ANIMALTAINMENT:

a journey through animal images for aspiring nature storytellers

To my mamma and papà, with lots of love. This is all your 'fault'.
To Poldina, fabulous companion and teacher of the last nine years.

No animals were harmed in the making of this thesis

TABLE OF CONTENTS

ACKNOWLEDGMENTS

This thesis would not have been possible without the guidance and help of many people. First of all, I would like to thank my first supervisor, Dr. Tessa Verhoef, for her endless support from the very early stages of this project. Her encouragement, enthusiasm in research and input strongly motivated me in developing this booklet and allowed me to overcome the challenges throughout this work. I couldn't have wished for a better or friendlier supervisor. I would also like to thank my second supervisor Dr. Maarten Reesink, for his great willingness to supervise my project, his active interest and valuable advices. It is of great pleasure to acknowledge my two critics, Ross Towns and Michelle Westerlaken**,** for their involvement and constructive suggestions. I am also particularly grateful to all the people who kindly accepted to be interviewed online for this booklet during these difficult social-distancing times. I have been so lucky to have an amazing group of fellow students and friends in Leiden over the past two years, to whom I would like to express my heartfelt appreciation. Last but not least, I would like to thank my mum, who never stopped pushing me to do my best and always believed in me.

"NECESSITY IS THE MOTHER OF INVENTION"

Or the story of how it all started

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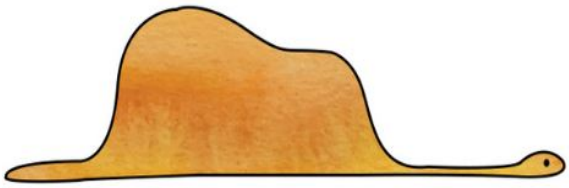
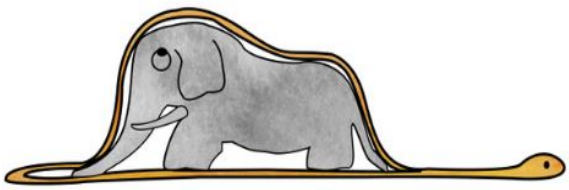
When I was little, my mum often used to read with me *The Little Prince* by Antoine de Saint-Exupéry. It was one of my favourite books. The moment I preferred, of course, was the taming of the fox. However, lately, I found myself thinking very much about another passage. As the story goes on, after reading a book called "True Stories from Nature" and amazed by the magnificence of the jungle, the author draws a curious nature scene, which, however, 'grown-ups' are not able to see. The drawing, in fact, might have looked at first glance like a typical brown hat. But, in reality, it represented the picture of a boa constrictor digesting an elephant. Even with a second explicatory drawing, adults kept not understanding and encouraged the young author to pursue more 'classical' interests. Eventually, Antoine left painting and became a pilot.

«Grown–ups never understand anything by themselves, and it is tiresome for children to be always and forever explaining things to them. » (p.4)

I completely agree.
These were the drawings:



"My drawing was not a picture of a hat.
It was a picture of a boa constrictor digesting an elephant."



As far as I can remember, I've been totally fascinated by animals. During my early years of life, we used to live in a tiny apartment with an even tinier balcony, so we couldn't really keep a pet. That was a huge disappointment to me, but I didn't get disheartened. In summer, I would sit in the balcony and wait for ants to show up. I would then let them run over my arms, observing in awe their perfectly linear trails. The same happened with snails: I took them in the house and fed them with leaves, I gave them names and let them eat all my mum's basil plant. I used to pet every dog, cat, rabbit, horse, mouse, insect, reptile that crossed my path. I dreamt about being among monkeys and lions and elephants. I grew up on bread and nature documentaries, as we say in my language. For a while, I thought this was only a 'side passion'. Just as it was for my thrust towards writing and photography, grown-ups often lead youngsters to believe that we can't make a living out of those. It was only when I came across *ethology* that what I wanted to do in my life began to take shape. The academic path I chose provided me with the scientific training I needed to understand animal behaviour and laid the foundations for my approach to research. With time, however, on the same line of my all-time idol Jane Goodall, I became increasingly distant from some of the unwritten rules and the attitudes towards animals in the scientific field. Perhaps unsurprisingly, I was perceiving the conflict between showing empathy and sentiments and maintaining scientific objectivity, where a deep gap was dividing scientists and non-scientists within the same natural world. It appeared clear to me that it was exactly this broad grey area between scholars and general public which interested me the most. My ultimate goal was telling stories about animals which could instead build a bridge between these two poles, bringing science to people and people to science.

But we all know it: Rome wasn't built in a day, and it is easier to stick with the road we know. Our trained mind often sees and follows the most comfortable route. We do what we have been taught to do and we convince ourselves that that is the safest way to get somewhere. As Antoine de Saint-Exupéry writes, we get used to see a hat where instead there is a swallowed elephant. Sometimes, however, unforeseeable circumstances happen, which force us to step out of our comfort zone, like in the case of this thesis. My initial graduation project idea involved an experimental study with captive chimpanzees, which aimed at investigating their ability to imitate specific types of voluntary non-goal-directed gestures. It was a very

interesting study and I was very excited to work with primates again. When the world lockdown started, however, I found myself with no project and plenty of time. Commonly attributed to Plato, the proverb *"Necessity is the mother of invention"* fits perfectly within this moment of my life. It means that the strongest driving force for ingenious solutions is the need itself. With this in mind, I started reading books, articles, journals, I watched documentaries, listened to podcasts and connected with people who had similar interests. I was hungry to learn more about stories, experiences and approaches about animals that were different from what I had always been used to. I realised that animals were everywhere around me, despite not being present at all. This was the insight that represented the starting point for this booklet.

The thesis is presented in five chapters, which will explore the question of animal representations through different methodologies, which will include autobiographical, philosophical, documentary and experimental research. All these approaches are tied together by the goal of shedding light on the meaning of animals within the visual culture in order to reach a truthful and respectful understanding of our mutual relationship.

Following an introduction to visual representations and framings of animals, chapter one discusses the history of animals in the visual culture, from the first images to modern wildlife documentaries. Chapter two examines the role of anthropocentrism and its consequences on animals and on humans' ways of looking and thinking about them. The third chapter elaborates on how such mediated representations match or mismatch with the scientific field of animal cognition. Chapter four focuses on people's feeling of connectedness with nature and attitudes towards animals. In this section, I will report a small experimental study about the impact, if any, of different mediated animal experiences on the individuals' feeling of being connected with the natural world. Results are discussed with reference to the extant literature. Finally, chapter five provides a conclusion to this work. The main chapters will conclude with excerpts from interviews that I conducted during the development of this project with experienced individuals related to the subject of this project.
Whether you are a scientist, a communicator, a storyteller, a conservationist, an animal-lover, a curious human being or all of them, this booklet has no single unequivocal way to be read. It will

not provide specific rules on how to interpret what is written; it will not give a lesson about what is wrong or what is right, nor will it ask you to take sides. My main aim in writing this is to emphasize the deep connection between human beings and animals through the use of images and representations we make of them.
It is my hope that, wherever you stand, you will ask yourself some theoretical questions while reading and that — if you try to look beyond what is shown — you will ultimately see the boa constrictor and the elephant.

* * * *

A friend of mine once told me that when he was a child, he used to call the giraffe "long-neck". Every time he saw a picture of a giraffe he would say "Look! A long-neck!". This made me laugh and reflect. As humans, we create and process images and depictions of the things in the world that surround us, we inevitably relate them to us, and we eventually are affected by them in our behaviours, attitudes and cultural values. Since the dawn of humanity, we have used animals in our societies, but it is only quite recently that they started to be framed ubiquitously into our visual culture. According to Malamud (2012), humans perceive animals in three figurative 'places': geographical, cultural and intellectual. Within these places, humans act as framers, they delineate the spaces in which the animals are expected to be and implicitly direct us towards an interpretation of the represented image. Human mediated representations of animals carry a risk of being biased and reliant on subjectivity, hence creating a disconnection between the real and the represented. The bigger question here is: can we, as humans, relate to other animals in a way as objective as possible and represent them by taking into account their interests and needs instead of ours as a species equally worthy of moral consideration? After delving into the literature, I realized that, unsurprisingly, opinion varies widely, but the general tendency is to lean towards a negative answer. However, what everyone agrees on in the first place is the necessity to define what the word 'representation' means in this context and what its process involves.

The Cambridge dictionary suggests two relevant meanings:

1. the way someone or something is shown or described
2. a sign, a picture, a model, etc., of something

According to the cultural theorist Stuart Hall (1997), the word *representation* conveys a double meaning, as it does indeed mean "to present", "to image", "to depict", but it also refers to the act of "standing in for something or someone". In Hall's words, representation

> «…does sort of carry with it the notion that something was there already and, through the media, has been represented. […] What we're talking about is the fact that in the notion of representations is the idea of giving meaning. So the representation is the way in which meaning is somehow given to the things which are depicted through the images or whatever it is, on screens or the words on a page which stand for what we're talking about»[1].

When it comes to imaging non-human animals, we are so used to seeing them everywhere around us, that we decontextualize them from the place they belong to and re-situate them where it is more convenient for us humans to experience them. The key argument is that, when framed, animals are made visible (Malamud, 2012). However, from a practical point of view, how can we describe what we are actually seeing? Is it the 'real' literal animal or the 'fake' representational one we are looking at? Debra Merskin (2015) makes use of a perfectly fitting example to clarify this: the painting *This is not a pipe* by René Magritte. This surreal artwork is the emblem of the paradox of representation: we know that what we see is not a real pipe – or, in our case, not a real animal – but rather it is its representation, and yet, it is so accurate that fulfills our needs for seeing it. Therefore, representations become the ways in which we see what surrounds us, reinforcing the power of images in our understanding of the world.

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[1] Hall, S. (1997). In S. Jhally (Director). *Stuart Hall: Representation and the media*. [Retrieved from https://www.mediaed.org/transcripts/Stuart-Hall-Representation-and-the-Media-Transcript.pdf]. United States: Media Education Foundation, p.6.

