# TREATMENT OF THE DEAD IN THE LATE MESOLITHIC: RECONSTRUCTING TAPHONOMIC HISTORIES OF HUMAN REMAINS FROM VELA SPILA, CROATIA PONAŠANJE PREMA MRTVIMA U KASNOME MEZOLITIKU: RE-KONSTRU…



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# TREATMENT OF THE DEAD IN THE LATE MESOLITHIC: RECONSTRUCTING TAPHONOMIC HISTORIES OF HUMAN REMAINS FROM VELA SPILA, CROATIA

## PONAŠANJE PREMA MRTVIMA U KASNOME MEZOLITIKU: REKONSTRUKCIJA TAFONOMSKE POVIJESTI LJUDSKIH OSTATAKA IZ VELE SPILE U HRVATSKOJ

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The treatment of the body during burial rituals has rightly occupied an important place in archaeology; however, there is a tendency for the focus to be the normative treatment of complete bodies, in which the use of funerary objects is the primary focus, and the practices involved in the burial process and the physicality of the body itself are of only secondary interest. The burial process is in fact very socially salient, and the study of this process can allow past attitudes towards the body to be better understood. In order to achieve this, the reconstruction of taphonomic histories of human remains is vital as it provides us with evidence of past funerary rites. This involves analysis of the skeletal modifications that occurred from the time of death until retrieval, drawing upon techniques developed in zooarchaeology and forensic science. Little is known about dead body treatment in the Mesolithic of Croatia (c. 10,000 BC to c. 6.000 BC). This paper presents the findings of taphonomic analysis of the Late Mesolithic human remains from the cave site of Vela Spila on the island of Korčula. It is suggested that at Vela Spila both secondary burial and inhumation were being practiced, and it is additionally argued that Late Mesolithic body treatment may in fact be more complex and variable than is often thought.

