This article was downloaded by: [Universitetsbiblioteket i Bergen]

On: 15 August 2012, At: 05:24

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered

office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Norwegian Archaeological Review

Publication details, including instructions for authors and subscription information:

http://www.tandfonline.com/loi/sarc20

'I am the Walrus': Animal Identities and Merging with Animals -Exceptional Experiences?

Torill Christine Lindstrøm ^a

^a Department of Psychosocial Science, University of Bergen, Bergen, Norway

Version of record first published: 08 Aug 2012

To cite this article: Torill Christine Lindstrøm (2012): 'I am the Walrus': Animal Identities and Merging with Animals - Exceptional Experiences?, Norwegian Archaeological Review, DOI:10.1080/00293652.2012.703687

To link to this article: http://dx.doi.org/10.1080/00293652.2012.703687



PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: http://www.tandfonline.com/page/terms-and-conditions

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.



'I am the Walrus': Animal Identities and Merging with Animals – Exceptional Experiences?

TORILL CHRISTINE LINDSTRØM

Archaeological materials from various times and places give us many examples of identity attributed to animals and of merging of identities between humans and animals. We tend to regard these phenomena as different from our modern understanding of ourselves, animals, plants and objects as discrete ontological classes. Accordingly, archaeology explains and explores these phenomena in relation to what they implied and meant in their particular cultural contexts. However, these phenomena also share certain cross-cultural and trans-temporal similarities, pointing beyond cultural 'uses' (processual) and 'meanings' (post-processual) of animals. This observation demands the employment of a wider, more inclusive, theoretical stance (multi-theoretical, multi-methodological, eclectic) to be explained. I illustrate with examples from various periods (Palaeolithic, Bronze Age, Iron Age, pre-classical and classical Greece, Roman Empire, Migration Period and Viking Period). I claim that characteristics of both human and animal nature ('things in themselves') can contribute to explaining the experiences of animal identities and of merging phenomena. Both phenomena connect to perceptions of, interaction with and relationships with animals. My arguments are based on research on human and animal psycho-endocrinology, brain and behaviours (cognitive, emotional and social) and ethology.

Keywords: Animal identity, merging phenomena, hybrids, human-animal interaction, human-animal relations, psychology, ethology, theoretical issues

THE 'OTHERNESS' OF THE ANCIENT OTHER

Archaeological and anthropological reports, from various periods and places, are rich in examples of how humans seem to have attributed identity to animals, and have experienced various kinds of merging of identities between humans and animals. We tend to see these phenomena as something different

from our understanding of ourselves, and from our categorization of humans, animals, plants and material objects as relatively discrete classes of ontological entity (MacIntyre 1999, pp. 11–13, Ingold 2000, p. 48). Such distinctions are fundamental to our ontology and 'order of things', our nomenclatures and taxa.²

In this article, I will first present examples of attribution of identity to animals. Second, I

Torill Christine Lindstrøm, Department of Psychosocial Science, University of Bergen, Bergen, Norway. Email: torill.lindstrom@psysp.uib.no

will present examples of merging of human and animal identities. The examples are deliberately chosen from grossly divergent epochs and cultures in order to accentuate similarities across times and places. The examples are in chronological order. Third, I will discuss the identity and merging phenomena with reference to modern behaviours, ethological and psychological research on human and animal psycho-endocrinology, brains and behaviours. Throughout the article, my aim is not to refute earlier archaeological interpretations which focus on functional aspects (processualism) or on symbolic meanings (postprocessualism) of animals. These focuses and interpretations are not 'wrong', but perhaps not inclusive or conclusive enough. I will suggest that additional explanations may be relevant, such as: certain perceptions of and experiences with animals that are surprisingly stable trans-temporally and characteristic properties of humans and animals which can make their interaction relational.

THEORETICAL THEMES

The conflict between processualism and postprocessualism in archaeology has its parallel in psychology: the conflict between mainstream psychology (also called positivist psychology) and social constructionist psychology (also called critical psychology or cultural psychology). However, Wittgenstein's ideal of 'complementary discourses', implying using the relevant tools for each particular problem, is winning ground in the social sciences and medicine and, finally, in archaeology. In archaeolare several terms for the there ogy, complementary meta-theoretical and methodological developments which combine processualist and post-processualist perspectives, subjectivity and objectivity, quantitative and qualitative data: the middle-ground position (Hodder 1999, pp. 52, 200), the synergy approach (VanPool and VanPool 1999, p. 48) and symmetrical archaeology (Witmore 2007, Olsen 2010). Within biology and anthropology

too unifying positions have been proposed, such as the developmental systems theory of biology (Oyama et al. 2001) and the interdisciplinary biosocial obviation perspective (Ingold 2001). The methodological parallels are in methodological triangulation and mixedmethod research (Teddlie and Tashakkori 2003, Johnson and Onwuegbuzie 2004). It has been argued that multi-methodical multi-theoretical positions, described as being pragmatic, 'bricolage' and eclectic, have already long been employed in archaeology (Bintliff 2004, p. xix, 2011, pp. 18–21, Trigger 2006, Pearce 2011, pp. 84–87, Pluciennik 2011, pp. 33, 44,). Pearce (2011, pp. 84–87) even claims that this is *the* new theoretical paradigm in archaeology: to employ mixed methods and multiple models fitting the particular problem investigated and combine various theories and theoretical elements (Pearce 2011, p. 85). This position is my theoretical perspective for this article.

TRANSCENDING ONTOLOGICAL BOUNDARIES

Attributions of 'identity' to animals may be found in archaeological materials in that animals have been treated (almost) as humans. Merging of animal and human identities may show up as representations of composite creatures with human-animal parts and characteristics. Such merging has been described under names such as: 'monstrous creatures', 'monsters', 'hybrid creatures', 'hybrids', 'liminal beings', 'theriomorphes', 'therianthropics', zooantropomorphs (Greene 2000, Guiley 2005). A related, but different, term is 'power animal'. This implies only a mental merging where the animal protects and psychologically empowers individuals or groups (Meadows 2004). Terms used for merging processes are 'metamorphosis' and 'transformation'. In the following, the term 'merging(s)' will be used for beings that unite elements of humans and animals, and the terms 'to merge'/'to transform'/ 'to blend' for the processes of changing into a total or partial, bodily or mental, animal state.

ANIMALS WITH IDENTITY

'THOU ART'

'Attribution', according to attribution theory (Heider 1958), means that particular qualities are ascribed to objects or individuals (without any judgement about 'the correctness' of the attributions). Attribution of personal identity implies ascribing to somebody/something personhood, individual characteristics, agency and interactive capacities. When the attribution is to an animal, it implies that the animal is experienced and regarded as an active subject with agency, as a person, and that interaction, cooperation and communication with it are possible. The contact is relational. 'It' can be addressed with a 'you'. Now, how can such attributions be found in the archaeological records?

A type of behaviour that may have started in the upper Palaeolithic, and is documented from the Mesolithic and in several later periods and different cultural contexts, is the burial of dogs (Fig. 1) and occasionally wolves (Bazaliiskiy and Savelyev 2003, Fladerer *et al.* 2009, p. 20, Losey *et al.* 2011). Dogs have followed humans for at least the last 14,000 years (Clutton-Brock 1995, p. 10, Germonpré *et al.* 2012, p. 184) and are found in most cultures. However, in contrast with the

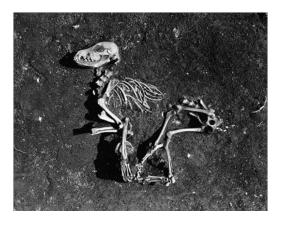


Fig. 1. Dog burial 5000 BP. 'Dog Burial no. 1.', Kentucky. After Morey (2006, fig. 3, p. 163). Photo by William Webb. Reprinted with permission.

treatment of most other domesticated animals, dogs world-wide have been given burials that resemble human burials (Morey 2006, p. 159). Dogs have been eaten or ritually sacrificed,³ but also nicely buried, sometimes with ochre, grave-goods and other tokens of respect, as in middle Holocene Cis-Baikal, Siberia (Losey et al. 2011, p. 13), Mesolithic Skateholm, Sweden (Larsson 1993, Zvelebil 1996, pp. 48-49, 57), Archaic Period North America (Morey 2006, pp. 161–64) and Viking Period Norway, Scotland and (Ritchie 1981, p. 269, Nordahl 2001). In Greece, dogs could be buried with funerary epigrams and grave goods in Hellenistic and Roman times (Day 1984, pp. 25, 29, 31, Gilhus 2006, p. 30). It seems reasonable to infer that when dogs were treated almost like humans in death, they must have been in a relational context with humans, highly valued and attributed a personal identity (Morey 2006, p. 165).

Other animals too, wild as well as domestic, have been buried 'from the Mesolithic to modern times' (Jennbert 2011, pp. 106, 111–12). Perhaps the best known are the Egyptian mummies of various species, particularly cats.4 In Eurasian cultures, horses have a unique place, as useful animals, valuable status objects, and as symbols of social, political and religious significance. Paradoxically, the training and use of horses require a particular close communication and cooperation, a relationship, between horse and human. These considerations alone could generate a hypothesis that horse burials might show up in archaeological materials. And, indeed, this is the case. At Lefkandi (Greece) two horse burials are found from the proto-Geometric Period (900–825 BC) (Popham et al. 1989, p. 118). In the Veneto (northern Italy), known antiquity for horse-raising (Euripides Hippolytos, 231, Strabo Geographia, 5, 1, 9), several horse burials and even collective cemeteries for horses have been found, for instance at Este, Oppeano, Adria, Oderzo and Piovego, dating from the first half of the 4th century BC (Azzaroli 1980, Capuis 1993, p. 196). These are

often interpreted as horse sacrifices (Calzavara Capuis and Leonardi 1979), but it is quite possible that some were horse burials for particularly treasured individual horses, expressing the close relationship that had been between horse and human. Horses buried as heroes, much in the same manner as human heroes with exquisite equipment, have been found in the Altai-Sayan mountains (inner Asia) from the Iron Age ('Kurgan culture') (Argent 2010), in Central and northern Europe during the Iron Age (Jennbert 2011, pp. 108–111) and in Muslim contexts (Brown 1937, p. 99).

The Roman army was not famous for sentimentality. Nevertheless, we find cases of sentiment towards horses resembling that of Alexander the Great's affection for his horse Bukephalos and his grief when the horse died (Schwabe 1994, p. 50). Roman texts and Roman veterinary medicine testify that affectionate relationships could exist, particularly with dogs, horses and birds (Toynbee 1973, Walker 1973, pp. 317-323, 330-334, MacKinnon 2010, p. 291). Both dogs and horses were recognized for their fidelity towards humans (Gilhus 2006, p. 30), horses for their intelligence (Pliny Naturalis Historia, VIII, 61). Roman army officers and soldiers sometimes gave their horses and dogs burials (see catalogue in Jørgensen et al. 2003). Such burials are actually not unexpected in armies where dogs and horses were irreplaceable members of 'the staff' and therefore personal relationships between animals and people ensued (Gilhus 2006, p. 29). But, in the context of Roman armies, they stand out in striking contrast to the Romans' habitual functionalistic attitude to all living creatures in general, and particularly their unsentimental killing of animals, wild and domesticated, in vast numbers as entertainment (Gilhus 2006, pp. 31–34, 190-191, Lindstrøm 2010). These military Roman animal burials as well as Roman pet burials in private contexts (Gilhus 2006, p. 14) indicate that at least some animals were ascribed a considerable personal and relational value, individuality and identity.