Non-human animals have long been represented in the human visual culture for the simple reason that we are interested in them. Why? you might ask. John Berger in 1977 was perhaps among the first who asked this question. In his essay *Why look at Animals?* he argues that after the Nineteenth century, 'a rupture' between humans and animals occurred due to the advent of technology, which distanced animals from our everyday life. Increasing industrialization and urban development replaced real animals with their imageries, 'extinguishing' any meaningful gaze between *us* and *them*. Despite a viewpoint from a solely human perspective, Berger concludes with what in my opinion is his most impactful argument, according to which "everywhere animals disappear" and humans "now belong to a species which has at last been isolated" (Berger, 1980, p. 28). However, while the importance given to real encounters with animals (as opposed to their 'marginalization' through mediated images) is an emergent characteristic of Berger's essay, overall, the work does not seem to provide a clear, explicit answer to its initial question.

How funny is it that some of the most basic questions are those we ask the least? If I were to ask a naturalist or a biologist the same question (i.e., why look at animals) with reference to real animals, I would probably get an easy unquestioned answer. But, when it comes to visual culture, the reason why we look at animals becomes increasingly blurred. Is it because "animals are good to think," as Claude Lévi-Strauss (1963 as reported in Malamud, 2012) suggests? Or because "animal stories are profitable" and are made to attract us, as Claire Molloy(2011) writes? According to Malamud (2012),

the reason why we look at animals in the visual culture may indeed fall into the category of those philosophical unanswered questions about animals. This got me think about my standpoint in this dilemma. On the one hand, on the negative side, I feel that our daily life is inundated by animal narratives through popular media much more than how it is of actual animals. We represent animals in a wide range of ways, from entertainment, to news, to advertainments; we make use of animal images in movies, in documentaries, in logos, in books, in artworks, in videogames. Animal videos populate the internet and the social networks, attracting millions of viewers and confirming humans' attraction for animal-based imagery. As trivial as it may sound, I feel compelled for the ultimate purpose of this booklet to remark that some of these forms of seeing animals, if misinterpreted, may lead to serious and detrimental misconceptions. In those instances, the way animals are treated and depicted in the visual culture has often been oversimplified, or shaped on our desires to look 'appealing', often causing them to be decontextualized and reduced to mere entertainment objects. I can see here what the authors describe as the difference between the "real" look and the "artificial" look. It is essential to keep in mind that when we look at animal representations, irrespectively of their mediated form, we are brought close to them, but not enough close to be with them. We are instead what I like to call *"aloof spectators"*, extending our knowledge of animals from our own 'safe zone'. Animals are always the observed ones, as Berger (1980) puts it and the fact that they can return our gaze has not a great importance most of the times.

On the other hand, despite these premises, I strongly believe that there is another, more positive angle to all that, which overcomes the drawbacks. Indeed, in my opinion, comparing mediated experiences with real ones, when it comes to looking at animals, is an unfruitful, if not naïve, approach. Visual representations of animals inform and shape our perception of them and within our visual culture not all media reduce and trivialize animals. Over the past twenty years, interest and funding for nature conservation, environment, animal rights and animal welfare have increased substantially, encouraging a more truthful and ethical way to depict other non-human life forms. Visual media and social networks constantly engage in innovative and successful ways to raise awareness and spread understanding of environmental topics to make a positive difference. These new technologies have the ability

to communicate and educate audiences from all over the world, often producing a significant impact on their attitudes, values and, sometimes, behaviours.

Now, the Berger's question is undoubtedly a fundamental one. But I would like to put forward a second question here, which, perhaps, might be less unanswerable: Why *not* look at animals?
As Mills (2017) claims, we as humans need to notice animals and understand the consequences of when we do it (or we don't) in the most appropriate way, to learn from and improve our interrelationships. Noticing animals goes beyond simply looking at them as an extension of us or as something that is at the service of our cultural desires and drives, but rather means decentering our species. Within this framework, I then ask why not look at animals in a way that allows similarities between us and them to emerge instead of the differences? Why not look at animals with the intent of learning about them *for* them, rather than learning about ourselves *for* us only? Why not look at animals in a more fair and beneficial way for both so that our conditions of coexistence can be improved? These – and probably many more - are the reasons why I am, in the final analysis, looking optimistically at animal representations within the visual culture as they can significantly affect humans' attitude to revise our speciesist position in relation to other living beings.

ONE

"SEEING IS BELIEVING"

from animal images to nature documentaries

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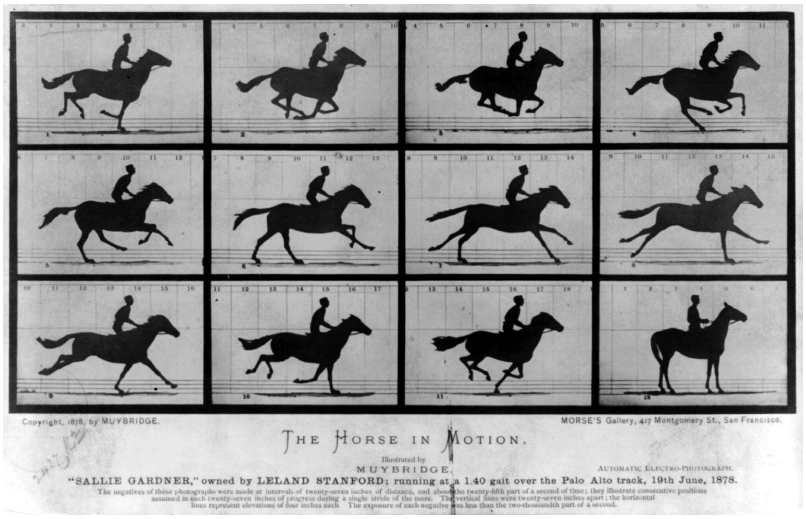
Like many other ethology geeks, there are few voices that I will always be able to recognize with my eyes closed. One of those is Sir David Attenborough's. I remember that, when in 2006 Planet Earth was finally broadcasted in Italy, every new episode was a big event and my family would sit on the couch at 20:00 sharp to switch the TV on. I was so captivated by the incredible stories and the breath-taking scenes that I could have listened to Sir Attenborough's narrations for hours and still thirst for more. During my research for this thesis, I 'found out' that I certainly was not the only one glued to the screen: the BBC's 2007 annual report[2] revealed that Planet Earth received the highest audience appreciation scores of any British program in 2006 and that the series was sold to 95 countries with the first five episodes drawing an average audience of 11.4 million viewers. As described by Graham Huggan in his book *Nature's Saviours* (2013), Sir Attenborough earned the title of one of the primary and 'most trusted' television's nature celebrities. Knighted for his contributions, he is one of the first figures to be recalled when it comes to conservation of environment and wildlife. I realise only now what a huge responsibility he carried – and still does – balancing between being an environmental advocate whose voice is extremely amplified and the image of the 'celebrity presenter' in the television age. In order to raise awareness and orient towards the best possible understanding of the natural world, it is indeed essential that environmental educators, communicators and storytellers engage effectively with the imaging of non-human animals. In fact, for nearly a century, mediated images of the natural world conformed to what Horak (2006) names the classic 'documentary aesthetic'. In this context, before we dive into the history of animal images, it seems worthwhile to first discuss some of the longstanding differences between the definitions of nature documentary, natural history and wildlife film.

[2] BBC, Annual Report and Accounts 2006/2007: the BBC Executive's Review and Assessment (London: BBC, 2007), p. 33.

As regards documentary, Bill Nichols' (2010) criterion is that documentaries must be about reality and tell stories about what happens in the real world. Nevertheless, documentaries can never completely be truly objective, because, as mentioned in the previous chapter, they are like Magritte's pipe, namely a representation of reality, not reality itself. In addition, as Aufderheide (2007) notes, it is impossible to have a film without manipulation, independently from the genre or the topic, there will always be the impact of the director's point of view and technical choices whether it is in the framing or in the music or in the narration. Therefore, a more accurate definition of a documentary might be a film that "tells a story about real life, with claims to truthfulness" (Aufderheide, 2007, p.2). Yet, the debate between the notions of reality and truth remains ongoing, in particular for wildlife film. What exactly is 'truth' in nature representations? Are visual representations faithful representations of the real natural world beyond the camera? And can those representations be part of the documentary tradition?

Documentary is a complex notion. We have always been used to link it unquestionably to wildlife or nature films. However, this association is not so obvious. In his 1998 article, Derek Bousè (1998) discusses the role of wildlife films in relation to the conventions of the documentary with specific reference to four sub-genres: direct cinema, ethnographic film, cinema verité and observational cinema. He argues that wildlife film falls only partially within the definition of documentary and, for this reason, it could be better understood through a separate recognition. The interesting point Bousè makes is that in wildlife documentaries we create a totally different relationship with animal actors compared to that with human actors. Animals cannot choose to be part of the documentary, they cannot consent to their participation, they cannot explain their motivations or behaviours, and sometimes, probably, they would even gladly spare to be filmed. In light of this, should we consider nature films in terms of popular entertainment rather than traditional documentary, Bousè asks? I would say somewhere in between. For example, the British tradition of natural history film remained closer to the idea of 'nature documentary' focusing more on 'research and scientific enquiry…than on entertaining narrative" (Bousè, 1998, p. 126). Natural history film is a specific kind of nature documentary, as described by Huggan (2014), which includes a wide range of time and space, covering themes of zoology from extinct to extant species. The main features that place these types of representations within the documentary field are first and

foremost their social and educational aims, but also the compliance with those 'moral' codes of realism and authenticity described by Nichols (1991) which make a documentary a documentary.
Under these premises, media representations of animals become a means of learning about that 'real' nature we otherwise could not see in our daily life. In tune with McLuhan's (1964) famous quote *"the medium is the message"*, technology shapes not only what we externally see, but it also molds our internal beliefs, because images serve as visual evidence of 'truth'. As humans, we are avid media producers and consumers, enough to transform the screen into a window on the actual world.
This human-made world has been using animals in visual culture for more than a century: Eadweard Muybridge in 1878 was the first to create a moving image of a horse during the gallop. I had already seen those images a few times, but I never knew the story behind it. So, here it is: according to the sources, Leland Stanford hired Mr. Muybridge with the aim of investigating whether a horse would lift all four hooves from the ground during the gallop (Bousé, 2000;). To solve this dilemma, Muybridge took several pictures of the horse in fast motion using twelve stereoscopic cameras with high shutter speed and created the famous locomotion sequence below (Malamud, 2015).

