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Gazing at Owls? Human-strigiform Interfaces and their Role in the Construction of Gravettian Lifeworlds in East-Central Europe

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ABSTRACT

This paper develops a new perspective on human-owl relations in the Pavlovian, a regional group of the early Gravettian of East-Central Europe. It argues that the regular representation of owls in figurative art and ornamentation in this context must be understood as a result of unique conditions of encounter and interaction emerging at the intersection of Southern Moravian early MIS 2-environments, Pavlovian sociocultural practice, and owl presence and behaviour. It is shown that the diverse and tree-rich environments of East-Central Europe, and the Pavlovian Hill region in particular, provided highly favourable living conditions for a rich owl community. In conjunction with Pavlovian settlement behaviour which produced large-scale aggregation sites and seems to have been associated with a more sedentary mode of life, humans were thus particularly exposed to owls that likely dominated the nightly soundscapes of the region. This coincides with the fact that many of the present owl species are resident birds and aligns with compelling evidence for a pronounced 'sense of place' in the region's early Gravettian. The paper therefore suggests considering the saliency of negotiating the owl theme in the Pavlovian as an expression of the general eco-cultural entanglement of humans and owls in this setting. I argue that human-owl relations in the Pavlovian might have ultimately been fashioned by a shared sense of place.

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Introduction

Human-animal situations and palaeolithic lifestyles

Human-animal relations currently demarcate a hot topic in the humanities and the social sciences and have consequently received a lot of attention in recent years (Mullin 1999; Kalof and Fitzgerald 2007; Ritvo 2007; Haraway 2008; Kalof and Montgomery 2011; De Mello 2012; Waldau 2013). This renewed interest in animals is the result of at least two interrelated developments: first, (i) the growing willingness and necessity to engage with the environment and environmental issues at large (Plumwood 2002; Bird Rose et al. 2012; Sörlin 2012; West 2016); and, second, (ii) the increasing recognition among scholars that human life can only be understood as part of a wider network of liveliness (Descola 2005; Whatmore 2006; Ogden 2011; Ingold 2011, 63–65, 2013; Kohn 2013). While the present epoch is widely regarded as the historical peak of humanity's environmental impact – culminating in the notion of the 'Anthropocene' (Renn and Scherer 2015) – scholars have also realised that anthropocentric perspectives on human life are too narrow and static to account for the full scope of human-

environment dynamics (Hussain and Breyer 2017). This critique on the inherent anthropocentrism of explaining human life that has characterised much of the history of the human social and cultural sciences has ultimately led to the rediscovery of the *intrinsic activity* of environmental agents, including animals, with whom humans share the earth (Haraway 2008; Steward 2009; Weil 2010; Hill 2011; Waldau 2013; Lestel, Bussolini, and Chrulew 2014).

From this perspective, animals can no longer be regarded as merely *living with* humans, but rather need to be viewed as agents in their own right, *co-constituting* the various lifeworlds that humans inhabit (Lestel and Taylor 2013, 138). This fundamental reconfiguration of the conceptual and theoretical space employed to think about animals and their contribution to human lifestyles has opened up a whole new suite of perspectives on human society, past and present (e.g. Willerslev 2007; Ogden 2011; Russell 2012; Hill 2013; Kohn 2013; Ogden, Hall, and Tanita 2013; Sykes 2014). Most importantly, these perspectives have developed conceptual resources to re-insert human sociocultural practice into its wider ecological context (cf. Fuentes and Kohn 2012) – without falling back to reductionism(s). One of the core insights is

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that of *multi-perspectivism*: human-animal relations have to be analysed from different and complementary actor-perspectives (cf. e.g. Viveiros de Castro 2015). This implies seriously considering the *changing conditions of encounter and interaction* that characterise human-animal situations across time and space. Rather than exclusively departing from human behaviour, this approach tries to investigate human-animal interfaces as a ‘coming together’, and hence as an *articulation*, of (a) human sociocultural practice; (b) animal behaviour; and (c) their (shared or not-shared) eco-spatial framework (cf. Kost and Hussain [this volume](#)).

Although animals, through their remains and representation, are ubiquitous in the palaeolithic record (Mithen 1999; Shipman 2010), their varying roles in co-constructing mobile forager lifestyles have hitherto rarely been explored from the perspective outlined above (but see Porr 2010a, 2010b, 2015; Porr and de Maria 2015 for similar approaches). Most recent work either focuses exclusively on humans by trying to assess the role of animals in subsistence strategies and ‘artistic’ traditions, or solely on animals in an attempt to derive palaeoecological and environmental information (cf. Porr 2011, 2014, 2015, 55–56 for a similar critique).¹ This situation is unfortunate, especially since the multitude of way(s) in which palaeolithic humans have interacted with animal others might fundamentally differ from anything we know from more recent periods (cf. Hussain and Floss 2015a, 2015b; Hussain and Breyer 2017). There are three main reasons for this: (i) palaeolithic sociocultural practices often reveal a high degree of ‘Otherness’ (*sensu* Leistle 2017)²; (ii) Pleistocene animal communities and landscape regimes starkly diverge in their compositional structure from today’s counterparts; and (iii) Pleistocene landscapes were *dominated by wild animals*, in particular by large herbivores, not by humans or their domesticates (Guthrie 2001). It follows that all three vectors of the human-animal configuration might have been characterised by basic discontinuities with the present. Therefore, an analysis of the specific articulation(s) of humans and animals in Pleistocene contexts should prove useful to shed some new light on the singularity and distinctiveness of varying palaeolithic lifestyles and the particular relations to the environment they have supported.

Research objective and core argument

This study intends to reconstruct the nature of human-owl relations in the Pavlovian (Svoboda 1996), a chrono-geographic subunit of the East-Central European Gravettian, in order to better understand why owls are regularly depicted in its material culture (this regularity, in fact, represents an anomaly from a comparative European Upper Palaeolithic perspective). The overall objective is to show that animal-related features

of palaeolithic visual culture, including items of ornamentation, figurines, and/or markings and drawings, can effectively be explained as a function of the underlying structure of human-animal situations. Consequently, the central argument of this paper is that the unusual prominence of owl depictions in the Pavlovian directly reflects the unique conditions of encounter and interaction emerging from the intersection of: (a) specific aspects of Pavlovian sociocultural practice and settlement organisation; (b) the highly specific climatic and environmental setting of early MIS 2 East-Central Europe and the Pavlovian Hill region; and (c) the particular nature of owl presence and agitation therein (Figure 1). This perspective allows us to re-appreciate the *deep enmeshment* of Pavlovian lifeways into the particular ecologies and webs of animal agency of their time.