*Key words: Mesolithic, burial, human remains, taphonomy, Croatia*

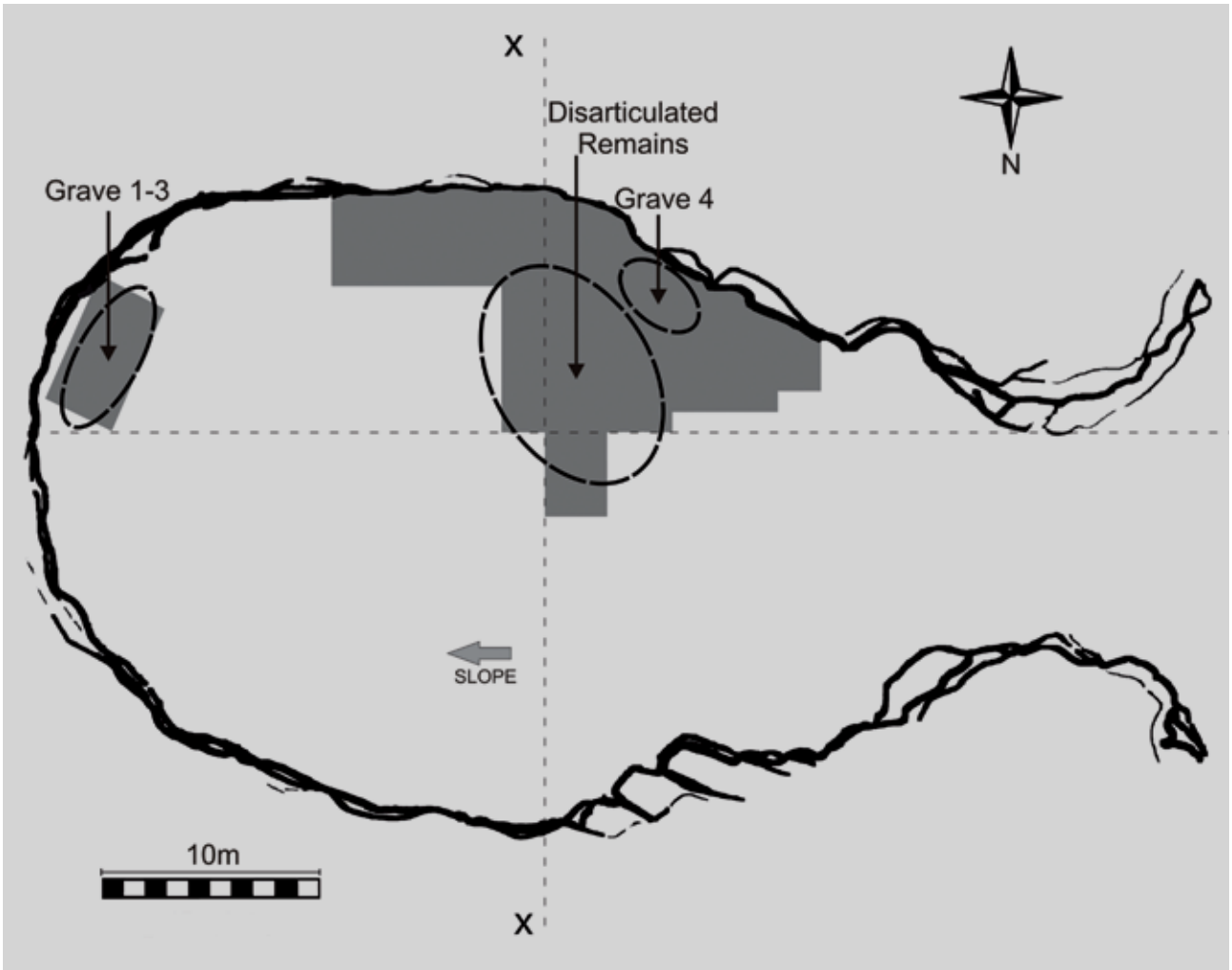


Figure 1.
Ground plan of Vela Spila indicating the location of human remains (Drawing by R. Wallduck after K. Rončević).

**Understanding Body Treatment in the Past**

Throughout the funerary process, the choices made in order to deal with the inevitable aspects of death are in fact very socially salient, and therefore understanding past peoples' engagement with dead bodies should be a prominent component of archaeological enquiry. Within the field of funerary archaeology, however, an attempt is often not made to understand the complex nature of the engagement of the living with dead bodies through funerary acts. It is the burial practices that illuminate the relationships between the living and the dead, attitudes to bodies and death. Studies of Mesolithic burial have suffered from this predicament; analyses of formal inhumations and complete bodies have taken precedent, and consideration of the burial process is neglected. Mesolithic human remains, however, display a large degree of variation in the contexts and the nature of their deposition; partially complete skeletons and isolated and fragmented human remains are also ubiquitously found in cultural layers and middens, yet are understudied. The Mesolithic of Croatia is no exception to this trend; human remains have been recorded from sites, exhibiting a great degree of variation in the nature of their deposition. Our current understandings of Mesolithic burial and the social inferences made from human remains are hence insufficient. There is a need to refocus on burial processes, extending this to include partial bodies and isolated body parts present in the Mesolithic archaeological record.

## The Site of Vela Spila

The presence of complete, partially complete and disarticulated human remains at the Late Mesolithic site of Vela Spila on the island of Korčula provides an ideal opening for a study of Mesolithic burial practices in Croatia. Vela Spila cave is large in area, with a floor size greater than 1100m2. It must be noted that only a small percentage of the cave has been excavated (about 200m2 as indicated by the grey area on Fig. 1).[1] During 1986, three burials were excavated in the east area of the cave, containing the remains of three children and a foetus (Graves 1-3), and in 2004 a partially complete skeleton of an adult male was uncovered in the southwest side of the cave, next to the cave wall (Grave 4). Additionally a total of 11 disarticulated and isolated human elements have been recovered from the excavated area in the south section of the cave (see Fig. 1 for the location of the human remains). Human remains from Grave 3 and Grave 4 have been radiocarbon dated, as have samples of charcoal, placing the skeletons in the Late Mesolithic, to approximately 7000 BC.[2]

## Understanding Body Treatment: Developing a Methodology

Through a combination of analogy from forensic science and taphonomic analysis, the burial process at Vela Spila was reconstructed in an attempt to better understand Late Mesolithic burial practices in Croatia. The term 'taphonomy' was coined by Efremov in 1940, defining taphonomy as the study of the transition, in all its details, of organic remains from the biosphere (the global ecological systems) to the lithosphere (the earth). Taphonomy is widely employed in zooarchaeology in order to understand the original nature, and subsequent distorting taphonomic processes, of an assemblage of faunal remains. It must be stressed that human agents are often central to taphonomic processes. Through the recognition of the cultural as well as natural processes, it is possible to separate out the cultural acts (*i.e.* funerary rites) involved in the burial process. As different burial practices show a different suite of taphonomic markers, the processes and agents of bone modification can be inferred.

