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11. A typology of dog deposition in archaeological contexts.

Angela Perri

Introduction

Dogs (*Canis familiaris*) are the first known domesticated animal and their remains are commonly found from about 15,000 years ago (Larson *et al.* 2012). Dogs have generally been treated as an animal of social distinction, with the liminal position of 'neither person, nor beast'. Given this social relationship with humans, it is curious that the deposition of dogs has not been afforded more attention in the archaeological literature. Dogs have played a variety of roles in the past, so the interpretation of their remains can be challenging (Olsen 2000, Morey and Wiant 1992). As the dog's social position varies, so too does its deposition in the archaeological record. While a great many archaeological sites contain miscellaneous dog remains that appear to be the result of disposal to avoid the more unpleasant attributes of a decomposing carcass, other remains appear to represent careful, intentional depositions that may be the result of a much more complicated social relationship between human and animal.

The flexible social position of dogs is important for considerations of their mortuary treatment. Among the Nuaulu of eastern Indonesia, dogs which are of no practical use or have problematic behavior are killed and disposed of without ceremony (Ellen 1999). Dogs were eaten among many proto-historic Native American groups (Pferd 1987). Textual evidence suggests that the Hittite 'Ritual of Huwarlu' called for a puppy to be killed to protect the king and queen from evil (Collins 1990). In some modern aboriginal groups dogs are accorded intentional burials, sometimes with gifts, in return for their role as a valuable hunting partner (Nobayashi 2006). Similarly, throughout the modern world dogs are regularly buried as a treasured companion. Dogs could indeed have simultaneously occupied many roles within a single group, each with differing modes of deposition. With such a wide range of possibilities, how is it possible to interpret a particular dog deposition?

Here I am concerned with identifying the physical characteristics of different modes of dog deposition, in order to create a comparative methodology by which to interpret the remains. Only through the development of context-specific interpretations of dog deposition will we be able to understand the varying relationships between dogs and humans in the past. The first step will be to conduct a thorough analysis of the variability of dog deposition. As noted by Morris (2011, 168), separating description from interpretation is often difficult, but by considering them as separate processes, we can build the taphonomic history of a deposit. This can then form a foundation for understanding the human actions behind it. This paper aims to construct a typology of archaeological dog deposition, which will enable such an analysis to be undertaken.

Developing a Typology of Dog Deposition

The lack of a common vocabulary for dog mortuary treatment, particularly regarding what is meant by the term 'dog burial', has led to widely varying interpretations of archaeological dog remains. The 'special' deposition of dogs, especially when co-deposited with humans, has led to many different interpretations, including: a valuable companion (Jennbert 2003) or household member (Fahlander 2008), a

cenotaph (Larsson 1990a), a shaman (Strassburg 2000), symbolic protection (Munt and Meiklejohn 2007), and a foundation offering (Olsen 2000). Given this range of interpretations, the development of a uniform terminology seems overdue.

‘Dog burial’ is one of the most problematic terms used in the current literature. Since the dog often held a significant social position (guardian, hunter, herder, companion), it is reasonable to suggest that the deposition of dogs may have reflected this, sometimes even mirroring the deposition of humans (Larsson 1990a, Morey and Wiant 1992). Particular attention has however rarely been paid to this. Some dogs are deposited alone with elaborate grave goods or cobaried with humans. Others are represented by a single element, such as a mandible, placed in a human grave. Still others are whole or partial skeletons found in rubbish pits or middens. All of these have been commonly referred to as dog burials. The lack of a developed terminology has led to complete, articulated remains being discussed and interpreted in the same way as a fragment of a dog element found in refuse. The problem this creates is best described by Morris:

Although at first it may appear unimportant, the terminology and language used by archaeologists describing a deposit can greatly influence its interpretation, and importantly, the concepts of other archaeologists. Terms such as ‘special’, to many archaeologists, automatically implies a ritual connotation, similarly ‘burial’, a term utilized mainly for human remains, may conjure images of a ceremonial/ritual event (Morris 2012, 8).