Burials of people with animals accompanying them in the grave are quite common. Again, dogs and horses are special. Dogs, horses or both are found in human burial contexts in places and periods as different as Neolithic central Europe (Maringer 1981, pp. 37–41), the late Bronze Age to early Iron Age in Crete, Cyprus, and the Greek mainland (Day 1984), Roman Thrace (Triantaphyllos and Terzopoulou 2006, pp. 167-182), Roman to early Medieval Britain (Dark 2002, p. 93, Cross 2011) and Viking Age Norway (Ellis Davidson 1969, p. 92, Christensen et al. 1992), and Sweden (Jennbert 2011, pp. 101-105).⁵ The usual interpretations are that the animals were killed at the funeral (as were also slaves), intended as useful 'equipment' or food in the afterlife (Outram et al. 2011), goods symbolically honouring the dead person, sacrifices to deities, personal belongings following their owner (Day 1984, p. 27, Cross 2011) or, particularly in the case of dogs, as guides to the 'other side', as in Greek contexts (Andronikos 1968, pp. 85, 87, Day 1984, pp. 27–32).

However, did these animals serve such practical use functions or symbolic meaning functions only? Or could there be relational reasons for their interment together with humans? In some cases, there are indications of personal relationships, bonds that should not be severed by death (Day 1984, pp. 27, 31). Three men are found buried, each with a horse, in north Italian contexts, dated to the 6th-4th centuries BC. Two of them lay on the breast and stomach of the horses which were lying on their back or side (Leonardi 2004, pp. 20–21, 28–32, 36–43). It looks as if the men are held in the horses' embrace, their bodies practically merging. This closeness is exceptional, since in most funerary uses of horses the human body and the horse(s) are apart, as at Mycenae (Gallou 2005, pp. 98-105) and in Viking burials (Ellis Davidson 1969, p. 92, Jennbert 2011, pp. 69, 156). It seems not unwarranted to suggest that this particular closeness of bodies expresses that closeness on a relational, emotional and personal level had existed between these men and horses in life. If so, these horses were probably attributed with a personal identity and therefore should not only follow but *accompany* their owner in death. It could perhaps even be suggested that it was the other way around: that *the men* had been sacrificed to accompany the horses, as their personal caretakers, in death as in life.

BEYOND BURIALS

Human beings are profoundly relational (Heider 1958, Bowlby 1969). Graves for horses and dogs resembling those of humans are interpreted to imply deep emotional relationships between these animals and their owners in Norse contexts (Jennbert 2011, pp. 69, 156). The particularly close and personal relationships with dogs and horses are not surprising. People were, and are, extremely dependent on close cooperation, communication, trust and understanding with these animals in order to perform essential activities (Argent 2010, pp. 163–164, 169). In many situations that are vital for survival, the assistance of a dog is more useful than that of a human (Oma 2010, p. 183). In hunting, herding and keeping watch dogs cannot be replaced by humans because their sensory apparatus and speed outdo human capacities. Close cooperation and communication with dogs in such situations may have created bonds similar to bonds between humans who are deeply dependent upon each other. These bonds go beyond the functional uses and symbolic meanings of dogs, they are deeply relational. It is difficult to explain the dog graves without these considerations. Similarly, horses' strength and speed outdo the capacities of humans, and similar close relationships between horses and people are necessary for their cooperation. Such relationships are relational to the point of being symbiotic. Both dogs and horses interact with us, act on us, relate to us, extend our human abilities, are experienced as extensions of our selves and have been formative of our human and cultural identities. It is reasonable to assume that people experienced these animals as having personal identities, and even experienced a cooperation close to merging (Game 2001, pp. 1-12, Argent 2012) creating relational ties. They were companions and comrades. This may explain why their owners wanted, not merely the presence of, but the *company* of these animals in the other world (Argent 2010, pp. 169–170). While giving credit to previous interpretations that focus on the symbolic (meanings) and functional (uses), I will argue that the inclusion of relational factors may also contribute to explaining why these animals were buried with their owners or given separate graves. Is there additional archaeological evidence to support this argument? Yes, names.

A name indicates personal identity. It seems reasonable to assume that some animals, in particular pets and other personal animals, were given names in earlier times too. Broadscale documentation is difficult, but some cases exist. Minoan texts from Knossos list names of oxen (Shapland 2010, p. 115),6 Alexander the Great's horse was named Bukephalos (Schwabe 1994, p. 50), and bears that were performers in Roman arenas, as well as Roman racehorses, were named (Toynbee 1973, pp. 96–97, 177–183, Gilhus 2006, pp. 31, 34). These cases indicate that at least some animals were named in the past. One could object by saying that places and objects can also be named. However, when living beings are named this usually implies an attribution of identity that is different from that given to places and objects. Pets are named. Petalthough varying in keeping. closeness between pet and person, seems to be a fairly stable cross-cultural and trans-temporal phenomenon (Serpell 1987, MacKinnon 2010, pp. 290–291, Jennbert 2011, pp. 68–70). As such, this behaviour seems to be a cultural universal and probably connected to our relational human nature. Even the Romans, who had profoundly objectifying attitudes to other living beings, animals and humans alike, had pets, of very varied species (Lazenby 1949). Possibly, these were often not 'pets' in the modern sense, but 'personal animals' (Gilhus 2006, p. 29). Still, many Romans seem to have cared well for their pets. Skeletal and dental remains of some dogs show that these were pampered animals, even when old and suffering from various ailments (MacKinnon 2010, pp. 301–304). Loved pets' portraits, names and deeds are found on marble epitaphs (Bodson 2000). It seems hard to fathom why and how people could have provided such care without experiencing that these animals had personal identities, to which people related.

ANIMAL-PEOPLE: MERGING WITH THE ANIMATE

FURTHER THAN FUR AND FOOD

Merging with animals is mentioned above as likely to have been experienced, but can we find this expressed in archaeological materials? Mammoth-ivory figurines of hybrid creatures with human body and feline (possibly lion) head are found in upper Palaeolithic Aurignacian caves, called Hohlenstein-Stadl and Hohle Fels, in south-western Germany (approximately 30,000–34,000 years old) (Conard 2003, Porr 2010) (Fig. 2). They are interpreted as expressing religious conceptualizations, beliefs in supernatural beings (Tacon 2009, p. 69), evidence of early human concept formation (Wynn et al. 2009), and capacity for symbolic thought (de Lumley 2009, pp. 22–24). These interpretations may be correct, but I still find them insufficiently explained. Why is it that such higher cognitive functions were expressed as a blending of human and animal characteristics? Why not solely human? Why not blending with something else: objects, stones or plants? It must be something about the animal itself.

The lion must have been very special in the eyes of early humans: an impressive animal, rarely encountered, but, if so, very dangerous. The merging thus could symbolize an 'identification with the aggressor' (Freud 1966 [1936]), an anxiety-reducing psychological defence mechanism with apotropaic effects. But another explanation is also possible: for

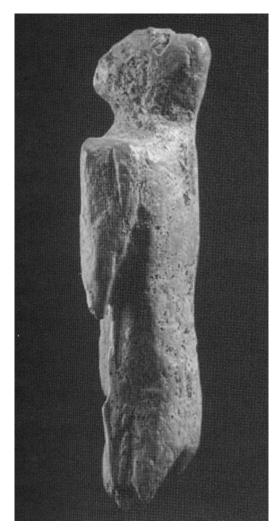


Fig. 2. Lion-person ('Löwenmensch'). After de Lumley (2009, fig. 2.16, p. 23). Reprinted with permission.

a human to blend with the characteristics of lions (in practice, possibly by wearing a lion mask and skin to symbolize the union) could both symbolize and actualize attaining access to these enviable and admirable characteristics of lions: strength, night vision, excellent hunting capacities and being a top predator. All these were qualities that human hunters would love to have. A lion-person would be more than a human being: a super-human or a supernatural being, with the combined



Fig. 3. Merged animal-human identities. 'The Sorcerer of Trois-Fréres' (after Miles Burkett, Prehistory, Cambridge University Press, 1921).

abilities and skills of humans and lions, in a state of merged identities.

Another upper Palaeolithic example of merging identities, from approximately 14,000 BC (mid-Magdalenian) is a painting in the Trois Frères cave in south-western France (Breuil 1974) (Fig. 3), showing a creature that is hard both to perceive and to conceptualize. It looks like an animal, possibly a deer, reindeer or elk, with what seems to be fur and possibly antlers, but with rather a human body shape. The creature stands on its hind legs in a halfupright position that is neither human nor animal. The front limbs resemble arms. It has male genitals of human shape, yet the belly looks pregnant. The head has no proper animal snout, but some sort of face, with beard and staring eyes, turned towards the onlooker.8

Phenomenologically, the immediate perception is that of an herbivore animal. Then one sees the human aspects of the figure, elements that are incompatible with the animate morphological aspects. This incongruence

creates a cognitive-perceptive disequilibrium by its fluctuating ambiguity. At one moment the figure seems to be a human within an animal, at the next, an animal with human characteristics. The figure indisputably shows a merged animal and human identity, a theriomorphic transformation.

The creature is named 'The Sorcerer of Trois Frères', implying the interpretation that the figure is a shaman, dressed up in animal fur and antlers, performing sympathetic magic rites to increase hunting success (Breuil 1974, Halifax 1982, pp. 54-56). Going beyond and behind this explanation of practical functions and symbolic meanings, I will point to characteristics of animals and people 'in themselves' and to the nature of some of their interactions. In contrast to mere exploitation through hunting, Palaeolithic people may have experienced and perceived a profound symbiotic interdependency between animals and people (Clottes and Lewis-Williams 1996, pp. 45-46). This sentiment included, but went far beyond, needing hunting success. The welfare, fertility and proliferation of the hunted species were also important (Vitebsky 1995, p. 106, Bevan 2006, p. 104). Thus 'magic' could encompass wanting 'to give' or 'bring about' both death and life to the hunted animal species. Yet, it was also in the power of animals to bring life or death to humans. Should they become reluctant to reproduce, cease to follow their traditional routes where they could be found or cease 'to give themselves up' for hunt, people's existence could be severely endangered. People's dependency on animals' agency must have been recognized, and the animals' welfare and good will needed. 10 There may thus have been several motives combined within this therianthropic cryptic creature.

To hunt is not an easy task. Hunters know that animals can outrun, 'out-hide' and outwit them by strategic behaviours. Good hunters therefore need not only physical fitness and strength, but also considerable cunning, creativity and intelligence (Stanford 2002, p. 402). People who were dependent on hunting must have experienced and acknowledged that the

hunted animals, in addition to excellent physical qualities, also had rather high mental capacities. In fact, in several hunter-gatherer contexts, certain animals were, and still are, regarded as different kinds of 'people', with personhood and identity, transcending the species barrier (Aldhouse-Green 1998, p. 101, Fowler 2004, Descorla 2005, p. 137, Losey et al. 2011, p. 13), and having individuality (Ingold 2000, pp. 69-72). Also against this background, it seems plausible to suggest that the merging of bodies and identities in the Trois Frères figure could imply much more than merely a human impersonating an animal in order to enhance hunting success. The animal was drawn into the human sphere, not as a carcass providing food and a fur, but as a 'living member' with an impact on the community. The strong symbiotic interdependency between humans and animals may have been enacted in this figure (Clottes and Lewis-Williams 1996, pp. 45–46). Perhaps the bodily union was also a way of entering into the animals' world: to try to understand them, their ways of thinking and feeling, their motives, intentions and needs. This could be phrased as 'uniting with the animal spirits' on a psychological relational level, a merging of identities, expressed in this, and in other hybrid figures, through a merging of animal and human bodies (Lewis-Williams and Clottes 1998, p. 19).