In order to reconstruct the taphonomic histories of the human remains at Vela Spila, a number of techniques were employed. Element identification, MNI (minimum number of individuals) counts, conjoining analysis, percentage of bone completeness, fracture analysis,[3] and the analysis of surface modifications[4] were carried out. Additionally, Bello and Andrews' (2006) study of differential bone survivorship was utilised. Spatial analysis was also employed regarding the disarticulated material.

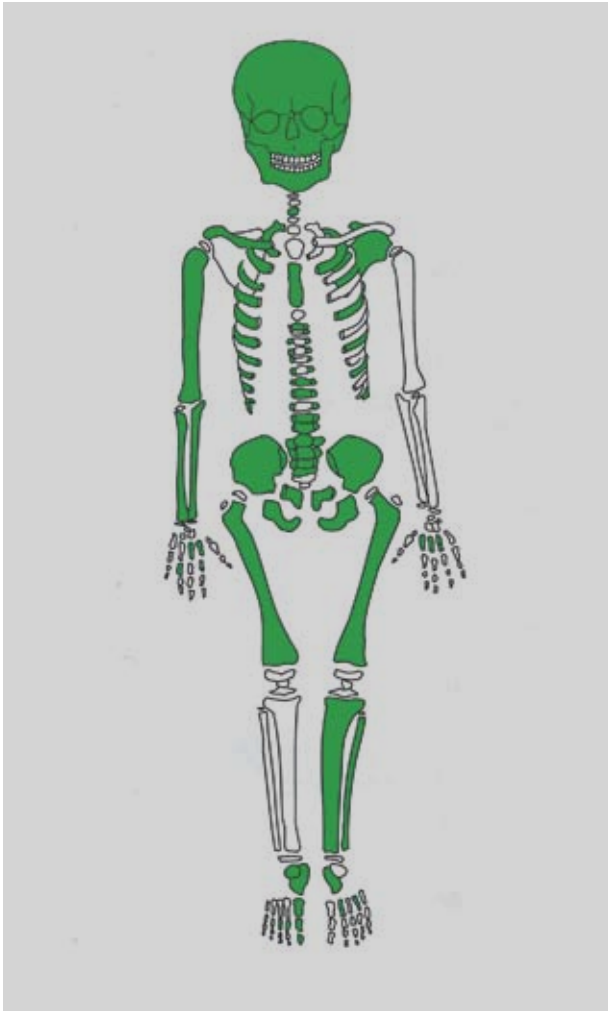

Figure 2.
Diagram showing the element representation of Individual A, Grave 1, Vela Spila (R. Wallduck)

1 Čečuk, Radić 2005.
2 Radić, Miracle, (in. prep)
3 See Morlan 1984; Johnson 1985; Outram 2002.
4 See Brain 1967; Walker, Long 1977; Behrensmeyer 1978; Bunn 1981; Shipman *et al.* 1984; Gifford-Gonzalez *et al.* 1985; Olsen, Shipman 1988; Lyman 1994; Brickley, McKinley 2004; Outram *et al.* 2005; Walker *et al.* 2008.