The owl as a Pavlovian theme

The motivation for this study comes from a highly exceptional set of owl and owl-like representations, unearthed from a group of Mid-Upper Palaeolithic sites in the Pavlovian Hill region, Czech Republic (Figure 2), and dating to the earlier phase(s) of the East-Central European Gravettian (Klíma and Svoboda 1994; Bougard 2011; Svoboda and Frouz 2011; Svoboda 2012, 2015; Oliva 2014, 2015; cf. Jöris and Weninger 2004). Two main groups of representations can be distinguished: (a) owl-like clay figurines, and (b) perforated owl-like pendants made of ivory (Figure 3). The former group is characterised by an elongated but unspecific clay body bearing at least a single diagnostic owl-feature, in most cases a set of two ears and/or a beak. The second group of owl representations, the

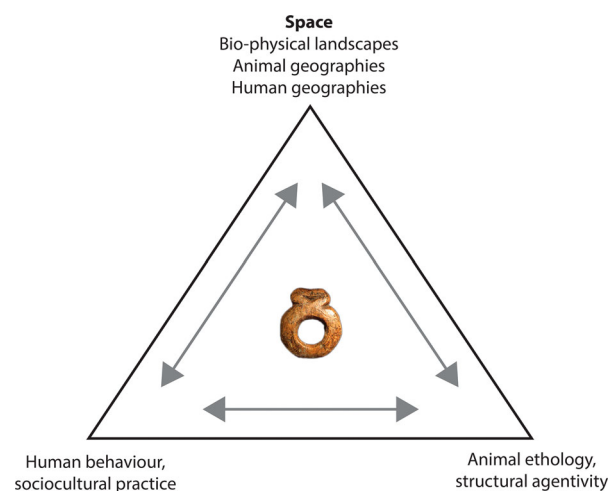


Figure 1. Triangle of interaction defining human-owl relations in the early Gravettian. Owl-related material culture is hypothesised to be an emergent product of the tripolar configuration of humans, owls and the eco-spatial context of their interaction and encounter. (Owl-like ivory pendant from Pavlov I reproduced with permission from García Díez 2005, Figure 7).

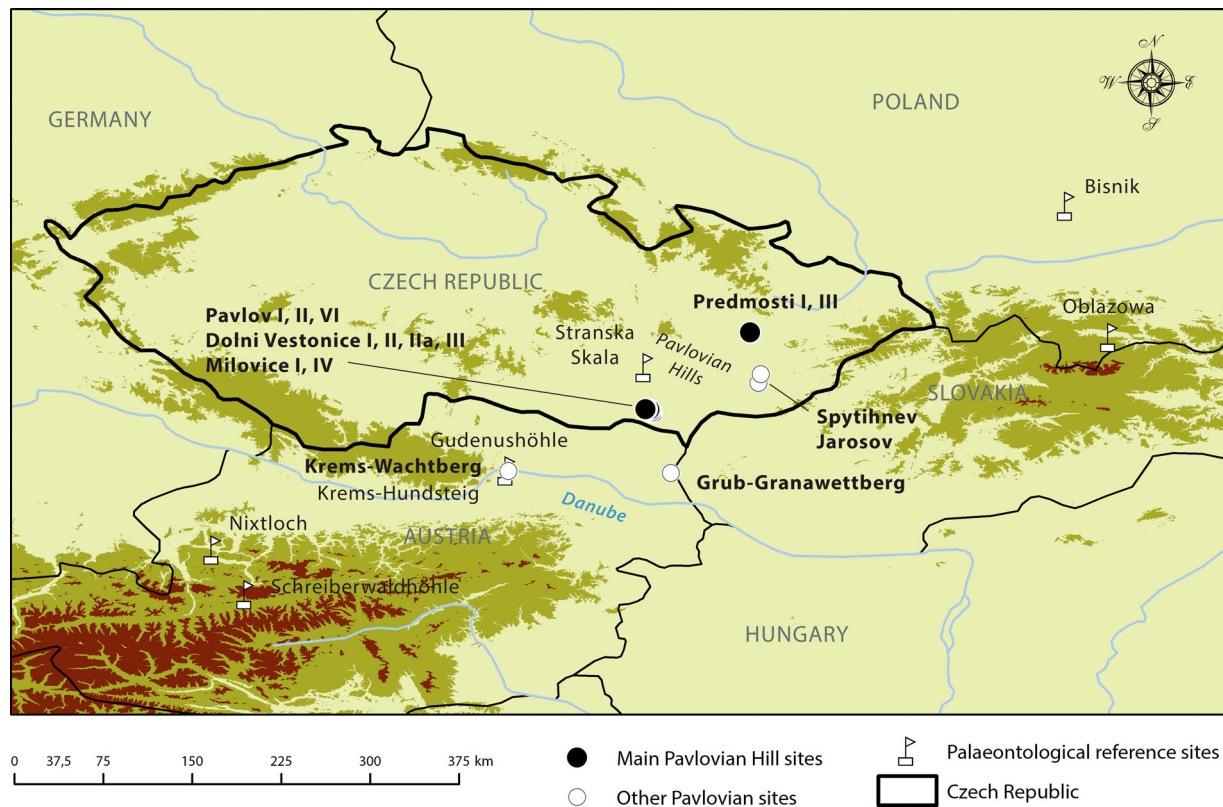


Figure 2. Study area. Shown are the Pavlovian sites examined and mentioned in the text as well as the palaeontological reference sites used for comparison.

ivory ornaments, is characterised by an insinuated owl-like outline with ears or not featuring an engraved wide beak. Generally speaking, it is the specific outline of the owl that allows its identification in Pavlovian visual culture.

There is a third group of owl-like representations mixing the formal characteristics of the two previous groups, that is, an elongated clay body with an off-set head and incised wide beak. A fourth possible group of owl-like creatures might be identified within the large assemblage of unspecified ‘anthropomorphic’ clay shapes that lack diagnostic features. It is not unimportant to note that there in fact exists a large grey zone between owl-like figurines and human-like clay figures (cf. Verpoorte 2001). Having said this, a shared feature of Pavlovian owls and co-occurring ‘anthropomorphs’ is that their representation focalises the frontal view – translating into what is often referred to as *en face* representation (Svoboda 2012, 1467) – whereas most other animal depictions are characterised by features of their lateral plane (sagittal view). Altogether, most of the owl-related items of visual culture derive from only a handful of Pavlovian sites: Pavlov I, Pavlov VI, Dolní Věstonice I, and perhaps Milovice (García Díez 2005; Oliva 2007, 2014, 2015; Svoboda and Frouz 2011).

Two additional aspects of Pavlovian owl representations are important to consider: (i) we are dealing with generic and rather abstract visualisations which we may address as *generalised owls*; (ii) owl representations transgress the boundaries of both broader raw

material groups and ‘art’ categories; some pieces belong to what Svoboda and Frouz (2011, 200) have classified as ‘mobile art’, while others, in particular the clay figurines, represent ‘static art’ and were likely produced and buried *in situ* at the sites where they were excavated (Verpoorte 2001; Farbstein 2011; Farbstein and Davies 2017).

Even though owls are not the most frequently represented animals in the visual culture of the Pavlovian (Svoboda 2015), they nevertheless stand out as one of the few examples for a group of birds receiving special attention before the Magdalenian, when *aves* become more regularly depicted (Sauvet and Włodarczyk 2008). Yet – the earlier Gravettian of the Pavlovian Hill region still remains the only archaeological context in which precisely *owls*, in contrast to other birds, play a significant role. Also, they are clearly the most important birds in the visual culture of the Pavlovian (Svoboda 2012). This situation, *in toto*, urges us to look for explanations that go beyond simple statements such as ‘owls played an important role in the culture of these people’; these are simply not enough to understand the *unique* accumulation of owl-like beings in the visual culture repertoire of this archaeological context.