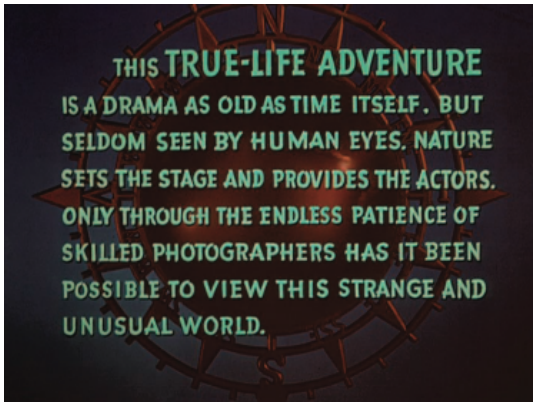


Soon after, Muybridge invented the so-called 'Zoopraxiscope', an innovative machine which projected sequential images into a screen from photographs on a rotating glass disc, producing the illusion of animated moving images. As noted by Malamud (2015), this event changed people's way of seeing animals, which were no longer

static, but moving and 'alive'. Their very existence could be now seen without being together with the real animals, which, if on one side fuelled the wish to look at animals in the visual culture, on the other side gave start to our misunderstanding and underestimation of them. Muybridge's device was the first known device which allowed motion pictures of animals and, with the evolution of technology, animals continued to be often protagonists of the scene. However, it was only twenty years later that filmmakers, starting with Thomas Edison, laid the blueprint for classic wildlife films which included "moving pictures, wild animals, natural behaviours, natural habitats, and no people" (Bousé, 2000, p. 44). From 1900 onwards, with the rise of Safari films, technology became a medium of mass entertainment. In these films, animal representations consisted mostly of Caucasian Westerners hunting and killing large wild animals during their expeditions to remote countries (Bousé, 2000). Martin and Osa Johnson in 1920 were by far the most representative filmmakers of this style. The couple was famous for their African Safari films (e.g. *Simba,* 1928), in which they portrayed the 'dark side' of Africa and its beasts. They often killed wildlife in the goriest ways and denigrated indigenous populations on screen, as the main aim of their footage was to convey images of power, self-glorification and white supremacy (Bousé, 2000; Malamud 2015). Around 1930, however, while on one side safari movies endorsed by the rich were mostly made of fake narratives and drama for the box-office, on the other side, pioneer ethologists and animal behaviourists such as Konrad Lorenz and Nikko Tinbergen started using film as a tool for scientific research and education, providing a more truthful and intimate look into the real lives of animals.

It was during the following years, in a post-war framework of changing morals and values, that Walt Disney came into the picture. Disney, who was in debt with the Bank of America, decided to re-invent the safari films tradition, transforming forever the wildlife genre. In an interesting analysis of Disney Nature films, Margaret King (1996) describes Walt Disney's ability to switch from the traditional representation of animals as objects to that of animals as protagonists, with their own personalities and their own stories. Recurring themes of Disney movies included a main character going through a narrative journey, anthropomorphizing of the flora and the fauna, evocative music and a general humanization of nature in a way that human values, such as love and family, could be reflected in animals. The shift from animated movies to live actions marked

the beginning of Disney's commitment to "informative-entertainment." In particular, the Disney's *"True-Life Adventures*" series from 1948 has been described by Bousé (2000) as able to merge the different elements of wildlife filmmaking of that times and make them popular; yet, considering Disney's nature films as 'documentaries' would be a naïve mistake. In *True-Life Adventures* the narratives were created from the large stock of live-action footage and edited in often comical montages (Bousé, 2000), with the ultimate goal of personifying the characters and their emotional connections. After the huge success of the first of Disney's True-Life Adventures *Seal Island* in 1949, another sixteen films followed. Disney's ability to give characters human-like traits, together with the visual narratives, the exclusion of humans from the picture and the close-ups, were able to mark a revolution in the wildlife filming, setting the stage for the classic "blue-chip" model (Bousé, 2000; 2003; Malamud, 2015). Blue-chip wildlife programs are usually characterized by a precise style including spectacular visuals, authoritative voice-over (the so called 'Voice of God'), absence of humans and dramatic music to guide the viewers' feelings in the story.



Opening shot from one of Disney's True-Life Adventures.

Between 1950 and 1960, with the advent and the ubiquity of television, wildlife programs started to reach a greater audience with action-adventure nature shows. The series by Marlon Perkins '*Wild Kingdom'*, for example, enjoyed massive success until the mid 80s. However, it was around a decade later that wildlife shows really "took advantage of the potential offered by television itself" (Bousé, 2000, p. 72). These 90s' shows were mostly based on a charismatic presenter who embarked in exciting journeys to seek wild animals. I challenge whoever is reading this booklet to not remember Steve Irwin with a smile. *The Crocodile Hunter* from 1997 was probably one the most popular wildlife shows of the time, characterized by very audience-appealing risky behaviours and excitingly dangerous

shoots. The critique to these types of programs lies on the fact that they were set in a frame of commercial and entertainment largely dictated by the market and by audiences' expectations (Bosuè, 2000). Concurrently, another subgenre of nature history film influenced by some of the abovementioned Disney's feature was getting increasingly popular: the Blue-chip. These types of programs are generally associated with some readily noticeable characteristics: high production values and budget, spectacular visuals, depiction of large animals (i.e. mega-fauna), authoritative voice-over narrations, seemingly natural storytelling, emotional musical scores and an almost total absence of human beings (Bousé, 2000; Bagust, 2008). Here the presenter serves as a solid and reliable voice who addresses the audience and the camera directly, guiding the viewer on how to interpret animal behaviours and depicting an image of nature and wildlife that lays between wonders and threats. From the late 90s, well-known channels for natural history networks such as Discovery Channel and National Geographic in the United States and BBC in the United Kingdom devoted entire shows to wild and domesticated animals, such as Animal Planet in 1996 and NatGeoWild in 2006. Also in 2006, the BBC *Planet Earth* series was broadcasted on television for the first time, being promoted as a spectacular HD view on nature, from the poles to jungles. People were now given the chance to enjoy those breath-taking landscapes, observe rare animals and their close-up behaviours. It is not surprising that it was a success: acclaimed by critics, the series is one of the most watched wildlife programs to date, eventually broadcasted in 130 countries with a total audience of 100 million (Louson, 2018).

In 2016, the BBC released *Planet Earth II*, which, thanks to even more modern camera technologies and the iconic voice of Sir Attenborough, became the most-watched nature program in the last 15 years (Furness, 2016). Planet Earth also inspired a series of feature-length wildlife films by the new Disney production label, Disneynature, starting with *Earth* in 2009 and more recently with *Chimpanzee* (2014) and *Born in China* (2017), which added to grand visuals also narratives of animal families (Louson, 2018). The rise of Disneynature can be attributed also to the enormous success of the movie *March of the Penguins* (2005), which was co-produced by Disney and earned over $127 million worldwide[3], along with an Oscar for Best Documentary Feature. The movie follows the

[3] "March of the Penguins". Box Office Mojo. Retrieved 8 September 2008.

stylistic stamp of previous Disney films, in which Morgan Freeman's voice narrates the epic struggles for survival in the wild with emotional intimacy. However, the movie also revived debates on sentimentalized anthropomorphism (see Chapter 3) when representing animals, as it happened with the True-Life Adventure formula. *March of the Penguins* was indeed presented as a love story between Emperor Penguins during the harsh annual migration and often referred to human-made concepts such as romantic love, nuclear family, courage and resilience. The main issue with these movies is that the 'true nature of nature' is so dramatized that leads spectators to think that what they see on screen – bloody fights, amazing friendships and idyllic family values – is the norm for animals' lives. Instead, in Bousé's words, the reality is that "the image of nature found in wildlife and natural history television has been moulded to fit the medium" (Bousé, 2000, p.4). Thus, despite reaching a large audience, the risk for these types of wildlife film is that viewers constantly exposed to such trends and perhaps also influenced by the Hollywood style, become increasingly used to this imprecise, anthropomorphized format. This is not to say, as mentioned by Huggan (2014), that the aesthetics of wildlife films strengthens the distance between humans and nature through its 'spectacularization', as it would be, in my opinion, a huge mistake to see animals' mediated representation as uniquely concerned about dramatization and entertainment. I instead believe that what could make a positive difference in audiences' reception is to educate them to have awareness of the images they are seeing and direct them towards a more accurate interpretation of those images. In a nutshell, you can always enjoy 'disneyfied' representations of animals and shed a tear when the lost baby monkey finds his mum again, as long as you are able to recognize the realistic context in which those images should be placed. Finally, I share the view that *the blue-chip renaissance*, as Louson (2018) names it, marked the beginning of a new stage within the genre of wildlife films thanks to both its science communication's goals and its visual spectacle. Here, spectacle not only serves to instil awe and wonder in viewers, but also contributes to the reinforcement of educational experiences. As such, giving to it the correct value allows us not only to appreciate more the scenic footages, but, more importantly, to better understand the intricate field of wildlife films.

* * * *

When we think about responsibility of filmmaking for sure we should be aware of what kind of biases we might have, of what we don't know and perhaps look for better experts to inform us. And that's partly why I'm really interested in documentaries: because a lot of them are based on this kind of exploring, on talking to different people, getting different opinions and helping the viewer come to their own decisions because they convey different kinds of information. So, I guess for me the code is to really think about what you don't know, but also what do you, as a filmmaker, are getting out of this process and how you can maybe make that more transparent and also use that to check yourself from being exploitative.

- **Eliza Steinbock**, *Assistant Professor in Cultural Analysis and Visual Culture*

Representation of reality is quite a difficult concept within media studies. Of course, representation is always not reality itself, it is always a choice of where you put the camera, how you feel an animal or how you create an animal. So, I think a good story should have a specific relation with animals, it should be realistic. For example, in the animation genre, it is quite important that the relations between humans and animals and between animals are not represented in a too distorted way. I'll give you a concrete example: in the lion King, I think it is okay to a certain extent to have 'good guys' and 'bad guys' because that is what children want. On the other hand, the stereotypical representation of lions as the good guys and hyenas as the bad guys actually has no relation to reality at all. So, it would be better to try to avoid too specific stereotypes in animal stories. If animals become more and more stereotyped in a very specific way, that doesn't help our realistic relation with them.