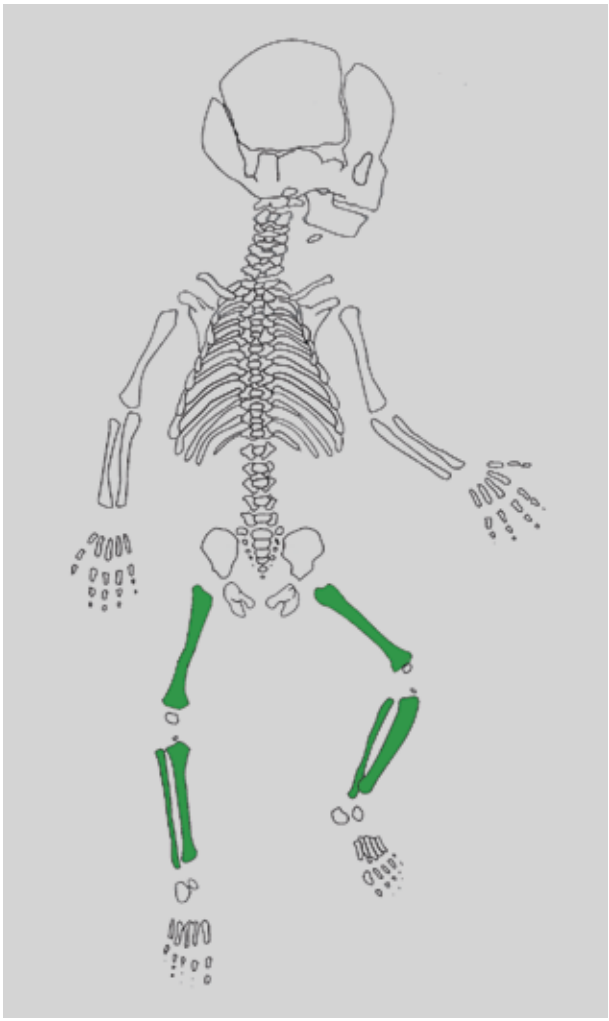

Figure 3.
Diagram showing the element representation of Individual B, Grave 1, Vela Spila (R. Wallduck)

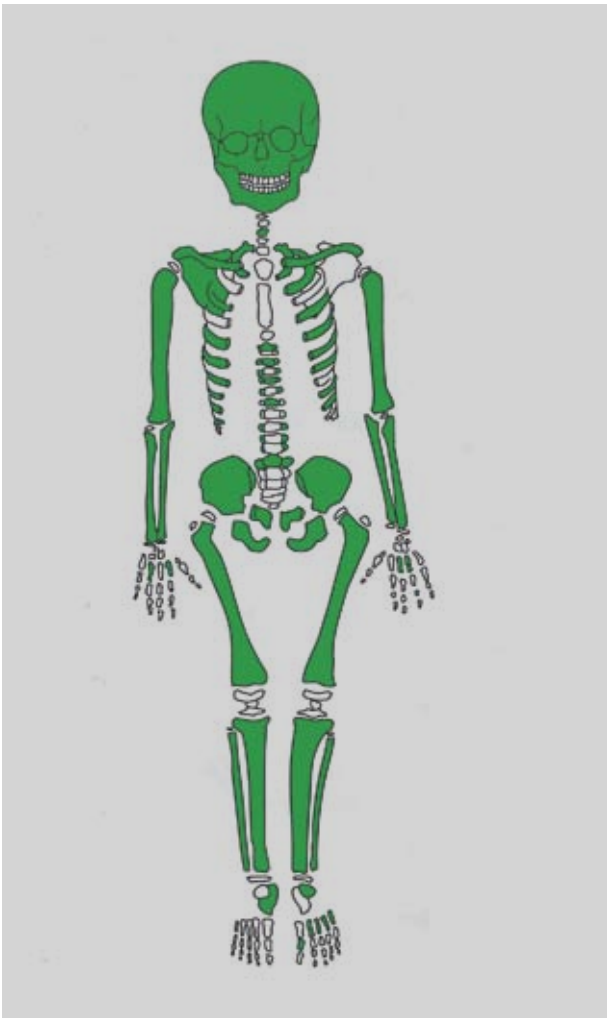

Figure 4.
Diagram showing the element representation of Grave 2, Vela Spila (R. Wallduck)

## Results

Grave 1 contained the remains of two individuals: a child (Individual A) aged between 2.5 and 3.5 years[5] and a foetus/neonate (Individual B) at 7 to 9 months *in utero*.[5] Taphonomic analysis of both skeletons indicated that the skeletons are in a fairly good state of preservation; the bones of each individual exhibit a limited amount of subsurface weathering, limited dry bone fracture, no subaerial weathering, and an absence of carnivore and rodent gnawing, cut marks and burning. The skeleton of Individual A is fairly complete, but is missing a number of smaller elements, the left scapula, the right clavicle, the vertebral bodies, the left arm, a majority of the right humerus, and the lower left leg (see Fig. 2). In contrast, the skeleton of Individual B consists purely of the long bones of the leg (see Fig. 3).

