Birthing in prehistory

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Abstract

The means by which women in prehistory may have attended to their birthing requirements is not generally considered in archaeological theory and methodology. In this paper I examine the process of pregnancy and birth and define a number of pre-requisite needs known to maximise the potential for a successful birth. A number of criteria are identified which appear to be global, transcending socio-cultural mores. This paper outlines a methodological approach to the identification of this human life event from an archaeological perspective.

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Since primitive peoples lack the scientific knowledge upon which modern medicine is based, the correspondence between many primitive customs and modern practice may seem extraordinary. Actually, however, this correspondence is not surprising, for it is the result of many thousand years of wrestling with life’s problems. The customs of primitive people are the product of an unbelievable amount of experimentation... The present day customs of each society thus represent the net result of all that its members have learned about the art of living (Ford, 1964, p. 88).

Our first upright shuffle across the savannah, some seven million years ago, set in motion a chain of evolutionary adaptations which have made us arguably the most innovative species on earth (Price and Brown, 1985; Schick, 1993). From that initial step it is evident that hominin species did not stay put. They travelled thousands of miles and experienced vastly diverse climatic variations in the course of their travels. They reached an extremely cold Europe, and faced an even more critical need for thermal regulation than their ancestors on the savannah.

The varying climatic and environmental conditions (Guiot, 1997) experienced by ancient and modern humans as they reached northern latitudes not only potentially affected their viability throughout their entire life cycle (Ainsworth Harrison, 1993), it may have inspired alternative modes of adaptation to survive (Noble and Davidson, 1996). However, though beneficial in many respects, these adaptations also potentially introduced a broader spectrum of pathologies which directly impinge on the health of the young and vulnerable.

This paper reflects on the requisite needs of a particular group of Upper Palaeolithic humans from a theoretical and archaeological perspective. These are birthing women and their infants. This aspect of human negotiation is not central to archaeological research. The concept that active control and negotiation of the birth process may have occurred during the course of human evolution is of recent origin (Trevathan, 1997). That such negotiation could be reflected in material evidence as early as the Upper Palaeolithic has rarely been incorporated in archaeological discourse, or in the interpretation of material evidence. This omission may be due to the perspective that as the process of birth is ostensibly organic; evidence relating to its negotiation does not exist. However, with regard to hominin dispersal to colder climates thermal regulation becomes a critical factor for a significant duration in maintaining the health of birthing woman and newborn infants (for
reasons I will outline in this paper). It may also be central to situating birthing women in a defined spatial location, potentially rendering them visible from an archaeological perspective.

The Upper Palaeolithic period of south western Europe is considered from this perspective as it is in this region that cultural complexity becomes evident from at least 30,000 years ago (Gamble, 1986; Wenke, 1984). Though Neanderthal and modern human groups shared this area for a significant period of time (Zilhão et al., 1999; Shreve, 1995), the cultural complexity evidenced from moderns’ allows for a more detailed overview of potential adaptations regarding birth. As this paper is theoretically based, the methodology, though outlined, is still being refined.

The increase of modern human populations during the Upper Palaeolithic indicates (among other factors) that women gave birth successfully and consistently throughout this period and ensured the viability of their newborn infants. Though demographic success may have resulted from a number of factors; successful birthing and postnatal care of newborn infants compensated more than adequately for deaths due to age, illness or injury, thus ensuring the continuation and expansion of modern humans. Surviving evidence suggests that the Neanderthal groups, as a distinct and separate population no longer exist. However, it is also evident that they occupied parts of modern day Europe for approximately 200,000 years and survived significant and intense climatic fluctuations during this time (Jordan, 1999; Mellars, 1996). The duration of their existence and the success with which modern humans adapted to the environment with demographic success suggests some form of behavioural adaptation in the manner in which both groups prepared for birth.

