

# Sharing landscapes with wolves:

## Interspecies communication, empathy, and control

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This paper examines the role of interspecies communication in the pursuit of coexistence with wolves returning to the Netherlands. Low-conflict coexistence with wolves in densely populated countries calls for an abandonment of the traditional culture-nature dichotomy. Moreover, it requires that humans learn to understand the wolf's needs and ways perceiving the world, and engage in a 'negotiation process' with wolves about *how* to share the landscape. However, the mere *knowledge* of how other beings perceive the world does not suffice; it might even lead to a more controlling human attitude towards wildlife. Sharing landscapes with resurging wolves in a more 'meaningful' or 'convivial' way, requires a willingness to co-adapt and recognize wolves as beings with agency and a legitimate claim to space. A mutual learning process is needed, in which humans and nonhumans both can learn how to thrive, and how to avoid unnecessary conflicts in a shared landscape.

### Introduction

According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, '*transformative changes*' are needed to restore and protect nature (IPBES 2019). The most serious threat to biodiversity is habitat loss. Although it may be prudent to set aside half of the earth for nonhuman beings, as some argue (Wilson 2016), it should not lead us into thinking the rest of the globe is exclusively human domain. Since today, humans are almost omnipresent on the planet, what is called for, are modes of coexistence with other species within humanized, 'domesticated' landscapes. Low-conflict 'meaningful coexistence' (Fiasco and Massarella 2022), in which human as well as nonhuman species can thrive within a shared landscape, requires that we leave room for wild beings within our world, and try to reconcile human and nonhuman interests. To get there, however, we also need to be able to 'negotiate'

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with other beings in *how* to share the landscape. For that, it is important to recognize we live in a shared ecosemiotic world in which we humans constantly communicate with other species, consciously or unconsciously. While we interpret our shared world, so do they; while we are watching them and interacting with them, they are also looking back at us, and making choices in navigating their landscape.

If humans and nonhuman species are to coexist in shared landscapes, then people need to acknowledge their lives can be intertwined with those of other beings with whom they share the landscape. And yet, the dualist mindset that implicitly assumes that humans and wildlife belong to fundamentally different realms of reality is pervasive. The ‘received wilderness idea’ is a concept which had been subject to much criticism in environmental philosophy (Callicott and Nelson 1998, Nelson and Callicott 2008), but nevertheless remains highly influential. It presupposes a strict distinction between ‘untouched nature’ and cultural landscape, and forms a conceptual hindrance to achieving more transformative and ‘convivial’ forms of coexistence (Büscher and Fletcher 2019). This is especially clear in the case of gray wolves (*Canis lupus*), a species that is very often associated with pure wilderness, despite the fact that wolves actually have inhabited hybrid cultural landscape for many centuries (Drenthen 2021).

In 1995, wolves were reintroduced to Yellowstone National Park in the United States, after having been eradicated in the early 20<sup>th</sup> century. Thirty one wolves were tranquilized and captured in Jasper NP in Canada before being released in Yellowstone. A fierce debate between proponents and opponents preceded the reintroduction (MacIntyre 1993, Fischer 1995), and even today wolves in and around the park are still subject of controversy.<sup>1</sup> Nevertheless, the reintroduction of wolves to Yellowstone is widely considered a successful case of ecological restoration (Smith and Bangs 2009).

In the wake of the Yellowstone wolf reintroduction, other initiatives to reintroduce wolves elsewhere in the United States followed, especially in places where a spontaneous, unassisted return of the wolf could take a long time, like in CO. In 2020, the people of CO voted to restore wolves to the western part of the state. By December 22<sup>nd</sup>, 2023, ten gray wolves that were captured in OR were released onto public land in Grand and Summit Counties, CO.<sup>2</sup>

I remember having a conversation in spring 2018 in MT with an animal behaviorist who studied wolves in Yellowstone National Park for over two decades, and was an outspoken supporter of the wolf reintroduction in Yellowstone. We were talking about the proposal to reintroduce wolves to CO, already circulating at that time. The expert thought this was a bad idea because there would not be enough room for wolves in CO. He believed the reintroduction would inevitably lead to major conflicts between humans and wolves, and thus would eventually undermine support for coexistence with wolves. To be honest, I was quite perplexed by that position. As a Dutchman, I live in one of the most densely populated areas in the world.

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<sup>1</sup> Recently, states neighboring Yellowstone National Park eased rules on hunting wolves; many wolves have been killed legally (Morell 2022), and illegally (Collins 2024).

<sup>2</sup> For more info on the CO wolf reintroduction, see the official Colorado Parks and Wildlife website: <https://cpw.state.co.us/learn/Pages/Wolves-Stay-Informed.aspx>.

Coming from my background, I look at the US landscape and the US Natural Parks system with a mixture of fascination and envy because of the huge space for both humans and wildlife. However, here an expert was sitting opposite to me seriously claiming the Rocky Mountains in CO were too densely populated for a successful wolf reintroduction! I interjected into the conversation that at that same time (in 2018) more than one hundred wolf packs were already living in Germany, and there was no end in sight to their expansion. Germany is about the same size as MT, but where MT has about one million inhabitants, Germany has about 84 million.<sup>3</sup> The comparison with CO is more relevant: Germany's population density is ten times that of CO (236 persons/km<sup>2</sup> vs. 20 persons/km<sup>2</sup>). And back in 2018, wolves were even about to settle permanently in the Netherlands as well, which has an even higher population density (533 persons/km<sup>2</sup>);<sup>4</sup> in 2018, the first roaming wolves already had been spotted several times.<sup>5</sup> But my point did not seem to come across; from his perspective he had difficulty imagining how wolves could possibly live in landscapes as densely populated as those in Western Europe.