Methodology

Interpretive approach

The present study’s approach is comparative: first, key features of the three human-animal vectors will be

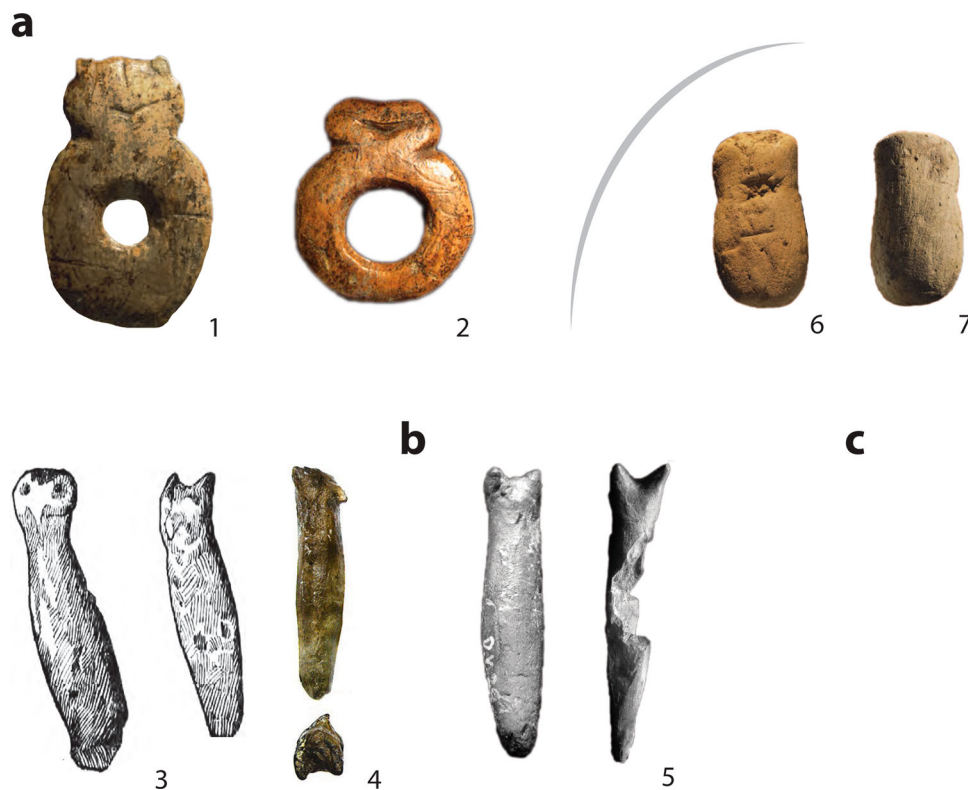


Figure 3. Pavlovian owl-representations. (a): Owl-like ivory pendants from Pavlov I; (b): Owl-shaped clay figurines from Dolní Věstonice I [3-right and 4 are identical objects]; (c): Potential owl-like beings from Pavlov VI. (1: reproduced with permission from Svoboda and Frouz 2011, Figure 1c; 2: reproduced with permission from García Díez 2005, Figure 7; 3: reproduced from Oliva 2014, 233 [original publication in Absolon 1933, Abb. 6, Abb. 7]; 4: reproduced from Oliva 2015, Katalog [ID 42] (p. 92); 5: reproduced with permission from Bougard 2011, Fig. 18; 6: reproduced with permission from Svoboda and Frouz 2011, Figure 1a; 7: reproduced with permission from Svoboda and Frouz 2011, Figure 1b).

identified by a critical review of the evidence for Pavlovian settlement organisation and subsistence, environmental conditions in southern Moravia, and owl behaviour therein; these findings will then, secondly, systematically be compared in order to delineate *patterned relations*. The approach is holistic since ‘cultural’ and functional archaeological data will be integrated with the available zooarchaeological, palaeontological, and environmental datasets. The focus lies on the investigation of the specific environmental preconditions of human-owl interaction and the overlap and/or detachment of human and owl behaviour in this setting.

Assessment of owl presence and behaviour

A key aspect of the analysis is determining the nature of owl presence and behaviour in the Pavlovian Hill region during the Gravettian. Two factors can be exploited to address this problem: (a) owls are highly environment-sensitive and require specific habitat conditions for hunting and nesting (cf. Korpimäki and Hakkarainen 2012); (b) owl behaviour is variable but well-constrained on the species-level (Duncan 2003). Therefore, the assessment of owl presence and behaviour requires the coupled reconstruction of eco-environmental conditions and of present and potentially-present owl-species in the larger ecozone of the region during early MIS 2. This larger ecozone is

defined here by what Musil (2011) has identified as a homogenous eco-climatic belt of the period extending through the Danube basin, Northern Austria, and much of Central and Southern Moravia.

Methodologically, environmental reconstructions will thus serve to delineate the general carrying-capacity – i.e. the ‘eco-potential’ for owls – while a comparison of Pavlovian avifaunal evidence with selected palaeontological records of the timeframe allows for an approximation of the relative diversity and frequency of owls in the landscape. This procedure also permits an evaluation of potential biases affecting the visibility of owl remains in archaeological contexts. This two-tiered approach, in turn, enables a rough estimate of likely present owl species and thus a generalised assessment of the spectrum of owl behaviour during the Pavlovian. The archaeological and palaeontological sites selected for this analysis are mapped in Figure 2 and the considered avifaunal assemblages are listed in Table 1 (for a complete site-list refer to SI.1).

The owl in context

Environmental backdrop

The period between 30 and 20 k cal. BP, in which the Gravettian is roughly situated, was generally characterised by relatively rapid environmental change and

Table 1. Avifaunal assemblages referred to in this study.

Site	Region	Type	Chronology	Owl presence	Species	Source
Gudenushöhle	Lower Austria	palaeontological	Late Pleistocene (MP and MAG)	1	<i>Nyctea scandiaca</i>	Tyrberg (2008)
Hundssteig (Krems)	Lower Austria	palaeontological/ archaeological	Late Pleistocene (Aurignacian?)	0		Tyrberg (2008)
Schreiberwandhöhle	Upper Austria	palaeontological	Late Pleistocene (Mid-Würm) (ca. 50–30 kya)	0		Tyrberg (2008)
Oblazowa cave	Lesser Poland	palaeontological	Late Pleistocene/ Interpleniglacial-UP, Layer VIII-XI (ca. 30–32 kya and younger)	1	<i>Bubo bubo</i>	Tyrberg (2008)
Bisnik cave	Southern Poland	palaeontological	Late Pleistocene/ UP, Complex II (ca. 25–30 kya)	1	<i>Strix aluco</i>	Tomek et al. (2012)
Stranska Skala	Moravia	palaeontological	Late Pleistocene/ Layer 'Capek 9b'	0		Tyrberg (2008)
Dolni Vestonice I	Southern Moravia	archaeological	Early Gravettian (Pavlovian)	1	<i>Strix aluco</i> , <i>Nyctea scandiaca</i>	Wertz, Wilczyński, and Tomek (2015)
Predmosti I	Southern Moravia	archaeological	Early Gravettian (Pavlovian)	1	<i>Nyctea scandiaca</i>	Wertz, Wilczyński, and Tomek (2015)
Dolni Vestonice II	Southern Moravia	archaeological	Early Gravettian (Pavlovian)	0		Wertz, Wilczyński, and Tomek (2015)
Pavlov I	Southern Moravia	archaeological	Early Gravettian (Pavlovian)	1	<i>Nyctea scandiaca</i> , <i>Asio flammeus</i>	Bochénski et al. (2009), Wertz, Wilczyński, and Tomek (2015)