Nonetheless, when comparing and contrasting material evidence related to Neanderthal and modern groups, it is clear that difference exists, most particularly in the realm we define as culture. Human to human communication was maximised and symbolised in modern groups, while in Neanderthal groups the evidence remaining does not indicate cultural complexity. Coincidentally (or not), symbolic expression first appears during a climatic downturn (Gamble, 1986; Mithen, 1991). It also peaks during a subsequent cold spell. These climatic conditions may have necessitated increased inter-group communication to ensure survival. Such conditions may also have precipitated new forms of action and innovation within human groups to ensure their own survival. These conditions also potentially affect, in a critical manner, birthing women, and their newborn infants.

In a prehistoric context, demographic constraints are not solely based on successful parturition. Differential fertility, nutritional factors, disease, and conflict are among the factors which directly impinge on group viability. However, the ramifications of obstetric problems are also potentially significant factors in the maintenance of any group system (Hassan, 1981). Death in the negotiation of birth is not instantaneous. It may be painful and protracted, and extremely difficult to bear witness to. For example, an obstetric complication such as placenta praevia can occur (where placenta obstructs the opening of the birth canal). This causes extensive haemorrhaging which is fatal to woman and infant. If the pelvis is proportionately small in comparison to the foetal skull dimensions, the result can be fatal. If the birthing woman is inadequately nourished it may negatively affect her ability to birth successfully. If portions of the placenta are retained, sepsis may occur which can prove fatal. Injury or illness during the course of pregnancy may also result in an obstetric dilemma. Unhygienic conditions during the postpartum period can result in puerperal fever, which is potentially lethal. Adverse temperatures can directly and pathologically affect newborn infants.

If we allow Upper Palaeolithic groups the same range of emotions that we are capable of, the ramifications of even one such death in a season may have had far reaching consequences. In this Upper Palaeolithic context, the loss of a woman in the negotiation of birth also represents the loss of a contributive group member (Ehrenberg, 1989). Such loss may also jeopardise the future of any previous children she may have had. Those who may have had some emotional attachment to the woman will also be affected. The manner in which she died may have an immediate effect on other women within the group, whether they had birthed or not. Confronted with the reality of what can go wrong, and the potentially extensive and protracted pain involved prior to death, the process of birth could have embodied significant meaning for women in this context. It may also have inspired them to employ mechanisms to ensure the best possible outcome in the face of this uncertain life event. Relethford notes that ‘reproductive behaviours are associated with learning, intelligence, and adaptive social behaviours’ (Relethford, 2000, p. 176). Negotiating this life event is, doubtless, a strong motivation to adapt, adopt, and create mechanisms that maximise the potential for a successful outcome.

This is the case in technologically advanced contemporary systems as, even with vast developments in obstetric and surgical techniques; the element of uncertainty inherent in the birthing process continues to remain a recognised part of its dynamics. Within these systems preparation for birthing involves a considerable amount of pre and post-natal care. These mechanisms also exist in historical and traditional systems (Cressy, 1997; Jordan, 1993; Priya, 1992; Kioke, 2000). Such extensive attention realistically provides the optimum base from which to negotiate an uncertain event. Moreover, their duration is extremely significant. Such
rites are not purely confined to the hours or days of the actual birth process. They span virtually a year in the life of a pregnant and birthing woman. Attention to pre and post-natal needs are consistently reflected in rites, taboos, symbolic structures, and material culture in various levels throughout the world (Jordan, 1993; Laderman, 1982). In this manner the pregnant body is inscribed with meaning and such meaning is recognised by the group of which she is part.

In addition to this, when traditional, historical and contemporary medicalised birthing systems are examined from a physiological and psychological perspective, a pattern of criteria begins to appear. Often enmeshed in socio-cultural rites and beliefs, which form part of their negotiation, they embody real and significant physiological, and psychological benefits. They are also reflected in material evidence surrounding the birth process. On closer examination, a number of these criteria are so solidly locked in place that, though fractured during the transferral of birthing systems from home to hospital, medical systems are returning to them. This is because no comparable alternatives, however carefully structured, are even closely adequate. If these criteria can be clearly defined to provide a testable ‘framework,’ it may be possible to reflect on the negotiation of birth from an Upper Palaeolithic context.

