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Supervisor:	Lars Hallgren,
	Swedish University of Agricultural Sciences (Uppsala, Sweden)
	Department of Urban and Rural Development
Co- Supervisor:	Assoc. Prof. Reinhard Steurer,
	Universität für Bodenkultur Wien (Vienna, Austria)
	Institute of Forest, Environmental and Natural Resource Policy
Examiner:	Elin Ångman,
	Swedish University of Agricultural Sciences (Uppsala, Sweden)
	Department of Urban and Rural Development

Abstract

Nature is and has always been a highly discussed concept. Over centuries, its meaning, appreciation and perception has changed. Today, facing global warming and other environmental problems, a deeper reflection about our general understanding of the concept of nature seems more necessary than ever. For this reason, this thesis tackles the question of we actually mean or describe with the term nature.

Inspired by the theoretical framework on the social construction of reality by Berger and Luckmann (1991), this thesis investigates the concept of nature constructed in four National Park exhibitions in the Germany and Austria. Based on the sociology of knowledge approach towards discourses introduced by Keller (2011), this thesis illustrates how different discourses structure the meaning of nature displayed in the exhibitions.

In the analysis, four different discourses have been identified that shape the content presented in the exhibitions. Since the discourses are based on social practices, they indicate certain common habits and perceptions which are deeply rooted in the institutional setting, but also in society in general. Each of these discourses depicts a different understanding of nature, describing various concepts of nature.

Since the discourses have been created through social practices that influence and at the same time are influenced by the social order, the thesis also illuminates the complex dialectic relationship between social norms and social practices. The thesis illustrates how the discovered common beliefs are reinforced or questioned by the exhibition practice. This not only demonstrates the possibility to portray and understand nature in various ways, but also illustrates the necessity to understand nature as a abstract, socially defined and changeable concept. By taking a closer look at the current exhibition practice, this thesis helps to develop an understanding of ideas about nature deeply-rooted in social practice, and the direction in which the current perception tends to develop.

Keywords: Social Construction of Reality, Nature, National Parks, Exhibitions

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Abbreviations

cf.	confer
e.g.	exempli gratia, Latin phrase for *for example*
et al.	et alia, scientific abbreviation for *and others*
IUCN	International Union for Conservation of Nature
NP	National Park
NPBG	National Park Berchtesgarden
NPGS	National Park Gesäuse
NPHT	National Park Hohe Tauern
NPHWS	National Park Hamburg's Wadden Sea
NPs	National Parks
pic.	Picture
SKAD	The Sociology of Knowledge Approach to Discourse
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America

1   Introduction

What is nature? People have been arguing and discussing for centuries what nature is, how we should define it or what value it has. Facing global warming and other environmental catastrophes, the need to further deepen our reflection about those questions is more and more emphasized. The scientific discourse thereby extends from religious reflections about nature (Nash, 1989) over philosophical considerations based on Heraklit, Aristoteles and above all Decartes (Oldemeyer, 1983) up to the current researches in ecocentric and anthropocentric attitudes towards environment (Dunlap, Van Liere, Mertig, & Jones, 2000; Karpiak & Baril, 2008; Kortenkamp & Moore, 2001; Thompson & Barton, 1994). Although they point out different ways of perceiving nature, estimating it or behaving towards it, they rarely address how concepts of nature get established within our mindset in the first place.

Regarding this question, social constructionism can offer a different angle on this topic, since it aims to illustrate how our meaning of nature is actually socially defined (Greider & Garkovich, 1994, p. 9). It thus takes the manner in which certain perspectives get established into account. One of the most influential works is *The social construction of reality* written by Berger and Luckmann (1991), which enjoys great recognition within the scientific world until today (Knoblauch & Wilke, 2016). The emphasis is set on the shared common knowledge within our society. Instead of taking this knowledge for granted, Berger and Luckmann depict the manner in which it gets created and reproduced via social interaction. Through the fact that it is shared with others and applied in our daily lives, this knowledge gains its validity (Berger & Luckmann, 1991, p. 65 ff.). While growing up, we internalize this shared knowledge by participating in society. It consequently shapes our lives on a daily basis: it guides the way we think, behave and interact with each other and the environment (Berger & Luckmann, 1991, p. 56). In short, the knowledge we experience shapes our perception of reality and structures our worldview.