There has been no general agreement as to what should be termed a dog burial. At Mesolithic Skateholm in southern Sweden, several complete dogs were found interred individually, some with elaborate grave goods, and have been interpreted as dog burials (Larsson 1990b). Numerous dogs, some partially complete and some represented by only a few elements, were excavated from Eneolithic Botai in Kazakhstan, where they had been deposited under floors, in wall pits or to the west of building entrances. These too have been referred to as dog burials (Olsen 2000). From Natufian Israel, two dogs interred with human remains at Hayonim Terrace are reported as dog burials (Tchernov and Valla 1997). From Upper Palaeolithic Bonn-Oberkassel, a much-debated isolated mandible fragment has also been cited as a dog burial (Morey 2006). In the few comparative discussions, these and similar examples have been referred to as forming the corpus of a ‘dog burial record’ (Morey 2010, Crockford 2009, Miklósi 2008). However, when assessed individually, the problem with this terminology becomes clear. The fault lies not with the researchers, but with the absence of a more developed vocabulary allowing us to distinguish these different modes of deposition from one another. This lack not only affects the way in which individual dog depositions can be discussed and compared, but also colors the concepts and interpretations of other researchers. The universal adoption of a typology for dog deposition should lead to a more in-depth understanding of early human-dog interactions.

The purpose of this typology is the creation of a functional language with which to interpret dog remains within their individual cultural contexts. Common factors may influence the social dimensions of dog deposition across cultural contexts, but these factors are abstract and their archaeological application will vary in each case considered. Thus, this typology should not be taken as a guide for archaeological interpretation, but rather as a starting point from which to derive interpretive principles appropriate for each individual case.

For the purposes of the typology, the examination of dog depositional data has been carried out on two levels. The first level involves the identification of individual variables. These variables are manifest in every mode of dog deposition, even if only in the form of absence (Adams and Adams 1991). Four major variables are identified:

- physical traits
- location
- grave goods
- similarity to human deposition

Within each variable, a set of observed possible characteristics has been defined. An examination of the archaeological dog deposition record shows a marked correlation among sets of these characteristics, leading to the identification of five distinct depositional types:

- isolated
- associated
- component
- elemental
- expedient

These variables and depositional types will be discussed in the following.

Major variables

Physical Traits

Articulation and Positioning

Until recently, fully and partially articulated animal remains have rarely merited explanation (Pluskowski 2012, Morris 2010), because animal bones were commonly considered of purely economic origin (Hill 1995). This has been particularly problematic for domesticates outside the conventional subsistence sphere, such as the dog, and arguments have been made for a more rigorous examination of these deposits (Morris 2011, Wilson 1992, Olsen 2000, Pluskowski 2012).

Grant (1984) defined 'special animal deposits' as depositions of three types: animal burials, skulls (including mandibles), and articulated legs. However, she also included a number of individual bones in her classification. Not convinced by the word 'special', Hill (1995), in his examination of 'ritual and rubbish' in the Iron Age, adhered to Grant's types, but renamed them associated animal bone groups (ABGs), a term that has become popular for general referencing of articulated animal remains (Morris 2010, Pluskowski 2012). Morris (2011) redefined ABGs as those animal remains which a) have been deposited with attached flesh or connective tissue, causing them to remain articulated, b) are disarticulated through some taphonomic process, but have been identified as a single animal which was likely previously articulated, c) are disarticulated when deposited, but associated and constitute the remains of a single animal. Therefore, he does not include single bone deposits, including isolated skulls and mandibles, in his definition.

For the purposes of this typology, *associated animal bone groups* will include those remains defined by Morris (2011), as well as articulated limbs and individual bone elements, such as skulls, mandibles, and teeth, when found in association with human remains. Fully articulated dog remains have the majority of elements present and in correct anatomical position. Cases where the remains are complete save for a missing element or two should be considered complete if the missing elements appear

to be the result of a taphonomic issue or other post-depositional disturbance. Partially articulated remains are those which are in the correct anatomical position, but only have a portion of the articulated elements present. In this category the missing skeletal elements do not appear to be a result of obvious taphonomic or disturbance issues, but are an intentional partial deposition. This category includes those which have been deposited complete, save for the skull, as well as individual portions such as articulated limbs. Remains with no articulation are comprised of a single element only, most often skull, mandible, or individual teeth.