How is it possible that wolves are resurging in the densely populated parts of Europe, when this North American conservationist (as many others) was convinced there is not even enough space in the Colorado Rockies for humans and wolves to coexist? Already in 2014, Europe had more than double the number of wolves as the contiguous United States, despite it being half the size and more than twice as densely populated (Chapron et al. 2014).<sup>6</sup> French wolf specialist, Guillaume Chapron, argued that the European model shows people and predators can coexist in the same landscapes: “I do not mean that it is a peaceful, loving coexistence; there are always problems. But if there is a political will, it is possible to share the landscape with larger predators” (Cited in Conniff 2014; also see Linnell et al. 2001).

What does the fact that wolves are returning to these densely populated areas mean for the way we think about human-wildlife coexistence? In this paper, I argue the resurgence of wolves in densely populated areas like Western Europe calls for a non-dualist understanding of human-nature relationship that acknowledges that humans and wolves rather than inhabiting separate realms, actually *share* the landscape, and are constantly exchanging messages with one another—consciously or unconsciously—and requires an active engagement with interspecies communication.

### **The challenge of wildlife comeback in Europe**

Wolves are returning to many parts of Europe where they had gone extinct for decades, or even centuries.<sup>7</sup> An important difference with the situation in Yellowstone and Colorado is that

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<sup>3</sup> Population numbers: <https://www.worlddata.info/>

<sup>4</sup> Data from <https://clo.nl>

<sup>5</sup> By the end of 2024, the Netherlands had eleven established wolf packs (BIJ12 2024).

<sup>6</sup> Since then, the number of wolves has even increased further. In 2022, the gray wolf population in Europe is estimated to be at least 17,000 animals (excluding European Russia) in 28 countries (Ledger et al. 2022).

<sup>7</sup> The return of the wolf to Europe is part of a bigger development: wild or semi-wild large animals are increasingly common in European landscapes (Ledger et al. 2022). Sometimes this involves growing populations of wild animals such as wild boar (*Sus scrofa*) and deer, sometimes large herbivores such as Highland cattle that are

the recolonization of the wolf in Europe occurs spontaneously, without active reintroduction by humans.<sup>8</sup> It is sometimes argued that for this reason the return of the wolf to Western Europe is less controversial, because it is perceived to be a natural process, and not the result of a human, political decision and intervention (Preston 2023). On the other hand, if wolves return spontaneously, it also can make people feel even more uneasy, because the recolonization process is not initiated, controlled, or managed by humans (Drenthen 2016). As a result, the European wolf debate does not so much focus on the question whether people have a responsibility to bring back the wolf, the European discussion is rather about how to respond to this spontaneous wolf resurgence.<sup>9</sup>

In 1982, European countries signed the Bern Convention on the Conservation of European Wildlife and Natural Habitats, in which wolves were enlisted as ‘strictly protected’ species. Moreover, in 1992, wolves were included in the Birds and Habitats Directives, the cornerstones of EU biodiversity policy, which explicitly aim to bring wolf populations into a so-called ‘favorable conservation status.’ In other words, the European Union has explicitly set the goal of allowing wolves to recolonize their historical range, and asks EU member states to introduce measures that support sustainable human-wolf cohabitation. In cases of human-wolf conflicts, European policies consider wolf culls only a last resort in case all other, non-lethal measures fail.

The shift in EU policy reflects a gradual shift in the more general public view on human-nature relationships, towards a view that is less human centered. The new view recognizes that humans do not exist separate from nature, let alone stand above nature, but they are part of it. A growing group of people subscribes to the idea that other nonhuman species have a justified claim to existence, too, even when their presence sometimes can be troublesome to humans (De Groot et al. 2011, Van den Berg et al. 2021). A recent study indicates that even most people living in rural communities in the EU believe wolves have a right to exist (Savanta 2023, also see Ward 2023).<sup>10</sup>

That does not mean there are no tensions. Whereas some celebrate the return of wildlife as a major conservation success, and emphasize the positive impact of wildlife on ecosystems and human well-being, others emphasize negative impacts on economic sectors

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brought in as part of nature management, or previously extinct animals that have been reintroduced by humans—such as beaver (*Castor fiber*) and otter (*Lutra lutra*). However, it also involves species that have returned on their own, such as the wildcat (*Felis silvestris*), golden jackal (*Canis aureus*), and wolf (*Canis lupus*).

<sup>8</sup> It should be noted that spontaneous wolf resurgence also occurred in other parts of the US, e.g., in MT and OR, whereas in some states, e.g., in AK, wolves never fully disappeared.

<sup>9</sup> What is similar in the United States and European wolf debate, is that the issue of coexistence with wolves is deeply intertwined with issues of environmental identity, so much so, that the conflict is often less about wolves, but more about underlying social issues and cultural divides (Almarcha et al. 2022).

