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Human-dog-relations under the microscope: Networks of walking and socializing. This article contributes to ongoing debates on human-animal relations by analyzing dog walking in contemporary Western cities as an extension of the traditional division of social studies on the one hand and animal studies on the other. Taking dogs, owners, lawns, and other objects as networks, the article illustrates how non-human entities can play a role during walking on par with the human actors involved. This discussion is taken forward by observing interactions between several of these knots on the network and by questioning what forms of networks of dog walkers can unfold in urban life. In this way, the article is to be understood as an encouragement for sociologists to empirically consider non-human-animals as part of their research on everyday life.
KEYWORDS: Environmental sociology; actor-network theory; social theory; dog parks.

Relações entre humanos e cães vistas à lupa: redes de passeio e de socialização. Este artigo contribui para os debates que estão a decorrer sobre as relações homem-animal ao analisar os passeios com cães nas cidades contemporâneas ocidentais como uma extensão da divisão tradicional dos estudos sociais, por um lado, e estudos de animais, por outro. Considerando cães, donos, relvados e outros objetos como redes, este artigo ilustra como as entidades não humanas podem desempenhar um papel durante o passeio no mesmo nível que os atores humanos envolvidos. Esta discussão é levada a cabo através da observação de interações entre vários destes nós na rede e da problematização do tipo de relações que aqueles que passeiam cães estabelecem nos contextos urbanos. Desta forma, deve entender-se este artigo como um incentivo para que os sociólogos considerem empiricamente animais não humanos como parte da sua investigação sobre a vida quotidiana.
PALAVRAS-CHAVE: sociologia ambiente; teoria ator-rede; teoria social; parques caninos.

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Human-dog-relations under the microscope: Networks of walking and socializing

INTRODUCTION

This article should be understood as an argument for including non-human-animals in sociological analyses connected to a methodological approach we develop for a micro-sociological exploration of human-animal networks. By so doing, we use an empirical study of dog parks to support the argument that we may, in addition to environmental sociology, also need a field called animal sociology that more explicitly includes non-human-animals in the analysis of societies.

Non-human-animals have traditionally been neglected in sociological analysis. However, in recent years the emergence of studies on human-animal relations has increasingly questioned this invisibility (Tovey, 2003), bringing attention to the participation of animals in society. After all, much of everyday life is structured through the interaction with and the consumption of non-human-animals. Developments on the changing relationships between different animals and human society over the long-term (see Franklin, 1999; Peggs, 2012; York and Mancus, 2013) as well as conflicts in human-animal contact (e.g., the reintroduction of wolves close to human settlements), but also new legal developments in animal rights have opened the debate on how to include non-human-animals into sociological thinking about society. In this context especially the role of mediating factors (e.g., technology, leash, children, or religious beliefs) in shaping the relationships between a society and its animals has been of sociological interest (Cudworth, 2015; Peggs, 2012; Power, 2008). This inclusion of animals into sociological theory and research and its contribution to new understandings of a wide array of social processes will serve as a basis for this article, which will take dog walking as an example of the relevance of non-human elements in urban life (see our

former studies such as Gross, 2015; Gross and Horta, 2017; Horta and Gross, 2018;2022). In this perspective, dogs are seen as constitutive of everyday life in urban settings, especially through their participation in social practices. Dog walking is the most noticeable of those, as it is a practice enacted daily by many humans, often more than once a day, that puts in relation not just dog and owner, but also objects (such as leashes, shoes, umbrellas, bags) and other dog walking pairs, passers-by and viewers sharing the same space, with whom they may interact, creating new possibilities of reconfiguration of urban life.

In order to better capture the relevance of dogs, it is necessary to rethink the traditional sociological stance of considering humans as the only relevant actors. For that purpose, the article adopts the analytical framework of actor-network theory (ANT), which emphasizes the roles of non-human entities in the relations established with humans, instead of neglecting them *a priori* due to their classification as non-human. Thus, the analysis is focused on situated interactions of heterogeneous entities of everyday life and consists of examining the dynamics of the relationship between dogs and humans and how these dynamics are affected by non-human elements.

