a single object (bone vertebra). The validity of the Stránská Skála evidence as intentional is also controversial. More examples would enrich our analysis. Nevertheless, I will assume that Bilzingsleben artifacts do evidence distinctly convergent and divergent line markings. Further archaeological may support or alter this assumption. In any event I will proceed on this assumption to suggest how, if this is the case, the linguistic ‘differential features’ inherent in the complementarity of the motifs reveal a possible decoding of their semantics.

Convergent and divergent (radial) line markings are opposites in movement-shape but they share in common that they are ‘cutmarks’ on ‘bone.’ Again, as I suggest in my analysis of the Bhimbetka petroglyphs, there appears to be at least three or four levels of potential semantic codes. First, there are the differential features between CLM and DLM design motifs. Convergence and divergence are two opposite ‘gesture-movement-forms’. If they are derived from phosphenes, as it appears, then their juxtaposition in a kind of ‘symbolic syntax’ generates a capacity for semantic encoding.

Second, there is a shared, common technique of production or inscription. Cutting into bone with a sharp edge, a stone knife or burin, makes both types of marks. Both convergent and divergent line motifs are cutmarks on bone. In a sense, CLMs and DLMs are ‘intentional cutmarks’. They are ‘meta-cutmarks’. It is precisely for this reason that so much scientific effort must be applied to determine whether a given mark is an engraving or a random cutmark. Archaeologists try to distinguish intentional ‘cutmarks’ from the background noise of random cutmarks. Even the random cutmarks are—in their context—may not be random; they may be intentionally placed with respect to the function of dismembering and carving up animal carcasses. That the one type of cutmark is associated with the other type of cutmark as foreground to background noise is a clue that the engravings may have been construed as a special kind of ‘cutmark’, one that signifies. That is a basic postulate of my decoding. CLMs and DLMs on bone have the underlying shared signifier: ‘cutmark’.

A third level of encoding appears to be that of the medium itself. Here I build on the insight of Robert Bednarik (1995, 1988) that CLMs and DLMs are “reactions of ‘stimulus-seeking’ hominids to existing marks, edges, shapes and surface aspects” and they may mirror or replicate shape aspects of the supporting medium.

To this I add a further feature. The medium, in the case of CLMs and DLMs—at least based on the available artifacts—is bone. I suggest that Later Acheulian artisans were well aware that

what they were engraving was bone, and they were aware of the special significance of such bones in their lives, as a source of sustenance for themselves, a core that seems to provide meat and also within itself marrow. Thus 'bone' itself, in addition to the 'shape' of the bone, I propose, is a fourth level of encoding.

In sum, CLMs and DLMs appear to be embedded in a complementarity resonance structure of 'identity and difference' that carries a rich capacity for generative semantics.

Convergent and divergent (radial) line markings are opposites in movement-shape. At Bilzingsleben the five convergent lines engraved on Object #3=260.55 converge toward a point of the object medium. Thus it appears that 'convergence' implies convergence to a point or toward a penetrating point. It is a cutting into the bone that evokes *moving toward a point that cuts, penetrating, the core, the marrow, the core essence, a sustaining and nourishing core essence*. It evokes convergence as *condensation, concentration like the core essence as well as penetrating that core essence*. The design movement's shape is the gesture movement that enters into and yields the marrow within the bone within the meat, i.e., *the sustenance within the sustenance, the core or depth sustenance in the within of the within*. Convergence cuts into and enters into *the core essence of bone, the quintessence, i.e., the pure concentrated essence of what is, of what gives, supports and protects life*. Convergent lines also suggest *a funneling down, a narrowing passage, like a tunnel, through which something, through which our life-energy, moves on the way to being born out into the light*. They also suggest *a joining, union, or reunion, though at a point that remains invisible, perhaps a union that is forever future, forever beyond, beyond the horizon of the known, and known only in anticipation or hope*.

### Convergent Line Motif (CLM)

Drawing upon the innate characteristics of the convergent line motif in itself and with respect to the divergent line motif, I propose the following semantics for the convergent line motif (CLM), down converging lines, or funnel shape.

***Move toward a point, penetrating the core, the marrow, the core essence, a sustaining and nourishing core essence; condense, concentrate yourself at the core essence, the sustenance within the sustenance, the core or depth sustenance in the within of the within, the core essence, the quintessence, i.e., the pure concentrated essence of what is, of what gives, supports and protects life. Move through the funnel, the narrowing passage, like a tunnel, through which something, through which your own life-energy, moves as on the way to being born out into the light. Lead, gather, condense, join, or fuse lesser energy-movements so that they come-together toward one stronger energy-movement as rivulets gather and fuse moving toward becoming a strong flowing river. Move toward the joining point, the union or reunion, a point that remains always invisible, a union that is forever future, forever beyond, beyond the horizon of the known, and known only in anticipation or hope.***

Comment. Compare Heidegger's notions of essence as *Ereignis* and as that which is pre-originary and as that which 'gathers into One' as it essences that which is in its essentiality. Derrida terms this the 'nostalgia for origins'.

## Convergent Line Motif—Analogies

Again I provide several ‘ethnographic analogies’ which I have tried to optimize for relevance by selecting them from prehistoric marking traditions, contemporary hunter-gatherer subsistence traditions, or contemporary cultural commentary pertaining to the intrinsic nature of the shapes. Some of the analogies contain nuances that triggered identification of semantic themes I have used in decoding the Later Acheulian markings.

Analogy 3.1. Bednarik identified three generations of rock art in Malangine Cave, Mount Gambier region, South Australia. The earliest is digital fluting; succeeded by “deeply engraved ‘convergent line motifs’ [usually a convergence of three lines resembling arrowheads], xtracks and other designs of the Karake style, and, finally, shallow outline motifs such as rough circles incised and pounded.” The Karake style petroglyphs are tentatively dated to around 9,000 to 10,000 BP. (Flood 1997:77-83). A similar succession of styles exists at the type site Karake, as well as Karlie-ngoinpool and Mooraa in the same region. At Karlie-ngoinpool Cave convergent line motifs consist of “two to five lines which need not be fully joined” while those illustrated from Mooraa Cave appear to have two lines converging in a chevron shape. Bednarik observes that ‘the lines always seem to converge at the bottom end, except, of course, when one such motif is superimposed over another’ (87-90). Neither Bednarik nor Flood attempts a semantic interpretation for CLMs. Bednarik suggests that some of the CLMs might represent bird tracks, as found in later Aboriginal rock art, but this hypothesis is not falsifiable. Flood’s chart of regularly used motifs in contemporary Central Australian art does not depict a CLM, although it does depict an arrowhead shape denoting ‘emu, or other bird track’ (158, compare 168).

Analogy 3.2. As noted earlier, Marshack (1977: 295, pls. 9a-b, 10a-b, 11, 13, 14a, also Gargas 34a-b) examined Upper Paleolithic meander markings observing that they typically consisted of multiple units. One of these units was a ‘funnel’ shape engraved in a convergent manner. One stone from Romanelli (c. 8,500 BP) has two meanders; each begin with multiple lines that converge into the meander line, “almost as though a funnel were feeding down toward a point.” Marshack argues that this shape is a distinct “cognitive form and is part of the implied conceptual model.” Marshack (1979a:116-117) examines a ‘comet’ motif from Roc de Marcamps, Gironde, France, Terminal Magdalenian or Azilian, and suggests that the ‘comet’ motif “perhaps represented the initial flow of water from a source.” “On the Roc de Marcamps plaquette it is clear that the ‘comet’ was the initiating element for subsequent, continuing bands or serpentines ... the ‘comet’ was incised first in a manner which stressed its formal structure and shape. Two lines forming an angle or pyramid were incised; this form was then bisected by a third line and the two halves were then filled in. After the ‘comet’ was engraved, a number of ‘branches’ or ‘streams’ were added and finally a typical West European Upper Paleolithic serpentine band was incised over the composition. The comet, the bands, and the serpentine were related motifs and elements of one tradition. They seem to represent different aspects of a water-related symbolism, ritual and mythology.” He examines similar comet motifs on an engraved rib from Ogaarde, Denmark, Mesolithic.

Note. There is evidently an ambiguity in the semantic interpretation as well as the identification of the nature of the markings themselves. The Romanelli marking, which is very similar to the Roc de Marcamps marking, appears to be a ‘funnel’, i.e., a joining of streams into one serpentine meander, hence a CLM, but it is compared to markings that appear from Altamira and Lascaux, called ‘comets’, that really appear to be radiant sources of energy or DLMs, which would rightly have the semantics *initial flow of water from a source, i.e., an outpouring and radiance from a fons et origo*. Based on its role as

beginning a meander, I suggest that the ‘funnel’ is a gestural movement-form connoting *a gathering, coming-together, condensing, joining, or fusing of lesser energy-movements into one stronger energy-movement or passage having the quality of streaming or flowing, as rivulets gather and fuse into a river*. On a further note, one would not expect such a complex Upper Paleolithic marking aggregating funnel, meander, branches, internal zigzags, etc. in one overall composition in the Early Paleolithic, which appears by and large to utilize single motifs or juxtapositions of two motifs.

Analogy 3.3. In the Upper Paleolithic sites of Mal’ta and Mezin V, rows of chevrons (multiple Vs) and convergent chevrons [like the phosphene ‘pole’ form-constant] are associated with waterbird figurines. In the Neolithic Europe ideogram system, V and chevron are associated with ‘the Bird Goddess, pubic triangle, waterbirds and aquatic symbols such as meander, net, tri-line, bi-line and multiple parallel lines’ (Gimbutas 1989:3-17). Compare the Aurignacian engravings of vulva-shapes.

This suggests that the Later Acheulian CLM connotes pubic triangle and flowing, whether waterine or menses, or even the passage of the newborn, child-birthing, delivery, the birth passage.

### **Divergent Line Motif (DLM)**

In stark contrast to convergent lines, other markings at Bilzingsleben and Stránská Skála appear to radiate outward, and may be identified as divergent lines, fan, ray, or peripheral object marking strokes. The DLM signifier seems to evoke *emergence, radiance, radiating out from the core essence, the source, which appears to be a point beyond the horizon of the visible, i.e., from the other side, from the other world*. The meanings of the DLM, then, may be amplified as follows.

***Emerge, radiate, disseminate from out of your core essence, your source, which appears to be a point beyond the horizon of the visible, i.e., from the other side, from the other world. Radiate from your essential life like the dawn, sunlight, warmth, heat, fire, radiant from the bone seed marrow source of your life. Graciously pour out your life, overflowing with abundance of force, provident, energized and nourished even by continually impending death.***

***Push forth, create and disseminate forms, whether beads, tools, art and in other ways of shaping. Allow innate, natural form to emerge, shape itself out of itself, in autopoiesis. Inseminate with the semen that is the radiant spark of life like sunlight, like starlight and give birth, bringing into the light the offspring of radiance.***

Comment. Compare Derrida (1987 and elsewhere) on deconstruction as origin-heterogenous and as the force that ‘disseminates’, differences and defers essence or the privileged pole of any opposition. If there is a nostalgia for origins this would also be a longing for freedom. Dissemination is dehiscence. (dehisce = to burst open, releasing seeds, pollen or spores; to split along a natural line or joined edges; to discharge contents by splitting)

### **Divergent Line Motif—Analogies**

Analogy 4.1. Closest to a DLM in Australian rock art would be the ‘star’ and ‘radiating form’ motifs found in the so-called Panaramitee style engravings (Flood 1997:181, 183.8, 185.P, 208). Neither Bednarik nor Flood suggests a semantic interpretation for DLMs. Flood’s chart of regularly used motifs in contemporary Central Australian art does not depict a DLM (158).

Analogy 4.2. Marshack (1977: 304, pls. 29a-c, 30a-c, 31) compares the funnel-shapes associated with meanders to markings from Lascaux and Altamira that have been called ‘comets.’ Unfortunately he does not determine if they are made of convergent or divergent lines. The larger scale illustrations of several Altamira ‘comets’ (pls. 30a-c) indicate that their points of concentration seems to have a capping arc or angle, this suggests intent to indicate divergence, a bursting out of rays. Similarly the Lascaux anthropomorphic-like figure of lines suggests a divergent line motif. I find it hard to imagine an artist engraved the lines toward the head, but this, too, needs further examination. Marshack (1977, 1997, 1991:102-106) associates the comet motif with the funnel-meanders, and waterine symbolism. However, if they are in fact divergent line motifs, this decoding must be revisited. I suggest they are ‘rays’—or ‘comets’—and not ‘funnels’. They would then be the opposite of ‘funnels’. Rays or comets appear to be versions of DLMs. They have the formal capacity to express the semantics: *initial flow of water or other lifegiving substance from a source, outpouring, from a fons et origo, radiance, an overflowing abundance of energy, force, power, libido, providence.*

### **Convergent and Divergent Line Motif**

This is my suggestion for decoding the semiotic competence implicit in the CLM and DLM-like markings on the artifacts from Bilzingsleben and, assuming intentionality or curation, of Stránská Skála. In placing these markings together on a single object at Stránská Skála and on objects from the same site at Bilzingsleben it would appear that the engravers were speaking about their oppositional interrelatedness. Indeed, if one adheres the phosphene theory of the origins of art, the CLM and DLM are two sides of one phosphene form labeled ‘poles’.

