KEYWORDS: palaeoart – lithics – iconography – artefactuality – "Pierres-Figures"

Cultural cobbles or a load of cobblers?

Identifying artefactuality and the detection of iconography.

Richard Wilson

Abstract: *Lithics have an enduring quality for the most part evading effects of taphonomy. Since the controversy aroused by Jacques Boucher de Crèvecœur de Perthes in 1847 the subject of iconography has been largely avoided. A brief review of the literature includes compelling samples suggesting that the incorporation of iconography was routinely practiced. Examples of possible portable palaeoart from a typologically determined Developed Mode 1 assemblage are described, and it is suggested, may be directly dateable if the issue of objectively determining artefactuality could be satisfactorily resolved.*

Keywords: *palaeoart, lithics, iconography, artefactuality, "Pierres-Figures".*

Résumé: *Résumé : Des objets lithiques ont une capacité appréciable de résistance face aux effets de la taphonomie. Depuis la controverse lancée en 1847 par Jacques Boucher de Crèvecœur de Perthes, les recherches sur l'iconographie ont largement été évitées. Néanmoins, un rapide aperçu de la littérature met clairement en évidence que l'utilisation de l'iconographie restait une pratique courante. Des exemples de probables paléo art portatifs sont illustrés et décrits dans cet ensemble lithique attribuable au mode 1. Ces derniers pourraient même être datés si une méthode objective de mise en évidence de l'artefactualité existait.*

Mots-clés *: paléo art, objets lithiques, iconographie, artefactualité, Pierres-Figures.*

Pierres-Figures

Few materials from the Pleistocene era survive in adequate quantities to be archaeologically detectable now (Bednarik 2006a). Lithics represent the largest single body of evidence available - the subject of numerous studies (Andresky 2007). Despite their durability, lithics rarely feature in scholastic publications with concern for portable palaeoart. The "Pierres-Figures" have been largely ignored since the beginning of the 20th century sparked by Jacques Boucher de Creveour de Perthes. His story is often framed in negative terms, if mentioned at all:

> …His credibility was low. His problem lay not in the many hundreds of genuine handaxes he had found, but in his exaggerated claims for ancient flint "sculptures" of horses, bears and humans. In fact these were all natural shapes; his claims laughable (Gamble 2008).

Portrayed as "fanciful", the historic context is rarely taken into account; this was a time in which even suggestion of an ancient man challenged the deeply held beliefs of many - including those who were in intellectually authoritative positions. Appreciation for the cognitive ability of early hominids was in a formative stage and, by today's standards, the consensus not particularly high in expectations.

To falsify the hypothesis that all of the Pierres-Figures collected by Boucher de Perthes were entirely natural shapes it is only necessary to find one example that offers doubt in this respect. Opportunity was limited at the time of writing to a superficial analysis of one readily available example labelled 4 in Plate I of *Antiquites celtiques et antediluvienne* (Boucher de Perthes 1857).

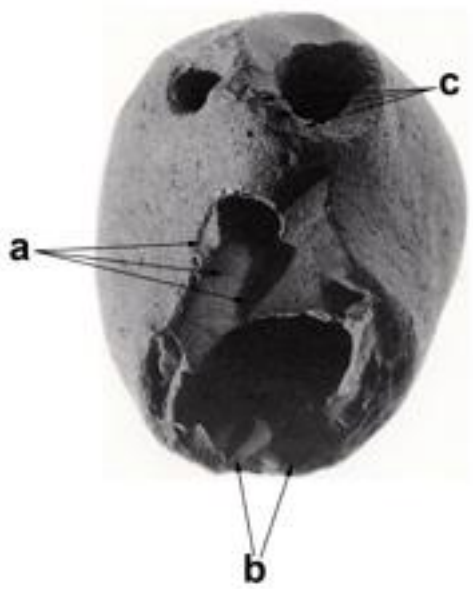

Figure 1. *Reproduced with permission from "Boucher de Perthes: Les Origines Romantiques de la Préhistoire" Cohen & Hubin, 1989.*

This object shows a range of negative flake sizes of consistency and regularity: smaller fractures (Figure 1 [c]) are evident around the left 'eye' (for lack of a better description) whereas slightly larger but still comparably regularly sized fractures are visible around the aperture of the 'mouth' (Figure 1 [b]). Whilst the underlying shape and form are unquestionably natural in origin, the pattern of flake scars cannot comfortably be presumed the result of natural processes. The technical ability to work similar objects so precisely certainly existed – evident for example in the flaking observed on *Porosphaera globularis* (Bednarik 1997).

The human visual system devotes specialised resources to face perception which are neurologically well determined (Helvensten and Hodgson 2010, 2006; Hodgson 2008a). As Hodgson and others elaborate, there is a deal of evidence that there is a biologically determined preference for perceiving the hominid face. Likewise Sinha et al note that the visual system of humans begins with a rudimentary preference for face-like patterns. A predilection for collecting stones which resemble 'faces' is comprehensible in the context of the "neurological" value elicited in a system designed to detect and respond to faces.

Recent research (Hadjikhani et al 2009) has shown that face-like objects evoke an early (165ms) activation in the ventral fusiform cortex at a time and location in a similar manner to that seen in the perception of faces. More importantly, the brain appears to differentiate at an earlier stage (130ms) between real faces and face-like objects despite later processing occurring in the same regions.

The universally recognisable 'face' (Figure 1) includes two characteristics which appear to indicate human intervention; [a] invasive and overlapping negative flake scars, and [b & c] regular and proportionally sized negative flake scars around the two larger apertures. This artefact alone refutes the proposition that the original Pierres-Figures were simply natural shapes.

Since Boucher de Perthes others have claimed to detect Pierres-Figures. Amongst them, Thieullen (1905) noted that the sculptures he studied were often more "fantastic than exact". This observation is relevant since the visual recognition system has a propensity for recognising exaggerated visual cues; "supernormal stimuli" often evoke stronger responses than the real object (Hodgson 2003c). Caricatures evoke stronger responses in the visual recognition system of humans than veridical faces do (Sinha et al 2006). The neurological data thus suggests that exaggerated images are more accurately recognised more often (Helvensten and Hodgson 2010, 2006; Hodgson 2008a, 2008b, 2006a, 2006b, 2003a, 2003b, 2003c).

The Fontmaure jigsaw

In 1971 Dr Louis Pradel described a roughly spherical quartzite (Figure 2) excavated from the Fontmaure site in 1939. Noting both "retouch" and "pecking", Pradel attributed these traits squarely with human agency. He deduced that the left 'eye' had been created by "pecking".