Hence, in this article, dog walking is understood as an assemblage of human and non-human co-agents. This co-agency, a term borrowed from Mike Michael (2000), sheds light on how humans relate to animals and on how social practices (and urban life) are affected by non-human components. This perspective seeks to contribute to a sociology that has opened up to elements formerly rendered non-social, in particular when analyzing topics such as those related to environmental issues, since these most often bring together multiple relations between human and non-human elements.

We begin by referring to the nature-society divide that has been the basis of the neglect of animals in sociological thinking. Considering the challenge that including animals as relevant actors poses to traditional research methods, we adopt actor-network theory, and in particular Michel Callon's schema of analysis (1986), combined with elements from the new mobilities paradigm, to examine the case of a network of relationships established between dogs and humans in a contemporary European city. Given that several important sociological analyses of human-dog relationships exist (for many see: Charles, 2016; Cudworth, 2017; Holmberg, 2019; Redmalm, 2021), our use of an ANT approach—following Laurier et al.'s (2006) implicit call—to human-dog relations seems rather unique.

ENTANGLEMENTS OF HUMANS AND NON-HUMANS

The rise of industrialism and the increasing application of technologies to production in the 19th century encouraged a view that implicitly treated nature as a limitless provider of resources that had to serve human needs and consumption wants. This perspective would influence the emergence and development of sociology, which led to a view that bracketed out all things non-social. Although a lot of the early European and North American social theorists (from the early Marx to the Chicago School of Human Ecology) regarded nature as influential for the analysis of the social world, the implicit assumption of nature being distinct from society allowed sociologists from the 1950s on to abandon the real influence of the natural environment in their theoretical assumptions about social processes. Hence, as a theoretical input into sociology and environmental problems in our time, classical sociology has not been of much help, because since World War II they have mainly been received via the interpretations of mid-century mainstream sociologists writing during a period of the belief in endless progress and the hegemony of modernization theory with its narrow focus on nature as external to human society (see Alexandrescu, 2009; Buttel, 1986; Gross, 2001). Several research strands have challenged this sociocentric perspective and the divide between society and nature (or, in a broader way, materiality). Many discussions have addressed the neglect of physicality-nature and the question of how social theory can "systematically take physicality, material composition, and nature into account" (Schatzki, 2010, p. 126). Some of the theoretical approaches that have criticized a dualistic view and have proposed to overcome it are the so-called relational theories, the most prominent being ANT and theories of social practices. A trait in common between these approaches is to consider material phenomena as part of society (Schatzki, 2010). This view aims to acknowledge the role of nature and other material elements without losing the specificity of sociology that has emerged from the traditional divide between natural and social sciences.

Actor-network theorists have proposed to achieve this by focusing on relations and flows instead of entities (Michael, 2000). Whereas entities tend to be classified as social, natural, technological etc., for ANT such distinctions should be repudiated; instead, the heterogeneity of the entities that constitute society should be acknowledged and it is the processes that put heterogeneous entities in relation that should be examined. Authors such as Bruno Latour have suggested a methodological symmetry that treats humans and non-humans alike as actants. Latour (1993, pp. 103-106) claims that also ontological distinctions between natural and social entities should be suspended as a matter

of analytical principle. By so doing, ANT accepts natural elements as actants as they are considered part of networks which involve negotiations, translations, identities, roles, and power relations with social constituents. In this sense, ANT seeks to apply a common analytical framework to both humans and non-humans, and thus treat them symmetrically – that is, analyze them in identical terms (Michael, 2000). According to the principle of generalized symmetry, natural and social entities are co-constructed and should be examined as outcomes or effects of networks. In this perspective, identities, and roles, as well as classifications such as subject or object, nature, or society, emerge when the networks have been established, and not *a priori* (see Murdoch, 1997; Michael, 2000). ANT thus envisages an uncovering of the connections and relations among heterogeneous actors that allow those actors to become what they are (Bosco, 2006).