- **Maarten Reesink**, *Senior Lecturer in Animal Studies in the Media Culture*

TWO

"NOT ALL THAT GLITTERS IS GOLD"

the tale of anthropocentrism and all that jazz

*

There once was a speedy hare who bragged about how fast he could run and laughed at the slow tortoise. Tired of being mocked, the tortoise challenged the hare to a race.

We all know how the story of the Tortoise and the Hare ends and the moral lesson we learned from it. The Hare was punished for her arrogance, the Tortoise was rewarded for her perseverance and, if you are a fan of Greek fables like me, you might have noticed how, in many other stories, animals are given human characteristics to promote moral values and ideals. Surprisingly, it is back in the 500 BC with Aesop's fables that anthropomorphism has its roots. Across history and cultures, humans have always had the tendency to represent others in light of their own desires and experiences, which, almost innately, led us to anthropomorphize. Malamud (2012) tells a funny joke which is particularly fitting here:

«An Englishman, a Frenchman, a German, and a Jew are asked to write an essay about an elephant. The Englishman writes about "The Elephant and the British Empire." The Frenchman writes about "The Love Life of the Elephant." The German writes a large pedantic treatise on "The Toenail of the Elephant." And the Jew writes on "The Elephant and the Jewish Problem" ».
(Malamud, 2012, p. 24).

The general definition of anthropomorphism is ascribing human emotions, feelings, personalities and behaviours to non-humans, such as animals, objects or natural phenomena. We use anthropomorphism to define where we stand in the natural world and what is our relationship with the animals that inhabits it. The interesting thing is that anthropomorphic constructs can take many forms, which appear evident in most representations of animals in humans' culture, starting from our use of language.
Without us even noticing, languages have plenty of zoological references: you can be smart as a fox, mad as a horse, busy like a bee, brave like a lion. You can get your ducks in a row, have

butterflies in your stomach, let the cat out of the bag or put a bug in someone's ear. All these idioms show how we constantly make use of other species to explain our behaviours, even when, in some cases, these figures of speech have nothing to do with the real nature of those animals. According to Malamud (2012), these visual images reveal our tendency to frame animals depending on our cultural agendas, regardless the possible negative effects this could have on them. The reason why I in fact decided to subtitle this chapter *"...and all that jazz"* is because it would be impossible to talk about anthropomorphism without addressing the intrinsically related concept of anthropocentrism, namely the belief that value is human-centred and that the interests of human beings should be favoured over the interests of all other beings.

One of my favourite primatologists, Frans de Waal (2008), suggests a discrimination which could help in the understanding of these terms within animal visual culture. De Waal distinguishes between two forms of anthropomorphism: animal-centric and anthropocentric. Animal-centric anthropomorphism does not seek to look at animals anthropomorphically from a human perspective, but instead emphasizes the continuum between humans and other species, with relations to their habits and natural history. To make this more clear, an example of animal-centric anthropomorphism could be the image of an orangutan mother cuddling her infant just as human mothers would do, with the difference of doing so in the rainforest canopy, which is her natural habitat (Sowards, 2006 as reported in Rowley and Johnson, 2018). At the other extreme, de Waal places anthropocentric anthropomorphism, which naively attributes human emotions and feelings to animals relying not only on insufficient information about those species, but also on what de Waal calls 'wishful thinking'. This attitude reflects what we are generally shown in animal visual representations, where the animal kingdom is a peaceful Disneyfied version of reality and is used by humans mostly "to mock, educate, moralize, and entertain" (De Waal, 2008, p. 73).

Along these lines, it becomes clear why the notion of anthropomorphism has often been regarded in a derogatory way, especially within the scientific community. Scientist strive to retain their objectivity at all costs in order to make meaningful investigations into the animal word. If we assumed that all animals think and behave the same way as humans do, what would the point in studying animal behaviour be? However, this consideration is not as trivial as it may sound. As Desmond Morris (1967) points out,

even the more sophisticated scientist would end up saying "Hallo, old boy" when greeting his dog. According to the zoologist, we are subject to subtle anthropomorphic pressures that lead us to see other species as caricatures of ourselves. It is precisely this sort of innate attitude that made anthropomorphism more easily accepted within the confines of popular culture, such as, for instance, storytelling. The photographer Jack Couffer believed that "since no one knows what an animal thinks, what an animal does must be interpreted – put into human terms – for us to understand" (in Mitman, 1999).
Animals have been widely anthropomorphized in popular culture, from art, to philosophy, to literature, and in a broad variety of films and documentaries. According to Elliot (2001), natural history documentaries are ineluctably anthropomorphic, not only because of made-up narratives and personification, but also because close-ups and camera angles contribute to increase anthropomorphism due to the sense of intimacy between the viewers and the observed animal. The author argues that films, as any artistic creation, are made "by humans for humans, by cultural groups for cultural groups" (*p.* 303) and, as such, the simple fact that we are filming an animal is enough to anthropomorphize him[4], because he is being represented on a human-based medium (Elliot, 2001).

Now, one might reasonably ask: what's the big deal? Is it really a huge problem if I find, for example, that baby monkey bathing video adorable? Well, as I pointed out in the introduction, this booklet is not aimed to convince you about what is right or wrong. I will, at the end of this chapter, discuss my personal view, but my main focus is to provide you with information from both sides, and let you choose as freely as possible where to stand.
On the negative side of anthropomorphism, the primary issue is the conveyance of misleading information about the real life of animals. Anthropomorphism indeed often misinterprets the actual motivations of animals' behaviours and, in doing so, leads viewers to a misunderstanding of the natural world. Let's go back to the March of the Penguins for a moment: the whole film revolves around the theme of romantic love to explain what in reality could be described as the natural penguins' breeding behaviour and an innate survival drive (Wexler, 2008). What is even more problematic is that the shootings steeped in realism make any

[4] As a side note, I will not use the pronoun "it" to refer to an animal, despite the software I'm typing in encourages me to avoid the use of the pronouns he/she.

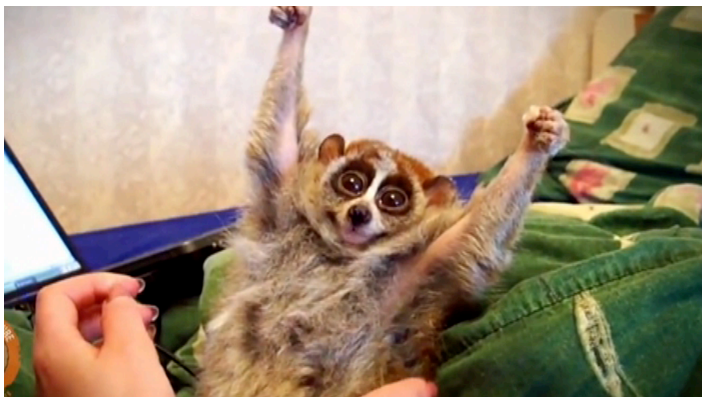
information presented unquestionable, even when these are not precisely accurate. Sir David Attenborough once argued: "The camera is the most convincing of all liars. But in the end, it's the motive of the filmmaker that is crucial."[5] Anthropomorphism also blurs the line between 'normal' and 'exceptional' behaviour in animals, setting unrealistic audience expectations of how the species actually are. In documentaries, wildlife is often portrayed in its most exciting and unique performances (Bousè, 2000), which might cause a discrepancy between the perception of the real animal and the animal on screen. In fictional movies, this is a common occurrence. For example, *101 Dalmatians* led to the over breeding and the adoption of Dalmatian puppies who were later abandoned because they were not the same as Pongo and Perdita (Merskin, 2015). Similarly, anthropomorphism in the popular movie Finding Nemo caused a reported increase in the demand for clownfish, which in turn resulted in the overfishing on the reefs and the endangering of the species (Root-Bernstein et al., 2013; Mereskin, 2015). Non-human primates have been also strongly affected by their anthropomorphic representations in a wide range of media. Despite almost a century passed from the disturbing tradition of "Chimpanzees' tea party"[6] , to this day, our closest relatives are still often used in movies and commercials in unnatural, human-like situations. Several scientific studies found that such forms of representations have a serious detrimental impact on primates, as, for example, people are likely to perceive chimpanzees as less endangered compared to how they really are (Ross, 2008; Schroepfer et al., 2011). The reason behind this (mis)conception lays on the fact that chimpanzees are often showed on television in anthropogenic contexts, therefore viewers not only believe that wild populations are stable and not threatened, but also that these apes would make suitable pets (Ross et al., 2011).

With the advent of Web 2.0, where online platforms such as YouTube, Twitter, Facebook and Instagram allow people to interact on common interests and exchange information, more and more amateur animal videos are being shared on the Internet. This is a media effect that is rarely discussed: over the last ten years social media have played a role in advertising the illegal wildlife trade and animal abuse, not only in the direct form of online trafficking, but

[5] David Attenborough, "How Unnatural Is TV Natural History", The Listener, May 7, 1987, 12.

[6] A form of public entertainment held in zoos, in which chimpanzees were dressed in human clothes and served tea and cookies.

also in the more indirect form of misleading posts. The general trend is to believe that engaging in those "like-and-share" behaviours has no impact on animal welfare and conservation, but numerous studies have proven how strongly social media can affect public opinion and perception of wildlife (e.g., Leighty et al., 2015). For example, who remembers the viral video of a pet Slow Loris being cuddled and tickled by its 'owner' while raising his arms? That short footage has now been viewed million times. If you type 'cute slow loris' on Google, it will appear among the first results. While many users go crazy for clips of these seemingly cuddly creatures eating rice balls, stretching or holding little umbrella, the reality behind these images is much darker and sadder. Loris indeed are the planet's only poisonous primates and have a potentially fatal bite (Alterman, 1995 as reported in Nekaris, 2014). Their venom is produced when the individuals raise their arms above their head, combining saliva with fluids of their brachial gland (Nekaris, 2014). Ultimately, what we saw in the viral video is not a 'request' for more cuddles and scratches, but instead the typical defense posture of a Loris ready to lick oil from its upper-arm glands to create venom (Nekaris, 2014). Sadly, to prevent lorises destined for the pet trade from using their toxic bite, the horrific practice of ripping their teeth out with wire cutters occurs among hunters, who in turn are paid by traders less than the price of a pack of cigarettes (Nekaris, 2012). What's worse? Our seemingly harmless "aww-so-cute" attitude towards these forms of wild animals' representations fuels the risk of extinction of the species, solely guilty of having a plush appearance.