EXPRESSING THE INEFFABLE

Fear has been suggested to be an essential element in early religiosity (Mundkur 1994, pp. 141–142, 162–184). Animals may be dangerous and fear-provoking, and indeed, throughout the world, divine/supernatural beings are represented in zoomorphic or zoo-anthropomorphic imagery (Guirand 1968, Mundkur 1994, p. 172, Cotterell and Storm 2001). This phenomenon therefore, seems to be a typically human and psychologically archetypical way of conceptualizing the divine and supernatural (Narr 1979, p. 986). The blending of human and animal natures may represent a transcendent state where the

human person seeks contact with the spiritual realm (Aldhouse-Green 1992, p. 104).

Hunter-gathering cultures that regard animals as 'people' make ideas regarding merging with animal forms or animal mentalities, even on a spiritual level, possible within these cultures' cognitive schemata (Aldhouse-Green and Aldhouse-Green 2005, Hedeager 2004, p. 2). Considering the universal human ability to attain altered states of consciousness in spiritual/ritual situations (Fischer 1971), typical indeed within shamanic practices (Lewis-Williams and Clottes 1998), such experiences may also be revealed within the hybrid creatures from the upper Palaeolithic (Feest 1980, p. 17, Bergquist and Taylor 1987, Lewis-Williams and Clottes 1998, p. 19, Bevan 2006, p. 97).

Animal heads, antlers, feathers and furs are shamanic paraphernalia. Antlers, in particular, could have served as sacred regalia with transcendent meanings, making the shaman an epiphany of the 'Divine Being' (Campbell 1968, p. 311) or of the 'Tree of Life' (Martynov 1991, figs 147, 275, pp. 110-111). 12 This kind of merging with animals by wearing antlers or horns is known from numerous cultures and times. Humans (or divine beings) with antlers are depicted in as distant cultures, as in the Iron Age rock art from Naquane (Valcamonica, Italy) (Rock 70) (Aldhouse-Green 1998, pp. 26–27, 92, 102), and on the Gundestrup cauldron from the first century BC in Jutland (Denmark) (Berquist and Taylor 1987, p. 18). Not only depicted, but actual, Mesolithic headdresses made of deer skulls with antlers were found at Star Carr (UK), interpreted as being used in rituals connected to fertility and renewal of life, 13 and compared to cases of antlers on headdresses from other cultures and times (Clark 1954, pp. 168–175, pl. 21–24).

A completely different kind of merging with, or perhaps, more precisely, *uniting* physically with, animals are cases where humans have sex with animals, or at least are depicted as doing so. Rock art from areas as far apart as Italy (Anati 1976, p. 28, Bevan 2006, pp. 151–53), Sweden (Bolin 2000, p. 163), Finland, Russia (Lahelma 2007, p. 119) and North America

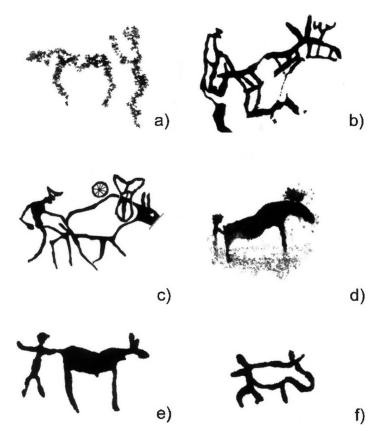


Fig. 4. Human-animal copulation. Rock art from: a) Tupavuori, Finland; b) Åbosjön, Sweden; c) Tomskaya Pisanicha, Russia; d) Salmenvuori, Finland; e) and f) Nämforsen, Sweden. After Lahelma (2007, fig. 5, p. 119). Reprinted with permission.

(Zvelebil 1996, p. 56) show this (Fig. 4). The human involved is always male, and the animal presumably, but not necessarily, female. Since to copulate with a wild animal is impossible, the sexual union had to be symbolic. It could be a metaphor for dominance, but it is more often suggested to be a metaphor for a mental/spiritual union (Lahelma 2007, p. 119). The copulation has been regarded in particular as symbolizing returning the animal's soul to 'the Animal Master', 14 to ensure its rebirth (Ingold 1987, p. 56, Aldhouse-Green 1998, p. 101). Thus the guilt of killing and consumption was abolished and life restored to the animal species. In depictions of this act of physical union, the animal-human mutual interdependency, their interrelation, in the eternal circle of life-death-life could have been expressed. Carnal consumption of meat and carnal sex were interlocked.

Also, much later, mergings between humans and animals took place in the realm of Greek-Roman mythology and literature. The parallel archaeological evidence consists of numerous sculptures and paintings of hybrid creatures. Some were of an erotic nature: emotional and sexual relationships between humans and animals. Leda fell in love with, and mated with, a swan, Pasiphaë with a bull. In these cases the blending was temporary. Other cases were permanent mergings resulting from human-animal sexual

unions. The Minotaur, Pasiphaë's son by the bull (Guirand 1968, p. 89), had a human body and a bull's head, and was monstrous, both morphologically and psychologically. Other blended identities characterized whole groups of mythological beings, such as centaurs (human foreparts and horse hind parts), sirens (birds with women's heads) (Ovid Metamorphoses V, 551), satyrs and Pan (human upper bodies, donkey/goat feet, goat/ horse ears, goat horns and beard, horse tail) (Morford and Lenardon 2003, pp. 293, 295, 297). None of these hybrid creatures had trustworthy natures. Sirens lured men to shipwreck (Morford and Lenardon 2003, pp. 335–336, 491–492). Satyrs and centaurs could be seductive or aggressive (Guirand 1968, pp. 159–161), or both: as abductors and potential rapists.

One could object that these cases of merged identities were not between humans and animals, but between supernatural/divine beings and animals. But since divinities were conceptualized as having human-resembling bodies one could still argue that these hybrids did show merging of human and animal bodies. A certain psychological unity was implied also, as Greek mythology testifies that psychological characteristics of a wild nature were transferred in the merging (Lissarrague 1993, pp. 207–220). Transformations were popular literary themes in Roman times too (for instance, Nicander's Heteroioumena and Ovid's Metamorphoses) and implied changes to an inferior form and state (Gilhus 2006, pp. 78–92). The important thing is that these hybrids represented the idea and belief that people and animals could merge physiologically and psychologically.

Mergings are also found further north and later in time. In northern Europe humananimal merging was associated with more positive consequences. The Migration Period (5th and 6th centuries) metalwork in northern Europe called 'animal art' (Nissen Meyer 1935, p. 86, Hougen 1936, pp. 8–14) shows merging between different species including humans (Fig. 5). Various objects, such as brooches and scabbard mountings, were

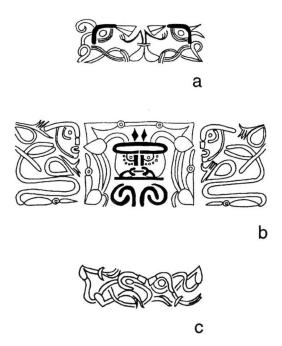


Fig. 5. Merged species ('Tiermenschen'). Details of patterns in Migration Period animal art from: a) Kvåle, Sogndal, Sogn og Fjordane; b) Åmdal, Farsund, Vest Agder; c) Syre, Karmøy, Rogaland, all from Norway. After Lindstrøm and Kristoffersen (2001, fig. 7). Reprinted with permission.

decorated with ambiguous figures where human forms were mingled, merged and entangled with bird and animal forms (Lindstrøm and Kristoffersen 2001). These hybrids are termed *Tiermenschen* ('animalhumans') (Haseloff 1981, pp. 111-133) and are interpreted as showing merged identities, or transformations from human to animal states (Hedeager 2004, pp. 232-233). Such transformations, or hamskifte (change of appearance) where the human soul transformed into animal form (Kristoffersen 1995, pp. 12–13, Lange 2007, pp. 608–610), dyrefølge (accompanying animal spirit) and Seelentier (animal spirit), were related to Germanic concepts of 'the soul' (Simek 2000, p. 298). They could also represent transformations during the ecstatic techniques in seid (magic and prophesying) (Hedeager 1997) and altered states of consciousness in

shamanism (Price 2001, p. 3, Solli 2002, Jennbert 2011, p. 199). In these states the mental and bodily capacities of particular animals and birds were sought. Evidently, these animals were attributed with identities that were complex enough to be compatible with human identities and could enhance human capacities and characteristics.

This practice of adding animal characteristics to one's identity through ecstatic rituals continued in the Viking Period (Lindstrøm and Kristoffersen 2001, p. 76) in the warrior practice of 'going berserk' (Ellis Davidson 1969, pp. 38–40, Page 1995). Berserk means 'bare-dress' ('naked'), or 'dressed as a bear'. It could have implied wearing bear fur, teeth or claws as part of the warrior costume; the term could also have been metaphorical, meaning 'like a bear' in behaviour or could have implied both. Berserk meant to have the superior strength and wits of bears, as a Norwegian proverb still expresses: 'bjørnen har ti manns styrke og tolv manns vett' ('the bear has the strength of ten men, and the wits of twelve'). The merging implied a relational identification with the bear. The result was superiority in combat, thus enhancing both the psychological and physiological capacities of humans, as well as their survival.

A similar merging of identities, or attainment of animal qualities, may underlie the ancient Germanic custom of theriophoric names (Müller 1968, pp. 202-217, Oma 2010, pp. 265–266, Jennbert 2011, pp. 184–188). 16 They are also found in modern hunter-gatherer cultures (Keen 1992, p. 90) and can be understood as the person becoming the animal (Müller 1968, p. 206, Hedeager 2004, pp. 232–233) or describing the person as the animal. It may also imply wishing that the name will transfer the animal's qualities to the person (Kristoffersen 2010, pp. 265–266). Whether becoming, or becoming like, the animal, the custom implies finding animals' qualities admirable and desirable and wanting to merge with aspects of their identities.

IDENTITIES AND MERGINGS DISCUSSED

STRANGE? 'IT AIN'T NECESSARILY SO'¹⁷

The above examples, intentionally selected from various periods and places, illustrate how identities resembling human identities have been attributed to animals, and how animals' and humans' identities have been experienced and expressed as merged. I claim that these phenomena are not 'strange' behaviours of the ancient. In contrast, they are expressions of typical ways of human ways of perceiving and relating to animals, which are connected to actual properties and characteristics of animals. Therefore, these phenomena emerge with a certain stability across time, although with cultural-specific variations in expression.

'Alt som får et navn, blir et savn' is a Norwegian proverb meaning that 'everything that gets a name, will be missed'. It expresses that by naming an animal you ascribe to it a personal identity, enter into a personal relation with it and, as a consequence, you will grieve when it is sold, lost or dies. Indeed, just as certain animals were named in the past, we also name our personal animals, both pets and more 'remote' animals such as horses, cows, goats and sheep (on smaller farms), animals in aguariums and zoos and animals that are specially trained (circus animals, police dogs, military dogs, dogs in rescue services). These animals often know the names of the people who own, attend or train them, the names of other animals and their own name. They have an identity.