<sup>10</sup> Van den Berg et al. (2021) conducted a large survey in the Netherlands that shows that most Dutch people today subscribe to an ‘ecocentric view of nature’ rather than an anthropocentric one. This finding confirms the results of the survey on attitudes of Europeans towards the Environment (EC Eurobarometer 2020). Manfredo et al. (2020) show a similar shift from a domination toward mutualism wildlife values can be noted in the United States.

such as agriculture, conflicting biodiversity goals, and the spread of zoonotic diseases. Therefore, even though there is a strong call for a more nature-inclusive society in which wildlife is given more space, there are also strong dissenting voices and there is more polarization, including in discussions and debates about the meaning of coexistence and the role of wildlife management. One reason for these divergent views, is that benefits and burdens may not be equally distributed among social groups. These perceived benefits and burdens influence people's tolerance of wildlife (Marino et al. 2021), although they cannot fully explain different human attitudes towards coexistence with wildlife (Dorresteijn et al. 2014). The debate on wolves also has become part of what could be called a 'culture war' (Guillot 2023), where "relaxing or increasing wolf protection has come to represent [...] different visions of the future" (Petterson 2023). One recurring topic in the wolf debate in Western Europe is the question whether wolves still 'belong' in today's densely populated cultural landscapes: whereas wolf-opponents argue wolves no longer belong in these landscapes, others argue that, as an indigenous species, they do (Smith 2023). It should be noted, however, the issue whether or not wolves 'belong' cannot be settled through facts, because belonging is primarily a symbolic cultural category, through which a specific culture determines what is in and what is out (Douglas 1966). In other words, whether people believe wolves belong here or not, is deeply tied to notions of cultural identity, which in turn may have more to do with political and social problems between humans than with human-wildlife conflicts (Drenthen 2015).

The European debate focuses on the question whether or not the spontaneous resurgence of wolves and other wildlife needs to be managed or controlled,<sup>11</sup> or if Europeans should relearn to coexist with wild nature in their landscape. Those who take a traditional anthropocentric attitude, demand wolves are being controlled, and call for the management of wolves. Those who adopt the newly emerging non-anthropocentric view on human-nature relationships, however, also will have to deal with the tension that inevitably arises when humans and wolves inhabit the same landscape. Or rather, they need to deal with the tension between people's willingness to give wildlife space, and their need to protect vital human interests against wild intrusions, especially when the numbers and distribution of various, potentially damage-causing fauna are increasing significantly.

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<sup>11</sup> In December 2023, the European Commission took a first step to lower the protection status of wolves, by putting forward a proposal to downgrade the protection status of the wolf under the international Bern Convention on the Conservation of European Wildlife and Natural Habitats, from 'strictly protected' to 'protected.' If all Member States adopt this proposal, it will be submitted by the EU to the Standing Committee of the Bern Convention. In response to the proposal, a coalition of environmental and animal protection organizations expressed deep concerns about what they see as misleading information in European Commission's communication on wolves in Europe (Asin et al. 2023). It should be noted that according to the Commission's own data collection exercise (Blanco and Sundseth 2023), over 70% of the respondents expressed their support for maintaining wolf protection status, compared to 29% in favor of reducing it (see also Savanta 2023).

## Wildlife management and the culture-nature dichotomy

A common way of thinking about human-wildlife coexistence is that conflicts only can be avoided by keeping people and wild nature spatially apart (Linnell et al. 2001, Fiasco and Massarella 2022). To reduce human-wildlife competition, the emphasis is often put in the formation of protected areas. Moreover, much of traditional wildlife management is focused on preventing negative impacts of wildlife on human interests by managing wildlife population size (Fiasco and Massarella 2022). In the context of large, relatively sparsely inhabited landscapes, this strategy is relatively straightforward: wild animals are expressly allowed in designated ‘wilderness areas,’ where they are protected against disturbance by human visitors; in these areas, humans are expected to adapt their behavior. This separation is established by strictly enforcing certain rules for humans, e.g., high penalties for deliberately disturbing wild animals, but also relies on certain rules and restrictions imposed on wildlife to ‘keep animals wild’: animals are kept in designated nature areas and deterred from entering the inhabited human world using fences, and if necessary, aversive condition.<sup>12</sup>

This traditional approach to wildlife management leans heavily on the dominant Western, dualistic, anthropocentric worldview that considers human culture and nature as fundamentally distinct systems (Paterson 2006, Plumwood 2006). From an anthropocentric perspective, humans stand apart from, over, and against nature, and nature appears as an external object to be managed (Mathews 2017). In this view, wildlife management is seen as managing nature as an external object. In contrast, cultural landscapes and wild lands are seen as fundamentally distinct realms of reality, which derive their meaning and value from a (human) history of cultivating and appropriating ‘wild’ nature (Drenthen 2015).<sup>13</sup>

This nature-culture dichotomy not only plays out in ideologies or theories but is often also reflected in the way the landscape is organized. In the Netherlands, as well as in most other parts of Europe, some areas are explicitly designated as ‘protected areas,’ whereas other

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<sup>12</sup> On this point, Preston makes an interesting comparison between how bears are managed in MT and in Italy. Whereas in Missoula, MT, volunteer groups are on hand to ensure apple trees in the city are picked in time to prevent black bears (*Ursus americanus*) from being attracted to the ripe fruit and entering the city, in Abruzzo in Italy feral orchards in nature reserves are pruned by nature lovers to ensure they once again bear fruit, which can serve as food for the Marsicano bears (*Ursus arctos arctos*, formerly *Ursus arctos marsicanus*) there (Preston 2023, p. 180 ff.).

