# Teaching the Dog and Learning from the Dog: Interactivity in Herding Dog Training and Use

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# Teaching the Dog and Learning from the Dog: Interactivity in Herding Dog Training and Use

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**ABSTRACT** Recent trends in social sciences advocate the recognition of interactive properties in human–animal relationships. Based on an ethnographic study, this paper explores the interactive properties of the relationships between herding dogs and their trainer-users, and how the dogs' behaviors participate in the construction of trainer-users' knowledge. Trainer-users' discourses and practices revealed a common theoretical axis, portraying the herding dog as a social predator descended from the wolf and driving the game towards his pack-leader. The dog's hunting skills are used to turn him/her into a working tool, through minimally constrained education and training. Once trained, the dog should become an autonomous but controllable worker, who helps livestock breeders lead their flock quietly. Two training modes were identified and used simultaneously by the trainers: contextual training (teaching the human–dog–livestock relationship to the dog) and conditioned training (teaching the commands to the dog). Trainer-users all recognized the individual personalities of the dogs and were sensitive to the quality of their relationships with them. They expected the dogs to be more competent than humans in understanding livestock behaviors, thus suggesting that the dog is more a work assistant than a work tool. Indeed, the dog helps the livestock breeder to establish an optimal interrelational distance between the species by managing space, time, and affectivity in the human–dog–livestock relationship. This triangular relationship, defined by the trainers as a leader–predator–prey relation, resembles a misunderstanding maintained by the livestock breeders in order to reach the leader position. Finally, the livestock-handling context appears particularly fruitful for revealing the

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complexity of interspecific relationships, the evolution of work in the livestock breeding context, and for understanding the human's connection to their social environment, including non-human living beings.

**Keywords:** animal work, ethno-ethology, herding dog, livestock handling, training

The recognition of interactive properties in human–animal relationships took some time to emerge in anthropological studies, mainly due to an existing boundary between nature and culture (Ingold 2000b; Descola 2005). However, recent trends have attempted to integrate studies of all living and non-living components of the human environment (Law 1992; Descola and Pálsson 1996; Ellen and Fukui 1996; Descola 2005; Latour 2005; Haraway 2007) and to reveal the influence of animal behaviors on human practices, knowledge, and conceptions of the world (Ingold 2000b; Brunois 2005a; Lescureux 2006), and sense of self (Sanders 2000; Irvine 2004). Thus, animals are increasingly integrated into socio-anthropological studies as actors able to influence human social life.

Being the first domesticated animal (Galibert et al. 2011) and one of the closest to humans in Western societies (Miklosi 2007), the dog has received special attention. Social scientists have demonstrated the existence of interactive canine–human relations in American (Sanders 1994), Australian (Franklin 2006; Power 2008), and French (Vicart 2010) households. Moreover, some studies suggest that people consider dogs as "minded coactors" even in "formally constrained" contexts (Sanders 1994, p. 207), such as the training of patrol dogs (Sanders 2007) and the training of pet dogs and their owners as a team (Greenebaum 2010). Thus, intersubjectivity, as a subject-to-subject relationship, has been demonstrated in both human–companion dog relationships and human–working dog relationships, but the latter context has been less investigated.

Nonetheless, the working context seems to increase the "constant paradox" (Herzog 1993) described by Sanders as "the treatment of animals as functional objects on the one hand, and sentient individuals on the other" (2007, p. 31). Indeed, it appears necessary for the trainer to keep a greater emotional distance with his/her animals, whether to ensure security in police operations with dogs (Sanders 2007), or to deal with the terminal point, death, in meat production (Porcher 2001; Porcher and Schmitt 2010; Porcher 2011).

The herding dog appears at the crossroads of these different contexts, dealing at the same time with human trainers and with the livestock he/she has to help handle. What is the status of this particular dog, and what impact does he/she have on the complex human–livestock–dog relationship? We investigated this issue by analyzing discourses and practices of herding dog trainer-users, with special attention to the influence of the dogs' behaviors.

Compared with livestock guarding dogs, which were already mentioned more than 2,000 years ago (Coppinger and Coppinger 2001; Cummins and Patricia 2006; Breber 2008), the use of herding dogs appeared more recently, around the 13th century in Iceland. The practice spread throughout England, and finally throughout continental Europe, as predators disappeared, fences spread, and livestock breeding needs changed (Planhol 1969; Lory 1989; Pensuet 1989).