If Later Acheulian artisans placed CLM and DLM intentionally together, what would the symbolic syntax of the two motifs be capable of saying? Keeping in mind the Later Acheulian mind’s emphasis on ‘meaning’ as ‘movement-form’, CLMs connote concentration while DLMs connote the converse, radiance into a more spacious realm. To my mind when placed together the CLM and DLM are apt symbols of *the harmony and dissonance of that which ‘gathers into One’ and that which differences, defers and ‘disseminates’ the One, both essence and de-essence (or dehiscence).* Together CLM and DLM speak of *formative creativity, concentrative* (compare Gr. *verdichten* = concentrate, condense, solidify, squeeze, summarize; *dichten* = write poetry, versify, seal, romance; *Dichter* = poetess, poet) *and spacious releasement, overflowing with generosity and gift giving.*

This double gesture-movement resonates with and evokes the very passages of life itself, *the process of being born*, in which there is *a movement of funneling through an ever narrowing passage, a squeeze, followed by a release out into a spacious, welcoming openness, into the light*, the lap of warmth, the welcoming joy.

Analogy 3+4.1. I am reminded of Freud’s view that infant anxiety during the birth process was the prototype of all later anxiety. Otto Rank (1929) elaborated on this in *The Trauma of Birth*

suggesting that every human being suffers at birth the greatest trauma of his or her life and seeks through various symptoms to overcome this, unconsciously seeking to return to his mother's womb. In this the patient would undo the trauma while simultaneously reproducing it. Culture is on the one hand a defense against the repetition, and, in art and psychoanalysis, a reliving similar to 'primitive' rituals of initiation and rebirth. C.G. Jung developed a comparable theory of psychological transformation as a kind of death and rebirth. This theory has been extended and enriched by the LSD and holotropic breathwork therapist Stanislav Grof (1985) whose research documented "the perinatal realm of the unconscious" in confirmation of Freud's, Rank's and Jung's theories (169-173).

If intended so, they may have expressed a teaching or 'transmission' concerning attitudes or behaviors that ease the way through situations that recapitulate the birth process and its attendant anxieties, extreme pressure, and pain. They may have been used to signify some sort of initiatory 'rebirthing' ritual as are ubiquitous among recent hunter-gatherer religious traditions around the world.

The CLM and DLM motifs at Bilzingsleben—and those from Stránská Skála if proven intentional or curated—appear to have the characteristic that they do not converge on or diverge from a visibly engraved point as do CLMs and DLMs in Upper Paleolithic European rock art and Australian Karake style petroglyphs. The CLMs converge at a virtual point, so to speak, beyond the edge or horizon of the object-support. The CLM seems to concentrate and focus itself on that which is beyond the horizon. It is like the light of evening from a sun gone down beyond the distant horizon. The vanishing point is a mystery. It lies in the unknown, like some unknown future, or like one's death, always just beyond the horizon. The CLM is imbued thus with a sense of a termination yet to come; it is tinged with the anxiety of death, a *todesangst*. The DLMs appear as a splayed array of diverging lines that likewise appear to radiate from a virtual point below the edge horizon. The DLM is like the light of dawn radiant from a sun hidden below the horizon. It is like a revelation coming from a hidden world, a world on the other side of this one. The DLM is imbued with the sense of anticipation or of hope for a world about to come or about to emerge into the light. The DLM is emergence into light. Together, CLM and DLM juxtapose these two perspectives in which the vanishing point is hidden. Each motif seems to require an imaginal joining and an imaginal radiating source. The *arche* and *telos* is always and forever hidden, a secret, a mystery, a virtual point held only in the human imagination, the mind's eye, as a poignant reminiscence, a nostalgia for origins or even for the pre-originary and a longing for origin-heterogenous freedom.

In addition to this double symbolism, CLM and DLM at Bilzingsleben—and Stránská Skála—share a common technique of production or inscription: cutting into bone with a sharp edge, a stone knife or burin. CLM and DLM are intentional cutmarks in the midst of random cutmarks. As such they appear to evoke the technique of cutting into bone, especially to split bones for marrow, as symbolic. CLM and DLM are 'intentional' cutmarks—or 'meta' cutmarks—and as such can signify just what they are as gesture-movement forms, namely, *the cutting that cuts off meat or cuts into bone to get at the marrow, in other words, sustenance for life*. Thus, as an icon of itself the cutmark gesture has the capacity to signify:

***In the midst of the day to day struggle for subsistence, for survival, with its intrinsic pathos—that life must feed off of life, that we must kill living things in order to live, which is***

*incomprehensible to reason—you shall cut your mark, and inscribe your life, evoking it, as you concentrate and form yourself, creatively like poetry, and emerge radiant in the inscrutable mystery of life.*

*Sensing the pathos of life all the more deeply in the marrow of your bones and the joyous longing for that beyond the pathos of the visible, the seed marrow core essence, the quintessential source of life, let it deliver you, disseminating, even as it disseminates the source itself.*

*Because of this characteristic of life—how life cuts its character into itself—you feel and suffer your life-passage, life giving and life expending, the core marrow sustenance of life and of death, gathering yourself into this source on the way to your dissemination.*

Further, the medium of the cutmark glyphs is bone. I suggest that Later Acheulian artisans were well aware that what they were engraving was bone, and they were aware of the special significance of such bones in their lives, as a source of sustenance for themselves, a core that seems to provide meat and also within itself marrow. Thus 'bone' itself, I propose, is another level of symbolism. For Later Acheulian peoples, bone was the bearer of meat and marrow; it was critical sustenance for survival. They may well have known that their own bones were not only the support and protector of their flesh and internal organs, they were, as containers of marrow, the very source of their blood and, thus, their life, and, as we know, the source of white blood cells that fight disease and infection.

Harrod (1992, 2002a, 2002b) proposes the existence of a persistent semiotic tradition that began with the Oldowan stone core tool as metaphor for 'nurturing core seed essence'. This metaphor was further amplified in the context of Acheulian bifaces to signify 'reparation of the core essence that nurtures and sustains us'. If so, this supports the interpretation with respect to the Later Acheulian marking motifs that bone, and especially marrowbone, signified something like *nurturing the core seed essence that is the source of life and of healing.*

Analogy 3+4.3. A similar tradition, which might be a lineal survival of the Later Acheulian 'bone' symbol, is ubiquitous across world mythology, beliefs and rituals with respect to human and animal skeletons and bones. Bone is believed to be the origin of life. Eliade (1964) reviews shamanic initiation rites, in which the initiate is reduced to bones and then refleshed and restored to life. For instance, Kiwai Papuan tradition says that an initiate is killed by an óboro (spirit of a dead person), who takes the initiate's bones and replaces them with óboro bones. When he comes back to life he is a shaman and the spirit gave him a bone with which he could summon the spirits (57). Among the Ammasalik Eskimo the initiate rubs two stones together at a lonely isolate place, an old grave or a lake, and waits. A huge white polar bear appears, and, as the old shaman says, "he will devour all your flesh and make you a skeleton, and you will die. But you will recover your flesh, you will awaken, and your clothes will come rushing to you" (59). Similarly, among the Yakut, Buryat, and other Siberian tribes the initiate is killed by spirits of ancestors, who 'cooks' their bodies, counts their bones and replaces them, covering them with new flesh (159). Kalweit (1988: 108) notes that among the Sagay, the initiate is cut to pieces and boiled in a cauldron, while the ancestor spirits search for his excess bone, which they find; it has a hole in it that the shaman can use to see into the spirit world (108). In Ezekiel 37 the Lord has the power to breathe into dry bones of the slain and reflesh them into the living people of Israel. In Mayan languages the word for 'bone' and 'large seed' are homophonous, and thus in Mayan art and

myth the bone is the seed of new birth or rebirth. Similarly, in Aztec myth, Quetzalcoatl descends into the Underworld to retrieve the ‘precious bones of his father’ from which he makes a new humanity, and in iconography he is depicted with a shinbone bursting into flower. Eliade (1964) observes: “In the spiritual horizon of hunters and herdsman bone represents the very source of life, both human and animal. To reduce oneself to the skeleton condition is equivalent to re-entering the womb of this primordial life, that is, to complete renewal, a mystical rebirth. Now, among hunting peoples bones represent the final source of life, both human and animal, the source from which the species is reconstituted at will. This is why the bones of game are not broken, but carefully gathered up and disposed of according to custom, that is buried, placed on platforms or in trees, thrown into the sea, and so on. From this point of view the burial of animals exactly follows the method used for disposing of human remains. For, in both cases alike, the ‘soul’ is presumed to reside in the bones and hence the resurrection of the individual from its bones can be expected” (159). “This belief is found in North and South America, among the Australian Arreente, African Bushmen and Hamites—in short, it is ubiquitous and therefore reflects a deep stratum of human spiritual evolution” (160). The worldwide instances of the ‘bone is the source of life’ belief suggests it belongs at least to the initial heritage of *Homo sapiens sapiens*. As I suggest elsewhere this belief likely has Acheulian Early Paleolithic *Homo erectus* and even Oldowan *Homo habilis* roots.

In addition to the technique of intentional cutmarks and the medium of bone, the Later Acheulian engravers applied cutmark glyphs that reflected the shape of the piece of bone they were working. Bednarik (1995, 1988) observed that CLMs and DLMs are “reactions of ‘stimulus-seeking’ hominids to existing marks, edges, shapes and surface aspects” and they sometimes mirror or replicate shape aspects of the supporting medium. If so, there is present in the Later Acheulian use of CLM and DLM a capacity to signify *reflection, mirror and/or I make this shape, to reduplicate that shape, to acknowledge and bring it to consciousness, perhaps to communicate it*. This implies that CLM and DLM had the capacity to signify *emergence of form* simultaneously through the medium and through the reflective, mirroring and mimicking processes of the mind.

Note 3+4.2. These reduplicative mirroring CLM and DLM marks that float over the medium of bone into which they are inscribed might be referred to as ‘citations’ or ‘quotations’ and as such are manifestations of the very nature of ‘the graphematic structure of every communication’ as highlighted by Jacques Derrida (1988). In the same light, I suggest, while the semantics of my proposed decoding of each Later Acheulian design motif derives from the differential structure of their juxtaposition with other design motifs, the ‘meaning’ construed from the juxtapositions must be considered a ‘meaning-effect’, since as with any semiotic mark, no matter how old or how recent, an ideal meaning—whether ‘meaning-for-them’ or ‘meaning-for-us’—could not have been nor ever will be fully present and complete unto itself but must reside, with whatever remainders, in its effect. For Wolfgang Iser meaning-effects are the reader’s aesthetic response to the fictive nature of a text (van Oort 1997/1998) or, in this case, of the marks.

Thus the CLM and DLM cutmarked on bone appears to evoke the idea of *the essence and dehiscence that give rise to emergent form, whether that form be for nurturing, guarding, healing, or consciousness of life’s passage and life-giving forces*.

The Later Acheulian CLM and DLM appear to be an attempt to communicate meanings that combined the significations of bone cutting or cut marking, bone as medium and the mirroring of shape as such. They could have had a further significance, which may have contributed to

evolutionary adaptation. As cutmarks indicate the butchery and carving up of meat, CLM and DLM had the capacity to signify first *the mobilizing push to procure life-sustaining game and the radiant generosity that cuts up, shares, and distributes meat*. Perhaps it was the first expression of the human sense of distributive justice and was meant to impress this value. The combination of CLM and DLM on bone might then have signified that even in the face of starvation—a narrowing passage apparently without hope—the injunction or moral imperative is to share, to provide for infant and child, and to provide for the hungry. The Later Acheulian mind sought to impress this imperative value: *collect and share out the core essence both collectively in the distribution of game and spiritually as in the shamanic initiatory dismemberment of self in the recapitulation of the birthing process to engender life-giving in the midst of the life-passage*.

### 5. and 6. Arc and Iterative Strokes

Arc	Iterative stroke mark
Inscription	
Any medium	

The Later Acheulian markings attest to another kind of cutmark. This one happens to be made on bone or on ivory—the medium does not seem as uniform as the CLM’s and the DLM’s. As such it is not so much a ‘cutmark’ as a pure ‘engraving’ or ‘inscription.’ The motifs so inscribed are the arc and the iterative stroke mark. They have their own distinct and rich semiotic capacity.

One might jump to the conclusion, based on ethnographic analogy, that iterative stroke marks are tally marks or some other kind of notational counts. But this does not take into account the differential features inherent in the mark’s shape nor the differential features between iterative stroke marks and arc motifs or lattice motifs. What is important, I believe, is the gesture movement form of the straight line and the curved line in themselves and the complementary opposition between them. As with the previous design motifs, I am hypothesizing that ‘meaning’ resides intrinsically in the gesture-movement that makes the form and the formal design itself as well as its medium.

