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THE BHIMBETKA GLYPHS

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Abstract. Current archaeological evidence indicates that Later Acheulian peoples used a repertoire of intentional marking motifs. Later Acheulian markings are not random, but display stereotypical patterns and a limited number of motifs, which are combined in aggregates and pairs. This indicates a semiotic competence. A review of occurrences of motif pairs suggests that there is an underlying semiotic armature which includes the differential features of paired motifs and their common marking strategy, both technique and medium. This paper lays out principles for their decipherment and applies these principles to the cupule-and-meander petroglyph at Auditorium Cave, Bhimbetka, India.

Current archaeological evidence indicates that Later Acheulian period *Homo erectus (heidelbergensis)* used a repertoire of intentional marking motifs. Evidence of these intentional markings is dated from around 500,000 to 100,000 years ago. One of the most important instances of this tradition is the cupule-and-meander engraving at Auditorium Cave, Bhimbetka, India. Other intentional markings have been found at Bilzingsleben, Germany; Stránská Skála, Czech Republic; Port-Launay en Ecoflant, Maine-et-Loire, France; and La Grotte de l'Observatoire, Monaco. For a listing of sites, objects, and their engraving motifs see Table 1.

Accepting the scientific validation of these occurrences as intentional, I ask the question whether such markings can be interpreted as language or symbol and, if so, how might they be deciphered? In this paper I will propose an identification of the semiotic competence of the Bhimbetka engraving

A Later Acheulian Semiotic Competence

Considering examples of Later Acheulian markings now available and generally accepted principles of semiotics, I suggest four generalizations.

First, Later Acheulian markings appear to have a stereotypical, canonical character. They are more than random engravings. Though the number of known markings is a small sample, they display repeated shapes at multiple sites and on multiple objects at particular sites.

Second, the markings appear to be distinct and limited in number. 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
- Iterated stroke marks
- Lattice, and
- Geometric ‘shape of space’

Third, there is evidence of combinations of motifs. In some cases the same motif is doubled, for example, the double arc and the double rectangle at Bilzingsleben. (For other examples see Table 3). Another object at Bilzingsleben appears to have five of the eight motif types aggregated in a single design.

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

Fourth, most interesting of all from a semiotic point of view, there are instances in which different motif types appear to be paired. One of the best-validated examples of different motifs paired is the cupule and undulating line at Auditorium Cave, Bhimbetka. (For other examples see Table 2.)

In sum, Later Acheulian intentional markings seem to show (1) stereotypical repeated shapes, (2) a distinct and limited number of motifs, (3) combinations of motifs and (4) pairings of differential motifs.

These four features suggest that these markings are more than random scratch marks, doodles, mere decorative designs, brands, or entoptics. Such features by their very nature lend themselves to a semiotic competence. Later Acheulian markings appear to be symbols associated in a symbolic syntax.

Note: The thesis that Later Acheulian markings appear to have a semiotic competence builds on the hypotheses of Robert Bednarik [1995, 1994, 1990b; compare Kellogg, Knoll, and Kugler (1965)] that (1) they seem to utilize shapes that are similar to typical form-constants of entoptic phenomena, that is, phosphene motifs; (2) they are characterized by a reflective or mirroring response to the medium itself; and (3) they may have functioned to stimulate optimal arousal of the visual environment.

If Auditorium Cave and other Acheulian marking motifs do have a semiotic competence, we are compelled to seek to determine if they manifest a system for encoding meaning. Do they possess what the structural anthropologist Claude Lévi-Strauss called a ‘semiotic armature’? He defined a semiotic armature as the basic structure that encodes and establishes levels of signification and symbolization, that is, levels of meaning.

A Later Acheulian Semiotic Armature

In reviewing occurrences of Later Acheulian pairs of marking motifs, it appears that they may well be manifestations of an underlying semiotic armature. This armature appears to engage both (a) the ‘differential features’—a term from phonology—between two different and paired motif types and (b) the common technique or marking strategy—to use Bednarik’s phrase—and (c) their common medium, such as stone or bone. This is summarized in the following diagram.