Just as Alexander the Great was devastated when Bukephalos died, so people today grieve when their loved animals die (Archer and Winchester 1994, Sanders *et al.* 1995). Modern graveyards for pets indicate these relational attachments (Fig. 6). The graves resemble contemporary human burials, just as animal burials of the past did, regardless of time and place. I maintain that this



Fig. 6. Modern pet-grave with headstone. Printed with permission from Peternity Sales.com.

testifies that animals quite often and almost ubiquitously could be, and still are, regarded as individuals with identities to whom humans can relate. So, when we find neat burials of animals in archaeological sites, we encounter a type of behaviour that we are familiar with. These graves are neither 'functional' nor 'symbolic', they are *relational*.

One could argue that people, from various epochs, have regarded animals as 'things' too ('things' in the most derogatory sense), just as they have regarded other people as 'things'. Both humans and animals have suffered miserable conditions such as slavery, abuse and maltreatment, and have been subjected to various forms of outright cruelty (Nell 2006). The human capacity for cruelty is unquestionable. But so is the human capacity for empathy, compassion and the forming of close relationships with other humans and animals. These relationships are mutual, as animals can form strong attachments to people. This pertains particularly to domesticated animals, but is also observed in wild animals fostered by people. And now we approach the reasons why people in the past attributed identity, personality and selfhood to animals, and wanted to merge with them: it was based on experience.

INTERSPECIES

Human perception of the world is based on our body, claimed Merleau-Ponty (1962 [1945]). Indeed, the brain is a body part. It is absolutely not a tabula rasa when we are born (Krill et al. 2007, pp. 233–237). As part of our innate propensity to form relationships, we are neurologically pre-programmed (in the fuciform gyrus of the ventral hemisphere) to see and respond to faces (real faces and facelike objects alike). These responses are immediate, spontaneous, precognitive, innate and part of human nature (Hadjikhani et al. 2009). Faces are essential for recognition of others and their mental states (Baron-Cohen 1995, Keeley 2002). In this respect, people from the past were not different from us. And, when 'a face' is seen, in a human or an animal, people tend to attribute 'personality' and 'identity' to the one 'having' the face. There are aspects of animals' nature that contribute to this:

There is nothing on this planet that resembles us more than animals. Admittedly, there are vast inter- and intra-differences between various species, and not all that is listed below pertains to all animal species or individuals. The research trend in both psychology and ethology is, however, that more qualities resembling those of humans are identified in animals' bodies and behaviours, even in species where they were least expected to be found (Bekoff *et al.* 2002).

Animals, in particular those we keep as pets or personal animals, have faces with expressions, emotions and communicative features. Their bodies, brains and behaviours resemble ours. When they eat, defecate or copulate, we seldom misinterpret their behaviour. Psychological and ethological research publishes astonishing results regarding animals. Many animals have subjective self-awareness (Coy 1994, p. 78), quite complex higher cognitive functions and agency (Crook 1983, p. 13, Midgley 1995, Bovet and Vauclair 2000, Bekoff et al. 2002, Griffin and Speck 2004, Bekoff 2007). Animals have intentions, solve problems (Midgley 1995, pp. 216–255, Gould 2002, p. 44, Heinrich 2002), can lie and deceive (Midgley 1995, pp. 216–255, Güzeldere et al. 2002, Wilcox and Jackson 2002) and imitate human behaviours (Moore 1996). Animals, from maggots to chimps, learn in the same ways as we do (Pavlov 1927, Skinner 1938, Shettleworth 2001), including social learning (Heyes and Galef 1996), and can manage innovative problem-solving, with the same neurological mechanisms involved (Krill et al. 2007, p. 236). Animals develop traits such as optimism, pessimism, depression and helplessness in the same manner as humans do (Seligman 1975, Maier and Jackson 1979). Animals make plans and conceptualizations (Tolman 1948, Midgley 1995, pp. 219-221, Wilcox and Jackson 2002). Like us, animals play (Köhler 1957 [1925], p. 85, Midgley 1995, pp. 219, 326, Bekoff and Allen 2002, Pellis 2002), have a sense of humour and many 'laugh' (Cabanac 2005, Panksepp 2005b, Polimeni and Reiss 2006, pp. 352–353). Many animals use tools, some make them (Midgley 1995, pp. 217–218, 220, Griffin and Speck 2004, p. 12), and many manipulate materials to obtain pre-planned products and results (Morgan 1868, Uexküll 1940 [1882], Griffin 1994, pp. 67–114, Griffin and Speck 2004, pp. 11–12). Animals have concepts, numerical abilities, rationality and motives (Griffin 1994, pp. 115-141, Midgley 1995, pp. 102, 249, Brannon and Terrace 2002, Byers 2002, Owings 2002, p. 22). Some animals have lateralization in the brain for communicative signals, as humans have (Griffin 1994, p. 143). Animals emote, and communicate with body-language and acoustic units, as we do (Smuts 2002, Knapp and Hall 2010, Bradbury and Vehrencamp 2011). Whereas we *verbalize*, they vocalize - with standardized sounds and syntax – with each other, with other species and even with us (Midgley 1995, pp. 195–242, 303, 323–325, 335–338, MacIntyre 1999, pp. 27– 28, Pepperberg 2002, Schusterman et al. 2002).

Psycho-physiological, psycho-neurological and behavioural research have shown that emotions are endocrinologically identical to our emotions, they are evoked for similar reasons and the same areas in the brain are involved (Panksepp 2005a). Most mammals' range of emotions is astonishingly similar to ours; and they also have complex feelings such as jealousy, empathy, ambivalence, grief, respect, contempt, insult, disappointment and disregard (Midgley 1995, p. 187c, Ganguli 2006, Bekoff 2007, p. 9). Psychological and ethological research have demonstrated that animals have individual personalities with trait characteristics (Gosling and John 1999, Stamps 2007) and a sense of self (Panksepp 1998a, p. 567, 1998b). Finally, like us, animals form relationships. Animals can engage in aggression and competition as well as reciprocal altruism and cooperation (Bateson 1986, Midgley 1995, pp. 124–125, Curry 2006, p. 235). Some animals have a rudimentary morality (Bekoff 2004, 2007, p. 84), some have rudimentary culture (Laland and Janik 2006). Animals make friends. Some animals prefer single solidarity, but most

live in social groups with complex hierarchies, behavioural codes and rules of conduct, as we do (Midgley 1995, pp. 25, 66, Smuts 2002, Bearzi and Stanford 2008). They may include us in their social hierarchies or find their place in ours. 18 They can learn to interpret, predict and respond adequately to our behaviours, words and communicative cues (Coy 1994, pp. 80-81, Miklósi and Soproni 2006, Kaminski et al. 2008) and many (particularly domesticated animals) can understand our intentions and mental states (Emery and Clayton 2009, pp. 89-90). 19 These characteristics of animals, and the many and striking similarities between humans and animals, must, or at least might, have been observed and experienced whenever and wherever people have interacted with animals, transtemporally and cross-culturally. I maintain that therefore (some) people formed (even close) relationships with animals, engaged in close and interdependent interaction and cooperation with them, gave them personal names, experienced animals as having personhood and identities, and buried them with decorum. Nothing of this should surprise us. Actually, only the absence of such behaviours should.

'I AM THE WALRUS'²⁰

The merging phenomena are more complex than the attribution of identity. Merging with animals seems to be of a different order than simply experiencing animals as having identities. To attribute identities to animals is, in a way, to express something about the nature of animals. It does not express anything about human nature. Whereas to maintain that merging between animals and humans can take place, is also to express something about the nature of humans. Merging implies a conception of human nature (both physiologically and psychologically) as being flexible, fluid and versatile, capable of changing both bodily and mental 'form' in radical ways.

The examples of merging described above are profoundly different in multiple ways. I am not ignorant of the differences between various merging phenomena or of the fact

that representations of hybrid creatures can imply an inexhaustible number of motives and meanings. They are expressed in, and they are expressions of, the vastly different respective representational codes of each particular culture (Morphy 1999). There are vast complications in describing and interpreting representations. There are representation gaps between the models and their representations, the ancient representers' modes of representing, and motifs and motives for representing (often called iconographic programmes), and the modern interpreters' motives for interpreting and their insight into the representational practice in each particular prehistoric context (Gibson 1979). And, to complicate things even more, figurines and pictures made by hunter-gatherers are claimed to not be 'representations' at all, but revelations 'to penetrate beneath the surface of things so as to reach deeper levels of knowledge and understanding' (Ingold 2000, p. 130). Nevertheless, it is still my agenda that it is merging with animals that is the common denominator. Very rarely are hybrids made of humans merged with plants or objects (whether natural or man-made). It must therefore be something in the nature of animals that renders them possible/attractive/ fascinating to merge with.

If merging with animals took place in the past, do we find similar phenomena today? I think so. Although infrequent, sexology confirms that zoophilia happens with domesticated animals (Money 1986, pp. 75f.). In sharp contrast to such use of animals for sexual gratification, merging on a psychological level, in order to obtain certain qualities, takes place when animals are models and contemplative objects. A recent case comes from sports psychology. Marit Bjørgen from Norway was instructed by her sports psychologist to concentrate on a picture of a tiger (Skavlan 2010). Result: (combined with hard training) she became the person to win most medals during the 2010 Olympic Winter Games. I hold this case to represent a modern version of merging with a 'power animal'. Although not based in shamanic beliefs, nor

similar in outer ritual or behaviour, it is still strikingly similar on a psychological level.

Other phenomena implying or resembling bodily and mental merging also take place nowadays. People who shepherd, sledge or do sports with dogs and people who ride horses often feel a strong unity with the animals (Game 2001, p. 5, Brown 2007, p. 336, Haraway 2008, pp. 226-229, Oma 2010, p. 184). In such instances, the feeling of a common identity transcending the animal-human boundary and a sense of merging take place. The merging is primarily on a psychological level due to the intense co-operation and communication with the animal. But in situations with close physical contact, such as in horseriding, a feeling of bodily unity may also ensue (Argent 2012). The riding becomes relational. Similarly, the cooperation between police and police dogs, rescue teams and their dogs, soldiers and military dogs, blind persons and guide dogs, can encapsulate a closeness approaching that of experiencing merging between animals and humans. This may particularly happen in those situations where the animals serve as extensions of human capacities and human selves, because dogs see, hear, smell and run much better than humans can, and have communicative abilities and agency. One could argue that this simply points to functional 'uses' of animals. However, I will claim that these are deeply relational 'uses' that are qualitatively different from purely functional uses. The human and animal 'act like one' and 'interact', often with ensuing emotional concomitants that transcend the functional aspects. People of former times must have had similar experiences.