Figure 2. *Spherical quartzite from Fontmaure (reproduced from Pradel 1971).*

Drawing parallels with rock art making use of natural features to invoke or promote visual ambiguity, Pradel was cautious and surmised that this single example did not constitute sufficient evidence to infer that there was active management or curation of Pierres-Figures at Fontmaure. He concluded that more examples were required *"Nous versons une pièce au dossier"* (Pradel 1971).

After Pradel declared the site sterile countless collectors have amassed hundreds and collectively thousands of artefacts. Amongst those claiming to identify iconographic material were Pieter Huisman (pers. comm. 2009) and Tedde Toet (Toet pers. comm. 2009). In 2005 a virtual exhibition candidly titled "Tolerated past" (Neanderthalerart 2005) was published on the World Wide Web showing a series of lithics, a sample from the Toet collection, including: a 'bird', a 'face', a 'quadruped' and a 'fish' (Figure 3).

Figure 3. *From the exhibition "Tolerated past", Fontmaure, France.*

In Figure 3 a nodule (left) has an overall form which can be safely assumed natural in origin. But not only is there a mark exactly where one would expect an 'eye' to be placed in order to increase the resemblance to a 'bird', but neither of the extremities are complete. Both are fractured at the ends, and in each instance appear to increase the resemblance with a 'bird': one end suggests 'tail feathers', the other an 'open beak'. Whether these fractures were the result of a strategic intention to accentuate the visual ambiguity of the item remains to be determined. However, the two flaked items (Figure 3 right) are undeniably the product of hominid agency. The 'fish'-like objective piece compares favourably with many of the Lost Valley artefacts (Faradhzev).

A few iconographic objects remain at the Museum of The Hague including: a 'fish', a 'bear', a 'bison', a 'human face' and a 'wolf' (Schouten pers. comm. 2009). There are more still in the Toet collection (Toet pers. comm. 2009) and elsewhere (Palaeodirect 2010) that appear to confirm that pro-active management of visual ambiguity and production of iconography were a regular occurrence at the Mousterian site of Fontmaure.

Metamorphology

A brief review of the Pierres-Figures debate reveals many inconsistencies and failings, not only on the part of collectors, in their methods and modes of presentation, but also the lack of analysis or theoretical testing which has been almost non-existent. Early evolutionist and creationist theories both presented formidable objections to the sculpture hypothesis at a formative stage. The opinions formed during the early part of the 20th century have subsequently endured negatively influencing attitudes towards the identification of iconography.

Compounding this unreceptive attitude has been the suggestion that artistic creativity arose during a mythical "watershed" period assumed to take place only 40,000 years ago (Stringer 2006) and coinciding with the equally mythical transition of Archaic Modern Humans across Europe (Bednarik 2008a, 2008b). It has pervaded mainstream opinion to the point that the presumed chronology is accepted as fact, and used in a circular argument against the existence of iconography in lithics during the Lower and Middle Palaeolithic eras. Perhaps more fundamentally, the issue of intentionality has been anything but settled by the Eolith debate (Staley 2006, Sommer 2004) and certainly not with regard to the Pierres-Figures of Boucher de Perthes or others.

The Colne Valley Assemblage (CVA)

An anthropic origin for the lithics presented here is firmly disputed by key professionals in the United Kingdom (Ashton pers. comm. 2006; Bahn pers. comm. 2006; Hosfield pers. comm. 2009; Pettitt pers. comm. 2007; Stringer pers. comm. 2007).

The site is located *c.* 94m OD (51º41'53.13"N 0º23'48.90"W) on the brow of the Colne valley (formerly the path of the Proto-Thames). The Pleistocene superficial deposits (Figure 4, GSG-SAGR) are ostensibly contemporaneous with the Gerrards Cross gravels dated to between MIS 22 and 23 (approximately 860 Kya to 900 Kya [Bridgland 1994; Catt 2009, 2010, pers. comm. 2008]).

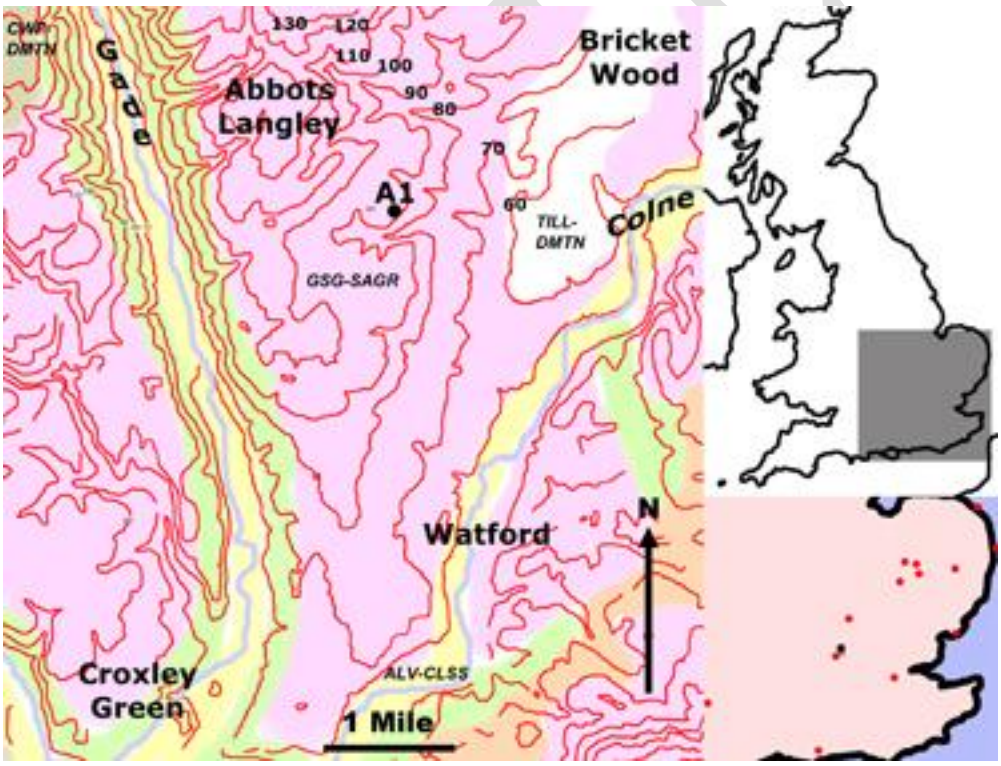

Figure 4. *(Clockwise from right) United Kingdom, officially recognised Lower Palaeolithic sites are marked in red – the Colne Valley site in black, A1 marks the excavation site. Geological data from the British Geological Society.*

There is a remote possibility that the sand and gravel layer could be plateau drift, with any clay having dissolved through solution indicating an even older age for the layer which is inconsistent with what is known of the area.

