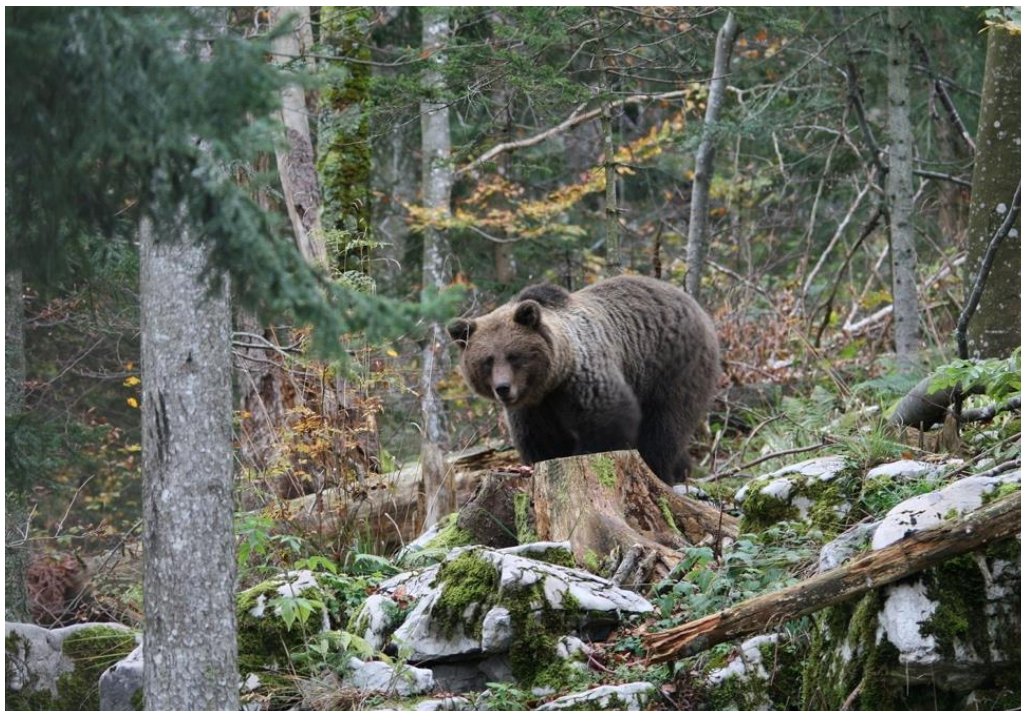


# Perceptions and relation-mediating mechanisms in human-wildlife conflicts

– In the context of the reintroduction of the brown bear in the Pyrenees (France)

*Arthur Le Comte du Colombier*





**Perceptions and relation-mediating mechanisms in human-wildlife conflicts**  
- In the context of the reintroduction of the brown bear in the Pyrenees (France)

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**Credits:** 30 HEC

**Level:** Second cycle (A2E)

**Course title:** Master thesis in Environmental science, A2E, 30.0 credits

**Course code:** EX0897

**Course coordinating department:** Department of Aquatic Sciences and Assessment

**Programme/Education:** Environmental Communication and Management – Master's Programme

**Place of publication:** Uppsala

**Year of publication:** 2019

**Cover picture:** Sabine Matraire

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**Online publication:** <https://stud.epsilon.slu.se>

**Keywords:** perception, brown bear, Pyrenees, historical background, psychological ownership, identification practice, Disneyfication, social representation, human-wildlife conflict

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## Abstract

Human-wildlife conflict represents a recurring challenge in the history of humankind. Since the 1970s and the environmental awakening of consciousnesses, the problem took a new dimension through competitions between people with different views about nature and wildlife. Some would consider it as an utilitarian object to manage and exploit while others would adopt a more empathetic and ecological attitude, thus causing disagreements. This study takes a perception-based approach to unravel the conflict surrounding the reintroduction of the brown bear (*Ursus arctos*) in the French Pyrenees, in order to understand how individuals in this case of human-wildlife conflict perceive the animal, and to identify the key-components that contribute to the creation of those perceptions. The findings reveal that people share a connection with bears, positive or negative, which results from their initial perception and whose elaboration is continuously influenced by various relation-mediated mechanisms. The analysis of specific historical events and cultural factors related to bears shows that perceptions are prone to change and relations between humans and bears are never simple. In addition, it demonstrates that as an animal, the bear has always left a significant impression on human communities, either as a magnificent entity worthy of respect or a powerful creature deemed too dangerous to be allowed near their habitations and activities.

*Keywords:* perception, brown bear, Pyrenees, historical background, psychological ownership, identification practice, Disneyfication, social representation, human-wildlife conflict

# Acknowledgements

I would like to express my sincere thanks to my supervisor Erica von Essen for all her guidance, support and time she dedicated throughout my thesis. I will also thank my opponents Andrea Maria Cantillo Carrero and August Lindemer, and examiner Helena Nordström Källström for their feedback and comments.

I also want to express my gratitude to the associations FIEP, FERUS and Pays de l'ours – Adet for the useful information I was able to gather from them. To all the participants to the interviews, and especially Farid Benhamou: I could not thank you enough for your time, kindness, availability and testimonies.

Last but not least, I would like to express my special thanks to my family, for their amazing support, and the Warsaw University of Technology's library, for providing such a great environment to study and write a thesis.

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# 1 Introduction

Throughout history, humankind's perspective towards nature has undergone several evolutions. This includes notably its connection with wildlife. In that regard, some socio-biologists identify the 1970s as one of the most critical periods of transition (Franklin A., White R., 2001, p. 224). During that time modernization was expanding and, as a result, increasing the distance between human society and the natural world. Perhaps in response to this alienation from nature, a shift began to occur in people's perception of wildlife as something desirable. While the majority retained a utilitarian attitude towards animals, some individuals chose to adopt a more progressive ecological outlook (a.a., p. 221). On one hand, this transitional period could explain the rise of protective laws and programmes aimed to preserve wildlife across the world. On the other hand, it has also invited numerous debates and conflicts evolving around those decisions. In France one of the biggest, and yet less known, cases involve the reintroduction of the brown bear in the Pyrenees.

For over 250 000 years, brown bears have been a part of the Pyrenean scenery. Although the local population was well adapted to its presence, the species never ceased to provoke strong emotional reactions such as fear or wonder. Because of that hunting practices were positively regarded as they permitted local communities to feel safe and in control. On an economic level, this activity was encouraged, as hunters were greatly rewarded for their efforts, and farmers could maintain their income stable by reducing their livestock losses (Pays de l'ours – Adet, association<sup>1</sup>). After centuries of this practice, the species came close to extinction during the 20<sup>th</sup> century. Protective laws were enacted in the 1980s to prevent this from happening. Currently, the population of brown bears is slowly recovering toward more viable threshold as a result of an ongoing reintroduction programme. Nevertheless, this project is not popular with everyone and continues to divide stakeholders such as farmers and environmental associations.

This brings the question of how the bear, the materiality in dispute, is perceived within this conflictual situation. It is important to note that reducing the representation of this conflict to a duality between two polarized groups can potentially circumscribe deeper analysis. Hence, conflicts tend to arise from a multiplicity of drivers as complex as the human condition (Daniels, E., Walker GB, 2001, p. 34). One of these factors is the perception of the participants. These perceptions are historically conditioned, grounded in materiality, experiences and interests, but are also shaped by ideas about desirable human-animal futures. In other words, perceptions are facilitated by mechanisms that create or reduce distance between the individual and the subject. Identifying the different perceptions towards bears of the stakeholders involved in the debate and their origins thus provide a better understanding of their involvement and how the conflict came to be.

This thesis examines the conflict surrounding the reintroduction of the brown bear in the Pyrenees. It is predicated on a need to understand how conflictual situations occur with perception in order to help the reader question his possible preconceptions regarding a specific conflict, especially one that involves an environmental issue like the preservation of an endangered species.

The parts of the paper will include the biology of the brown bear, the historical background of the bear-human relationship in Europe, the current state of the species in the Pyrenees and a qualitative study surrounding the various perceptions of the bear based on a psychological ownership framework and other concepts. The latter will consist of the collection of data through semi-structured interviews and a thematic analysis followed by a discussion of the results.

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<sup>1</sup> The Pays de l'ours – Adet association is a french NGO created in 1991 which defends the presence of the brown bear in the Central Pyrenees. This information was found on the English-written document "Bears in questions, questions on bears", available on their website ([www.paysdelours.com](http://www.paysdelours.com))

## 1.1 Research questions

The research questions I ask in this thesis are:

- How do perceptions play a role in the construction of human-wildlife conflicts?
- How are perceptions influenced by relation-mediating mechanisms?

## 1.2 Contributions

The study provides a certain insight of the human-wildlife conflict concerning brown bears in the Pyrenees. Rather than focusing on the situation as a whole and on potential solutions that could solve it, this study gives a clarification of the stakeholders' drivers involved in the conflict whose implication definitely played a role in the current perceptions of the bear and the longevity of the debate. Having subsisted for now a few decades, it is unlikely that this study will prevent the conflict from happening. However, providing a better understanding of the conflict to readers and stakeholders could, in time, encourage participants to move forward together and prevent the disagreement from getting worse, and possibly find a resolution suitable for everyone.

## 2 Bear biology

Before examining the portrayal of the brown bear by human society and its origin further, it only seems natural to get familiarized with the species first. For that reason, the various aspects of the animal's lifestyle will be described below, beginning with some interesting facts about the specie.

For starters, the brown bear (*Ursus arctos*) is depicted as one of the largest terrestrial mammals in the world. Also known as the Kodiak bear or the grizzly, the specie is divided into several populations across North America and Eurasia (Pays de l'ours – Adet, association). This worldwide distribution demonstrates its high adaptation capacity and durability against various climates and natural environments. This resourcefulness implies a huge morphological diversity in accordance with the geographical location, weather conditions and food availability. But for the purpose of the thesis, the following information will focus solely on the Pyrenean population in France and Spain.

At a shoulder height of around one-meter, brown bears can reach close to two meters on their hind legs. In the wild, they can live up until 25 to 30 years old. Males usually weigh between 80 to 230 kilos and females 70 to 170 kilos. Fur colour vary from light brown to black according to the specimen, age and season. If sight is not one of its strongest traits, the brown bear compensates with good hearing and sense of smell (FERUS, association<sup>2</sup>). Most of its strength resides in its upper-body (neck, shoulders, arms and chest). Those developed muscles allow him to accomplish impressive feats, such as breaking down trees or killing an animal with a single punch. Nevertheless, they are balanced by a weaker rump and a rather small head (Pastoureau, M., 2007, p. 55). Yet, the masticatory apparatus inside houses a polyvalent dentition well aligned with the animal's vast diet: incisors to cut and seize objects, fangs to tear preys apart and large molars to pound vegetables (a.a., p. 56).