Our understanding of nature is accordingly also premised on the current shared knowledge about nature. The question then is, what knowledge about nature is circulating within society today? Or phrased differently, what meaning of nature is currently socially constructed and commonly shared by our social interaction, which was the initial thought of this research project.

Instead of looking at the scientific or philosophical discourse, as is for example done by Flint et al. (2013), this thesis rather wants to explore activities creating and presenting knowledge about nature to the public. Especially since Berger and Luckmann stress the importance of those institutions within the socialization process (Berger & Luckmann, 1991, p. 149ff). Following the assumption that natural museums and exhibitions have always been a place for the production as well as representation of knowledge (Star and Griesemer, 1989) and can be considered an important site for the definition of nature (Alberti, 2008, p. 85), the focus was set on the investigation of exhibitions relating to nature. The basis for the empirical investigation was furthermore narrowed down to permanent exhibitions of National Parks (henceforth NPs), because they are considered to be an important marker for nature (Reinius & Fredman, 2007) and thus an important player within the current construction of nature. The reason for this argumentation will be explained in more detail later on.

The research aim is to explore the meaning of nature as it is constructed by four National Park (henceforth NP) exhibitions. The thesis attempts to illustrate similarities and differences between these exhibitions in order to exemplify possibilities of understanding nature differently. By analyzing the exhibition designs, language used and objects displayed, this thesis shows how different discourses shape and structure what and how

information on nature is displayed. The thesis' methodology is based on the sociology of knowledge-approach towards discourses (Keller, 2011), with the intention to also demonstrate the influences of existing social order and its institutional setting on our common understanding of nature.

To begin with, the choice for NPs and their permanent exhibitions as the basis for the empirical investigation is explained in more detail. The thesis follows up with the theory of the social construction of reality by Berger and Luckmann (1991) in order to outline the manner in which knowledge gets constructed and objectivied by our social practices. Additionally, some further insights in the current research on the construction and concepts of nature are presented. Afterwards, a description of the applied method and details about the research design and process are explained. The next part focuses on the analysis of the four exhibitions. This is followed by the discussion, which contains the discourses identified in the exhibitions as well as some general reflections about the exhibition practice in respect to Berger and Luckmann. The thesis ends with a brief conclusion and some ideas for further research.

1.1   Why National Parks?

First of all, NPs are according to the International Union for Conservation of Nature (IUCN) defined as a "[n]atural area of land/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible"(IUCN & EUROPARC Federation, 2000, p. 25). Hence, all NPs combine nature protection with the task of providing educational and recreational opportunities for its visitors. According to Reinius and Fredman (2007), NPs are precisely famous for this combination and thereby often perceived as tourist icon and as marker of nature (Reinius & Fredman, 2007, p. 850), which was the main reason for choosing NPs as research field.

Especially since Fischer (2004) argues that nature protection alone demands a reconsideration of the human-nature relationship and thus the general understanding of nature, because it influences the management practice. The choice to focus on the NP exhibitions is derived from this consideration. An important contested consideration is for example, whether it is the duty of humans to use their knowledge to act in favor of nature within the protected area (Fischer, 2004, p. 230ff) or if nature protection should rather be understood as enabling the natural process within nature to develop (EUROPARC Deutschland e. V., 2016). One can only assume that general reflections about nature and the human-nature relationship play a big role within park management, which raises the question if this consideration is actually communicated to the public or not.

Indeed, this is of particular interest in regards to the inquiry on the affinity and attitudes towards NPs by Arnberger et al. (2012). Arnberger at al. demonstrate how important a high affinity and attitude towards the management practice is to create a mutual understanding about the supposed behavior within the park area. An understanding of the management approach can in their view enable the coexistence between experiencing and protecting nature, which are often described as difficult aims to combine (Juutinen et al., 2011; Suckall, Fraser, Cooper, & Quinn, 2009).