Grave 2 contained the remains of one child aged between 1.5 and 2.5 years[5]. Taphonomic analysis indicated that the skeleton is fairly complete, and only the sternum, left clavicle, some vertebrae, the patellae, and a number of bones from the hands and feet are missing (see Fig. 4). There is no evidence of subaerial weathering, cut marks, or burning on the skeleton, and only a small percentage of elements exhibit dry bone fracture.

Grave 3 contained the remains of one child, aged between 0 and 0.5 years[5]. Once again taphonomic analysis

5 Šlaus 2004.

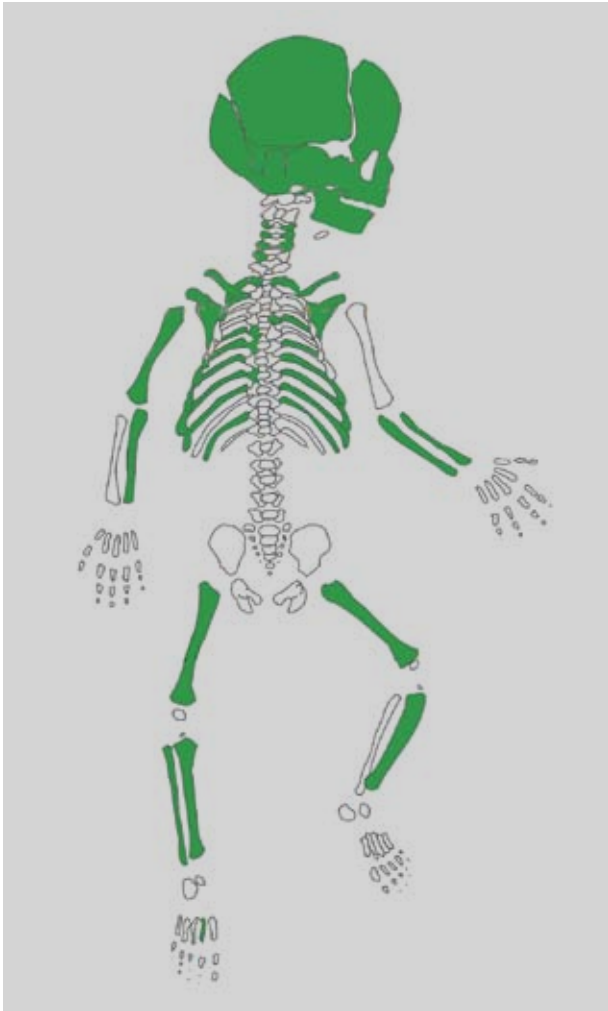

Figure 5.
Diagram showing the element representation of Grave 3, Vela Spila (R. Wallduck)