Artefact or Geofact?

> Distinguishing between naturally and culturally produced flaked stone has long been a recognized problem and a point of debate. Through history, these debates typically come to the fore in regard to artifacts and sites claimed to be of great antiquity (Staley 2006).

This is also true for the CVA; item #RS96 was proposed to be natural by one lithic expert (Ashton and Jacobi pers. comm. 2008) whilst another claimed it the result of human agency, describing the reduction series (Baker pers. comm. 2008a). Two disparate methodologies faced with the same empirical evidence resulted in diametrically opposed conclusions. The present situation with respect to identifying intentionality is thus far from satisfactory.

Patterson (1983) warns that subjective discussion should be avoided and observes that even natural damage can be described in explicit terms. He places value on recognising the patterns that characterise artefactuality including frequency:

> Even if nature can produce lithic objects resembling simple man-made items, nature is not likely to do this often. Therefore, the frequency of occurrence at a given location of specimens with similar morphologies is important in demonstrating probable manufacturing patterns. Production of numerous lithic specimens with consistent morphology is certainly not a habit of nature.

Hardaker (2009) tests hypotheses used in favour of a natural origin for the Calico collection by Haynes and others and compellingly shows how limited technological knowledge, focussing on the traits associated with direct percussion often preclude recognition of artefactuality. He blames a lack of familiarity with the characteristics of bipolar reduction for this shortcoming.

One problem is that there is no commonly accepted methodology for detecting artefactuality. Invariably, it is left to experts to arbitrate over, each with varying standards, experience and confidence, etc.

Mechanical fracture

A cause put forward by critics for the natural damage reportedly observed is a "dynamic fluvial setting" (Hosfield pers. comm. 2009). Claims that numerous flake scars and fracture planes can be safely attributed to natural processes are not supported in the context of the CVA. For instance, Patterson and colleagues note that there is no documented situation where natural forces produced large volumes of percussion made flakes and where nature does, it does not produce many (Patterson et al 1987):

> High energy wave action on a few rocky beaches is a specific example where some percussion flaking is known to occur… …and the action of falling rocks is another example...

Patterson (1983) criticises the argument that if enough rocks are broken some will appear to be artefacts as an "unproven assumption". George Carter (1978) put it thus:

> The belief that anyone can select a lithic industry of any sort given a big enough rock pile has never been demonstrated. I have challenged many to try... …No artifact-like material, no patterned lithic industry emerges, even in areas of easily flaked rock. This is a myth comparable to that of the infinite number of monkeys with typewriters reproducing Shakespeare's work.

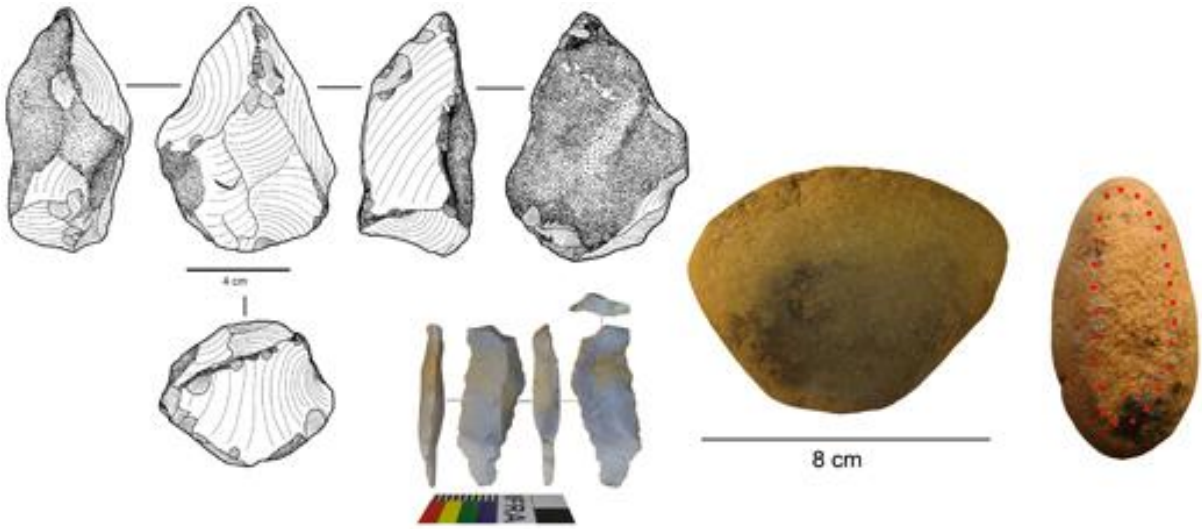

Figure 5. *(Left) unifacial core tool, (middle) small flake tool, (right) percussor with use-wear highlighted (scales approximate). Colne Valley, United Kingdom.*

The use of topsy-turvy arguments in a bid to dismiss suggestion of intentionality extends to the incorporation of iconography. After examining select items from the CVA, Hosfield (pers. comm. 2009) reiterated his conclusion that they were geological in origin. He described the putatively iconographic items as:

> …naturally damaged clasts (with any convincing flake scars most likely being the result of clast-on-clast impacts in a dynamic fluvial setting).

It is a curious practice to consider that a characteristic which is "convincing" should be used to positively discriminate against an anthropic origin in a process of identifying artefactuality!!

Glacial Till

If the effects of the Anglican glaciation (TILL-DMTN in Figure 4) had reached the site and the collection consists merely of glacial till as suggested by Ashton and Jacobi (pers. comm. 2008), then one might expect to see some consistency amongst the material recovered. But this does not appear to be the case; the extent of fracturing varies greatly. Assuming the opportunity had arisen whereby sufficient energy was discharged to account for all the flake scars seen, then there are several characteristics of the CVA that demand to be accounted for including: intact and delicate flakes (for example Figure 5 middle), large nodules of flint which are split laterally (with considerable force) but which have not fractured across the most prone areas (for example Figure 11 #ERUT01) and invasively fractured lithics with no cortex, all alongside nodules with intact protrusions and large numbers of cobbles and pebbles which have not been fractured at all.