As in the case of the point and undulating line, the painter and theorist of abstract art, Wassily Kandinsky, offers finely nuanced insights into the nature of the straight and curved line. In *Point and Line to Plane* (1979) he observes:

“There exists still another force which develops not within the point, but outside it. This force hurls itself upon the point, which is digging its way into the surface, tears it out and pushes it about the surface in one direction or another. The concentric tension of the point is thereby immediately destroyed and, as a result, it perishes and a new being arises out of it that leads a new, independent life in accordance with its own laws. This is the line” (54). “Quite apart from differences in character which are determined by the inner tensions, and quite apart from their processes of creation, the original source of every line remains the same—the **force**” (92). “In the final analysis, all line forms can be reduced to two cases: (1) application of one force and (2) application of two forces: (a) single or repeated, alternate action of both forces, (b) simultaneous action of both forces” (57). The application of one force from without yields the straight line,

which is “**the most concise form of the potentiality for endless movement**”. By movement is really meant “tension” which is “the force living within the element and represents only one part of the creative ‘movement’”. The second part is the direction, which is also determined by the ‘movement’ “ (57-58).

Thus, the line in itself is a tension of forces, one pushing and dynamic, the other setting the direction. The line is characterized by a dynamic outburst, a push, exertion or drive. ‘Push’ is derived from the Latin *pulsare* = to strike, beat, knock; stir, move, influence, affect. Thus it appears that the iterative stroke mark and the arc are both bearers of a repeated pushing force and thus can connote a range of meanings from ‘*a striking blow*’ to ‘*an outburst like a cry*’ to ‘*exertion and movement as opposed to inertia*’, that which resists the push, or the ‘*force of influence*’ that a charismatic leader has who follows her or his own law.

Not only does the line connote the pushing exertion, as a dynamic tension of two simultaneous forces it connotes force meeting force.

“The application of two alternate forces results in angles; two simultaneous forces which are not equivalent, curved lines” (68, 79). “**the straight line and the curved line represent the primary contrasting pair of lines**” (80).

If the forces are equivalent, if force matches force, there is a balance; the result is a straight line. If they are not equivalent, the line curves; the result is an arc, a curved line. Thus, the line is implicitly a philosophy of force; it is an ethics of force. Thus the line, straight or curved, connotes *Move yourself in accord with your potentiality for endless movement. Move with the tension. Move with force and direction, which live within the element of creative movement. With an outburst, with a cry exert yourself into movement, exert yourself in opposition to your inertia. Push forward in independent life, free spirited, in accord with your own law. Consciously exert your physical, psychological, mental or spiritual force in a given field of confrontational forces.*

There is also the third force or intent to consider, that is, the force that contributes to the direction of the line. This gives rise to the *telos*. Without the confrontation of forces there can be no directed movement and out of that confrontation arises a sense of direction. It is not preordained.

Comment: This philosophy of force implies the notion of a force field and consciousness of a field of forces. Within this field of forces there are various possibilities. One may be called to match force against force. This might occur outwardly in war or other conflict of forces, or in athletic competition, or in spirited engagement with living, its joys and sorrows, adversity and facility, suffering and necessities. An equivalent matching of forces yields a line. The verticality (or obliqueness) and parallel nature of the iterative stroke mark suggests can call for the upright matching of force to force, and so matching it again and again. In this one feels one’s strength and one’s reality. One wins respect from others and self-respect. On the other hand, the arc suggests an imbalance, a weaker force meets a stronger force. One seeks to match force but is forced to yield or is defeated by a stronger force. One may be called to yield in order to survive. This is flexibility. It also commands respect. One may even surrender to overwhelming force. One still gains dignity. Of course, other options are possible. One might offer oneself up, altruistically, as an offering, a sacrifice to save others from overwhelming force. Or one might withdraw, retreat from a stronger force. The blade

of grass bends and thereby thrives. The moon waxes and wanes. All things cycle. This might preserve a spiritual truth, a tradition of healing, feeling-toned values, for a future generation to take up anew. One might also go limp or be paralyzed in the face of force, especially violent force, or flee, routed, or simply be slain, butchered by overwhelming force. The curved line comes to a sudden stop. There is nothing to say and no judgment; this is abject horror. This, too, is implicit in the line. [What about the combination of forces, coalitions and alliances, cooperation? This does not seem to be implicit in the single or iterated stroke mark, but it does seem to be implicit in a complementary symbol, the lattice.]

## Arc, Curved Line

Kandinsky says of the “simple curved line” or arc:

“It is really a straight line which as been brought out of its course by constant sideward pressure—the greater was this pressure, the farther went the diversion from the straight line and, in the course of this, the greater became the outward tension and, finally, the tendency to close itself. [Further,] the curved line, whose chief tension resides in the arc... While the piercing quality of the angle disappears, there is still greater force confined here [in the arc] which, even though it is less aggressive, has greater endurance concealed within it. Something thoughtlessly youthful exists in the angle while in the arc is a mature energy, rightfully self-conscious. The maturity and the elastic full sound of the curved line lead us to seek the contrast to the straight line...” (79).

Thus an arc connotes, as line and as curved line or arc:

***In accord with your potentiality for endless movement, move with the tension, with force and direction, which live within the element of your creative movement. With an outburst, with a cry exert yourself into movement, exert yourself in opposition to your inertia. Push forward in independent life, free spirited, in accord with your own law. Consciously exert your physical, psychological, mental or spiritual force in a given field of confrontational forces. And in a world of unbalanced forces, bear up under pressure, endure, elastic and resilient for there is always a force greater than you. Become mature and rightfully self-conscious. Bend, yield, or retreat to survive as the blade of grass bends, survives, and even thrives. Offer up yourself to save your people if there is no other way and thereby return yourself to your collective origin.***

The arc—especially two or more arcs—adds the reiterative and recursive semantics:

***Endure through the cycles, be born, develop, grow, blossom, mature and die in the way of all living things and as the sun dawns, moves through the sky and sets, or moon waxes and wanes. Return and return once again. Renew, restore, and reinvigorate yourself, returning to life. Acknowledge your deep fear and terror of aging, waning, dying and your ever-returning wish for unending and ever-directed life.*** (Compare Freud on the death instinct.) ***Let be inscribed and reinscribed the remembrance of those who have died; memorialize the ancestors who came before and the heir that reinscribes itself in each new generation.***

“Whereas the straight line is a complete negation of the plane, the curved line carries within it a seed of the plane. If the two forces, with the conditions unchanged, roll the point ever farther, the

developing curve will sooner or later arrive again at its starting point. Beginning and end flow into each other and in the same instant disappear without a trace. The most unstable and, at the same time, the most stable of planes is created—the circle” (80-81).

Thus the arc also connotes *recursion*.

***Return to your origins and even to that which was before the origin, return your telos to the origins of yourself, as in the end you return to yourself as you disappear without a trace of yourself.***

Like the seed of the Möbius strip, the plane that disappears as it returns to itself.

The functional utility of the ‘arc’ motif may well have been its call of self and non-self to return and reinvigorate flexibility and hope.

### **Arc—Analogies**

Analogy 5.1. Among contemporary Walpiri, paired arcs = ribs, clouds, boomerangs (Nancy Munn cited Flood 1997:158). “The two most common Aboriginal interpretations are boomerangs or crescent moons. [For example, a Flinders Range, Adnyamathanha informant] said that ‘one crescent-shaped line represents half a moon--or two weeks. Two together represent one month, three indicate about six weeks and so on. This is an ingenious explanation, but I would argue that the arcs lack the pointed ends of a crescent moon, their broad, rounded ends resembling boomerangs much more closely” (Flood 1997:160-161). If we follow Nancy Munn’s interpretive hypothesis, that multiple meanings are possible, with an overall abstract meaning, then both the informant and Flood may both be correct. I suggest the common abstract meaning appears to be ‘cyclical return.’

### **Straight Line, Stroke Mark**

As noted, Kandinsky (1979) observed with respect to the straight line that it results from the simultaneous application of two equivalent forces. It is a tension of forces in balance, one pushing and dynamic, the other balancing that pushing and a third setting the direction. The line is characterized by a dynamic outburst, a push, exertion or drive. Not only does the line connote the pushing exertion, the straight line or stroke mark connotes the force meeting force. Its semantics connotes:

***(a) Move yourself in accord with your potentiality for endless movement. Move with the tension, with forces in balance. Move with force and direction, which live within the element of your creative movement. With an outburst, with a cry exert yourself into movement; exert yourself in opposition to your inertia. Push forward in independent life, free spirited, in accord with your own law. Consciously exert your physical, psychological, mental or spiritual force in a given field of confrontational forces.***

The iterative stroke mark qua line connotes *matching force against force*.

***(b) Match force against force, again and again, establishing the plane, the wall before which you are established, whether outwardly in the struggle for life or in spirited engagement with***

*living, its joys and sorrows, adversity and facility, suffering and necessities. In this you feel your strength and your actuality. You win respect from others and self-respect. You build your character.*

Comment. Etymologically, ‘character’ is derived from the Greek *charakter*, that which is cut in or marked, the impress, the mark < *charattein*, to engrave, inscribe = any distinctive mark; conventional mark, sign or symbol; an essential quality, nature; distinctive trait; moral strength. All this is connoted by the innocent little stroke mark.

Another painter, also a theoretician of abstract expressionism, Barnett Newman, made the straight line and especially its vertical form—often referred to as a ‘zip’—the cornerstone of his art. In his essay ‘The First Man Was an Artist’ Newman (1947) wrote:

“Speech was a poetic outcry rather than a demand for communication. Original man, shouting his consonants, did so in yells of awe and anger at his tragic state, at his own self-awareness and at his own helplessness before the void... Man’s hand traced the stick through the mud to make a line before he learned to throw the stick.”

Newman also said, “The self, terrible and constant, is for me the subject matter of painting” (Rosenberg 1978:21).

Newman’s trademark ‘line’ motif was just such *a cry, an outcry, a yell of awe and anger at one’s self-awareness and helplessness before the void.* I am suggesting that this signification was also within the semiotic competence of the Later Acheulian ‘iterative stroke’ motif. Here, at last, force meets force, a force that, in its own way, is a match for that force, in tracing the vertical line in a virtual space, the space of art, the space of the graphematic, the inscription.

As the arc that returns to itself in the circle of its own disappearance in the imaginal plane of the Self, so the stroke mark, iterated again and again, reveals the imaginal plane of the Non-Self. The constant endless movement of the line, reiterated, reveals the wall of the void. The reiterated stroke mark *negates* the plane and thereby *establishes the self as standing before the ultimate transcendence of the Self in its feeling tone of terror and awe and anger, as before a question with no answer.*

The stroke mark in its revelation as inscription, a cut that begins and ends, signifies *the limited lifespan of a human life and of all living things.* It signifies *finitude, limit, and fatality.* It records the deep *fear and terror of confronting this death, whether as impending or as actual loss.* In its starkness the vertical straight line, standing upright in the face of finality, like an outcry, without any denial of death, simultaneously signifies *the eternal in the moment, the ‘once and for all’ and the poignancy of love and attachment in the midst of their loss.* It remembers and memorializes this finality and eternity and in so doing also *releases a grief and mourning that potentially can mark a movement beyond death wish and lethality.* It may even *mobilize compassion.*

Thus iterative straight line or stroke mark, whether superimposed as X or Y or separated mark, also symbolizes:

*(c) With respect to a striking blow, an outburst like a cry, nevertheless cry out, in terror and in awe at your helplessness before the void. 'Negate the plane' and thereby establish yourself in your individuality and temporality as standing before the ultimate transcendence of the Self, in its feeling tone of terror and awe and anger, as before the question with no answer.*

*Without denial, mark finitude, limit, fatality and the deep fear and terror of confronting this death, whether as impending or as actual loss. This is the eternal in the moment, the 'once and for all' and the poignancy of love and attachment in the midst of their loss. Remember in grief and mourning to mark a movement that stands, beyond death wish and lethality and together with compassion.*

In contrast to the arc, the iterative stroke mark means *linear order, sequentiality, law and consequences, physical laws, order of nature; time, temporality (past or future or emergent present, i.e., becoming), limit, finality, terminus, death, location without dislocation: 'where shall I be and when', a prayer, 'may I survive the test (mathema) and survive worthily and with character; perhaps tally or counting marks; count, accounting, self-accountability.*

The functional utility of the 'iterative stroke' motif may well have been its symbolic capacity to release mourning and grief as an alternative to revenge and bloodshed. It may have been used as a tally mark, a psychogram of iteration and surplus, or a 'ritual' pattern for contemplation of spirit, divinity, Self.

### **Straight Line, Stroke Mark—Analogies**

Analogy 6.1. Flood (1997:152) recounts how marks like cutmarks in stone are used in the rainmaking ritual at Ywarlarlay, the Lightning Brothers site on Delamere in the Victoria Region of the Northern Territory. There is "an imposing rock outcrop called Ngalanjarri, the Rain Dreaming, which bears a host of small natural vertical cracks, or fissures in its walls. The whole large rock is a Dreaming site, together with all the abraded grooves on it." Informants emphasize that "none of the existing grooves are made by people, but are considered Dreaming (buwarraja) items of pre-given significance inscribed in the landscape. Kalumput, 'the most knowledgeable authority on Wardaman legends and ceremonies' in the 1950s, described the abraded grooves as 'rain cuts', and said that 'The old-fashion way for making rain was to cut the Old Man Rain to make him bleed ... The rain-making ceremony involved singing and dancing and then each man present cut a groove in the rock to make the Old man bleed and bring rain'.