<sup>13</sup> The dualistic approach does not mean ‘protected areas’ are automatically conceived as ‘pure nature’ or ‘wilderness.’ On the contrary: within the context of heavily anthropogenic landscapes, many so-called nature areas are treated as places that need to be managed by humans. A recurring theme in the Dutch debate about nature conservation, is that letting natural processes roam freely within the heavily fragmented Dutch landscape would inevitably lead to problems. A striking example of this reasoning can be found in a recent legal ruling that allowed for continued hunting of ungulates in wolf territories. The judge ruled because wolves only kill a small proportion of the game on the Veluwe and thus keep the population “far from balanced,” no hunting would mean further growth of wild boar and red deer (*Cervus elaphus*) populations: “The wolf will ‘decimate’ but not manage game populations” (Hallema 2023).

areas are designated for housing, infrastructure, agriculture, or industry.<sup>14</sup> The implication is that wildlife is allowed to live in protected areas, whereas the other areas are seen as primarily human domain. This strategy only works for animals with relatively small territories that can neatly stay within or relatively close to a designated nature area. In these cases, a simple fence can be enough to keep most animals in 'nature' and out of farmland and the built environment. Conversely, signs that prohibit entering vulnerable protected areas are often enough to confirm for people the existence of a symbolic boundary between nature reserve and human land.<sup>15</sup> Sometimes these boundaries will need to be made more explicit: chickens can be protected against fox attacks by using sturdy poultry runs; a hermetically sealed pen can protect domesticated pigs, from African swine fever infection by wild boars.

With species such as wolves, however, such a separation strategy is not feasible, especially in Western Europe's heavily populated areas. Wolves are very mobile animals: they can easily cover 60 or 70 km per day (Mech and Boitani 2007). Moreover, the average territory of a wolf pack exceeds the size of most nature areas in parts of western Europe. Furthermore, wolves are highly flexible and adaptable animals that do not need undisturbed nature areas, but can easily adapt to landscapes dominated by humans. Therefore, it is inevitable that in the densely populated and fragmented landscape of Western Europe, the 'territories' of wolves and humans overlap. They inescapably share the same landscape.<sup>16</sup> Sticking to the dualist strategy towards preventing human-wildlife conflicts would mean that strict boundaries between wolf territory and human land would have to be established, e.g., by creating "zones where large carnivores receive favourable treatment relative to human activity" on the one hand; and "zones where large carnivores receive unfavourable treatment" on the other (Trouwborst 2018). The extensive home ranges of large carnivores and the impressive dispersal distances of young animals limit our ability to confine large carnivore presence to their intended zones (Linnell et al. 2005). Moreover, the legal framework of the EU Habitat Directive limits zoning aimed at preventing wolves from recolonizing their historic range (Trouwborst 2018).

The return of wolves in the densely populated areas of Western Europe therefore poses a serious challenge to the traditional dualist approach to wildlife management. What is called for, is a non-dualist approach that takes seriously the fact that humans and wolves do not inhabit separate worlds. Humans and wolves will need to find ways to deal with the fact that they share the same landscape.

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<sup>14</sup> Although the European Natura 2000 network attempts to be integrative and does not necessarily entail the crude and rigid imposition of a strict nature-society dichotomy, it remains a top-down, "science-first" or "ecology-first" conservation initiative (Bryan 2012).

<sup>15</sup> It needs to be noted, though, not all people are deterred by signs, as is proven by the high number of cases of poaching across Europe (e.g., Hille 2022), although exact numbers are hard to come by.

<sup>16</sup> This is of course true for other species as well, not just in Europe, but also on other continents, e.g., birds move freely between nature areas and human population zones, but because they are most often not perceived as a threat to human safety or human interests, they often even go unnoticed by people most of the time. Wherever wolves show up and get noticed, however, they often disrupt the neat separation between 'nature' and 'culture' that is of such importance for so many people.

Once we realize we humans do not stand over and against nature, but are an integral part of the ecological network of relations, then the attempt to manage and control nature is far less obvious. Wildlife management should not be seen as managing or working *on* nature as an external object, but as a form of dealing with other beings with whom we share the landscape. But even such a non-dualistic form of wildlife management will still have to deal with the tensions that inevitably arise once the habitats of humans and wolves overlap.

### **Coexistence in shared landscapes**

Once we move beyond the idea that human wildlife conflicts only can be solved by separating humans and other species spatially, we must consider what it means to coexist in a shared landscape. Carter and Linnell (2016a) define coexistence as:

a dynamic but sustainable state in which humans and large carnivores co-adapt to living in shared landscapes where human interactions with carnivores are governed by effective institutions that ensure long-term carnivore population persistence, social legitimacy, and tolerable levels of risk. [...] Coexistence does not preclude risks from carnivores; rather, it necessitates human tolerance of these risks and bringing risks to tolerable levels. (575)

This definition implies coexistence between humans and wolves “must ensure long-term carnivore population persistence,” and is predicated on the willingness of humans to *tolerate* a certain degree of risk and burden, and a willingness to adapt to wolves.<sup>17</sup> “Importantly, co-adaptation between people and carnivores is the dynamic mechanism by which coexistence is achieved and maintained” (Carter and Linnell 2016b). In other words, co-adaptation needs to be an ongoing process.

Fletcher et al. (2020) differentiate “shallow” from “meaningful coexistence,” where the latter “allows humans and nonhumans to live side-by-side in meaningful coexistence rather than shallow commodified encounter” (207, also see Büscher and Fletcher 2019). Meaningful (or convivial) coexistence “does not aim to control nature, but that lets natures (human as well as nonhuman) thrive, while recognising and celebrating the biophysical limits that necessarily both constrain and enable this” (Fletcher et al. 2020, 207). Such a wider understanding of coexistence not only includes a willingness of humans to co-adapt, but also some degree of confidence that wolves can co-adapt as well and have the ability to learn how to avoid unnecessary conflict with humans.

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<sup>17</sup> Glikman et al. (2021) show how the concepts of tolerance, acceptance, and coexistence are deeply related but are interpreted differently by different groups. Yet, there seems to be agreement though, that tolerance is a minimum standard (you can tolerate an animal you do not like), acceptance goes one step further (you can like an animal, but not in my backyard), and coexistence is the most positive term (you are okay with being in the same place as an animal, even if it means you may occasionally experience negative effects).