Just as these qualities are not compatible with a "dynamic fluvial setting", then a unifacially flaked core is also entirely at odds with random mechanical percussion (Figure 5 left). Characteristic features such as parallel, sequential, unifacial flaking, platform preparation or the traits seen with bipolar reduction are not at all compatible with an environment causing random, unselective fracturing in transport. Nor is a percussor with evident use-wear (Figure 5 right). Finally, the sand and gravel bed does not have a chalky appearance, which is a typical characteristic of glacial till (Catt 2009).

Thermal fracture

Figure 6 shows a lithic broken in half (the piece on the right has been turned upside down). The irregular nature of the breakage is characteristic of a thermal fracture caused by fluctuations in temperature. Often the fracture appears to originate from existing faults in the matrix. Fracture planes are characterised by angular and often concave planes. Flint broken by thermal fracture in this manner could be described as typically irregular.

Heating flint can result in shattering, "pot lid" fractures, colour changes, and other very characteristic visual damage (Brown et al 2009). With few exceptions this type of *damage* is not evident in the CVA.

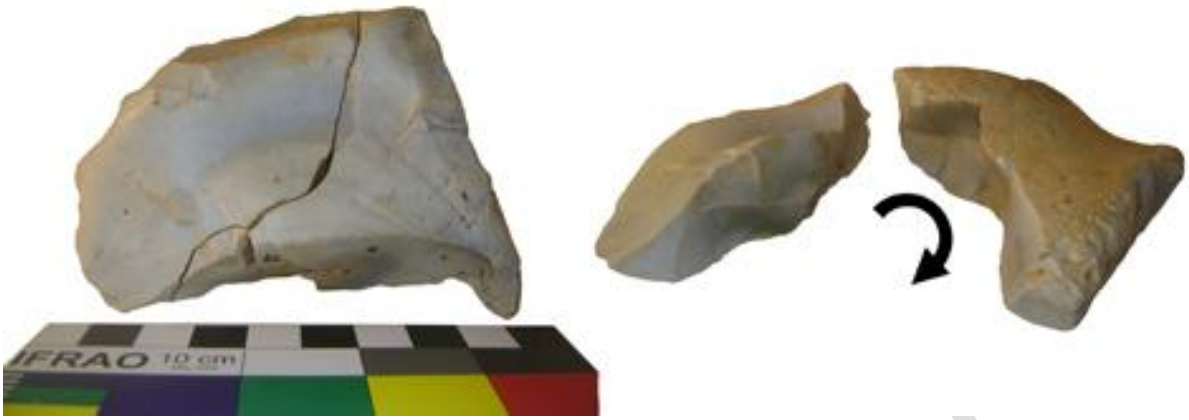

Figure 6. *A lithic broken in half by thermal fracture (right) and pieced back together (left). Colne Valley, United Kingdom.*

Pieced together (Figure 6) this primary flake exhibits a pronounced bulb of percussion and prominent percussion ripples. Further flake reductions (retouch) include the manufacture of a robust burin point. Regarding the CVA, Ashton (pers. comm. 2006) remarked:

> ...all the objects on your web site appear to be purely natural. They mainly appear to have been produced through frost shattering... ...Such objects can only be produced through freezing and thawing over a long period time and by pure chance superficially resemble the images you suggest.

On the contrary, it is suggested that the majority of the fracture planes do not exhibit features characteristic of frost fracturing, such as irregular (angular) planes or differentiated patination. Patination of comparable materials differs little throughout the assemblage indicating that the majority of fractures took place within a relatively short time not a drawn out geological process.

Moreover, the CVA fractures typically show traits compatible with mechanical percussion: percussion bulbs, point of detachment, relatively smooth planes, eraillure scars and in the case of bipolar reduction, fractures emanating from both ends. Indeed, the absence of prominent percussion ripples is not even evidence of a natural origin for the fracture planes, since as Wenban-Smith (1999) recognises, a thick cortex platform can somewhat preclude this supposedly tell-tale indicator.

Subjectivity vs. Objectivity

Patterson (1983) proposed a detailed definition of objective criteria to determine the natural or cultural origin of an assemblage. Peacock (1991) took this idea further still whilst Gillespie et al (2004) determined statistically significant traits by null hypothesis and applied Peacocks method. The CVA has been analysed using a similar approach, comparing the results directly to those obtained from the Gillespie study.

Method

A sample of 100 items was selected at random. Un-fractured items were excluded from the analysis as were flakes. Fifty were then randomly selected for analysis (Baker pers. comm. 2008b). Using agreed definitions of each attribute as described by Gillespie et al (2004), the random sample was parsed: in the interest of consistency each item was analysed in turn against the defined criteria for a single attribute. This was repeated for the remaining 15 attributes.

Results

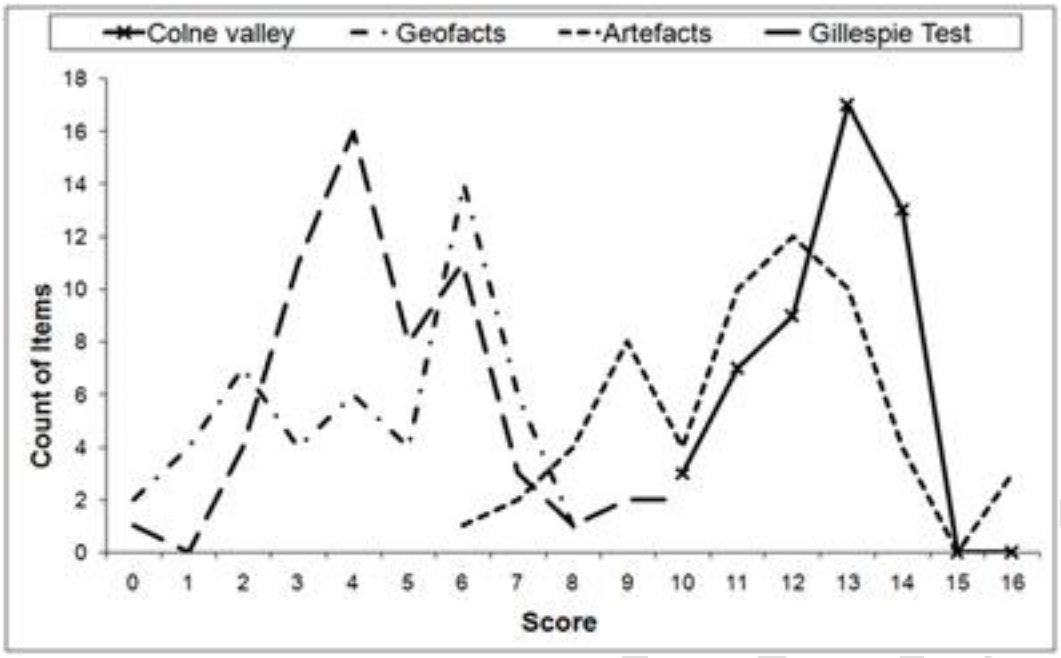

Figure 7. *The CVA sample aligns most closely with the artefact sample.*

Figure 7 shows the results of the attribute test in comparison with the Gillespie et al data. According to this analysis the CVA is not comparable with the geofact sample, nor is it comparable to the sample analysed by Gillespie et al (Figure 7 Gillespie Test).