Analogy 6.2. Flood (1994:10) adds: "More recently, each time we have asked Wardaman people about the function and meaning of abraded grooves, they have without exception answered *Maburn*, meaning cicatrices or scars ... Cicatrices are traditionally made on boys undergoing initiation and on female relatives at the same time." The cicatrices may also be described as 'copies of the Dreaming', i.e., the abraded grooves at a Dreaming site. "The making of such grooves is a continuous tradition, and they have been recorded from over 5,000 years ago (in Mulvaney's excavation at Ingaladdi) right up to the present, when they are done both by Aboriginal children and teenagers" (11). Flood (1997:154) describes a ritual in the Western Australia in which the oldest man present draws a series of parallel lines across his chest with red ochre; he explained they represented the chest scars of the Water-snake-men, the totemic beings associated with a nearby waterhole.

Analogy 6.3. Raincuts, scars, songlines of the dreaming (dreaming tracks), initiation in adult reality, blood of the ancestors as rain, 'law'—all these are current signifieds of stroke lines in

Aboriginal Wardaman. Bud Hampton (personal communication 2000) observed that among Wardaman, (a) grooves = 'raincuts' (Bill Harney), the blood of the ancestor 'is' rain; (b) long grooves = "song lines"; (c) short grooves = "singers"; (d) a line with two cross lines = "2 people who broke the law"; (e) horizontal parallel lines = "power to make young ones" and "law song sung before trade, sex, eating animals". In the case of boulders with cupules and grooves, "the long grooves are 'songlines' and the short grooves are 'singers'. A line with two cross lines means 'two people who broke the law' and "horizontal parallel lines mean 'power to make young ones' and also 'law song sung before trade, sex, eating animals'." Bill Harney (personal communication 2000) concurred that (f) a vertical line with a cross line = "you broke the Law - big danger - a warning" e.g. "go off with a woman for sex and you are seen"; (f) a vertical line with many cross lines = "big breaking of Law like incest".

Analogy 6.4. Flood (1997:153) notes that Basedow and Mountford called abraded grooves in stone 'straight line markings.' Mountford in his 1935 article on South Australian petroglyphs mentions that Central Australian Aboriginals registered by straight line marks the number of people in a camp. He compared such marks to 'cyclons' (cylindrical-conical stones) which according to a 1902 ethnographer recorded deaths and burials. Mountford concluded that they are 'some non-portable form of tally which recorded unusual events.'

Comment. At an Australian Northern Territory rock shelter that I visited, abraded grooves recorded those killed in acts of white genocide against Aboriginal clan members. This suggests that abraded grooves are not so much 'tally marks' in general, as Mountford surmised, but a unique kind of tally, an inscription of the dead or 'deaths and burials'. In other words, they are marks of fatality. This accords with their significations elsewhere as scars of ancestral grieving, blood-tears, that are simultaneously a nourishing rain and initiation into the reality of this life in its finitude and transcendence. This is a very particular metaphorical and symbolic system of interrelated significations, and it is one that is inherent in the very nature of the iterative stroke mark. It can be hypothesized that something like this was in the awareness of the Later Acheulian engravers.

Analogy 6.5. Among contemporary Walpiri, straight line = straight path, spear, digging stick, person lying down, kangaroo's tail, backbone, trunk of a tree, etc.; three parallel lines = rain (Nancy Munn cited Flood 1997: 155, 158).

Note. There is a further possible semantic field for the EP iterative stroke mark. If one were to interpret it as 'cutmarks with equidistant intervals between them', then these marks might have the capacity to signify something about the fair and equitable distribution of meat after a kill, or in general some sort of fair and equitable distribution for which these marks are tokens.

### **Arc and Stroke Mark**

Taken together as complementary opposites, straight lines and curved lines, arc and stroke mark are both tensions of forces in dynamic movement. The most intrinsic property of the line—whether straight or curved—is the tension of forces within its dynamic movement. This, says Kandinsky, is its "original source". In other words, this is its *arche and its telos*, its return and recovery and its pushing and keeping going on. If arc and stroke mark are complementary, then it appears that the Later Acheulian mind posited two original sources. If so, they had a double philosophy with a double truth. They would also have had a double ethics, one of yielding like grass to a stronger force and one of meeting force with force even in the face of fatality. This

would be a double philosophy unlike anything in western metaphysics, which has traditionally been grounded in the search for and positing of a single monistic first principle.

Comment. Derrida (1996:1,80) posits a single *arche* coordinating two ‘orders’, one sequential pertaining to ‘commencement’, natural and historical unfolding, and one jussive, pertaining to ‘commandment’, law, the exercise of social order. The two orders are not absolutely different and sub-themes (or semes) of one, such as *thesis, techne, nomos, and physis*, are ‘entangled’ in the other. [The same differentiation applies to the word ‘order’—I would add.] Contra Derrida, the matter is even more complex as becomes clear in the light of my decoding of EP marking motifs. Derrida’s focus is the notion of iterability as a feature of the graphematic structure of meaning or communication (1988:129-130). But—as we see in the EP ‘philosophy’—the iterativity of the straight line is juxtaposed to the curved line or arc. The notion of iterativity thus deconstructs itself. This should come as no surprise. Derrida 1988 (130) expresses his own dismay—perhaps ironic—at the increasing confusion of his entire philosophical project. In 1996 while seemingly pushing his position about iterativity with respect to the notion of the archive and its double order he inserts a touching story about Freud’s father blessing and re-gifting his son a copy of the Torah. This is a return, a giving back, to the younger Freud of that which truly and innately belongs to him. Derrida amplifies this as a giving back to him of his right to speech and to listen to the ancestral speaking. Is this not the intrinsic possession of the human, the innate capacity for dialogue that is a blessing of fertility, whether between father and son, self and divinity, or in the emancipated opportunity for social, economic, and political dialogue? Thus are there not two *arche*? On one hand, an archontic order, both sequential and commanding, and, on the other, a recursive order, both self-scarring and self-reaffirming? And wouldn’t this be the way beyond the patriarchal construction of human illusions? (Here I leave aside Derrida’s discussion of circumcision and its traumatic aftermath. Also Derrida’s fusion of the notion of inscription with that circumcision as the cutting of the law.)

Arc and stroke mark together symbolize recursion and reiteration, the nostalgia for origins and the push to keep on going. Cycling arc and reiterated stroke mark together are the seeds of incipient notion of Self and Non-Self. Thus arc and stroke mark connote *Inscribe your seed Self, which is your potentiality to return to yourself as you keep moving forward, both your Self and your Non-Self.*

While the line, as Kandinsky says, is the most concise form of the potentiality of endless movement, the actualization of the line, whether arc or stroke, is the marking of limit and finitude. The line as mark starts and stops. The actuality of finitude and recurrence are in themselves terrifying. Both cycling arc and reiterated stroke mark evoke this terror while displacing or dislocating it as a response to lethality. Lethality is our rage against finitude. On the one hand, as the poet Rilke said: “murder is a form of our wandering sorrow.” On the other, we lust for reincarnation, resurrection or immortality. Even the continuation of the ‘line’ of descent from one generation to the next—if Freud is to be taken on face value—requires that finitude and death be psychologically experienced as a kind of murder, though viewed differently by the parent and the offspring.

Iterations of arc and stroke marked in any medium thus evoke awe and anger at fatality and the response of inscription, the inscription of a force, the force of life, both returning to itself as it disappears into the plane of Self, and again and again, marking the medium to reveal, feelings of

awe, terror and negation before the plane of the Non-Self, the Void, to release remembrance and feelings of grief and compassion in the midst of loss, beyond any response of death wish and lethality.

It seems that the only resolution to finality without denial of death finds expression in the complementarity of arc and stroke mark as symbols of the return to the potentiality, the seed of Self and of the very negation of that plane before the transcendence of Non-Self. This terror of self if it not descend into lethality toward self or others pushes for resolution in grief and mourning and in their ultimate inscription in the virtual space of imagination and the fictive that gives back an opening in mourning and compassion for the response of the other. Such is the dynamic outburst, the push and impetus of the line, curving or straight, unbalanced or balanced. Such is their joint gesture movement-form in its original and driving force.

In being inscribable in any medium—it may be horn, it may be bone, it may even have been the earth or the body—arc and stroke mark as such are not so much ‘cutmarks on bone’ as pure ‘engravings’ or ‘inscriptions’ in an as yet undefined medium. Thus it appears that the medium as such, unlike the case of cupule and undulating line and CLM and DLM, is not a signifier but rather brackets the medium as medium, any medium. (More artifacts could alter this view.)

How can we characterize such a variable medium? Would it not be as that which bears an inscription? Isn’t the capacity to bear cut and character, loss and remembrance the characteristic nature of such a medium?

Such a medium, I think, could not come to be without the simultaneous appearance, as Kandinsky and Newman suggest, of the virtual plane of the Self as the place of the return-to-self and the disremption (tear, cut, inscription) of the transcendence of Non-Self. It is precisely these metaphysical and psychological moments that are recorded, remembered, and memorialized in the inscribing and reinscribing of arc and stroke mark.

Comment: Disremption does not mean deconstruction. For Derrida there is one archive with two orders, sequential and jussive. This is still the monism of Greek or Judeo-Christian theology. Deeper than the Greeks, deeper than the Indo-European, deeper than the Judeo-Christian monism, deeper than patriarchy are the two *archai* symbolized by arc and iterative stroke mark.

### 7. and 8. Lattice and Shape of Space

Lattice	Shape of Space
Inscription	
Any Medium	

There appears from the evidence to be at least one or two additional marking motifs, the lattice and what I term ‘the shape of space’. If both motifs are accepted, they can be interpreted as a symbolic complementarity of no little sophistication.

## Lattice, Crosshatch, Ladder, Net, Grid

Considering the design motif itself, a 'lattice' is defined as an open structure of crossed strips or bars, which might be useful for a screen, support, window, door, or gate. A 'crosshatch' is set of parallel lines that cross each other to yield shading in a drawing or engraving. A 'ladder' is a framework of two parallel sides connected by rungs or a single pole with narrow crosspieces used for climbing. The design motif might also be called a net, network or grid.

As in the case with each of the previous Later Acheulian marking motifs, there is in this gesture movement-form of the lattice a tension, an energetic tension. On the one hand as a form, and as such static, it connotes *the grid with its crossbars blocking penetration or ascent*. It connotes *impenetrability*. On the other hand as a movement it connotes *interpenetration and ascending movement*. The tension between these two—stasis versus movement, a movement that arises out of the stasis—may be designated 'emancipation', *emancipation from the grid into interpenetration and ascent*. This is *interpenetration in the midst of the impenetrable* and *ascension in the midst of the enchaining of ascent*. In this tension the lattice is a frame and an openness, an 'open' framework, a porous membrane, a net.

Thus, as a gesture-movement-form a lattice had the capacity to signify:

- (a) Experience the interpenetration or interdependence of all things; and***
- (b) Cooperate in reciprocity, exchange, circulate goods, gifts, favors among kin, affines, or other social groups.***

As ladder, it could signify:

- (c) Ascend, experiencing the ascent of consciousness from a lower order to a higher order; and***
- (d) Establish a social leadership hierarchy that is provident and open to the voice and rights of those below, the grassroots like a tree or any other rooted life-form.***

And lattice and ladder as open frameworks for movement could have been used to signify:

- (e) Emancipate yourself from all grids, which make the experience of life impenetrable and which enchain you from your ability to ascend***

Further, as symbolizing emancipation from below the lattice evokes ascent and interpenetration, hence sexual, erogenous arousal and the interpenetrating reciprocity and exchange of lovemaking, whether sanctioned by alliance or by the impulse of romantic love over-against a gridlock of alliances.

Comment. The lattice mark evokes thoughts about a social 'emancipation from the roots', whether political, worker, gender or sexual. It evokes the norms of mutual aid and friendship (N. Kropotkin) as founding forces for social well being.

Thus the l'Observatoire biface ladder-like lattice with one vertical centrally placed and narrowing distance between cross bars as they ascend readily evokes a tree, especially an

evergreen tree. (I can hardly imagine anything else it could evoke.) Thus it had the capacity to represent and to exhort *a social hierarchy that nurtures all things with its providence and is open to the voice and rights of those below, the grassroots*. Further, the l'Observatoire 'tree' as movement-form can evoke the process of the tree, that is, a *growth from rootedness that is also an emancipation from old restrictive grids and oppressive hierarchies*.