Motif A	Motif B
Marking Technique	
Medium	

This armature may be characterized as a complementarity resonance structure; it involves differential features and shared features, identity and difference.

Principles for a Decipherment

If Later Acheulian markings are manifestations of such an underlying semiotic armature, they have a semiotic competence capable of generating meaning-effects. If this is the case, then it is theoretically possible to decode the semantics of each marking motif.

Note: In a study recently posted on the website OriginsNet.org (Harrod 2004), I show in more detail how I arrived at the inference of a semiotic armature and give tentative decoding of all eight Later Acheulian marking motifs.

Before attempting a decoding of the semantics of the Bhimbetka meander and cupule motifs, I suggest some general principles that bound that any such attempt.

- (1) A hermeneutical circle limits and deconstructs every decipherment of meaning. To paraphrase Kalyan Chakravarty (2003:108), in experiencing life, which was only partially understood by the petroglyph artist, we, who seek the meaning of their petroglyphs, bring our own partial knowledge of life to bear upon the act of understanding vital meaning, which must inevitably remain partial yet ineluctably urge us toward life.
- (2) Deciphered meanings arise in a virtual or liminal space between then and now. Meaning is somewhere between 'meaning for them' and 'meaning for us'. The hermeneutical philosopher, Hans-Georg Gadamer (1975) referred to the arrival at meaning in history (or prehistory) as a 'fusion of horizons'.

- (3) With respect to a proposed semiotic object, the scope of possible meanings to be decoded is restricted by the nature of the underlying semiotic competence and semiotic armature, with its posited differential and shared features.
- (4) To arrive at a decipherment of prehistoric and pre-informant petroglyphs and pictograms, the optimal course is to hue to the shapes themselves, their intrinsic features, using contextual evidence as secondary confirmation and ethnographic analogies as tertiary confirmation.

Specifically with respect to Later Acheulian markings, I have proposed four hermeneutical hypotheses, which I have found productive for generating decoding and decipherment of the marks.

First, I suggest that Later Acheulian marking motifs are movement-forms. I do not take the form of an engraving as a static representation of some object in the world, but rather as a gesture, a movement, something alive. In addition to the shape itself, the marking strategy (pecking in stone, cutmarks in bone, etc.) is a gestural component of the overall meaning of an engraving.

Note: 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). This is precisely what is going on, I believe, in Later Acheulian marking motifs, as in subsequent Middle and Later Paleolithic geometric signs.

Second I propose that the meaning of each marking motif is derived from the nature of its geometric shape. In short, movement-forms mean just what they are, that is, their gestured movement shape.

Third, in a pairing of motifs, the meaning of any shape will be mutually inter-defined with the differential features of its opposed shape. This hypothesis is an application of the hermeneutic principle that the scope of possible meanings of markings to be decoded is restricted by the nature of the underlying semiotic competence and semiotic armature, with its posited differential and shared features.

Fourth, any decoding must be multileveled, corresponding to the full armature of differential features, shared technique and shared media, which are held in a complementarity resonance structure.

With these hypotheses in mind, I explore the semiotics of the Bhimbetka cupule and meander.

The Bhimbetka Semiotic Armature



Figure 1. *Cupule and undulating line, Auditorium Cave, Bhimbetka, India (photo Robert Bednarik)*

The Bhimbetka cupule-and-meander petroglyph exemplifies features that seem to be typical of Later Acheulian markings. At Auditorium Cave (Bhimbetka Site III F-24) a cupule and undulating groove are associated on a single object, a sloping rock surface in an Acheulian stratum, dated greater than 290,000 years ago (Fig. 1). Nearby an Acheulian handaxe and cleaver are wedged tightly in a wall crevice. Robert Bednarik (1993a; 1993b; 1996; 2002) has described the petroglyph as a large, pecked cupule and a pecked meandering line, which approaches the cupule, runs parallel to its edge, just touching it, and then veers off and fades away.