pronounced climatic variability, even on smaller geographical scales (Beresford-Jones et al. 2011; Musil 2011; Pryor et al. 2013). Accordingly, most Pavlovian sites, which belong to the earlier phase of the Gravettian (30–25 k cal. BP), also record a number of cold-warm alterations and have sometimes yielded *prima facie* contradictory environmental and climatic signals (Kovanda 1991; Svoboda 2011). It is likely, however, that most of these inconsistencies can be resolved when one accepts the non-analogous and often mosaic character of East-Central European environments during early MIS 2, forming a highly distinct subunit of the wider Eurasian mammoth steppe. This environment was characterised by unusually high tree-loads in conjunction with relatively continental and cool climates (Rybníčková and Rybníček 1991; Mason, Hather, and Hillman 1994; Antoine et al. 2016). In total, the landscape probably came close to a 'wood-steppe' (Svoboda 2010, 18–21; Svoboda et al. 2015), while still being extremely rich in primary mammalian biomass and productivity (Huntley and Allen 2003; Musil 2010).

Evidence for regular patches of trees in the otherwise open glacial landscape is provided by the quantity of wood charcoal derived from Gravettian layers and some of their hearths (Opravil 1994; Svoboda et al. 2015). This evidence is consistent with the pollen record from Pavlovian sites of the area (Svobodová 1991, 2002; cf. Svoboda 1995; Pokorný and Novák 2016). The archaeobotanical data from the wider region generally suggests that a wide range of tree species, including deciduous trees, persisted in East-Central Europe during MIS 3/2 (Willis and van Andel 2004; Magri et al. 2006; Kaplan et al. 2016; cf. Jankovská and Pokorný 2008), indicating that the region might have served as some sort of 'cryptic refugia' (or 'microrefugia') (*sensu* Rull 2010). Recent

palaeo-biogeographic reconstructions, using forest-adapted bird species as environmental proxy (cf. Ravnsbæk Holm and Svenning 2014) and the presence of 'forest snail' species in the Western Carpathians of Slovakia (Juříčková, Horáčková, and Ložek 2014), support this general conclusion. This demonstrates that, in comparison to Western and Northwestern Europe, an exceptional tree-load must be considered a key condition for human-owl interactions and for human-environment relations at large (cf. Pokorný and Novák 2016, 78 f.).³

Birdscapes and owl behaviour

Birds form an important element of the animal communities which inhabited East-Central European environments during MIS 2. In total, the combined faunal evidence from archaeological contexts and palaeontological archives reflects a highly diverse bird-habitat, providing niches for ground-dwelling birds, water-birds, various corvid species, forest-loving birds, and inhabitants of more transitional areas (Figure 4). This rich 'birdscape', particularly well-evidenced in the avifaunal record of the Pavlovian Hill sites, documents a combination of marshy environments close to the Dyje river, open and semi-open grassland areas, and loosely forested patches and tree-groups nearby (see Svoboda 2011, 261, 263 for complementary evidence). Although it is likely that Pavlovian people settled in strategic locations to allow access to all of these biomes at the same time, Oblazowa cave's extensive palaeontological record (Tyrberg 2008) demonstrates that such fragmented environments supporting various ecological niches for birds and other animals were not the exception in East-Central Europe in this period.



Figure 4. Documented bird species in Southern Moravian archaeological and palaeontological contexts (see Table 1 for bibliographic sources). Owls are marked with a red asterisk, ravens with a black dot. (Drawings reproduced from M. Mullarney and D. Zetterström in Svensson, Mullarney, and Zetterström 2011 and from M. Woods in Whitfield et al. 1992).

Among the birds, owls are not particularly abundant in the sample but they occur persistently and are documented both in archaeological and palaeontological contexts in comparably low numbers. While there is direct evidence for the Snowy Owl (*Bubo scandiacus*) in Dolní Věstonice I, Pavlov I, and Předměstí I (Bochénski et al. 2009; Wertz, Wilczyński, and Tomek 2015), for the Tawny Owl (*Strix aluco*) in Dolní Věstonice I and Bisnik cave (Tomek et al. 2012; Wertz, Wilczyński, and Tomek 2015), for the Short-eared Owl (*Asio flammeus*) in Pavlov I (Bochénski et al. 2009; Wertz, Wilczyński, and Tomek 2015), and for the Eurasian Eagle Owl (*Bubo*

bubo) in Oblazowa (Tyrberg 2008), the overall environmental evidence presented in the previous section lends support to the possible presence of a number of additional forest-inhabiting owl species such as Boreal Owls (*Aegolius funereus*), Long-eared Owls (*Asio otus*), Great Grey Owls (*Strix nebulosa*), Northern Hawk Owls (*Surnia ulula*), and/or Eurasian Pygmy Owls (*Glaucidium passerinum*). Pavlovian Hill environments would also have supported marsh-adapted species or ecotone-dwellers such as the recorded Short-eared Owl (cf. Table 1).

Hence, the combination of eco-environmental information and the avifaunal evidence suggests that

owl density and species diversity should have been exceptionally high when compared to broadly contemporaneous late MIS 3/early MIS 2 settings to the West or East. The rich birdscape of the Pavlovian Hill region are therefore likely to have authored rather unique ‘strigiscapes’. The resulting spectrum of owl behaviours tied to the estimated presence of specific owl species during the Pavlovian is presented in Table 2.

Pavlovian subsistence

Dietary reconstructions point to a comparatively broad subsistence base of Pavlovian people. This broadening of the human dietary niche during the East-Central European Gravettian might foreshadow what Flannery (1969) has coined the ‘broad spectrum revolution’. The faunal record of early Gravettian sites from the Pavlovian Hill region demonstrates that humans were skilled small *and* big game hunters exploiting animal resources from a range of different biomes. While there is also evidence for fishing practices (Oliva 2007, Obr. 88; Svoboda 2011), food staples were mainly provided by mammals and birds (Wojtal et al. 2012, 2016a; Wertz, Wilczyński, and Tomek 2015, 2016). This is not to say that subsistence was primarily based on the acquisition of meat – to the contrary, Pavlovian sites of the region have yielded multiple lines of evidence to support an important role of plants in day-to-day diets (cf. E.g. Svoboda 1994; Klíma 1997; Revedin et al. 2010, 2015; Goutas 2015).

Nevertheless, mammal exploitation patterns, including cut marks, signal an important contribution of larger animals such as reindeer, horse, mammoth, and cervids, and show that Pavlovian foragers also targeted medium-to-large carnivores such as wolf and wolverine, occasionally even targeting cave lions and bears (Wilczyński et al. 2015; Perri and Sázalová 2016; Wojtal et al. 2016a). This big game exploitation strategy was complemented by small-to-medium mammals, most notably hares and foxes (Wojtal et al. 2012; Wojtal, Wilczyński, and Wertz 2016b). The latter two were probably caught with the help of organic devices including nets and traps for which we have only indirect evidence (Adovasio, Hyland, and Soffer 1997). In total, the evidence points to a developed and primary access to the entirety of mammalian biomass available in East-Central European mammoth steppes of the time.