In its use the lattice motif could have had the functional utility to strengthen networks of exchange, reciprocity, and cooperation and weave the thread that holds affines or alliances together and to encourage leaders to listen to followers and be provident for the group. At the same time the marking of the lattice could have encouraged social justice from below and interpersonal and sexual self-emancipation from grid-like social strictures, constructions and oppressive authorities. Impressing such a project would have been conducive to evolutionary advantage.

### Lattice—Analogies

Analogy 7.1. Marshack (1979b) gives numerous examples of ladder and 'fish scale' [or lattice] motifs from Upper Paleolithic Russia. He suggests that they seem to be elements in a cluster of signs possibly expressing a water symbolism or mythology.

Analogy 7.2. A hexagonal lattice is a central notion in the cosmology, philosophy, basketry and art of Tukano Amazonian peoples (Reichel-Dolmatoff 1996, 1987, 1985). A lattice of hexagons is formed by the three-strand weaving of baskets (1985:27). "In shamanic imagery this pattern represents the marriage relationship which exists between three tribal units which form a traditional phratry. The common term for 'to weave' is suári, but the alternative meanings of this verb are 'to interweave, to interpenetrate, to copulate, to intermarry.' In other words, the entire weaving process symbolizes exogamous marriage patterns." The Desana creation myth compares the initial phosphene-filled stage of the ayahuasca trance to the interwoven lattice, using a word that also means cluster or grid of hexagons or honeycomb pattern (19). [The hexagon itself as a space outlined by such a weaving has its own symbolism—see below under crystal exotics].

Analogy 7.3. The symbolism of lattices is ubiquitous in world religions as in modern secular society, e.g., Artemis Diktyнна, Indra's Net, 'the web of life', the fabric of human society, networks of this and that ad infinitum. This is the process of enfolding/unfolding, inward differentiation, 'implicate order' as described by the physicist David Bohm. This is the communion, interpenetration and interdependence of all things as symbolized by Indra's Net as in Hua-yen Buddhism's "*dharmadhātu* = the non-obstructed dharma-field of all-merging suchness, a cosmic web of interrelationships or universal matrix of intercausation analogous to the vast net covering Celestial Lord Indra's Palace which stretches through the entire universe. At each intersection of the latticework is situated a brilliant jewel reflecting all other jewels from its own perspective in the net;" "the mystery of Indra's Net, of Ocean-Seal-Samadhi, of simultaneous-mutual-reflection, of realms-embracing-realms ad infinitum, of many-in-one and one-in-many" as "a hall of mirrors", the parable of the Golden Lion and the Ocean and Waves (Odin (1982:17). Compare M. Merleau-Ponty: "Thus every object is the mirror of all others" [cited *ibid*: 46]. This is Leibniz's monadology and the holographic universe; the human community as exchange network of mutual aid (Kropotkin).

Analogy 7.4. The tree is a ubiquitous symbol in world religions. Eliade (1958a:266-267) identifies categories of tree symbolism: (a) the pattern of “stone-tree-altar which constitutes an effective microcosm in the most ancient stages of religious life (Australia; China; Indochina and India; Phoenicia and the Aegean); (b) the tree as image of the cosmos (India; Mesopotamia, etc.); (c) the tree as a cosmic theophany (Mesopotamia; India, the Aegean); (d) the tree as a symbol of life, of inexhaustible fertility, of absolute reality; as related to the Great Goddess or the symbolism of water (Yaksha, for instance); as identified with the fount of immortality (‘The Tree of Life’), etc.; (e) the tree as centre of the world and support of the universe (among the Altaics, Scandinavians, etc); (f) mystical bonds between trees and men (trees giving birth to men; the tree as the repository of the souls of man’s ancestors; the marriage of trees; the presence of trees in initiation ceremonies, etc.); (g) the tree as symbol of the resurrection of vegetation, of spring and of the ‘rebirth’ of the year (the ‘May’ procession for instance, etc.). [In sum] the tree represents...the living cosmos, endlessly renewing itself. ...inexhaustible life...an expression of absolute reality...[as in] ‘the centre of the world’.”

### ‘Shape of Space’

Turning from the ‘lattice’, there are artifacts that I would argue are engraved with an eighth Later Acheulian marking motif; I call it the ‘shape of space’.

For Later Acheulians, it seems, space must have a shape—it cannot be visualized otherwise. This was one of the most innovative aspects of the Acheulian mind, its ability to *project a Euclidean visualizable space*, and hence *an imaginal or mental realm*. On the later Acheulian capability to visualize and utilize Euclidean projective space in its stone tool technology see Wynn (1996, 1989).

If accepted as intentional or curated, two artifacts that occur at Bilzingsleben, the ‘double rectangle’ on a tarsal bone and the ‘arcuate design’ on a quartzite slab, resembling half a rhomboid and half a circle, can be taken as two examples of the prototypical Later Acheulian marking motif ‘shape of space’. In each there appears to be an application of geometric mirror symmetry. This is especially so in the Bilzingsleben ‘double rectangle’ engraving with its two rectangles one on top of the other as if indicating something about two imaginal worlds that are distinct yet related. Perhaps the Bilzingsleben ‘squared circle’ consisting of what appears to be half a square and half a circle combined in one geometric shape was also intended to indicate the strange realm of projective visualization.

I am suggesting that the shape of space marking motif existed and was intended to present (or represent) precisely this sense of space Wynn posits for the Acheulian mind. Indeed, it seems that the very visualizing and making of the ‘shape of space’ motif evoked just such a space. The meaning of the marking strategy was the marking strategy itself as ‘presented’ in its gesture movement form. (It as iconic of itself, if you will.) Once this sense of space was achieved, it would have been useable not only externally in the making of tools such as mirror-symmetry bifaces but also ‘internally’ as a sense of space ‘in the abstract’ so to speak, a space that is somewhere other than the space of the everyday external world. This is the evocation of ‘another’ space, an imaginal or mental realm of ‘mental events’. It would be a space comparable to the ‘space’ in which dreams happen. Here is something radically new in human evolution and in the evolution of human culture. I might say it was the birth of ‘mind’, with the caveat

that already earlier evolutions of mind occurred in the Oldowan, Early and Middle Acheulian periods.

As in the case of the lattice, there is inherent in the geometric form of the ‘shape of space’ a gesture-movement-form having an energetic tension. On the one hand as a form, and as such static, it connotes *the other world as opposed to this world, the barriers or obstacles set between these worlds*. On the other hand as a movement it connotes *the movement between two shapes of space or worlds, the movement from potential to actual, visualized to materialized, mind to matter*. The tension between these two—stasis versus movement, the movement that arises out of the stasis—may be designated ‘*passage between worlds*’. As a tension this would be a *passage through obstacles, blockages, and other difficulties*. In this tension the shape of space is both a container of mental or visualizable beings and the movement that generates that space and actualizes it in this world.

Thus, in contrast to the lattice, the ‘shape of space’ could have been used to symbolize:

- (a) Project a Euclidean visualizable shape of space;*
- (b) Orient yourself in projected, symmetrical space, oriented to the four or six directions;*
- (c) Experience the distinction and separation between this world and this ‘other world’;*
- (d) Allow yourself to move between this world and the imaginal world; and*
- (e) Enact from your mind actualizations of your creative imagination.*

The functional utility of the shape of space motif may have been to encourage self-conscious creativity with its concomitant adaptive advantage.

### Shape of Space—Analogies

Analogy 8.1. Van Gennep (1960) is the classic work on rites of passage, including birth, initiation, marriage and funeral ceremonies. He distinguished three major phases in such rites: separation, transition, and incorporation, each with their own special rituals. He emphasizes the notion of the ‘pivoting of the sacred circles’. “Characteristically, the presence of the sacred... is variable. Sacredness as an attribute is not absolute. ... Thus the ‘magic circles’ pivot, shifting as a person moves from one place in society to another. ... whoever passes through the various positions of a lifetime one day sees the sacred where before he has seen the profane, or vice versa” (12-13).

Comment. This is a movement from one ‘shape of space’ to another, which may be conceived as from a smaller shape of space to a larger, the energetic difference being apprehended as the difference between the profane and the sacred. Eliade (1958b:5) describes this very phenomenon with respect to the preparation of the sacred ground in Eastern Australian initiation ceremonies of the Yuin, Wiradjuri, and Kamilaroi; the ritual site is structured as circle-pathway-enclosure (Yuin, Wiradjuri) or smaller circle—pathway—larger circle (Kamilaroi). In either case the sacred images and emblems are set along the pathway.

Analogy 8.2. Upper Paleolithic European ritual space was constructed in precisely this manner, witness the two circles connected by a pathway at the ritual site of Gönnersdorf, Germany, and the two circles connected by a tubular passage at El Juyo, Spain.

Analogy 8.3. In the design motifs of the Tukano Amazonian peoples (Reichel-Dolmatoff 1987:16) two concentric elongated squares represent a plaited box that contains ritual dance ornaments, and in dreams and hallucinations, they signify wombs and female fecundity. “Diamonds or lozenges represent the female organ. When marked with a central dot, impregnation is implied. A coherent group of diamonds, each with a central dot, represents the relationship between various exogamous groups. A vertical chain of diamonds represents a line of matrilineal descent. The motif stands for biological and social continuity.”

### Lattice and Shape of Space

Considering lattice and ‘shape of space’ together, lattice is to ‘shape of space’ as infilling and fullness is to container and boundedness—the one completes the other. In their complementarity, the combined glyphs evoke projective geometric space organized as a lattice, a world-lattice, in other words, a cosmos, world order and ordered world. The *chora* of a cosmos is filled with the lattice of its structure; a grid or matrix of associations is held in a *chora* of differences.

At the same time, the resonance between lattice and shape of space evokes a lattice of multiple shapes of space, a ladder of distinctly different worlds, each an open framework or porous membrane for ascending and descending. Lattice plus shape of space yields the notion of a heirarchy of distinct world levels through which one could ascend or descend.

In such a complementary resonance field, the vertical lattice engraved on the l’Observatoire biface, itself a materialization of a projective shape of space, symbolizes *the Tree of Life, the axis mundi, rooted in the earth, this world, this material reality, and qua emancipation from the grid, a spiritual ladder for ascent from one layer of the world to the next and as gesture-movement, the actual evocation of ascending from lower to upper worlds.*

Analogy 7+8.1. Eliade (1959b) stresses that perhaps the most important religious belief is the belief in ‘the center of the world’ symbolized by a sacred mountain, *axis mundi*, or tree of life. This center is also the point at which creation, the cosmogony, began. “The center, then, is pre-eminently the zone of the sacred, the zone of absolute reality. Similarly, all the other symbols of absolute reality (trees of life and immortality, Fountain of Youth, etc.) are also situated at a center. The road leading to the center is a ‘difficult road’ and this is verified at every level of reality” (17-18). Every act of human creativity repeats the original cosmogonic act and “whatever is founded has its foundation at the center of the world” (18). This includes marriage and procreation, home or temple building, rites of passage, and tool or equipment making. The central pole or axis of the world in the earliest religious strata is often believed to have three cosmic levels, skyworld, earth and lowerworld, with possibilities of communication between them. Eliade (1959a:36-37): “Where the break-through from plane to plane has been effected by a hierophany, there too an opening has been made, either upward (the divine world) or downward (the underworld, the world of the dead). The three cosmic levels...have been put in communication... Here, then, we have a sequence of religious conceptions and cosmological images that are inseparably connected and form a system that may be called the ‘system of the world’ prevalent in traditional societies: (a) a sacred place constitutes a break in the homogeneity of space; (b) this break is symbolized by an opening by which passage from one cosmic region to another is made possible; (c) communication with heaven is expressed by one or another of

certain images, all of which refer to the *axis mundi*: pillar...ladder...mountain, tree, vine, etc.; (d) and around this cosmic axis lies the world (= our world), hence the axis is located 'in the middle,' at the 'navel of the earth'; it is the Center of the World". Eliade (1964) provides a comprehensive account of 'shamanism', i.e., the beliefs and techniques used by 'archaic' religious specialists around the world to ascend and descend or otherwise communicate with these world levels.

If Later Acheulian peoples were indeed manipulating and combining motifs of lattice and shape of space, this suggests that religious belief in a multi-tiered 'world system' and its associated shamanic techniques as described by Eliade could have first appeared during the latter part of the Early Paleolithic long before its more self-evident presence in Upper Paleolithic and Later Stone Age rock art.

The combination of lattice and shape of space has a further resonance. Taken together emancipation from the grid and the materialization of geometric images in projective imaginal space yields the notion of some sort of transcendence of consciousness through self-objectification in work (artwork, tool, etc.). In other words, lattice-and-shape-of-space evokes the self-knowing of mind as it materializes its imaginal projects.

Comment. Were the Later Acheulians thus able to impress a notion comparable, at least incipiently, to Hegel's notion of dialectic with its *Aufhebung*, transcendence and self-knowledge and Marx's notion of productive labor as the material embodiment of this same dialectic?

As in the case of the arc and iterative stroke mark, lattice and shape of space—at least based on the limited number of objects—are inscribed variously on stone or bone and do not appear to share a singular medium. Thus once again the signification of the medium of inscription is abstract, the medium as such or as medium. This is the medium of projective visualization in Euclidean space and the medium of the cooperation and interpenetration of all things and correspondingly of emancipation from the grid and actual-materialization of the imaginal. Further, as medium it is something that passively bears or carries a mark or inscription and actively transmits impressions.