Animals can have profound positive effects on people's somatic and mental health (Larsen and Lingaas 1997, Winefield *et al.* 2008, McCardle *et al.* 2011). Animal assisted therapy is gaining popularity, with well-documented effects (Odendaal 2000, McCardle *et al.* 2011). Mentally retarded or disturbed people (schizophrenics, autistic people, drug abusers, children with brain or behaviour disorders, people suffering from depression, senility,

anxiety, bereavement, loneliness) can be helped by either their own or therapist animals, in ways that therapy solely with human therapists could not achieve (Corson et al. 1977, Siegel 1990, Kurdek 2009, Wisdom et al. 2009, Cline 2010). In therapy, animals have potentials and capacities because they comfort, amuse and communicate so well (Fig. 7). Experiences of merging are not necessarily part of the therapeutic processes, but at least experiences of animal identity and positive close contact with the animals as individuals clearly are. Again, although functional aspects are central, the relational qualities are the essential and actual agents. People of former times must have had similar experiences.

OBJECTIONS?

There are several obvious objections that can be made to my claims: first, do I, from the very beginning, contradict myself when I say that we find prehistoric cases of identity attributed to animals and merging phenomena strange, but then say that similar phenomena happen today? It is indeed important to pay adequate attention to differences, but we must not forget, or reject *a priori*, the possibility of certain similarities, a continuity of experiences, between people of the past and the present.

Second, I may seem to claim that everybody, both in the past and in the present, experienced animals as having identities and merging with them as possible. Neither is the case. People have had, and have, extremely different relationships with animals, both as species and as individual animals. Animals have been adored and devoured, treated as objects as well as agents. Contrasting graves, the 'uses' or relationships with animals are not easily deducible from faunal assemblages alone (O'Connor 1996, p. 12, Rogers 2000). There are vast differences both inter- and intraculturally (Morris 2000, p. 34). Still, humans seem to have a particular fascination for, and involvements with, animals. Please note that to regard animals as having identities must not be confused with *liking* animals. People who



Fig. 7. Neither functional nor symbolic, simply relational. (Amira Christine Lindstrøm with Stella. Photo: T. C. Lindstrøm).

dislike or are afraid of animals actually often regard animals as having a personal identity. Indeed, it is this very identity these people dislike or fear.

Third, by pointing to certain trans-temporal and cross-cultural similarities in people's behaviours, I argue for the existence of a human nature and the relevance of this concept. To this I expect fundamental objections from social constructivists and post-processualists. Admittedly, cultures are to a considerable degree socially constructed and vastly different. Still, we must not forget that humans are also a biological species, and that this implies certain common characteristics and behavioural inclinations, as extensive research has established (Cosmides and Tooby 2003, Buss 2005, Tooby and Cosmides 2005, Barrett *et al.*

2010, Cosmides et al. 2010). Today, the most salient position is that what we traditionally call 'nature' and 'culture' interact and coevolve in subtle, intricate and inseparable ways (Midgley 1995, Buss 2001, Ingold 2001, 2006, Oyama et al. 2001, Berry et al. 2002, Bandura 2006). In this article, however, I draw attention to certain phenomena that seem to be mainly on the nature side, in both humans and animals. Phenomena that are not explicable from the points-of-view of 'function' or 'meaning' alone, but connected to perception of animals' nature and relational experiences with animals. I know this may be provocative to those who insist on idiosyncratic conceptualizations of all cultural phenomena and expressions, and that all our percepts are constructions. But I hope, given the later developments in archaeological theory, that the time is ripe for more inclusive and comprehensive conceptualizations of the past.

Fourth, whereas it is almost axiomatic today that 'our perception of the animal kingdom is a cultural construction and is connected to social relations, kinship ties, ecological circumstances, and modes of linguistic expression' (Lévi-Strauss 1969, p. 159), I claim that some human perceptions of and behaviours regarding animals, in the past and the present, are essentially 'the same' cross-culturally and trans-temporally. One could question the amount of communality or 'sameness'. For example, I have compared ancient shamanic beliefs with a modern athlete's meditation on a tiger, ancient burials of dogs with modern graveyards for pets, and paralleled ancient and modern experiences of animals' identities and of merging phenomena, and I have claimed that the underlying psychological processes, to a considerable extent, were the same in the past and the present. One could, of course, claim that I have not proven beyond any doubt that the underlying mechanisms were 'the same'.

To claim 'sameness' or 'similarity' between cultures and peoples' behaviours has been out of fashion for some time. Similarities that are documented to be due to cultural transmission or continuation are only reluctantly accepted (Arnold and Counts 2010, pp. 11–13, 16–19). Postmodern social-constructivism in psychology and post-processualism in archaeology insist on dissimilarity and uniqueness in both cultural and individual characteristics and on contextual idiosyncratic approaches. I maintain that neither have these postmodern positions been proven beyond any doubt.

Admittedly, archaeology and comparative religion have a history of overly quick conclusions about 'universality' and 'sameness' (Arnold and Counts 2010, pp. 15–21, with references). Appropriation of symbols and behaviours from one cultural context to another often implies considerable adjustments to the local contexts. Also perception of animals as well as semiotic, symbiotic and other

'uses' of them are filtered and formed through cultural schemata (Arnold and Counts 2010, p. 16). But when the post-processualist position insists on incommensurable culture-specific differences in relation to animals, may they not have overlooked something?

'Das Ding an sich' (Kant 1783)? Something about the animals themselves? Animals have natural properties, certain species-specific characteristics, many of which humans can observe and relate to. Animals leave certain impressions. As long as the species remain the same, the human perception of them could likewise be 'the same', at least be 'similar' in certain phenomenological respects, even in different cultures and epochs. For instance, it would be immensely strange if people, from the past or present, did *not* perceive lions as strong and dangerous and deer as swift and easily scared. These observations are the same because they concern species-specific characteristics of animals. As we have seen, the cognitive, emotional and social abilities of animals are solidly documented in contemporary research. Some of them must also have been observed and related to in other times and places. Therefore, when both past and present people perceive and experience that animals have identities and experience relational merging with them, these phenomena are not anthropomorphism, but realism, based on the same/similar and quite objective observations and experiences. It should therefore not surprise us when we find strikingly similar ('same') behaviours in relation to animals in otherwise different cultures.

CONCLUSION

When animals are encountered in archaeological material, they are usually interpreted as having had functional roles or symbolic meanings. Relational aspects are seldom mentioned. But to attribute personal identity to animals and to experience merging with them are rather cross-cultural and trans-temporal phenomena. They are most likely based on

relatively stable perceptions of, and relational experiences with, animals. These can be understood only if the nature of the animals in themselves ('das Ding an sich') (as well as relational aspects of human nature) is taken into consideration. This may have two consequences for archaeology: first, many aspects of animal-human interactions are reciprocal-influential and relational in intricate ways. This is a phenomenon in itself, and not reducible to functional uses of animals or symbolic meanings attributed to them. Second, new research-based knowledge about animals 'in themselves', their properties and characteristics, ought also to be seriously considered when their functional uses and symbolic meanings are analysed, as that knowledge may carry important clues to understanding why the particular animal species was chosen for a function or attributed with a symbolic meaning. Going beyond both processualism and post-processualism, it should be recognized that we do not only construct our conceptualizations of animals according to our culture, we are also affected by them according to their nature.

ACKNOWLEDGEMENTS

I thank Mark Pearce for his observations on my paper. The opinions, conclusions and the paper's final form are entirely my responsibility.

NOTES

- ¹ In the following the term 'animal' will be used in a wide sense, and will include birds and fish.
- ²It should be noted, however, that our biological taxonomies are also disputable (Clark 1994, Ingold 1994b).
- ³ Indications of sacrifices and/or ritual eating of dogs are found many places, for instance, in various Iron Age cultures (Italy, France, Austria, Slovenia, England, Denmark) (Bevan 2006, pp. 107, 114–116). Yet, this also testifies to the special importance of dogs.

- ⁴ Still older are cat burials in Cyprus (Clutton-Brock 1981, pp. 110, 155).
- ⁵ The horses in Viking burial also connect to the fact that the horse was an extremely important animal in Norse mythology and lore (Ellis Davidson 1969, pp. 85, 90, 92, Østmoe Kostveit 2007).
- ⁶ It is possible, however, that the Minoan words are not personal names, but descriptions of the animals, or describing names (Shapland 2010, p. 115).
- ⁷ One could argue that the heads of these figurines may not be the heads of lions, but of another, perhaps smaller feline species. Nevertheless, the size of the heads in comparison to the human bodies is evidence that the heads were in any case those of a rather big feline species. And, as other feline species (such as lynx) also have many of the characteristics and abilities of lions, the same arguments hold regarding the motivation for merging human identities with feline animals.
- ⁸ Apparently human legs drawn on otherwise animal bodies, which have been found in several cases in Palaeolithic art, have also been suggested simply to be the result of faulty drawing (Guthrie 2005, pp. 100–101). It is important to note that the modern drawings made of this figure have been severely criticized (Ucko 1992); the presence of antlers in particular has been questioned. However, that discussion is not pertinent to this paper, since the point here is that, whatever the details, the figure indisputably shows a blend of animal and human bodies.
- ⁹That animals that are killed during hunting, actually 'give themselves up' to their hunter, according to the will of their Animal Master, or Great Spirit, is a common idea among huntergatherers (Ingold 1994a, p. 12, Nadasdy 2007, pp. 25–43).
- of reciprocal understanding of each other's vital needs and a mutual state of interdependency (Tapper 1994, p. 52) and suggesting that there is even a mutual trust between hunter and prey (Ingold 2000, pp. 69–72). I agree with Oma's (2010) critique of Ingold (1994a), that the 'trust' may be the sentiment of the hunters, whereas the prey animals have every reason to deeply distrust the hunters.
- Paradoxically, sometimes it is the absence of representations of certain animals that testify to their significant status, for instance the absence of

bears in Andean, Inuit and Norse iconography (Paisley and Saunders 2010, p. 246).

¹² Antlers still have symbolic significance in North Scandinavia. Reindeer antlers symbolize Life and regeneration in the Sami tradition (Olofsson 2010). In Norway, antlers of reindeer, deer and elk are often found decorating the apexes of private houses, farms or holiday homes. Surprisingly, antlers are found in the same position on Iron Age houses shown in rock carvings in Valcamonica (northern Italy) (Bevan 2006, p.144).

¹³ They have also been suggested to be used as disguises for stalking during hunts (Clark 1954, p. 170), but Clark seems to favour the religious interpretation.

¹⁴The 'Animal Master' or 'Great Spirit' is a divine being which presides over the animals. When bones and other animal remains from a hunt are returned to the Animal Master, the animals' rebirth is ensured (Ingold 1987, p. 56, Aldhouse-Green 1998, p. 101).

¹⁵The term 'shamanism' has been criticized for being used in a Scandinavian Viking context (Zachrisson 2003), yet, it has been argued that Norse religion contained elements of shamanism (Jennbert 2011, pp. 199–201).

¹⁶In Norway, names such as Bjørn/Bjarne (bear), Bjarnhardt/Bernhart (bear-hart), Ulf/Ulv (wolf), Sveinulv (young man-wolf), Steinulf (stone-wolf), Ottar (otter), Arne, Ørn (eagle), Arnstein (eagle-stone), Ørnulf (eagle-wolf), Hauk (hawk) and Rein (reindeer) are still in use.

¹⁷Song sung by the character 'Sportin' Life' in George Gershwin's *Porgy and Bess* (1935).

¹⁸I have experienced, as most cattle-keeping farmers have, that cows can react to people as to members of their herd and involve people in fights about the social order in the herd's hierarchy. And, as all dog owners (ought to) know, settling a dog's appropriate place in the hierarchy of the household is essential for successful dog-keeping.