In France, several breeds (Berger de Beauce, Berger de Brie, Berger Picard, Berger des Pyrénées) were in use, but livestock breeding mechanization after the Second World War made them less attractive to shepherds, and led to an erosion of their behavioral working skills; they are now selected on the basis of aesthetic characteristics for the pet market (Coppinger and Schneider 1995; Willis 1995; Leclerc 2004). By contrast, British livestock

**Table 1.** Brief details of the five trainer-users.

| | Pseudonym | | | | |
|---|---|---|---|---|---|
| | **Rodrigo** | **José** | **Tony** | **Alberto** | **Pedro** |
| Affiliation | Société Centrale Canine | | Institut National de l'Élevage | | |
| Main activity | Canine educator (Former shepherd) | | Livestock breeder/Extensive farming | | |
| Livestock | Sheep | Sheep | Sheep, cattle | Sheep | Sheep, cattle |
| Production | – | Lamb | Lamb, beef | Lamb | Beef |
| Number of dogs | 10 | 2 | 3 | 4 | 3 |

breeders have maintained extensive livestock farming practices, and thus a strict selection of their shepherd dogs based on their working abilities (Serclérat and Serclérat 2000; Leclerc 2004). The Border collie is their most famous shepherd dog, selected for its behavioral abilities to drive livestock (McConnell and Baylis 1985; Coppinger and Coppinger 2001). Interested in this breed, the French National Institute of Livestock Breeding introduced and popularized it in France in the 1970s (LeBrun 1979). Consequently, British trainers came to France to teach the selection, training, and use of Border collies. Through the National Institute of Livestock Breeding, some interested livestock breeders came to learn these techniques. The livestock breeders encountered in this study were almost all educated in this context. This formal education has to be taken into account when analyzing their discourses and practices.

## Methods

In order to understand the influence dogs could have on the people working with them, an interactive approach to knowledge was adopted, following the principles of ethno-ethology as developed by Brunois (2005b). This approach focuses on the construction of human knowledge and how interactions with non-humans influence the organization of knowledge and its application through practices. The ethnographic fieldwork took place in France from February to May 2006 as part of a Master's thesis (Savalois 2006). Using participative observation, a female ethnographer (NS) successively shared the daily lives of five herding dog "trainer-users," spending at least one week with each (cf. Table 1). They were all men, between 40 and 60 years old, who were both training herding dogs (mainly Border collies) and using them to drive their own flock. They are described as trainers or users, or both, depending on the position they take (speaking as a dog specialist or as a livestock breeder) and their ongoing practice. In addition, they were all educated to teach other livestock breeders how to train and use their dogs. Therefore, it should be noted that their status led them to develop a formal discourse in order to transmit their knowledge.

The ethnographer introduced herself as a student interested in their knowledge and practices, and they all agreed to host her, to talk about their professional background, and to explain their job. The ethnographer followed them during their training and livestock breeding activities, and sometimes during the courses they gave, and also attended some shepherd dog competitions. She took numerous pictures and recorded videos. The observation of dogs and livestock behaviors helped to increase our understanding of trainer-users' discourses and practices, but was not done in a way which would permit the understanding of the animals'

perspectives per se. Of course, this perspective would be very helpful, but it was beyond the scope of this study, which focuses on the construction of trainer-users' knowledge and practices, in order to explore the role of the herding dog in human–livestock–dog relationships in a livestock handling context.

## Results

### *Trainers' Common Principles in Working with Herding Dogs*

The five trainers designated the dog as a "work tool," and used this description to explain the training mode and its finality in the livestock breeding context. Following the formal education they received in the 1970s, they viewed the herding dog as a social predator descended from the wolf and dependent upon a linear hierarchy. Therefore, in order to make use of the inherited predatory behavior of the dog, they emphasized the necessity for understanding and using the "pack codes" (rules of the wolf social hierarchy). Within this theoretical hierarchy, the trainer describes himself as dominant, while the dog holds second place and drives the game towards the pack leader, who carries out the killing. This "driver" role is particularly important, as the livestock breeder always needs to get close to his flock in order to treat, feed, and move them. Two complementary methods were mentioned by the trainers to obtain such a behavior: genetic selection, and the education and training of the dog. The first method would have required a different set of data and longer fieldwork, so only the principles used to educate and train the dog are analyzed in this paper.

Establishing the pack leader's position must start with pup weaning. As a first step in imposing his "authority,"[1] the trainer has to become the new "referent" for the young dog. Through daily, consistent interactions with the pup, he maximizes his chances to become the leader. Indeed, from the first weeks, each pup's outing is controlled, and the trainer avoids giving him opportunities to cause trouble. Then, he patiently teaches the pup to respond to his/her name and to stop. Henceforth, he can hope his dog will adopt the "midday position" once put in contact with the flock (Figure 1). This position is the driver position, and the trainer waits for it before beginning the real training phase.