Source: CNN

There are many others such stories. A more recent popular video shows a young chimpanzee scrolling an Instagram feed on a smartphone. He goes through the feed, opens the photos and then scrolls back with an astonishing aplomb. People love these types of

video because they are relatable. Again, we love when animals do things that humans do, when we can think "Hey, it's just like me!", but conservationists, activists and primatologists are strongly against the use of these forms of animal imagery as they not only they prompt the illegal pet trade of great apes, but they do not represent the real behaviour of a wild primate, who has instead probably been trained to use the phone to elicit that response we see on video.

Source: CNN

In this regard, Jane Goodall commented:

"I am very disappointed to see the inappropriate portrayal of a juvenile chimpanzee in this video which is currently circulating on social media... As responsible and compassionate individuals, I hope anyone who sees the video will not like, share or comment on it and all responsible media outlets change the coverage of the video to highlight stories of chimpanzees in wild or responsible captive care."[7]

Another important issue with anthropomorphism is that some species are more anthropomorphised than others. Species that are more relatable to us have features and traits that look more familiar and are perceived in a more positive light (Root-Bernstein et al., 2013). Taking this into account, I would define us 'selective' animal lovers: in his book *The Naked Ape* (1967), Desmond Morris

[7] Jane Godall's Institute Blog, retrieved from https://news.janegoodall.org/2019/04/25/inappropriate-videos-on-social-media-are-hurting-chimpanzees/

describes the results from an investigation on the 'top ten animal loves' in children. From the study emerged that the preferences were strongly endowed with anthropomorphic features, with chimpanzees and monkeys as most loved and snakes and spiders as most disliked species. It is also very interesting how we are more likely to consider cute according to human standards those animals which show juvenile features (e.g., big eyes, round head) such as panda or bunnies. In line with Konrad Lorenz's *Kindchenschema* (or baby-schema appeal), we are more likely to anthropomorphise certain species as they trigger a cuteness response in most of us (see also Dale, 2016). This reaction may however come at a price for other species that do not possess such favourable characteristics and are therefore less present in the visual culture, ultimately undermining the aim of conservation of protecting all animals and not just a single species (Root-Bernstein et al., 2013).

Nevertheless, to offer a complete picture, it is essential to clarify that anthropomorphism is not as doom and gloom as it might seem. We are all so used to see anthropomorphism as one of the most serious sins a scientist can make, that we often risk of depriving animals of their emotional essence to prevent ourselves from being tagged as "anthropomorphists". Once again, the concept of human exceptionalism carries a degree of responsibility, as it reflects how humans strive to distinguish themselves from other animals in order to hold our top position in the 'scala naturae'. As I mentioned earlier, the few occasions in which the tendency to humanize animals is tolerated is within the scope of popular visual culture, regarding it as a means to capture the emotional elements of nature (Mitman, 1999). Pioneer ethologists and primatologists defended under many aspects the personification of animals, for example in the attribution of names and personalities. If you know Jane Goodall, you will almost certainly know Flo, David Graybeard and many other chimpanzees she named during her time in Gombe. Goodall thought that names were a key element for chimpanzees to enter in people's heart and spark interests towards her work (Adcroft, 2010). Experts argue that this strong connection deriving from anthropomorphising animals is due to an improved understanding of them and of the natural world (Tam et al., 2013; Chan, 2012). Within the visual culture of wildlife film and documentaries, anthropomorphism has always been extremely important to draw large audiences and to encourage emotional investment. According to King (1996), creating a connection with the animals on the screen makes viewers feel closer to nature and wildlife, which in turn might lead audiences

to be more aware of issues such as conservation and engage in more pro-environmental behaviours (Tam et al., 2013; Root-Bernstein et al., 2013). On the plus side of the Web 2.0, social media platforms like YouTube are amongst the most powerful tools for increasing awareness in conservation through the sharing of both environmental and scientific information (Nekaris et al., 2013). These forms of communication have been used to raise funds for conservation and biodiversity, promote concerns about illegal wildlife trade and report harmful content of endangered species illegally extracted from the wild (Gallo-Cajiao et al., 2018; Nekaris & Cambell, 2012; Nekaris et al., 2013;).

As brilliantly written by Marc Bekoff (2013), anthropomorphism should not be considered a "problem," but rather an adaptive skill, closely related to empathy, which can help us understand and relate to other animals. Humanizing animals puts us in the position of empathizing with them in a more familiar way based on the human standard: if we are shown a representation of an animal suffering we are led to develop empathy, which could in turn modify our approach towards them in a more ethical and respectful way (Tam et al., 2013). In this regard, Erica Fudge (2002) points out that anthropomorphism might actually serve an ethical function:

"If we don't believe that in some way we can communicate with and understand animals, what is to make us stop and think as we experiment upon them, eat them, put them in cages?" (Fudge, 2002, p. 76).

On screen, the elicitation of empathy is often paired with the drama of wildlife films and the narration techniques used to depict characters. For example, Bousè (2000) clearly explains how anthropomorphism serves to create a clear narrative story arc in documentaries, despite the fact that this almost never occurs in nature with such a precise a structure. It is practically inevitable that human representations of animals are not edited or revised for the medium they are devolved to: the role of nature storytellers and science communicators is to deliver information to the general public in an accurate way, which, however has to be at the same time engaging and easy to understand. To do so, the anthropomorphization technique is aimed at a more clear and straightforward transmission of the message.

Ultimately, mediated nature and wildlife representations have always passed through "a human lens": anthropomorphism

represents the tool proper of the human culture to fit into and connect with these representations. This tool is often criticized because it may cause fiction to overlook science, conveying inaccurate messages about the true nature of animals and misleading audience towards unrealistic expectations about the natural world. Despite many criticisms, the powerful impact of anthropomorphism cannot be denied when it comes to empathy, narrative inspiration and audience engagement. As argued by Fudge (2002), our human desire to comprehend animals might be infantile, but the lack of those narratives of communication would cause a loss of contact with the world that surrounds us.

In my opinion saying that other animals have complex feelings and emotional behaviours does not mean being anthropomorphic. We have countless and solid scientific evidence which demonstrates how animals are conscious beings, yet, many (scientists) still engage in what Frans de Waal (1999) calls "anthropodenialism" - that is the a priori rejection of similarities between us and other animals. Of course, unfounded anthropomorphism is extremely harmful as not used in combination with solid science, but at the same time the deliberate denial of animals' emotional lives can be even more dangerous. In the words of Bekoff:

"Using anthropomorphic language does not have to discount the animal's point of view. Anthropomorphism allows other animals' behavior and emotions to be accessible to us. Thus, I maintain that we can be biocentrically anthropomorphic and do rigorous science." (2013, p.112)

Therefore, anthropomorphism is not the real issue, bad science is, and 'robbing' animals of their emotionality would result exactly in what science so ardently tries to avoid. Personally, I believe that anthropomorphism should not be condemned a priori; in our modern society where conservation and environmental causes are becoming increasingly important, it might fulfil an important function under many aspects. However, once again, viewers should be provided with a clear distinction between what is fictional narrative and what is scientific objectivity and they should never be encouraged to replace truthful explanations of animal behaviours simply because it is presented to them in a convincing way. I would argue that none of these two extremes is the proper stance: perhaps a more moderate form of anthropomorphism could be the best option to plant the seed

for a change in the representations we make of animals, and ultimately, of ourselves.

* * * *

It is very important for a good animal story and for looking at animals in general to see them as individuals. Disney is the one who started this: just as he did for his animation films, his nature documentaries presented animals as the individual protagonists of the stories. Intuitively we see animals as individuals, but somewhere in our history we took the wrong road and we thought it was sound science to see animals as merely species. This has its advantages of course, but led us to forget that there is another way of looking at animals which may be the most important at least if we want to live with them together in a better way that we do today, and that is to see them as individuals.

- **Maarten Reesink**, *Senior Lecturer in Animal Studies in the Media Culture*

It can be very risky when we start to assign all kind of human traits to other animals, but when we don't do it, when we try very much to avoid anthropomorphism maybe the risk is even bigger because we are then denying a lot of things that animals actually do, because we have a lot in common, we're both animal and we are sharing this animality and this being alive. We need to find the right kind of format to do that, books and other kind of media are great to let animals tell their own stories, the animals can participate in making the story and deciding how the narrative evolves.

- **Michelle Westerlaken,** *PhD in Interaction Design*

THREE

"BIRDS OF A FEATHER FLOCK TOGETHER"

the eternal struggle between science and media

*

A few years ago, I came across an essay which greatly influenced my perspective on the scientific discourse. It was 'The Two Cultures' by C.P. Snow (1959). I see Snow as one very interesting character: he was an English novelist and also a physical chemist. Two such different realities embedded in the same person. What an odd pair, right? Yet, it was exactly around this profound split between sciences and humanities that Snow's famous lecture was focused on in 1959. Snow positioned himself in between the two cultures, but he believed that, in general, the gap was widening. People on one side were no longer able to communicate with those on the other side: humanists could not describe the Second Law of Thermodynamics, while scientists asked about the books they had read would naively admit they "tried a bit of Dickens". According to Snow, this polarisation constituted a major loss to both parties, "to us as people, and to our society" (Snow, 1959, p.7). In 1963, Snow revised his essay and published a second version in which he suggested the emergence of a "third culture" as a bridge between literary intellectuals and scientists, where both sides were back on speaking terms. However, this prediction turned out to be more difficult to be pursued than expected. John Brockman in 1995 drew on the same concept of a *third culture* and observed how literary intellectuals did not communicate with scientists, but rather scientists addressed directly the general public. To do so effectively, scientists needed to communicate through accesible presentations in such a way that even non-scientists would be able to understand. In essence, it seems to me that another term for the emerging third culture could be nothing other than 'popular science'. According to this view, the 'third culture' as intended in this thesis refers to the popularization of science through films and documentaries.

