Abstract
One of the most significant contributions of archaeology to the studies of human-animal relations is the concept of the “domestication” of non-human animals. Domestication is often seen as a specific human-animal relation that explains the ways people and animals interact. However, I argue, that “domestication” does not explain anything but has to be explained or “reassembled” by focusing on the many historically specific ways human and animals live together. Thus, the paper tackles the emergence of a “herd”, an assembly of animals, humans and things that appeared in the Neolithic, by following the ways the different agencies—human, animal, material and composite—are involved in the creation of new sociality. Living with animals is always already a material practice. It includes material culture, bodies, gestures, actions, habits, and body skills. It requires new practices and skills of flocking, herding, closing, observing, amassing, and forming a queue; skills to be learned and employed by the participants. However, numerous resistances and translations are encountered and employed along the way, changing everybody in the process. In this way new bodies and persons—human and animal—are created, ultimately leading to the “herd”, a new way of association of animals, people, and things. From this perspective the agency and power is distributed and not confined to one species or group. There is no single locus of power and agency and no hegemony or “domination” but power and resistance that works from everywhere. Living with animals is not a matter of management, control or domination, but it is about making hybrid society work, a matter of politics, for all the parties involved.

Keywords
archaeology, domestication, material culture, politics, power, caves, herds

Introduction
This paper tackles the emergence of a “herd,” a historically specific assembly of non-human animals, humans, and things that appeared in the Neolithic, by following the ways the different agencies—human, animal, material, and composite—are involved in the creation of new sociality.

One of the most significant contributions of archaeology to the studies of human-animal relations is the concept of the “domestication” of animals
(for recent development on the concept of “domestication,” see Russell, 2002, 2007). “Domestication” is often seen as a specific human-animal relation that explains the ways people and animals interact. In this perspective, animals are thrown or forced into the state of “domestication”. “Domestication” changes them somehow. But how does it work, the “domestication”? How do new, stable kinds of “domesticated” animals emerge? Are they passive objects or do they act back on humans as well? Are humans changed in the process as well? I argue that “domestication” as such does not explain anything but has to be explained or “reassembled” by focusing on the many historically specific ways humans and animals live together.

I will try to illustrate these points using an example from the Neolithic of the East Adriatic. The East Adriatic coast and its hinterland were settled by mobile hunters and fishers. With the establishment of farming villages in the Istrian lowlands and northern Dalmatia around 6000 BCE by the farmers arriving across the Adriatic from southern Italy, a channel for the massive acquisition of sheep and goats was opened. When indigenous hunter-gatherer could obtain them (through exchange or raiding), animals started to live and reproduce within households, and this led to the establishment of domestic flocks (Chapman & Müller, 1990; Müller, 1994; Forenbaher & Miracle, 2005; Mlekuž, 2005).

And suddenly we can observe a massive change. Sheep become the focus of social life, and this is reflected in a radically different lifeways. Emergence of property resulted in termination of sharing which led to fragmentation of social groups of hunter-gatherers into small independent households (cf. Ingold, 1980).

This change is often explained by the adoption of domesticated animals and emergence of pastoralism. But what really happened? Were animals just passive assets in this process? I want to argue that domestic or pastoral animals were not only domesticated into human households, but they also “domesticated” people in their flocks. This sociality affected both species, human and non-human animals, and new social forms emerged, with animal and human societies acting upon each other and creating new social relations. Ultimately, this led to new kinds of animals and people. I call this historical specific assemblage “herd”; a hybrid society of human and non-human animals and specific material culture.