The avifaunal evidence underscores the dietary importance of birds, yet suggests that Pavlovian people exploited only a part of their surrounding birdscape. Cut marks are mainly present on ground-dwelling grouse species and a range of corvids (Bochénski et al. 2009; Wertz, Wilczyński, and Tomek 2015, 2016; Wojtal et al. 2016a). The raven, however, was clearly the most important source of bird-food

(Wertz et al. 2016). Although some owl species, in particular the Snowy Owl, are represented in the Pavlovian faunal record, their dietary role, as shown by low NISP values and the lack of patterned butchery traces, was minimal at best.

Taken as a whole, the subsistence patterns are in good accordance with the evidence for Pavlovian hunting technology: (a) the ability to reliably target almost the entirety of profitable mammals is well-reflected in a complex and modular lithic projectile technology (Svoboda 1994; Pesesse and Polanská 2011; Polanská 2011, 2013; Goutas 2015), which can be interpreted as a part of highly versatile and specialised weapon systems; (b) ‘fowling’ practices might be reflected in what can be interpreted as blunt organic projectile heads (cf. García Díez 2005, Figure 3; Oliva 2007, 47), although such pieces have admittedly not been retrieved in large numbers from the Pavlovian Hill sites (but see Hromodová 2016).

Pavlovian settlement organisation

The Pavlovian with its core area in Southern Moravia is widely known for its large-scale aggregation sites (*sensu* Conkey et al. 1980; cf. Oliva 2014; Svoboda 2015). These sites have not only yielded relatively rich and diverse material culture repertoires (e.g. Klíma 1979; Svoboda 1991; Oliva 2007, 2015; Hromodová 2016), including evidence for fibre technology with basket production (Adovasio, Soffer, and Klíma 1996; Soffer et al. 1998; Svoboda et al. 2009) and one of the world’s oldest ‘ceramic’ traditions (Vandiver et al. 1989; Farbstein 2011; Králík 2011; Svoboda 2012; Svoboda et al. 2015; Farbstein and Davies 2017), but also indicate that Pavlovian people stayed unusually long at these sites and/or revisited them repeatedly on a year-round basis (Svoboda 2012; Svoboda et al. 2015).

The idea that human occupation was exceptionally intense and long-lived is supported by a number of different lines of evidence: (i) Pavlovian sites cluster densely in a rather limited area (Gamble 1999; Svoboda and Sedláčková 2004; Svoboda et al. 2009, 2016); (ii) sites regularly feature thick, extremely rich, and often densely packed archaeological layers (Verpoorte 2000; Novák 2005; Oliva 2007); (iii) many sites are extraordinarily large in their spatial extent (Klíma and Svoboda 1994; Oliva 2007, 2014; Svoboda et al. 2016); (iv) layers often contain high ratios of burnt materials (Beresford-Jones et al. 2010; Svoboda et al. 2011); (v) there is robust evidence for a range of different installations and ‘architectural’ features such as dwellings, a number of multi-phased hearths, bone configurations, and various pits, filled-in or not (Oliva 2005, 69, 2007, 2014; Svoboda 2010, 42–46; cf. Iakovleva 2015); (vi) the faunal spectrum suggests multi-seasonality (Wojtal et al. 2016a); (vii) tree-ring patterns point to both colder and warmer periods of occupation (Beresford-Jones

Table 2. Evidenced and estimated owl species for the Pavlovian Hill region during the early Gravettian. (Ethological data from Svensson, Mullarney, and Zetterström 2011 and Morris 2014).

Species	Status	Site(s)	Preferred terrain	Behaviour	Voice	Other specifics
Snowy Owl (<i>Bubo scandiacus</i>)	evidenced	Dolní Věstonice I, Pavlov I, Předměstí I	open, rugged	vigorous flight; ground-breeder; also diurnally active	loud, far-reaching (1–3 km)	Big-sized; prominent contrast between yellow eyes and white plumage and between head and rest of the body
Tawny Owl (<i>Strix aluco</i>)	evidenced	Dolní Věstonice I, Bisník	forested, semi-open (park)	prefers deciduous trees for breeding; visits human settlements; can be rather aggressive towards humans; nocturnal; stationary	joyful and loud; far-reaching in the mating season	Common in comparison to other owl-species
Short-eared Owl (<i>Asio flammeus</i>)	evidenced	Pavlov I	forested, bushy grassland, marshy	nomadic; sometimes aggregating in small groups; nocturnal but partly active at day-time	sinister, far-reaching (1 km)	Mid-sized; prominent erectable ears; slim-elongated posture habit; preeminent appearance at twilight and during rainy conditions
Eurasian Eagle Owl (<i>Bubo bubo</i>)	evidenced	Oblazowa	forested, rugged	prefers coniferous trees; stationary; nocturnal and active at dusk and dawn; preys upon corvids, water-birds and seagulls	barking, far-reaching (up to 4 km)	Big-sized; in comparison to other owl-species rare; prominent ears
Boreal Owl (<i>Aegolius funereus</i>)	estimated		forested, rugged, marshy	prefers mixed forests; often sitting on top of old/dead trees; stationary; nocturnal	joyful, far-reaching (in quiet nights up to 3 km)	Mid-sized; big head
Long-eared Owl (<i>Asio otus</i>)	estimated		forested, open	prefers coniferous trees; sleeps in small groups during winter times; nocturnal and active at dusk and dawn; stationary (winters in Southern areas); breeds in abandoned corvid nests	reticent	Long feather-ears
Great Grey Owl (<i>Strix nebulosa</i>)	estimated		forested (often with marshy elements)	partly nomadic; nocturnal (in the North) and active at dusk and dawn; rarely on the ground	husky	Rare in comparison to other owl-species; powerful appearance
Northern Hawk Owl (<i>Surnia ulula</i>)	estimated		forested, rugged (often with marshy elements)	prefers coniferous trees; often sitting on top of old/dead trees; generally nocturnal but partly diurnal; can be aggressive	can be far-reaching (1 km)	Can be rather common in comparison to other owl-species
Eurasian Pygmy Owl (<i>Glaucidium passerinum</i>)	estimated		forested	prefers mixed forests; stationary; active at dusk and dawn; fearless; breeds in abandoned woodpecker nests	can be far-reaching (0,5–1 km)	Very small-sized

et al. 2010, 2011); (viii) teeth-growth patterning indicates year-round access to animals (Nýlvtová-Fišáková 2013); and (ix) low frequencies of carnivore gnawing marks point to reduced carcass access opportunities for nonhuman predators (Wojtal, Wilczyński, and Wertz 2016b, 128). All of this, in combination with material culture elements of 'reduced mobility' (cf. Hodder 2012, 196–200) such as querns and groundstones of various types (Absolon and Klíma 1977, Tafel 198–200; Svoboda 1991, Fig. 21; Revedin et al. 2010, 2015), seems to denote a comparatively *sedentary mode of life* for Upper Palaeolithic nomads (Svoboda 2015; Svoboda et al. 2015; cf. Soffer 1989).