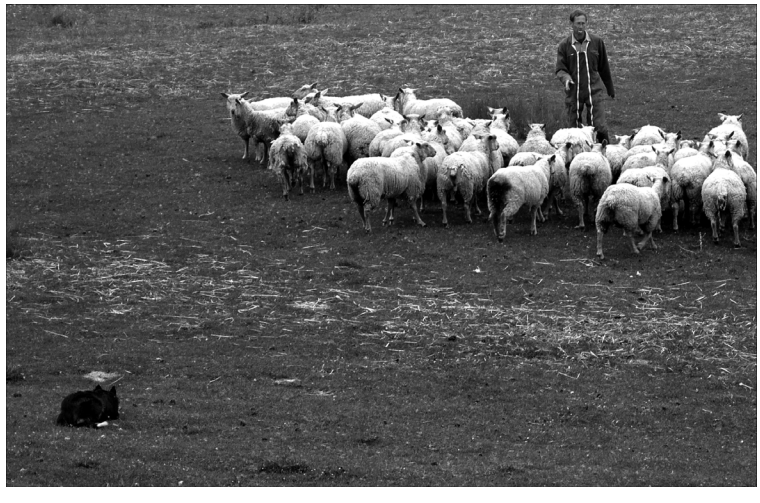

**Figure 1.** The working dog keeps the midday position while the shepherd is counting the ewes. Photo by N. Savalois.

Each trainer debated the term "training," often considered as too restrictive or even nonsense, as illustrated by one of the trainers, Tony: "To me, a trainer is somebody who knows how to make a dog sing, to make him walk on his hind legs to move the cattle and on his forelegs to move the ewe." Alberto, another trainer, also indicated a link between the strict concept of training and a lack of meaning for the dog: "Here we can see a result of training, as the dog doesn't necessarily understand what he's doing."

Three of them clearly distinguished the "by-functioning-learning" from the "by-word-learning," also called "command learning." The latter corresponds to a kind of "conditioned training" while the former one, often favored by trainers, is rather a "contextual training," based on the dog's spatial positioning regarding the livestock breeder and the flock. It is considered to fulfill the playing and hunting needs of the young dog, and to teach him/her the global functioning of the human–dog–livestock relationship. This kind of training was described as gradual, non-repetitive, and mildly restrictive for the animal. It is supposed to help the dog acquire behavioral flexibility through exposure to diverse situations. By contrast, conditioned training is used to teach the dog to associate words with the behaviors and activities he/she has previously developed.[2]

The five trainers were satisfied with Border collies because their so-called "natural aptitudes" fulfilled their expectations that a dog show "subordination instinct" (the dog's availability for humans), and "hunting instinct" (the dog's attraction for livestock). So for them, working with a dog is a constant search for the subtle balance between obedience and autonomy. Four trainers were also livestock breeders and considered that training a herding dog should be possible for non-specialists. However, they all agreed on the necessity for learning about dog functioning, in order to adapt to and use it. On this common basis, practices could vary according to personal objectives, needs, and perceptions. The dog's influence appears in each trainer's discourse and practices, all along the training process, from the dog as the "purpose of the work" to the dog as the "work tool."

### *When Teaching the Dog Is the Priority*

During all exercises in contact with livestock, the trainer is focusing on the dog and the way he or she is learning. Indeed, even if conditions are checked to be secure for both the flock and the dog, the latter is allowed to make mistakes. For example, the trainer lets the dog split the flock in order to motivate him/her by creating movement. Furthermore, he tries to avoid having the dog face defeat situations by using animals habituated to being driven by a dog. Thus, the flock is neither standing nor running away, and there is less chance for the young dog to develop deviant behaviors, such as fleeing or systematic chasing and biting. In addition, the trainer seeks to make the dog available to him by playing with or vocally stimulating him/her, or both. The purpose is clearly to "emphasize the natural aptitudes" of the young dog (Coppinger and Schneider 1995: p. 32), as clearly stated by Tony:

> The dog knows how to do what I'm asking him. I'm establishing good conditions for the innate to be developed. The owner handles the parameters; the dog develops his natural skills.