Complex and Complicated Societies

Sheep are often seen as “dumb” animals, but we should grant sheep more social intelligence. Social organization of sheep is believed to be shaped by
anti-predator and grazing strategies and relies upon learned traditions (Festa-Bianchet, 1991). Sheep are social animals; they construct and maintain their society. Basic social tools of human and non-human primates enable them to discriminate between other social agents, remember them, and think about them when they are not present. Sheep possess similar specialized neural systems in the temporal and front lobes, which enable them to recognize individual sheep and humans by their faces. The specialized neural circuits involved maintain selective encoding of individual sheep and human faces even after long periods of separation. Individual sheep can remember up to 50 other different faces for over two years (Kendrick, da Costa, Leigh, Hinton, & Peirce, 2001). When living close together with other species for prolonged periods they tend to bond—a feature that modern herders make use of when they socialize sheep dogs into herds (Fisher & Matthews, 2001; Estevez, Andersen, & Naevdal, 2007). Sight is a vital part of communication. When grazing they maintain visual contact with each other and constantly monitor other sheep. In this way they move and stay together as a flock. A striking effect of this is flocking behavior. Anyone watching a flock of sheep moving across landscape, changing shape but always staying together as one, knows how mesmerizing it looks. It shows how a complex effect can emerge from simple local interactions (Reynolds, 1987). Complex social behavior emerges from simple local interaction and rules. Thus, sheep are not single individual sheep, but they are always a multitude, a flock, a phenomenon that emerges from simple face-to-face social interactions (cf. Armstrong & Simmons, 2007).

Within the flock, sheep form strong social sub-groups. However, the flock stays together as a social entity because membership of sub-groups is constantly changing (Winfield, Syme, & Pearson, 1981). Social hierarchies are formed among some breeds, and they are maintained, challenged, and negotiated through pushing and shoving in competitive feeding situations, mating, or ritualized fighting (Shackleton & Shank, 1984).

Similar to baboons (Sturm & Latour, 1987) and other non-human primates, sheep are constantly re-creating or re-assembling their society through monitoring, testing, and negotiating. They do not enter a stable, ready-made social structure, but they constantly negotiate what the structure will be. The society is literally socially constructed through face-to-face interaction. Sheep are skilled social players actively negotiating and renegotiating society and their positions within it.

How is this different from human societies? Strum and Latour (1987) distinguish between “complex” and “complicated” societies. Complexity in this context means that it is difficult for participants to decide who is a member of the group and what is the nature of the interaction. Sheep have only their
bodies, skills, intelligence, and history of interactions at their disposal to maintain social relations. They perform their society only through their bodies, their social skills, and social strategies. Thus, establishing a stable society is difficult. Society is performed ex nihilo at every social encounter, every face-to-face interaction. The society can disappear if not performed. Nothing fixes and stabilizes it. Of course, age, kinship, and dominance rank can be mobilized to make the nature of social relations more stable but even those might be and are constantly challenged. Thus, sheep acquire the skill to create society and hold it together by only using “soft” tools; their society is “soft” as well. Sheep live in a complex society and have a complex sociality.

Stable society can emerge only when additional resources besides bodies and social skills are mobilized. Material resources or symbols can be used to reinforce a particular form of society. They permit the shift of social life away from complexity to what Strum and Latour (1987) and Latour (1994) call “complication”; that is, social life made out of a succession of simple operations. Language, symbols and material objects are used to simplify tasks of ascertaining and negotiating the nature of social order. Individuals continue to perform society but on a much more durable and less complex scale. The nature of social interaction is stabilized by the use of durable material resources, language, and symbols. Individuals can influence and have more power over others and extend their presence even when they are not physically present in the social interaction (Latour, 1994).

Thus, the difference between humans and sheep or other animals is not in the social order but in the ways social order is made durable. Living in a complicated society means that individuals inhabit the world shaped by their predecessors. We are “thrown” into the world. As Gosden (1994, p. 77) puts it, a “world created by people will be a world into which their children will be socialized”. However, this does not mean that society is fixed and cannot be changed. Material resources can be employed and modified to enforce a different view of society.

**Living with Non-Human Animals Is Material Practice**

Living with companion animals is always already a material practice. It includes bodies, material culture, places, and landscapes. It requires new practices, gestures, actions, habits, and body skills, such as flocking, herding, closing, observing, separating, amassing, and forming a queue, which must be learned and employed by all participants. However, numerous resistances and translations are encountered and employed along the way, changing everybody in the process. Animals and people have very different bodies and needs for food,
water, and shelter that have to be acknowledged, respected, and adapted to by the other participants in order to form a durable society. Thus, bodies of participants are constituted at the interface with other bodies and objects rather than existing in separation. The human or non-human animal body is therefore as much exterior, in a web of relations, as interior, within itself.