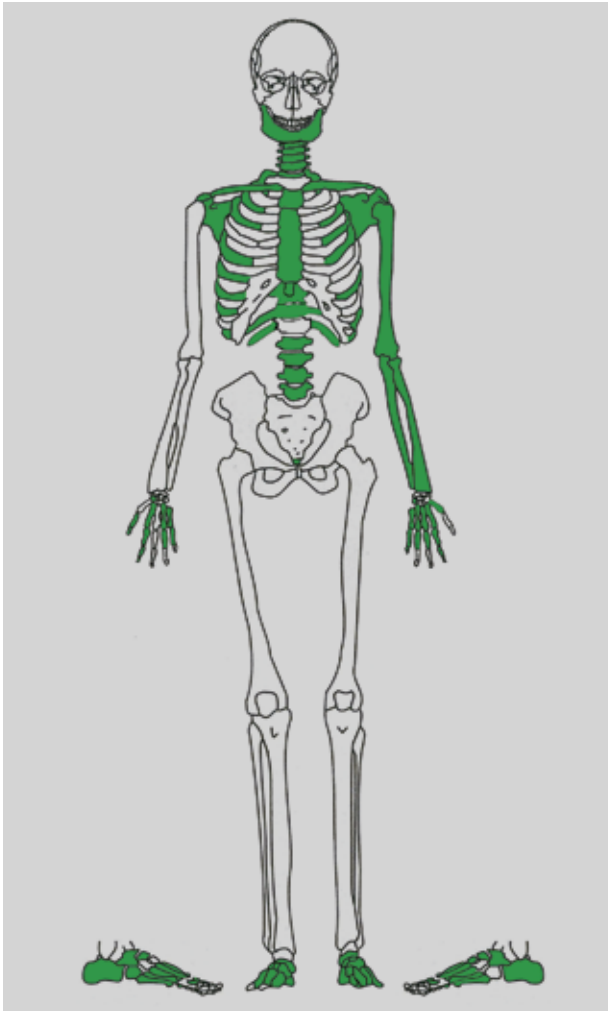

Figure 6.
Diagram showing the element representation of Grave 4, Vela Spila (R. Wallduck)

indicated that the skeleton is remarkably well preserved; however, the left humerus, the right ulna, a large majority of the vertebrae, the ossa coxae, the small bones of the hands and feet, and the left fibula are absent (see Fig. 5). Grave 3 shows no signs of subaerial weathering, burning, tooth marks or cut marks, and limited dry bone fracture.

In the southwest side and near the front of Vela Spila cave,[6] Grave 4 was uncovered containing a 35-to-40 year-old male.[7] The skeleton exhibits mild scoliosis of the spine, as well as degenerative osteoarthritis on the vertebrae[7]. The teeth are extremely worn and the upper third molar exhibits a carious legion at the crown base. Analysis of the skeleton indicated that the skeleton is only partially complete, as the skull (including the maxilla, but not the mandible), right arm (but not hand), pelvis, sacrum (except the coccyx), and legs (but not feet) are absent from the skeleton (see Fig. 6). There is no evidence of subaerial weathering, tooth marks or burning, and dry bone fracture is limited. Two small cut marks were found on the palmar surface of an intermediate manual phalanx, which appear to have been made by a flint tool.

From analysis of the 11 isolated human remains from Vela Spila, a MNI of three was calculated. A neonatal intermediate phalanx, a deciduous tooth, an upper incisor,

6 Radić 2005.
7 Šlaus 2005.

two cranial fragments, a proximal radius fragment, distal tibia shaft fragment, the articular condyle of a child's mandible, a sesamoid, a distal hand phalanx, and a juvenile thoracic vertebra were recovered. Although in the proximity of Grave 4, these remains were not attributed to those missing from Grave 4; a number of elements are from intervals of a different age, and the distance that separates the isolated remains from Grave 4 is too great to be attributed to disturbance. Unlike the individuals found in graves, the disarticulated remains exhibit a greater variation in taphonomic modification; notably six specimens are under 50 percent complete, and burning is present on three cranial elements. There appeared to be no spatial patterning of the remains.

**Discussion of Results**

Taphonomic analysis of Graves 1-3 suggests that they are primary inhumations, which decomposed *in situ.* Individual A in Grave 1 and the skeleton in Grave 3 appear to have been buried in a flexed position and on their side. Although the element representation of the skeletons in Graves 1-3 does not entirely correlate with differential bone survivorship, the absence of a number of elements can either be attributed to post-depositional disturbance, or the unfortunate rescue nature of excavation.

Taphonomic analysis of the skeleton in Grave 4 also suggests that the skeleton appears to have been buried whilst fleshy and the relatively short distance between the foot bones and the lower vertebra suggests that the skeleton was buried with the legs flexed. The position and number of the cut marks suggests it is unlikely that defleshing played a role in skeletonisation. Unlike Graves 1-3, a number of large elements are absent from the skeleton which do not concur with what is expected of differential bone survivorship. As there is no indication of disturbance by carnivores, the deliberate removal of elements from the grave is suggested. The re-opening of the grave may also explain the presence of the cut marks. As persistent articulations are present on a number of the absent bones, skeletonisation would have to have been at an advanced state for these elements to have been removed. It therefore seems that deliberate cultural acts led to the removal of a number of elements from Grave 4, suggesting that Late Mesolithic people at Vela Spila understood the nature and timings of the decomposition process. The absent elements have not been recovered from Vela Spila, and it is therefore possible that they were curated and re-deposited elsewhere. In the context that the skeleton was buried, numerous items of food waste were recovered such as fish, shell fish, and land and sea snails. Additionally perforated *Columbella rustica* shells[8] were found, possibly worn as adornment. Roe deer remains were also found in the cranial area.