Donaldson and Kymlicka (2011) take a similar expansive view on what it means to coexist with nonhuman beings. They criticize the dominant approach to wildlife that considers wild animals merely as passive objects of human management, even when that management is aimed at ensuring their continued existence.<sup>18</sup> Instead, they argue, we should recognize wild animal communities as sovereign political entities with whom we not only share the landscape, but that are part of a larger moral and political community of which humans are only a part.<sup>19</sup> For them, coexistence is not just an ethical concern for humans, but primarily a political issue between humans and other animals, in which all parties should have a say; it is primarily about seeking a *just* distribution of benefits and burdens between human communities and wild animal communities.

What all these definitions have in common is they recognize coexistence with wildlife does not only require finding a compromise between human and animal interests; rather, it requires an understanding of what it means to live in a landscape that we *share* with other beings.

### **Interspecies communication and biosemiotics**

In all landscapes, but especially in places marked by high population density, human beings and wildlife regularly engage in interactions, whether knowingly or, more frequently, unknowingly. These behavioral exchanges shape the dynamics of human-animal relationships and their mutual reactions, thus can be interpreted as a form of *cross-species communication*. Many contemporary approaches to wildlife management frequently overlook these forms of interspecies communication, especially when wildlife managers focus on *controlling* wildlife and *regulating* population sizes, rather than on trying to influence the behavioral interactions between humans and wild animals. Meaningful coexistence within a shared landscape, however, requires humans and wild animals learn how to navigate the shared landscape to avoid unnecessary conflicts. And for that, humans and wildlife must somehow enter a process of interspecies communication.

Communication between humans comes relatively effortlessly through language, signs, and markers, yet for animals, we require signals that align with their means of understanding the world: we need signs they can 'read.' The scientific discipline of biosemiotics, which combines research approaches from biology, philosophy, and linguistics (Barbieri 2006, also see Yong 2022), can be helpful in this regard.

Starting point of biosemiotics is the work of Baltic German biologist, Jacob Von Uexküll (1864–1944), on the concept of *Umwelt*. According to Von Uexküll, all animals inhabit a unique semiotic sphere, referred to as their 'Umwelt' (Von Uexküll 2010). All living beings can be seen as subjects who inhabit a world or *Umwelt*, which is shaped by their individual modes of perceiving. Biosemiotics, the interdisciplinary research field that examines the various forms of

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<sup>18</sup> An approach they oddly call the "stewardship approach" (ibid., p. 170).

<sup>19</sup> In a different, but similar vein, Aldo Leopold (1987), in his famous land ethic, argued humans should recognize they are part of a larger biotic community, and this sense of community should inform our ethics as well.

communication and signification found in and between living systems holds that animals live in a world of meaning, and thus that it is possible to exchange signs and messages. What humans perceive as an office building or apartment building might resemble a sheer rock surface to a pigeon or a peregrine falcon (*Falco peregrinus*). Animals inhabit a distinct realm, one that intersects with ours in physical space yet diverges into a separate dimension of significance. The crucial aspect is that these distinct realms of meaning are not spatially isolated but overlap. As a result, our actions impact not only our own environment but also have the potential to influence the Umwelt of other creatures—in other words, by changing our environment, we send messages to those species with whom we share the landscape. Whereas some of these messages are consciously conveyed, more frequently, we leave signs and emit signals that are deciphered by other beings, often unbeknownst to us. Establishing direct communication with wild animals is not straightforward; it hinges on tangible traces or signs accessible to both humans and wild animals, which necessitate interpretation (Boonman-Berson 2018).

### **Coexistence and interspecies communication**

For humans and wolves to meaningfully coexist within shared landscapes, both will need to learn how to avoid unnecessary conflicts in a mutual learning process. A non-dualist approach to ‘wildlife management’ aims at initiating such learning processes. The knowledge and traditions of those people who have sustained Europe’s large carnivores up until now, can play a key role in transitions to more convivial human-wildlife interactions in the future.<sup>20</sup> But more modern means can play a role as well.

When it comes to wolves, electric fences prove to be an effective method of conveying a message. Wolves are intelligent beings with agency; the choices they make include making intelligent risk assessments. When a wolf comes into contact with an electric fence, it receives an uncomfortable yet non-fatal electric shock. A sufficiently powerful shock conveys the message that sheep or other protected livestock are not easy prey, causing the animal to look for other prey that is easier to catch. If farmers consistently safeguard their livestock, making it difficult and risky for a wolf to target them, the allure of such prey diminishes, prompting wolves to modify their behavior. This adaptation takes place, of course, assuming a sufficient population of wild prey exists.

Because young wolves learn their hunting behavior from their parents, and adopt the ‘cultural’ norms of the adult wolves, over time, these preventive measures can lead to wolf packs disregarding livestock. Investments in preventive measure to protect livestock from wolf attacks can lead to structural changes in wolf-prey interactions. Due to such measures, in Switzerland, while the wolf population is on the rise, incidents of livestock attacks have decreased in recent years, suggesting wolves are learning to abstain from preying on domestic animals (Group Wolf Suisse 2023). Similar trends are observed in the German state of Lower Saxony (Wolven in Nederland 2018) and in Flanders (Rigo 2024). In Sweden, this process has

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<sup>20</sup> Petterson et al. (2022) argue this is one of the reasons why these often-marginalized communities need to be supported.

been unfolding for several years longer (Karlsson and Sjöström 2011), and some farmers have even opted to forgo fences, displaying confidence in the local wolf culture's tendency to avoid targeting sheep and other livestock. However, it is important to note young wolves, akin to human adolescents, may be inclined to experiment and could be enticed to attack livestock if presented with an easy opportunity. Ensuring that these youthful wolves learn, either from their parents or from us, that hunting wild prey is simpler and safer, and avoiding livestock behind fences is more beneficial, can involve creating unfavorable experiences for them, such as electric shocks, if they attempt to attack livestock.