As mentioned in Chapter 1, science and films have had a connection since the very beginning of cinema: scientists used the moving images as a medium for scientific investigation in order to keep track of their experiments both at a microscopic and a macroscopic level. Films also gave a chance to non-specialist spectators to get a glimpse into the scientific work. After World War II, the

relationship between science and film changed dramatically, as the broadcasting of science was given into the hands of television and producers, who considered scientific knowledge a profitable source to promote the trustworthiness of television (Gouyon, 2016). While on one side scientists were barely concerned with the aesthetic aspects of the programmes as their aim was to convey the 'correct' understanding of science, on the other side broadcasters' goal was mainly to comply with the audience's needs. These opposed views led to a new, rather risky, attitude in the film and visual culture, switching from a strong commitment to realism to a progressive acceptance of the fictional. Gouyon (2016) describes the emergence of a clear role division between the scientist and the filmmaker according to which the former was in charge of producing the facts and the latter would then use those facts to create engaging audio-visual products suitable for the public.

Suddenly, it became tricky to be both a scientist and a producer, and those scientists who wanted to be program-makers, had to 'cease' being scientists (Gouyon, 2016). With regards to this complex ambivalence, Thaler and Shiffman discuss some interesting strategies for those scientists who wish to be engaged with popular media and the tools that could be used "to ensure that the best available knowledge reaches the largest possible audience" (2015, p. 91). The authors focus particularly on the role scientists play in challenging misinformation within the popular media. They define "bad science", "pseudoscience" and "fake science"[8] and stress the impressive capacity of these forms of inaccurate information to spread effectively - and sometimes, unfortunately, stick - through the general public (Thaler and Shiffman, 2015). Considering that the key code of documentary is to tell truths about the world that surrounds us, it is fundamental that these truths are supported and confirmed by scientists. Nichols (2010) argues that it is responsibility of the scientist to assess the authenticity of the material during the production of the program. Let's think, for example, to the BBC's *behind the scenes*. I find them extremely interesting because they 'reveal' the process behind those flawless and untouched scenes. These 10-minutes clips are broadcasted at the end of the main episodes, for Planet Earth II they are presented as "*diaries*", for Dynasties they are presented as "*on location*", but regardless of the name, they all follow the making of the

[8] *Bad science* as erroneous conclusions drawn from valid premises, *pseudoscience* as valid conclusions drawn from invalid premises and *fake science* as erroneous conclusions drawn from invalid premises (Thaler and Shiffman, 2015).

documentary, the difficulties encountered by the crew and how the greatest footages were obtained. Often scientists and experts in the field are involved and interviewed to evidence how the production team needs them for validating what is being represented on screen (Mills, 2015).

Within this frame, wildlife documentaries occupy a 'privileged' position. As Mills (2017) points out, the reason is that natural history films remain tied to the idea of traditional factual programmes devoted to truthfulness and education, where the camera was a necessary tool for science. Audiences assume that what they are seeing is real and expect the scientist to provide guidance for its interpretation. That said, it is undeniable that wildlife documentaries are shaped around the primary demands for entertainment which generally have little to do with scientific communication. Humans naturally enjoy spectacle: slow-motion techniques, voice-over narration and dramatic occurrences are all elements that can be considered "worthy" to be broadcasted as they attract the viewer. This is the reason why Bouse (2000) considers television an unsuitable medium to represent the objective essence of nature: those extraordinary moments such as fighting, escaping and hunting, which are sold to us as animals' daily life, are in reality few and far between. Differently from science, television uses extraordinary facts to entertain and surprise spectators, risking the contamination of science television with sensationalism (León, 1994).

Yet, have you ever thought about how it would be if we were shown the accurate reality of nature in space and time? Probably several hours of footage of sleeping lions in the silent African Savannah, for example. Why don't we see that? For the simple reason we wouldn't watch that. As mentioned before, wildlife documentaries are required to be somehow spectacular in order to fit within the conventions of the contemporary media culture, provided that such tendency maintains an appropriate balance. "Spectacular" and "unusual" have a strong appeal on the audience, but it is fundamental to remain tied to objective facts in order to avoid the dissemination of fake science. Some wildlife films have in fact been accused of popularizing misrepresentation about wild animals: one of the most notorious cases in the tradition of nature-film fakery is the myth of the lemmings' suicide in the Disney True-Life Adventure episode of *White Wilderness* (1958). The absurdity of that staging was, in fact, beyond the imaginable. As Louson (2018) describes, after acquiring the lemmings, the Disney production

threw the animals over a cliff using a turntable offscreen. This scene served as a visual 'proof' for the narration of the film, which explained that the lemmings' instinctive periodic suicides were a migratory phenomenon to control overabundant populations due to the lack of food. This unethical footage not only perpetuated a wrong information about lemmings' behaviour, but also sadly resulted in the death of many of those individuals.

Another significant example of nature-fakery occurred more recently in 2012, when Animal Planet released the documentary "Mermaids: The Body Found". This docufiction combined elements of the documentary with highly speculative science. It not only affirmed the existence of mermaids, but also implied some form of involvement from the government to hide this discovery. The primary problem with this form of programming was that it only provided few disclaimers that reminded the viewer about the fake nature of its content. Contrarily, it presents itself as evidence-based, factual and scientific, when, in fact, most of the material was made up and the scientists interviewed were hired actors (Thaler & Shiffman, 2015). Programmes of this kind can detrimentally undermine the scientific accuracy of nature documentaries and, more in general, minimize science integrity, hence causing what Wallace (2019) defines 'education-washing'. With this term the author refers to when a corporation (e.g., Discovery Channel) purposefully misleads viewers about a false devotion to educational media (Wallace, 2019). As a consequence, such approach leads viewers to believe in the authenticity of the pseudo-scientific information that they are receiving, ultimately risking to reduce the nature documentary impact on more important issues, such as environment and conservation. That said, fake nature documentaries such as White Wilderness or Mermaids are, fortunately, far from being the typical example of the genre. Valid nature documentaries are in fact built upon notions of scientific objectivity where the viewer is not intentionally deceived and nature is not exploited (Mitman, 1999). Nevertheless, once again, it would be naïve to expect that the genre is entirely independent from the market needs. To maximise their effectiveness, wildlife documentaries need understandably to create a storyline able to draw viewers' attention throughout its development and to adopt a narrative format for audience entertainment. Although storytelling often has a negative reputation within science, narratives become extremely important when it comes to communicating science to nonexpert audiences as they provide an increased comprehension, interest and engagement

(Dahlstrom, 2014). Of course, the storyline in a wildlife documentary cannot consist of a series of cold facts presented apathetically one after another, nor it can rely on specific scientific terms and definitions that would not be comprehended by the general public. Maintaining a balance, however, is not an easy task. According to León (1994), simplification of science – that is explaining scientific issues in relatively simple terms – can be a double-edged sword: if on the one side it makes complex concepts affordable, on the other side oversimplification might lead to a false sense of understanding. Stories should simultaneously be able to not distort the truth and elicit curiosity towards scientific questions. In modern blue-chips documentaries this is often obtained through a dramatic narrative format which follows a three-act structure (i.e., a setup, a confrontation and a resolution). Here, the central character is often presented as an actor endowed with conscious desires, values and personalities with whom, as viewers, we can establish a connection. It is not so trivial that to fully convince the audience, intellectual themes are not enough, but emotional links which arouse affective and humorous reactions need to be included in the discourse (León, 1994).

Thus, in the final analysis, despite the distance tearing apart science and general knowledge being a story older than time, it is not impossible to narrow the gap. As such, the first step to reduce it is to re-structure the way in which scientific knowledge is conveyed, taking into account its target audience. In nature and wildlife documentaries popularization of science aims at keeping the message accurate, interesting and understandable, while at the same time offering an emotional experience to the viewer. Another crucial point for a fruitful combination of the two sides is to always make audiences able to distinguish real facts from fictional content across media. Indeed, even without a specific intent to mislead, nature documentaries can easily risk to pass on a representation of animals that is actually inaccurate and ultimately at the expense of their real nature and behaviours. For this reason, the ability of scientists, producers, filmmakers and narrators/presenters to collaborate and share a similar approach towards animals plays an important role in the process of bringing science to the public through documentaries. We all love stories, there is no doubt about that. The whole trick is to find, translate and communicate elements which already exist in the world without disrupting reality in such a way that they all fit in a perfectly balanced picture. That, in my opinion, is what makes a story a good story.

* * * *

I think speciesism and anthropocentrism are very much at the basis of our society. They are part of everything we do. We actually come into contact with other animals many times per day, from the things that we touch and eat, to the animals in our homes that are living with us as pets. I think that when it comes to scientific research, animals might have a lot of other things to say. If we had ways to record those and make such responses part of our representations of them, we might get a much richer image and story. This knowledge might not be what is defined as traditionally scientific, but we need these different kinds of knowledges upon which we can speculate, because this is what makes us wonder, what makes us ask questions. If we don't tell these stories, they are excluded from the sciences, which I think is what happens in an anthropocentric way of doing science.

- **Michelle Westerlaken,** *PhD in Interaction Design*

It is undeniable that there is a great part of documentaries which is reconstructed, let's just think to editing or to sound effect. We are often shown scenes which are filmed in different moments to illustrate a particular behavior. Sometimes, animals are even filmed in controlled conditions such as captivity because it might not possible to film them in nature for different reasons like disrupting animals' wellbeing or ensuring documentarists' safety. This 'fakery' part exists, but it is important to be conscious and to not exceed its limits. For example, if as a documentarist, I show you behaviours which actually do not happen in nature and sell them as they truthful and scientifically approved, then I am overtly misleading the viewer. The documentarist has the responsibility to maintain a moral code which avoids a too romanticized version of facts. Personally, I always tend to be the most accurate possible and do not deceive the public just to present a more engaging story.

- ***Luca Marino***, *biologist and filmmaker*

FOUR

"DON'T JUDGE A BOOK BY ITS COVER"

Does storytelling affect our connectedness with nature?

*

Over the past 30 years, humans have become increasingly aware of their detrimental impact on the natural environment. The most disparate forms of media often present us with evidence of a wide range of environmental issues, from biodiversity loss, to pollution, to climate change. You probably already heard terms such as *environmental concern* and *environmental sensitivity* as they became commonly used in everyday language. In a nutshell, they refer to the worries a person holds when it comes to beliefs about environmental problems and to the empathetic perspective people adopt towards the environment (Shultz et al., 2004; Barbas, 2009). Surprisingly, I recently came across an even more interesting term. How many times have you felt some form of link with nature? How often have you found yourself thinking how strongly connected you feel with that landscape, that view, that tree, that species? Well, there is a scientific definition for this feeling known as *connectedness to nature* and it turns out to be a central concept when it comes to pro-environmental behaviours.