In this way new bodies and persons—human and non-human—are created, ultimately leading to the “herd”, a new way of associating animals, people, and things.

There is plenty of evidence that Neolithic caves and rockshelters became containers for people, non-human animals, things, and substances (Boschian & Montagnari Kokelj, 2000; Miracle & Forenbaher, 2005; Mlekuž, 2005). Caves and rockshelters became seasonal camps and pens for mobile herders and their flocks. However, caves were not only used as sheep pens but also as habitation places for humans. The relative frequency of different body parts shows that sheep were culled, processed, and eaten on site (Mlekuž, 2005, pp. 38-39). Deposition rates of bones are generally low and can be compared, for example, to the deposition rate of a single Navaho cohabitation group, suggesting that group size was small (Mlekuž, 2005, pp. 33-34). Caves were regularly used both for penning animals and by camping pastoralists.

“Places gather” (Casey, 1996, p. 24), but caves also hold, amass, contain, and store. Caves and rockshelters provide the affordance of containment. They provide a physical envelope for a setting, separate outside from inside, exclude from the rest of the landscape. They can crowd people, animals, things, and substances together, mix or separate them, hide them from view or shelter them, making them more controllable and visible (cf. Warnier, 2006). People and animals, each with their specific smells, sounds, food, and personal space, were kept in a same envelope or container of a cave. Thus, the sociality between animals and humans in a cave was much more dense than outside in the open landscape. The implicit sociality of caves and rockshelters fixed and stabilized the social relations between humans and sheep.

Use of caves and rockshelters as habitation places can be seen as material resources, which structured and strengthened the social bond between people and animals, making it durable. They provided the context for social interactions, making them complicated but also less complex. Caves provided the material world in which people and animals were born into; they fixed the way people and animals interacted, they reduced the number of possible outcomes of face-to-face interactions. The material objects, including caves and rockshelters employed in the process of social complication, enabled more durable social relations between humans and animals to emerge. These resources played a crucial role in the construction of stable societies. In fact, those
societies were made durable enough to survive the attrition of time and enable us to observe them archaeologically.

**Power and Domination**

The adoption of flocks of sheep in human households and their containment in caves and rockshelters thus marks different relations between humans and animals, relations that Ingold (2000, pp. 61-76) describes as “domination”. Animals in the pastoral mode of production become a means of reproducing the social relations of pastoral production. The slaughter of domestic animals frees people from the obligations of sharing that apply to the hunted animals only. Reproduction and the multiplication of domestic animals make possible the accumulation of wealth. Thus, the effect of drawing on domestic herds leads to the social fragmentation of human groups into autonomous, self-sufficient domestic units, where animals are members of the household and food resources at the same time (cf. Ingold, 1980, pp. 79-89). However, the incorporation of animals into the human household is not simply a tyrannical act of domination over hapless animals. The changes emerging from the incorporation of animals into the household are considerably more complex and contradictory, and they include mastery, domination, and objectification as well as care and nurture (Campbell, 2005; Armstrong Oma, 2007, 2010; Russell, 2007; Knight, 2005). Domestication practices brought humans and animals closer together not only in relations of control but also affinity, proximity, and companionship.

By focusing on systemic power relations of humans over the non-human animals we lose the more nuanced view how power structures are performed and emerge as stable entities. Animals are not simply thrown into the relations of domination. Power can only be understood if we start with the local and observe the patterns, practices, and discourses and their interrelation and how they became fixed.