Summary

Although some bifacial material has been identified, unifacial and multifacial material dominates the assemblage. The techniques employed are predominately direct (free) percussion and bi-polar reduction. Often multi-platform with multi-directional flaking, the assemblage as a whole suggests a substantial reliance upon bi-polar reduction. The profile is typical for a Developed Mode 1 lithic industry (cf. Azarello et al 2009; Cauche 2009; Delumley et al 2009).

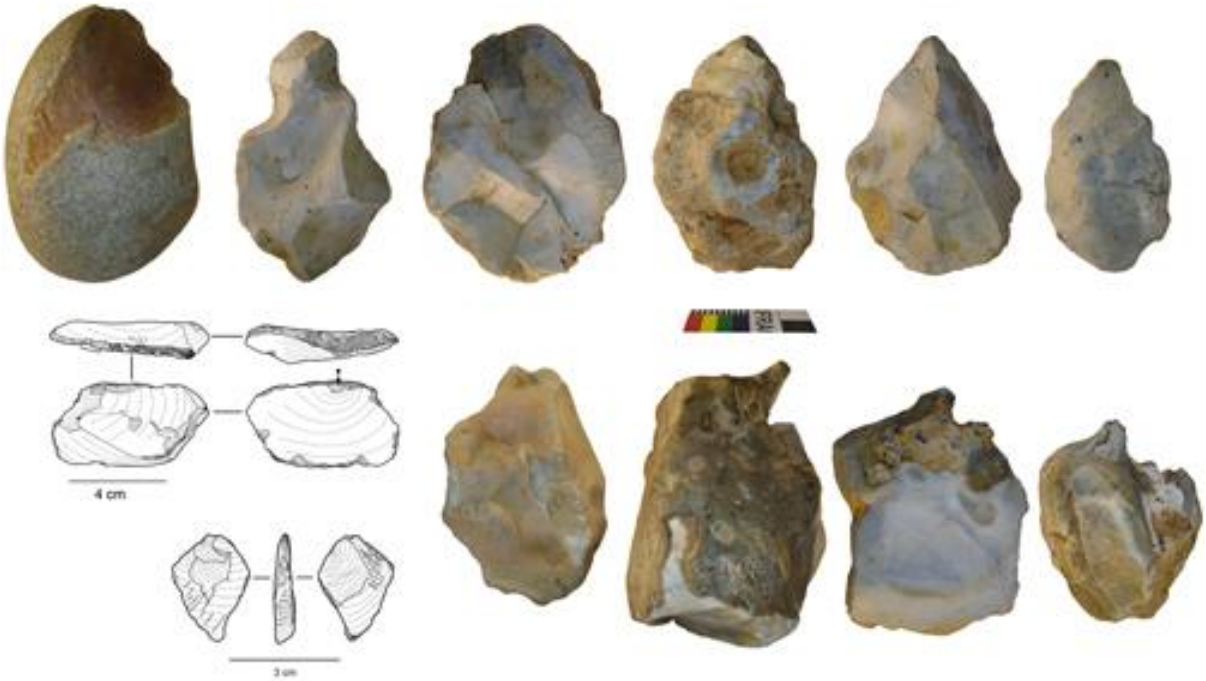

Figure 8. *Flaked lithics from the CVA (approximate scale only).*

For the moment, the evidence favours the assemblage being cultural; proving otherwise requires more than simply proclaiming the collection to be natural, or, worse still, appealing to authority.

Iconography

According to Hodgson (2008a, 2007) the evolutionary development of the hominid neurological system and chronological frame of reference for the neuro-physical changes determine when certain visual and cognitive faculties would have been firmly established. Hodgson (2008a) argues that expansion of the superior parietal and inferoparietal areas of the brain were marked developments which should bear witness to some archaeological evidence of symbolic or iconographic production by early hominids. Of the stylised Acheulian handaxes he notes;

> The skill required to craft such tools is quite sophisticated and would have easily been transferable to the production of geometric marks as well as to the enhancement of naturally-occurring iconic-like objects so as to accentuate the resemblance to a human figure, face or animal feature.

The biological propensity for visual recognition in hominids is described in detail by Hodgson (2006a, 2003c); neuro-archaeological evidence for hominids to respond to key salient features and cues is persuasive. Abilities acquired through selective evolutionary pressures resulted in a highly adapted neurological system capable of managing visual ambiguity and deception (Bednarik 2003; Hodgson 2003c). Hodgson (2008b) explains how the "Perky effect" and other visual imagery processing can account for many of the features seen in Palaeolithic art. He notes that in a visual system already hyper-sensitised to animal forms natural features such as cave walls would simulate animal forms, and notes that 10-15% of cave art involves the incorporation of natural features suggestive of animal anatomy.

Regarding the CVA, Pettitt (pers. comm. 2006) remarked:

> It is my opinion that all of the pieces… [shown] …are of natural shaping. Look at those in which the natural cortext [sic] (outer 'shell' of the nodules) forms a critical part of the form (e.g. 'bird', 'primate'). These are natural cortical surfaces which reflect part of the morphology of the fossil spunge that formed the flint. They cannot have been humanly modified.

The implication that this author believed that the cortex had been modified is, of course, ridiculous and detracts from Pettitt's preceding sentence which implicitly recognises the iconography identified. Pettitt judiciously identifies that the natural features form a "critical part of the form".

The incorporation of natural features in prehistoric art is treated in an almost blasé manner when it is identified from the Upper Palaeolithic or Holocene, but treated quite differently when it is older.