The way that a dog's body is manipulated and orientated, especially in relation to human and other animal remains, may also be an important indicator of their social position in life (Pearson 1999). The positioning of dog remains is less variable than that of humans. The most common distinction is between intentional positioning, and an absence of positioning altogether. Intentional positioning is the deliberate positioning of the body on one side in an extended or curled position. The head is often placed straight out from the body or curled inwards. A long tail is generally intentionally curled around the backside and placed between the legs, and the feet are often placed with paws gathered together or tucked under the body. The term 'haphazard' has been borrowed from human mortuary terminology, where it is used to describe the arbitrary disposal of the body into a pit, midden, trench or other location (Sprague 2005). Remains with haphazard positioning are those which apparently lack any intentional placement. They are commonly found in twisted, piled or otherwise indiscriminant positions. The heads are often bent backwards with limbs and tails askew. In addition, the cardinal orientation and the side on which the dog has been placed should be noted, as these traits are often repeated and may aid in the interpretation of the deposition (Crockford 2009).

Trauma and Pathology

Evidence of physical trauma and pathology, either in life, perimortem, or as post-mortem behavior (e.g. butchery), is common in archaeological dog remains and can be important in the interpretation of the relationship between human and dog. These include injury, disease, and/or age-related stress. They include those which appear to be human-inflicted (butchery, skinning marks), pathological (arthritis, dental caries) or indeterminate (broken limbs, healed wounds). Common traumas and pathologies sustained during life include extensive bone pathologies, which may suggest an element of care had been provided. A small dog from a Roman cemetery in Tunisia was found to have severe trauma to the skeleton, including widespread arthritis and advanced tooth loss. Its age was estimated at 15-18 years and it is suggested the animal would have needed great care from humans to have survived with such an extensive suite of disabilities (MacKinnon and Belanger 2006). Perimortem injuries include fatal cut marks (e.g. the cutting of the throat) and severe, unhealed wounds or breakages which point to cause of death. At the Bronze Age site of Százhalombatta-Földvár in Hungary, where dogs were apparently eaten, numerous dog crania were found with severe blows to the frontal bone, a likely mode of dispatch (Vretemark and Sten 2010). Post-mortem traumas include butchery cut marks, skull damage for brain removal or flay marks from skinning. Many dogs from Iron Age sites in Greece had been skinned before being butchered (Snyder and Klippel 2003).

Age, sex, and size

Age, sex, and size can sometimes be difficult to assess, especially in the case of partial remains or individual elements, but there is evidence that these factors may have played a significant role in the relationship between dogs and humans in various cultures. Dogs of certain ages are known to have been preferred by particular groups for ritual and other symbolic practices. Hittite written sources reveal that the sacrifice of puppies played a vital role in prevention and purification rituals ([Collins 1990](#)), while modern ethnography in lowland Nicaragua suggests male dogs may play a greater role in hunting success and thus have a greater value to the society ([Koster and Tankersley 2012](#)).

Location

As in human mortuary treatment, the placement of dogs – both the specific location and the spatial distribution – is one of the most visible ways a culture has of expressing the relationship between dog and human. Mobile hunter-gatherers may have practiced expedient disposal such as abandonment or shallow deposition due to their highly mobile nature, but special-place disposal or cemeteries were more common among less mobile or sedentary groups ([Walthall 1999](#)). In groups that had close social relationships with dogs, the placement of their remains may have been less a function of expediency and more imbued with significance, consistent with the special mortuary treatment of human remains. In other communities the locality and distribution of dog remains may mirror the deposition patterns for other domestic subsistence animals, such as cattle or swine, suggesting a more secular role for the dog.