In this line, John Urry (2000) argued that societies are not uniquely human but hybrids, since they are composed of networks of connections between humans and other components, such as technologies, objects, texts, or physical environments. In this view, human and non-human elements are so intertwined that they "cannot be analyzed separate from each other" (p. 14), or at least a separation would not make sociological sense. And therefore, one of Urry's rules of the sociological method for analyzing societies which are necessarily constituted through non-human elements is to "see agency as stemming from the mutual intersections of objects and peoples" (Urry, 2000, p. 18). Because non-human elements are part of how humans exert agency, human agency should not be thought of as an autonomous realm. In fact, "agency is to be seen as an accomplishment and this is brought about through various objects, such as desks, papers, computer systems, aircraft seats and so on." (Urry, 2000, p. 78). In this sense, agency is distributed, resulting from networks of heterogeneous entities.

From this perspective, Michael (2000) proposes the notion of co-agency as a way to deconstruct traditional divides and demonstrate the connectedness of heterogeneous entities that have been kept apart in academic thought. By taking into account the complex heterogeneous interactions between humans and non-humans, this notion enables an exploration of the many roles of non-human entities in social processes and can be used as a tool for unearthing unnoticed connections. To be clear, this notion of co-agency does not necessarily presuppose intentional agency but is rather the result of the contribution by all components of the network (or the hybrid, since it is constituted by heterogeneous elements). In a similar way, Ingold and Vergunst (2008, p. 12) speak of "compound agency" which they illustrate with examples (in the context of horseback riding) of "human-animal hybrids whose combined feet and hooves

move in unison and whose perception is attuned to features of the world of common concern to such compound beings:" in the case of dog walkers, tautness in the leash indicates a conflicting balance of power, where "each, alternately, 'walks' the other", while a relaxed leash indicates tuned steps. These human-animal hybrids combine synergies from all their components, so that agency cannot be easily assigned to only one of them. Their walking together is therefore a manifestation of a compound agency.

Walking as a social activity where "social relations of walking crosscut the divide between humans and animals" (Ingold and Vergunst, 2008, p. 12) thus appears as a privileged way of observing the relevance of dogs in the reconfigurations of urban life. In fact, it has been argued that examining mundane urban walking practices, although often neglected, can provide an insightful understanding of the complexity of how the urban environment is experienced, especially when considering the assemblages of both social and material elements (Middleton, 2010).

ACCESSING ENTANGLEMENTS: METHODOLOGICAL CONSIDERATIONS

How to deal with animal co-agency in terms of research methods? An issue challenging the debates around overcoming the divide between nature and society in sociological research has been how to empirically analyze agency stemming from non-human actors. As observed by Böschen et al. (2015), material agency is often tackled conceptually, whereas on the methodological level efforts to engage with it are scarcer. Conventional research training compels us to analyze the meanings humans attribute to animals or things. However, research methods like interviews provide accounts of materiality instead of giving direct access to it, which thus produces results biased toward meaning (Böschen et al., 2015). On the other hand, results biased toward materiality are also undesirable and could lead to a material (or technological) determinism.

In order to empirically analyze the mutual interrelations between human and non-human agencies, ANT's methodological proposal consists of focusing the analysis on assemblages (or associations) and dissolving simultaneously the categories social and natural. By being open-minded about the shapes of actors, it is possible to avoid predefined conceptions (such as natural/social, object/subject, or material/symbolic), when analyzing the associations between them (Latour, 2005).