¹⁹ Anybody who has had a cat, dog or horse knows that these animals are capable of predicting their owner's intentions and movements. This ability is proven beyond any doubt in numerous situations where the owner has tried to catch one of these animals when the animal did not want to be caught.

²⁰Title of a song from the Beatles' album *Magical Mystery Tour* (1967).

REFERENCES

- Aldhouse-Green, M.J., 1992. *Animals in Celtic life* and myth. London: Routledge.
- Aldhouse-Green, M.J., 1998. God in man's image: thoughts on the genesis and affiliations of some Roman-British cult-imagery. *Britannia*, 29, 17–30.
- Aldhouse-Green, M. and Aldhouse-Green, S., 2005. The quest for the shaman: shape-shifters, sorcerers and spirit-healers of ancient Europe. London: Thames & Hudson.
- Anati, E., ed., 1976. Evolution and style in Camunian rock art: an inquiry into the formation of European civilization. Valcamonica: Edizioni del Centro.
- Andronikos, M., 1968. Totenkult. *Archeologia Homerica, III: Kapital W.* Göttingen: Vandenhoek & Ruprecht, 1–40.
- Archer, J. and Winchester, G., 1994. Bereavement following death of a pet. *British Journal of Psychology*, 85, 259–271.
- Argent, G., 2010. Do the clothes make the horse? *World Archaeology*, 42, 157–174.
- Argent, G., 2012. Toward a privileging of the nonverbal: communication, corporeal synchrony and transcendence in humans and horses. *In*: J.A. Smith and R.W. Mitchell, eds. *Experiencing animals: encounters between animal and human minds*. New York: Columbia University Press, 111–128.
- Arnold, B. and Counts, D.B., 2010. Prolegomenon: the many masks of the Master of Animals. *In*: B. Arnold and D.B. Counts, eds. *The Master of Animals in old world iconography*. Budapest: Archaeolingua, 9–24.
- Azzaroli, A., 1980. Venetic horses from Iron Age burials at Padova. *Rivista di Scienze Preistoriche*, 35, 281–308.
- Bandura, A., 2006. Toward a psychology of human agency. *Perspectives on Psychological Science*, 1, 164–180.
- Baron-Cohen, S., 1995. *Mindblindness: an essay on autism and theory of mind*. Cambridge, MA: MIT Press.
- Barrett, H.C., Cosmides, L. and Tooby, J., 2010. Coevolution of cooperation, causal cognition and mindreading. *Communicative and Integrative Biology*, 3, 522–524.
- Bateson, P., 1986. Sociobiology and human politics. *In*: S. Rose and L. Appignanesi, eds. *Science and beyond*. Oxford: Blackwell, 79–99.

- Bazaliiskiy, V.I. and Savelyev, N.A., 2003. The wolf of Baikal: the 'Lokomotiv' early Neolithic cemetery in Sibiria. Antiquity, 77, 20–30.
- Bearzi, M. and Stanford, C.B., 2008. *Beautiful minds: the parallel lives of great apes and dolphins*. Cambridge, MA: Harvard University Press.
- Bekoff, M., 2004. Wild justice and fair play: cooperation, forgiveness, and morality in animals. *Biology and Philosophy*, 19, 489–520.
- Bekoff, M., 2007. The emotional lives of animals. Novato, CA: New World Library.
- Bekoff, M. and Allen, C., 2002. The evolution of social play: interdisciplinary analyses of cognitive processes. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 429–435.
- Bekoff, M., Allen, C. and Burghardt, G.M., eds, 2002. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press.
- Bergquist, A. and Taylor, T., 1987. The origin of the Gundestrup cauldron. *Antiquity*, 61, 10–24.
- Berry, J.W., Poortinga, Y.H., Segall, M.H. and Dasen, P.R., 2002. *Cross-cultural psychology: research and applications*. Cambridge: Cambridge University Press.
- Bevan, L., 2006. Worshippers and warriors: reconstructing gender and gender relations in the prehistoric rock art of Naquane National Park, Valcamonica, Brescia, northern Italy. British Archaeological Reports International Series, 1485. Oxford: Archaeopress.
- Bintliff, J., 2004. Introduction. *In*: J. Bintliff, ed. *A companion to archaeology*. Oxford: Blackwell, xvii–xxiv.
- Bintliff, J., 2011. The death of archaeological theory?In: J. Bintliff and M. Pearce, eds. The death of archaeological theory? Oxford: Oxbow Books, 7–22.
- Bodson, L., 2000. Motivations for pet-keeping in Ancient Greece and Rome: a preliminary survey. *In*: A.L. Podberscek, E.S. Paul and J.A. Serpell, eds. *Companion animals and us: exploring the relationships between people and pets.* Cambridge: Cambridge University Press, 27–41.
- Bolin, H., 2000. Animal magic: the mythological significance of elks, boats and humans in north Swedish rock art. *Journal of Material Culture*, 5, 153–176.
- Bovet, D. and Vauclair, J., 2000. Picture recognition in animals and humans: a review. *Behavioural Brain Research*, 109, 143–165.

- Bowlby, J., 1969. Attachment and loss, Vol. 1, Attachment. New York: Basic Books.
- Bradbury, J.W. and Vehrencamp, S.L., 2011.
 Principles of animal communication. Sunderland, MA: Sinauer Associates.
- Brannon, E.M. and Terrace, H.S., 2002. The evolution and ontogeny of ordinal numerical ability. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 197–204.
- Breuil, H., 1974. *Quatre cent siècles d'art parietal:* Les Caverns ornées de l'age du renne. Paris: Fax Fourny.
- Brown, C., 1937. Burial of horses. *Folklore*, 48, 99.Brown, S.-E., 2007. Companion animals as selfobjects. *Anthrozoös*, 20, 329–343.
- Burkett, M., 1921. *Prehistory*. Cambridge: Cambridge University Press.
- Buss, D.M., 2001. Human nature and culture: an evolutionary psychological perspective. *Journal* of *Personality*, 69, 955–978.
- Buss, D.M., ed., 2005. *Handbook of evolutionary psychology*. New York: Wiley.
- Byers, J.A., 2002. The ungulate mind. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 35–40.
- Cabanac, M., 2005. The experience of pleasure in animals. *In*: F.D. McMillan, ed. *Mental health* and well-being in animals. San Francisco, CA: Wiley-Blackwell, 29–46.
- Calzavara Capuis, L. and Leonardi, G., 1979.Padova, Località S. Gregorio: necropoli paleoveneta del Piovego. *Rivista di Archeologia*, 3, 137–141.
- Campbell, J., 1968. *The masks of God: primitive mythology*. Harmondsworth: Penguin.
- Capuis, L., 1993. I Veneti: società e cultura di un popolo dell'Italia preromana. Biblioteca di Archeologia, 19. Milano: Longanesi.
- Christensen, A.E., Ingstad, A.S. and Myhre, B., 1992. *Osebergdronningens grav*. Oslo: Schibsted.
- Clark, J.G.D., 1954. Excavations at Star Carr: an early Mesolithic site at Seamer near Scarborough, Yorkshire. Cambridge: Cambridge University Press.
- Clark, R.L., 1994. Is humanity a natural kind? *In*: T. Ingold, ed. *What is an animal?* London: Routledge, 17–34.
- Cline, K.M.C., 2010. Psychological effects of dog ownership: role strain, role enhancement, and

- depression. The Journal of Social Psychology, 150, 117–131.
- Clottes, J. and Lewis-Williams, D., 1996. Les chamanes de la préhistoire: Transe et magie dans les grottes ornée. Paris: Le Seuil.
- Clutton-Brock, J., 1981. *Domesticated animals from early times*. Austin: University of Texas Press.
- Clutton-Brock, J., 1995. Origins of the dog: domestication and early history. *In*: J. Serpell, ed. *The domestic dog: its evolution, behaviour and interactions with people*. Cambridge: Cambridge University Press, 7–20.
- Conard, N.J., 2003. Palaeolithic ivory sculptures from south-western Germany and the origins of figurative art. *Nature*, 426, 830–832.
- Corson, S.A., Corson, E.O.L., Gwynne, P.H. and Arnold, L.E., 1977. Pet dogs as nonverbal communication links in hospital psychiatry. *Comprehensive Psychiatry*, 18, 61–72.
- Cosmides, L. and Tooby, J., 2003. Evolutionary psychology: theoretical foundations. *In:* R.A. Wilson and F.C. Keil, eds. *Encyclopedia of cognitive science*. London: Macmillan, 54–64.
- Cosmides, L., Barrett, H.C. and Tooby, J., 2010. Adaptive specializations, social exchange, and the evolution of human intelligence. *Proceedings of the National Academy of Sciences*, 107, 900–914.
- Cotterell, A. and Storm, R., 2001. *The ultimate encyclopedia of mythology*. London: Anness Publishing.
- Coy, J., 1994. Animals' attitudes to people. *In*: T. Ingold, ed. *What is an animal?* London: Routledge, 77–83.
- Crook, J.H. 1983. On attributing consciousness to animals. *Nature*, 303, 11–14.
- Cross, P.J., 2011. Horse burial in the first millennium AD Britain: issues of interpretation. *European Journal of Archaeology*, 14, 190–208.
- Curry, O., 2006. Who's afraid of the naturalist fallacy? *Evolutionary Psychology*, 4, 234–247.
- Dark, K., 2002. *Britain and the end of the Roman Empire*. Stroud: Tempus.
- Day, L.P., 1984. Dog burials in the Greek world. American Journal of Archaeology, 88, 21–32.
- Descorla, P., 2005. Beyond nature and culture. Proceedings of the British Academy, 139, 137–155.
- Ellis Davidson, H.R., 1969. *Scandinavian mythology*. London: Paul Hamlyn.
- Emery, N.J. and Clayton, N.S., 2009. Comparative social cognition. *Annual Review of Psychology*, 60, 87–113.

- Euripides, 1964. Hippolytos. *In*: W.S. Barrett. *Euripides, Hippolytos, edited with introduction and commentary*. Oxford: Clarendon Press.
- Feest, C.F., 1980. *The art of war*. New York: Thames & Hudson.
- Fischer, R., 1971. A cartography of the ecstatic and meditative states. *Science*, 174, 897–904.
- Fladerer, F.A., Salcher-Jedrasiac, T. and Umgeher-Mayer, S., 2009. Before the decline of the mammoths: a reassessment of the 20ka Epiaurignacian site at Langmannersdorf in lower Austria. In: Proceedings of the 51th Annual Meeting in Ljublajana of the Hugo Obermaier Society for Quaternary Research and Archaeology of the Stone Age. Ljubljana: University of Ljubljana, 19–20.
- Fowler, C., 2004. *The archaeology of personhood*. London: Routledge.
- Freud, A., 1966 [1936]. *The ego and the mechanisms of defence*. New York: International Universities Press.
- Gallou, C., 2005. The Mycenean cult of the dead. British Archaeological Reports International series, S1372. Oxford: Archaeopress.
- Game, A., 2001. Riding: embodying the centaur. *Body and Society*, 7, 1–12.
- Ganguli, I., 2006. Mice show evidence of empathy. *The Scientist*, 30 June 2006. Available from: http://www.thescientist.com/news/disply/23764/#23829 [Accessed 30 June 2006].
- Germonpré, M., Láznicková-Galetová, M. and Sablin, M.V., 2012. Palaeolithic dog skulls at the Gravettian Predmosti site, the Czech Republik. *Journal of Archaeological Science*, 39, 184–202.
- Gibson, J.J., 1979. *The ecological approach to visual perception*. Boston, MA: Houghton Mifflin.
- Gilhus, I.S., 2006. Animals, gods and humans: changing attitudes to animals in Greek, Roman and early Christian ideas. London: Routledge.
- Gosling, S.D. and John, O.P., 1999. Personality dimensions in nonhuman animals: a cross-species review. *Current Directions in Psychological Science*, 8, 69–75.
- Gould, J.L., 2002. Can honey bees create cognitive maps? In: M. Bekoff, C. Allen and G.M. Burghardt, eds. The cognitive animal: empirical and theoretical perspectives on animal cognition. Cambridge, MA: MIT Press, 41–45.
- Greene, R., 2000. *The magic of shapeshifting*. York Beach, ME: Weiser.
- Griffin, D.R., 1994. *Animal minds*. Chicago, IL: University of Chicago Press.