Therefore the trainer needs to be aware of the dog's development rate. In order to avoid failure situations, he is concerned by the correctness of the demands he places on the young animal. The development rate is regarded as individually dependent and behaviorally perceptible. For instance, Tony noticed that his 20-month-old dog didn't have enough impact on the

flock, didn't understand the midday position, switched off while following the flock on the road, and startled when the trainer clapped his hands. These signs revealed to Tony that his dog was unstable and needed more time and work to "blossom." Tony behaves according to the dog's character[3] and history.

For the trainers, it is necessary to pay attention to different moments in the dog's maturation: when the dog "declares" and shows attraction for livestock; when he/she becomes "aware" of the potential threat that resistant animals can pose; and when he/she becomes able to focus on the flock throughout the exercise. One should let the dog mature. From that point on, the dog can and should become aware of his/her responsibilities, notably by distinguishing playing from working situations:

> The dog is causing chaos, there are no more sheep to work with; you give him a solution to get the flock again. You hold him [notably through voice] to make him understand he's in action, he's working, and he'll lose everything if only following his nose. […] it is making him aware of his responsibilities; he's waiting for you to give him a solution. (José, another trainer)

Here the trainer is using a dog-specific behavior: begging for human assistance while he's facing an unsolvable problem (Miklosi et al. 2000; Miklosi et al. 2003; Reid 2009). This is a way to get the dog out of playing and into the work. For his part, Alberto was getting impatient, and began to shout at his 2-year-old dog when he was playing and forgetting about the work and his owner. Thus, the trainers are permanently seeking a balance between the dog's attraction for livestock and their obedience. This balance has to be maintained in the daily working context, since the livestock breeder is dealing with the necessity to both let the dog take the initiative, and to control him/her.

This implies underplaying restraints for the young dog, and even trying to please the dog at work by having him/her succeed in tasks. José deplored the fact that, "[livestock breeders] are driving dogs as they would drive a mob," meaning that they want an up-to-the-minute answer with the finality of work in mind, regardless of the dog's success, even if that conditions the dog's future autonomy. Maintaining this balance also implies moderating the space given to affectivity—as an emotional charge—in their relationships with the dog. Therefore the trainers avoid anthropomorphism and consider it is crucial to respect the dog's emotional world. An emotional distance has to be kept. As a radical example, Pedro, another trainer, sought not to individualize the relationship, especially if the dog was to be lent, given, or sold to another livestock breeder. He stated he was offering only a working relationship to the dog.

So, trainers not only train the dogs, they also work on the relationship they are building between humans and dogs, dealing with affectivity according to both the dogs' and their own needs.

### *When the Focused Work Tool Becomes an Autonomous Worker*

As soon as the trainer feels the young dog is ready to work in any situation, he considers that the dog will gain experience through daily work. According to José, the dog can often be "frustrated," but is no longer the priority: "There is no more work to do! I won't ask her for anything. It's the ewe that matters."

The trainer is now behaving as a livestock breeder needing to rely upon the tool he has trained. Indeed, some clues reveal that the trainer is demanding the dog to be operational. Encouragement and play disappear from the trainer's actions, and whistling replaces talking or shouting in order to give more neutral, audible, and effective orders. The trainer can also physically confront a distracted dog, in order to force him to obey. These demands are linked

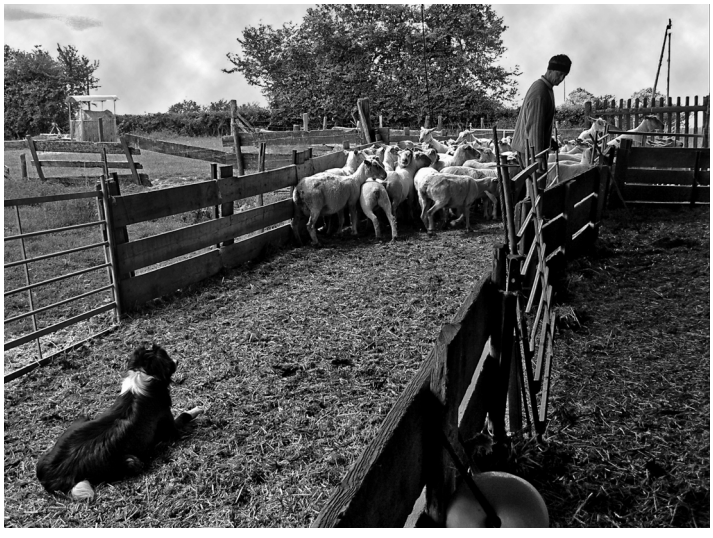

**Figure 2.** Inside the sheepfold, the dog has to be under control in order to avoid panicking the ewes in such a restricted space. Photo by N. Savalois.