A well-developed 'sense of place' – a precondition for the formation of such sites – is also signalled by the presence of a number of burial features embedded in the occupational horizons (Klíma 1995; Svoboda 2006, 2010, 64–69; Pettitt 2011, 185–198). The Dolní Věstonice-Pavlov-Milovice site complex features both (a) formal human interments in distinct cavities (Trinkaus and Jelínek 1997; Oliva 2000; Svoboda 2008); and (b) distributed 'burials' in the form of disarticulated human bones interspersed on a site's spatial extent (Trinkaus et al. 2000; Pettitt 2011, 188). The latter, although controversial, might indicate practices of 'staining settlements in humans' – the working-in of human bone material into the very fabric of occupational areas. Burial practices in the Pavlovian of Southern Moravia were generally complex, as well as diversified, and include single (Svoboda 1987, 1991; Oliva 2005) and triple inhumations (Klíma 1987; Formicola, Pontrandolfi, and Svoboda 2001). These burials are sometimes situated close to the centre of Pavlovian sites, but also occur in more peripheral locations (Pettitt 2011). Most of them feature formal grave goods and suggest some sort of funerary ritual (Oliva 2005, 59; Svoboda 2006, 2012). That the placement of the deceased was well-considered and hence reflects both spatial attachment and 'placemaking' (*sensu* Ashmore 2014) is shown by the 'mass-burial' of Předmostí I, where human remains appear to have been successively interred close to a prominent rock formation, the so-called 'Skalka' hill (Svoboda 2007a, 2008; cf. Pettitt 2011, 196). Since settlements played almost no role as burial places before the onset of the Mid-Upper Palaeolithic in Europe (Henry-Gambier 2008), it seems likely that this phenomenon, which Pettitt (2011, 168) has referred to as the emergence of the 'ritual burial', is in fact also expressive of changes in other societal domains – in particular settlement practices and mobility – and therefore signals a general shift in how people operated in their environments.

The fabrication and treatment of burnt clay pieces and figurative elements adds to this suite of placemaking practices. The analysis of the operational sequence of Pavlovian 'ceramics' (Farbstein 2011) and their spatial and microstratigraphic relation to hearth

features (Verpoorte 2001) in fact points to a scenario where people have burnt and then 'buried' clay items *in situ* before abandoning their settlement (Svoboda and Frouz 2011) – presumably in the context of other ritual activities. This, in conjunction with an array of objects and styles that delineate a well-developed regional identity, e.g. distinct personal ornaments and geometric decorations (García Díez 2005; Svoboda 2007b, 2015), points to a clear transition from space to place.

Discussion

Disconnected taskscape

A key vector of any human-animal relation is how the behaviour of the involved actants compares in terms of complementarity, similarity and difference, and geographic focus, as well as temporality. One way to investigate some of these aspects is by mobilising Ingold's (1993) concept of *taskscape*.⁴ While a taskscape usually refers to a set of interrelated *human activities* allocated in time and space, we can also think of the concept in *plural*. Taskscape analysis, in the context of animal-human relations, is then the attempt to map some of the constitutive relationships that exist between human *and* animal activity spheres, including how these might overlap, complement, co-constitute, and/or counterbalance each other. This procedure appears to be particularly productive for assessing some of the basic features of human-owl relations in the Pavlovian.

Altogether, the evidence presented above in fact seems to suggest that human and owl taskscape were largely detached from one another although complementary to a certain extent and were characterised by a strong tension between them. On the one hand, Pavlovian people clearly directed their subsistence activities, and thus a larger part of their everyday life, towards the open steppe zones of their immediate surroundings. The bulk of targeted game species dwelled in the non-forested plains of the Pavlovian Hill region, with some of them, especially mammoths, perhaps aggregating seasonally in the marshier parts of the Dyje floodplain (Svoboda et al. 2011). This is not only true for hunted large game such as mammoth, reindeer, and horse, but also for some of the medium-to-small game species such as arctic fox. It is clear, however, that forest-dwelling animals such as wolverine and red fox as well as more transitional species such as hare, also played an important role in Pavlovian diets and it would be misleading to maintain that tree-patches were totally avoided when subsistence was concerned. We should in fact suspect that root collecting and other plant-harvesting activities made use of the pronounced tree presence in the landscape. Yet – the natural proximity of most of the mentioned

animals to Gravettian settlements, as well as their visibility in the wider landscape, would have rendered them a relatively common experience for Pavlovian people.

This is also true for the primarily targeted bird species, galliformes and corvids. While the recorded grouses are ground-dwellers and often occupy exposed slopes (Storch and Bendell 2003), corvids, in particular raven, spend a lot of time on the open ground and are known for their scavenging behaviour and their curiosity (Reichelmann 2013). Since Pavlovian settlements were probably long-term encampments and, as a result, would have accumulated a lot of waste and food leftovers, it is thus likely that Pavlovian aggregation sites strongly attracted these birds. The likely presence of dogs in the settlements (Germonpré, Lázníčková-Galetová, and Sablin 2012, 2015) and the associated human feeding behaviour (Bocherens et al. 2015) would even have provided additional opportunities for corvids to steal edible items (but see Perri and Sázlová 2016). This points to a general constellation where there is much taskscape overlap between humans and their game, perhaps with the notable exception of the wolverine, and therefore, by extension, between humans and most of the represented animals in Pavlovian visual culture. Most of the depicted non-owl animals are thus entangled with subsistence, visibility, and the open.

Owls, to the contrary, do not appear to have been targeted preferentially (if at all) and hence played a rather limited role in Pavlovian diets. This is supported by the evidence from Předmostí I, where specific body parts of Snowy Owls are overrepresented in the avifaunal record: Pavlovian people seem to have mainly brought owl feet bones to their settlements (Wertz et al. 2016, 197), suggesting a, *grosso modo*, non-utilitarian role of these elements – perhaps in the context of ornamentation practices (cf. Gál 2005). Moreover, archaeological sites have, with one single exception, so far only yielded owl remains from species which are at least partly diurnal. In light of the available environmental and palaeontological evidence and the general fact that most owl species are nocturnal or crepuscular (Morris 2014, 111–113; Avery 2016, 215), this lends support to a comparatively small overlap of human and combined owl taskscapes during the Pavlovian.⁵

Humans were clearly aware of the presence of owls in their surroundings and might have spotted them from time to time, but owl visibility – owls are, for the most part, solitary animals – was likely reduced and direct encounters comparatively rare. The Snowy Owl would have been the only owl species that could be observed in the open landscape, while all other species tend to hide in trees or marsh-vegetation. Marsh-camouflage, displayed by the Short-eared Owl, is particularly interesting since the Short-eared Owl is

the second bird apart from the Snowy Owl which is partly active at daylight; Short-eared Owls are known to hide in higher grass-cover so that only their heads and erected ears can be seen from a distance (Svensson, Mullarney, and Zetterström 2011, 229). This offers a remarkable visual affordance and Pavlovian owl representations, perhaps unsurprisingly, precisely focalise these two features – head outline and ears – while the rest of the body remains undefined. The *prima facie* unspecific but elongated clay-body of ‘ceramic’ owls might also find real-world perceptual correlates: Long-eared Owls are well-known to assume a characteristic stretched posture when they are disturbed, for example, by humans (Svensson, Mullarney, and Zetterström 2011, 228–229). Having said this, it should be noted that the head and ‘gaze’ of owls is perhaps *the* feature that makes them conspicuous and easily recognisable – in fact, that they have a ‘face’, just like humans, with eyes that are unlike those of other birds, being situated on either side of the head and thus rendering them inherently prominent.