Taphonomic analysis of the disarticulated remains indicated that all elements decomposed within the ground. The degree of burning on the cranial elements is indicative of scorching, and it is therefore highly possible that the burning is incidental and due to cooking activities in the cave. Due to the small sample size and only one specimen of low bone density, it unclear as to whether the disarticulated remains are the product of secondary burial, or whether they are products of disturbed burials. Taphonomic analysis suggests that the elements appear to have undergone a large degree of disturbance, and therefore it is entirely plausible that the disarticulated remains could be the product of disturbed burial.

Interestingly, Vela Spila contains the only known burials of children in Mesolithic Croatia; however, Vela Spila is also the only known case of Mesolithic formal inhumation in Croatia. Grave 4 indicates that the removal of elements for secondary burial was being practiced at the site, indicating a temporal nature complex practices involved in Mesolithic funerary rites. Unfortunately it is unclear what burial rites occurred in relation to the disarticulated human remains at Vela Spila, as it is possible that these remains are either the product of disturbed burials or secondary bone deposition. Therefore, at the site of Vela Spila, both inhumation and secondary burial appear to have been practiced in the Late Mesolithic.

**Concluding Remarks**

Late Mesolithic body treatment is commonly viewed as the interment of complete inhumations in cemeteries, such as those in North West Europe. However, taphonomic analysis of Late Mesolithic human remains at Vela Spila has suggested that the picture may in fact be more complex than is currently suggested. Vela Spila provides a glimpse into variable funerary rites that may have important consequences for our understandings about the attitudes towards death and burial in the Late Mesolithic.

Through reconstructing the taphonomic histories of human remains from Vela Spila, I have been able to shed light on aspects of Mesolithic body treatment that would otherwise be unknown. In future analysis, funerary ar-

8 Radić 2009 pers. comm.

chaeology needs to embrace taphonomic studies and skeletal material needs to be rigorously recorded at the time of excavation. There additionally needs to be a move away from viewing inhumation as the norm; it is clear that a view of the Mesolithic as consisting of a number of varying and complex burial rites is in fact more accurate.

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**Sažetak**

Ponašanje prema mrtvima u kasnome mezolitiku: rekonstrukcija tafonomske povijesti ljudskih ostataka iz Vele spile u Hrvatskoj

*Ključne riječi: mezolitik, ukapanje, ljudski ostaci, tafonomska analiza, Hrvatska*

Način na koji se tretiralo tijelo tijekom pogrebnih rituala s pravom zauzima važno mjesto u arheologiji, no postoji tendencija da se pozornost usmjeri prema normativnom tretmanu čitavoga tijela, pri čemu je u središtu zanimanja upotreba pogrebnih predmeta, dok su načini na koje se odvijao postupak ukopa i fizička obilježja samoga tijela tek od sekundarnog značenja. Postupak ukopa društveno je vrlo značajan, a proučavanje tog postupka može nam omogućiti bolje razumijevanje stavova koji su u prošlosti prevladavali u odnosu na ljudsko tijelo. Za ostvarenje tog cilja ključna je rekonstrukcija tafonomske povijesti ljudskih ostataka, budući da nam ona pruža dokaze o pogrebnim ritualnima u prošlosti. Takva rekonstrukcija uključuje analizu promjena na kostima do kojih je došlo između trenutka smrti i pronalaska kostiju, a provodi se primjenom tehnika koje su se razvile u sklopu zooarheologije i forenzike. O tretmanu tijela preminulih u mezolitiku u Hrvatskoj (od oko 10.000 godina pr. Kr. do oko 6.000 godina pr. Kr.) zna se vrlo malo. U ovome referatu predstavljeni su rezultati tafonomske analize ljudskih ostataka iz kasnog mezolitika iz nalazišta u Veloj spili na otoku Korčuli. U radu se iznosi teza da se Vela spila koristila i za sekundarne ukope i za inhumaciju te da je tretman tijela u kasnom mezolitiku možda bio složeniji i raznovrsniji nego što se to često misli.