Thanks to their imposing appearance and undisputable firepower, brown bears are mostly unrivalled in terms of competition and combat among the rest of the European wildlife. However, the drawback is that they are sometimes wrongly thought of within the same category as carnivores: lynx, wolverine, wolf, tiger and raptor (The Top Tens, website<sup>3</sup>). While prehistoric discoveries suggest that its ancestors were indeed carnivorous, current brown bears prefer a more omnivorous diet (a.a., p. 92). A meal consists mainly of approximately 80% of vegetables and 20% of animal source food, thus making the specie naturally opportunistic (FERUS, association). To access it, one bear has to scavenge large areas endlessly. Their knowledge of their habitat enables them to recall where to go to find various types of food throughout the year (Pays de l'ours – Adet, association).

In order to survive, the mammal requires a wide area (200 to 1000 km<sup>2</sup> for males and 70 to 300 km<sup>2</sup> for females) which permits him to switch from one environment to the other depending on its needs and the time of year (FERUS, association). Such settings include bottom-valleys, forests and high grasslands. The quieter and richer in resources the area is, the better. Contrary to a popular belief, brown bears do not hibernate. As winter approaches, they store fat and prepare a shelter where they will be able to slumber peacefully (ibid). If the climate is sufficiently mild, it is quite conceivable for a brown bear to awake and stroll for a bit next to its lair. The duration of the rest period will vary according to the gender and age of the specimen as well as the abundance of food. Hence females are generally resting from November to the end of April, while males retire from December to the beginning of March (ibid.).

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<sup>2</sup> The FERUS association works relentlessly for the survival and integration of big predators in France (wolf, bear and lynx) since 2003. This information can be found on their webpage dedicated to bears in French ([www.ferus.fr/ours/l-ours-biologie](http://www.ferus.fr/ours/l-ours-biologie))

<sup>3</sup> Website specialized in top ten lists, it notably featured the top ten wild predators with the brown bear as an honourable mention (<https://www.thetoptens.com/wild-predators/>)

Solitary by nature, brown bears only interact with their congeners during the breeding season from May to June. Sexual maturity is normally reached between three and five years old (Pays de l'ours – Adet, association). Females give generally birth to two or three cubs every two to three years with a gestation period of about eight to ten weeks. One interesting aspect to notice is that embryos delay their development shortly after the fecundation. The aim of this curious practice is to enable females to focus on eating enough food to ensure their survival during winter. If the layer of fat is sufficient, the embryo will successfully resume its growth and emerge either in January or February (FERUS, association). At birth cubs are blind, furless and weigh 300 grams. But efficient maternal behaviours grant them each year another 15 kilos. The first two years in a cub's life are the most dangerous as the obstacles are numerous (falls, drowning, illnesses, hunger, killed by predators or males wanting to mate with their mother). Only 50% manage to become adults and emancipate themselves from their mother after one to three years (ibid.). Lastly, brown bears figure among the animals with a remarkable capacity for learning. In other words, cubs' future behaviours and ability to adapt are likely influenced by their mother's education. This could provide an explanation behind the habits of certain bears, whose tendency to predate and kill livestock is higher than their congeners (Benhammou, F., 2007, p. 19).

## 3 Bear-human relationship's historical background

This section aims to deliver a first glance at what could have possibly led to the current vision of people towards brown bears. According to Pastoureau (2007), bears have always been set apart from other species by mankind. Myths, legends and interpretations were told and revisited ever since their first encounter millennia ago. Therefore, observing how the animal was discerned throughout history would provide more depth to an ultimately complex and multi-faceted relationship. Moreover, it could potentially give a first explanation to the reasoning behind the present-day debate. But to avoid any side-tracking, the focus will stay on European history and four identified main periods. Another element worth mentioning is that most of the following information were retrieved from Michel Pastoureau's book *'L'ours: histoire d'un roi déchu'*, which provides a detailed description of the bear-human relationship in Europe from pre-history to the present day.

### 3.1 Uncertain beginnings

If the first 'bear', hemicyon, is estimated to have existed over 20 million years ago, human-bear interactions waited until approximately 30,000 BC in order to occur (Pays de l'ours – Adet, association). Between those two time periods hemicyon evolved into Etruscan bear 8 million years ago, who later became the modern brown bear in Asia around 600,000 BC. The specie finally spread throughout Europe in 250,000 BC (ibid.).

At that time prehistoric societies were often portrayed as valuing wildlife to the extent of constantly representing animals within their culture, though it is worth mentioning that bears were far from being the most represented species, contrary to horses, buffalos or mammoths (Pastoureau, M., 2007, p. 25). However, several comparisons of these animal representations brought the deduction that its depiction had more qualitative work put into it (a.a., p. 27). Such practices included front painting and bones disposition on specific locations in caverns. Two particular cases of discoveries seem to support the idea of a separate treatment for bears. The first one is the Chauvet Cave situated in Ardèche (France) which displays its myriad of ancient paintings and engravings from over 30,000 years ago since 1994<sup>4</sup>. Next, the Montespan Cave located in Haute-Garonne in the Pyrenees houses one of the oldest remnants built by humankind: a clay-carved statue of over one-meter long and a height of 60 centimeters. Even the test of time could not prevent the successful identification of a bear within its degraded shape (a.a., p. 40). Although specialists tend to debate over the existence of a prehistoric cult regarding bears, such examples of uncovered signs confirm the suggestion that the mammal enjoyed a certain representation level within prehistoric culture (a.a., p. 24). One could argue bears were already perceived differently from other animals.

### 3.2 A venerated being

Throughout history, only four animals can claim to have obtained the title of king on at least one mainland: lion, eagle, elephant and bear. The latter remained king in Europe until the Middle Age (a.a., p. 54). The main reason behind this position could be that no other animal was comparable to him according to the many nations of the North-West of Europe at the time. In effect, the brown bear embodied pure strength, bravery, virility and supremacy against other beasts (a.a., p. 57). In other words, it dominated the bestiary and was perceived as undefeatable. Of course, this admiration led to the development of diverse forms of practice to honor the species.

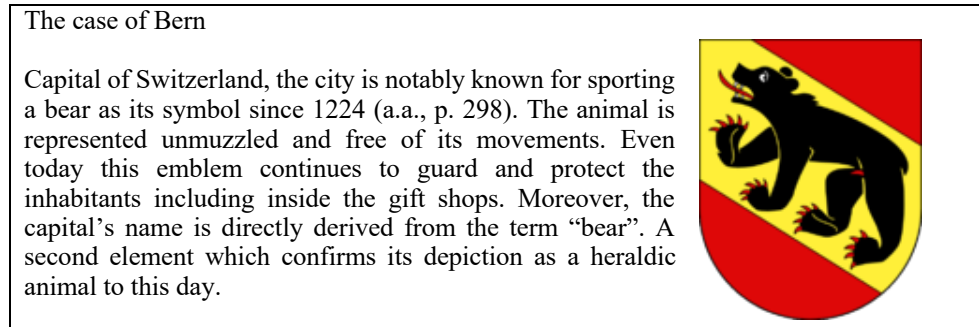
To begin with some civilizations attempted many times to become the animal. Their objective was to metamorphose into one or acquire a few of its characteristics in order to harness its

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<sup>4</sup> Nowadays, the Chauvet Cave is a well-established touristic area acknowledged as one of the world heritage sites by UNESCO since 2014. The showcased drawings include wild cats, mammoths, woolly rhinos and bears. This information can be found on their official webpage in English ([www.en.cavernedupontdarc.fr/discover-the-pont-darc-cavern/the-pont-d-arc-cavern-site/](http://www.en.cavernedupontdarc.fr/discover-the-pont-darc-cavern/the-pont-d-arc-cavern-site/))

formidable abilities. Warriors from ancient German and Scandinavian societies during antiquity were especially attracted to this view (a.a., p. 68). And the methods to achieve this life purpose differed in intensity. One approach consisted of discretely wearing objects which symbolized the brown bear in some way: weapons, armors, blazons and even talismans made of specific body parts. Another tactic saw individuals choosing anames derived from him. Such appellations included Ber, Bernard, Bero, Bera, Björn and Beorn (a.a., p. 70). Ironically, calling on the animal's real name had to be a cautiously thought action to avoid any unfortunate repercussions, thus making the use of nicknames a constant necessity (a.a., p. 74).

*Figure 1. The emblem of Bern*



But other types of practice revealed to be more demonstrative in their attempts at being respectful. Hence future warriors in ancient German civilizations ought to fight a bear with only a dagger to deserve their status (a.a., p. 59). This initiatory rite enabled youngsters to prove their worth to the rest of the group and become strong by defeating the all-powerful beast. Even with the high risk of death, this was considered an honor as bears were their totemic animal. Similarly, old Scandinavian culture promoted the disguise as a way to gain the bear's capacities (a.a., p. 66). From what historians could interpret, it entailed wearing bearskin like a battle uniform. This led to the emergence of the legendary berserkers, soldiers of the Nordic god Odin, invincible and fearless (a.a., p. 67). Their dedication went as far as imitating the mammal through various ceremonies and drugs to scare enemies.

Myths and legends were also an appropriate tool to venerate bears by immortalizing them in writing or orally. This expanded their description beyond pure strength and bravery. For example, ancient Greeks chose to represent them as caring mothers for females and passionate lovers for males (a.a., p. 45). The story of Paris captures perfectly those two portrayals. Abandoned as a baby in the wild by his father Priam, ruler of Troy, a female bear rescued and took care of him until the arrival of shepherds (a.a., p. 49). In the second part of the narrative, the now young adult proceeded to steal queen Helen from her husband, which caused afterwards the famous fall of Troy. In Pastoureau's opinion, this precise action from Paris can be interpreted subtly as the manifestation of his bear-side due to his interaction with one during his childhood (a.a., p. 50). Another interesting instance is the Celtic civilization who considered brown bears to be the manifestation of sovereignty and kingship (a.a., p. 75). Among their legends, one of their most well-known is King Arthur and the Knights of the Round Table. Throughout the story, parallels can be observed between the king and bears. If some of them are easier to notice, like the derived name of the character, others prove subtler by linking story events with time periods affiliated to the species: extraction of the sword from the stone in February when hibernation comes to an end and the king's supposed death the 11<sup>th</sup> of November when hibernation begins (a.a., p. 80). Therefore, one could deduce that these cultural appropriations of the bear contributed to the elaboration of a sense of ownership towards the animal from ancient civilizations.