Based on interdisciplinary research, on various aspects of parturition, I found that the following criteria are attended to with considerable regularity to maximise the potential for a successful outcome during birth. Emphasis on one, or another, rests predominantly on cultural or social mores, and sometimes on climatic conditions. Exceptions are rare. They are adopted and adapted to incorporate:

1. Thermal regulation to ensure the viability of the newborn infant.
2. A defined spatial location.
3. Support and companionship.
4. Mobility in order for the birthing woman to negotiate the process.
5. Attention to the pre and post-natal environment.
6. Ritual and symbolism in the psychological negotiation of the process.

(1) Thermal regulation. Stringent attention to the thermal regulation of the neonate’s environment, particularly if there is no skin-to-skin contact between woman and infant is essential (Hamilton, 1999). Research indicates that there is some level of seasonality in the timing of birth, particularly in colder environments (Russell et al., 1993). Based on an examination of registration of births in Scotland (which included over four million entries) the authors found that birth rates tend to peak in spring/early summer (a wide peak) and again in October (a narrow peak). In addition to this, the effect of cold on pregnant women is also considered to have some effect on the weight of neonates (Murray et al., 2000).

Consistently, cold conditions during the post-natal period can be pathological to a neonate, who lacks the capacity to shiver and whose efforts to thrive are severely hampered by cold (Beischer et al., 1997; Turner et al., 1988). Babies’ fat stores are quickly used in their attempt to regulate their temperatures. When this happens, it is at the cost of neonatal development. In the effort to maintain a viable temperature, the infant will not gain weight successfully, and will not develop as quickly as it should. If attention to the thermal environment is not adequate, the result is fatal for a newborn. Ideally, newborn infants should maintain a core temperature of at least 36°C. If the infant’s core temperature is between 32 and 36°C, this is classed as moderate hypothermia. If core temperature falls below 32°C an infant is regarded as having severe hypothermia (Ellis et al., 1996).

Ethnographies of birth consistently indicate a heat/cold dichotomy related to the pre and post-natal environment that reflect attention to the thermal needs of the newborn (Jordan, 1993; Priya, 1992). Though the socio-cultural rites, rituals and meanings attached to this aspect of birthing are many and diverse, its physiological necessity remains constant, and is always attended to in some manner.

(2) Spatial location. A defined spatial location is perhaps the most distinctive hallmark of all birthing systems (Cressy, 1997; Ford, 1964; O’Donnell, 2002; Steer and Flint, 1999). This location may be simply demarcated by a screen or may have been deliberately structured for precisely this event. Such deliberate choice of a birthing area immediately situates the birthing woman in a manner that provides her with the opportunity to incorporate all of the other criteria mentioned above. Within this place apart she can access the support and companionship of birthing attendants, she is able to move and adopt birthing positions that maximise pelvic expansion, she can control her immediate environment and the temperature within it, and she can utilise rituals, symbols and charms that provide not only a focus, but psychological support throughout the process. Significantly, the potential for thermal regulation is also enhanced.

The use of a place apart by birthing women addresses the fundamental physiological need to control potential sources of stress during the birthing process. Comparative analysis with other birthing mammals clearly indicates the detrimental effect of environmental stresses ranging from noise, excessive light, overcrowding, interference, or the presence of a stranger have on the successful negotiation of birth (Macfarlane, 1977; Martin, 1992; Naaktgeboren, 1990; Newton, 1987). The experience of stress triggers an endocrinological reaction in all humans (Lovallo, 1997). If environmental stress is experienced during birthing, the endocrinological response halts the dynamics of birth temporarily (Naaktgeboren, 1990). This real and necessary physiological
reaction in the face of a perceived threat allows a birthing woman the opportunity to escape the stressor by removing herself to a more peaceful environment. If labour is in the later stages the physiological reaction brought about by stress causes a rapid conclusion to the birth process, for the same purpose (Newton, 1987). Therefore, despite rare exceptions, a defined and exclusive spatial area is fundamental to the successful negotiation of birth.