Connectedness to nature is described as a person's belief about the degree to which she sees herself as part of the natural environment (Arendt & Matthes, 2014; Barbas, 2009; Bruni & Shultz, 2010). This psychological construct is often categorized as a 'primitive' or 'zero-order' belief, meaning that it is part of the inner core of a person's basic truths about physical and social reality and serves as a basis for the formation of other beliefs related to nature (Bruni et al., 2012; Dunlap et al., 2012; Schultz & Tabanico, 2007).

Extensive research has in fact investigated the role of connectedness to nature in terms of sustainability attitudes, showing how a stronger connection is predictive of pro-environmental actions as well as less engagement in negative behaviors for the environment (Bruni et al., 2012; Verges & Duffy, 2010). Connectedness to nature can be assessed by a wide range measures, both explicit and implicit. The former includes self-report scales and questionnaires in which the participants are asked to indicate their agreement with some overt statements on their relation to nature and animals on a Likert scale. For example, Schultz (2001) created the Inclusion of Nature in Self

(INS) which is a measure composed of a single item that indicates how individuals feel the overlap between themselves and the natural environment. Similarly, Mayer and Frantz (2004) developed the Connectedness to Nature Scale (CNS), which aims to measure individual differences in emotional connections to the natural world. In order to limit social-desirability bias of explicit answers for those individuals who may want to appear "environmental-friendly", researchers developed implicit measures based on reaction times in categorization tasks to measure the connectedness with nature. Schultz and colleagues, for example, created the Implicit Association Test for Nature or IAT-Nature (2004), which is based on the individual's automatic associations between concepts and attributes and is useful to measure the connectedness with nature on a level of awareness which is not under deliberate control.

How does this all fit within this booklet? To date, several studies found that connectedness to nature appears to be malleable through experiences in natural settings. For example, spending a day at the zoo or walking 15 minutes in nature results in higher connectedness with nature scores, while the same does not happen for other recreational activities such as exercising (Schultz and Tabanico, 2007; Bruni et al., 2008; Mayer et al., 2009). Many other factors appear to influence people's attitudes and behaviors towards nature, including mediated nature experiences such as documentary films. According to Janpol and Dilts (2016), documentary films about science and nature are useful to raise awareness on environmental issues and motivate viewers to action. They highlight that through these forms of media it is possible to reach a broader audience and in such a way the environmental discourse is intensified, and knowledge is gained. One of the first studies to test this idea has been that by Fortner in 1985 (as reported in Arendt, 2014), who tested whether the effects of knowledge on the topic of marine mammals differed when students watched a nature documentary or when they were thought the same content through a regular classroom lecture. The results showed a significant increase in knowledge in both cases, but, interestingly, an attitude change was visible only in those students who watched the nature documentaries and not among those who got the teacher's presentation. A similar study by Barbas and colleagues (2009) investigated whether the exposure to nature documentaries on a species affected environmental sensitivity towards those animals represented on screen as well as the effects of the type of documentary (verbal vs.

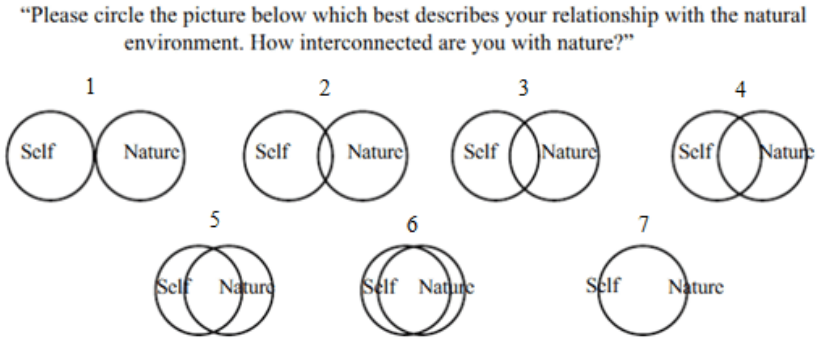
non-verbal). The results suggested that nature documentary positively affects the environmental sensitivity, but also that non-verbal documentaries appeared more effective than the verbal ones in the development of environmental knowledge and feelings about the represented animals. The authors concluded by remarking that more experimental studies should be conducted to "delineate which variables, and to what degree, eventually develop sensitivity" (Barbas, 2009, p. 66).

In light of these findings and considering the impact of the exposure to eco-media on viewers' interactions with the environment, I decided to investigate a more specific question. I wondered whether different mediated nature experiences – in particular the type of video documentary and the characteristics of its narration – could affect explicit self-rated connectedness with nature and with animals. My research was a small-scale attempt to explore whether the feeling of being connected with the natural world varied according to different nature footages and their form of storytelling. Besides the few studies mentioned above, most researchers have focused on the real natural experience and its direct effect on connectedness to nature. However, I believe that the role of media in this process should be taken in more consideration, as it might have important implications for environmental education and the raising of connectedness to nature via documentaries and nature films.

The study

Due to the Pandemic, the research was conducted exclusively online between May and July 2020. The first step was to choose two different documentaries which could be comparable in the topic, but with substantial differences in the footages. The final choice consisted in two documentaries about lions, one realized in 1929 (Africa Speaks) and one in 2016 (BBC's Dynasties: Lions). The old documentary included an old anthropocentric narration, black and white footage and the depiction of the felines as wild bloodthirsty beasts, like in typical safari films described in Chapter 1. The new documentary, instead, was part of the blue-chip tradition, showing amazing visuals of the animals and a magnificent depiction of nature narrated by Sir. Attenborough. A 6-minute short clip was extracted from each of the documentaries and presented to the participants, featuring the introduction of the lions and a hunting scene. The variables were then created through some audio-visual manipulation, namely, each video was associated with both an old

and a new narration. An additional No-Narration condition was included as a further control condition and as a baseline. Overall, the design included 6 experimental conditions: 1. New video with new narration (original BBC Dynasties documentary), 2. Old video with old narration (original Africa Speaks film), 3. New Video with Old Narration (BBCs' Dynasties documentary + Africa Speaks narration), 4. Old video with new narration (Africa speaks film + BBC's Dynasties narration), 5. New video with no narration (BBC'a dynasties with musical score), 6. Old video with no narration (Africa Speaks film with the same musical score as condition 5). The conditions were randomized in order to prevent sequencing effects. A 2 (type of video: modern/old) x 3 (type of narration: modern/old-fashioned/No narration) between-subject design was used, with the score of connectedness to nature as the dependent variable as self-rated by the subjects. To measure the connectedness with nature, four different validated scales were used: the INS (Inclusion of Nature in Self scale, Shultz 2004), which is a single-item measure consisting of seven pairs of circles labelled 'self' and 'nature'. On one extreme, the two circles do not touch each other, while on the other both circles are almost completely overlapping. Respondents are asked to circle the pair that best represents their relationship with nature, with the overlapping as an indicator of their connectedness to nature.



The second measure used was the EID (Environmental Identity Scale, Clayton 2012), which aims specifically at investigating how the connection with nature can be part of a person's identity, including, for instance, questions about habits and emotions related with it. For example, in a zoo setting, EID was related to a higher sense of connection with the animals (Clayton et al., 2012). The CNS (Connectedness to Nature Scale, Mayer & Frantz, 2004) was

the third measure used in the study aimed at assessing the emotional connectedness with the natural world. Similar to the EID, it focuses primarily on an affective response to nature. Finally, a shorter version of the AAS (Animal Attitude Scale, Hezog, Grayson and McCord, 2015) was used as the last measure to assess individual differences in attitudes toward animals.

The questionnaires and the videos were presented through the Qualtrics online platform. Overall, 108 participants took part in the research. As a first step, they were asked to complete the INS and supply some basic demographic information, including gender, age, education level, whether they were vegetarian and whether they owned a pet. Participants were asked to complete the EID questionnaires and only after they were shown one clip randomly extracted from the 6 conditions mentioned above. Each participant was then asked to complete the full questionnaire (inclusive of the CNS and the AAS). As the last step, participants were asked to complete the INS scale a second time, before ending the experiment. Of 108 participants, 89 completed the survey and were included in the analyses. Data were cleaned and negatively worded items' scores were reversed. A Linear Regression analysis was then performed with Video and Narration as independent variables, CNS (Questionnaire 2) or AAS (Questionnaire 3) as dependent variables and Gender, Pet-Owner and Diet as covariates. Additional analyses were run to check for the degree of correlation among the three questionnaires and for the difference, if any, between INS1 and INS2. An alpha level of .05 was used for all the analyses. All the analyses were conducted by using the open-source statistical software R and the graphical user interface *Jamovi* for Apple MacOS operating systems.

Results[9]

The linear regression performed on the median values of a Likert scale (1-5) showed no effects of the main variables (i.e., Type of Video and Type of Narration) (all $p > .05$). Connectedness with nature (Q2) and Attitudes towards animal welfare (Q3) did not change as a function of the nature of video and associated narration (see Appendix 1). This result was confirmed when a 2 (Video 1/ Video 2) x3 (No Narration-Music/Old Narration/ New Narration) between-subjects ANOVA was run (all *ps* > .05). However, importantly, quasi-experimental variables such as gender and being

[9] All data and detailed analyses are available under request.

a pet owner, showed significant effects on participants' subsequent rating of Attitudes towards animals (Q3, see Appendix 1), but not of Connectedness with Nature (Q2). The latter result is quite surprising as the correlation among the three questionnaires was high ($p<.001$, see Appendix 2). In particular, the analysis showed that ratings were higher for Female participants and for Pet owners ($p < .05$). Interestingly, additional analyses by item with *Condition* (i.e., by associating the two variables manipulated in the experiment) as an independent variable showed that Gender effects were mainly due to specific conditions. Namely, females scored higher in Q3 in the conditions with the Old video + New Narration and with the Old video + Music (see Appendix 3). In the condition of New video + Old Narration, participants scored lower in their attitudes towards animals, but only for those who did not own a pet (see Appendix 4). No effects of diet were found possibly due to the unbalanced number of vegetarian/vegan participants per condition. Finally, the average score of INS1 was 3.91 for males and 4.80 for females, while on the INS2 was 4.18 for males and 4.86 for females. Despite the slight increase, no significant difference emerged between INS1 and INS2 as a function of video and narration type ($p > .05$).