### 3.3 A chased and belittled monster

Unfortunately for all the traits it was esteemed for, bears also experienced apprehension and hatred. From the Middle Ages onward, Christianity had reached supremacy in Europe and wished to dispose of all other cultures whose values differed too much from theirs. As such bears became a primary target. For the Christian church brown bears notably embodied savagery, brute force, pagan cults, Satan and sexual depravation (a.a., p. 123). But these criticisms were nothing compared to the ancient popular belief that bears and humans were relatives. Indeed, this directly contradicted the vision of a unique human species made in the image of God while other animals remained imperfect creatures (a.a., p. 87). This comparison was given even more importance by the attribution of human behaviors to the mammal: standing up, sitting and laying down, walking on two feet, dancing, jumping and climbing (a.a., p. 90). Nowadays, it is acknowledged that bears are capable of feats such as using tools or descend a ladder the same way as people do (a.a., p. 91). All of this ended up convincing clerical authorities to take action. For almost a millennium, the Church applied an elaborated plan to remove the bear from its pedestal and replace it with a more exotic and, thus, controllable candidate: the lion (a.a., p. 123). However, the fight lasted as cults surrounding bears were quite rooted across Europe. Eventually, several approaches had to be taken.

To begin with, hunts were encouraged and multiplied in order to eliminate bears. Some ended up being so spectacular that their duration continued over the course of several years. As a result, the animal's population declined drastically on the territory, forcing the survivors to retreat in more remoted areas such as mountains or hills (a.a., p. 125). But getting rid of the bear physically was not going to be sufficient as its presence remained strong culturally. In that regard less-direct methods had to be found. The famous phrase "Ursus est diabolus" from St Augustine served as the trigger component for one of them: demonization (a.a., p. 153). By connecting him to Satan, enemy of God, the Church hoped to discredit both the animal and its followers. This tactic implied correlating the dark shade of its fur to devilish means and associating each presumed quality to one deadly sin: lust, wrath, gluttony, sloth and envy (a.a., p. 244). From the whole diabolical bestiary, the bear was the only one accused of five of the seven sins. Next is humiliation, starting with the writing of degrading literature. Their main function was to shatter the mammal's image by making him meekly submit to characters of religious faith. One such written stories transcribed the triumph of St Valier, bishop of Saint-Lizier in the Pyrenees during the 4<sup>th</sup> century AD, who managed to force a bear to work for him after it killed his donkey the night before (a.a., p. 137).

Figure 2. Illustration of Roman de Renart

<p>The Roman de Renart</p>
<p>Published between 1175 and 1250, this compilation of literary texts showcases a multitude of anthropomorphic animals whose adventures have traversed the ages and remain read to this day (a.a., p. 212). Protagonists include, inter alia, a fox, a wolf, a cat, a rooster, a lion and a bear. In almost each entry, the bear Brun is presented as stupid, naive, gourmet, stubborn, heavy and clumsy (a.a., p. 221). Therefore, the character is often ridiculed and punished for actions he should not be held accountable for. Because of the collection's influence, bears progressively became a negative archetype in Europe (a.a., p. 225).</p>



Moreover, bears were also showcased on stage where they performed alongside their tamers and other performers after the 12<sup>th</sup> century. Usually reluctant in regard to animal spectacles, clerical authorities made an exception in order to demystify the animal further (a.a., p. 228). By witnessing rare wild animals performing a show, spectators began to build a new image

of wildlife: one submissive, inferior and eager to entertain them (Milstein, T., 2015, p. 7). To accentuate this pathetic portrayal, bears got often muzzled, chained and even sometimes blinded. Finally, the last strategy of the Christian church consisted of substituting the annual celebrations which glorified bears with ones affiliated to famous saints (Pastoureau, M., 2007, p. 143). If possible, the chosen religious figure would also be reputed for having tamed a bear during his life. To give an example, Saint Martin, whose name is another derivation from 'bear', had his day celebrated on November 11<sup>th</sup> to replace festivities surrounding the beginning of winter and hibernation (a.a., p. 144). At the end of the Middle Age, brown bears were completely dethroned from their old status and lived in the shadows of hidden environments.

### 3.4 An unexpected return

Although its physical presence had seriously diminished, bears did not completely disappear from European culture. In effect, the species found salvation within fiction (a.a., p. 246). Ironically, this immortalization was partly made possible by the stories originally written to mock and demonize the mammal. The initial legacy might have fallen, but people kept thinking about him.

Nevertheless, it took until the 20<sup>th</sup> century for a renewed interest regarding bears to arise. Part of this change can be explained through three events, all of which were interrelated: the huge scientific discoveries of the 19<sup>th</sup> and 20<sup>th</sup> centuries regarding animals, the growing awareness of environmental degradation and the humanization of bears. Firstly, scientists of the 19<sup>th</sup> and 20<sup>th</sup> centuries like Darwin demonstrated that animals were not different to humans in kind but only in degree. This initiated a shift in human behaviors from anthropocentrism to zoocentrism, breeding empathy for animal fates (Franklin A., White R., 2001, p. 223). Secondly, the distance between animals and humans kept decreasing upon finding that nature was suffering. Indeed, certain animal populations were declining rapidly, including bears (Pastoureau, M., 2007, p. 310). Lastly, this time period saw the development of animal-shaped plushies. Even though rag dolls and other kind of puppets existed before, these new toys revolutionized children entertainment with their animalistic appearance. And the pioneer turned out to be the stuffed bear. If the story of how 'Teddy bear' was produced in 1902 in the United States as a result of the ancient president Theodore Roosevelt sparing a cub during a hunt is well established (a.a., p. 326), the European equivalent is not recalled as much. In 1901, a woman named Margarete Steiff from Germany created a stuffed bear that rapidly gained popularity to the point of being exported in the United States (a.a., p. 328). Nowadays, someone has yet to confirm who was the original inventor. Part of the success of the teddy bear has to be attributed to the imagined anthropomorphic appearance. Without removing the natural design of the animal, designers gave him several human characteristics such as arms and legs, accessories and straight stature. Combining these with its melancholic face truly made the general public perceive bears not only as living beings, but as humans (a.a., p. 329). Later the animal continued to bring charismatic incarnations for kids and adults that would reinforce this empathetic perception. They could be found on medias like children books or movies. Such ambassadors include Baloo from the Jungle Book, Winnie the Pooh, Prosper, Michka and Paddington (a.a., p. 330). Each of them contributed to bring the two species together in a manner that no one expected.

In the end one could argue that the return of bears to public consciousness came from both a pessimistic and misanthropic feeling that followed modernization. Humans and animals alike were perceived as falling victims of a globalized world, economy and industry. Yet this resurgence also allowed a more optimistic outlook, emerging from the attribution of rights to non-human entities thanks to a bunch of charismatic representatives, sometimes fictional like Baloo from Disney (Franklin A., White R., 2001, p. 223).



## 4 Current situation of the bear in the Pyrenees

After describing the biology of the animal and unravelling the complex historical background of the bear-human relationship, the next logical step is to focus on the current conservation state of bears in the French Pyrenees. In order to continue introducing the topic of the thesis further, this section will briefly present the circumstances in which the species reached the point of near extinction in France, how the reintroduction programme was created and what the current status of the mammal is.

### 4.1 A non-stopping regression

It has been established earlier that brown bears were constantly hunted down across Europe during the Middle Ages, reducing their number and progressively forcing them to retreat into more mountainous regions (Pastoureau, M., 2007). But despite those violent disruptions, the geographical distribution of the animal in France remained homogenous until the 17<sup>th</sup> century. At that time bears could be found not only in the Pyrenees, but also in the Vosges, Massif Central, the Jura Mountains and the Alps (Benhammou, F., 2007, p. 16). Nevertheless, the species would recommence to lose ground in the next several hundred years: disappearance from the Vosges and Massif Central in the 18<sup>th</sup> century, from the Jura Mountains in the 19<sup>th</sup> century and from the Alps in 1937.

Being literally the last refuge for brown bears, the Pyrenees are interestingly characterized by a cultural omnipresence of the animal both on the french and Spanish sides. This is notably proven by the existence of local legends like ‘Jean of the Bear’ (Benhammou, F., 2007), the naming of specific locations including the Béarn territory and Artzmendi (‘The Bear Mountain’), and the carnival period. The latter would usually take place at the beginning of February to symbolize the upcoming end of winter and to promote the bear as the star of the show through disguised spectacles (Pastoureau, M., 2007, p. 319). It is worth specifying that the celebration continues to be practiced today with slight alterations between each village.

### 4.2 A project difficult to concretize

If protective measures were merely implemented in the second half of the 20<sup>th</sup> century, warning signs concerning the precarious status of brown bears had already been raised earlier in the century. In effect, causes for the bear’s decline had been identified since 1937 (Raffin, 1992). The principal causes included hunting disturbance, poaching and habitat reduction (deforestation, mechanization and infrastructure construction). In 1962 a decree was adopted by the agricultural ministry prohibiting bear hunting, though it did not stop society’s portrayal of the bear as an animal pest. At that time solely 50-70 specimen persisted in France. Finally, the law of 10 July 1976 on nature protection enabled brown bears to join the list of protected species (Benhammou, F., 2007, p. 36).

This transition from ‘pest’ to ‘protected’ was certainly linked to the 1970s and growing ecological consciousness. According to many socio-biologists, the decade represents the period in which human society, through observations of air pollution and toxic waste disposals among several things, became acutely aware of its impact on nature and began to show more empathy towards it through campaigns, environmental justice protests and engagement in environmental non-governmental organizations (Franklin A., White R., 2001). Unfortunately, the bear population did not begin to recover with this realization and continued its regression, bottoming first at 15 individuals in 1980 and then less than 5-6 in

1990. These final numbers, coupled with the mediatic impact of the killing of one female and her cub by hunters in the Ossau Valley (Béarn) in 1982, were the last needed signs before initiating the first reintroduction plan. Interestingly enough, the project received support from several municipalities like Melles (Haute-Garonne). The majority of those communities, some of which with rural background, had seen their population and economic development decline in the last few decades. From their perspective, bear reintroduction embodied the opportunity to preserve and promote their Pyrenean natural heritage, thus stimulating the economy, population growth and tourism (Benhammou, F., 2007, p. 58). To ensure the success of the future reintroductions, a study determined that specimen should be retrieved from Slovenia. Indeed, the local population was deemed sufficiently close to Pyrenean bears in terms of genetics, ecological conditions of environmental area and behaviours in spite of having a slight larger meat consumption (a.a., p. 61). Other options for bear implantation comprised countries like Sweden and Bulgaria.

Between May-June 1996, two females were released in the Central Pyrenees (Ziva and Melba), closely followed by the male Pyros in 1997. Their integration was a success and the population slowly started to rebuild. However, new obstacles soon arose in the form of complaints from local populations. Several cases of attacks on livestock were reported despite the implementation of protective measures to facilitate the safety of herds when pasturing. As a result, other planned reintroductions had to be postponed in order to avoid an escalation of the conflict. In 2004, the female Cannelle was lethally shot by a hunter while defending her cub Cannellito, who managed to survive to this day. On one hand, the event was perceived as particularly tragic in the country because Cannelle was the last fully “Pyrenean” bear. On the other hand, her death favored the arrival of four females (Palouma, Franska, Hvala, Sarousse) and one male (Balou) in 2006.