- Griffin, D.R. and Speck, G.B., 2004. New evidence of animal consciousness. *Animal Cognition*, 7, 5–18.
- Guiley, R.E., 2005. *The encyclopedia of vampires, werewolves and other monsters*. New York: Facts on File.
- Guirand, F., ed., 1968. New Larousse encyclopedia of mythology. London: Hamlyn.
- Guthrie, R.D., 2005. The nature of Paleolithic art. Chicago, IL: University of Chicago Press.
- Güzeldere, G., Nahmias, E. and Deaner, R.O., 2002. Darwin's continuum and the building blocks of deception. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 353–362.
- Hadjikhani, N., Kveraga, K., Naik, P. and Ahlfors, S.P., 2009. Early (M170) activation of facespecific cortex by face-like objects. *Neuro Report*, 20, 403–407.
- Halifax, J., 1982. Shaman: the wounded healer. London: Thames & Hudson.
- Haraway, D.J., 2008. When species meet. Minneapolis: University of Minnesota Press.
- Haseloff, G., 1981. Die germanische Tierornamentik der Völkerwanderungszeit. Studien zu Salin's Stil I. Band I-III. Berlin: de Gruyter.
- Hedeager, D., 1997. Odins offer: skygger af en shamanistisk tradisjon i nordisk folkevandringstid. Tor, 29, 265–278.
- Hedeager, D., 2004. Dyr og andre mennesker mennesker og andre dyr: dyreornamentikkens transcendentale realitet. *In*: A. Andrén, K. Jennbert and C. Raudvere, eds. *Ordning mot kaos: studier av nordisk förkristen kosmologi*. Lund: Nordic Academic Press, 219–287.
- Heider, F., 1958. *The psychology of interpersonal relations*. New York: Wiley.
- Heinrich, B., 2002. Raven consciousness. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 47–52.
- Heyes, C.M. and Galef, B.G., eds., 1996. *Social learning in animals: the roots of culture*. San Diego, CA: Academic Press.
- Hodder, I., 1999. The archaeological process: an introduction. London: Blackwell.
- Hougen, B., 1936. The Migration style of ornaments in Norway. Oslo: Universitetets Oldsaksamling.
- Ingold, T., 1987. *The appropriation of nature*. Iowa City: University of Iowa Press.

- Ingold, T., 1994a. From trust to domination: an alternative history of human-animal relations.In: A. Manning and J. Serpell, eds. Animals and human society. London: Routledge, 1–22.
- Ingold, T., 1994b. Introduction. *In*: T. Ingold, ed. *What is an animal?* London: Routledge, 1–16.
- Ingold, T., 2000. The perception of the environment: essays in livelihood, dwelling and skill. London: Routledge.
- Ingold, T., 2001. From complementarity to obviation: on dissolving the boundaries between social and biological anthropology, archaeology, and psychology. *In*: S. Oyama, P.E. Griffiths and R.D. Gray, eds. *Cycles of contingency: developmental systems and evolution*. Cambridge, MA: MIT Press, 255–280.
- Ingold, T., 2006. Rethinking the animate, reanimating thought. *Ethnos*, 71, 9–20.
- Jennbert, K., 2011. Animals and humans: recurrent symbiosis in archaeology and old Norse religion. Lund: Nordic Academic Press.
- Johnson, B. and Onwuegbuzie, A.J., 2004. Mixed methods research: a research paradigm whose time has come. *Educational Researcher*, 33, 14–26.
- Jørgensen, L., Storgaard, B. and Gebauer Thomsen, L., 2003. Sejrens triumf: Norden i skyggen av det romerske imperium. Copenhagen: Nationalmuseet.
- Kaminski, J., Bräuer, J., Call, J. and Tomasello, M., 2008. Domestic dogs are sensitive to human's perspective. *Behaviour*, 146, 979–998.
- Kant, I., 1783. Prolegomena zu einer jeden künftigen Metaphysik, die als Wissenschaft wird auftreten können. Riga: Johann Friederich Hartknoch.
- Keeley, B.L., 2002. Eye gaze information processing theory. In: M. Bekoff, C. Allen and G.M. Burghardt, eds. 2002. The cognitive animal: empirical and theoretical perspectives on animal cognition. Cambridge, MA: MIT Press, 443–450.
- Keen, S., 1992. Fire in the belly: on being a man. London: Piatkus.
- Knapp, M. L. and Hall, J. A., 2010. Nonverbal communication in human interaction. 7th edn. Boston, MA: Wadsworth.
- Köhler, W., 1957 [1925]. *The mentality of apes*. Harmondsworth: Pelican.
- Krill, A.L., Platek, S.M., Goetz, A.T. and Shackelford, T.K., 2007. Where evolutionary psychology meets cognitive neuroscience: a précis to evolutionary cognitive neuroscience. *Evolutionary Psychology*, 5, 232–256.

- Kristoffersen, S., 1995. Transformation in Migration Period animal art. Norwegian Archaeological Review, 28, 1–17.
- Kristoffersen, S., 2010. Half beast half man. World Archaeology, 42, 261–272.
- Kurdek, L.A., 2009. Pet dogs as attachment figures for adult owners. *Journal of Family Psychology*, 23, 439–446.
- Lahelma, A., 2007. 'On the back of a blue elk': recent ethnohistorical sources and 'ambiguous' Stone Age rock art at Pyhänpää, Central Finland. Norwegian Archaeological Review, 40, 113–137.
- Laland, K. and Janik, V., 2006. The animal cultures debate. *Trends in Ecology and Evolution*, 21, 542–547.
- Lange, G., 2007. Tierverwandlung. In: R. Müller, ed. Reallexikon der germanischen Altertumskunde, 35. Berlin: de Gruyter, 608–610.
- Larsen, B.A. and Lingaas, F., 1997. Hund og helse: en oversikt over dokumenterte sammenhenger. *Tidsskrift for Norsk Lægeforening*, 30, 4375–4379.
- Larsson, L., 1993. The Skateholm Project: late Mesolithic coastal settlement in southern Sweden. In: P. Bogucki, ed. Case studies in European prehistory. Ann Arbor, MI: CRC Press, 31–62.
- Lazenby, F.D., 1949. Greek and Roman household pets. *The Classical Journal*, 44, 299–307.
- Leonardi, G., 2004. La tomba bisoma di uomo e di cavallo nella necropoli del Piovego-Padova. Venice: Marsilio Editori.
- Lévi-Strauss, C., 1969. *Totemism*. Harmondsworth: Penguin.
- Lewis-Williams, D.J. and Clottes, J., 1998. The mind in the cave the cave in the mind: altered consciousness in the upper Paleolithic. *Anthropology of Consciousness*, 9, 13–21.
- Lindstrøm, T.C., 2010. The animals of the arena: how and why could their destruction and death be endured and enjoyed? *World Archaeology*, 42 (2), 313–326.
- Lindstrøm, T.C. and Kristoffersen, S., 2001. 'Figure it out!' Psychological perspectives on perception of Migration Period animal art. Norwegian Archaeological Review, 34, 65–84.
- Lissarrague, F., 1993. On the wildness of satyrs. *In*: T.H. Carpenter and C.A. Faraone, eds. *Masks of Dionysos*. Ithaca, NY: Cornell University Press, 207–220.
- Losey, R.J., Bazaliiskii, V.I., Garvie-Lok, S., Germonpré, M., Leonard, J.A., Allen, A.L., Katzenberg, M.A. and Sablin, M.V., 2011.

- Canids as persons: early Neolithic dog and wolf burials, Cis-Baikal, Siberia. *Journal of Anthropological Archaeology*, 30, 174–189.
- Lumley, H. de, 2009. The emergence of symbolic thought: the principal steps of hominisation leading towards greater complexity. *In*: C. Renfew and I. Morley, eds. *Becoming human: innovation in prehistoric material and spiritual culture*. Cambridge: Cambridge University Press, 10–26.
- MacIntyre, A., 1999. Dependent rational animals: why human beings need the virtues. London: Duckworth.
- MacKinnon, M., 2010. 'Sick as a dog': zooarchaeological evidence for pet dog health and welfare in the Roman world. *World Archaeology*, 42, 290–309.
- Maier, S.F. and Jackson, R.L., 1979. Learned helplessness: all of us were right (and wrong): inescapable shock has multiple effects. *In*: G.H. Bower, ed. *The psychology of learning and motivation*. New York: Academic Press, 155–218.
- Maringer, J., 1981. Der Hund in der Mythologie der vorgeschichtlichen Menschen. Acta Praehistorica et Archaeologica, 11–12, 37–42.
- Martynov, A.I., 1991. *The ancient art of northern Asia*. Urbana: University of Illinois Press.
- McCardle, P., McCune, S., Griffin, J.A. and Maholmes, V., eds, 2011. *How animals affect us.* Washington, DC: American Psychological Association.
- Meadows, K., 2004. *Shamanic spirit*. Santa Fe, NM: Bear.
- Merleau-Ponty, M., 1962 [1945]. Phenomenology of perception. London: Routledge & Kegan Paul.
- Midgley, M., 1995. Beast and man: the roots of human nature. London: Routledge.
- Miklósi, Á. and Soproni, K., 2006. A comparative analysis of animals' understanding of the human pointing gesture. *Animal Cognition*, 9, 81–93.
- Money, J. 1986. Lovemaps: clinical concepts of sexuallerotic health and pathology, paraphilia, and gender transposition in childhood, adolescence and maturity. New York: Irvington.
- Moore, B.R., 1996. The evolution of imitative learning. *In*: C.M. Heyes and B.G. Galef, eds. *Social learning in animals: the roots of culture*. New York: Academic Press, 245–265.
- Morey, D.F., 2006. Burying key evidence: the social bond between dogs and people. *Journal of Archaeological Science*, 33, 158–175.

