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Thinking about social mutualism in transhumant farming in Croatia

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One notable quality of biological writing on symbiotic associations in interspecies interactions is the close attention scholars place on the *type* of exchange that unfolds in these interactions. Thus, whilst mutualism ‘refers to all mutually beneficial, inter-specific interactions, regardless of their specificity, intimacy, or evolutionary history’ (Bronstein 2015: 10), there is also parasitism, which is where the ‘symbiont is using the host as a resource and causing it harm as a result’ (Leung & Polin 2008: 107), as well as other forms of interaction (e.g. commensalism, facilitation, cooperation and protocoeperation). One feature of these interactions is their plasticity. Interspecies relations ‘can switch between mutualism and parasitism in response to even the slightest environmental change’ (Leung & Polin 2008: 107). As such, interspecies interactions do not *always* have to be either mutualistic or parasitic but shift according to changes in the ‘ecological context’ (Bronstein 2015: 16).

With this in mind, in this article, I ask whether we can see social mutualisms in human/animal interactions within dairy farming relations, specifically transhumant farming relations in Croatia. Here, I treat social mutualisms as social interactions that are mutually beneficial to the species involved. This does not exclude attending to each other’s physiognomic needs – e.g. providing nutrition. However, it also reaches beyond this, to appreciate forms of social exchange that might benefit the actors involved. A further feature of social mutualism is that, as Fijn et al. (this issue) mention in their discussion of mutualism, it enables us to think about these interactions within a shorter time frame and between individual actors.

Thus, social mutualism affords a perspective that focuses on the types of interaction involved and includes those interactions that unfold in the short term. This is of benefit because we can capture exchanges that are so slight that they may otherwise go unnoticed. In the case of dairy farming, human/animal interactions can fit Leung and Polin’s (2008) definition of parasitism: humans consider animal milk a ‘resource’, and by farming it, they ‘cause harm’ to the animals. On dairy farms in Croatia, depending on the type of farm, the animals’ movements may be restricted, their infants may be taken from them at a very early age and they may be repeatedly inseminated. They may also be sent to slaughter when they no longer produce milk in the desired quantities.

However, whilst considering these relations parasitic may initially seem the most ‘ethical’ position to take, in that it foregrounds the harm that the animals involved are experiencing, this may not hold when one thinks of them ethnographically, in terms of social mutualism. Can we say these interactions are always parasitic, or is there evidence of mutualism? This question becomes perti-

nent when one considers Wilkie’s critique (2010: 185) of the scholarship on human/animal farming relations; namely, that it tends to take a partisan position, treating different types of farms as being analytically similar. One explanation Wilkie (2010) has given for these partisan approaches is that we tend to approach human/animal farming relations from a position of analytical distance. Moreover, as Crowder (2015: 80) pointed out, when one does look more closely – as recent scholarship has done – into the relations between farmers and animals, there is evidence of ‘the existence of hitherto unsuspected complexity within such relationships’. Building on Wilkie (2010) and Crowder (2015), I propose to explore this complexity further to see what insights we might miss if our analysis were to preclude the possibility that there might be mutually beneficial interactions involved. In my mind, social mutualism offers a useful conceptual tool here.

In this vein, therefore, I adopt a biological approach, by focusing on the *type* of interaction when considering my observations on exchanges between shepherds, sheep, cats, dogs and bell ringers in transhumant farming in Croatia. While not all interactions can be considered mutualistic, some could be. I conclude that these mutualisms must be considered since they show how dairy ‘milk relations’ stretch considerably beyond the farmsteads and the initial ‘farmer/animal’ relation.

Transhumant farming

Transhumance is a form of farming centred around the movement of animals and herders between different pastures at different times of the year. Transhumance can be diverse (see Renes 2018), but in Croatia, it is about the movement – mainly of sheep – from the lower to the upper pastures in the spring and from the upper to the lower pastures in the autumn (Marković 2003). When the sheep are on the upper pastures, the shepherds live with them in so-called ‘*stanovi*’, which are small farmsteads that house both the shepherds and the sheep during the months they are up there.

Nowadays, these farmsteads are accessible by macadam roads, and it takes much less time to travel between them and the lower villages where the sheep and shepherds live in the winter. When the shepherds travelled by foot, it took much longer to move between pastures, so they stayed permanently on the upper pastures with their animals. Although it is easier to access the upper pastures in the present day, all the shepherds with whom I spent time still lived in the farmsteads in the spring and summer. They did so because they wanted to be with the sheep to protect them from local predators, such as wolves and bears and other humans who might come to steal them.