I suggest that the Bhimbetka petroglyph appears to carry all three levels of semiotic encoding. First, there are the opposed differential features between cupule and undulating line. The cupule is a tension between the force of inscription and the restraint of this inscription to iterate at one place or point; the line is a tension between the force that pushes it and the force that gives it direction and change of direction. Thus, cupule and meander are opposite movement-forms. While they may indeed be derived from phosphene forms, their juxtaposition produces a kind of ‘symbolic syntax’ that brings meaning into being.

Second, cupule and undulating line share a common technique of inscription. A cupule requires a pecking gesture in place, a repetitive making of contact with a particular spot, ‘this place’. An undulating line requires a pecking gesture though in a meandering motion, repeatedly making contact but along a line of movement, toward or away from something.

Third, both cupule and undulating line share a common medium. They are made in stone. They are petroglyphs. I am suggesting that the Later Acheulian artisan was aware that what they were engraving on was stone and ‘stone’ itself as the medium of inscription carried and encoded a third level of symbolic meaning. These three levels are summarized in the following diagram.

Cupule	Undulating Line
Pecking	
Stone	

In sum, the Bhimbetka pairing of cupule and undulating line appear to create a tension of tensions, an opposition of oppositions. They constitute a highly complex and sophisticated complementarity resonance structure of ‘identity and difference’. Cupule and meander seem to manifest an underlying semiotic armature.

If so, the Bhimbetka glyphs have a capacity, a semiotic competence to generate a diversity of significations and meanings.

Deciphering Bhimbetka

It would be enough to stop at this point, demonstrating the semiotic competence of these Later Acheulian marks, but I will be so bold as to suggest that we might proceed further to attempt to decode these glyphs. How is such a thing possible? I suggest there is a way. I propose that given its semiotic armature, the Bhimbetka glyphs can be deciphered using the four hermeneutic hypotheses mentioned earlier: (1) the glyphs are movement-forms; (2) their movement-shapes are isomorphic to their meaning; they mean their movements; (3) combinations of motifs mutually inter-define their meanings; and (4) their meanings are tri-leveled, involving their shape, marking technique and medium. With these hypotheses it is possible to decode the semantics and potential meanings for the Bhimbetka glyphs.

To attempt to decipher the message of the Bhimbetka glyphs we need to shift our consciousness and approach. We must let go of the rhetoric of argument and listen to the shapes, letting them speak their meanings. We must let the gestural movement-forms evoke their meaning. We must let the glyphs arise as poetic, artistic, expressive themes in the liminal realm between our Acheulian ancestors and us. We must attune ourselves to their metaphorical language. Then the glyphs like oracles can begin to communicate.

In this way we pay tribute to and honor the message of Bhimbetka.

I know of no better way to attune to the potential meanings of the Bhimbetka cupule-and-meander as movement-forms than to meditate on what the Russian painter Wassily Kandinsky, one of the creators of abstract art and one of its greatest theorists, had to say about the intrinsic shapes of point and line. Kandinsky's insights can help us evoke the thematics of the cupule and undulating line at Bhimbetka.

In his manifesto *Point and Line to Plane*, Kandinsky (1979) begins his exploration of the nature of geometric, abstract form in painting with the very shapes we see at Bhimbetka, point and line. Kandinsky observes that point and line are the two most fundamental elements of geometry (the sense of space) and they are the most fundamental elements of painting and the graphic arts as such.

Note. We may add that in analogy to phosphenes, point and line are also fundamental elements of human vision both of the everyday world and of the inner world.

Then Kandinsky (1979: fig. 2) gives this illustration, his image of the most basic of all artistic compositions: the combination of a point and an undulating line (Figure 2).



Figure 2. Point and undulating line
(Wassily Kandinsky, 1979: fig. 2)

Is it coincidence that this is precisely what we find at Bhimbetka, at the origin of graphic marking?