Some critics of the CVA do recognise limited artefactuality but not imagery: claiming it to be coincidental or questionable. In contrast, others readily recognise animal and human imagery but refute the proposition that any of the items are artefacts. Invariably both groups tend to dispute the incorporation of iconography in lithics by early hominids.

Frequency of iconography

> I'm afraid that I don't see anything that *doesn't appear to be of natural origin… …There may be some limited human workmanship…* …The material you illustrate does often bear an uncanny resemblance to real things, but archaeologists are becoming more knowledgeable about such phenomena… …When random natural processes produce enough examples, some of them will, by chance, resemble real things (Chase pers. comm. 2007) [Emphasis added].

Aside from being contradictory, Chase admits that the CVA bears an "uncanny" resemblance to real things.

The ability of early hominids to perceive iconographic characteristics in a natural form is, based on the neuro-archaeological evidence, entirely plausible. Bednarik (2003) argues that it is prudent to approach this question by testing the hypothesis that hominids were not able to see as significant the resemblance between a naturally formed object and another object that it resembles (for example a cat). One might ask how likely it is that a zoomorphic or anthropomorphous lithic - such as those examined here - may occur in chance association with a lithic industry.

Although numerous such objects occur in nature (mimetoliths) the probability that one of them may occur in the tiny volume excavated here (less than 1.5 m x 1.5 m x 1.5 m) alongside a Developed Mode 1 assemblage is very small. The probability that one would be found is smaller still; it follows that the probability of finding many is unlikely.

To date, the issue of sample size has been ignored; comparisons have been made unjustly to large sample sizes.

> Last Sunday I was on the beach… …and while sitting down noticed a flint pebble that looked like it had two "eyes". If you conduct an open-minded search on such a beach I think you will find many more objects which at first sight appear to be representations of faces, animals etc., but which have been produced by natural processes (Stringer pers. comm. 2007).

To test this suggestion and others of a similar nature (Chase pers. comm. 2007; Pettitt pers. comm. 2006; Ashton pers. comm. 2006), the author conducted a series of expeditions on a beach over the course of 6 days. The area covered was many times that of the CVA sample site. Surprisingly, in an area with abundant material (decaying from the cliffs) it was difficult to detect suitable candidates. Despite finding an Acheulian biface (albeit broken) there were only a few stones collected that could barely be interpreted as resembling the shape of an animal (or a face) and not a single good example.

***Figure 9**. (Left) Acheulian "hand-axe" and (right) 'iconographic' lithic. Isle of Wight, United Kingdom.*

The following year, the same exercise, in the same area, yielded one "good" example of an 'animal head' (Figure 9); but this also appears to be the product of human agency and therefore does not bear out Stringer's

hypothesis. In general then, such tests refute the proposal that naturally iconographic lithics can be easily detected amongst randomly fractured stones.

Beyond pareidolia

The association with tool forms does offer a high level of confidence that apparently non-utilitarian objects (for example Figure 10 #KSAM01 and #KSAM02) may have been valued primarily for their aesthetic properties. Given that some of these examples are palpably iconographic it was felt incumbent to approach all the material methodically assessing for potential imagery.

Figure 10. *Anthropomorphic images. From left to right (top row) #KSAM02, #KSAM01, #ECAF07, #ECAF15, #ECAF02, #ECAF06, (bottom row) #ECAF01, #LOOT25, #DRIB02, #ECAF04, #ECAF13, #ECAF05 (approximate scale only), Colne Valley, United Kingdom.*

Hodgson (2003c) provides compelling evidence that there are specific attributes of Palaeolithic art which suggest that it is related to sign-stimuli, listing:

a) distillation of form to its essential ingredients leading to depiction of salient parts;
b) universality;
c) repetition of particular graphic devices e.g. use of a typical view or using outline;
d) stereotypicality;
e) inflexibility of content over a prolonged period;
f) exaggeration of fundamental cues, and
g) a cartoon-like quality.

By taking this insight and applying it to an analysis of the CVA it is possible to begin to test whether the lithics are intentionally iconographic, or whether any iconography identified is simply chance or attributable to pareidolia.

To avoid adopting an over-active imagination when interpreting samples, each piece was determined as either obviously, or not, iconographic. Form or outline was the primary visual cue used to detect potential iconography from.

“Key visual cues” (or salient features) were identified within each image, and sometimes multiple images were identified on one item. Each visual cue identified in the sample was then assessed to see whether it corresponded to a natural feature or not. If the feature appeared to be intentional, that is, it was deemed anthropic in origin, then this was noted too. Removals (minor or major) may visually impact upon a natural feature which then increases the illusion of an animal or hominid likeness; marks may repeat or continue natural features, suggesting intentionality. If repeated visual references corresponded with intentional marks, then the visual ambiguity was concluded to have been managed. If one or more features were judged to be natural in origin, then this did not necessarily preclude the item or identified image from inclusion in the managed set. For example, marks identified as ‘eyes’ are often precise in their positioning and at the same time offer no conceivable “practical” value. In other words, the more references to intentionality, the more likely it was that the iconography was judged deliberate. Whilst still subjective, this methodology does provide a basis upon which to falsify each item. For brevity, the results are not included here.

Figure 11. *Zoomorphic images. From left to right top row, #ERBA01, #HSIF01, #ERUT01, #DRIB02, #DRIB01, #DRIB04, bottom row #NWOK01, #ECAF14, #NOOB01, #ALLI01, #EROC02 (not to scale), Colne Valley, United Kingdom.*