How is this form of fencing different from the dualist strategy discussed earlier? It might be tempting to regard wolf fences as rigid barriers separating culture and nature, but such a perspective harks back to a dualistic mindset that is outdated for two reasons. Firstly, we have seen the strategy of separation is ineffective for wolves. Wolf-detering electric fences do not create strict, impenetrable boundaries between 'culture' and 'nature,' between 'us' and 'them.' Occasionally, individual wolves will learn how to cross these fences, especially if there is no alternative in the form of wild prey.<sup>21</sup> Moreover, "fences might keep a wolf's body outside of a pen, but his smell, his sound and his appearance remain perceptible to livestock. Fences aim to separate wild from domestic spaces, but only provide partial impermeability. [...] Instead of clear boundaries, fences create new contact zones, in which they become habitats and modes of living are negotiated" (Poerting 2023). Secondly, and more importantly, what these fences (and other preventive measures such as herd guarding dogs) can do is effectively influence the choices wolves will make while navigating the shared landscape. These fences convey a message that wolves will be able to interpret: livestock is not as attractive a prey as it may appear at first glance. These fences, in other words, are one of many possible means of communicating with other species to help establish a low-conflict coexistence (Drenthen 2020, 2021). These fences not only protect livestock, but indirectly also help wolves to avoid conflict with us as fellow community members.

If fences are seen as strict boundaries, then their effectiveness will be measured by how well they keep wolves out of fenced areas. Seeing fences primarily as a means of interspecies communication, however, means we need to assess them for how effectively they transmit a message and initiate a learning process (Jansman et al. 2021). Based on our knowledge of the kind of messages that wild animals can understand, we can try to convey to them the rules they should adhere to if they wish to avoid conflict with humans (Von Essen et al. 2023).

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<sup>21</sup> Most often, when wolves manage to cross an ostensibly wolf-proof fence, it is because mistakes were made. Wolves watch fences carefully and test them again and again, finding and exploiting any weakness in the protection system that presents itself (Bruns et al. 2020). Only occasionally, individual wolves learn how to pass properly placed fences, e.g., when electric fences with insufficient voltage gave wolves the opportunity to 'train' how to surpass them (Hansen et al. 2020). A wolf that repeatedly attacks well-protected livestock is labeled a 'problem wolf' (Van Bommel et al. 2020) and eventually will be killed, but only if all other measures to change their behavior have failed. The same happens with so-called bold wolves that display conspicuous and potentially dangerous behavior towards humans (Reinhardt et al. 2020).

It is important to note that interspecies communication can work in both directions: clearly communicating rules for coexistence can help avoid conflicts, but sending the wrong message can cause them (ibid.). A clear example of the latter is when people feed wildlife, thus conveying the message that humans may be an interesting food source, which will inevitably lead to conflicts. But a similar thing may be true if livestock keepers refuse to protect their animals against predation. It is therefore of utmost importance that individual farmers cannot undermine that learning process by showing wolves that occasionally it still may pay off to go after livestock.<sup>22</sup> While farmers deserve support from society in taking preventive measures, it also can be asked of them not to frustrate the collective efforts needed to make coexistence possible.

Approaching wolf fencing non-dualistically (as a means of interspecies communication rather than as strict boundaries) will have real-life consequences, especially for policy: if fences are seen as merely a way to keep wolves out of livestock enclosures, the responsibility for protecting one's domestic animals will lie with the individual livestock keeper. In that view, it is up to individual farmers to decide for themselves whether or not protecting their livestock is worth the effort of putting up and maintaining fences. From an interspecies communication perspective, however, the responsibility shifts towards the *collective*: if human society decides it wants to meaningfully coexist with wolves, it is the collective's responsibility to clearly communicate to wolves the limits of what humans are willing to tolerate (e.g., avoid livestock).

Only when applied on a wide scale, non-lethal wildlife management technologies such as wolf-deterrent electric fences, can initiate a learning process that teach wolves to make choices that are less likely to lead them into conflicts with humans. It is important to stress, however, that coexistence needs a *mutual* learning process, where wolves learn to adapt, but humans learn to co-adapt as well. This collective perspective also means coexistence need supporting policy structures such as subsidies for preventive measures, and strict enforcements of rules that discourage human behavior that thwarts coexistence.

### **Moving from control to resilience**

As long as one believes humans stand outside or even above nature, one may try to control nature as soon as it emerges as a nuisance or a threat. But once we realize we are part of the biotic community, the challenges demand a different response. Rather than fighting or controlling nature, we would need to strengthen our own *resilience* and find ways to reduce our vulnerability in the face of threats from the wild, e.g., by seeking forms of partnerships with other species such as livestock guardian dogs.

Fences may not create the *strict* separation between farmland from nature areas that some would wish for, but most wolves will be deterred by a well-constructed wolf-proof fence,

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<sup>22</sup> It is important to note the establishment of wolf fences will profoundly alter the world of wolves, which will mean "lively and discursive multispecies relations are renegotiated" (Poerting 2023).

and conflicts between humans and wolves will remain relatively scarce. Studies show the effectiveness of livestock protection measures, such as using electric fences, introducing sheep guarding dogs, or keeping sheep in a corral at night (Bruns et al. 2020). But despite the supported effectiveness of these measures, many livestock keepers still seek to change the protected status of wolves in Europe because they see the wolf as a threat to their way of life (Drenthen 2021, Jansman et al. 2021).