The particular depositional settings are quite variable, showing great disparity between geographic locations and cultures. The concentrated deposition of dogs is common in the early Holocene shell middens of Japan ([Shigehara and Hongo 2000](#)), the United States ([Morey 2006](#)), and northern Europe ([Larsson 1989](#)). Dogs are also found in constructed pits, both those meant as graves, and those originally created for another purpose ([Cole and Koerper 2002](#), [Morris 2011](#)). In Iron Age England, complete and partial dogs were commonly disposed of in ditches or abandoned storage pits ([Hill 1996](#)), and they have been found in a well in ancient Sicily ([Chilardi 2006](#)) and kivas in the North American Southwest ([Hill 2000](#)), among other places. The deposition of dogs within building foundation walls or pits is also fairly common, as at Dorchester in Roman Britain ([Woodward and Woodward 2004](#)). Dogs are also found in various containers including pots, mugs, and urns ([Daróczy-Szabó 2010](#)), coffins ([Tooley 1988](#)), and ships ([Sikora 2003](#)).

Many dogs were deposited alone, but there is also frequent co-deposition with both humans and with other animals. Likely due to their close domestic relationship, the dog is one of the most common animals found interred with humans. These co-depositions are in various degrees of articulation, from fully articulated skeletons to individual elements like mandibles and skulls. At Ain Mallaha in Natufian Israel, the skeleton of a puppy was found curled next to the remains of a woman ([Davis and Valla 1978](#)), while two dogs were associated with six humans in a mass grave at the Archaic site of Braden in the United States ([Yohe and Pavesic 2000](#)). At the Mesolithic sites of Lepenski Vir and Vlasac on the Danube Gorge, multiple humans were interred with individual dog mandibles ([Radovanović 1999](#)), and a unique “death pit” from Neolithic Turkey includes highly fragmented human and dog elements, along with those from other animals ([Kansa *et al.* 2009](#)). Dogs are also frequently found deposited with other animals, including other dogs. Two dogs from

13th-14th century A.D. California were carefully interred together with associated grave goods (Vellanoweth *et al.* 2008), while a pit full of articulated dogs was excavated from Iron Age Crete (Day 1984). The deposition of dogs with other animals, both domestic and wild, is a widespread phenomenon as seen from Bronze Age (Morris 2011) and Iron Age England (Wilson 1999), Copper Age Hungary (Horváth 2012), and Roman Netherlands (Groot 2012).

It is generally acknowledged that the identification of corporate group differentiation by means of spatial distribution is a valid criterion in the use of mortuary data for the reconstruction of social organization (Tainter 1978, Pearson 1999). Therefore, the examination of the spatial distribution of dog deposition at a site may provide insight into the social relationship between humans and dogs. Following the definition of ‘cemetery’ in human contexts, a ‘dog cemetery’ would include: a reasonable number of depositions; depositions which are contiguous and patterned; an area with a geographical or cultural boundary; and a site which had not been used as a living area during the period when dogs were being deposited (Pardoe 1988). Clustered depositions of dog remains which closely mirror the deposition of humans are not only seen from modern dog cemeteries in the United States, Asia (Chalfen 2003, Kenney 2004), and Europe (Howell 2002, Kete 1994), but in archaeological contexts as well. The complete dog depositions from the previously described Skateholm site in Sweden were buried individually, and clustered together at the edge of the human cemetery area (Larsson 1990b). Similar cemetery-like groupings are seen at Archaic sites in the United States (Faulkner and Graham 1966, Magennis 1977).