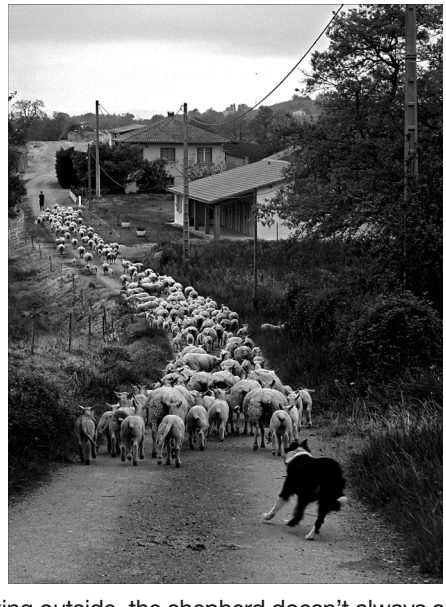

**Figure 3.** Working outside, the shepherd doesn't always see the dog, who has to be autonomous in order to not let rebellious ewes escape. Photo by N. Savalois.

to the fact that the dog remains a disruptive element for the flock, even if the livestock breeder wants to use him/her to easily drive livestock.

In the daily working context, the trainers consider that the dog's knowledge of livestock functioning is much better than their own. Therefore the livestock breeder can focus on the livestock while the dog is working, which sometimes involves taking initiatives (Figures 2 and 3).

For instance, it is important for the trainer to feel that the dog is able to anticipate while holding the flock. As Pedro said: "The dog should be permanently working," and should "abandon the stop command" by himself if necessary. Similarly for Alberto, who wanted to "be able to count the animals without paying attention to what [the dog] is doing," and for José, who let his dog work alone out of sight.

These situations show the necessity of working with a stable dog, one who maintains his/her behavior even when visual and auditory contacts with the livestock breeder are lost, although dogs generally react differently according to the attention of their owners (Schwab and Huber 2006). The dog should be both predictable and available for the livestock breeder, and should know what has to be done, and be able to adapt his/her behavior to new situations. These expected qualities give the herding dog a special status.

The trainers' vocabulary contains numerous terms related to the working context, even when talking about the dogs' behaviors. The herding dog is a "working dog" that "drives" animals and "manages" their movements. He/she should also know the "difference between work and play," and "doesn't need to see the chief to be able to work." They also talked about the "flexibility" or "specialization" of a dog, to evoke the diversity of tasks he/she is able to accomplish. In addition, the five trainers described the working dog in contrast to the pet dog. Whereas the latter is a kind of "hominoid," or an affective substitute for a missing human family member, the former expresses "what he's made for" at work. According to the trainers, the herding dog is considered as a dog and respected for his/her hunter nature.

Moreover, the trainers seek to obtain a kind of recognition from their dogs. For Alberto, it's not easy to be a good owner. One should show composure, patience, perseverance, bounty, availability, consistence, and also know the animals he has to handle: "You're all the more recognized by your dog if you show all these qualities."

Finally, the old dogs were called "retired dogs"—which implies a working activity preceding the retirement, and they also sometimes got privileges in the amount of free time and housing comfort (softer litter in the barn, sleeping inside the house). Thus, the herding dog is actually considered and treated in reference to the work he/she produces. The dog takes on the status of an assistant, a controllable and autonomous agent who helps the livestock breeder become the leader of his flock.

### *Becoming the Leader of the Flock Thanks to the Dog*

In many relationships, spatial occupation or proxemics (Hall 1981; Garrigues 2002) has to be taken into account. Especially in the context of livestock handling, there is constant attention paid to physical distances and security parameters. Indeed, manipulating livestock is based on the knowledge and use of the animals' flight distance; that is, the distance within which the animal doesn't tolerate any intruders (Murphey, Duarte and Torres Penedo 1981; Boivin et al. 2003). The trainers talked about a "security perimeter" inside which any intrusion would trigger either flight or charge. According to Tony, "animals are held when the dog stands at a particular distance." Time management is also a central parameter in human–animal communication (Porcher 2001), and the trainers were using the checking and identifying rhythms of the animals faced with an intruder or a new situation, in order to optimize handling conditions. Thus, Alberto didn't force the flock to move forward at the entrance of the sheepfold as the ewes were taking their time to check the place. Tony talked to the cattle to make them hear the familiar sound of his voice, and took time to watch the animals in the field before moving them with the dog.