The conflict between protection and tourism has the potential to be enlarged if the park is located in close proximity to a urban area (Arnberger & Brandenburg, 2002), which is often the case within central Europe. The need to improve the communication to visitors in order to increase awareness about the double function of NPs, as tourist attraction and nature

reserve is also stressed by Müller and Job (2009). They point out that people "need to be made aware that letting nature follow its course may lead to outcomes that do not conform with idealized images of landscapes and nature" (Müller & Job, 2009, p. 382). This implies already a demand to portray nature in a certain way, without offering deeper insights into the current communication strategies of the NPs.

These insights not only illustrate the reasons for choosing the cases, but they also shows the relevance of this research question to the field. It seems that deeper insights in the communicative practice will enlarge the current stand of research. This can be of particular interest not only for the management of the parks (Buijs, 2009) but for the scientific debate in general (Alberti, 2008; Macdonald, 1998; Mancino, 2015).

1.2   Why permanent NP Exhibitions?

So far, why NPs are an attractive research field for the construction of nature has been outlined. But why are permanent exhibitions specifically suitable and interesting as empirical settings?

First of all, the society for NPs Austria describes the permanent exhibitions as central meeting and information points in NPs (cf. Verein Nationalparks Austria, 2016). These exhibitions are thus clearly designed to communicate with a broad range and high number of visitors. The important point is that while opening up for the public, the exhibitions also function as a mirror of the identity and self-perception of the institutions (Habsburg-Lothringen, 2013a). By this means, visitors gain knowledge about the presented content as well as the institution itself. Due to the fact that NPs have the purpose to protect nature, the exhibition should contain evidence about what exactly is to be protected and how. Consequently, one can assume that not only the self-understanding of the park is demonstrated within the exhibition, but that it also illustrates a certain approach towards nature. Especially since the display of nature within museums and exhibitions has always been considered an "active site for the construction of ideas about nature" (Alberti, 2008, p. 77). The choice to focus on the NP exhibitions is derived from this consideration.

In this context, it is important to keep in mind that permanent exhibitions indicate way more than just the understanding of the institution. They also indicate scientific development, show technical possibilities and indicate certain esthetical values (Habsburg-Lothringen, 2013a). This point is of particular interest when taking current trends within the exhibition practice into account. Museums that have once been designed to present a huge collection of objects developed with the time into "more active sites of participation, commerce and dialogue with audiences" (Cassidy, Lock, & Voss, 2016, p. 216). Today, the exhibition practice can thus be described by many different dramatic approaches. A helpful categorization is therefore the distinction between object and concept based exhibition, as described by Dean (2002). One example for an object based exhibition would be the traditional natural history museums which often display a huge collections of specimen. The common manner of displaying collections with the help of diorama and taxidermy has influenced the display of nature within museum until today (Habsburg-Lothringen, 2013b).

Precisely because NPs are not based on a huge collections, NPs exhibitions may have to follow a different approach than the one used in the well-known and investigated natural history museums (Alberti, 2008). According to Dean this kind of presentation uses texts and graphics instead of objects to communicate a specific idea (Dean, 2002, p. 4). Here, the information or a certain message is foregrounded. In a similar manner is the topical exhibition design described by McLean (1993, p. 27). The core of the topical exhibition is the storyline, which is expressed by the arrangement of the exhibits. This opens up many

possibilities to portray nature in various way. The focus of this thesis is consequently set on investigating the conceptual level of different NPs exhibitions in regards to their manner of constructing nature.

Although the complexity and high variety within the museums practice is constantly stressed (Mancino, 2015), there are rarely any scientific investigations that actually include different arrangements regarding the same topic. By investigating the construction of nature within different exhibitions and generally asking what is actually displayed within the NPs exhibitions, the thesis can offer a new perspective on museum practice. Furthermore, it will be interesting to enlarge the scientific discourse about the construction of nature behind glass, as Alberti (2008) has phrased it, with a new player.