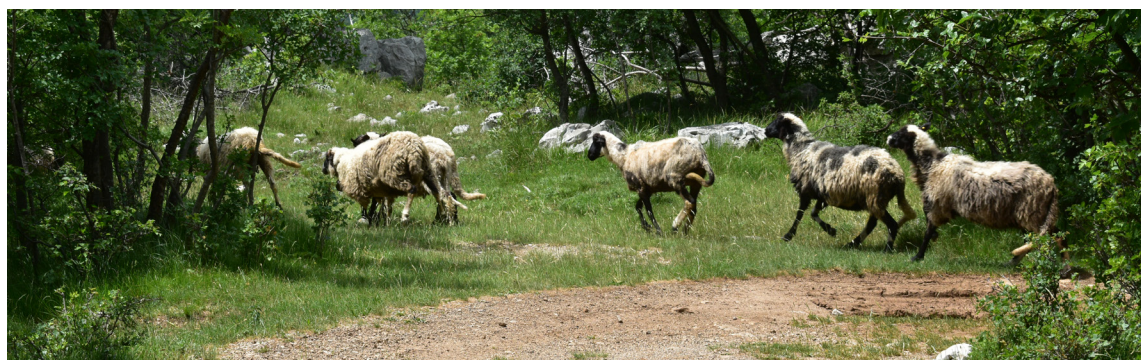


Fig. 1. A farmstead on the upper pastures.

The shepherds and sheep follow a daily routine on transhumant farmsteads. At one farm I visited, the day typically starts with the first milking at about 7am, followed by the first walk up to the pastures where the sheep graze. One of the shepherds told me that he thought of his sheep as like bees, in the sense that they knew exactly where they wanted to go and what they wanted to eat. He told me that he did not interfere in their decision-making about what part of the pastures they wanted to graze on, saying that they knew what was best for them. The sheep have a consistent order of plants they seek out while on the upper pastures. For instance, in the spring, they will not eat nettles (*Urtica dioica*) when the plants are young and fresh but will eat them later in the summer when the plants are older and less potent. After a morning of grazing, at about midday, the sheep, sheepdogs and shepherds return to the farmstead to drink water and sit in the shade until it is time for the second milking at 2pm. When the heat has passed, they return to the pasture at about 4pm. They return to the farmstead at about 7pm for the third and final daily milking.

The sheep are milked by hand, and at milking time, the sheep stand huddled in a line, waiting to enter the small wooden pens the shepherds have built. All the shepherds told me how sensitive the sheep are: if you are not 'good to them' or do not 'respect their ways', they will start to decline and, in the end, may even die. The shepherds also said that the flocks have a very distinct hierarchy that needs to be respected. One shepherd told me that when he feeds his sheep dry food in the winter, he must be careful that he feeds them according to the hierarchical order they have organized themselves into. If he does not respect this, he said, it causes chaos. If he feeds one in a lower position in the hierarchy first, this disrupts their relations, and if he does this for a few days, they start to fight amongst themselves.

It is evident in the shepherds' daily routines and interactive exchanges with the sheep that, whilst parasitism is involved – such as when they take milk, to the detriment of the lambs – shepherds also engage the sheep in exchanges that benefit them both. For instance, shepherds protect sheep from local marauders, such as wolves or bears. Without the shepherds' protection, some sheep are unlikely to survive on the upper pastures. Though arguably not a mutualist interaction, as shepherds have a parasitic interest in sheep for their milk, a biological focus on the type of exchange brings an acknowledgement of the plasticity of such exchanges to the fore. At the precise moment in time when the shepherds are protecting the sheep, they are engaging in an interaction that is beneficial to both – the sheep remain alive, and the shepherds have kept them alive for their (later) need to milk them.

Further mutualistic interactions are also visible between the shepherds and the sheep. For instance, the shepherds rely on the sheep's knowledge of plants – in terms of their daily movements – and the ways they have organized themselves socially to maintain harmony in the flock. Shepherds explained that they greatly rely on the knowledge of the older sheep to help teach the younger sheep about the ways of the flock. One shepherd said that the older sheep know everything. They know the best grazing areas and the way to the farmstead on the upper pastures. The shepherds can even tell what the weather will be like from how the sheep are grazing. Also, if they get into trouble, the older sheep know how to get help.

The shepherd added that one of the older sheep once went missing up on the pastures. With his sheepdogs, the shepherd looked everywhere for her, worried a snake had bitten her. However, a few days later, she returned to the farmstead with a limp and an injured leg. He said he had hoped this would happen, explaining that since she was an older animal and knew where the farmstead was, he knew

that if she were still alive and able to move, she would return at some point. Upon her return, he cleaned her wound and made a splint. After a short period of recuperation, she rejoined the flock on the pastures. Shepherds also said that the knowledge of the older sheep was vital when introducing new sheep to the flock. New sheep had to learn the ways of the flock, which could be very stressful for them. For this reason, one farmer said he never bought only one new sheep, for as a group, they could learn the ways of the new flock together.