From this point of view, the analysis of assemblages has the advantage of including heterogeneous entities (humans, animals, things) as actors, while

decentering the human as the subject and making visible the ways how non-humans play a role in how the situations unfold. Such methodological approach identifies and describes all actors contributing to operating transformations (or translations) by establishing connections with each other. The focus is thus on the interactions between actors. As pointed out by Latour (2005, p. 107), all actors involved should be "*associated* in such a way that they *make others do things*." In fact, by associating with others (either human or non-human), actors become different, and this association entails new possibilities, new transformations. For example, a dog walker moves differently from a pedestrian carrying a briefcase to work: their walking pace will result from the interaction of both human and dog, they may stop frequently so that the dog can sniff, they may choose the longer path, and may engage in more interactions with other dog walking pairs (or dog enthusiasts) along the way.

Our analysis is based on what Michel Callon (1986) proposed to call sociology of translation. In order to examine the development of a network of relationships in which both natural and social elements are symmetrically considered actors, Callon (1986) contends that the actors cannot be locked into fixed roles: their identities must be allowed to fluctuate, and the observer needs to follow unpredictable relationships taking their course. The analysis is thus focused on the alliances, transformations and negotiations occurring between actors. Four steps in the process of translation (or construction of the network) are problematization, *interessement*, enrollment, and mobilization. Throughout these, there is both progression towards the establishment of spokespersons and challenging of these roles. This process through which the actors are brought into a relationship is called translation because in the end "if it is successful, only voices speaking in unison will be heard" (Callon, 1986, p. 75). However, since spokespersons express in their own language the needs and wants of the others in the network, their representativity must be legitimate.

Callon's (1986) approach is adapted and combined with notions from the new mobilities paradigm (Sheller and Urry, 2006; Urry, 2000). Both perspectives fit within the current shifts in analytic focus from discourse to practice; from what things mean to what they do; towards more-than-human modes of enquiry, involving a rich array of elements in the co-fabrication of socio-material worlds; and towards the recognition of multiple forms of knowledge (Whatmore, 2006). The mobilities turn in social research intends to open up new ways of understanding empirical research that enables to shed light on neglected realities involving a wide range of movements, while criticizing the divide between humans and the material world (see Büscher and Urry, 2009). In this line, innovative research orientations need to be developed to

overcome the difficulties that standard social science methods have in dealing with social inquiries on fleeting, distributed, multiple, sensory, emotional, or kinesthetic realities of global complexity (Law and Urry, 2004). Whereas much social science has been static (Sheller and Urry, 2006), to cope with these challenges, research methods within the new mobilities paradigm seek to be on the move, both by tracking the many forms of movement of their research subjects (including by travelling with them) and by tuning into the social organization of moves, which implies that researchers immerse themselves in the making of socio-material realities (Büscher and Urry, 2009).

One of the empirical methods used to ascertain the movements of people is by observing their strolling and occasional face-to-face meetings (Sheller and Urry, 2006; Büscher and Urry, 2009). In this line, walking can be both a research object and a research method. Indeed, several researchers have been adopting a walking methodology as a way of gathering data which would not be available otherwise, including on research topics such as ways of knowing environments, situated and embodied practices in cities and landscapes, inequalities or connections and tensions within spaces (Ingold and Vergunst, 2008; Middleton, 2010; Macpherson, 2016). A key aspect is the co-present immersion of the researcher within the modes of movement under research, in a mobile ethnography that is a way of engaging with people's worldviews (Sheller and Urry, 2006).

A WALK IN THE PARK: THE EMPIRICAL SETTING

Since 2012, we have been observing dog walking in the European cities where we live, Lisbon in Portugal and Leipzig in Germany respectively. During a period of participant observation and keeping of a time-space diary conducted by one of us, recollections of past experiences during dog walking were also written down. A specific experience of participating in a group of dog walkers who used to gather in a park seemed particularly telling about the effects of dog walking in urban life and related to what has been called go-along ethnography (Kusenbach, 2003) which is closely related to autoethnographies (see Adams et al., 2014). These approaches helped us to use our personal experience to describe and interpret everyday experiences of human-dog-relations. The results here presented are thus based on reassembling those memories and examining them through the lens of ANT to recreate an account of the case of a network of relationships between dogs and their owners, in which both are symmetrically considered actors. This participant observation in hindsight covers around two years (between 2011 and 2013) during which the researcher was deeply involved in the activities performed within the network, and shared

other people's worldviews. In order to reassemble these memories, besides the notes written down afterwards, photographs (including Google Maps) and visits to the park, also helped to recall the events. The analysis is thus focused on the case of a relatively small park in Lisbon where a complex network of relationships between dog walkers and dogs emerged nearly a decade ago.