After having explained the research question and objectives, the next step will be to further engage with the theoretical framework based on social constructionism in general and on the construction of nature in more particular.

2   Theoretical Framework

In the last decades concerns about our planet and environment have increased enormously. Of course, this has also influenced the scientific discourse and the museum practice. Among other things, it has challenged the self-evident picture of nature as a fixed term within our society (Demeritt, 2002, p. 768). As consequence, the idea that nature is not a given thing, an unchangeable fact, but rather a social construction, which has to be regarded in different ways, has gained more and more importance (Bird, 1987; Haraway, 1992). Much research in this field was realized, all containing different aims and thus covered different perspectives on the construction of nature, as Demeritt (2002) demonstrates.

For this reason, it seems necessary to clarify the phenomenological and mainly discursive approach towards the construction of nature in this thesis. In order to be able to do so, the theoretical framework of Berger and Luckmann which forms the basis of this thesis will be explained in more detail, before putting a finer point to the applied approach towards the construction of nature.

2.1   Social Constructionism by Berger and Luckmann

Mainly influenced by social theories of Schultz, Marx and Mead, Berger and Luckmann (1991) illustrate in their book *The social construction of reality*, first published in 1966, how the stock of shared knowledge created through social interaction constructs the reality we live in, since it shapes our thoughts and behavior. At the same time they illustrate how individuals, by behaving according to this shared knowledge maintain and reinforce the ongoing production of the shared knowledge and thus society in general.

With their approach, they combine the conception of social facts introduced by Durkheim (1982) with the idea of subjective meanings derived from Weber (1947). In their view, it is precisely the dual character of society in terms of objective facticity and subjective meaning (Berger and Luckmann, 1991, p. 28) that makes reality seem so real to us. Consequently, their theory succeeds to build a bridge between subjectivism and objectivism (Dreher, 2016). In addition, with their rather materialistic and empirical approach, Berger & Luckmann manage to shift the research attention from scientific and philosophical considerations towards practical activities on the street (Berger & Luckmann, 1991, pp. 26–27). This is considered to be one of the biggest achievements of the theory (Hoffman, 2016). By setting the focus on interactions or institutions that are specifically described as social, they further stress the social character within the construction of reality as their core feature of the theory (Knoblauch & Wilke, 2016). The empirical approach towards research and their focus on the social aspect have been the reason for choosing it as theoretical basis. Looking at social practice, which maintain and produce knowledge can thus illuminate why and how certain understandings of nature get introduced and maintained in society.

In order to be able to base the empirical investigation on this framework, certain aspects of their theory have to be explained in more detail. A special focus is thereby set on the social production of knowledge within society and its influence on the perception of reality.

2.1.1 Society as a Human Product

In the theory of Berger and Luckmann (1991), humanity holds a special position. In their view, humans, in contrast to other animals, live in a world-openness, because humanity's relationship with the environment is not restricted by any highly developed drive or species specific instinct. Apart from the obvious sensory and motor equipment, there is no inborn limitation to the human species (Berger & Luckmann, 1991, p. 65). Humans can use their inherent equipment to develop a wide range of variable and changeable activities that enables them to establish different lifestyles and cultures all over the planet. Consequently, the character of the human species is not a given thing, but rather something man produces himself (Berger & Luckmann, 1991, p. 67).

In other words, humans as social beings, establish a system themselves, which transforms their world-openness into a world-closeness in order to be able to live together (Berger & Luckmann, 1991, p. 69). The relationship we have with our fellow men and with nature is not a given thing, a fact defined by our environment. Our understanding is rather shaped by the social order we establish ourselves with our daily social interactions (Berger & Luckmann, 1991, p. 69).