I want to stress that as an abstract artist Kandinsky made an effort to attend to the intrinsic form of these shapes as movement-forms and to the feeling-values inherent in these movement-forms. I am suggesting that attending to analogues of intrinsic form is critical to interpreting palaeoart markings. In taking Kandinsky as our informant, I think we avoid the possible irrelevance of purely extrinsic ethnographic analogies. I suggest

that the Acheulian period hominids were attuned to these intrinsic movement-forms and feeling-values, as are we moderns, and gave them expression and representation through their marking motifs.

Now I suggest how using Kandinsky's insights as a guide we may articulate the semantics of cupule and meander.

Cupule

The cupule as a movement-form begins with a point, a point that is repeatedly pounded or 'inscribed' until it grows into a dense infinity of points, a cupule. While all that Kandinsky says with respect to the point is applicable to the cupule, brevity allows mention of only a few of his reflections.

While at first glance the point seems static and empty, Kandinsky illumines for us how it really is a movement-form and as such bears meaning. He observes, "The geometric point is an invisible...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 also the silence itself is listened to.

Kandinsky further observes, "[The point] 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... In short, the dead point becomes a

living thing” (26-27). He adds, “In [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). As the point is widened out it verges on and then may cross over into the “embryonic existence” of the plane (30). Kandinsky says, “In nature as in art, the point is ‘a self-contained thing, full of possibilities’” (39). This is the embryonic existence, the empowering potentiality of the cupule.

In striking rock on rock one hears this ‘initial collision’ repeated over and over again. In this shock, which contains the whole pain and sorrow of the human condition, there is an impregnation and a conception of something new, namely being and speech and a life that has an inner-purpose.

Through Kandinsky’s sensibility I suggest we may decode the semantics of the point as: restraint and speaking, silence and speech; shock, jolt, collision; movement from a lifeless state to vigorous feeling, impregnation, embryonic existence, full potentiality and empowerment, and the beginning of life as an independent, and inner-purposeful, being.

Drawing upon this semantics of the point, the Bhimbetka cupule has the semiotic competence to bear this same semantics. Further, its presence on the Later Acheulian level rock surface can be given a formal decipherment. This can only be expressed in a symbolic, evocative language like that of art, poetry and music. In this sense, the Bhimbetka cupule says something like this.

Cupule—it says:

***Contact this place where it happens,
Where it is known; where it is conceived.***

*Torn out of your customary routine by a jolt,
Abide here even in this pain and sorrow*

*That cannot be penetrated, once again
Affirming this point as your inner purpose.*

*In the presence of the sacred mystery
Pounding, you feel shock and a hush.*

*Again and again, contact this stone,
Where life, full of possibilities begins.*

*Contact, impregnate and be fertilized
With the ancestral presence of this place*

*Listen; it is becoming audible, this solitude
In its music leaving its mark.*

Such a poetic may seem to be free association. In a sense it is, for there is no other method for deciphering the possible meanings of such a glyph, yet it is not random speculation, since the method is to let the inherent design of the movement-form and its resonance structure constrain the range of possible meanings. These limited meanings can be tested against features of the archaeological context and if need be revised accordingly.

Analogy. At this point, several ethnographic analogies provide parallels that one might call striking. For instance we could cite Flood (1997) on cupules in the art of Australia, instances in which the pecking of cupules produces dust that fertilizes and reproduces living species or otherwise releases life-essence or activates a place as sacred presence or Meldrum (1992) on rock gongs. We could

cite Anati (1993) who 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’. We could cite Heidegger on Hölderlin’s notion that to be is to dwell, poetically, on the earth. We could even cite movement therapist Gabrielle Roth (1989) on the significance of the staccato rhythm in expressive dance. But all these analogies cannot validate a decipherment; they can only suggest nuances to amplify a semantic potential. One could discard them all and my proposed poetic decipherment would still stand, albeit with fewer nuances.

Undulating Line

Like the point, the line is also a movement-form and we can turn again to Kandinsky to illuminate features of its intrinsic, formal semantics. He says, “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).

Kandinsky says, “the original source of every line remains the same—the *force*” (92). 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, but the line is the antithesis of the cupule as the potentiality for endless movement is the antithesis of staccato movement in place.