DOG AND HUMANS: NETWORKS OF WALKING AND SOCIALIZING

In order to examine the complex networks by which persons and animals were "contingently brought together to produce certain performances in certain places at certain times" (Sheller and Urry, 2006, p. 214), a set of material flows, barriers and affordances that played key roles in the process need to be identified (see Urry, 2000).

FLOWS, BARRIERS, AND AFFORDANCES

The park is located in a residential area with mostly well-off population where owning a dog and walking it on a leash is relatively common. With around 2500 m^2, the park is composed of half a dozen patches of lawn crossed and surrounded by sidewalks. Beyond the sidewalks, the park is delimited by residential buildings, three streets and a small and hilly empty lot. This physical disposition and its location make the park a place crossed by multiple flows of people (and dog walkers) throughout the day. Besides providing favorable conditions for the fluidity of dog walkers, the park also provides barriers or filters to that fluidity which constitute an affordance to possessing the place (see Urry, 2000) by encouraging off-leash practices. One of the streets has some traffic, but a row of parked cars between the sidewalk and the street provides a barrier. A slight slope upward increases the sense of distance between the park and car traffic, thus affording dog owners enough confidence to unleash their dogs. This sense of safety was a key affordance of the park in the orchestration of the complex network that would be established since it held the potential for bringing together dogs and owners in a variety of dog walking which was based on the free movement of dogs within the park, and which, in turn, provided owners with the possibility of socializing with other dog walkers while watching their unleashed dogs. Another key affordance of the park was the ground covered with grass. This provided plenty of stimuli to dogs, as they were attracted by the odors left there by many other dogs.

The relevance of the combination of the flows, barriers and affordances of this park becomes clear when compared to another park, slightly smaller, less than one hundred meters away. This other park was a tennis court surrounded by a lawn and large sidewalks. The gate of the tennis court was permanently

open, and the court was most often unoccupied, so dog walkers could safely unleash their dogs there. Even if dogs ran out from the court, the surrounding area was distant from streets with traffic and both accesses to the park had stairways acting as barriers. However, unlike grass, the synthetic surface of the tennis court was unattractive to dogs, as it did not offer many odors from other dogs, becoming boring very quickly, and in addition, if owners tried to entertain the dogs by throwing a ball, after some time the rough surface would become too harsh for the dogs' paws, scraping their paw pads. Dog's lack of interest in that place was also clear inasmuch as they did not engage in play with other dogs there as they did at the park, and soon after arriving, they would try to leave the tennis court. The fact that this other park was quite secluded, instead of a central area where many dog walkers would naturally cross, also prevented it from becoming a node of multiple encounters and connections. Another critical factor for the emergence of this network at the first park was time-space synchronization (see Urry, 2000). In fact, if compared to another lawn in another area of the neighborhood, a few other dog walkers also met up many times there. However, variations in their schedules (due to different times of returning from work etc.) did not allow them to meet as regularly. Another barrier was the fact that the state of that other lawn varied significantly over time due to lack of maintenance. Thus, often overgrown grass or the existence of dry weeds with spikes made it unattractive for dog walking during some periods. This was not the case with the park, which was always well maintained.

PROBLEMATIZATION: SPACE, TIME, AND ENERGY

In Callon's (1986) schema of analysis, four moments of translation are critical in the development of a network of relationships (see also Murdoch, 1997). Through these moments, which can in reality overlap, there are processes of transformation of actors into part of a network of relationships. Dualisms (like human and non-human) are broken down, but for that to happen, actors must be interested in coexisting, into becoming part of the network.