Once again, we may question the mutualism of such interactions. When one shifts scale and looks at these interactions from a distance, one could argue that shepherds care for sheep only to serve their own parasitic needs, i.e. that they care for sheep only to milk them. However, there is more to mutualism in these interactions. For instance, shepherds especially care for elderly sheep, who help socialize the flock and impart their knowledge of the routes up to and on the upper pastures. Shepherds work to ensure these older sheep are healthy and help them when injured. Such interactions fit Bronstein's (2015) definition of mutualism, where 'both the host and symbiont reciprocally benefit from the relationship'.

Beyond shepherd/sheep interactions

The mutual knowledge exchanges between the sheep and shepherds are not the only mutualist interaction visible in transhumant farming. As mentioned, shepherds are particularly concerned about the wolves on the upper pastures and in the forested areas surrounding the farmsteads. Wolves are a protected species whose numbers have risen in recent times. Due to this, the shepherds keep dogs to protect the sheep while out on the pastures and at night. Most shepherds keep Tornjak or Šarplaninac breeds, who work as guard dogs to protect the sheep and other farm animals from predatory carnivores. Shepherds also sometimes keep Croatian sheepdogs, a smaller breed, who help guide the flock but are not there to protect the sheep from wolves or bears.

The importance of the dogs in shepherding is visible in that it is possible to get a grant to purchase 'indigenous shepherd dogs (Tornjak)' if the farmsteads are in areas where large carnivores live. The central role the dogs have in shepherding can also be seen in the 'Regulation on the compensation of damages from animals of strictly protected species' (Ministry of Economy 2017). If wolves kill the sheep, and the sheep have been kept in the conditions laid out in this regulation, then the shepherds can claim compensation. The shepherds told me that they could not work without the dogs. One shepherd said that wolves were a constant worry, explaining that he had seen a wolf on the main path running up the mountain just the other day. This confirmed what he already knew: that the wolves were around because the dogs were constantly barking at night.

Here, mutualism in the exchanges between the dogs and shepherds is quite evident: the shepherds feed the dogs in return for protecting the sheep. On the other hand, it is initially harder to see evidence of mutualism in the dog/sheep interactions. Whilst the dogs are doing something to benefit the sheep – e.g. protecting them – can we state that the sheep are doing something beneficial to the dogs? One may propose that the sheep give something to the dogs since the dogs are fed and cared for by the shepherds simply because the sheep exist. Shepherds explained that keeping a large breed like the Tornjak was expensive because they eat a lot, but it was worth it because they protected the sheep. Indeed, their shepherding and protective qualities stimulate human interest in them as a breed.

Nevertheless, these are indirect exchanges mediated through humans. However, when one thinks further, the



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(From left to right, above to below)

Fig. 2. Sheep returning to the farmstead at midday.

Fig. 3. Waiting in line for milking.

Fig. 4. New sheep standing at a distance from the rest of the flock.

Fig. 5. A sheepdog sleeping in the shade.

Fig. 6. A Croatian sheepdog is resting after returning from the pastures.

Fig. 7. Bell ringers start their walk.

Fig. 8. An image of a bell ringer in a local town centre.

Fig. 9. Cows decorated for the Almaltrieb in Dachstein.



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dogs receive something from the sheep: they can express their herding instincts in their interactions with the sheep. Without slipping into naturalistic metaphors, the dogs are in their element with the sheep. In their ethological account of positive reinforcement training in herding dogs, Marschark and Baenninger (2002) have written that it is a 'basic premise of herding training that the reinforcement for a border collie is access to sheep' (Marschark & Baenninger 2002: 66), where access to the sheep is considered a 'reward' and removing the sheep is a 'punishment' (ibid.). In this sense, these relations are mutualistic: the sheepdogs benefit from their interactions with the sheep, and the sheep benefit from the dogs' protection. Even though these are human-mediated interactions set up by humans, dogs and sheep benefit from each other in these exchanges.¹

Another form of mutualist exchange observable on the farmsteads is between the shepherds and cats. A farmer told me that he no longer went down to the village in the winter but remained on the upper pastures all year round, explaining that it was easier for him because he was not bothered by others. Due to living up on the homestead permanently, he had about 10 cats, whom he said were also essential because they controlled the rats and mice. Since he was up there in the winter months, when the pastures were sometimes covered in snow, he would buy food for the sheep, which the rats would eat if it were not for the cats. Unlike the dogs he had brought up to the upper pastures, these cats had initially just moved in and remained there because he offered them food.