What might add to the differential nature of human-owl interaction in the Pavlovian is the fact that most of the owl species recorded and estimated would have occupied Southern Moravia’s tree-zones; this articulates with the fact that human-tree relations in the Pavlovian were probably extremely significant – not only in terms of sustaining human habitation. There is evidence for the careful but intensive ‘management’ of wood and deadwood (Pryor et al. 2016). Wood, however, was not only needed as a fuel to cook and heat but also as an ingredient to burn the various clay pieces, figurative or not. Trees were therefore an inherent part of the *chaîne opératoire* of Pavlovian ‘ceramic’-making (Bougard 2011, Figure 25; Farbstein and Davies 2017, Fig. 2) and this might have imbued forest-patches with a particular sociocultural significance. Trees and their relational and/or associative spaces were thus intricately entangled with special activities and *cultural techniques* (*Kulturtechniken*) (*sensu* Maye 2010; cf. Macho and Kassung 2013) laying at the heart of Pavlovian life. Hence, the association of owls with reduced visibility, trees, ritual, and darkness, and the fact that owls are extremely silent but, just like humans, very successful hunters, generates highly unique conditions of interaction and encounter, rendering the owl a keystone bird in this particular eco-cultural constellation.

Shared soundscapes

The comparison of human and animal geographies and the examination of aspects of inter-visibility has generally suggested that human-owl interactions in the Pavlovian stood out by their elusiveness and intangibility, yet were coevally characterised by an intriguing mix of similarity and compatibility – humans being the prime ground-dwelling predators of the day, owls being the

prime sky-dwelling predators of the night and dusk. The analysis of Pavlovian acoustic environments, following the eco-environmental evidence, adds an important dimension to the structure of human-owl interaction, thereby strengthening the case for a constitutive similarity/alterity tension between owls and humans.

The coupled archaeological and environmental evidence indicates that the mixed eco-cultural soundscapes accompanying Pavlovian quotidian life were dominated by anthropogenic sounds as a result of intensive and large-scale domestic activities, e.g. by sounds made during ‘technical’ activities (grinding, knapping etc.), people chatting, dogs barking, etc., and by the acoustic utterings of the extensive herbivore and rich bird communities – notably by the presence of a number of songbirds. The ‘natural soundscapes’ (*sensu* Schafer 1994, 15–36) of the night, by contrast, must have been dominated by the presence of the diverse and comparatively rich batch of owl species. Owls are known for their salient voice and many of them produce far-reaching, often ‘eerie’ and clearly distinguishable calls (cf. Table 2).

Moreover, the specific physical environment of the Pavlovian Hill region with its dispersed tree-patches and rugged relief close to a marshy riverplain likely enhanced the audibility and acoustic effect of nocturnal owl calls therein, especially since long-term human settlements seem to have occupied ecozone-intersections (cf. Pokorný and Novák 2016, 78). This results in a situation in which owls were acoustically omnipresent, while direct interactions with humans must have been comparatively limited. As a result, the sound of owls likely formed a *distinct marker* of early Gravettian environments in the Pavlovian Hill region – environments with a ‘lived’ quality (*sensu* Bollnow 1997, 18–22) of being ‘stained in owls’. One should note, however, that these owl-related soundscapes probably varied throughout the seasonal cycle. Owls are typically heard in spring and autumn and therefore also constitute important *rhythm-givers* for human occupation and perhaps mobility.⁶

Patterns of co-habitation

There is a third body of relationships between human and owl behaviour which might have set human-owl relations apart from other human-animal constellations of the time. This set of relations is anchored in aspects of *spatiality*. The Pavlovian evidence for extensive aggregation sites, an almost year-round presence of human groups in the region, a pronounced ‘sense of place’, and well-developed practices of placemaking in the form of settlement installations and in-built burials in fact correlates with the *relative stationarity* of many of the evidenced and/or estimated owl species (Korpimäki

and Hakkarainen 2012; Morris 2014; cf. Table 2). In other words: there is an intriguing convergence between depicting owls, being relatively sedentary and the fact that owls, too, likely stayed in somewhat significant numbers in the region throughout the year. This not only would have ‘heightened’ the exposure of Pavlovian people to their surrounding strigiscapes – i.e. the presence and sounds of owls – but would have also created an important sense of *shared space*. Even though the more tangible aspects of human and owl taskscapes were probably somewhat detached from one another, owls and humans nonetheless emerge as important *co-inhabitants* of these environments. This opens up the possibility that manufacturing owl ornaments and figurines was essentially a placemaking practice, too. Since human and owl presence would have been spatially entangled, owls might have acted as important *place-keepers* and thus would have contributed substantially to the *local identity* of Pavlovian groups within the region. Owls, then, can be interpreted as a key determinant of early Gravettian society in the Pavlovian Hill region.

An interesting dimension of this spatial constellation is the fact that many of the known Pavlovian sites are also human burial grounds; cross-cultural data in fact shows that owls, in particular Tawny Owls and Boreal Owls (cf. Morris 2014, 147, 157), are often associated with death and seen as messengers thereof (Avery 2016, 215) – a conceptualisation that is often explained by the intangibility of owls as ‘queens of the night’ and their eerie voice.⁷ This situation ultimately raises the possibility that the owl-burial-sedentism configuration might have had yet another and more specific eco-cultural significance.

The owl-raven duality

A comparison of human-owl and human-raven relations during the early Gravettian can help to reaffirm the salient place of the owl in the eco-cultural framework of the Pavlovian Hill region. The relationship between human-owl and human-raven relations, but also the relationship between the owls and ravens alone, establishes a *dualistic matrix* of practices and behaviours. Making sense of this matrix can foster our understanding of the owl’s special status and its saliency compared to other birds.

As noted before, ravens appear to have been regularly and systematically hunted and are not really a topic in Pavlovian visual culture, while owls, on the contrary, seem to have played almost no nutritional role but feature rather prominently in Pavlovian visual culture. That owls, unlike corvids, were apparently ‘good to think’ rather than ‘good to eat’ reflects an important difference in how these birds

interfaced with human lifeworlds in this part of the Gravettian world. The differences are partly rooted in the behavioural characteristics of the two bird species: Ravens and other corvids are highly visible and operate in the open landscape, showing aspects of crowd agentivity; they are present at day and dwell extensively on the ground; furthermore, they are omnivorous and opportunistic, extremely curious, and regularly come close to human settlements. Owls, on the other hand, are difficult to spot and focalise the audible aspect of their presence; they are active during reduced sunlight, well-camouflaged, and operate solitary in their environments; they are sky- and forest-dwellers, relatively shy, and often aggressive when facing humans. These birds are specialised carnivores and usually agitate in medium-to-low proximity to human settlements.