The first moment is problematization, when actors acknowledge interest in participating in associations with other actors (Callon, 1986). When dogs are young, they have much energy that needs to be transformed into play (or into other performances that owners may consider unwanted at home). For owners who act friendly to both other humans and dogs, meeting up with other friendly dogs and owners while walking their own dog can be an affordance of the occasion for play between dogs and even also agreeable conviviality between owners. However, since the exact time and route of the walks performed by each dog walker can change every day, it is uncertain whether

other dog walking pairs will come across or not. There is also the need for a safe place, where dogs can exercise and meet others.

INTERESSEMENT: *SYNCHRONIZATION AND AGREEABILITY*

In a second moment, the properties of the network begin to be shaped and consolidated. The network is defined in a certain way. This is the moment of *interessement*, when "the allies are locked into place" (Callon, 1986, p. 62). The already mentioned combination of flows, barriers and affordances provided by the park turned it into a place where a few friendly dog owners walking young dogs began meeting up regularly.

Due to time constraints, on workdays, some of those dog owners only had spare time to walk their dogs after dinner, while for others that was one more daily occasion for walking. Thus, the orchestration of these factors created time-space synchronization. Right after meeting up at the park, the dogs would engage in playing with each other, running and jumping. However, the leashes restrained their movements and forced owners to move in uncomfortable ways, especially due to dogs' speed and strength, but also due to their tendency to move around in circles with other dogs, thus entangling their leashes. Extendable leashes could allow dogs to run and chase others within some (usually up to five) meters, however, owners were strongly pulled every time the dog reached the end of the leash (or when the owner tried to control it). The heavy handles of those leashes could also be pulled out from the owners' hands and hit another dog or human. Moreover, leashes did not allow owners to quietly engage in conversation with others (as they had to closely follow their dog and pay attention to its moves). All these implications made leashes highly inconvenient during dog play. And so, and also in order to let their dogs spend more energy playing, the walkers unleashed them. Dogs would then run, chase each other and sniff around within the park, while their owners would watch them, admire them, comment on their actions, throw them a ball, laugh about their feats and chat with each other (especially about their dogs and dog-related issues, but also about other topics, like the weather, events from daily life, politics etcetera).

At this point the network was quite homogenous – all dogs were of the same breed (Labradors) and coincidently two of the owners had chosen dogs from the same breeder. That common bond emphasized dog breed as a device of *interessement* (see Callon, 1986). In fact, chatting about Labradors and telling stories about dog breeders happened quite frequently. Friendliness between all actors and the agreeability of the network was also a device of *interessement*. For dogs, the opportunity of playing off-leash with friends was probably very attractive: every day after dinner (the usual time of going outside to that

park), they would show signs of restlessness, nudging their owners to go; on the way to the park, they showed excitement, and when owners wanted to return home, dogs would resist as they could. A common practice for owners was waiting for dogs to get tired after an intense round of play, and then when they were lying on the ground panting, owners would try to put the leashes on again, so that they could take (or pull) their dog home. However, dogs apparently sensing that owners wanted to go would immediately start running and chasing others again. Especially young dogs were very resistant to leaving the park, often forcing their owners to stay until later than they wished (often in spite of cold and rain). In the case of some dogs who did not engage so much in playing with others, owners provided them with a toy (usually a tennis ball) which was thrown countless times in a particularly well-suited patch of lawn (as the wall of a building prevented the ball to get lost or reach a dangerous limit of the park). Ball fetching was thus another very significant device of *interessement* for some dogs. Other potential competing associations and practices (such as walking to other areas or staying at home watching television, doing household chores or overtime work, for example) were set aside in favor of such system of alliances that seemed more beneficial – especially for dogs (as consensually interpreted by owners), due to their exercise needs. Particularly during summer, when the temperatures at night are pleasant, which is an affordance for extra or longer walks, other dog walkers came across the network. Some of them became interested in participating. However, a silent number of other dog walking pairs who passed by the park and saw several off-leash dogs had different interpretations – and did not wish to participate or even get close to them.