Space and time parameters are jointly considered in order to allow the livestock breeder to achieve calm handling, but they are not the only parameters taken into account. Indeed, the flight distance can vary according to other parameters. According to Tony, the processes of "familiarization" and "domestication" allow transforming a group of frightened animals, a "pile of animals," into a "flock," that is, a structured group. Animals are familiarized when:

> The livestock breeder is accepted in the [cattle] security perimeter but his authority is not yet established, so it could be denied. […] The dog is only identified, his action is ineffective.

Then, the flock is domesticated when:

> The livestock breeder is recognized as dominant. […] Thanks to the dog's actions, animals come closer and make themselves available to the livestock breeder. […] The livestock breeder's authority is established, so he will be able to quietly manipulate his animals without stress for the cattle, or for him.

Tony explained that the tighter the structure is, the higher the mobility can be. The dog's job is to help the livestock breeder move his animals in a structured way. In case of failure of the dog's "authority," the livestock breeder has to anticipate and reassure the flock and the dog, in order to restore the "domestication state," a kind of human–dog–flock balance that he is permanently looking for.

This balance can be reached when the distance between the three entities is optimal. However, this optimal distance doesn't correspond to a physical distance only, but is rather an "interrelational distance." Indeed, observing trainers' practices, it appears that two individuals separated by a given physical distance can be in different states, depending on the relationship they have. The interrelational distance is shortest when the animals in the flock are indifferent, and it is largest when they're fleeing or on the defensive. It is optimal when they are habituated and able to identify each other's status thanks to domestication (livestock) and training (dog). In the first two cases, communication is disrupted, whereas in the third case it can be effective because the informational bonds (intentional or not) between humans and animals are relevant for both of them. In that case, communication is understood as a contextual interpretation of interspecific behaviors driven by mutual knowledge of each other's functioning. As Tony said, "there is more communication through functioning than through [verbal] language."

To be easy to handle, animals should be neither frightened nor too close to the livestock breeder. Thus, if Pedro proceeded to "socialization sessions" to make the heifers accepting a human hand caress but also the dog–livestock breeder pair, he also sought to maintain "mutual respect" by managing the distance with the 20 cows when he had to feed them outside with pails:

> Now [the cows] have to move away. If they don't, they get a kick … according to me, the kick is the same as a caress; it lays down a distance, the respect for the human being.

Pedro was using his working dog as a "virtual fence" which prevented cattle from fleeing, and the dog helped him to integrate into the cattle structure as the "leader." However, the structure appears more important for the cattle breeders than for the sheep breeders. Shepherds consider that they are mainly using the sheep's daily habits, meaning their familiar

knowledge of the trails and places that systematizes their movements, but they benefit from the dog's action in case these habits fail. Alberto explained his liberty margin is much greater thanks to the driving dog: "One doesn't submit any more but becomes the leader when working with a dog." That is the reason why he can't imagine livestock breeding without a dog.

Whether using the flock structure or not, the trainer-users had to deal with spatial, temporal, and emotional distances, which constitutes an interrelational distance they have to maintain. They all recognized the dog's precious contribution in helping them to acquire the comfortable leader status that allows maintaining this interrelational distance.

## Discussion

### *Two Kinds of Action*

The distinction between encouraging the individual development of a dog and exerting restrictive pressure on him/her is strongly reminiscent of the types of action described in Haudricourt's essay on domestication and treatment of others (Haudricourt 1962). In this essay, the author makes the distinction between negative indirect action and positive direct action, comparing yam culture (*Dioscorea sp.*) in New Caledonia with sheep herding in the Mediterranean area. While the negative indirect action on the yam involves very little direct contact and creates convenient conditions for the plant to satisfy its own needs and become well-developed, the positive direct action applied to sheep involves an almost permanent contact with the flock that has to be driven, fed, watered, and protected against predators.

The two kinds of training are also reminiscent of the "Obedience Now" and the "Family Manners" trainers identified by Greenebaum (2010). Indeed, even if talking in terms of dominance in a "human-centric" way such as the "Obedience Now" trainers, the trainer-users we met "aim to balance the needs of dogs with the needs of humans" as in the "dog-centric Family Manners" (Greenebaum 2010, p. 140). In a way, they even appear dog-centric during the training period and livestock-centric once the dog is ready to work.

Thus, by contrast with the dichotomy Greenebaum observed in dog-training schools and the one Haudricourt analyzed between societies, both types of actions are combined in the work of each trainer-user, notably through the training chronology. However, the indirect negative action seems possible only because it is preceded by a direct positive one: genetic selection, which shapes the dogs' behavioral characteristics before their development. This issue needs to be investigated in order to better understand the influence of biotechnologies on human–animal relationships (Ingold 1974; Haraway 2008) in different livestock breeding contexts.