Discussion and limitations

The rationale behind the present study was that, as noted by Arendt and Matthes (2014), self-report measures imply that participants are able to express their beliefs and cognitions overtly. However, for some individuals a sense of connectedness may not be conscious or immediately available to consciousness. Also, biases for social desirability may intervene in the expression of truthful pro-nature statements. The null results of the main experimental manipulation reported here are in accordance with the conclusion that explicit measures might not be able to detect as accurately as the implicit ones some subtle variations in connectedness with nature. For example, Schultz and Tabanico (2007) studied whether zoo experiences aimed at connecting people to animals and conservation could have an impact on individuals' connections with the natural environment. Results showed that visiting the animal park increased the implicit connectedness with nature, while self-reported explicit connectedness to nature did not have any significant effect on connectedness. It is plausible to hypothesize that if explicit measures failed to recognize the influence of real nature experiences on connectedness, then the same might have happened in this study for the mediated nature experiences. On the other hand, two of the

three quasi-experimental variables included in the study, namely, gender and being a pet-owner, were found to impact attitude towards animals with ratings being significantly higher for female participants and for pet owners (although the latter may be a spurious result mostly due to the condition New Video + Old Narration), hence indicating that some personal characteristics have a stronger relationship with individuals' connections with the natural environment. Being a vegetarian/vegan did not impact any score.

There are several limitations to this study, and, as such, results need to be interpreted with caution. First and foremost, the experiment was conducted online rather than under more strictly controlled conditions in the lab. This implied a lower level of control on the intervening variables. Second, participants were mostly Italian students, who perhaps were not highly familiar with spoken English. Indeed, the lack of difference with the condition No Narration (meaning that the clip had music instead of a voiceover) supports the above conclusion. The significant effects of gender and being a pet owner strengthens such an interpretation as gender and owning a pet are independent from language comprehension.

Despite finding null results may be disappointing, sometimes lack of differences may speak to the theoretical question at hand. For example, Janpol and Dilts (2016) found significant effects on subject's environmental perceptions when participants watched a documentary about dolphins compared to when they watched a bridge construction film. However, while the two categories used in their study (natural vs. built environment) were on two opposite extremes, my results derive from a very subtle manipulation within the same environmental category, with the same animals and the same storyline, with the variation focusing specifically on the footage quality and the narration. The distance between the conditions may turn out to have been too small to let differences emerge, as the measure used might have not been sensible enough.

The results reported here may indeed provide an interesting option for future research to use alternative implicit measurement techniques for connectedness to nature and attitudes towards animals. A possible future study might increase the "distance" between the conditions to be tested (that is making them more salient), in order to increase the sensibility of the measure used. Beside this, control for covariates, running the experiment in the lab and testing English-speaking participants may be precautions to use in a follow-up.

"ARS SIMIA NATURAE"

or how this story ends

*

On the 7th of December 2020 something highly unlikely happened to me. As a scientist, I don't believe in a pre-determined destiny, rather, I really appreciate the occurrence of extraordinary coincidences. As you probably picked up from this thesis, I am a massive fan of Jane Goodall. So, when I found out she was to give a talk in the Netherlands, in an unpronounceable city over two hours by train from where I live, I immediately booked the ticket in the front row. I don't want to sound too cheesy, but when she appeared on stage my heart didn't stop pounding not even for a second. Then, I don't know how and why, the person sitting next to me with whom I had a brief chat of courtesy, asked me why I was there and what my story was. It turned out that as a strategy manager of an eco-company he had access to the Meet & Greet with Jane and offered me the chance to join. I was so excited that I couldn't believe it was happening. In that occasion, she talked to me, and at the end, she signed for me her book that I hadn't read yet. It is called "*The Ten Trusts: What We Must Do to Care for the Animals We Love"* and she co-authored it with Marc Bekoff. The interesting thing about this book is that it has the format of a list of things we can do to protect and preserve animals in our modern society. The ten 'animals' commandments' read as follows:

1. Rejoice that we are part of the Animal Kingdom
2. Respect all life.
3. Open our minds to animals and learn from them.
4. Teach our children to respect and love nature.
5. Be wise stewards of life on earth.
6. Value and help preserve the sounds of nature.
7. Refrain from harming life in order to learn about it.
8. Have the courage of our convictions.
9. Praise and help those who work for animals and the natural world.
10. Act while knowing we are not alone and live with hope.

I believe that under many aspects these rules are proven to be useful guidelines not only for relating to real animals, but also for representing them in the media. The value of mediated animals' representations is an issue that should be discussed more often and more openly. It is my hope that this booklet sheds some light on the consequences and the implications of the many ways humans portray other species within the visual culture. It was also my aim to highlight the responsibility we have in conveying a respectful and accurate image, since the viewers' impression and knowledge of animals is highly reliant on what they see on their screens. Technology offers us the chance to see the natural world in a way in which only explorers or scientists were able to witness in the past, turning earth into a visual spectacle directly available in our homes. As everything, this can have its pros and its cons: if, on one side, we can be inspired by the magnificence of nature while sitting on our couches, on the other side, we are getting increasingly used to experiencing animals in this partial and, in some circumstances, limited space.

There is a multitude of ways in which animals are portrayed, some stories focus on humans as dangerous and disruptive to nature, some do the opposite focusing on animals as threats to humans and many others are a combination of these two attitudes. As a bridge between being a scientist and a storyteller myself, I feel that it is possible to maintain an accurate and sound representation of animals while still making visually compelling stories that are able to enhance the connection between people, nature and wildlife. According to de Waal (2016), animal cognition does not actually mean trying to find out what animals think, but rather determining mental processes from observable outcomes. In a similar way, I think that animals on screen should have the opportunity to express their natural behavior, where humanity should not be used as the measure of everything. On this matter, here is a little fun fact about the title of this epilogue: the Latin proverb 'ars simia naturae' means 'art imitates nature', or more precisely 'art is the ape of nature'. The verb "to ape" comes indeed from the Latin 'simulare' [to imitate], which in turn comes from the noun simia (in Italian, 'scimmia'), which means "ape". So, visual arts were regarded as respectable imitators of nature. Our challenge here is to engage in an almost unnatural thinking process: instead of scaling other species to us, we should think more like them and evaluate them according to what they are. Marc Bekoff calls this process 'rewilding of our hearts' and it can be achieved by

respecting who (and not what!) other animals are and working on their behalf.

In conclusion, whether we represent animals for entertainment, education, art, science, activism, passion, or any combination of those, the key point is to understand how these images affect animals in the first place as well as our relationships and perspective on them. While much progress has been done towards animals in the past years, much more can be achieved in the future. I am an incurable optimist when it comes to keeping hopes alive and I know that many others scientists/aspiring storytellers/filmmakers/animal lovers like me are out there simply looking for one little boost.

A movie I once watched quoted:

«There is no such thing as an ending, just a place where you leave the story».

So, this is where I leave my story. It is your story now.

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APPENDIX 1

Linear Regression

Model Fit Measures

Model	R	R^2
1	0.428	0.184

Model Coefficients - Q3

Predictor	Estimate	SE	t	p
Intercept [a]	4.574	0.589	7.769	<.001
TYPE_OF_VIDEO:				
old – new	0.108	0.159	0.683	0.496
TYPE_OF_NARRATION:				
Music – Old_Narration	0.127	0.196	0.652	0.517
New_Narration – Old_Narration	0.243	0.202	1.203	0.232
sex	0.417	0.169	2.471	0.016
pet	-0.496	0.214	-2.316	0.023
diet	-0.413	0.227	-1.819	0.073

[a] Represents reference level

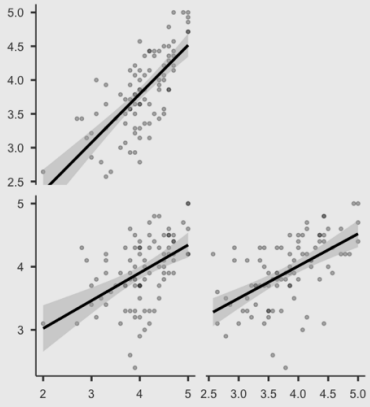
APPENDIX 2

Correlation Matrix

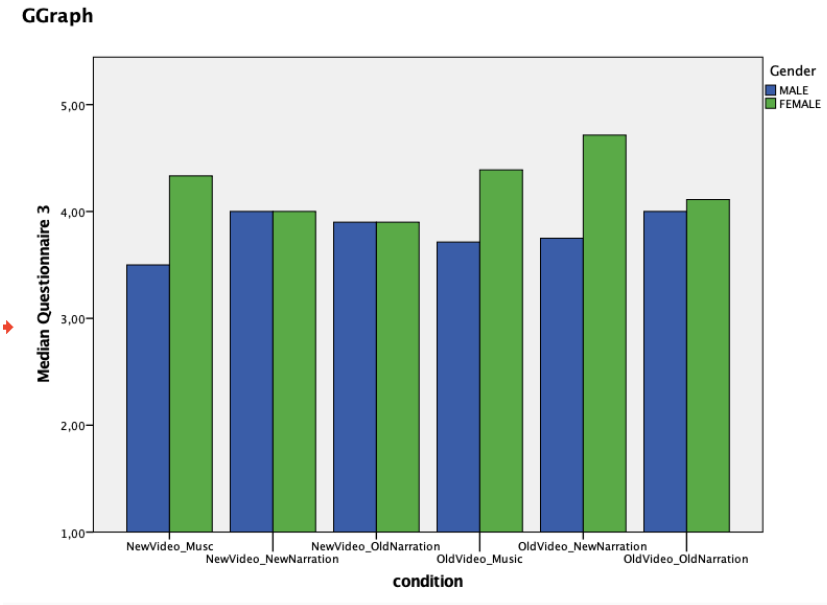
Correlation Matrix

		media_q1	media_q2	media_q3
media_q1	Pearson's r	—		
	p-value	—		
media_q2	Pearson's r	0.709 ***	—	
	p-value	<.001	—	
media_q3	Pearson's r	0.476 ***	0.561 ***	—
	p-value	<.001	<.001	—

Note. * p < .05, ** p < .01, *** p < .001



APPENDIX 3



APPENDIX 4