I suggest that such a medium is the very possibility of knowledge and experience, symbolization and self-knowledge. This, then, is the medium of the mind itself—at least the Later Acheulian mind—, which might also be called 'heart' or 'heart-mind'. What do lattice and shape of shape mean by mind? They mean the synthesizing and analyzing (interpenetrating, cooperating, ascending, hierarchical) and visualizing and projective capacity of mind. They mean the organized geometric space (cosmos, world) as identity and difference, the grid and *chora* of mind. They mean the emancipatory and creative-productive capacity of mind. They mean, self-referentially referencing, the capacity of inscription and self-knowledge, of mind coming to know itself and its experience of world.

Simultaneously, in its self-referentiality the inscription of a medium with lattice and shape of space evokes the transcendence of self-consciousness, or more precisely heart-mind as it emancipates itself from the grid-and-*chora* (any matrix of associations and differences) and

materializes itself in inscription and art. Self-referentiality liberates the medium from projective reference and its illusions and brings into consciousness the mind itself and its workings.

Inscribed, intentionally or naturally, as lattice on the shape of space of the l'Observatoire biface, the Later Acheulian mind appears symbolized as a matrix or womb in which are generated fictive and imaginal creations, even ritual objects and practices, that are emancipatorily materialized in a way analogous to birth. The Later Acheulian 'latticed-shape-of-space' seems to evoke the mental space of 'conception', in which 'concepts' are 'conceived in order to be delivered' in the 'geometric-womb-mind of projective concepts'. If so, this may have been the earliest expression in human evolution of 'abstract meaning' or 'ideas'.

Comment. As medium with the character of latticed-shape-of-space, Later Acheulian 'mind' is the virtual space of the inscribing imagination, or the 'graphematic structure' itself, as Derrida termed it.

In any event, lattice together with shape of space inscribed in any medium seems to signify:

***Experience and know your 'mind' or 'heart-mind' in its emancipating and creative-productive objectifying powers.***

Comment. This decoding of lattice and shape of space suggests something about the Later Acheulian conception of ritual space. If Later Acheulian peoples conducted ritual, it must have been conceived as a movement from one latticed shape of space to another, from grid and enchainment to interpenetration and cooperation and enhanced powers of projective visualization. Ritual action would have been seen as both emancipation and materialization. It would have been seen as a movement into a transcendent and more real experience of this world and the imaginal world.

**Other Signifiers.**

While the focus on this study is the array of Later Acheulian marking motifs, ‘exotic objects’, though not ‘marking strategies’ or ‘inscriptions’ strictly speaking, appear to have a symbolic capacity as they do among *Homo sapiens sapiens* hunter-gatherer and other traditions.

Considering that Later Acheulian marking motifs bear differential features that contribute to their symbolic power, I note that red ochre and quartz crystals can be similarly placed in a complementarity resonance structure and may have been so conceived during the Later Acheulian.

<b>Red ochre</b>	<b>Quartz crystal</b>
<b>Earth</b>	

**9. Red ochre** = *menstrual blood, female power, creative power, birthing power [child-birthing]; female choice and empowerment; social power; blood, especially bone marrow, blood of game animal [game distribution]; blood of the slain animal, of killing, murder, implying first concept of origin of death as murder, ‘original sin’; perhaps body painting group markings [social alliance-making, group formation]; in general, vital energy, source of life, abundant life; adornment, tenderness, love.*

Analogy 9.1. Compare use of red ochre in *Homo sapiens sapiens* cultures throughout the world. Compare Willie Mia ochre mine deity, speared red kangaroo blood creates ochre. Compare menstrual blood and red ochre as symbol of female choice and empowerment and associated rule of exogamy, own-kill rule (Knight 1991; Dunbar, Knight and Power 1999).

**10. Quartz crystals** = *light, spectrum of colors, rainbow, inner light or spark of light; the inseminated and inseminating, the male principle, the creative male energy, spirits, ‘ghosts’; structure of what is, the real, the ultimate, the quintessential, mind, heart, ‘heart’, sacred space, hierophany as such.*

Analogy 10.1. Compare role of quartz or similar translucent crystals in shamanic practices throughout the world. It is used to see spirits, diagnose illness and cures, etc.

Analogy 10.2. The hexagonal (quartz) crystal is a central notion in the cosmology and philosophy of Tukano Amazonian peoples (Reichel-Dolmatoff 1996). “According to shamanic theories the universe consists of three superimposed layers: the celestial vault, our earth, and the netherworld. Each one can be subdivided into many smaller units. In shamanic language, the celestial vault is an immense womb, a brain, a hexagonal rock crystal, elements in a chain of analogues which form an all-embracing image of creation, transformation and growth” (22). “the concept of hexagonal space is ever-present in Tukanoan imagery. The entire tribal territory is imagined as being subdivided into innumerable invisible hexagons, some larger and some smaller, ever changing in size ... A hill, a lake, rapids, indeed any landmark is thought to lie within a hexagonal space, and the same is believed to be true in the case of a maloca, a cultivated field, a port, or a burial ground. Even people, notably shamans, are at times believed to stand within a

hexagonal space. The human heart is a hexagonal, the womb, the brain.” (26-28). “The first matter to have been created was an infinitely small particle of a human brain, also shaped like a rock crystal” (1987:3).

Analogy 10.3. Compare Medieval Christian notion of the *logos spermatikos*.

What red ochre and quartz crystals share in common is that each has its origins in the earth; they are mined, quarried from out of the earth. Their differential features might be construed as: red ochre is to quartz crystal as dark, opaque, uniform color is to light, transparent, spectrum of colors; and as abraded ‘structureless’ powdery material is to hexagonally structured material. They are readily analogous to the opposition ‘blood : sunlight’. The proposed decoding, with its numerous analogies in various *Homo sapiens sapiens* hunter-gatherer cultures, suggests that the Later Acheulian (*Homo erectus*) mind conceived of a fundamental complementarity of two primordial energies or energetic movements, gendered female and male, that manifested in or were the primary constituents of all living things. These were conceived, so to speak, as ‘blood’ and ‘rainbow (sun) light’. These two constituted, respectively, the animating and structural principles of the universe or cosmos. The ‘unifying’ or common ‘medium’ of such a universe would then be conceived as an ‘earth-womb’ or ‘matrix’ of all things. Thus, the primordial ‘substance’ of the universe, from cosmos, to biosphere, to the human microcosm, would have been defined as that which has ‘quartz-like’ structure (‘form’) and ‘blood-like’ animation (‘gesture movement’) in a ‘that which is born out of the earth-womb’ *prima materia* (‘medium’).

Turning to geometric solids and fossils, they also may be construed as a distinctive later Acheulian period signifying pair, perhaps continuing or further differentiating the significations of the quartz crystal.

<b>Geometric solid</b>	<b>Geometric fossil</b>
<b>Geometric symmetry</b>	

**11. Geometric solids**, artificial, intentionally flaked stone yielding geometric, symmetric properties, spheroids, circular disks, crescents, triangles, rhomboids, pentagons, hexagons, tetrahedrons, pyramids, and so on = *the artificial structure of human-made ‘universes’; perhaps also a sense of sequential complexification of dimensions, even an incipient geometric arithmetic.*

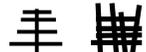
**12. Geometric fossils**, naturally occurring fossils with geometric, symmetrical properties = *innate structure of the natural order, the universe of nature, the innate structure of the cosmos; as fivefold pentagons, perhaps signifying the human ‘being’ with five pointed extremities*

## Summation

The preceding decoding of eight Later Acheulian marking motifs can be summarized in the following table, which lists the key differential feature of each and their semantic-symbolic meaning ('lexeme'). (See Table .2)

It may be asked why the lexemes are stated primarily as verbs or commands rather than nouns. What authorizes this? At least for us modern *Homo sapiens sapiens*, the left inferior parietal lobe (L IPL 39/40/22) is the site of Wernicke's area, the neural substrate for differential, marked features of language, taxonomies, word opposites and antinomous thinking, that is lexemes and sememes. Contralaterally, the right inferior parietal lobe (R IPL 39/40/22) is the substrate for affective prosody, pitch and rhythm as well as 'hallucinatory commands' and symbols as 'commanding images'. I am suggesting that Later Acheulian marking motifs, which were made by pre-Sapiens, did not differentiate these two functions as sign in contrast to symbol, but combined both antinomous thinking and command in one motif-meaning. This is not to limit marking motifs to these neural substrates. We may infer the involvement of left and right Broca areas (BA 44) and left and right BA 9 as well as the other dozen or so modules in the neural network of marking motif protolanguage articulation. For instance L BA 44, which we know to have been evolving since *Homo habilis*, is the substrate for syntactic combinations and a sense of agent/patient or SVO, and overlaps with motor mirror neurons; R BA 44 provided the sense that only certain marks and combinations of marks are meaningful and worth communicating, the rest are nonsense. R BA 9 is the substrate for the objectification of signs in a medium—a critical aspect of any glyphic inscription strategy—while L BA 9 is the substrate for the intention to say or mean, the coordination of 'thinking' and 'writing' and inductive logic.

In this decoding of Later Acheulian marking motifs I have stressed their symbolic dimension, their sensuous, intuitive, feeling and thinking connotations. These motifs also would have had a sign dimension that contributed to their functional utility and adaptive advantage. Cupule and undulating line could have pointed to meeting places or been used to teach an appreciation and celebration of life that eased day-to-day frustrations, irritations, and conflicts. CLMs and DLMs could have been used to enhance fertility and ease childbirth or encourage concentrated action in coping with survival. The arc could have been used to increase behavioral flexibility and hope and thus enhance survival while the iterative stroke mark could have released mourning and grief as an alternative to revenge and bloodshed. They may have also strengthened consciousness and self-consciousness and been used for a counting or notational system. Lattice and geometric shape of space could have been used to encourage provisioning, generosity and cooperation within social structures of hierarchical leadership and enhance the faculty of creative imagination and visualization.

Table 2. Summary of Later Acheulian Marking Motif Lexemes				
Later Acheulian Marking Motifs		Differential Features	Lexemes	
1	Cupule		point	= contact this place, here, dwell here, where it happens; shock of presence
2	Undulating Line		line	= move with undulating movement; push forward, keep moving with the alternating positive and negative forces
3	Convergent Line Motif		convergence	= concentrate, move toward point, penetrate core essence, gather into the One, nostalgia for origins
4	Divergent Line Motif		divergence	= disseminate, emerge, radiate out from core essence, virtual source; push for form to emerge; origin-heterogenous, yearning for freedom
5	Arc		recursive order	= yield to unbalanced pressures to survive, be resilient, bend; move with the cycles of life; return to self
6	Iterative Stroke Marks		sequential order	= push on balancing field of forces, match force with force; participate in the sequential unfolding of time, finitude, fatality
7	Lattice		supporting structure	= net-like interdependence of all things cooperating; energy that holds together, supports, uplifts, aspires, emancipates from old grids
8	Shape of Space		container	= projective Euclidean space, an imaginal realm, container of abundance and manifestation, holding environment, stage of visualization, dramatic action
9	Combinations of Marking Motifs		N/A	(combinations of lexemes)

Note 1: Some linguists might refer to the meanings generated by the 'differential features' as 'semes' or 'sememes' instead of 'lexemes'.

Note 2: In this table I have listed only the LA 'marking motifs' and not the exotic objects, though they may also be signifiers in the LA protolanguage.

I have shown how individual marking motifs occur in pairs with differential features embedded in resonance structures reverberating with their self-referential relation to the distinctive media in which they are inscribed. Self-referentiality liberates the medium from simple projective reference and its illusions and highlights the technical strategy of inscription and the signifying features of the medium itself. This multileveled complexity enhanced their evocative power. I offered a decoding of some of the resonances for four pairings of motifs, summarized in the following table.

<b>Table 3. Later Acheulian Heart-Mind</b>			
<b>Glyph</b>	<b>Lexemes</b>	<b>Evocation (medium)</b>	<b>Evocation (pairing in medium)</b>
Cupule	contact	stone =brutality opacity of suffering and resistance to domination	gentleness caress, touch, love; exaltation and annunciation of leading principles
Undulating Line	undulate		
CLM	concentrate	bone = source of life sustenance of death	essencing-disseminating life-passage, life-giving, emergent form; pathos of survival
DLM	disseminate		
Arc	return	medium as medium = force field, force as such exertion vs. inertia	remembrance mourning, grief; compassion
Stroke Mark	push on		
Lattice	cooperate interpenetrate and ascend emancipate	medium as medium = organized geometric space (cosmos, world) grid and <i>chora</i> , identity and difference; world levels for shamanic ascent	heart-mind as grid and chora of identity and difference; as self-knowing as it emancipates and materializes its creative- productive work
Shape of Space	project visualize actualize		

In a further visualization could we not say that lattice and shape of space as well as cupule and meander, CLM and DLM, arc and stroke mark all contribute to the meaning of mind during the Later Acheulian? If so, the Later Acheulian mind as a whole can be seen as having differential characteristics that correspond to the pairings of marking motifs. I attempt a summary in the following table.