In the context of this study, it appears that man observes, learns from and with animals, and develops a relational process enabling him to drive them as he wants, with minimal constraint. This process certainly encompasses some mutual empathy, allowing each protagonist to predict the others' actions (Coy 1988), and thus making the domestication process easier. The dog appears to play a key role in this process and his/her actions have to be taken into account.

### *The Dog's Work*

Porcher's studies show that, in the context of industrial animal productions, "The bred animal gets *de facto* a worker status in the representations. He has to do 'his job'" (Porcher and Schmitt 2010, p. 240). The trainer-users in our study also view the dog as a worker. They consider that the dog expresses his/her identity at work, and clearly take into consideration the animal's character, individual history, and special features, showing that they recognized some subjectivity in the dog.

Indeed, the dog contributes to human knowledge as well as the trainer teaches the dog. This interactive aspect was clearly expressed by José: "The first dog you have teaches you everything, shows you how things work." The trainers adapt to the dog, give a fundamental place to the contextual training, and sometimes use the particular skills of an individual at work. Practices vary, not only according to trainers' personalities, but also according to dogs' individualities. For instance, on one hand, trainers will create stable conditions and references in order to make an unstable and shy dog more confident, while on the other hand they will tend to be more severe and directive with resilient and dominant dogs.

The prevalent type of action used by the trainers seems to be the result of a negotiation with the dog, according to their respective needs, interests, and abilities. The trainers help the dog become autonomous at work and leave him/her free to act in constantly new situations. They described livestock handling as the favorable context for the dog to express what he/she's made for, using the notions of "pleasure" and "release" of the dog at work: they said they were exchanging a service for the livestock breeder with the fulfillment of a dog's need. In other words, they pursue some consideration for the dog, and it appears they are sensitive to what Porcher calls "the bonding judgment" (2011, p. 53), that is, the signs coming from the animal which allow the livestock breeder to evaluate the quality of their relationship.

Saying the dog is more competent than they are in understanding the human–dog–livestock relationship, the trainers consider that the dog contributes to a system meant for controlling animals with a minimum risk for all protagonists. This functioning is part of a logic minimizing the temporal, physical, and even affective costs. It plays on the distance, which is a critical point of the balance between these three entities.

### *Questioning the Nature of the Relationships between Human, Dog, and Livestock*

> "Owner–sheep–dog is a kind of *entente cordiale* in order to avoid panicking the sheep." (José)

The trainers all described the dog–livestock relationship as a predator–prey relationship in which the trainers are both the dominant of the hunter and the leader of the hunted. However, their explanatory model of a strictly dominant–subordinate relationship between human and dog—based on a wolf pack's linear hierarchy—appears weakened by both recent scientific literature and their own practices. Indeed, on one hand, the wolf pack's functioning appears to be based on a familial hierarchy (Mech and Boitani 2003; Packard 2003) rather than on a linear one, and on the other hand the relevance of the wolf model to explain dog behavior is challenged (Bradshaw, Blackwell and Casey 2009), even if the hypothesis of the dog descending from the wolf is confirmed by genetic, behavioral, and biological studies (Clutton-Brock 1995; Vilà et al. 1997; Vilà, Maldonado and Wayne 1999; Savolainen et al. 2002; Lindblad-Toh et al. 2005; Galibert et al. 2011). Moreover, the trainers' practices show that they adapt to the dog, and try to reduce the constraints as much as possible and to please him/her in the learning process. Therefore, the human–dog relationship resembles a cooperative one rather than a strict and linear dominant–subordinate one. In this cooperative relationship, each protagonist engages and adjusts his competences and subjectivity in the tasks in his own way.

Concerning the flock, how could the dog be perceived as a potential predator by the sheep/cattle, while the one commanding the dog is perceived as the flock leader? Indeed, it is not rare to see the sheep gathering when hearing a command intended for the dog, even if the dog is absent. José said the sheep understand the situation, because he noticed they are

sensitive to the dog but not afraid. Thus, rather than reacting to a predator, it seems that the sheep react to a kind of authority they're sensitive to because they don't want to be (non-lethally) bitten. José explained they test and communicate when they meet a new working dog, because a new dog represents a new power struggle. Day after day, each of them learns who the other is and, as a result: "When they see the dog, they don't contest—unless they're with lambs—they gather. They are not afraid; there is some kind of communication."