Foucault views power as exercised through a “net-like organization” where individuals “circulate between its threads” (1980, p. 96). Thus, “[p]ower is everywhere not because it embraces everything, but because it comes from everywhere” (Foucault, 1979, pp. 92-93). Power is therefore not in a single individual or group dominating others. Individuals are always in the position of simultaneously undergoing and exercising power. For Foucault the power is omnipresent, it “pervades the entire social body” (1979, p. 92). But where there is a power, there is always also resistance, and this allows the possibility of change (Foucault, 1979, p. 95). This is true for power relations between humans and non-human animals as well. For example, herding manuals
suggest that the first thing a herder must learn is that “[y]ou aren’t going to get to do it the way you want” (Cote, 2004, p. 9). Animals always act back, they are not passive tokens to be moved around. They are practicing and developing their bodily capacities, living and experiencing with their unique sensibilities, affects, desires, and sentiments. They have their own material resistance, hardwired in their bodies, in their social organization. All attempts to force them are met with resistance, which can range from open aggression, unruly or uncontrollable behavior, and flight to passive resistance in the form of stress, loss of weight, sickness, and ultimately death (Cote, 2004). Acts of resistance also devolve upon the ability of the body to behave in particular ways, in forms of pre-discursive bodily forces that break through the surface of the body to disrupt the regulating practices imposed upon their bodies.

The image of power as network thus carries implications of equality and agency rather than systemic domination of one group over another. And power can manifest itself positively by producing knowledge and certain discourses that get internalized by individuals in sensibilities, affect, desire, and sentiments; “registers of corporeality” that escape logic of representation and change the ability of body to behave in a particular ways (Mahmood, 2005, p. 188).

Thus, instead of focusing on systemic domination of one group over another, it might be more productive to observe how power relations get fixed in a specific historic context and which resources are mobilized to make them more durable. Foucault widens our understanding of power to also include the fixed forms of social control in disciplinary institutions such as schools, hospitals, psychiatric institutions, prisons, etc., as well as the forms of knowledge (Foucault, 1977):

Governing people, in the broad meaning of the word, governing people is not a way to force people to do what the governor wants; it is always a versatile equilibrium, with complementarily and conflicts between techniques which assure coercion and processes through which the self is constructed or modified by himself. (Foucault, 1993, pp. 203-204)

The notion of governmentality therefore includes relations between technologies of self and technologies of control, and it assumes a close link between power relations and processes of subjectification. This includes issues of self-control, guidance for the family, children, animals, management of the household, etc. The body is a principal site where regimes of discourse and power inscribe themselves, a nodal point or nexus for relations of juridical and productive power.
The material culture is a crucial resource that can be employed in this respect. It fixes the ways individuals interact and move, and it dictates new skills, habits, and actions, and imposes new body techniques. In this way it trains and disciplines individuals. As Foucault says, “stones can make people docile and knowable” (1977, p. 172). Thus, ultimately, it produces new kinds of practiced, docile, knowable bodies, human and non-human alike.

Material culture of containment, caves, and rockshelters fixed the power relations between humans and sheep in the Neolithic East Adriatic. Containment is a technology of power; power rests on agency to act directly upon the subjects or to make the subjects act upon themselves (Warnier, 2006). All of these actions rest upon technology and include material culture such as fences, barriers, and blockades. Containers in the form of corrals, fences, and pens are the main material culture used by herders to control animals (Ingold, 1980; Cribb, 1991). Caves can be seen as a form of material culture associated with containment, often improved with fences or drystone walls that control and guide the acts of entering and leaving the enclosure of the cave. In this way the material culture of containment, caves themselves, become embodied in persons through sensory motor conducts associated with containment, such as entering, leaving, maintaining the limits, forming a queue, and preventing the transit of substances (Warnier, 2006). There is much evidence from the East Adriatic that caves were modified to be more effective containers. Numerous stone walls can be encountered in front of the caves (Guacci, 1959), and at least in one case remains of a wattle fence were found (Moser, 1903; Barfield, 1972, p. 201). For example, in the Mala Triglavca rockshelter located at the edge of a minor doline, a drystone wall was built in front of the cave during in the Neolithic to make a rockshelter a more efficient container. Inside the rockshelter, thick layers of burnt sheep dung, hearts, pottery, and other debris of daily life can be encountered, testifying to the fact that that humans and sheep performed social interactions within the same container. Containers have volumes and the volumes of caves can be measured in terms of the number of sheep and people that can be enclosed.

Spaces in caves often structured and employed folds and activity areas, which provided additional containers. They served to separate the flock and humans into distinct categories, thus imposing systems of classification categories such as “ewes”, “lambs”, and “rams” but also “children”, “women”, etc. They structured face-to-face interactions and reduced possible outcomes of those interactions. As the materialization of ideas about how should human-animal society functioned, they made social life less complex and more durable.