<b>Table 4. Later Acheulian Mind</b>		
<b>Paired Inscriptions</b>	<b>Character of Mind (the evocation)</b>	<b>Differential Characteristics of Mind</b>
Cupule and Undulating Line	Resistance and gentleness; exaltation and annunciation of the advent of that which leads*	Annunciation of leading principles; goals and consequences, application of sensate thinking
CLM and DLM	Essencing-disseminating of life force and return of life force to its virtual source, flowering and pathos of individual life-passage	Attunement, disposition, character, emotion, affect**; application of sensate feeling
Iterated Arc and Stroke Mark	Force of mind; pushing and yielding; exertion vs. inertia; remembrance, mourning, grief; compassion	Feeling-values, ideals; weighing value, importance, worth, force, meaning; mindfulness; application of intuitive feeling
Lattice and Shape of Space	Projective-visualizing lattice-worlds; ascends shamanic world levels; heart-mind, grid and chora of identity and difference; self-knowing, emancipative, self-objectifying in work	Matrices and transformations of identity and difference; technique, instrument, apparatus***, tool; model of and model for; application of intuitive thinking
DLM and Shape of Space	Essencing-disseminating source radiating out of container, holding environment of abundance, manifestation, virtual source of visualization and imagination, womb of creative birth-giving	Transcendent mind, creatrix, mysterious source of creative principle, creative imagination, as distinct from fixation of static images****
<p>* Compare Ernst Bloch's notion of the <i>Prinzip Hoffnung</i>; religious imagery of annunciation, birth of the hero, babe in a manger, and so on.            ** Compare the German <i>Gemüt</i> = disposition, temperament, character, nature; feeling, affect, emotion; mind, spirit, soul and Heidegger's notion of <i>Befindlichkeit</i> as characteristic of <i>Dasein</i> and <i>Care</i> (L. <i>Cura</i>) at the heart of <i>Dasein</i>.            *** Apparatus = things needed to carry out a purpose or for a particular use &lt; L. <i>apparatus</i> = preparation &lt; <i>ad</i> + <i>parare</i> = to make ready. Compare Heidegger's positioning of the Being of <i>Dasein</i> in distinction from <i>technē</i> (<i>Zuhanden</i>, the ready-at-hand). Later Acheulian mind incorporates what Heidegger would reject.            **** Compare the poet S. T. Coleridge's distinction between creative imagination and static images of fantasy.</p>		

Comment. Heidegger characterizes *Dasein* as understanding (*Verstehen* or hermeneutical 'as'-structure), mood (*Befindlichkeit* = mood, attunement, compare *Gemüt*) and speech (*Rede*, later *Zusage*, *Zuspruch* or *Versprechen*). This adds two more characteristics of mind: (a) speech, or perhaps more precisely articulation and communication as well as the capacity to question meaning; and (b) experience as experience of, hence consciousness of experience as well as understanding, the hermeneutical 'as' and, as Aristotle expressed it, wonder. Even with the addition of these two further characteristics, as the table suggests, the Heideggerian formulation is insufficient, for it does not differentiate *Befindlichkeit* (*Gemüt*) into its fourfold differential characteristics. In later writings Heidegger inevitably was forced to thematize aspects of these other characteristics of mind (or *Dasein*). Contrary to Heidegger, for the LA mind the annunciation of a leading principle coincides with resistance to domination and gentleness as well as emancipation and social justice. The feeling-values of *Dasein* are not

only characterized as resolve or concern, but for the LA mind as pushing and yielding, lamentation and compassion, and so on. All that was won by the LA mind Heidegger has left in oblivion.

Further, I would argue that the two additional characteristics of mind (Dasein) noted by Heidegger only can come to mind in a mind capable of formal operations, including sixfold transformational group-structures. The LA mind apparently did not have marking motifs to express these two characteristics and this would be as one would expect if the LA mind was not yet capable of formal operations. A fourfold group, or fourfold pairs of eight elements, is a product within the competence of concrete operations.

If we may accept as intentional or curated the Bilzingsleben ‘double rectangle’, at first glance Bednarik’s transcription of this engraving shows what appears to be one rectangle engraved inside another rectangle. On closer inspection, the rectangular border zone created between the two rectangles is marked with many parallel and perpendicular strokes and chevron shapes that might be intended as divergent and/or convergent line motifs or iterated stroke marks. The superposition of the rectangles with overlapping lines suggests a lattice design as well as a ‘space of shape’ design. As Bednarik notes, the design contains a high level of complexity. I would add that it appears to combine into one design possibly 5 of the 8 Later Acheulian marking motifs decoded in this study.

Analogy 1-8.1. Compare Marshack (1991: fig 90.13; fig.238) a complex marking motif, twice depicted at La Pileta, labeled a ‘shield-like’ motif, consists of a rectangular design with internal chevrons and stroke marks or crosshatches and externally impinging chevrons or arcs.

As an aggregation of at least five basic Later Acheulian marking motifs, it has the capacity to encode a story. Given the decoding of motifs proposed in this study, the ‘double rectangle’ story appears to be decipherable as something like:

*Ascend from one lattice-world to the next, emancipating and materializing yourself and your people and thereby knowing yourself, your heart-mind.*

*Experience the ‘borderland’, the liminal space between the worlds (this world and the heart-mind-world, this world and the next world, lower world and sky world, the distinct exchange networks of this social group versus the other social group) as a passage like rebirthing, a delivery into the greater light of your creative freedom.*

*Know mutual interpenetration and reciprocity of all things as a model of and for this world, like a plaited craftwork or system of cooperative and reciprocal exchange, which has a temporal, sequential and lawful order of unfolding.*

*Possess yourself in your marrow-bone essence and disseminate yourself, your very source in all your life passages, life-giving, experiencing the pathos and poignant joy of this world, as you deliver, inscribing it, emergent movement-forms, transmitting evocations of heart-mind.*

*Through force of mind, push on, again and again, exerting yourself against inertia, remembering the push of life through mourning and grief, and holding this world with compassion.*

Such is the ultimate art, the ultimate work that palaeoart impresses upon the mind.

## Conclusion

In conclusion, I have argued that Later Acheulian marking motifs were elements in a symbolic and also sign-like protolanguage. This symbolic protolanguage had a 'symbolic syntax' grounded in complementary resonance structures, which had clear linguistic differential features. These differential features empowered and constrained a given motif's meaning-potential, as they empowered and constrained the decipherment and 'readings' that I have suggested. I have identified and deciphered meanings for eight motifs. Arranged in pairs and more complex combinations these marking motifs had the semiotic capacity to articulate basic principles for life and living. They have the capacity to address some of the most fundamental questions of the human condition and articulate expressive forms evoking a response of the human spirit. Later Acheulian marking motifs were both 'graphemes' and 'philosophemes'. They seem to manifest the pure forms of the 'archetype of Self' of which Jung spoke and symbols of 'the primary process' of which Freud spoke.

Emmanuel Anati (1993:39-42) distinguishes three types of signs in the world rock and mobiliary art heritage: psychogram, ideogram, and pictogram.

"Pictograms (and mythograms): Are figures in which we may recognize identifiable forms of real or imaginary objects, anthropomorphic and zoomorphic figures [topographic and tectiforms, implements and weapons]. Ideograms: Are repetitive and synthetic signs that are sometimes named as zoomorphic and anthropomorphic schemes, sticks, tree-shapes, phallic and vulvar signs, discs, groups of dots and lines. Repetitiveness and constants of association seem to indicate the presence of conventional concepts in a number of ideograms. [Ideograms are signs that convey ideas or imaginary beings to whom the message is addressed, and may be anatomic, geometric, or numeric.] Psychograms: Are signs which are not recognizable as and do not seem to represent either objects or symbols. They are strokes, violent outputs of energy that perhaps express sensations or even more subtle perceptions . . . The psychogram works at a subconscious level as do certain archetypal signs that our conscious memory is no longer able to define but which, deep within the self, release associate and sensory processes on wavelengths that escape of the bands of ordinary transmission and are remarkable for their immediacy. . . . They are the quintessence of something hard to consciously define but which resonates deep within us." All three types are common in the rock art of archaic hunters.

Later Acheulian marking motifs appear to be simultaneously psychograms, ideograms and pictograms. As they appear associated in complementarity resonance structures of identity and difference, they are capable of expressing 'ideas', if we consider the notion of an idea to refer to complexes of identity and difference 'held in mind'. In this sense they would be ideograms. As wonderfully expressive marking movements they also may be considered psychograms. As self-referentially iconic—encoding lexemes based on the gesture movement form of the design motif itself, they are iconic and might be called pictograms. In some cases these marking motifs may have been used as denotative pictograms, such as arc = rainbow, crescent moon or undulating line = stream, river, movement of a snake.

Later Acheulian marking motifs had aspects of both signs and symbols, although I tend to think they were primarily symbols. They seem to have the capacity to be 'diaphors' or 'archetypal metaphors' that would have had a spiritual function. With respect to their 'symbol-ness', each

type of mark or form-constant is not so much a symbol as one-half of a symbol. The whole resonance structure of complementary shapes is 'the symbol'. If the marking motifs did have such functions then we might also suppose that there also was a comparable oral or sign language that was primarily made up of signs for everyday use.

Bednarik (1994c:176) observes, "if it were our aim to explore objective reality, we would first have to determine how anthropocentricity (the human concept of reality) was conceived." I believe that the inferences about the semiotic capacity of Later Acheulian markings and the decipherments that I have proposed can begin to determine some of these very aspects of Later Acheulian anthropocentricity, its concepts of reality and something of the very nature of the Later Acheulian mind.

### **Limitations**

There are some obvious limitations to the above findings, and these are both archaeological and hermeneutical. First, the available archaeological artifacts are sparse in number. The discovery of one or more new objects or the demotion of one already found to the level of non-intentional would significantly alter the database and thus its interpretation. Second, it is often difficult to determine whether a given mark is natural or artificial, or, if artificial, intentional or random. Archaeologists debate whether a mark is a stone tool mark, a carnivore gnaw mark, a vascular groove, due to trampling, due to sediment abrasion in water bodies, glacial movement or other natural processes. A further complication is that an object may have 'natural' markings which look like one of the basic marking strategies categorized in this study. Some archaeologists tend to exclude such objects without further consideration, although it might be determined that such an object was 'curated' and thus still have an aesthetic or symbolic intent. Proof of curation is often uninvestigated or undecidable. Further a current consensus about what marks are intentional human-made marks might change based on re-examination of an object using alternative or new methods of analysis.

For instance, the Stránská Skála artifact is currently open to question; it is not yet accepted if its proposed CLM and DLM are intentional engravings or natural, vascular grooves or if the object was curated. Also three Bilzingsleben objects discussed in our study, which happen to be the only examples of the 'arc' and 'space of shape' motifs, have status requiring further confirmation. In addition, the lattice on the La Grotte de l'Observatoire biface appears not to be engraved but due to a mineral inclusion (Bednarik 2003 personal communication). I tend to accept it as a natural-intentional curated lattice that the maker of the biface incorporated into its overall symmetry shape much as the makers of the West Tofts, Swanscombe and Cys-la-Commune bifaces incorporated fossils and inclusions in their symmetries?

If one were hyper-conservative and narrowed the artifact set to Bhimbetka and Bilzingsleben objects only and those that have received examination by multiple 'experts', then the set of marking strategies would be reduced to cupule, undulating line, CLM, DLM, and iterative stroke marks. Nevertheless, 'symbolic syntax' still would be implied by the first four motifs; only the fifth would lack its 'opposite'. If so, the overall semantic world of LAmrk would be more restricted than this study suggests, although the basic semiotic capacity would still be evident.

A caveat with respect to hermeneutics is in order. All the proposed decipherments of the eight marking motifs are decipherments of a semiotic competence. I have not argued the hypothesis that 'Mark X meant a, b and c to the people who made it.' Rather I have argued that Mark X as associated with Mark Y has through its differential features a capacity to symbolize; it has a capacity to generate a meaning-effect in the liminal space between then and now. How people back then articulated, understood or used this capacity must remain, at least until much more contextual evidence is available, undecidable. What I have attempted to show is that the markings possess the proposed semiotic competence. The point has been to show that 'a few marks' can carry an extensive semantic load. To what extent this competence was actually used, by whom, or understood by whom, are open questions. I would wager it was more or less so used and understood.