- Morford, M.P.O. and Lenardon, R.J., 2003. Classical mythology. New York: Oxford University Press.
- Morgan, L.H., 1868. *The American beaver and his works*. Philadelphia, PA: Lippincott.
- Morphy, H., 1999. Encoding the dreaming: a theoretical framework for the analysis of representational processes in Australian Aboriginal art. Australian Archaeology, 49, 13–22.
- Morris, B., 2000. Animals and ancestors: an ethnography. Oxford: Berg.
- Müller, G., 1968. Germanische Tiersymbolik und Namengebung. *Frühmittelalterliche Studien*, 2, 202–217.
- Mundkur, B., 1994. Human animality, the mental imagery of fear, and religiosity. *In*: T. Ingold, ed. *What is an animal?* London: Routledge, 141–184.
- Nadasdy, P., 2007. The gift in the animal: the ontology of hunting and human-animal sociality. *American Ethnologist*, 34, 25–43.
- Narr, K.J., 1979. Prehistoric religion. *In: The new encyclopaedia Britannica, Macropaedia*, 14. Chicago, IL: Encyclopedia Britannica, 984–989.
- Nell, V., 2006. Cruelty's rewards: the gratifications of perpetrators and spectators. *Behavioural and Brain Sciences*, 29, 211–257.
- Nicander, 1996. Heteroioumena. In: Nicandri Theriacorum, et Alexipharmacorum concordantia. Trans. M. Papathomopoulos. Hildesheim: Olms-Wridmann Verlag.
- Nissen Meyer, E., 1935. Relieffspenner i Norden. Bergens Museums Årbok 1934, Historiskantikvarisk rekke, Nr. 4. Bergen: Bergens Museum.
- Nordahl, E., 2001. *Båtgravar i gamla Uppsala: spår av en vikingatida högrestandsmilö*. Uppsala: Uppsala University.
- O'Connor, T.P., 1996. A critical overview of archaeological animal bone studies. *World Archaeology*, 28, 5–19.
- Odendaal, J.S., 2000. Animal-assisted therapy: magic or medicine? *Journal of Psychosomatic Research*, 49, 275–280.
- Olofsson, C., 2010. Making new antlers: depositions of animal skulls and antlers as a message of regeneration in south Sámi grave contexts. Norwegian Archaeological Review, 43, 97–114.
- Olsen, B., 2010. In the defence of things: archaeology and the ontology of objects. Lanham, MD: AltaMira Press.
- Oma, K. A., 2010. Between trust and domination. *World Archaeology*, 42, 175–187.

- Østmoe Kostveit, Å., 2007. Hesten i myter og folkekultur. Oslo: Tun Forlag.
- Outram, A.K., Stear, N.A., Kasparov, A., Usmanova, E., Varfolomeev, V. and Evershed, R.P., 2011. Horses for the dead: funerary foodways in Bronze Age Kazakhstan. *Antiquity*, 85, 116–128.
- Ovid, 1986. Metamorphoses. Trans. A.D. Melville. Oxford: Oxford University Press.
- Owings, D.H., 2002. The cognitive defender. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 19–25.
- Oyama, S., Griffiths, P.E. and Gray, R.D., eds., 2001. *Cycles of contingency: developmental systems and evolution*. Cambridge, MA: MIT Press.
- Page, R.I., 1995. *Chronicles of the Vikings*. Toronto: University of Toronto Press.
- Paisley, S. and Saunders, N.J., 2010. A god forsaken: the sacred bear in Andean iconography and cosmology. World Archaeology, 42, 245–260.
- Panksepp, J., 1998a. Affective neuroscience: the foundations of human and animal emotions. New York: Oxford University Press.
- Panksepp, J., 1998b. The periconscious substrates of consciousness: affective states and the evolutionary origins of the self. *Journal of Consciousness Studies*, 5, 566–582.
- Panksepp, J., 2005a. Affective consciousness: core emotional feelings in animals and humans. Consciousness and Cognition, 14, 30–80.
- Panksepp, J., 2005b. Beyond a joke: from animal laughter to human joy? *Science*, 308, 62–63.
- Pavlov, I. P., 1927. *Conditioned reflexes: an investigation of the physiological activity of the cerebral cortex*. London: Oxford University Press.
- Pearce, M., 2011. Have rumours of the 'death of theory' been exaggerated? *In*: J. Bintliff and M. Pearce, eds. *The death of archaeological theory?* Oxford: Oxbow Books, 80–87.
- Pellis, S.M., 2002. Keeping in touch: play fighting and social knowledge. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 421–427.
- Pepperberg, I.M., 2002. Cognitive and communicative abilities in grey parrots. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 247–253.

- Pliny Secundus, G., 2011. Pliny's natural history in thirty-seven books. Trans. P. Holland, 1601. New York: Nabu Press.
- Pluciennik, M., 2011. Theory, fashion, culture. *In*: J. Bintliff and M. Pearce, eds. *The death of archaeological theory?* Oxford: Oxbow Books, 7–22.
- Polimeni, J. and Reiss, J.P., 2006. The first joke: exploring the evolutionary origins of humor. *Evolutionary Psychology*, 4, 347–366.
- Popham, M.R., Calligas, P.G. and Sackett, L.H., 1989. Further excavation of the Toumba cemetery at Lefkandi, 1984–1986: a preliminary report. *Archaeological Reports*, 35, 117–129.
- Porr, M., 2010. Palaeolithic art as cultural memory: a case study of the Aurignacian art of southwestern Germany. Cambridge Archaeological Journal, 20, 87–108.
- Price, N., 2001. An archaeology of altered states: shamanism and material culture studies. *In*: N. Price, ed. *The archaeology of shamanism*. London: Routledge, 3–16.
- Ritchie, J.N., 1981. Excavations at Machrins, Colonsay. Proceedings of the Society of Antiquaries of Scotland, 111, 263–281.
- Rogers, A.R., 2000. On equifinality in faunal analysis. *American Antiquity*, 65, 709–723.
- Sanders, C.M., Mauger, P.A. and Strong, P.N., 1995.
 A manual for the Grief Experience Inventory. Palo Alto, CA: Consulting Psychology Press.
- Schusterman, R.J., Kastak, C.R. and Kastak, D., 2002. The cognitive sea lion. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive ani*mal: empirical and theoretical perspectives on animal cognition. Cambridge, MA: MIT Press, 217–228.
- Schwabe, C.W., 1994. Animals of the ancient world. In: A. Manning and J. Serpell, eds. Animals and human society: changing perspectives. London: Routledge, 36–58.
- Seligman, M.E.P., 1975. Helplessness: on depression, development, and death. San Francisco, CA: W.H. Freeman.
- Serpell, J.A., 1987. Pet keeping in non-western societies. Anthrozoos, 1, 166–174.
- Shapland, A., 2010. Human-animal relations on neopalatial Crete. *Cambridge Archaeological Journal*, 20, 109–127.
- Shettleworth, S.J., 2001. Animal cognition and animal behaviour. *Animal Behaviour*, 61, 277–288.
- Siegel, J.M., 1990. Stressful life events and use of physician services among the elderly: the moderating role of pet ownership. *Journal of Personality* and Social Psychology, 58, 1081–1086.

- Simek, R., 2000. *Dictionary of northern mythology*. Cambridge: D.S. Brewer.
- Skavlan, 2010. Interview with Marit Bjørgen. NRK1 (Norsk Rikskringkasting, Channel. 1), 5 March 2010.
- Skinner, B.F., 1938. *The behavior of organisms*. Englewood Cliffs, NJ: Prentice-Hall.
- Smuts, B., 2002. Gestural communication in olive baboons and domestic dogs. *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive* animal: empirical and theoretical perspectives on animal cognition. Cambridge, MA: MIT Press, 443–450.
- Solli, B., 2002. Seid: myter, sjamanisme og kjønn i vikingenes tid. Oslo: Pax Forlag.
- Stamps, J.A., 2007. Growth-mortality tradeoffs and 'personality traits' in animals. *Ecology Letters*, 10, 355–363.
- Stanford, C.B., 2002. How smart does a hunter need to be? *In*: M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 399–403.
- Strabo, 2007 [1923]. Strabo's geography. Book V, ch. 1, part 9. Available from: http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Strabo/5A*.html [Last revision 7 September 2007]. Loeb Classical Library Edition, Vol. 2.
- Tacon, P.S.C., 2009. Identifying ancient religious thought and iconography: problems of definition, preservation, and interpretation. *In*: C. Renfew and I. Morley, eds. *Becoming human:* innovation in prehistoric material and spiritual culture. Cambridge: Cambridge University Press, 61–73.
- Tapper, R., 1994. Animality, humanity, morality, society. *In*: T. Ingold, ed. *What is an animal?* London: Routledge, 47–62.
- Teddlie, C. and Tashakkori, A., eds., 2003. Handbook of mixed methods in social and behavioural research. Thousand Oaks, CA: Sage.
- Tolman, E.C., 1948. Purposive behaviour in animals and man. *Psychological Review*, 55, 189–258.
- Tooby, J. and Cosmides, L., 2005. Conceptual foundations of evolutionary psychology. *In*: D.M. Buss, ed. *Handbook of evolutionary psychology*. New York: Wiley, 5–67.
- Toynbee, J.M.C., 1973. *Animals in Roman life and art*. London: Thames & Hudson.
- Triantaphyllos, D. and Terzopoulou, D., 2006. Wagons and horse burials in the Roman Age tumuli in Greek Thrace. *Eirene*, 42, 167–182.

- Trigger, B.G., 2006. A history of archaeological thought. 2nd edn. Cambridge: Cambridge University Press.
- Ucko, P., 1992. Subjectivity and the recording of Palaeolithic cave art. In: T. Shay and J. Clottes, eds. The limitations of archaeological knowledge. Liège: University of Liège Press, 141–180.
- Uexküll, J. von, 1940 [1882]. The theory of meaning. Trans. B. Stone and H. Weiner [from T. von Uexküll, ed., Bedeutungslehre]. Semiotica, 42, 1–87.
- VanPool, C.S. and VanPool, T.L., 1999. The scientific nature of postprocessualism. *American Antiquity*, 64, 33–53.
- Vitebsky, P., 1995. *The shaman*. London: Macmillan.
 Walker, R.E., 1973. Roman veterinary medicine. *In*: J.M.C. Toynbee, *Animals in Roman life and art*. London: Thames & Hudson, 303–334.
- Wilcox, S. and Jackson, R., 2002. Jumping spider tricksters: deceit, predation, and cognition. *In*:
 M. Bekoff, C. Allen and G.M. Burghardt, eds. *The cognitive animal: empirical and theoretical perspectives on animal cognition*. Cambridge, MA: MIT Press, 27–33.

- Winefield, H.R., Black, A. and Chur-Hansen, A., 2008. Health effects of ownership and attachment to companion animals in an older population. *International Journal of Behavioral Medicine*, 15, 303–310.
- Wisdom, J.P., Saedi, G.A. and Green, C.A., 2009. Another breed of 'service' animals: STARS study findings about pet ownership and recovery from serious mental illness. *American Journal of Orthopsychiatry*, 79, 430–436.
- Witmore, C.L., 2007. Symmetrical archaeology: excerpts of a manifesto. *World Archaeology*, 39, 546–562.
- Wynn, T., Coolidge, F. and Bright, M., 2009. Hohlenstein-Stadel and the evolution of human conceptual thought. *Cambridge Archaeological Journal*, 19, 73–83.
- Zachrisson, T., 2003. Review of: Solli, B., 2002. Seid. Myter, sjamanisme og kjønn i vikingenes tid. Oslo: Pax. Norwegian Archaeological Review, 36, 141–142.
- Zvelebil, M., 1996. Ideology, society and economy of the Mesolithic communities in temperate and northern Europe. *Origini*, 20, 39–70.