(3) Support and companionship. A further female-centred response to stress has recently been defined. From comparative analysis with other mammals, Taylor et al. (2000) observed that in times of stress females tend to build an attachment with other females, networking with them for their mutual benefit, minimising their exposure to stress. The authors suggest that such a response may be endocrinologically based, adapted from an evolutionary perspective for its obvious benefits. Though this finding has not been directly related to the birthing process, support during the stresses of birth is now recognised as an intrinsic part of its negotiation (Hodnett, 2000; Steer and Flint, 1999).

From a contemporary, obstetric viewpoint, the problems affecting the physical and psychological health of birthing women in technicalised systems, which were not allowed access to such support, has led to a vast corpus of research. Its benefits are tangible, ranging from a lower incidence of surgical intervention, less need for pain relief and improved post-natal psychological maternal health (Kitzinger and Davis, 1978; Matlin, 1987; Rollins, 1996; Wagner, 1997). Essentially, the support of another human being in the negotiation of an uncomfortable, painful, and possibly frightening event is of considerable comfort and embodies long-standing benefits to woman and infant. There is also a didactic element incorporated in such support, which is particularly relevant in the case of first time birthing women.

Historically, the support given to birthing women was from other women who had themselves experienced birth (Paige and Paige, 1981). This female-to-female interaction is fundamental to virtually all traditional birthing systems. Trevathan (1997) suggests that the evolved female pelvic structure, couple with a corresponding increase in the dimensions of the foetal skull may also have contributed to the initiation of this support structure evident in ancient and present day birthing systems.

(4) Mobility. Ethnographic research indicates that during labour women adopt a number of positions to alleviate pain and discomfort. During the actual birth women overwhelmingly choose some form of upright and forward leaning posture (Ford, 1964; Jordan, 1993). This position is ideal from a physiological perspective. Due to the evolutionary development of the human pelvis a baby has to rotate on its way through the birth canal in order to negotiate birth. This is the only means by which it can actually navigate the female pelvic cavity. Therefore, the physical position adopted by birthing women during this negotiation has an impact on the success of this transition. By being in an upright position, ideally with arms raised above the level of the waist, a woman is positioned to allow her pelvis to expand to its maximum extent, expediting the passage of the baby. In contrast, the use of the lithotomy (lying flat) position, once prevalent in medicalised systems, is known to slow the birth process, seriously affect the circulatory and pulmonary system of a birthing woman, and is potentially lethal to the unborn infant (World Health Organisation, 1996).

(5) Attention to the pre and post-natal environment. Care of the pre and post-natal environment is also paramount to the continued health of woman and child. The immediate birthing environment must be maintained and access to the birthing woman must be strictly regulated to avoid the possibility of infection or disease. Beischer et al. (1997) outline the vulnerability of the post-natal woman and infant due to the nature of the labour process itself. Through trial and error, the high rate of maternal mortality due to puerperal fever in the last Century was sourced to unhygienic hospital conditions and inadequate attention to this aspect of birthing (Jordan, 1993). It is not surprising that for humans and many other birthing mammals an intrinsic part of the negotiation of birth involves careful preparation of the birthing environment some time before the actual event itself (Naaktgeboren, 1990), and continued maintenance of the birthing environment for some time after. Ethnographies of birth consistently record the attention given to the pre and postnatal environment, aspects of which may embody ritual of some type (Hart, 1965; Jordan, 1993; Laderman, 1982). Fundamentally, the continued and lasting health of woman an infant relies on maintaining this environment and excluding potential sources of infection, which includes person-to-person transferral of disease. The alternative is potentially pathological to woman and child.