### 4.3 What is the situation now?

Nowadays, brown bears have become an emblematic symbol of wildlife conservation in France. In 2017, the population was estimated around 43 bears divided into two areas of the Pyrenees: 41 in the Central Pyrenees and 2 in Béarn within the Western Pyrenees (Pays de l’ours – Adet, association). Nonetheless this data does not take into account the recent release of two females in Béarn last October, which puts the total population to 45. Moreover, brown bears are known for travelling long distances, meaning the previously announced geographical repartition could be no longer relevant at the moment. Unlike large carnivore conservation contexts in other parts of the world, numbers are not as much in dispute in the Pyrenees as all animals are tracked and named. In their study on wolves in Finland, Hiedanpää, Pellikka and Ojalampi (2017) demonstrate how the management of the predator is denied and contested by part of the civil society through actions to discredit the wolf, scientific evidences and management strategies. Annually, the animal costs around 1,6 million euros to manage.

Regarding the programme itself, the government has elaborated a new plan in 2018 for the next ten years to pursue reintroductions and improve prospects for human-bear cohabitation. To summarize the situation, actors against the presence of bears usually gather: local elected officials, hunters, breeders, shepherds, agricultural and forest sectors. On the opposite side, actors in favour of the mammal commonly regroup: environmentalists (Pyrenean naturalists, local and national associations) and environmental ministry, bear specialists (Benhammou, F., 2007, p. 41). It is essential to keep in mind that opinions have evolved during the course of the debate and some stakeholders have switched from one side to the other. To give an example, communities in Central Pyrenees were initially in favour of the release project during the 1990s unlike the ones in Béarn. Nowadays the trends have reversed and people in

Béarn are mostly encouraging the programme while inhabitants in Central Pyrenees are struggling to balance their bear population with pastoralism. This evolution could be specific to the Pyrenees as other cases of human-wildlife conflict worldwide usually showcase positions and attitudes which harden over the years. Hansen and von Essen (2015) explain this absence of change by the existence of barriers such as strong sense of accountability or overemphasis on decision as final outcome. Their observations were conducted through the study of wolf conservation in Sweden. Although protective measures such as night pens and guard dogs have been introduced and breeders receive compensations for their losses, more efforts are required to create a sustainable cohabitation between the two activities.

## 5 Theoretical framework

In order to understand people's perceptions regarding brown bears in the Pyrenees and identify how they got constructed, as well as the motives involved, this study follows a perception-based approach with psychological ownership as a methodological and theoretical framework for the analysis. The concept and the conceptual framework behind it will be introduced in this section.

### 5.1 Psychological ownership

To begin with, it is essential to clarify something about human-wildlife interactions. There are several types of relations one can have with animals: kinship, affective, personal, familial, labor-based and more. In the case of domestic animals and animals in the agricultural industry, relations are more easily traced to duties and ownership. The situation is less straightforward for wildlife. But even here there are relations, not just of sovereignty and non-interference (Donaldson, S. & Kymlicka, W., 2011), but of historical interdependencies and present emotional connections. Such relations where people have impacted or are impacted by lives of animals are referred to as causal relations (Palmer, C., 2010). When individuals link with another entity, they will react to the experience in various ways depending on the contextual situation and the connection as a whole. Future actions and decisions which follow are driven by how the subject is considered ethically by the person (Pollard, C., 2015). But because of their multidimensional and unstable nature, interlocutors are likely to witness the distance separating them increase or decrease. Similarly, perceptions get impacted by distance-making mechanisms that change according to various factors like economical context, cultural heritage or personal experiences. And among those mechanisms figures the sense of ownership.

The concept of psychological ownership describes “a state in which individuals perceive an object, entity or idea, as though it were their own” (Matilainen, A. & Pohja-Mykrä, M. & Lähdesmäki, M. & Kurki, S., 2017, p. 32). Although the term is considered to fit into a legal regime, it is actually a mix of legal and psychological aspects. Thus, it is more accurate to consider the term as a dual creation: part attitude/mind and part object/real. As a result, psychological ownership needs to be distinguished from objective ownership. The first entails an individual with a feeling of ownership who assumes the rights that come with it, whereas the second involves rights that are recognized by society and protected by the legal system (ibid.). For an individual, this sense of possession reflects his thoughts and motivations regarding his target of ownership. Additionally, it is worth mentioning that the concept can manifest in collective forms as well. Moreover, psychological ownership is neither pictured as positive or negative. On one hand people are inspired to act voluntarily for the well-being of the subject (a.a., p. 33). On the other hand, any impression of violated sense of ownership could induce negative consequences.

Psychological ownership has been applied to numerous fields including consumer behavior, hospitality, entrepreneurship, health studies, and of course natural resource contexts with the goal to better understand conflicts and how ownership influenced them. According to Bennett (2001), conflictual situations over natural resources usually arose “when the interests of two or more parties with regard to some aspect of biodiversity are in competition, and when at least one of the parties is perceived as asserting its interests at the expense of one or more of the others” (cited in Matilainen, A. & Pohja-Mykrä, M. & Lähdesmäki, M. & Kurki, S., 2017, p. 31). In the Pyrenees a multitude of actors are affected by the presence of bears in some ways, thus impacting their sense of ownership. Maybe breeders, shepherds and hunters interpret this return as a threat to their control of certain areas in the territory while nature-

lovers feel that it is their duty to defend the animal as it is part of the Pyrenean ecosystem they appreciate so much. Analyzing the way they situate themselves and brown bears in the Pyrenees would then shed some light on their perceptions.

## 5.2 A conceptual framework

As a concept, psychological ownership suggests a method to examine people's perceptions based on how they affect or are affected by the social object. It provides a chance to understand conflicts that are connected to these opinions as ownership feelings are suggested to play a significant role in nature preservation (Matilainen, A. & Pohja-Mykrä, M. & Lähdesmäki, M. & Kurki, S., 2017). What stands for social object is "any material or symbolic entity, which has certain characteristics ascribed and reproduced in communication praxis by people" (Wagner, W., 1998). Brown bears do embody the role of subject here as they cause people's sense of possession to shift with their presence.

According to Pierce (2001), there are three routes through which an individual could come to experience psychological ownership: controlling the target of ownership, acquiring intimate knowledge of that target, investing oneself in the target. The first of these routes, being in control, implies that a social object will be more perceived as part of the self if the individual exercises some control over it (Pierce, J. L. & Kostova, T. & Dirks, K. T., 2003). For example, shepherds may feel resentment towards bears each time they are attacking the sheep under their care. The second, accumulating knowledge on the subject, intensify the relationship between the individual and the object, strengthening the impression of ownership in the meantime. In the case of bears, people who spent time observing and learning from them would surely be stressed if something had happened to them. Finally, investing oneself enables someone to feel their identity being poured in the target, thus triggering psychological ownership (ibid.). Having lived and participated in the development of the Pyrenees, inhabitants could either perceive the growth of bear population as a threat or a benefit to their territory.

Despite complementing each other and increasing the sense of ownership if experienced simultaneously, the three routes can independently initiate feelings of possession (Matilainen, A. & Pohja-Mykrä, M. & Lähdesmäki, M. & Kurki, S., 2017, p. 33). Consequently, applying them in the analysis could possibly reveal more information on the perceptions of Pyrenean folks. In effect, some of them could have taken one route, whereas the rest combined two or three in their reflection. Furthermore, brown bears appear to be the spark that ignited a fire most of the time, but not always symbolize the target of ownership.

To help identify those distancing factors in the bear-human relationship, two additional concepts will be used for analysis as their application seem relevant to explain the evolution of perceptions: identification practice and social representation. Identification practice can be defined as discerning elements of your surroundings through the symbolic action of pointing and naming. For Milstein, nature identification mediates human-nature alignments (2011, p. 3). By detecting how bears are pinpointed, more information on people's perception will be delivered. Finally, Wagner (1999) explains that social representation is a communicative phenomenon that allow a group to understand, relate to and communicate about a social object (cited in Theodora Theodorakea, I. & von Essen, E., 2016, p. 31). Thus, Pyrenean inhabitants are likely to have communicated a certain image of brown bears based on the rich background behind their presence on the territory.

## 6 Methodology

This section outlines the research design of the study. It comprises presentation of the methodology behind the data collection, how the data collection was organized, which analytical approach was used afterwards and a discussion about my methodological choices in relation to the research aims.

### 6.1 Methodological approach

Before implementing any strategy for collecting data, one important step for a researcher to go through is to identify his interests regarding the study he is conducting. In effect, research has numerous functions, from developing new theories to understand the world to providing a better understanding of certain phenomena, and researchers require a strategy that suits their interests (Frost, N., 2011). Furthermore, Creswell insists on the importance of being aware of your worldview, or “a basic set of beliefs that guide action”, when conducting a study (2014, p. 5). This is an important step toward being reflexive about one’s epistemology and underlying assumptions going into a research field.

In my case I intend to clarify the drivers and other constituents of the present conflict in the Pyrenees concerning the reintroduction of brown bears. To understand why individuals are, or are not, defending the animal and what lies beneath these different perceptions. Since the releases of bears from Slovenia in 1996, the conflict has continued to grow in size and complexity, each opposite side periodically gaining the upper hand. As a consequence, it has become difficult to develop a clear picture of the current situation and many people get involved instinctively or reactively without potentially questioning themselves as to the basis for disagreements with the opposite side, or indeed the presence of shared perceptions that get lost in the conflict. For this reason, I believe that attempting to explain the debate, in terms of emotional engagement and character motivations, would enable people to revise their previous understanding and maybe contribute to its resolution. On a more personal level, I wanted to document myself on this topic which I barely knew anything about despite its wide media coverage.

Because my aim involved investigating individuals’ multiple perceptions towards bears, I came to realize that conducting a series of in-depth interviews would be essential. Contrary to other methods such as surveys, interacting directly with respondents would allow me to better contextualize the identified perceptions, and participants to explain in detail their thoughts and critically reflect on them and others. Thus, I chose to design my study by employing a qualitative approach. Creswell defines it as “exploring and understanding the meaning individuals or groups ascribe to a social or human problem” (2014, p. 32). The approach is particularly useful when trying to make sense of a reality that is presented to people (Frost, N., 2011). The pluralistic nature of qualitative approach allows researchers to combine several methods within one study and to cover as many bases as possible. Therefore, a qualitative approach provides flexibility during data collection and data analysis, thus allowing reflections to evolve as the study advances. By selecting qualitative over quantitative, I aimed to gain an in-depth understanding of how people experience the social phenomenon known here as the presence of brown bears in the Pyrenees.