He adds, “The application of two alternate forces results in angles; two simultaneous forces which are not equivalent, curved lines (68, 79). 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.

Following the lead of Kandinsky, I suggest decoding the semantics of the undulating line: freedom; tension of a pushing force alternating positive and negative pressures that give the push its direction; alternating tension and release, strengthening and weakening, ascending and descending movement; independent life, which follows its own laws and the possibility of endless movement, which continuously reverses itself and revolves or at least evolves and is evolutionary; incompleteness, which does not return upon itself (as a circle would). Undulating line is continuous opening and re-opening of itself as it moves onward; aliveness, the expression and force of being alive.

Drawing upon this reconstructed, intrinsic semantics of the undulating line, I suggest the Bhimbetka undulating line motif might be given a poetic decipherment something like this.

Undulating Line—it says:

***Push on with the undulating movement of life,
Through positive and negative pressures;***

*Move with the ascending or descending,
Strengthening or weakening force of your life*

*And evolve, the movement that continually opens
And re-opens itself moving forward,*

*As serpent undulating, the sudden force
Of being alive, fish movement, bird winging,*

*Breathing, expression of freedom, being
Independent in what sustains this driving*

*Movement that would flow forward endlessly,
Knowing only this, eternal*

*Undulating aliveness, exalt,
In incompleteness, evolving.*

As in the case of the cupule, the reconstructed semantics of the undulating line can be tested against features of the archaeological context and if need be revised accordingly.

Analogy. At this point, we could again turn to several ethnographic analogies. We could cite Marshack (1997) on meander markings in Upper Paleolithic Europe that they appear to be ‘iconographic acts of participation in water symbolism’ and my papers (Harrod 1987, 1997) that decode the Upper Paleolithic meander as signifying ‘flow, fluid movement-form, and also pursuit’. We could cite Flood (1997:154) on an Australian ceremony in which digital fluting presences ancestral Watersnakes and her suggestion that digital fluting on cave walls may have been “gestural.” Or her observation that in contemporary Walbiri art, the undulating line signifies ‘snake, smoke, string, tail, lightning, water

flowing' (158); in other words undulating movement. Or turning to modern dance we could note that Isadora Duncan found that all nature was traversed by a continuous undulating movement) and sought to reproduce them (Steiner 1974:6); or Emile Conrad's (2002) emphasis that all life, growth, creativity and learning is a non-linear flowing event and her exploration of a dance-form of wave-like micro-movements; or Gabrielle Roth (1989) on the significance of the flowing rhythm in expressive dance. But again all these analogies cannot validate a decipherment; they can only suggest nuances to amplify the semantics of the undulating line.

The Marking Strategy—Technique and Medium

In contrast to their differential features, both cupule and undulating line share an identical marking strategy: a stone hammer is used to peck or pound each motif into stone. The shared marking strategy creates a common medium that supports the differential features between cupule and line, finitude and endlessness, and it makes the medium part and parcel of the semantics of the associated motifs.

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 this pecking technique creates a formal design in the medium of stone, it establishes the medium itself as the 'substance' of the glyphs meaning.

The stone that is pecked asserts its own voice—and silence. It asserts its own semantics. It becomes a power, a presence, a primordial being that speaks to us.

Analogy. 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 and of itself and this power is paradoxical. On the one hand, stone readily evokes hardness, brute reality, necessity, the reality principle, no coping with life 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. It symbolizes endurance and even something indestructible.

Analogy. Eliade (1958:216) under “stones as manifesting power” noted, “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 (1959) observed “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).”

Stone resists inscription; it resists touch. Inwardly, the resistance of stone is like the resistance of psychic or physical inertia. Outwardly it is like the hardness of reality.

Analogy. 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 striking against stone to create a movement-shape symbolize the incomprehensibility of suffering and the miracle of resistance, the survival of spirit against suffering. Stone reminds us that deprivation and all forms of suffering are absolutely inexplicable to reason and yet the stone-like earth of the ancestral spirits endures and even fertilizes 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, the medium that gives further meaning to the pairing of cupule and undulating line.