This duality translates into different *affordances* of interaction and conceptualisation, especially in the face of pronounced and spatially relatively stable human settlement activities. That ravens turn out to be ‘good to eat’ while the structure of human-owl interfaces instead encourages to ‘think with owls’ is a direct result of this difference. The general lesson is that, in order to understand animal-human relations, it is not enough to study the relationship between the primary agents in question, in our case, humans and owls; instead, one needs to take into account how their relationship *relates to other relevant agentivities in the landscape*. Each individual human-animal relation is part of a wider web of relationships and it is this web that ultimately gives meaning to its parts and constituents.

The fact that Pavlovian owl representations are essentially *en face* images (Svoboda 2011, 265) demonstrating significant representational continuity with human-like depictions might then argue for a *social position* of owls closer to humans than to other animals, at least to other birds. This argument might be supported by the fact that owls and humans are connected through their ‘gaze’. Based on the analysis of the overall configuration of the human-animal interface in the Pavlovian and of the relative position of owls therein, we can therefore speculate about the inclusion of owls into the ‘imagined community’ of Pavlovian people (*sensu* Anderson 1991) and, as a consequence, about the ascription of aspects of *personhood* to these predatory birds.

Conclusion

This study has taken the first steps towards a ‘symbolic ecology’⁸ of owls during the early Gravettian of East-Central Europe. The aim was to show that the exceptional role of abstract owl representations in the Pavlovian of the Dolní Věstonice-Pavlov-Milovice region does not present an inaccessible

phenomenon, bound to the minds of Pavlovian people and hence largely irretrievable for palaeo-archaeologists. Not only is the human mind itself ecologically plastic (Bateson 1979, 1987; cf. Chiew 2011), various aspects of past material culture can in fact be understood as *emergent phenomena* of non-material processes and constellations that underlie them. Some of these can be reliably reconstructed by the archaeological and contextual evidence at hand. From this perspective, the present study has tried to show that Pavlovian owl representations were critically *contingent on the nature, structure, and particularities of human-owl relations of their time*.

The integration of archaeological, palaeontological, and environmental data has demonstrated that the salience of the owl in Pavlovian visual culture appears to be a result of unique conditions of interaction and encounter emerging at the intersection of Southern Moravian MIS 2-environments characterised by exceptional tree-loads and extremely diverse mammal and bird communities, human quotidian practice, especially Pavlovian settlement behaviour, and the presence and behaviours of owls in the same landscapes. The resulting set of inter-relationships predisposed owls to emerge as a keystone species and, in doing so, encouraged human groups to deal with them in sociocultural terms. This study therefore contributes to a better understanding of the ‘owl anomaly’ in the early Gravettian visual culture of the Pavlovian Hill region.

Furthermore, the perspective taken allows us to transcend one-sided nature/culture dichotomies and to recognise the owl as a key anchor of the *more-than-human meshwork* (*sensu* Ingold 2011, 63–65) of its time. This picture underscores the active contribution of owls to the distinct materiality of Pavlovian lifeworlds. It reveals the often deep-running and co-constitutive relationships that have existed between humans, animals, and other beings during the Upper Palaeolithic and the need to approach mobile forager lifeways from the perspective of their broader eco-cultural context.

Moreover, the results of this study illustrate the productivity of developing holistic perspectives on the ‘situatedness’ of well-documented but often poorly understood Upper Palaeolithic lifestyles. Yet – to acknowledge the importance of human-animal relations of course remains but a first step to fully tap into the explanatory potential of human-environment relations in palaeo-archaeological research. Last but not least, the presented Gravettian example adds to the growing body of evidence allowing us to re-insert bird lives back into the fabric of human eco-cultural organisation (e.g. Le Roux and Sellato 2003; Amkreutz and Corbey 2008; Serjeantson 2009; Forth 2009; Krech 2009; Tidemann and Gosler 2010; Low 2011; Morelli et al. 2015).

Notes

1. Martin Porr (2015, 59–61) refers to his approach as ‘phenomenological ecology’ – a perspective that shares many general concerns with what is known as the *symbolic ecology* approach to human-nature relations in wider sociocultural anthropology (e.g. Descola 1996; Betts, Hardenberg, and Stirling 2015).
2. To be clear, this potential ‘otherness’ has both an anthropological and an epistemological dimension. After all, we might possess no direct or even close-to-match analogy for Pleistocene nomadic people because they are vastly detached in time from any hunter-gatherer society we know from today (*deep time alterity*) and they cannot be said to have lived in ‘marginal’ environments as most recent and/or sub-recent hunter-gatherer societies in fact do/did – Pleistocene societies are ‘fossil societies’ in a strong sense (*sensu* Bon 2009). Having said this, the consequence is merely that we need to be cautious about how far we go with our ethnographic or anthropological analogies (cf. Leroi-Gourhan 1983); the implication is *not* that we should reject such analogies altogether and/or from the start (see Porr 2001 for a useful discussion here).
3. The presence of a not to be underestimated deciduous tree component in the area is additionally confirmed by the evident use of deciduous wood for the production of some of the wooden artefacts recovered from Dolní Věstonice II (Sída 2016).
4. ‘It is to the entire ensemble of tasks, in their mutual interlocking that I refer to by the concept of *taskscape*. Just as the landscape is an array of related features, so – by analogy – the *taskscape* is an array of related activities.’ (Ingold 1993, 158 [original emphasis])
5. Since it is likely that owls, too, were drawn to human settlements due to the presence of rodents and other small animals attracted by food storage and waste, I would argue that this connection, in contrast to raven intrusion(s), must have evoked deeply *positive associations*. Unlike ravens who tend to ‘invade’ human domestic space to free-ride on the accumulated resources, owls, through their behaviour, usually help to secure it. From this perspective, owls could easily have been perceived as ‘protectors’ of Pavlovian settlements.
6. Note that this is consistent with the timing of major hunting events which have been documented in animal tooth-cementology (Nývltová-Fišáková 2013), indicating that both spring and the autumn/winter transition probably represented peaks of Pavlovian hunting activity.
7. It is important to add here that the Western conception of owls as ‘birds of wisdom’ turns out to be a relatively specific phenomenon. In many Non-Western societies and cultural contexts, owls are rather perceived as harbingers of evil, witchcraft, illness, death, and the ‘otherworldly’ (cf. Talebinejad and Dastjerdi 2005). In today’s Poland, for example, married women are thought to transform into owls when they die (Morris 2014, 83). Other examples are indigenous African people for whom owls often represent *witchbirds* or proclaim bad news – for instance, amongst the *Hai//om*, the sound of the */honest* (owl) at night foreshadows bad news (Low 2011, 299), some */Xam* attribute sickness to the owl (Hewitt 1986, 292), and the Yoruba conceive of owls as

potential witch-morphs (Prince 1961). In Asia, the Nage (Indonesia), too, classify owls into the category of witch-birds (Forth 2009, 140), while in the American South, some owls count as spirit birds and, when calling left or right to a path, are considered an omen of victory (Krech 2009). These examples should be enough to showcase that owls tend to be seen as highly ambiguous fellow occupants who signal potency, peril, and otherness at the same time.

8. *Sensu* Descola (1996).

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