Grave Goods

Clarke (1975, 52) defines grave goods as “everything within a grave that was intentionally deposited, but that did not form part of the body, the means used to convey the body to the grave or the grave-structure itself.” Importantly, this definition includes not only those items found *in* a deposition, but also *on* a deposition, such as rocks, monuments, or other markers. Dogs have been discovered with a variety of grave goods. Grave goods with dogs interred alone may be contrasted to grave goods found with human-dog co-depositions, as in a dog-only deposition the grave goods can be more closely associated with the dog itself. At an Archaic site in Missouri a dog was found deposited alone in a small pit covered with a tumulus of limestone rocks (McMillan 1970), while during the same time period in nearby Alabama another dog was found deposited alone with a heavy layer of shell piled over the interment (Webb 1938). At the Tollifero site in Virginia an individual dog was curled and deposited upon a crude stone pavement, and dogs have also been found beneath stone slabs (Kerber 1997, DeJarnette and Wimberly 1942). In addition to these more conspicuous markers, traces of red ochre have also frequently been found covering individual dog depositions (Larsson 1990a, Cantwell 1980, Brizinski and Savage 1983, Gunn *et al.* 2010).

Dogs are also found deposited with more elaborate grave goods, often on par with those associated with human burials. At Koster a dog was interred with a mano and metate (Morey and Wiant 1992), and a dog at Skateholm was interred with flint flakes, a red deer antler, and an ornate stone hammer (Larsson 1990b). Other dogs interred individually from the United States were deposited with bone awls (Lewis and Lewis 1961), pottery sherds (Miller *et al.* 1962), complete pots (Fitzgerald 2009, Epstein 2010), bones from small mammals (Bentz 1988), and projectile points

(Walker and Morey 2005). Two dogs buried together in the Channel Islands of California were found with several items made of materials not native to the island including a sandstone bowl, seeds of morning glory (Convolvulaceae) and wild cucumber (*Marah macrocarpus*), and a splintered fragment of redwood (*Sequoia sempervirens*) (Vellanoweth *et al.* 2008).

Similarity to Human Deposition

It is often argued that the nature of ‘personhood’ in life is reflected in mortuary treatment (Gillespie 2001, Pearson 1999), and that this theory can be applied to the mortuary treatment of dogs as well, given their close relationship with humans (Morey 2006, Hill 2000). When possible, the characteristics of dog deposition should be compared to that of human remains at the same site (Flores 1999).

Similarities between human and dog deposition have been noted throughout the archaeological record. In Australia, dog remains have been found wrapped in paperbark and placed within rockshelter clefts, mirroring the mortuary treatment of humans and suggesting preferential treatment over other animals (Gunn *et al.* 2010, Mulvaney 1996). The individually deposited dogs from the Tollifero site in Virginia “were as carefully interred as those of the humans” (Miller 1962, 243). In the Archaic mid-south of the United States, “many dogs were buried with the same degree of attention to grave pits and placement of body as was accorded to their human contemporaries” (Webb and Haag 1939, 155), and “dogs were often buried with the same care as that given to human burials” (Webb 1950b, 272; see also Webb and Haag 1940, Webb 1950b, Webb and DeJarnette 1942, Webb and DeJarnette 1948, Webb and Haag 1947). In Wisconsin in the Woodland period, not only are the physical characteristics of dog and human mortuary treatment comparable, but isotopic analysis shows they shared a similar diet (Epstein 2010). At one site, where a dog had been bundled and interred identically to a human, it is proposed that the treatment of the dog had gone beyond what was expected for a sacrifice and must be the result of an attributed status within the group (Van Langen and Kehoe 1971).

While parallels between human and dog mortuary treatment is commonly considered evidence of a dog’s elevated status, some researchers instead suggest that individually interred dogs, especially those with grave goods, are cenotaphs or symbolic substitutes for a missing human occupant. At Skateholm, where a handful of dogs have been individually deposited, including one with the richest grave goods of any dog or human, it has been suggested that dogs likely represent surrogates for their human masters (Larsson 1989). At sites in the Archaic mid-south of the United States it has been suggested that the propensity for male dog depositions, coupled with evidence for raiding and violence, may mean dogs acted as stand-ins for human victims that were irretrievable. However, this hypothesis is questionable, because some sites have dozens of individual dog depositions. This would equate to massive losses to the community (Claassen 2008).