Pairing Cupule and Undulating Line

At Bhimbetka cupule and undulating line are combined; they are in syntactic relationship. They are two halves of a symbol. The artisan has placed them together in such a way that, as Bednarik observes, the undulating line “approaches” the cupule and “follows part of its circumference”, while maintaining a very slight, subtle separation, and then meanders a way. The undulating line touches the cupule without breaking its boundary. The undulating line maintains the integrity of the cupule, ever so gently touching it.

Kandinsky’s definition of ‘composition’ helps illumine the Bhimbetka pair. “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. ...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). In the act of composition these tensions are released in conscious feeling-values.

Drawing upon my proposed reconstruction of the semantics of cupule and undulating line, including their intrinsic differential features and their shared marking strategy (pecking) and medium (stone), I suggest that the pairing of the glyphs at Bhimbetka, their gentle approach and touching, evokes something like the following.

Cupule and Undulating Line—they say:

Stone, slow winging bird;

Jolt and serpentine movement;

Strike and re-strike this stone,

Meander alive and fade away;

*Inscribe it again and again, the absolute
Opacity of suffering, fertilized;*

*Resist the hardness, gently expressing
In silence as in word, affirming it;*

*Incompleteness and reopening caress
From the deep solitude, waters rush;*

*Love moves, gentle and flutter,
Fish spawn, pool and cascade;*

*This place is eternity and brief
Undulation, a double movement,
Evolving, even in stone, touch it.*

All this I decipher based on the reconstructed semantics of the Later Acheulian cupule and undulating line, which we see pecked in stone at Bhimbetka. This semantics and these decipherments belong to one of the fundamental meaning-forms of the Later Acheulian mind.

Robert Bednarik (1994:176) has said, “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 foregoing proposed inferences about the semiotic capacity of Later Acheulian markings, including the cupule-and-meander at Bhimbetka, can be used to further our understanding of how humans evolved their concept of reality.

Table 1: Later Acheulian Marking Motifs—A Summary List

Site	Object	Motif	Method	Citation
Auditorium Cave, Bhimbetka, India >290,000 BP	Site III F-24	Cupule	Visual	Bednarik 1993a, 1993b, 1996
Auditorium Cave, Bhimbetka, India	Site III F-24	Meander	Visual	Bednarik 1993a, 1993b, 1996
Bilzingsleben, GR, OIS11, c. 400.000 BP	#260.55 = #3	Convergent Line Motif (CLM)	Laser scanning microscope; microscope	Mania and Mania 1988; Steguweit 1999; Bednarik 1988
Stránská Skála, Brno, CZ, c. 600-700,000 BP	Elephant vertebrae	Convergent Line Motif (CLM)	Visual	Valoch 1987
Bilzingsleben, GR, OIS11, c. 400.000 BP	#208.33 = #1	Divergent Line Motif (DLM)	Laser scanning microscope	Mania and Mania 1988; Steguweit 1999
Stránská Skála, Brno, CZ, c. 600-700,000 BP	Elephant vertebra	Divergent Line Motif (DLM)	Visual	Valoch 1987
Bilzingsleben, GR, OIS11, c. 400.000 BP	Ivory point	Arc	Visual	Mania and Mania 1988; Bednarik 1995
Bilzingsleben, GR, OIS11, c. 400.000 BP	#219.34 = #2	Iterative strokes	Laser scanning microscope	Mania and Mania 1988; Steguweit 1999
Bilzingsleben, GR, OIS11, c. 400.000 BP	#182.32 = #4	Iterative strokes	Laser scanning microscope	Mania and Mania 1988; Steguweit 1999
Port-Launay en Ecoflant, Maine-et-Loire, FR, c. 300,000	Bone	Iterative strokes	Visual	de Lumley 1976
La Grotte de l'Observatoire, Monaco, Rissian	Biface	Lattice (natural, utilized)	Visual	de Lumley 1976
Pampau, GR, Asselt, Beegden, NL, >400,000 BP	3 stones	Lattice	Visual	Van Es and Benekendorff 2001
Bilzingsleben, GR, OIS11, c. 400.000 BP	Elephant tarsal bone	'Shape of Space' (double rectangle)	Visual	Mania and Mania 1988; Bednarik 1995
Bilzingsleben, GR, OIS11, c. 400.000 BP	Quartzite slab	'Shape of Space' ('D-shape')	Visual	Bednarik 1995