(6) Ritual and symbolism. Ritual and symbolism relating to the entire process of pregnancy and birth is recognised as providing significant psychological support in negotiating this life-event to the extent that the World Health Organisation has included specific reference to its use in its Guide to Care in Normal Birth: A Practical Guide (1996). Ritual relates to the ingestion of particular foods, the avoidance of particular foods, places or people, the use of charms and the wearing of amulets, the use of particular locations imbued with meaning related to pregnancy and birth, the construction of symbols, the avoidance of certain types of clothing or tasks, and so on. All forms have the singular purpose of attempting to ensure a safe pregnancy and birth. The sharp instrument used for cutting the
umbilical cord is often considered of symbolic significance and is therefore disposed of, or retained according to custom, as is the cord. Similar attention is given to the removal and disposal of the placenta (Beausang, 2000; Priya, 1992). The post-natal care of woman and child incorporates ritual again related to a heat/cold dichotomy, the ingestion of particular foods, the marking of the birth, the eventual naming of the infant and the return of the birthing woman to the larger community of which she is part.

This use of ritual in the negotiation of birth cannot be over-estimated. Even within modern medical systems the entire process is heavily ritualised, though it can be argued that ritual in this case often emphasises the system over the birthing woman as central to the process (Robertson, 1999). Irrespective of the emphasis, the pregnant and birthing body becomes socially, culturally and ritually ascribed with meaning from the perspective of the birthing woman, and from those who come in contact with her (Marshall, 1999). The ostensibly corporeal experience of birth is, in reality, a complex mesh of human action and interaction, involving intrinsic and extrinsic negotiations (Thiele, 1999). As gender and feminist studies have demonstrated, the human body is not reducible to a given formula (Crowley and Himmelweit, 1992; Gatens, 1996; Grosz, 1994). The highly evolved, complex human brain ascribes kaleidoscopic meaning to human corporeality. The process of birth similarly embodies a vast range of meanings and significance and ritualised actions and interactions form a fundamental part of its negotiation.

From an evolutionary perspective, this use of ritual in the negotiation of pregnancy and birthing may have initiated from the basic patterning of the human mind that strives to find meaning and connection in the negotiation of significant life experiences. Gosden observes that the body ‘is the focal point of all levels of experience’ (Gosden, 1999, p. 130). Ritual generates a sense of order through which meaning is ascribed to corporeal experience. In addition to this, the transposition of self as a meaningful part of a larger universe can be effected through ritual, and through symbolic gesture which in turn, serves as a psychological defence, particularly in the face of an uncomfortable, often painful, and potentially hazardous life event. (Pyszczynski et al., 1997). Therefore, thoughts of mortality in the negotiation of an event such as birthing can be controlled and accounted for by this means.

What relevance do these observations have in the context of archaeological research? Given the proven necessity for the above mentioned criteria in the successful physiological negotiation of birth, their consistent application cross-culturally, globally, historically and within a contemporary context, these criteria may potentially be sought in prehistoric systems also. Furthermore, most of these criteria are tangible. To apply this methodology, I have considered the most easily adaptable spatial areas available to modern human groups during the Upper Palaeolithic period in the south of France. These are the south-facing caves and rock shelters in the region. While a number could certainly incorporate many of the criteria shown to expedite the birth process this aspect of their potential use is not definitive of all sites.

Methodology to identify potential birthing areas

Thermal regulation to ensure the viability of the newborn

The problem of controlling and maintaining temperatures to ensure the viability of a newborn infant is a critical factor in the negotiation of birth during the Palaeolithic in Europe and even more so during the Upper Palaeolithic. Given the climatic conditions which deteriorated between 40,000 and 10,000 years ago, this need for a place apart had to be mediated in some fashion. Irrespective of season, however, the need for neonatal thermal regulation should potentially situate birthing areas in sites that offer maximum protection from the elements. Theoretically it is possible that a number of caves and rock shelters may have been adapted for this purpose.