That means, that while growing up we interact not only with a natural environment, but above all with a social order, which is conveyed to us through the interaction with others (Berger & Luckmann, 1991, p. 66). By the means of social interaction, we learn to speak, the right way to behave and hence internalize social norms and the institutional setting. In a way we are brought up to become a member of society. In this manner, we internalize a certain understanding about our society and the way it works (Berger & Luckmann, 1991, p. 150). Consequently, the social order and with this also society in general, has to be understood as an ongoing social production (Berger & Luckmann, 1991, p. 70), as we reproduce the experienced order with our interactions. An important element is thereby the shared common knowledge, as it guides our activities and understanding of the world and creates the perceived world-closeness (Berger & Luckmann, 1991, p. 69). Due to its high importance to the theory, it will be explained in more detail in the following section.

2.1.2 The Commonly Shared Knowledge

The commonly shared knowledge is defined as "the knowledge I share with others in the normal, self-evident routines of everyday life" (Berger & Luckmann, 1991, p. 37). It links to our daily practice, to habits, routines and traditions. It guides the way we interact with each other, but also contains general assumptions about humanity. As already pointed out, it is the medium which imparts and maintains the social structure and worldview by constituting the fabric of meaning (Berger & Luckmann, 1991, p. 27). The constant participation in social interactions makes the available social stock of knowledge appear real to us, as we experience it as shared with others. With the application of it in our daily interactions, we maintain the knowledge and pass it on to other people. The important point is, that the shared knowledge is experienced as objective reality (Berger & Luckmann, 1991, p. 35), although it has been, as explained before, created by humans.

This is only possible due to the human ability of objectivation (Berger & Luckmann, 1991, p. 49). Thanks to this ability, products of human activities are not only available for the producers themselves, but can also be introduced as elements within the commonly shared world. Language and the process of institutionalization are key components for this process that constantly creates this perceived objective reality.

The Importance of Language

Language, as a sign system, enables humans to transmit information from one place to another, from one time to another. Consequently, the meaning of something can get detached from the spatial and temporal world and with this also from the subjective experience (Berger & Luckmann, 1991, p. 49). Language has hence the quality of objectivation (Berger & Luckmann, 1991, pp. 53–55). It enables me to share my experience or knowledge with other people independent of time or place.

Additionally, with its symbols and classification schemes language also creates pre-defined categories or zones of meaning according to which we structure our thoughts and knowledge. We only think in the available categories provided by the language which are formed by its grammar and limited by its vocabulary. By these means, language also structures our experience in general. Hence, "symbolism and symbolic language become essential constituents of the reality of everyday life and of the common-sense apprehension of this reality" (Berger & Luckmann, 1991, p. 55). For example, already the co-existence of the words natural and unnatural favors a tendency to arrange our knowledge into opposing categories. This already indicates the abstract level of language and the possibilities resulting from there. With the help of language, complex systems can be built up as it offers a tool to transmit pre-defined habits, rules and traditions. Symbolic representations, like science, philosophy and religion that appear to loom over the reality of everyday life, would be some examples of abstract symbolic systems that have been established with the help of language and have a great influence on our perception of reality (Berger & Luckmann, 1991, p. 55).

The Institutionalized World

The process of institutionalization is also an important component of our complex social system. Institutions refer in the work of Berger and Luckmann to any typification of action or actors, which are initiated by habitualization (Berger & Luckmann, 1991, p. 72).

Facing many different options to behave in social interactions, humans tend to develop certain routines in order to simplify their lives. As soon as a routine is passed on to the new generation, an institution is introduced and appears as objective reality. Things are just done in a certain way. In this sense institutions always control human conduct, because they narrow down our choices by fading down possible alternative options (Berger & Luckmann, 1991, p. 72).

The society we experience today depicts an institutional setting in which role specific knowledge is generated in different sub-worlds. Due to this unequal distribution of knowledge, it is impossible for the individual to grasp the whole complexity of the institutional setting and society in general (Berger & Luckmann, 1991, p.94-95). We are born into a world which is already filled with different institutions. Those institutions confront the individual as undeniable facts. In some cases, they have been there for centuries and hence appear as objective facts. The important point is that "the objectivity of the institutional world, however massive it may appear to the individual, is a humanly produced, constructed objectivity" (Berger & Luckmann, 1991, p. 78).