Depositional Types

The interpretation of dog depositions has always been problematic (*e.g.* Wilson 1992, Hill 1995, Savioz 2012). Efforts have been made to distinguish between the different modes of dog deposition, but these rarely venture beyond ritual vs. economic. Terms such as ‘special’, ‘sacrifice’, and ‘burial’ are often used for deposition which are articulated and associated with some sort of grave goods, while everything else is

usually assumed to serve some more mundane function (Grant 1984). It is rare for any of the descriptive terms to be defined. [Hill \(1995\)](#) has highlighted the need to examine the agency involved in different types of articulated animal remains. Pluskowski (2012) has stressed the need for documentation and publication of ABGs, noting that such deposits need to be viewed as human constructs. The dog's variable social role and liminal position between human and animal makes interpretation particularly challenging, especially without an established classification of deposition types observed across the archaeological record. The depositional types presented here are the result of an extensive examination of the archaeological literature, but cannot be exhaustive. The types are characterized by the recurrence of similar sets of the characteristics described above. It is proposed that through the identification of these patterns interpretation of the remains will be advanced on both an individual site and a cross-cultural basis. Table 11.1 summarizes the following discussion.

Isolated

An isolated deposition displays full articulation, except when there have been taphonomic or post-depositional disturbances. The deposition is always deliberately positioned, often with the paws gathered together and tail curled under the body. There is no perimortem or postmortem trauma, indicating the dog was not butchered, skinned, sacrificed, or killed by a human. Traumas and pathologies sustained during life, such as healed broken limbs, may be present. Age, sex, and size are all variable, though isolated depositions appear more common among adult dogs. Isolated depositions may be found in various locations, or they may be clustered in 'dog cemeteries'.

A key identifying feature of isolated deposition is the absence of any co-deposition. They are commonly found in deposition pits, layered shell middens, or other features that closely mirror the burials of humans at the same site. Like many human depositions, isolated depositions often incorporate grave goods, including red ochre and grave markers. An isolated deposition is what I propose should be termed a true 'dog burial'. This depositional type involves the level of care and attention generally afforded to human burials and, most importantly, the significance assigned to the deposition is beyond what is typically provided to a non-human animal.

One of the best examples of isolated deposition comes from Skateholm. Here several dogs display isolated deposition, with individual deposition pits and a lack of perimortem or postmortem trauma; one was buried with abundant grave goods (Larsson 1990b). Similar carefully placed isolated dog burials are seen in the Archaic shell middens of the mid-south United States at the Perry site (42 isolated depositions; Webb and DeJarnette 1942), the Carlson Annis site (25 isolated depositions; Webb 1950a), the Read site (23 isolated depositions; Webb 1950b), and the Indian Knoll site (11 isolated depositions; Webb 1946), among others. Isolated depositions occur in many places including Europe (Brinch Petersen and Meiklejohn 2003, Louwe Kooijmans 2003, Larsson 1990b), the United States (Kerber 1997, Breitburg 1983, Dowd and Breitburg 1989), Asia (Shigehara and Hongo 2000, Hasebe 1952), and Australia ([Gunn *et al.* 2010](#)).

Associated

Associated depositions are defined as the inclusion of a dog or dogs in the burial of humans. The dog(s) are in full or partial articulation and are often deliberately placed,

though haphazard positioning is also possible. They may show evidence of butchery, decapitation, skinning and other trauma, both pre- and post-mortem. Age, sex and size are variable, and other animals may also be included in the burial.

Two examples of associated deposition come from the Natufian period in the southern Levant. At Hayonim Terrace two fully articulated dogs were deposited with the bodies of three humans in an egg-shaped pit along with tortoise shells, and covered with a limestone block upon which the humans were then placed (Tchernov and Valla 1997). At Ain Mallaha a puppy was deposited with a human (Davis and Valla 1978). Variations occur around the world (Hamilakis 1996, Tuck 1976, Yohe and Pavesic 2000, Geus 1991, Olsen 1985, Blau and Beech 1999, MacKinnon and Belanger 2006).