Although the Border collie is genetically selected not to complete the predatory behavioral sequence on livestock (Coppinger and Schneider 1995), it is actually conceivable that the dog is able to learn that he/she should not complete the predatory act. In that case, predatory finality would not be what motivates the dog to answer orders and drive the flock. Does the dog really associate livestock with game animals, or is this game status as fictitious for the dog as it is for the livestock breeder?

These questions and issues echo the "triadic" relationships analyzed in primates by Conein (1998). Indeed, human–dog–livestock relationships could correspond to a classic form of triadic interaction, characterized by a protector–protected–attacker type of relationship. This triadic interaction could be constructed to fulfill the social purpose of the livestock breeder: a rank acquisition as the "pack leader." It would be a triangle-shaped manipulation, where the livestock breeder is the manipulator. But is it possible for him to delude the dog about his predator role toward the flock, and to deflect the flock's attention toward the "attacker" dog to create his/her own involvement as protector? Are the sheep/cattle fooled by the livestock breeder who claims he's protecting them against the dog's predation, or are they "aware" that the dog and the livestock breeder are allies, only to make them move? These questions are very compelling and would require further ethological studies. The present study invites revisiting at least the prey status of the livestock and the strictly subordinate status of the dog, as defined by the trainers' teaching theory.

## Conclusion

Among the five trainer-users, the contextual training of a social predator destined to be a work tool appeared to be a common axis of perceptions and practices. Around this axis, observations revealed a diversity of human–herding dog relationships. Trainers combined both direct positive and indirect negative actions as defined by Haudricourt (1962) according to the training phase, but also their own personalities and objectives, and the dogs' individualities.

Such an interactive relationship, in which the human cares about the dog's motivation and competences in order to work in the most cooperative way with animals, suggests that dogs and men involve their subjectivities through a social link in the context of a social production: work (Ingold 1983; Porcher 2001; Porcher and Schmitt 2010). Besides, as Sanders argued, "the relationship with the dog provides more than a functional aid" (2000: p. 136). The trainer–dog association leads the former to enrich his knowledge, improve his competencies in understanding animal behaviors, and find satisfaction in the resulting quality of their relationships. The trainer-users and the herding dogs learn from each other in different ways. More than a work tool, the dog appears to be an assistant, working in the establishment and maintenance of an optimal interrelational distance between human, dog, and livestock.

In this triangular relationship, knowing the animal and respecting his/her needs and proper rhythms, the trainer-users go from opportunism to decision making. They enjoy observing, testing, and looking for key behaviors of the species they get together, in order to integrate the different species' social systems and to confront the socio-economic constraints in the less restrictive working conditions for each protagonist. Putting different species in contact,

humans lead them to acquire new social abilities compared with those existing in the wild (Miklosi, Topal and Csanyi 2004; Tomasello and Kaminski 2009; Wobber and Hare 2009). In the same perspective as that taken by Porcher and Schmitt with dairy cows (2010), it would be interesting to describe the meaningful behaviors for each species in different working contexts (outside, sheepfold, dairy or lactating livestock breeding, etc), in order to infer the social affordances (Reed 1988) the different protagonists perceive. This might inform the human–dog–livestock relationship, which resembles a misunderstanding (Servais 2001) maintained by humans: the dog plays the predator, the livestock plays the prey, the man plays the leader. Who is mistaken, who accepts to be mistaken, and who accepts to play?

The working context drives the livestock breeders to establish an interrelational distance specific to their needs. Recognizing the power struggle existing between livestock breeders and their animals suggests questioning the observable forms of domination and their consequences on mutual learning and working contexts (Ingold 2000a). Studying the livestock handling methods used by breeders daily involved in relationships with animals seems particularly fruitful for understanding the evolution of work in the livestock breeding context, and the livestock breeders' connection to their social environment, including non-human living beings.

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## Notes

1. According to the trainers' discourses, authority appears to correspond to "the ability to obtain the other's obedience using neither physical pressure nor persuasion. It is often measurable through the response speed, and constructed with verbal (words), para-verbal (modulation), and non-verbal (gestures, smells) signals sent out by the owner." Rather than denying the establishment of a power struggle, one should consider that authority "should not reveal that its strength is based on violence" (Guyot 1987, p. 453).
2. Without entering the debate on dogs' abilities to understand the meaning of a word associated with an object (Bloom 2004; Kaminski, Call and Fischer 2004), we observe that the dog has to learn to associate a sound to an activity and to generalize this association to new situations.
3. Albeit the essence of the character—or temperament (Willis 1995; Jones and Gosling 2005)—is not well-known, the "character" mentioned by the trainers appears to be similar to individual personality traits (Gosling, Kwan and John 2003).

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