## 6.2 Data collection

### 6.2.1 Interviews

During my research study, I made the decision to conduct semi-structured interviews to gather the needed data. The goal was to interact with individuals who were willing to share their experience and express their opinions regarding the presence of brown bears in the Pyrenees. Their input would then serve to analyse how bears are perceived across multiple stakeholders and how does that affect the emotional distance between the bear and people. In the end, 10 semi-structured individual interviews were conducted between September to October 2018 through phone calls and Skype. The shortest lasted 30 minutes while the longest went over 60. The average time was around 40-50 minutes.

To ensure that the conversation would cover the requested information, I elaborated an interview guide to select my questions and avoid any potential side-tracking. Nonetheless, qualitative research recommends preserving the unstructured aspect of conversational interviews (Frost, N., 2011). This implies putting open-ended questions to give the interviewee an opportunity to talk freely and elaborate his/her answer. Moreover, foreseeing follow-up questions during the interview can help to maintain the exchange spontaneous and pleasant as well as to obtain more precise answers to specific questions. For all these reasons, I included three parts in my interview guide: questions about the interviewee and their connection with the Pyrenees to break the ice and learn more about their background, questions about their perception towards bears to situate their position and questions about their opinion towards the reintroduction programme and the debate to go further in their motives. It is important to keep in mind that this only constituted a guideline as I was prepared to adjust the conversation according to the participant.

### 6.2.2 Respondents and area

According to Frost, using a pluralistic approach may necessitate to interview participants from different groups who remain connected to your topic (2011). Similarly, I believe that the study of conflicts also needs to question different individuals since such situations can involve multiple parties. The participants I recruited for my 10 interviews included breeders, shepherds, a hunter representative, environmental association representatives, a researcher, a representative from the Office National de la Chasse et Faune Sauvage (ONCFS) and a worker from the touristic sector. As I intended to better understand the bear conflict in the French Pyrenees, the interviewees had to be either familiar with the situation and/or live in this region. In the end, solely one participant lived in a different part of France whereas the rest had their habitations somewhere in the Pyrenees. It is interesting to point out that two of them came to the territory to work temporarily and were likely to leave after their contract expired.

Because of its tremendous size and the fact that each interviewee was located in a different area, organizing a trip in the Pyrenees to gather data turned out to be almost impossible. Other difficulties involved pastoral work, which kept breeders and shepherds busy during this period of the year, and the last bear release of October 2018, which made environmental organizations hard to reach. For these reasons, and despite my desire to visit the territory and meet its inhabitants, I opted for distance interviews instead.

The recruitment process occurred in two ways. For starters, I searched online for organizations and individuals who filled my criteria. Next, as part of a snowball sampling approach, I asked for recommendations to the ones I contacted, regardless of their interest to take part in the initiative or not. Some of the candidates I found happened to be good friends with the previous individual I spoke to. On one hand, this facilitated the search for new respondents. But on the other hand, it also affected the diversity of participants as people

usually recommended acquaintances with similar opinions or background. To initiate contact I usually called the person or structure directly. Otherwise I could also send an email. Once the contact had been established, I briefly presented the topic of my thesis and why I thought their testimony would be useful. My priority was to provide all the necessary information they needed in order to make a decision: purpose of my study, sections of the interviews, protection of their identity, how their testimony would be used and possibility to withdraw at any time. Each time slot had to be agreed upon according to the convenience of the participant. The interviews were conducted over the phone or Skype. With their authorization, conversations could be recorded to facilitate the transcription.

### 6.3 Analysing the data

Once all 10 interviews were conducted and recorded, I began transcribing. Because the intervals between two meetings could be long, depending on the respondent's availability, I transcribed one interview as soon as it ended to avoid any time waste. The interviews were thus fully transcribed and solely irrelevant parts, including anecdotes and information unrelated to the questions, were put aside. To analyse them, I opted for a thematic analysis which is reputed for being a foundational method in the analysis of qualitative data (Braun, V., & Clarke, V., 2006). Applying this method provides important skills that will help in other forms of qualitative analysis. Braun and Clarke define the approach as 'a method for identifying, analysing and reporting patterns (themes) within data' (2006, p. 79). A theme should capture something important about the data that is related to the research question (a.a., p. 82). One interesting aspect of this method is that despite being flexible and widely used in research, there is no real agreement on how it should be applied or what it is. Consequently, I used the six steps suggested by Braun and Clarke (2006) to operate the approach successfully:

- Step 1: Familiarization with the data
- Step 2: Coding the text
- Step 3: Identify possible themes
- Step 4: Review and define subthemes
- Step 5: Define and name themes
- Step 6: Review the results and write a summary

Each transcript was read twice to truly familiarize myself with what was said during the interview. Then I codified the conversations in two phases: a first time based on the semantic meaning of the data and a second more interpretative and closely linked to my theoretical interest in the area (Braun, V., & Clarke, V., 2006, p. 83-84). This strategy enabled me to see the transcripts through two different angles, thus strengthening the analysis. After finishing the coding, I went through each interview again to find similarities in the keywords and identify potential themes. Then I classified all keywords and interesting quotes between two categories: (1) positive perceptions, (2) negative perceptions. In the end, I managed to find themes that summarized the respondents' personal experience and overall opinions regarding others concerning brown bears and the way they are perceived by people in the Pyrenees.

The themes are:

- positive perceptions – fascinating wonder, environmental icon, native heritage, anthropomorphized being;
- negative perceptions – stone-cold killer, environmentalists and politicians' pet, illegal outsider and parasitic presence.



## 6.4 Discussion of my methodology

Within qualitative research, one challenge the researcher faces is not being the central voice in his study. Henceforth, his/her engagement and interaction towards his research, people, places and circumstances must be considered. In order to do so, Frost introduces reflexivity as “the practice of situating oneself in the research context and analysing the implications of one’s subjectivity both in the context of and in relation to the research being carried out” (2011, p. 123). It implicates the good application of research ethics, which is the “ethical standards for the researcher and the aim and implementation of the research” (Vetenskapsrådet, 2017, p. 16). One of the conditions for the researcher to ensure its good application is to question whether or not the participants who take part in the study are treated correctly.

Therefore, I had to consider and act upon participants’ needs and comfort continuously during the recruitment and interview periods. It involved making sure they understood all the aspects of the study, planning each encounter according to their schedule to minimize the disturbance and facilitating the conversation in a spontaneous, yet structured way. Because of that, distance interview revealed itself useful as it allowed more flexibility for both the interviewee and I. Furthermore, I ought to ponder on the eventuality of some people’s reluctance, since the subject could constitute a sensitive topic especially with the two recent reintroductions of October 2018. Finally, I managed to remain relatively neutral, in the sense of not offering opinions about brown bear reintroduction, when interacting with interviewees, despite their genuine attitudes and comprehensive arguments. Sometimes it was difficult to not get engaged with them in their passion.

Another aspect of my method that needed to be taken into account was the fact that I limited my study to the Pyrenean area and its population. Despite not representing the whole french population, I believed their reflections would be more relevant since they are the most affected and invested within the conflict. My selection was mostly based on their level of involvement and knowledge. One final aspect from my study to consider was the language. Indeed the 10 interviews I conducted were in french as it made the communication with respondents much easier. As a consequence, all the quotes included in the analysis had to be translated without removing the initial meaning.

## 7 Results

My findings and analysis are presented in this section. One thing worth mentioning is that part of the questions from the interview guide actively encouraged respondents to put themselves in perspectives sometimes different from theirs as part of a strategy to observe their reactions and listen to their understanding and interpretations of those other perspectives. As such, it is possible that participants have contributed to the identification of positive and negative perceptions of the bear simultaneously. The chapter begins with presentations of the perceptions broadly regarded as positive, and which in some way bring the individual closer to bears. Negative perceptions that maintain or impart the distance in the human-bear relationship will be described next.

### 7.1 Positive perceptions: an attraction towards bears

For the individuals who experience a strong connection with the animal, I wanted to get a clear picture of what motivated them. After analysing all the interviews, I codified four sub-themes that explain this fondness: (1) fascinating wonder, (2) environmental icon, (3) native heritage and (4) anthropomorphized being.

#### 7.1.1 *The bear as fascinating wonder*

One point which all participants appeared to agree upon is that bears are captivating creatures. Hence one interviewee recalled having once a discussion with a breeder who had recently suffered a bear attack on his livestock and said: *“I have seen the bear before and he was magnificent”* (Participant 1). For them this fascination originates from its physical appearance, which come across as imposing, strange, unique, and yet somehow majestic. As a result, it felt natural for one respondent to seek knowledge on the animal: *“You recognize a bear when you see one. Nothing resembles the animal, it’s huge and sort of the king of animals in our area...I really want to see, study and take pictures of him”* (Participant 3). Another reason for wanting to observe bears was attributed to the species discretion and rarity, especially in the Pyrenees. Another participant declared: *“Bears are beautiful...but they’re unfortunately becoming a rare wonder”* (Participant 9).

As a result, respondents who regularly wander in the wild to observe bears emphasized the necessity of being respectful, patient and resilient. Discoveries could range from finding mere tracks to spotting a real specimen. But in either cases, the simple fact of having found some artefact of the bear usually constituted a reward: *“I’ve never encountered a bear but, on the field, I did find fur, droppings, footprints and retrieved pictures from disposed cameras...those are defining moments”* (Participant 1). In effect, such occasions gave participants the impression of getting to know the bear a little better, of slowly unravelling the mystery surrounding the species. In that regard, one of the interviewees talked about her desire to witness the behaviours of brown bears in multiple situations.

*“In Slovenia and Finland, I did some bear watching from hidden wooden houses as I wish to see the bear in every possible situation...I remember one time with a friend we saw a female with her three cubs approaching. That night I discovered that bears sounded just like cows when eating grass”* (Participant 7)

Although this participant did not approve completely of baiting the animal to specific areas with food, she admitted that the method enabled her to live rather unique experiences with bears compared to when she simply walked within natural areas. From her point of view, witnessing the bear acting in various settings increased both her understanding and admiration, thus encouraging her to continue observing the animal. Indirectly, although

taking place in Slovenia and Finland, it also comforted her desire to care for its well-being in the Pyrenees, where interactions remain quite limited.