The grounding of the shared knowledge and institutions in our social interaction also opens up the possibility for social change. With our activities, we shape the shared stock of knowledge and thus also influence the social order. Therefor it is important to keep in mind that "the relationship between knowledge and its social base is a dialectic one, that is, knowledge is a social product *and* knowledge is a factor in social change" (Berger & Luckmann, 1991, p. 104). The dialectic principle is also important for the consideration about the connection between social production and objectivated world, as they both interrelate with each other. As the knowledge only gains its validity through the shared

character, the social aspect is especially highlighted in this theory, as Knoblauch and Wilke (2016, p. 64) argue.

2.1.3 The applied Approach towards the Construction of Nature

By describing the knowledge as social construction that is partial bound to our cultural setting, this approach challenges our perception of objectivity (cf. Demeritt, 2002, p. 773). Instead of arguing for a specific understanding of nature, it contests our general viewpoint on perceived facts. In this way, it implies an epistemological argumentation that questions our perception of truth and the way knowledge gets established within society (Proctor, 1998, p. 353). As Demeritt has pointed out, this discursive approach towards the construction of nature must be understood as philosophical critique.

Consequently, the chosen approach differs in the intention from the approach to understand the construction-as-refutation (Demeritt, 2002, p. 769) that can rather be situated within the critical tradition (cf. Craig & Muller, 2007, p. 425 ff.). Here, the aim is to uncover false beliefs. Research in this area tends to be directed against a certain ideology, are mostly politically motivated and demand a specific understanding of nature (Demeritt, 2002, p. 769). This is not the aim of this thesis.

Contrastingly, instead of arguing for an explicit understanding, this thesis wants to illuminate the variety of possible understandings of nature. In the following, nature will be understood as an abstract expression. Without questioning the ontological basis, meaning the existence of nature as physical matter, it concentrates on the discursive construction of ideas about nature. Nature in this sense relates to the abstract assumptions that are based on common social beliefs, as Berger and Luckmann point out. Their theory explains why and how the creation of certain beliefs within society is possible. Furthermore, it depicts the function and influence of those taken for granted assumptions. It offers a detailed description of complex mechanism and social processes that reproduce and transform the social order and with this the social reality. Due to its strong focus on social structures and practices it was chosen as theoretical basis for this paper.

To sum up, the research design is grounded in the social constructionism by Berger and Luckmann and must be understood as a philosophical and not as an ideological critique. In order to be able to use it, it has to be enlarged by some insights in different research fields linking to current research on our understanding of nature and combined with an appropriate method.

2.2   Concepts of Nature

After having established the theoretical framework of social constructionism, it seems necessary to further illuminate the actual focus of this thesis, relating to the question: What is nature and how is it constructed within the NPs exhibitions?

As already stated, in this paper nature is understood as an abstract, socially defined term. But what does this actually mean? In order to be able to investigate the construction of nature within the exhibitions, it might be helpful to first illustrate the general meaning of the term 'nature'. The following sections are intended to deliver some basic ideas about the possible meaning of nature. Although not always directly linked to social constructionism, those sections can help to grasp important points for the investigation of the exhibition. They play an important role for the coding system, which will be explained in more detail in the method part.

2.2.1 Defining Nature

Demettri (2002) actually states, that one of the problems within the research on the construction of nature in general is the word itself as it implies various meanings and can be used in multiple ways. According to Raymond Williams (Williams, 1983, p. 219), it can be considered one of the most complex words in the English language. Williams thereby distinguishes three specific dimensions of nature. In his view, nature can refer to a quality or character of something, an inherent force or the external, material world itself.