Component

Dogs in a component deposition are usually fully articulated, save for taphonomic or post-depositional factors, but are sometimes in partial articulation. They are interred either alone or with other non-human animals, in a prepared pit or other intentional depositional setting, and are deliberately positioned. In a very important contrast to an isolated burial, this type of deposition is located outside any collective dog cemetery. The dogs often display peri- and/or postmortem trauma consistent with dispatch, butchery and/or skinning. Age, sex, and size are variable, although component depositions often show consistency in the age of dog (Collins 1990). The dogs are sometimes found with grave goods, often referred to as altar offerings or ritual goods (Olsen 2000).

The term 'ritual' is not applied to component deposition because of the problematic nature of the term. These are depositions which imply some alternative function beyond the mere deposition of a carcass. This could be anything from religious or cult-related to secular and more practical purposes. A key to interpreting component deposition may lie in the historical literature, which suggests domestic animals, specifically dogs, are among the preferred animals used for 'ritual' killings (Pluskowski 2012). Such depositions may follow specific sequences, with applied rules, throughout a cultural group, which makes them easier to identify in the archaeological record (Richards and Thomas 1984). The common practice of depositing dogs in building walls or foundations, perhaps as a symbol of healing and protection (Morris 2012), has led some researchers to refer to these component depositions as dedicatory interments (Emslie 1981).

The deposition of dogs beneath structure floors (Ó Súilleabháin 1945, Loehr 1957, Day 1984, DeJarnette and Wimberly 1942) may correspond to ethnographic descriptions of the deposition of sacrificed dogs (Erb 1991, Mery 1968). At the Eneolithic site of Botai in Kazakhstan, at least 15 dogs were deposited in component interments. Both complete and partial, they were placed in pits to the west of houses, a location associated in Indo-European and Indo-Aryan mythology with an 'Otherworld' guarded by two dogs (O'Flaherty 1981, Jones-Bley 1997). Across the rest of the site numerous dogs were interred in pits beneath house floors, many associated with ochre, flint, projectile points, and various other faunal remains (Olsen 2000).

Elemental

Elemental deposition is the inclusion of individual dog skeletal elements, most often skull, mandible, or teeth, in the burial of humans. They are always associated with human remains. As they involve only single elements, there is no articulation or specific positioning, and the age, sex, and size of the dogs are variable. These elements often show evidence of trauma, specifically related to skinning, butchery, or dispatch. The inclusion of dog elements with human burials is often interpreted as grave goods (Parmalee 1960, Kerber 1997, Gräslund 2002).

Several examples of elemental deposition have been found at Mesolithic sites along the Danube Gorge. At Lepenski Vir, a single dog mandible was found with elements from various other animals in the burial of a human male, and at Vlasac two human males were found buried with dog mandibles (Radovanović 1999). The deposition of dog skulls, mandibles, and teeth with humans is a fairly common phenomenon worldwide, for example in the Late Eskimo period in Canada (Osborne 1952), Romano-British Oxfordshire (Wilson 1986), 17th-century Barbados ([Handler 1997](#)), Iron Age Italy (Facciolo and Tagliacozzo 2006), prehistoric Louisiana (Webb 1948), Neolithic Latvia (Zagorska 2008), and Late Shang China (Ying 2009).

Expedient

Expedient deposition is a miscellaneous type that is defined more by negative evidence than the characteristics which it displays. It is sometimes referred to as a simple interment (Hill 2000), nonburial, or refuse (Beisaw 2007), due to the apparent lack of attention and expedient nature. The animal may be fully or partially articulated or completely disarticulated, and body positioning is haphazard. There may be evidence for a deposition pit, but more commonly these remains are deposited in trash middens, trenches, wells and other locations which facilitate convenient disposal. Trauma is common, specifically butchery or skinning marks and there are no grave goods. Age, sex and size are all variable.