Suitable caves and rock shelters potentially embody considerable thermal advantages with a minimum of modification, a significant factor in the context of glacial Europe. For example, caves not only provide shelter from the elements; they can also retain an annual mean temperature beyond approximately 10 m from their entrance (Collins, 1976). Therefore, if external temperatures fall to ~20°C, within the cave temperatures may remain at 18°C above zero, a critical factor in maintaining the life of a neonate. The temperature differential required to sustain the life of a newborn is considerably lessened in such an environment.

Rock shelters, like caves absorb solar radiation and provide significant shelter with some adaptation. In both cases, south facing sites are optimum locales from this perspective, many of which occur in the south west region of France (White, 1980). As a result, this region provides a potential testing area for this methodology.

Though caves and rock shelters may provide significant advantages, they are also prone to currents of air. Caves in particular tend to ‘breathe,’ as air is displaced due to their morphology and variability in size. Therefore, particular areas in both of these locations would have to be chosen with care. In the former case, side chambers or alcoves are potentially viable, as they provide additional protection from draughts and can be modified through the use of hangings/constructed windbreaks. Selected rock shelters may also bear evidence for such modification. The presence of a hearth
within or closely proximate to these areas may further indicate that efforts were made to maintain consistent temperatures.

From an archaeological perspective these areas within selected caves may contain evidence for such modification and may contain evidence of hearths.

**A defined spatial location**

The proven need for a place apart during birthing additionally situates birthing women within a defined spatial location. In the context of the evolved group dynamics and access to resources evident in Upper Palaeolithic Europe, this consideration had to be mediated in some fashion.

From an archaeological perspective, potential birthing areas in caves and rock shelters would be closely proximate to group habitation sites, or may be flanked by them. Proximal location to the main habitation group is logical when one factors in the presence of carnivorous animals in this region during the Upper Palaeolithic period; the need for support and companionship for a birthing woman; the need to ensure the safety of previous children (which may be hers or those of her companion) and the need to access group resources. Evidence for the presence of children may be evident in areas closely proximate to this chosen site in the form of footprints, for example.

**Support and companionship**

The need for support in the negotiation of birth is also relevant to the spatial domain of birth. The chosen area must be expanded to include the presence of another or others. I can only estimate the maximum number of people allowed within this area as to my knowledge no research on this aspect of birthing exists. The use of caves and rock shelters immediately provides a three dimensional spatial area for this purpose with minimal modification.

**Mobility**

This spatial location must allow for a degree of mobility to expedite the birth process. An upright and forward leaning posture is known to expedite the birthing process, but such mobility must take into account the mobility of support companions also and the need for an element of space in the maintenance of this site. Certain areas within caves and rock shelters, by their very structure, provide this facility.

**Attention to the pre- and post-natal environment**

The proven need to maintain the pre and post-natal birthing area to ensure the health of a birthing woman and her infant may be difficult to decipher from material evidence, particularly in view of the period in question (the Upper Palaeolithic). However, given the necessity to maintain the pre and post-natal environment, the presence of large number of lithic tools or bones would contradict the real and fundamental necessity to maintain a birthing site free from sources of disease or infection.

Therefore, though potential birthing areas may bear evidence of use, material evidence would be significantly less in comparison to habitation sites. This would be due to the specialised use of this area coupled with the necessity to maintain it. The dispersal of remains or micro remains may be suggestive of site maintenance (Tani, 1995). Pollen analysis within these areas may indicate traces of Flora within this spatial location that had analgesic, antiseptic or absorbent properties, and which may have been used for bedding.

**The use of ritual and symbolism**

Finally, the consistent and global use of ritual and symbolic structures pertaining to the negotiation of pregnancy and birth may also be present within these areas. Specific tools may, for instance, have been deposited in a manner that suggests ritual disposal. They may have been marked in some manner symbolically. Symbolic motifs may also occur in this area. For example, some may be placed in a manner difficult to view from an upright position, but accessible from a crouching position. Others may be position in a manner that demarks or frames the entrance to this area, indicating some form of specialised use. Some may be situated within this spatial area. These symbolic motifs may bear evidence for repeated renewal as such a defined location could have been used by a number of birthing women (though not simultaneously).