ENROLLMENT: NEGOTIATIONS AND TRIALS

The next moment is the one of enrollment. At this stage, there are negotiations and trials that those interested in participating need to overcome successfully (Callon, 1986). First, they must be willing to become part of the network: both dog and owner need to find it agreeable. But for that to happen others participating in the network must welcome them. Sociable owners with playful dogs were easily accepted in the network. That was usually the case of puppies since these (after overcoming some initial fear) are often eager to play with other dogs, whereas their owners – in case they were confident enough to let their puppy mingle off-leash with a group of bigger dogs – soon realized that their pup behaved better at home after getting tired by playing with others of its species.

A critical negotiation was the one between dog walkers and their own dogs about the limits of the park. Dogs needed to acknowledge those limits and

keep within them, regardless of their occasional desire to escape (whatever their motives were). The connection between dog and owner was then tested: does the dog obey when asked to stop? Does it come back when called? In sum, is it possible to control it off-leash? This could be a long negotiation, and the dogs could unexpectedly – and persistently – test their limits. These trials were a strain for owners, forcing them to be vigilant (instead of relaxingly enjoying their participation in the network), and possibly even calling into question their connection with their dog (lack of authority or a weak bond, for example). For the remaining of the network, these trials could also be disruptive, since other dogs could follow the one who had found some competing interest (such as a smell, food, or another animal, for example) outside of the limits of the park. Several owners were often forced to run after their dogs in trying to keep them within the limits. The empty and hilly lot at one of the limits of the park was very often a contentious place since dogs were particularly attracted to it, especially when running from others, but owners considered it somewhat dangerous due to some sharp edges hidden beneath the vegetation and its proximity to a street and felt frustrated because, due to the lot's rough ground, they could not go there to bring back their dogs. On the other hand, that made the lot an owner-free place for dogs.

Negotiations could also take place with other dog walkers. Not all newcomers were clearly welcome, such as those with adult dogs who could challenge pre-established canine leaderships, dogs perceived as scary, or owners of older dogs who were not willing to engage in play with energetic young dogs and tried to discipline them (by barking and chasing others in moments of higher excitement, for example).

MOBILIZATION: SPOKESPERSONS, ALLIANCES, CONTROVERSIES, AND BETRAYALS

The fourth moment is mobilization. This can be detected when actors (who previously were dispersed) are reassembled (or mobilized) as a network located in a certain place at certain times, and some of them emerge as spokespersons, by speaking on behalf of the others in the network (Callon, 1986). Part of the action in the park was talking about what dogs were doing; owners commented on their identities, roles, and performances as their representatives. Among those spokespersons, there was a consensus about the agreeability and benefit for the dogs of meeting up at the park (due to free, off-leash exercise, and play with other dogs). However, as observed by Callon (1986), such consensus and the alliances implied in the network could be contested at any moment – were the spokespersons actually representatives? To answer this, Callon (1986) analyzes the manifestations of controversy and betrayals.

A further significant controversy involved the surface of the park. For many of the dogs, the lawns afforded them the possibility of digging holes and eating some dirt. However, this was often a source of conflict between dogs and their owners for whom those practices were detrimental either to the dog's health or to the maintenance of that public space. Moreover, the lawns, especially certain patches that were more exposed to excessive watering, sometimes also provided mud. Mud was very much appreciated by some dogs who would gladly lie down and even roll over on it, however, this affordance was highly controversial. Even if owners could find their dogs' enthusiasm for mud amusing, most often it was considered a nuisance, since dogs needed to be cleaned afterwards. Dog treats used by some owners to sometimes reward their dog also became a controversial issue when those owners began offering treats to other people's dogs. Being a device of *interessement* for all dogs, all of them were willing to make alliances with whoever had treats in their pockets. Dogs would surround the person with treats and, depending on the person's skills, would sit and wait or jump and put their paws on the human. One of the dogs would also roll over. For other owners, this was amusing at the beginning, but the increased frequency and the fact that unskilled owners also started doing it turned it into a controversial practice. Treats contained extra calories that unbalanced dogs' diets and the behavior of jumping to people to beg for food that dogs were being taught was not appreciated by all owners.