### 7.1.2 *The bear as environmental icon*

When fighting for environmental issues, choosing a symbol can help people distinguish your cause from the multitude and galvanize public support. To give an example the international non-governmental organization WWF, which acts to preserve wilderness worldwide, has selected the giant panda to be their symbol. Nowadays, it constitutes one of the most recognizable environmental institutions of the world. Concerning brown bears, their image is used by the french environmental association Pays de l'ours – Adet as a logo to represent their engagement in its protection. According to a respondent, brown bears are perceived as an environmental symbol in France because of their precarious status: “In France, brown bears are an endangered species. Thus, it is logical to try to save it” (Participant 3). Another interviewee added that their reintroduction in the Pyrenees was motivated in part by the fact that the species benefit both from national and European protective laws: “*People must be aware of the Habitats Directive which confers bears a legal status that fully protect them. In other words, the reintroduction programme is justified by the fact that the animal is legally untouchable*” (Participant 6).

According to these two inputs, people are more likely to support the preservation of the mammal in the Pyrenees because of their vulnerable image as a species. Indeed, one of the participants confessed that her appreciation and fascination towards bears is a direct consequence from an old aspiration to defend the species at the environmental level: “It’s true that at the beginning I was only interested in the protection of the species. In fact, I had never seen a bear before when I began taking part in its protection. Now I believe I have seen approximately 200” (Participant 7).

A second reason for individuals to depict the bear as an environmental symbol is how its presence can positively impact a natural area. Indeed, having such a species prospering in the Pyrenees serves to demonstrate the overall healthy biodiversity of the territory for some people. According to other persons, the presence of the animal allows the whole ecosystem to benefit from protective measures, thus making it healthier in the long run. In that regard a respondent said: “*Some people argue that because bears are capable of living in our mountains, it means that nature remains healthy and biodiversity rich*” (Participant 8). Consequently, maintaining the population of brown bears viable would benefit the rest of the ecosystem as well. By promoting the protection of such an emblematic species, other vegetal and animal species that are far less mediated can sustain themselves, thus encouraging some individuals to assign brown bears the title of ‘umbrella species’.

*“I think bears are reintroduced both for cultural and ecological reasons. For the ecological reasons, they incarnate wild fauna and are perceived as an umbrella species. In other words, maintaining the presence of bears doesn’t only preserve the symbol but also the surrounding areas, animal species and vegetal species which are less likely to mobilize people”* (Participant 10)

### 7.1.3 *The bear as native heritage*

Before the release of two additional female bears in Béarn in October 2018, the government organized a national survey during the summer to interrogate the population on the operation. The final results showcased a favourable opinion of over 88%. Aside from environmental and biodiversity concerns, the main reason for a person to approve the action was symbolic heritage. One interviewee remarked: “*Bears are magnificent beasts that attract admiration and are often associated to the Pyrenees*” (Participant 4). Another one said: “*We’ve decided that brown bears are a major part of the Pyrenees, its culture and popular image...but to*

*ensure its stay, the territory must be preserved and reintroductions mandatory” (Participant 3).*

Part of this impression is linked to the fact that the species has been living in the territory for a really long time. Hence, it was an argument of cultural continuity. Even with its reduced presence nowadays, stories of the animal keeps dwelling in the minds of local inhabitants. To emphasize this point, a respondent declared: *“Personally I never had the chance to come across a bear. But we all know him here because he’s part of the Pyrenean history. So of course, we’ve all heard about the animal” (Participant 9).* In a sense, bears have been granted a form of identity that had permanently connected them to this part of France. Therefore, protecting the species is assimilated to maintaining the cultural heritage of the territory. For some individuals, the presence of bears is as important culturally as other emblematic aspects like pastoralism. In other words, getting rid of the bear would be similar to erasing a piece of what makes the Pyrenees special, both for inhabitants and tourists.

*“Through the protection of bears in the Pyrenees, you also promote a certain cultural heritage as shown by the numerous toponyms. In the Pyrenees many locations have names that are derivations of the ‘bear’ word” (Participant 10)*

On an individual level, two participants in particular have expressed how the return of brown bears is essential for the Pyrenees. The first one explained that after living 12 years in the area, she began to notice how differently she perceived natural landscapes based on the presence or absence of bears: *“A while ago I started to consider the mountains in Béarn dead, and it didn’t feel the same when I was going for a walk. But to know that two females have been reintroduced recently gives me the impression that they are alive once more” (Participant 7).* For her it was only psychological, but it comes to show that reinstating bears definitely give a sense of revitalization for the Pyrenean patrimony. The second interviewee described how proud he was for living in a territory with such distinguished agricultural practices and unique biodiversity. According to him, both are important and must be supported to transmit a complete legacy to new generations: *“My hope is to maintain both bears and shepherds for future generations. I want my children to be able to find bear trails like I did” (Participant 1).*

#### *7.1.4 The bear as anthropomorphized being*

Throughout my interactions with the respondents, I noticed that brown bears were sometimes more appreciated when made relatable. What I mean is that someone would have more reasons to express empathy towards the mammal when represented as close to a human being as possible. This observation is supported by the interviews in two ways. For starters, fictional representations. Bears, alongside numerous other animals, have been associated several times with more appealing characters, which often resonated with childhood and innocence. These characters usually share a few human traits such as the ability to speak, behave or walk. Such anthropomorphic processes allowed them to leave an impact on children, unconsciously influencing their development and becoming a part of their family. One interviewee made a reference to a cartoon from the 1980s called ‘Bouba the bear cub’ which promoted lessons such as friendship and respect for nature, and got its inspiration from the novel *‘Monarch, The Big Bear of Tallac’* of the author Ernest Thompson Seton. Later in the conversation, that same person also mentioned: *“Bears are beautiful. We have to acknowledge the fact that they look like plushies...plushies that you want to hug” (Participant 2).* For another respondent, the existence of fictional anthropomorphic entities could turn out to be frustrating as the emphasis could be put on the caricature at the expense of the animal. In his opinion, bears should be considered based on those living in the wild and some people tend to focus more on the friendlier human representations: *“When you encounter a bear, you must be careful. It’s not Winnie the Pooh” (Participant 5).*

The second observed form of representations used to make brown bears more relatable is individual identification. In the Pyrenees, all bears have names. Those attributions normally occur during the reintroduction of new specimens, or the birth of bear cubs, as a way to introduce them to french society. But more than that, it enables people to distinguish the individual from the whole population. Respondents notably mentioned Pyros, Néré, Papillon, Claverina, Sorita, Cannellito and Cannelle. Each specimen possesses its own traits, habits and reputation. For example, Pyros was reputed for being aggressive and territorial. From 1997 to 2016, this huge male dominated the Central Pyrenees population and was the main breeding male of the area.

*“Pyros was reintroduced in 1997. Because he was big and strong, he managed to keep all the females of the area to himself. The other males were either too weak or young and couldn't compete with him. So today he's the father of more than 90% of the total population”* (Participant 10)

As a result of giving bears 'honorary personalities', people manage to relate to bears and are affected if something happens to them. The case of Cannelle is probably the best example. Last female with the Pyrenean genes, she was shot in 2004 by a hunter and left her son Cannellito as an orphan. Fortunately, the bear cub survived and has now become a full-grown specimen. According to one interviewee, this sad story constituted the spark which motivated the government to launch more reintroductions in 2006: *“No one could have predicted the death of Cannelle in November. This event initiated a restorative programme to reintroduce five bears (four females and one male) in 2006”* (Participant 7).

## 7.2 Negative perceptions: an apprehension towards bears

For the individuals who experience trouble to connect with the animal, I wanted to understand how they came to this decision. After analysing all the interviews, I managed to identify four sub-themes that describe this suspicion: (1) stone-cold killer, (2) environmentalists and politicians' pet, (3) illegal outsider and (4) parasitic presence.

### 7.2.1 The bear as stone-cold killer

Brown bears are notably admired for being large and strong. However, those two characteristics also feed the portrayal of the animal as a dangerous creature. And this representation is well illustrated by the difficulties encountered by Pyrenean breeders and shepherds. In effect many have heard stories or witnessed bears attacking a herd. Although it can be surprising for some people that an omnivorous animal would hunt livestock, one respondent argued: *“Even though it isn't a 100% carnivorous species, a bear remains a predator. And as such, it will go for the most accessible source of food. For predators in the Pyrenees, domestic herds represent this source of food”* (Participant 5). This person, who works as a shepherd, revealed that out of 850 ewes assigned to him in 2018, 30 were killed directly by bears and more than 50 disappeared mysteriously. These attacks were made even more spectacular by the type of setting they took place in (night, foggy weather, uneven relief). Usually human guardians discover the corpses after the tragic event occurred. This unsettling setting is understandably upsetting as they lose livestock essential to their survival, and scary because they have to expect the eventuality of another attack sooner or later.

But the experience does not get less frightening when the attack occurs in front of you. Another respondent, who is a breeder, recalled the nightmare lived by two of his shepherds: *“To sum up the situation...two shepherds I employ saw in July at nine o'clock in the morning a bear attacking their herd in bright daylight. They were only 15 meters away and could not do anything...finally the guard dogs managed to scare him off, but the ewe was already dead...the shepherds were petrified even though they were both young, tall and tough. This*

*is an example of what we can endure” (Participant 6). People working in mountain pastures are thus exposing themselves to conditions not only risky for livestock, but also for them: when facing a bear, they have little options and are not allowed to carry a weapon. Because the amount of stress is deemed quite high, some farmers make the choice of not climbing the mountains at all.*

*“No, I’ve never wanted to go pasturing. I could have, like the other breeders in the area, but I couldn’t risk it. I cherish my ewes and seeing one getting devoured is out of the question...like I said, I don’t care for my herd just to feed bears” (Participant 2)*

### *7.2.2 The bear as environmentalists and politicians’ pet*

A surprising idea that was expressed many times in a couple of interviews is that individuals are not necessarily hostile against bears. In fact, they are more focused on how the species’ public image is used by other actors. One respondent said: *“It’s true that often when actors are not in favour of bears, they will denounce environmentalists or governmental representatives who protect the species” (Participant 10).*

Comparably to other predators like wolf or lynx, bears are what we call a ‘newsworthy animal’. In this regard, one interviewee declared: *“Bears have benefited from 30 to 40 years of positive communication built around its status of endangered species” (Participant 6).* From his perspective, the environmental symbolism of the mammal was purposefully showcased to promote the reintroduction programme as an environmental duty. Additionally, he believed that distracting public opinion on the protection of bears constituted a strategy from the government to put less efforts in other environmental issues like nuclear power plant or the disappearance of the bees. Furthermore, politicians could put emphasis in their investment to glorify their public image and secure their career. Similarly, environmental associations are sometimes accused of publishing altered data to favour the protection of bears regardless of their real impact. Another participant argued: *“I think that communication campaigns in France can be slightly misleading...structures defending the bear will emphasize a specific case on a mountain pasture where attacks are rare to claim that bear-human cohabitation is well managed. Many of the data presented on websites of environmental associations are a bunch of lies” (Participant 5).* As a result, brown bears are portrayed as simple tools, used by certain institutions to accomplish their selfish interests with no regard for possible consequences. For another respondent, this accusation can also be attributed to individuals.