**Discussion**

This concept of a place apart during the negotiation of birth touches on an alternative interpretation of a proportion of Upper Palaeolithic symbolism. It is clear that interpretations of Upper Palaeolithic symbolic motifs are many and varied. It is also accepted that the placing of motifs and representations is deliberate and premeditated (Conkey, 1981; Leroi-Gourhan, 1982). The negotiation of a potentially hazardous life-event such as birthing could be incorporated within these interpretations, particularly if these symbolic structures occur within a spatial area that fulfills the other criteria of a birthing locale.

Current theories of corporeality perceive the body and mind as an integrated and highly complex unit
enmeshed with socio/cultural influences (Gatens, 1996; Grosz, 1994; Marshall, 1999). They argue that there can be no clear cut definition separating mind from body, particularly from the sexed body. Though from birth we are consistently influenced by numerous and diverse influences, these influences must first navigate our sexed bodies and our intimate perceptions of ourselves. We are motivated in part by our physiological needs (Foley, 1991). For example, the physiological need for food motivated the desire to hunt, gather and create technologies to facilitate this. The physiological need for warmth, particularly in an ice age climate, is a strong motivator to seek or construct shelters. The physiological need for a constant supply of drinking water may have been a primary factor in choosing the location of these shelters. Over time the maintenance of these needs has become heavily socially and culturally inscribed as they are intellectually negotiated.

Though pregnancy and birth appear as physiological processes, their negotiation also involves similar intellectual energy. It is another factor in the motivation of human adaptation and in the construction and evolution of technologies and cultural systems. The use of a place apart in the negotiation of birth is a physiological and psychological necessity of the birth process and, when its significance is appreciated and recognised, this place apart can provide a locus from which to examine female corporeal, ritual, and symbolic strategies. For example, the fundamental human propensity to express meaning and connection evident in symbolic structures is generally accepted. As the negotiation of birth is a recognised life event that embodies an element of the unknown, the quest for meaning and connection in its psychological negotiation may be greatly amplified. The creation and maintenance of symbols may have served to reduce anxiety, fulfill the expectation of relief or provide some anticipation of success, all significant aspects of the negotiation of birth (Charlton, 1998). The inherent element of uncertainty in birthing is a strong motivator to anticipating this event and preparing for it long in advance.

This paper attempts to provide a preliminary methodology for the examination of archaeological sites from the perspective of birthing needs. Though further refinement is doubtless needed, theoretical consideration of this vital aspect of human negotiation is extremely relevant to archaeological research. Without consistent and continuous success in the negotiation of birth, all other aspects of human negotiation are indeed moot. Serious consideration of the negotiation of pregnancy and birth from an evolutionary context could also provide further indications of behavioural development. From an Upper Palaeolithic context further research may potentially reflect alternative aspects of human innovation and adaptation in what is regarded as a culturally complex group system. From either perspective, the negotiation of birth should be considered with the same rigour and attention given to other aspects of human negotiation (Davies, 2001), for example, the transition from puberty to adulthood. This life event (that could be viewed as a purely biological transition) is also referred to in the interpretation of Upper Palaeolithic material evidence (e.g. Owens and Hayden, 1997). Cross-cultural rites related to this negotiation are studied in detail and reflected on from an Upper Palaeolithic perspective, despite the fact that no ‘organic’ evidence of this transitory life event exists. Nonetheless, symbols, technologies and artefacts are ascribed meaning related to this negotiation based on its perceived and accepted significance to the maintenance of group systems. I suggest that a life altering, intense and possibly life threatening negotiation such as birth can also be equally reflected in the spatial, symbolic and material remains of the distant past, if we accept this possibility.

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