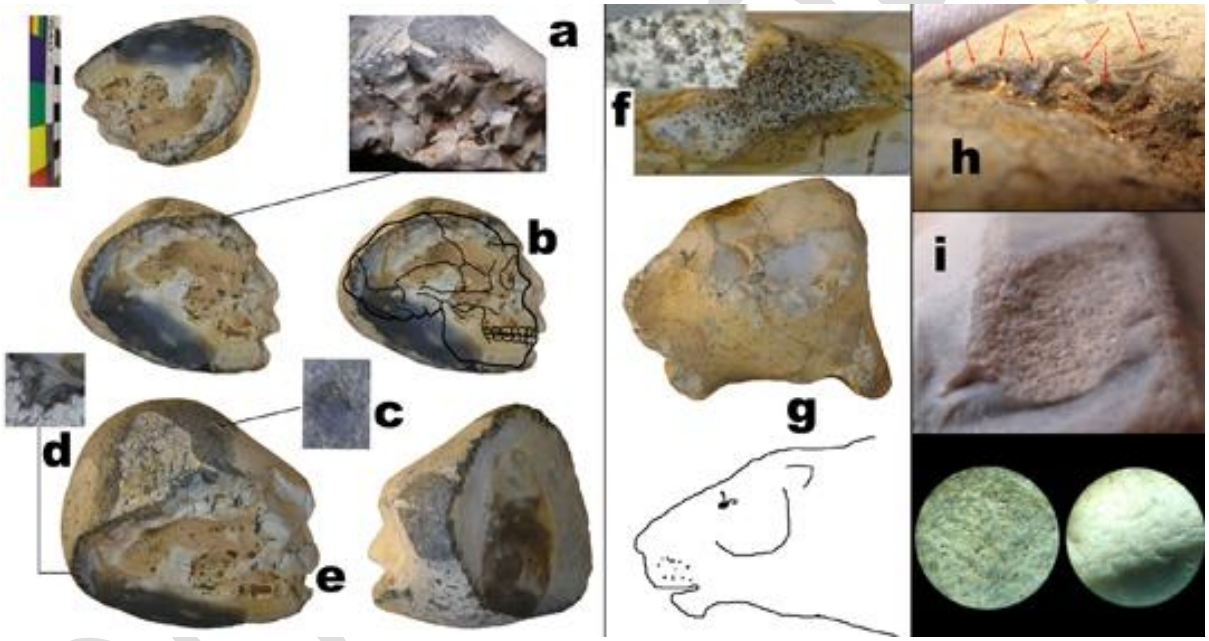

Figure 12. *#ECAF01 (a) detail of flaking creating an 'eye', (b) compared to Homo erectus skull, (c) scar from cortex corresponding with an 'eye', (d) maul scar, (e) crushed distal end – (d) & (e) indicative of bipolar reduction. #NOIL01 (f) details of use-wear, (g) compared to Chauvet cave sketch. #KSAM02 (h) 'teeth' showing alternating flaking. #ECAF07 (i) - unconformity on flake scar; (below left) detail of eye and (right) adjoining arrise.*

Traits which were positively anthropic in origin were noted in each artefact shown. Intentional marking was recorded time and again to coincide with key visual cues (Figure 12 [c]). Mirroring and extension of natural features was also noted. Use-wear (often percussive) is visible on many of the artefacts (Figure 12 [f]). The occurrence of a circle with a pitted morphology on a flake scar is persuasive evidence of intentional accentuation of the visually ambiguous properties of #ECAF07 (Figure 12 [i]).

The cartoon-like quality of some of the images appears to demonstrate the distillation of traits into salient features by the use of exaggeration. Most persuasive of all is the frequency and consistency with which the key visual characteristics can be linked directly to hominid agency. The chances that repeated incidences of co-occurrence could be fortuitous are simply not credible.

Conclusion

The current palaeoart record is far from a complete picture of the available evidence due to a stubborn refusal to logically and scientifically assess lithic material without carrying preconceived notions about the cognitive ability of early hominids. Consequently, the “archaeological record” has been remarked to be surprisingly absent of the evidence which is expected. Reviewing the Pierres-Figures story it is apparent that there may already exist ample evidence to support the contention that iconography was created by enhancing or accentuating natural forms, in other words management of visual ambiguity.

The Pierres-Figures warrant further consideration; until such time, it cannot be claimed that a thorough and systematic survey for the traces of portable palaeoart has been carried out.

Just as the identification of intentionality can be a subjective business, the detection of iconography can also be arbitrary. The identification of iconography from Upper Palaeolithic sites and contexts is readily accepted in contrast to the resistance against images identified from Lower and Middle Palaeolithic contexts.

It is proposed that the frequency of often palpable iconography - as seen in the CVA - is a credible indicator that there were processes at work above and beyond those that can be comfortably attributed to fortuity. The persistence and consistency of iconography identified co-occurring with intentional flaking and marking refutes the null hypothesis that they are purely a manifestation of pareidolia.

References

ANDREFSKY, W. 2007. *Manuals in Archaeology: Lithics, Macroscopic Approaches to Analysis*, Cambridge University Press, Cambridge.

ASHTON, N. 2006 Personal communication.

ASHTON, N. and R. JACOBI. 2008 Personal communication.

AZARELLO, M., F. MARCOLINI, G. PAVIA, M. PAVIA, C. PETRONIO, M. PETRUCCI, L. ROOK and R. SARDELLA 2009. L'industrie lithique du site Pléistocène inférieur de Pirro Nord (Apricena, Italie du sud) : une occupation humaine entre 1,3 et 1,7 Ma. *L'anthropologie* 113: 47-58.

BAKER, T. 2008a. Personal communication.

BAKER, T. 2008b. Personal communication.

BAHN, P. 2006. Personal communication.

BEDNARIK, R. 1997. The role of Pleistocene beads in documenting hominid cognition. *Rock Art Research* 14 (1): 27–43.

BEDNARIK, R. 2003. A Figurine from the African Acheulian, *Current Anthropology* 44(3): 405-413.

BEDNARIK, R. 2006a. A Unified Theory for Palaeoart studies, *Rock Art Research* 23(1): 85-88.

BEDNARIK, R. 2006b. Lectures No. 1-8, *Cognition and symbolism in human evolution*, Semiotix Course

BEDNARIK, R. 2008a. Lectures No. 1 - 8, *The Epistemology of Pleistocene Archaeology*, http://www.chass.utoronto.ca/epc/srb/cyber/cyber.html accessed February 2010.

BEDNARIK, R. 2008b, The Mythical Moderns, *Journal of World Prehistory* EISSN: 15737802 ISSN: 08927537: 1-18.

BOUCHER DE PERTHES, J. 1857. *Antiquites celtiques et antediluvienne II*, Abbeville.

BROWN, K., C. W. MAREAN, A. I. R. HERRIES, Z. JACOBS, and C. TRIBOLO. 2009. Fire as an Engineering Tool of Early Modern Humans, *Science* 325 (5942): 859 – 862.

BRIDGLAND, D. 1994, The Pleistocene of the Thames, The Quaternary record of the River Thames, *Geological Conservation Review Series*, No. 7, Chapman and Hall, London.

CARBONELL, E., R. SALA, D. BARSKY, and V. CELIBERTI. 2009. From Homogeneity to Multiplicity: A New Approach to the Study of Archaic Stone Tools, in E. Hovers, D. R. Braun (ed.), Vertebrate Paleobiology and Paleoanthropology Series: *Interdisciplinary Approaches to the Oldowan*, pp. 25-37, 2009, Springer, Netherlands.