*“Part of our fellow citizens have little to no problems in their life...generally speaking, we live in a society not always stimulating enough. Therefore, we select causes and pick up fights against others” (Participant 9)*

In his opinion, some individuals who seek to defend the reintroduction of bears in the Pyrenees are not truly interested in the environmental problem. They simply view themselves as superior and are motivated by their desire to impose their vision over others. Paradoxically, these seemingly good intentions would reverberate negatively on the perception of bears, thus threatening its safeguarding.

### *7.2.3 The bear as illegal outsider*

Another aspect of brown bears which seemed to be shared by all interviewees is the fact that the species has always been a part of the Pyrenees. A few sheep could be killed once in a while, or trails might be spotted, but it stayed discrete and kept its distances most of the time. The animal could be assimilated to an old neighbour who would manifest himself on rare

occasions but usually would stay out of trouble. However, the creation of reintroduction programmes to reinforce their number in the Pyrenees caused many local inhabitants to shift their opinion. To begin with, bears were brought in the Pyrenees through human intervention alone. Those circumstances are poorly received by breeders and shepherds as it feels like the decision was adopted without taking their livelihoods into consideration. Moreover, the process was deemed unnatural due to the simple fact that bears did not come back on their own. One participant explained: *“Bears were reintroduced while still surviving in the Pyrenees. And the fact that people are responsible for their return...it generates even more frustration from breeders. From their point of view, it isn't the same as having an animal reappearing naturally. Someone has decided to add bears without consulting them and they take it pretty badly”* (Participant 3). Consequently, every new introduction risks delegitimization from the Pyrenean population.

Moreover, those individuals tend to reject the newcomers because of their origins. Reintroduced bears are selected in other countries, like Slovenia, and are labelled as outsiders despite being genetically and biologically almost identical to their Pyrenean congeners. Yet, the conditions and contexts between the two countries being judged too disparate, people cannot help but separate Slovenian bears from the natives, even deeming them more dangerous and problematic for human activities. One interviewee noted: *“Concerning those who are reintegrated, they aren't afraid of people. Pyrenean bears were those who were scared of people. But the ones from Slovenia don't and can sneak closer to villages without feeling bothered whatsoever”* (Participant 2).

#### 7.2.4 The bear as parasitic presence

During our conversation, one respondent revealed: *“For me, living in the Pyrenees means living in a rural area where people often struggle to keep a maximum amount of services in schools, villages and elsewhere”* (Participant 8). Another one said: *“I enjoyed working here and logically decided to settle step by step. I bought some lands and it was done”* (Participant 6). The Pyrenees constitute a territory difficult to live in, but inhabitants appreciate it anyway. In spite of the challenges and sometimes harsh conditions, they managed to develop a certain lifestyle close to natural areas which fills them with contentment.

*“During the 1990s before the reintroduction programme, the goal was to keep developing animal husbandry in mountains to preserve the beautiful landscapes and encourage tourism. Locals could live comfortably and enable others to do the same. A family of breeders in a community means you also have children who go to school”* (Participant 6)

Nonetheless, the multiplication of bears in the area seemed to have shattered this fragile balance. The ambitious funding and programmes dedicated to the animal felt like a loss of control for many actors. One interviewee remarked: *“Certain actors like hunters are reticent to the reintroduction of bears because they believe their activities would get restricted”* (Participant 10). In addition, the animal benefits from a legal status which protects him against human interventions. All this combined created a sense of powerlessness every time an accident involving bears occurred. Actors whose income depends on the accessibility to mountain areas, like breeders, struggle to keep their activity profitable.

*“When you work with the living, nothing is 100% controllable. You keep wondering what tomorrow will bring, or here what your ewes will bring. One attack can completely affect the herd genetics”* (Participant 5)

Although bear attacks are well compensated in France and herds can benefit from protective measures to facilitate the cohabitation, actors still perceive brown bears as a disruption to their livelihoods. In fact, this feeling has evolved into real concern towards Pyrenean culture.

According to a respondent: *“If we keep reintroducing bears, there will be nobody left to care for the animals in the mountains. Those who keep doing it to this day advise others to simply stop”* (Participant 2). Thus, people living in the Pyrenees fear that a larger presence of bears would eventually destroy one of their cultural pillars. Furthermore, this concern could potentially transit to sectors like tourism. One of its representatives declared: *“I hear on the radio and on TV that tourists are attracted by the wild side of the Pyrenean mountains, like bears. But at work we also receive phone calls from individuals who are hesitant to go on hikes because they’re afraid of encountering bears. Honestly it’s becoming quite confusing”* (Participant 8).



## 8 Discussion

In this section I synthesise my findings from the study with theory. Applying the concepts of psychological ownership, identification and social representation within the analytical framework has enabled me to understand and explain the multiple opinions surrounding brown bears. My study's goal was to identify the perceptions of participants regarding bears in the Pyrenees and the reintroduction programme. Additionally, I wished to better understand how they arrived at their respective perceptions in terms of the formation of attitudes and whether or not their perspectives had evolved over the course of their lives.

### 8.1 Ownership experienced in various ways

Human perceptions towards brown bears in the Pyrenees are complex in nature and influence the way people position themselves in relation to the animal. Moreover, they themselves get influenced by numerous 'relation-mediating mechanisms' that impart or abrogate distances in the relation between bear and man one of them being psychological ownership. Indeed, my interactions with respondents revealed that stakeholders involved in the conflict were all potentially experiencing at least one of Pierce's three routes to ownership which could have adjusted their perspective in terms of values, priorities and interests : controlling the target of ownership, acquiring intimate knowledge of that target and investing oneself in the target (Pierce, J. L. & Kostova, T. & Dirks, K. T., 2001). Hence individuals who spend their time observing the bear in its natural environment and acquire more experiential knowledge as such are likely to feel a close connection with the animal, thus encouraging their involvement in its protection by assisting or founding specific associations designed to preserve the animal. As a result, they are simultaneously experiencing a sense of ownership towards bears through 'acquiring intimate knowledge' and 'investing themselves' in the target. Yet, similar observations can be witnessed on the opposite side of the spectrum. Breeders and shepherds would naturally grow attached to their herds after spending so much time caring for them. Therefore, seeing bears attacking and ewes dying must amount to having their sense of ownership violated – both economically and emotionally. In addition to this they, including hunters, are constantly participating in the development of their activity and their territory. From their perspective, the return of bears could appear as an obstacle to the Pyrenean identity they have contributed to shape over the years. As a result, the animal appears as a disturbing element that must be kept at bay. Both sides also seem to demonstrate a wish to 'control' the management of the territory. Either to pursue pastoralism and hunting as before, or to ensure the bear population's growth and well-being.

Through Ribot and Peluso's theory of Access (2003), Matilainen made the observation that ownership can be experienced differently than with feelings of connection or possession. Here, the term 'access' refers to the possibility to retrieve benefits from resources. From this theory, a sense of ownership can be perceived as someone wanting to "have control and/or maintenance over a resource, independent of their actual power over it, or even the means, processes and relations of gaining, controlling or maintaining access" (Matilainen, A. & Pohja-Mykrä, M. & Lähdesmäki, M. & Kurki, S., 2017, p. 34). For bear defenders, maintaining an 'access' to the animal bring benefits such as the pleasure of observing and retrieving knowledge from the animal or the cultural and ecological enrichment of the Pyrenees. Concerning bear opponents, however, benefits like maintaining their activities (pastoralism, hunting, hiking) will appear by restraining this accessibility to the bear, and by prioritizing the accessibility to the Pyrenean territory.

## 8.2 When animals get too close for comfort?

Another relation-mediating mechanism is the practice of identification, also known as the act of ‘pointing and naming’. According to Milstein, the practice enables the creation of ecocultural knowledge which reflects certain aspects of nature considered as unique, sorted or marked (2011, p. 4). While studying how the practice was applied within Western wildlife-based nature tourism with orcas, she found three main reasons for people to identify nature: to protect, to connect and to keep track (a.a., pp. 12-16). It seems that brown bears in the Pyrenees were assigned names in a similar purpose. Originally, the process of naming bears in the Pyrenees came from local legends that pretended men and bears were related. Because communities at the time believed that the animal could understand them, nicknames and names were given to avoid any direct mention (Pays de l’ours – Adet, association ). The practice has remained to this day and continues to be used with the current bear population.

When the species was categorized as endangered, it is safe to assume that the last remaining native specimens received names to facilitate their protection pragmatically. Specialists could recognize each individual and keep track of their travels. It also might have played a role in the opinion shift of the general public. But this aspect is much more visible after the launch of the reintroduction programme. Every time a female would give birth or a specimen from Slovenia released, new names would get presented to the french society. Ideas for names came from various references and emanate from multiple sources. To give a few examples Papillon was named after the movie ‘Papillon’ and its protagonist, Pyros is a mix of ‘Pyrenees’ and the Pyrenean community ‘Fos’, Néré got his name from the Spanish manager team and dark fur, and three cubs were named thanks to a public survey (Floreta, Fadeta and Pélut). Aside from being a threatened species in need of protection and management, brown bears became a group of individual entities with different habits and character traits. In other words, each named specimen could be deemed unique by the public, thus building connections between them. It was given an honorary personality (Scruton, 2000), facilitating a relation of intimacy and familial attachment even while requiring no face-to-face interaction.

These relations were also formed through the application of the term Disneyfication. Anthropologists refer to it, somewhat derogatorily, as “perceptions of animal behaviours and human-animal interactions based on media representations instead of actual knowledge” (Milani, M., 2014, p. 997). In effect, bears have been portrayed countless times as anthropomorphized characters in literature and cinema which unconsciously created common ground between humans and the animal, not least when bears were given positive characterizations. People would relate to the fictional characters and, thus relate to the actual animal with an anthropomorphic perspective. To illustrate this point, the death of Cannelle will serve as an example. To sum up the situation, the female bear was shot in 2004 by a hunter while protecting her cub Cannellito. Whereas her son thankfully managed to survive and grow up, her death provoked an unprecedented emotional reaction across the country. The impact revealed itself to be so grand that five bears were released in the Pyrenees two years later. According to one interviewee, the tragedy provoked a public outcry and encouraged a quick evolution of opinions on bears for three reasons: Cannelle was the last real Pyrenean native and her death was interpreted as a cultural extinction, the bear is an endangered species in France that needs protection and Cannelle was a mother whose demise left a poor cub orphan. In her opinion, it enabled environmental organizations to request new releases and the government to proceed without too much criticism.