Table 2: Later Acheulian Marking Motifs: Occurrences of Pairs of Different Motifs

Site	Motif Pairs*	Kind of Association		Validity**
		On same object	At same site	
Auditorium Cave, Bhimbetka, India >290,000 BP	Cupule + Meander	√ (contiguous on rock wall)		A
Stránská Skála, Brno, CZ, c. 600-700,000 BP	Convergent Line Motif (CLM) + Divergent Line Motif (DLM)	√ (contiguous on elephant vertebra)		B
La Grotte de l'Observatoire, Monaco, Rissian	Lattice + Shape of Space (biface)	√ (biface)		B
Bilzingsleben, GR, OIS11, c. 400.000 BP	Convergent Line Motif (CLM) + Divergent Line Motif (DLM)		√	A
Bilzingsleben, GR, OIS11, c. 400.000 BP	Iterative Strokes + Arc		√	A B
Bilzingsleben, GR, OIS11, c. 400.000 BP	Shape of Space + Arc	√ (quartzite slab)		C***
Bilzingsleben, GR, OIS11, c. 400.000 BP	Aggregate = Shape of Space + lines interpretable as CLMs, DLMs, Iterative Strokes, and/or Lattice	√ (elephant tarsal)		C****

* This table covers pairs of differentially distinct motifs. There are also cases of pairings of the same motif (see Table 3).

** Validity evaluated as A = beyond a reasonable doubt; B = design visually clear but needs further confirmation of intentionality of engraving, use as found natural 'marking' or curation; C = requires more confirmation of intentional engraving, use as found natural 'marking' or curation and/or the design motif is ambiguous

*** Alternatively, this 'D-like' design might be interpreted as a pairing of two shape of space motifs, a half-circle and a half-rectangle.

****The two rectangles, a smaller embedded in a larger, are clear but the various kinds of stroke marks between them need more clarification as to their design.

Table 3: Later Acheulian Marking Motifs: Occurrences of Pairs of Same Motif

Site	Motifs	On same object	Validity*
Bilzingsleben, GR, OIS11, c. 400.000 BP	Two parallel Arcs	√ (ivory point)	B
Bilzingsleben, GR, OIS11, c. 400.000 BP	Two Shapes of Space (rectangles, smaller nested in larger)	√ (elephant tarsal)	B
Bilzingsleben, GR, OIS11, c. 400.000 BP	Two shapes of space (half-rectangle + half-circle)	√ (quartzite slab)	C**
Port-Launay en Ecoiffant , Maine-et-Loire, FR, c. 300,000	Two Iterative Strokes	√ (bone)	C***
<p>*Validity evaluated as A = beyond a reasonable doubt; B = design visually clear but needs further confirmation of intentionality of engraving, use as found natural 'marking' or curation; C = requires more confirmation of intentional engraving, use as found natural 'marking' or curation and/or the design motif is ambiguous</p> <p>** Alternatively, this 'D-like' design might be interpreted as a pairing of two different motifs, a half-rectangle shape of space and an arc.</p> <p>***The two stroke marks are similar to the 'bi-line' motif in Upper Paleolithic European rock art, however there appear to be at least three other irregularly spaced parallel stroke marks some distance away on the same object. The whole could thus be interpreted as a series of five iterative stroke marks.</p>			

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Figure Captions

Figure 1. Cupule and undulating line, Auditorium Cave, Bhimbetka, India (photo Robert Bednarik)

Figure 2. Point and undulating line (Wassily Kandinsky, 1979: fig. 2).