CARTER, G. 1978, On Criticisms of "Some Paleolithic Tools From Northeast North America", *Current Anthropology* 19 (1): 157-160.

CATT, J. 2008. Personal communication.

CATT, J. 2009. *Symposium on the Chalks of Hertfordshire*, Hertfordshire Geological Society meeting 13th June.

CATT, J. 2010. Introduction to the Geology of Hertfordshire: Geology on your doorstep, http://www.hertsgeolsoc.ology.org.uk/IntroToHertsGeology.htm accessed February 2010.

CAUCHE, D. 2009. Flake production strategies in archaic lithic industries of first inhabitants in Europe. *L'anthropologie* 113: 178-190.

CHASE, P. 2007. Personal communication.

DELUMLEY, H., D. BARKSY, and D. CAUCHE. 2009. Les premières étapes de la colonisation de l'Europe et l'arrivée de l'Homme sur les rives de la Méditerranée. *L'anthropologie* 113: 1-46.

FARADHEZ, A. n.d., The Palaeoart sources research and their similarities.

GAMBLE, C. 2008. Breaking the time barrier, *Geoscientist* 18.8 http://www.geolsoc.org.uk/gsl/cache/offonce/geoscientist/features/page4162.html accessed February 2010.

GILLESPIE, J., S. TUPAKKA and C. CLUNEY. 2004, Distinguishing Between Naturally and Culturally Flaked Cobbles: A Test Case from Alberta, Canada, *Geoarchaeology: An International Journal* 19(7): 615–633.

HADJIKHANI, N., K. KVERAGA, P. NAIK and S. AHLFORS, 2009. Early (M170) activation of face-specific cortex by face-like objects, *NeuroReport* 20:403-407.

HARDAKER, C. 2009. Calico Redux: Artifacts or Geofacts? *SCA Proceedings* 22:1-18.

HELVENSTON, P. A. and D. HODGSON. 2006. The Emergence of the Representation of Animals in Palaeoart: Insights from evolution and the cognitive, limbic and visual systems of the human brain, *Rock Art Research* 23(1): 3-40.

HELVENSTON, P. A. and D. HODGSON. 2010. The neuropsychology of 'animism': Implications for understanding Rock Art, *Rock Art Research* 27(1): 61-94.

HODGSON, D. 2003a. Altered States of Consciousness and Palaeoart: An Alternative Neurovisual Explanation, *Cambridge Archaeological Journal* 16(1): 27-37.

HODGSON, D. 2003b. Seeing the 'Unseen': Fragmented Cues and the Implicit in Palaeolithic Art, *Cambridge Archaeological Journal* 13(1): 97-106.

HODGSON, D. 2003c. The Biological Foundations of Upper Palaeolithic Art: Stimulus, Percept and Representational Imperatives, *Rock Art Research* 20(1): 3-22.

HODGSON, D. 2006a. Understanding the Origins of Palaeoart: The Neurovisual Resonance Theory and Brain Functioning, *PalaeoAnthropology*: 54-67.

HODGSON, D. 2006b. Tracings of the mind: the role of hallucinations, pseudohallucinations and visual imagery in Franco-Cantabrian cave art. Anthroglobe http://www.anthroglobe.info/ accessed May 2010.

HODGSON, D. 2007. The Earliest Manifestations of 'Art': An Attempted Integration. In, *"Exploring the Mind of Ancient Man :Festschrift to Robert G. Bednarik"* Edited by Peddarapu Chenna Reddy. New Delhi, Research India Press.

HODGSON, D. 2008a. Neurovisual theory, the visuo-motor system and Pleistocene palaeoart. Paper presented at UISPP XV International congress in Lisbon, Portugal 2006 Published in *Pleistocene Palaeoart of the World*. R. G. Bednarik and D. Hodgson (eds). pp.49-55. BAR International Series 1804. Archaeopress: Oxford.

HODGSON, D. 2008b. The Visual Dynamics of Upper Palaeolithic Art. *Cambridge Archaeological Journal*. 18 (3): 341-353.

HOSFIELD, R. 2009. Personal communication.

HUISMAN, P. 2009. Personal communication.

NEANDERTHALERART. 2005. http://66.102.9.104/search?q=cache:8Kxas4EHiucJ:www.neanderthalerart.com/about.html+fontmaure&hl=en&ct=clnk&cd=4&gl=uk Cached version accessed April 2007.

PATTERSON, L., L. HOFFMAN, R. HIGGINBOTHAM and R. SIMPSON. 1987. Analysis of Lithic Flakes at the Calico Site, California. *Journal of Field Archaeology* 14(1): 91-106

PATTERSON, L. 1983. Criteria for Determining the Attributes of Man-Made Lithics. *Journal of Field Archaeology* 10(3): 297-307.

PEACOCK, E. 1991. Distinguishing between Artifacts and Geofacts: A Test Case from Eastern England. *Journal of Field Archaeology* 18(3): 345-361.

PETTITT, P. 2006. Personal communication.

PRADEL, L. 1971. Une Pierre-Figure du Moustérien à bifaces de Fontmaure. *Bulletin Amis du Grand-Pressigny* 22:16.

SCHOUTEN, R. 2009. Personal communication.

SINHA, P., B. BALAS, Y. OSTROVSKY and R. RUSSELL 2006. Face Recognition by Humans: Nineteen Results All Computer Vision Researchers Should Know About. *Proceedings of the IEEE* 94(11): 1948-1962.

SOMMER, M. 2004, Eoliths as evidence for human origins? The British context, *History and Philosophy of the Life Scenices*, 26(2): 209 – 241.

STALEY, D. 2006. Shadow of doubt or doubtful shadows: Small scale low density lithic scatters and agrifacts. *North American Archaeologist* 27(2): 175-199.

STRINGER, C. 2006. *Homo Britannicus: The Incredible Story of Human Life in Britain*. Allen Lane, London.

STRINGER, C. 2007. Personal communication.

THIEULLEN, A. 1905. Sur les pierres taillées anti-classiques. *Bulletins et Mémoires de la Société d'anthropologie de Paris* 6(1): 199 – 203.

TOET, A. 2009. Personal communication.

WENBAN-SMITH, F.F. 1999. Knapping Technology, in M. B. Roberts, S. A. Parfitt (eds.), *Boxgrove: A Middle Pleistocene Hominid Site*, 384 - 395, English Heritage, London.