Clearly communicating to wolves what are the limits of what is or is not negotiable for humans, cannot only help wolves to stay out of trouble, but is important for humans as well. A form of meaningful or convivial coexistence that supports sustained co-benefits, depends on society being sufficiently *resilient* (Carter and Linnell 2023). Only when people feel sufficiently confident their essential needs will not be compromised, will they not have to fear intrusions from the wild, and will they be able to relax in the presence of predators and take a pragmatic approach to potential problems.

Even though a large portion of the European population supports the efforts to restore native biodiversity, including the protection of returning wolves, small livestock keepers and shepherds carry the biggest burden for this transition (Drenthen 2020, 2021). For that reason, nature organizations argue governments should invest more in ways to support these farmers. Farmers do not just need compensation for financial consequences of livestock predation, but also assistance in protecting their animals, e.g., by subsidizing wolf-proof fences and herd protection dogs, and practical support, such as wolf consultants, or volunteer groups offering assistance to farmers in taking preventive wolf-proofing measures.<sup>23</sup> If society at large wants to coexist with wolves, it is important to show solidarity towards those social groups who will carry the biggest burden. Conversely, society also may expect that these groups accept the offered help and refrain from frustrating the learning process on which the transition toward a wildlife-inclusive society relies. It is also important to point out that a “focus solely on lowering perceived risk by increasing individual control over the hazard” may even “inadvertently decrease tolerance by overlooking the distinct and important role that the positive outcomes (i.e., benefits) associated with carnivores can play when evaluating the acceptability of a particular population or management action” (Bruskotter and Wilson 2014, 158).

Non-lethal wildlife management technologies may fit well with a non-anthropocentric view on human-nature relationships, but also can be used in a way that bolsters an anthropocentric view, in which humans can unilaterally determine the rules for coexistence, and unilaterally decide which animal behavior can be tolerated, and which not. The mere *knowledge* of how other beings perceive the world is not enough for *meaningful* coexistence; it could even lead to a more controlling human attitude toward the nonhuman world (Cooke et al. 2017).

If we are serious about the non-anthropocentric ethics of trying to meaningfully coexist with resurging wolves in shared landscapes, we should seek a way of sharing the landscape that

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<sup>23</sup> For example, Wikiwolves in Germany or Wolf Fencing in the Netherlands and Belgium:  
<http://www.wikiwolves.org/>, <https://www.wolf-fencing.nl>, <https://www.wolffencing.be>, respectively.

allows all parties to thrive. Rather than merely attempting to control or manipulate wolf behavior, we could seek to influence the *mutual* interactions we have with wolves in such a way as to avoid conflicts, not just for our own sake, but also for the sake of these animals.

According to Carter and Linnell (2016a) “an unclear understanding of coexistence” hinders “the integration of large carnivore species into multi-use landscapes outside of protected areas” (575). They argue that a *comprehensive* conceptualization of coexistence recognizes the central role of “mutual adaptations by both large carnivores and humans” (ibid.). Co-adaptation implies that people change their behaviors in such a way to accommodate human-wildlife coexistence—and acknowledge and ensure that animals can change their behavior, too. Animals are not just passive objects for humans to manipulate or control, but beings with agency that live their lives on their own terms. Should we not look at wolves more empathically, and not only recognize wolves’ agency but also accept their right to their place within the shared landscape?

### **Deepening our understanding: dark empathy and beyond**

Of course, wildlife technologies (fencing, virtual fences, acoustic deterrents, etc.) that aim to manipulate the behavior of wild animals to avoid conflicts with humans indirectly may be in the interests of wildlife, too. Indirectly, because it provides humans an alternative to more lethal, more violent forms of wildlife management and thus increases human tolerance of some level of risk and burden that inevitably comes from sharing space with others (whether humans or nonhuman). Directly, because avoiding human-wildlife conflicts also may benefit wild animals, e.g., when they are guided away from dangerous traffic or wind turbines (Von Essen et al. 2023). However, if we use fencing to keep animals from crossing a road but forget to ask why they want to get to the other side, the communication with other species is still primarily a one-way process and fails to accommodate a more meaningful form of coexistence.

Knowledge of another being’s way of life and its Umwelt can be of *instrumental* value to humans. Of course, the ability to adopt the perspective of another nonhuman being has fundamental limitations, because animals inhabit Umwelts that are often fundamentally different (Nagel 1974). However, by using their imagination, humans often can get a sense of how the world (Umwelt) is perceived by other beings (Yong 2022). Hunters, trackers, and wildlife filmmakers use their knowledge of which signs a being can perceive, how it will interpret those signs, and how it is likely to respond to them, to predict where an animal will turn up, or how it will behave. This knowledge even can be used to influence the behavior of wild animals. Controllers of muskrats, for example, use this knowledge to trick these animals and decide where to best put traps (Dekker 2022). This ability to place oneself in the shoes of another being to better deceive that other being, is called ‘*dark empathy*’ (Bubandt and Willerslev 2015, Throop and Zahavi 2020).

A deeper form of empathy is emotional empathy: the capacity to not only *know* another being’s perspective, but also to truly empathize with it, to feel the emotions through which another being is going. In human relationships, emotional empathy is what enables us to work

together and form partnerships.<sup>24</sup> As soon as people cognitively acknowledge wild animals as agents with their own perspective on the world, and are able to put themselves in their shoes, it becomes easier to feel emotional empathy for that being as well, even in those cases where such an emotional empathy is inconvenient. Dekker (2022) reports that even muskrat trappers sometimes start to empathize emotionally with the animals they are after, and need to develop emotional coping strategies to be able to continue their work.