Once again, the mutualism in these exchanges is apparent: the cats keep the mice and rats under control in return for food and shelter from the shepherd, and since the cats are semi-feral, they can leave the farmstead if they choose to do so. Both benefit from the interaction. But when one considers the interactions between the sheep and the cats, it is difficult to say they are mutualistic. Taking a similar form to the exchanges between the sheep and sheepdogs, the sheep benefit from the cats' presence because they preserve the food stored for them for the winter months. Many farmers say that because of the rising costs of animal food, they send some of their flock to slaughter because they cannot afford to feed them anymore, so this food preservation by the cats can be treated as essential to the sheep's well-being.

Nevertheless, it would be difficult to say that the sheep's direct interactions with cats benefit the sheep, other than by their presence. It is here where closely following the type of interaction and acknowledgement of the plasticity of such interactions is most valuable. This approach brings very slight differences and similarities within these interactions to light. The point that it is challenging to describe sheep/cat interactions as being mutualistic is noteworthy. The following section shows in more detail how dairy farming is based on more than one type of human/animal interaction between the farmer and the animal producing the milk. It involves an entire network of relations that also needs to be considered.

Beyond the farmstead

When thinking about mutualistic interactions beyond the farmstead, it is possible to see the presence of mutualisms related to transhumant farming in the broader human social landscape, in human/human exchanges. In northern Croatia, the practices and activities surrounding *zvončari* (bell ringing) during carnival time illustrate how transhumant farming is an essential part of social life beyond the farmsteads. In these areas, the carnival season starts with the Christian festival of the Three Kings (6 January), the day that lambing season typically starts. However, in practice, it often starts earlier. Many villages have bell-ringing

groups, where most (but not all) wear sheepskins, carry skulls on their heads and have bells strapped around their waists.

At fixed points during the carnival season, the bell ringers meet and walk around the local area on set routes. Since nearly all shepherds live in these lowland villages during winter, one of these routes partly follows the path shepherds take to the higher pastures. As they walk, the bell ringers ring the bells they carry by shaking their hips and dancing (*kolo*) at specific points. A local narrative explains that originally the practice was aimed at luring away witches believed to prey on the sheep, thus clearing the way for the shepherds to take their sheep out to pasture. Although there are debates about whether this was the case (Nikočević 2014: 285-286), this narrative explaining the origin of bell ringers demonstrates how embedded transhumant shepherding is within the social landscape and how these mutualistic exchanges stretch beyond the sheep/shepherd relation.

On the one hand, bell-ringing groups use narratives about transhumant farming to legitimize their contemporary practices. On the other hand, the foregrounding of transhumant farming by bell-ringing groups as the traditional form of farming in the locality legitimizes the shepherds' work and, thus, their products as being authentic and original. Indeed, the cheeses the shepherds sell are highly regarded locally: the shepherds have waiting lists, being unable to produce enough to satisfy demand.

Beyond herder/sheep interactions

The mutualistic interactions in transhumant farming are diverse, such as those between the shepherds and the sheep, sheepdogs and shepherds or bell ringers and shepherding. The transhumance thus consists of intricate exchange networks of both mutualistic and parasitic forms. As a result, any suggestion that these relations are parasitic, and only parasitic, is to take an analytical approach that, at least in the case of transhumant shepherding, is not supported by the ethnographic evidence. Mutualisms are most certainly present. Furthermore, it is essential to consider them because they point to a picture that suggests that dairy farming is entangled in a much more comprehensive network of both mutualistic and parasitic exchanges that stretches far beyond the farmer/animal relation.

Elsewhere, I have written about how farmer/animal relations are commonly treated as the most significant relations in milk production. However, these relations are significantly supported and shaped by exchanges that occur in other relations (c.f. Czerny 2022). As a result, they should not be considered in isolation. This is not just a case of locating them in the context in which they unfold. I think it is necessary to go further and explore how these other relations work to support and shape interactions in farmer/animal relations. Bronstein (2015: 16) has said something similar in her writing on mutualism, where she argues that mutualisms cannot be considered 'in isolation from their ecological contexts', wherein 'cross-connections among mutualisms via shared partners weave communities together'. Through mutualistic interaction – for instance, between shepherds and cats, sheepdogs and shepherds or sheepdogs and sheep – a broader interspecies community is woven that supports and is supported by these interactions.

Of course, none of this is specific to transhumant farming in Croatia. One only has to visit an Almabtrieb cattle drive in Austria in the autumn to see how vital bringing down the cows from the upper pastures is to the broader local community. As a result, if one wants to improve the conditions of the animals involved in dairy farming, then I argue that relations in these wider communities must also be considered. ●

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