This category includes all those depositions which cannot be included in the categories defined above, and is therefore very common. It has been suggested that dogs in this category were culled due to illness or as community pests (Morey 1997), butchery debris (Chenal-Vélarde 2006), and ritual trash ([Russell *et al.* 2009](#)). [Hill \(2000\)](#) suggests that as dog interments become a more prominent focus of contextual analysis, the expedient type will be defined in greater detail, or eliminated as more comprehensive patterns of dog interment are identified.

Limitations of the Typology

Typology is not without its limitations. Most importantly, it must be stressed that interpretations cannot be tied directly to the typological categories. These types are merely starting points from which the context and individual variables from each deposition must be introduced. As observed through our everyday encounters, a dog can be many things at the same time, and mode of deposition does not necessarily reflect position in life. Moreover, as more dog depositions are excavated and analyzed, additional categories will no doubt be defined. Perhaps the most challenging obstacle to this typology (and any associated interpretations) is its reliance on the physical characteristics of the deposition as found and reported by the original excavation team. There have been calls for the detailed recording of dog depositions (Crockford 2009), but descriptions of faunal remains, specifically those

made before the proliferation of zooarchaeology, are often severely lacking in the detail needed to confidently identify the type of dog deposition encountered.

More specific issues arise from the physical nature of the depositions themselves. Post-depositional disturbances and taphonomic effects can severely alter the physical characteristics of the deposition, proving problematic when categorizing a deposition type. Additionally, mortuary processes such as bundle depositions and cremation, often seen in dog depositions (Williams *et al.* 2001, Kerber 1997, Mäntylä-Asplund and Storå 2010), can be challenging as they often leave little in the way of physical evidence of articulation, positioning, trauma and pathologies, age, sex, and size. It is hoped that the use of this typology will bring about more detailed analysis and discussion between researchers about depositions, confronting and eventually resolving the issues that currently affect this typology.

Conclusion

The dog's history of varying cultural roles and a liminal social position between animal and human has led to highly variable depositional modes, as well as interpretations of these modes. The creation of a shared vocabulary for dog depositions is essential when interpreting their meaning and eventually reaching a better understanding of the human-dog relationship in the past. A critical part of creating this vocabulary is the separation of the description (how) from the interpretation (why) of the interment. The development of a descriptive language for dog deposition through the typology proposed here will lead to clearer interpretation on both a site and cross-cultural level. The methodical analysis and reporting of each deposit will allow researchers to discuss depositions using a common terminology, thus encouraging comparison between sites. Hopefully the use of a descriptive typology will encourage a more thorough examination of dog mortuary deposits, leading to additional characteristics and types being identified, as well as an improved understanding about depositions from different archaeological sites.

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Table 11.1. A typology of dog deposition in archaeological contexts.

Characteristics	Articulation and Positioning	Trauma and Pathologies	Age/Sex/Size	Location	Grave Goods	Similarity to Human Deposition
Types						
1. Isolated	Full articulation (possibly partial if disturbed); placed positioning	No perimortem or postmortem trauma, possible trauma during life	Variable	No co-deposition, burial pit common, possible 'dog cemetery'	Possible	Usually closely mirror human burials at same site
2. Associated	Full or partial articulation; placed positioning	Possible trauma from life, perimortem, and postmortem	Variable	Always co-deposition with human burial	None associated with dog	Not applicable
3. Component	Full articulation (possibly partial if disturbed); placed positioning	Possible trauma from life, perimortem, and postmortem	Variable	Possible co-deposition with humans/other animals; deposition pit common	Possible	Possibly similar in 'ritual' contexts
4. Elemental	No articulation; no positioning	Possible trauma from life, perimortem, and postmortem	Variable	Always co-deposition with human burial	None associated with dog	Possibly similar though uncommon
5. Expedient	Full, partial, or no articulation; haphazard positioning	Possible trauma from life, perimortem, and postmortem	Variable	Possible deposition pit, but convenient disposal location more common	No	Possibly similar though uncommon

Table 1. A typology of dog deposition in archaeological contexts