A parallel can be established between this tragic event and two fictional stories. The first one is the Disney animated movie ‘Brother Bear’, which stars a bear cub named Koda whose mother died during an altercation with hunters. The second and certainly best remembered is ‘Bambi’, also produced by Disney. Although no bears are present in the story, having

Bambi's mom die and him living in similar circumstances brings the reflection of whether people did actually make the connection and were deeply affected as a result.

It may also be argued, however, that Disneyfication has adverse consequences for the animal subject to anthropomorphization. It can become too close for comfort, suggesting that relation between human and wild animal needs to approximate a delicate balance. Indeed, part of the value in much current wildlife is in its wild, exotic nature as existing apart from civilization (Schipper, L. et al, 2006). Hence, discursive exercises that grant for example large carnivores honorary membership in civilization, undermine the value of them as wild species. In Hiendenpää and von Essen & Allen (2016), naming and associating the wolf with human constructs, territories, personality traits and names invites a phenomenon of a lesser 'suburban' or 'yard' wolf, tainted by pet-like connotations. In the case of the bear in the Pyrenees, opponents to bear reintroduction and management sometimes argue that defenders, especially those among the general public, are unaware of the true implications of the presence of bears for the territory. From their point of view, defenders are merely blinded by the anthropomorphized and environmental depictions that bears have benefited from over the past few decades, and disregard completely their wild nature. In fact, one respondent told me that considering the bear as a wild animal, like any other, was a necessity to remain relevant and truly build a solid cohabitation with human activities. As a hunter, he had learned to treat each animal equally and recognized the right for brown bears to live in the Pyrenees, as any other creature.

### 8.3 Neighbourly relations difficult to cope with

Finally, people not in favour of bear conservation in the Pyrenees have been shown to have their perception influenced by social representations. Described by Moscovici as a way for individuals to understand and communicate about a subject (Theodora Theodorakea, I. & von Essen, E., 2016), the concept presents brown bears as a social object with multiple narratives in the Pyrenees. Hence, the animal has been portrayed as a predator who does not fear humans and dares scavenging for food into villages. This idea was especially meant for Slovenian bears who always felt illegitimate to be in the Pyrenees for some locals. Another part of the explanation could lay in the reintroduction programme itself. Indeed, the conservation of large carnivores is likely to impose significant complications on the individuals living near them (a.a., p. 29). For example, the inability to live their lives and defend their property as before. Furthermore, the historical presence of the mammal in the Pyrenees implies that stories, rumours and attitudes were passed on from one generation to the next, shaping perceptions and recommending caution against the animal. But bears were not solely represented as dangerous creatures to be afraid of, they were also depicted as symbolic tools to some institutions. Environmentalists are regularly accused of using bears to assert their convictions on others and politicians to promote themselves to the general public. Regardless of whether it is true or not, those suspicions probably originate from a sense of frustration due to a lack of satisfying answers from the authorities and an uncertainty concerning the future of their livelihoods. On the opposite side, environmental associations and other bear defenders are sometimes under the impression that rural actors purposefully sabotage or discourage cohabitation initiatives to further alienate the animal.

In the end, those relation-mediating mechanisms that impart distance and proximity respectively have demonstrated how the perceptions towards bears did manage to draw some people closer and other further from the animal. But they also have shown that these perceptions could evolve with time. To give an example, one respondent confided that she knew hunters in Haute-Garonne who grew to appreciate bears after learning to get accustomed to their presence. Thus, it is safe to assume that their feeling of ownership and connection towards bears has now increased. Moreover, the case of Cannelle in 2004 proves

that the act of ‘pointing and naming’ can shift large populations’ perceptions on wildlife and galvanize support for conservation. In Milstein’s opinion, nature identification practice shapes and continues to shape human perceptions, practices, and policies (2011, p. 7). Originally in France, brown bears were portrayed as mere predatory pests like wolves. But the new depiction of nature promoted during the 1970s introduced a more vulnerable and beautiful version which began to modify the french population’s opinion. Thus, attitudes towards bears in the Pyrenees have experienced several evolutions over the years and are expected to continue changing in the future.

#### 8.4 A scenario involving predators that seem to repeat itself

Importantly, researchers have observed that perceptions of large carnivores are not always ‘rational’ in the sense that greater tolerance may be given to some species despite it presenting greater damage to property, as Treves found for bears compared with wolves in the United States (2008, p. 217). A similar observation was made in Uganda where people showcased more resentment towards elephants, despite baboons being the costliest and most frequent crop raider around. Furthermore, Treves described situations where individuals suspected wild animals to take away something from them, like sharks ‘stealing the catch’ from fishermen or wolves taking game hunters’ elk. In the case of the Pyrenees, most of the respondents confirmed the impression that bears are stealing from local communities. What got taken away would range from physical objects (livestock, wild game, economic values) to more abstract concepts (lifestyle, territory). In his opinion, perceptions and attitudes influenced by testimonials and entertaining stories reflect: (1) extreme events and imagination, (2) long memories and a history of human-animal interactions and (3) experiences from a broad region (a.a., p. 216). Lühtrath and Schram have declared this as: “social factors in conflicts about large carnivores operate somewhat independently from the animals” (2015, p. 117). Similarly, Peterson (2010) argued that while perceptions of large carnivores have a grounding in material reality, such as the extent of predation on one’s livestock, materiality alone is insufficient to explain the complexity of human-carnivore relations. This shows that there are more complex factors and processes of perception formation that inform attitudes toward an animal. Treves (2008) suggests that people may actually use intrinsic (individual experience and evolutionary history) and extrinsic (economic, social, and cultural) factors to shape their perceptions and attitudes.

In the light of all these facts, it is possible to understand the reasons behind the conflict’s longevity. From its beginning to this day, the debate surrounding the preservation of brown bears in the Pyrenees has grown in complexity with its participants. Part of this evolution can safely be attributed to a couple of key-events which impacted the debate durably. The study showed that people are influenced by a combination of various relation-mediating mechanisms built on personal experiences and already established conceptions which in turn, influence their connection to the bear either positively or negatively. Mechanisms such as ownership, nature identification, Disneyfication and social representation illustrated that each respondent could present both rational and irrational reflections regarding bears, regardless of their position on the reintroduction programme. But while the analytical framework on relations through distance and proximity clarified the multiple opinions surrounding brown bears and the motivations behind them, it did not provide any suggestion on how to resolve the conflict.

Although ideas to improve the human-bear cohabitation were discussed during the interviews, the focus of the study did not allow me to go deeper into this aspect of the conflict. Future research on the Pyrenean bear could focus more on the processes of bear-human cohabitation, the already existing ones, the upcoming methods and people’s opinions and

reactions regarding them. The present study would serve as a first step in the understanding of the conflict and future research as a natural follow-up. One particular aspect of the conflict that would benefit from this continuation is the apparent switch of position from certain actors during the course of the conflict since no other cases of human-wildlife conflict seem to demonstrate that kind of behaviours to my knowledge. On the contrary, actors usually tend to harden their attitudes over time. Other examples of contributions include the ongoing discussions about the relation between animals and place in rural sociology and the human-wildlife boundaries within animal studies, two fields that could be further explored in future studies. Furthermore, the analytical framework used for the understanding of the bear situation in the Pyrenees can serve as a viable strategy to clarify people's perceptions within other conflictual situations involving wildlife management. Though identified perceptions towards bears are generally applicable to other animals, it is important to point out that its representation, especially in the Pyrenees, has always distinguished the bear as a unique animal compared to the rest of wildlife. A direct illustration is found in the rich historical background that shaped the Pyrenean bear-human relation across the ages.

## 9 Conclusion

The main purpose of this study was to identify and analyse how people perceive the brown bear in the Pyrenees, and how the ongoing debate about its preservation could potentially be affected as a result. As discussed, there are many perceptions regarding the mammal that compel people to take position for or against the reintroduction programme. Those perceptions get influenced by multiple relation-mediating mechanisms which may be said to adjust the distance between the bear and the individual perceiving it, thus changing their connection. Those mechanisms usually take effect through the course of personal experiences and/or pre-established stories on a cultural, historical and/or social level. With concepts like psychological ownership, identification practice or social representation, it appears that bear perceptions are diverse and range from positive (the animal as a fascinating wonder) to negative portrayals (the animal as an environmentalists and politicians' pet). By using the perception-based approach before, during and after the interviewing process, the study revealed that both sides, insofar as these are broadly taken as negative or positive, had rational and irrational, as well as intrinsic and extrinsic, reasons for defending their position in the debate. Even more surprising, some interviewees showed signs of empathy and understanding toward the opposite side, showing perspectives seemed capable of evolving with time.

Part of this complexity can be imputed to human-wildlife conflict centred around predators in general, but in the case of the Pyrenees it seems more appropriate to consider the historical and cultural background of the territory. Bears have inhabited the area even before the first groups of people made their arrival, thus starting a unique form of relationship that still exists today. Even with its limited presence nowadays, the bear continues to leave a significant mark in the Pyrenees and provoke strong reactions. One could make the parallel between the present-day conflict opposing the bear's environmental and cultural protection against the fear of losing rural practices and local traditions with the past Christianisation of ancient civilizations across Europe by destroying every cult related to bears. It illustrates the ongoing impact of the animal on human history and the constant transformation of its depiction by people. The study is hence a contribution to both practically oriented wildlife management fields seeking to improve human-bear cohabitation in the Pyrenees while balancing goals of species conservation and pastoralism, and a contribution to environmental sociology and geography, in which animals are connected to place, history and identity.

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# Appendix 1 - Interview guide

1. Introduction (these details will be agreed upon before the interview but needs to be reminded)
  - Who are we?
  - Thank you for your time...
  - Ask about recording
  - Do you want to be anonymous?
  - The material will not be public

2. Background (Talk about my project)

I have this course (Master thesis in Environmental science) which enables students to write a master thesis and reflect on a research question surrounding a topic that intrigues them. In my case, I am interested in the reintroduction of bears in the Pyrenees and the conflict that result from the programme. Today, I want to interview you to discuss about your experience with bears. I am particularly concerned in the way you relate to its presence in the Pyrenees and your perception of the animal.

3. Interview

- General questions about the interviewees

- What is your background?
  
- What is your interest in the Pyrenees? How long have you been living there?
  
- Which relation do you have with the Pyrenees? How close do you feel to the territory?

- Questions relating to bears

- When I say the word "bear", what comes first into your mind?
  
- How do you feel about bears?
  
- What is your personal experience with bears?
  
- Why do you think bears are adored/despised by some people?

- Questions relating to the reintroduction programme

- Why are bears reintroduced in the Pyrenees?
  
- How do you feel about the reintroduction programme?
  
- Do you think everyone has a voice in the programme?
  
- How bears should be managed in the Pyrenees?
  
- What are your hopes for the Pyrenees and the bear in the future?

- Conclusion

- Thank you
- Is there anything else you would like to add? Can I recontact you for more information?
- Goodbye have a nice day!