Outside of the network of relationships, there was also controversy. Self-excluded dog walkers (because of fear, for example) could not enjoy the lawns or cross the park when it was occupied by several dogs off-leash. Thus understood scariness can also be rendered something that emerges from the way networks unfold. Some of the residents of buildings surrounding the park could also be annoyed with the daily noise from barks and owners calling their dogs. These silent individuals were not represented by the spokespersons in the park, and in what can be considered a betrayal, at least one night someone called the police, complaining about the fact that several dogs were off-leash in the park, which is not allowed. However, it happened that at the time three police agents came over, they only found three Labradors playing (there was another one but on leash). Being owners of Labradors themselves, as they told the spokespersons (also showed photos on their phones), the policemen made an alliance with them and were very understanding. There were no fines and, after a week or two, the network had been re-established. This may indicate that non-human-animals in alliance with humans can even change legal policies and police operations.

The most serious betrayal had been always lurking and had materialized several times in the forms of growling, lip lifting, or bitten ears. In spite of the

friendly environment in the park claimed by the spokespersons, dogs' views were silent. However, the mobilization of more and more dogs and owners to participate in the network made it grow to an unexpected size. Often there were around ten dogs off-leash in the park, and at times even more. Relationships that had been previously established between dogs were increasingly challenged by newcomers of all ages and breeds, and levels of excitement were high. Former puppies were also becoming adolescents and young adults. The network of relationships was increasingly heterogeneous. Then, on some occasions, brutal forms of treason took place: dogs being aggressive to others. Previously adorable puppies could now look territorial. Aggression between dogs was extremely controversial and questioned the consensus among spokespersons. Were dogs just playing? Skepticism erupted and dissidence began.

CONCLUSION AND OUTLOOK

The park became a significant node around which distinct forms of urban life were organized. Through the orchestration of multiple connections between dog walkers and dogs in that specific place at certain times, and their iterative performances, the network of the park reorganized daily routines and connected different people that had no other connection but dog walking, and this shared sense of connection or belonging created a new sense of community (see Urry, 2000). In this perspective, there was a complex relationality of place, persons, and dogs connected through the activities contingently performed there (Sheller and Urry, 2006).

However, after around two years of owners and dogs meeting up every night at the park, that order was broken. Continued iteration over time had generated non-equilibrium, with unexpected outcomes (see Urry, 2000). The openness of the network, with a recurrent flow of owners and dogs coming across, allowed unfamiliar dogs to challenge pre-existing relationships. The consensus among spokespersons about the agreeability of the network had excluded dynamics between dogs such as potential rivalry or territoriality. Hence, instead of monitoring dogs carefully to prevent any conflicts, spokespersons were socializing with other humans while letting them loose, in a context where excitement among dogs was usually high. The consensus of spokespersons in the beginning, when the network was homogeneous, gave way to increasing complexity, controversies, and unexpected events, which were eventually followed by dissidence.

In short, our analysis illustrated a case where both humans and non-humans are considered actors in entangled relationships. Both are transformed, as during interaction they become part of a larger network, which then recon-

figures urban life through transforming ways of socializing. In this way, this article delivers an example of a sociological analysis of human-animal networks and how nonhumans can be viewed as social actors and co-agents. This may contribute to developing further sociological possibilities to include non-humans in empirical analyses, but especially to develop a new methodological approach based on Actor-Network Theory. By using Callon's four moments schema for the analysis of a human-animal network in an urban park we could say that "animal sociology" is indeed possible, even from a purely sociological point of view. In this way our article should be understood if not as a call to arms, then at least as an encouragement for sociologists to empirically take non-human-animals seriously in their research of everyday life.

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