Ideally, however, meaningful coexistence between humans and wolves within a shared landscape, does not only, and not so much, involve humans seeking full *control* over wolf behavior, but rather a willingness to negotiate (Morizot 2022) and co-adapt, to actively work towards ways of living together involving a degree of risk and burden that can be tolerated. To establish a sustainable form of coexistence with wolves in a shared landscape, it is indeed important to have *knowledge* of how wolves perceive and navigate their world, and to have technologies at our disposal to influence their behavior. But ultimately, a deeper and more meaningful way of sharing landscapes with resurging wolves only can be achieved if people are willing to look at wolves with a deeper form of *empathy* that not just recognizes wolves as beings with agency (that one might want to manipulate), but also acknowledge these animals have a justified claim to space within our shared landscapes.

One of the obstacles of meaningful coexistence is the idea that humans somehow stand over and against nature, rather than existing within the biotic community, as just one species among others. The realization that we live within a biotic community undermines the idea of control. Once we see wild animals with whom we share the landscape as agents, beings capable of making their own choices, the step to acknowledging them as fellow inhabitants with a justified claim to space will get easier. When wildlife management is using interspecies communication to establish shared rules for coexistence, it thus opens the door for a deeper, more empathic attitude towards wildlife, in which people are more aware of their existence as one species among others, which in turn can further the willingness of people to co-adapt to sharing the landscape.

## Close

Today, a growing group of people in Europe recognizes we are part of a wide biotic community, and we should therefore leave a dualistic world view behind and seek to coexist with other species. Humans have been able, with the help of culture and technology, to detach themselves from the immediate ecological contexts in which they long had been absorbed.<sup>25</sup> But it would

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<sup>24</sup> Sociopaths typically lack this sense of emotional empathy. They see other people as objects to be manipulated for their own gain. Often, they do have a well-developed cognitive capacity to understand rationally other people's motives and believes, but they use that knowledge to manipulate them, because they lack the ability to 'empathize' with that other person on deeper emotional level.

<sup>25</sup> According to the German philosopher, Peter Sloterdijk (1998, 1999, 2004), we can best understand modern culture and technology as continuations and extensions of the human immune system, with which people protect themselves not only against viruses and bacteria, but against all the outside threats to their safe inner world.

be an illusion to think, by doing so, humans have disconnected themselves from the rest of nature.<sup>26</sup> It is equally illusory to think people can eliminate or control all threats caused by wild nature, because evolution is an infinitely creative process. Humans, including all their modern technology and culture, are still part of the ecological web of the planet, even though they may have become a major disruptive factor within it. However, once we acknowledge human society does not exist apart from the rest of nature, and we see nature as a dynamic network of connections and interdependencies of which we are a part, we also will have to think about ways to deal with conflicts with other species, as conflicts with fellow beings, similar to the way we do with potential conflicts that stem from sharing the world with other humans.<sup>27</sup>

Meaningful coexistence with wildlife in shared landscapes requires we develop the capacity to understand and empathize with how other species navigate the landscape. But we also need to invest in means to communicate across species borders to establish rules for coexistence, because coexistence will never be unconditional. To ensure these rules lead to a sustainable form of coexistence, however, the establishment of these rules cannot be a one-way process in which humans alone determine the conditions for coexistence with other beings. Eventually, we will need to engage in a form of diplomacy (Morizot 2022), in which we not only *communicate to*, but also *communicate with* other beings with whom we share the landscape. That diplomacy should be based on a thorough understanding of the other beings' basic interests and Umwelt, as well as a thorough understanding of what humans need to flourish in a shared multi-species landscape. If we want to find effective spatial arrangements that work for both humans and animals, we will need to enter into a 'negotiation process' in which both humans and animals can indicate if the proposed solution is acceptable to them or not.

Throughout the world, there are numerous examples where human communities have successfully lived alongside wild animals in relative harmony, even with creatures that pose greater dangers and more complex challenges for cohabitation than wolves, such as crocodiles or tigers, because of mutual adaptation (Pooley and Marchini 2020, Pooley et al. 2020). In these diverse situations, a shared understanding of the environment as a multifaceted domain has emerged between humans and animals. Through a generation-long interspecies negotiation process, both humans and animals developed a confidence in the possibility of low-conflict coexistence. Interspecies negotiation processes can play an important role in developing sustainable, meaningful forms of human-wildlife coexistence.

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<sup>26</sup> That the separation between humans and nature is difficult to maintain was perhaps most evident in the way humanity was beset by the COVID pandemic in recent years. COVID-19 is a zoonosis, a disease that has its origin in a population of animals, and suddenly spills over to humans. Zoonoses only can exist because we humans are also simply animals that are part of an ecosystem.

<sup>27</sup> In this paper I have focused on the potential costs and burdens for humans that come from sharing the landscape with other beings, but of course living in a multi-species landscape also comes with benefits to humans: not only because a biodiverse landscape is a much more stable source of 'ecosystem services,' but also because a world in which humans do not just live 'among themselves' but develop meaningful relationships with the vast biotic community around them can be a richer, more meaningful world in which to live.



However, even though a more reciprocal form of interspecies communication deserves serious attention, we also need to recognize the fundamental asymmetry in human-wildlife relationships. If we want to coexist with wildlife in shared landscapes, it will be necessary to consider the interests and semiotic perspectives of other species with whom we share the landscape. The deciding political issue, however, is not so much to find agreements between humans and wolves, but rather to find ways to deal with different views among people on what it means to live in a shared multi-species landscape—which is a fundamentally hermeneutic question (Drenthen 2016).

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