The traditional view that individuals are passive and enter into the society that overpowers them leads to the idea that individuals become actors only
when they take the initiative in changing and reshaping the society. We usually limit the agency to humans only and deny it exists for non-human animals. But if all social actors perform society—if all are active participants from the beginning, negotiating, testing, and renegotiating social bonds—then social is at the same time political. Agency arises from networks of action and causation in assemblages of human and non-human animals and material culture rather than as a simple product of individual (human) choice. Material and symbolic resources are only strategic means of enhancing one’s influence over others and make it durable. Technologies of containment, control over bodies and populations, which were employed by Neolithic herders on the Eastern Adriatic served this purpose. However, they were not only met with a lot of resistance from human and non-human animals, but they also motivated participants to react to the social interactions and changed them in the process.

Through confronting other individuals mediated by moving in a material world, the individuals—human and non-human alike—find a number of givens that are required to structure her/his actions. Such givens are his/her sexed body, the social setting in which he/she was born, language, the material world, social organization, and significant others such as members of the household group including human and non-human animals. Through everyday, mutual engagement, non-human animals, humans, and material culture profoundly changes the subjects involved. The experience of animals and humans through sensory-motorical engagement through their visual properties and communication is a crucial step in the process by which the individual animal or human is made into a subject within larger formations of discourse. Through cross species interaction, structured by the material world, companions from other species became mutually “incorporated” and reached deep into the psyche of the subjects not through abstract knowledge but through sensory-motorical experience and engagement (Warnier, 2001). In this way, material human and non-human animal bodies are transformed into signified and regulated subjects that emerge as new, historically specific persons—human and non-human alike; persons who were constituted by virtue of a relationship with other persons within the herd.

**Conclusion**

In the East Adriatic Neolithic caves and rockshelters, humans and sheep lived very close together, sharing living space, smells, and sounds. As the smells of smoke and cooking mixed with the smells of dung and wool, people and animals attended to each other in their mundane tasks. There is evidence of both
human and sheep milk teeth shed on the sites, and we can imagine children and lambs playing together or human children sucking milk directly from a sheep’s udder (cf. Evans-Pritchard, 1940, p. 23).

I want to argue that this close contact, intimacy, and companionship created more than just an association of animals and humans. It created a new kind of society comprised of new kinds of persons, sheep, goats, and humans interconnected through the business of everyday life in a specific material environment. Through their engagement, they became incorporated in other bodies through skills, habits, procedures, and schedules. I call this historical specific imbroglio of species “herd”. All species involved were profoundly changed through their everyday contacts and interactions. Close everyday contact, mediated by the materiality of the technology of containment, and material culture employed to fix the relations between participants provided an opportunity for intimate and close contact between humans and animals. Sheep are gregarious, social animals: During socialization they establish a social order, they can recognize individual ovine faces and even human faces and remember them for years. When living close together with other species for prolonged periods they tend to bond, or create social links. Through bonding with people (and other species) humans became incorporated within animal social organization and animals became part of the power and social relations of human households. A new hybrid society emerged, consisting of humans and non-humans alike. This new set of relations between people and animals brought about a different use of caves, which in turn influenced relations between people and animals. Caves as a material culture and as special places in a landscape thus played an active role in changing relationships between people and animals during the Neolithic. In fact, they fixed the way people and animals became a herd.

Material culture of containment, such as caves, fences, walls, pens, and corals, were employed to fix the social relations, making the social relations between sheep, between people, and between people and sheep durable. Humans, animals and material culture therefore mutually constituted each other. In this way a stable society emerged that extended beyond the immediate face-to-face contact.

From this perspective the agency and power is distributed and not confined to one species or group. There is no single locus of power and agency and no hegemony or “domination” but power and resistance that works from everywhere. The bodies are thus directly involved in a political field. Power relations train bodies, to make them carry out tasks, to perform ceremonies, to emit signs. Living with non-human animals is not a matter of management, command, or domination but ultimately a matter of politics and governmentality, with implications for all involved parties.
References