As noted in the introduction, without a living informant actual linguistic usage must be determined by contextual factors. A sure indicator of linguistic usage would be to identify a mapping of the marks in question against a second, known linguistic set of ideograms, pictograms, or writings or against objects of representational art (proto-art, palaeoart). This would be an Later Acheulian 'Rosetta stone'. I have elsewhere examined and analyzed several instances in which Later Acheulian 'exotic objects', which, as I have suggested, seem to have had capacity for significant meaning, are incorporated into representational sculptures and bifaces ('handaxes'). Instances include the Swanscombe Middle Gravels and West Tofts handaxes shaped around geometric (pentagonal and bivalve respectively) fossils and Cys-la-Commune handaxe shaped so as to place two reddish (red ochre-like) inclusion spots at its 'womb' and 'head'. Further, a Swanscombe Middle Gravels manuport of pentagonal fossils appears to have anthropomorphic and zoomorphic images flaked or naturally embedded in it. On the other hand I am not aware of any instances in which Later Acheulian marking motifs are placed on sculptures, unless one counts the l'Observatoire biface, in which a lattice motif is placed on a handaxe. Perhaps further discoveries will yield such cross-mappings.

Interestingly the 'naturally engraved' motif on the l'Observatoire biface has a semantics that cross-maps onto the implicit semantics of the handaxe itself. The shape of the biface is quite atypical; it might be described as the combination of a cleaver and pointed handaxe; it verges on a rectangular shape. This might be the product of poor workmanship. On the other hand, given the symmetry-lattice, it is more likely that the configuration was intentional and meant to combine the lattice motif with the 'shape of space' motif—the complementary symbols of the social cosmos and macro-cosmos—together with the semantics that I have elsewhere deciphered for the stereotypical Acheulian cordiform handaxe and cleaver. The cordiform and cleaver belong to a complementarity structure, whose differential features I have deciphered as

*Intercourse, the strengthening of 'the sheath' of the soul and the 'vehicle' of the human spirit, egg-within-the-egg, finitude of the spirit and its offering—and all of these as reparation and restoration of the core essence, as 'the One Who Presides Over the Processes of Birth and Death and Rebirth' and 'the One Who Gives Us Spirit Power.'*

If the l'Observatoire artisan did intend such a combination of four symbols—lattice, shape of space, cordiform and cleaver—the result is a 'myth' that must be read as speaking about the Tree of Life, the social and macro-cosmos, both Great Goddess and Great Spirit, accessible through the reparation and restoration of the duplex core essence of self.

With respect to the question of whether semiotic capacity inherent in Later Acheulian marking motifs was actually put to use, the l'Observatoire biface is contextual evidence that it was indeed self-consciously grasped and used.

The extensive Later Acheulian period sculptural art that I have inventoried and examined elsewhere suggests a high likelihood that the Later Acheulian linguistic capacity was put to use since it contains themes that are also found in those sculptures.

My overall hypothesis is that there exists a Later Acheulian Early Paleolithic symbolic competence evident in its marking motifs and that it was indeed used. Is this hypothesis falsifiable? I have developed the linguistic competence hypothesis as far as the evidence permits. I have noted contextual factors indicating its actual use and tertiary survivals in later cultures. It is up to science, which can only proceed as it has for so long, on contextual evidence for symbolism prior to *Homo sapiens sapiens*, to further confirm or reject my hypothesis for semiotic competence, proposed decipherments, and speculation about actual uses.

## Addendum on Sign, Symbol, Metaphor, Diaphor, and Archetype

Chase (1991) suggests that ‘symbol’ as distinct from ‘icon’ and ‘index’ (in Pierce’s definitions), i.e., arbitrary relation between signifier and signified, may have preceded or accompanied the development of language. Pierce (1955) distinguishes three kinds of signs: icon, index, and symbol. An icon is based on likeness of the sign to its referent and includes image, diagram, and metaphor. An index is directly modified by its object, such as a symptom or trace of something. A symbol is a sign in which a rule determines its meaning and includes words and ‘conventional signs’.

I find Pierce’s distinctions, and hence Chase’s argument, to be a confusion of terms that can be better analyzed as elements of a structural group, or two distinct groups to be more exact. In this analysis, I reserve the word ‘symbol’ to mean something quite different from yet complementary to ‘sign’. What do I mean by ‘symbol’? I propose that a symbol is the right-brain, ‘primary process’ (Freud) complement of the ‘sign’.

Pierce (1955) characterizes the sign, in the manner of Saussure, as constituted by a signifier, signified and referent object, but adds the curious “it addresses somebody”, has an “acquaintance” with the object, and “tells about it”. In making this comment Pierce brings in what linguists call the pragmatic function of language, which has emotional communicative and turn-taking aspects. Neuroscience tells us that the substrate for this function lies especially in the right brain (BA 45-46). The corresponding left-brain area is the substrate for lexico-semantic encoding and lexis, sometimes called ‘semanticity.’ Would this not be the substrate for that which Pierce means by the triadic and more or less conventional or arbitrary quality of signs? Further, symbolic thematization, metaphor, metonymy and figuration in story have their neural substrate in the right brain (BA 21). The analogue on the left is the substrate for conceptualization, the ‘lexical mediation system,’ conceptual structures, semiotic squares and semantic universes, and naming.

On the one hand, signs have reference relations, in which the relations are those of ‘belonging to’ or ‘pointing to so that someone looks at’. Signs involve a set of relations including the relation between signifier and signified (i.e., the concept or conceptual correlative of the signifier) and the referent of that relation. The types or kinds of signs appear to be the following elements in an overall transformational group-structured semiotic field.

- **mark** = mark, brand, seal, signature, trademark, copyright, indicating property of (pointing to) individual or group
- **deixic sign** = a sign that points to something important or significant
- **signal** = a sign in a system meant to induce behavior change; signal + signified behavior (see Uco’s analysis)
- **word** = written or spoken or gestured element that has meaning in a language system; more or less arbitrary signifier + visualizable signified (concept, idea = semantic meaning)
- **code** = translates any of the above into a ‘secret’ language; a totally arbitrary mapping (correspondence) of one set of signifiers onto another; mathematical, logical, musical, calendrical or other notational system

- **diagram** = diagram; schematic of correlations; chart, table, graph; algebraic, topological, matrix or other mathematical organization

On the other hand, symbols have evocative relations, in which the relations are those of 'presentation' or 'representation'. Symbols primarily evoke rather than signify. Symbols involve a set of relations including symbol and symbolized, i.e., that which is evoked, and a relation of the one who symbolizes (ego, etc.) to the symbol, that is, the 'correlative'. That which is evoked or realized in symbol is a percept rather than a concept or a referent. The types or kinds of symbols appear to be the following elements in an overall transformational group-structured semiotic field.

- **form** = expressive form, evokes emotion, feeling, mood, state of being in objectifiable form, figure, expression; presentational evocation of a subjective correlative; expression of a percept; image or sound pattern; especially movement forms and symbols of psyche (symbols representing non-linear transformations); musical expression, involving 'theme and variations', the latter also called the interpretation or development of the theme (Cassirer, Langer: 'symbolic form'); (Anati: psychogram)
- **icon** = a symbol that resembles the thing it represents; representational evocation of an objective correlative; record of a percept; a likeness, 'representation'; x 'like' y; a similarity or identity mapping, more or less stylized, abstracting invariant (thematic) features capable of further development; e.g., image, illustration, onomatopoeia (Anati: pictogram)
- **emblem** = emblem, flag, device, totem of individual or group; the representational evocation of a subjective correlative; a symbol meant to represent and induce a behavior change, evoke social sentiments, allegiance, etc.
- **symbol** = stands for or 'represents' an idea, quality, condition or other abstraction, invisible or unconscious factor; presentational evocation of an objective correlative; e.g., poetic symbol (T. S. Eliot's objective correlative, a figure or fictive symbol serving as the objective correlative that evokes and makes present a poetic mood); e.g. allegory, in which objective correlative is an idea or quality, a virtue; element in a symbolic system or 'symbolism'; more or less arbitrary symbol + symbolized; (Anati: ideogram)
- **design** = an arrangement of detail, form, and color (consisting of elements, arrangements and compositions or configurations of figures); a drawing, plan or sketch made to serve as a pattern from which to work; for itself as for its replication as in a repeated or decorative design motif or pattern; model (model of and model for)
- **token** = a piece of material that carries a right, privilege, of standardized value within a network of exchange; Greek *symbola*, two pieces that fit together certifying host/guest privilege

Anati (1993:39-42) distinguishes three types of signs in the world rock and mobiliary art heritage: psychogram, ideogram, and pictogram. I have indicated in the preceding list how these three types might be allocated among the basic elements of the symbolic dimension.

Cassirer (1955, 1946) and Langer (1953, 1951) referred to the symbol as a 'presentational and non-discursive expression'; Sperber (1974) as 'not semiological, but evocative,' and Jaspers (1959) as 'participates in an *analogia entis*'. For C. J. Jung (1956) a symbol 'symbolizes and

transforms psychic libido and archetypal forms of life-force or spirit and is subject to a sequence of transformations'. It has the quality of complementarity or a *coincidentia oppositorum* (Jung). Freud (1989) observed that 'primary process' in dreams involves 'condensation' of multiple associations or 'dream thoughts'; 'dramatization' of the thoughts as 'situations'; 'pictorial arrangement' (picture-thinking) without logical connectives (absence of negation, only a yes; absence of either/or, only a both or and; and absence of causality, only sequences of situations); and revision for intelligibility. For Jung (1968: par. 91) symbols are "the unconscious images of the instincts themselves" and they are grounded in archetypes that ultimately are pure geometric forms.

[B]ecause of its power to unite opposites, [the archetype] mediates between the unconscious substratum and the conscious mind. It throws a bridge between present-day consciousness, always in danger of losing its roots, and the natural, unconscious, instinctive wholeness of primeval times. (par. 293).

In the tradition of depth psychology, Kristina Berggren (2001:10-12) reviews the etymology and origins of the word 'symbol' in the Greek *symbolon*, a small piece of flat pottery divided so that the two pieces could fit together, and used as a token for social identification, a deal or contract; *symbolon* came to mean a division that is united or a complementary relationship. In present usage a symbol also stands for something beyond itself, something transcendent, and something multileveled. It comprises and expresses the unity and brokenness, difference and infinite diversity of life.

For a structuralist like Levi-Strauss symbols obey group-theoretic laws; for a deconstructionist like Derrida it obeys set-theoretic laws under the spell of intertextuality and difference. Yet, one cannot presume that the mind of *Homo erectus* was capable of Piagetian formal operations, but more likely, concrete operations. Within the domain of concrete operations symbols obey laws such as reversibility (symmetry), conservation, interval, classification, part/whole decentration, projective space and general spatial framework (including notion of cross-section), and congruency (Wynn 1989:87-93).]

Symbols may be syntactically associated in metaphor, in contrast to signs, which may be related by analogy. A symbol is inherently poetic; it generates or gives rise to poetic reflection and articulation. The 'deep' or 'poetic' sense of metaphor is distinguished from the 'classical' definition of metaphor as a rhetorical assertion of likeness or similitude or the 'cognitive' definition of metaphor as understanding one kind of thing by another and typified by the metaphorical clichés of everyday discourse (Lakoff and Johnson 1980). Bede Alleman (1967) emphasized the distinction between 'metaphor and antimetaphor' or 'absolute' metaphor. The same distinction is noted by Philip Wheelwright (1962) under the terms 'epiphor versus diaphor,' where 'epiphor' is a term used by Aristotle, the classical sense of transference of a name to some other object in order to establish a comparison with what is familiar, and 'diaphor' in which the movement is 'through' certain particulars of experience to produce a new meaning by juxtaposition alone. Wheelwright notes that diaphor is non-mimetic and ontological, presentational rather than representational, and works by contrast, difference, multiplicity and emotional contiguity. A metaphor is a tension of opposites within a similarity. [This is also the case in the instance of the so-called Homeric simile.]

“Metaphor in its radical, which is to say in its semantic sense, [as diaphor] is far more than a grammatical maneuver or a rhetorical stratagem. The essence of metaphor [as diaphor] consists in a semantic tension which subsists among the heterogenous elements brought together in some striking image or expression. . . . Metaphor [Martin Foss] declares. . . is ‘a process of tension and energy’ . . . and ‘it is their mutual destruction in this process out of which a new and strange insight arises’ (Wheelwright 1968:102, 107).

“Metaphor is the synthesis of several units of observation into one commanding image. It is the expression of a complex idea, not by analysis, nor by direct statement, but by a sudden perception of an objective relation” (cited in Wheelwright 1968:104 from Read H. English Prose Style 1952.)

Related to metaphor is archetype, which is emblematic (124) of a ‘deep’ ‘self’ (or a la Freud, deep unconscious drives) and ‘transcendent’ or ‘cosmic’ power or personage. Like metaphor, an archetype has an existential or ontological dimension. Archetypal symbols, which appear in myth and great poetry, are a fusion of these two modes of creative imagination, metaphor and archetype (146). Archetypal metaphors may be called ‘deep metaphors’, ‘absolute metaphors’, ‘anti-metaphors’, ‘ontological metaphors’, or ‘diaphors’. They are expressed in graphic production that combines ‘syntactically’ ‘resonance structures of identity and difference’ that have ‘archetypal’ import and significance.

In my decoding of Later Acheulian marking motifs I have used the terms ‘symbol’ and ‘symbolic syntax’ to characterize their latent differential features within resonance structures that have the semiotic capacity to generate depth symbols and metaphors of the human soul and spirit.

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