Consequently, the nature of a thing, natural processes and nature as the world we live in refer to different meanings of the same word. According to Demeritt (2002), two important consequences follow from the various meanings of nature. First, he states that one important common element within all three meanings are the "linguistic oppositions to that which is said to be cultural, artificial or otherwise human in origin" (Demeritt, 2002, p. 778). Second, it is important to acknowledge, that as the cultural reference to which it is referred changes over time, it has to change as well. Likewise, Greider and Garkovich (1994) argue that "if a group's definition of itself – the essence of what it means to be human – is renegotiated, so too is the definition and conception of the environment" (Greider & Garkovich, 1994, p. 8) which goes hand in hand with the discursive approach towards the construction of nature. This statement not only stresses the changeable character of the definition of nature, but also highlights the need to relate the definition of nature to question of human identity, as it also stated by Berger and Luckmann (Berger & Luckmann, 1991, p. 67). Our understanding of nature is consequently linked to our general worldview (Bird, 1987; Dunlap et al., 2000; Greider & Garkovich, 1994). For this reason Demeritt postulates that the social construction of nature should be understood as a specific concept, within a certain cultural and historical setting (Demeritt, 2002, p. 778).

Instead of investigating the portrayed meaning of nature, it would thusly be more precise to say that the intention of this paper it to explore the constructed concept of nature in different NP exhibitions. Since this is a complex venture, some further insights in current research relating to concepts of nature can help to grasp the important components of this abstract concepts.

2.2.2 Current Research

Following the belief, that nature is indeed a changeable abstract idea, Oldemeyer (1983) elaborates in his *Entwurft einer Typologie des menschlichen Verhältnisses zur Natur* (in English: draft on the typology of the human relation to nature, *own translation)* four dominant frameworks for different perceptions of nature and the human-nature relationship that occurred over time.

He starts with describing nature as a magical-mythical concept. This concept mostly occurred in a time in which philosophy or science have not yet been implemented. Also the term 'nature', as described by Williams (1983), has not been invented. Consequently, the idea of nature rather referred to natural creatures or phenomena. The cognitive image of nature was shaped by ideas of cosmological forces and personal deities, which engaged with the humans in a mutual manner (Oldemeyer, 1983, pp. 21–22). With the establishment of higher culture and the development of philosophy, a different perception of nature occurred. The idea of natural process gained more importance. The cosmos was perceived as a holistic system, in which every part has its place and rhythm. In this way the expression nature got established, enabling the development of a biomorphic understanding of nature (Oldemeyer, 1983, pp. 22–23).

According to Oldemeyer's explanation, the current dominant framework of nature is mainly grounded on a double reduction of nature (Oldemeyer, 1983, p. 24). Compared to

the other two conceptions, the understanding of nature transfers from a person-like appearance into a thing. Nature got reduced to an object, which enables humans, as subject, to have a one-sided relationship with it. Secondly, instead of the former holistic view of nature, nature is suddenly merely a part in the system and can be defined in delamination to other aspects within the human world (Oldemeyer, 1983, p. 24), which goes in line with Demeritt's argumentation. In a way, this differentiation goes hand in hand with a certain alienation of nature, as "nature now describes something, that the subject in its core of his being is not or doesn't want to be; something of which the subject singles out due to its ability to detect and process, in short, due to its 'culture'" (Oldemeyer, 1983, p. 25, *own translation*)[1]. Nature thus becomes an antonym of humans.

One important approach in this category is the mechanistic-technical concept of nature. In this worldview, nature is seen as an "aggregate of ever existing unchangeable atoms (…) which arrange themselves in the open space according to necessity based on merely mechanical laws" (Oldemeyer, 1983, p. 30, *own translation*)[2]. Developed from this materialistic view, nature becomes a subject of investigation. It is measured, observed and methods are invented to make nature as predictable as possible. Based on Descartes observations, nature, indeed, developed into a counterpart of the human spirit, while at the same time it became the target of its most concern (Oldemeyer, 1983, p. 31).

Interestingly, Oldemeyer also argues that the esthetical- sentimental concept of nature, based on the rather romantic understanding of nature, follows the same framework. Although the value attributed to nature has shifted from the merely material level to a more sentimental image, in which nature was conceived in contrast to the human industrialized world, as the original free and happily balanced 'natural state' (Oldemeyer, 1983, p. 34), it didn't change the overall understanding of it. According to Oldemeyer, nature was still defined as antonym, an object that didn't belong to the human sphere.

This distinguishes it in the opinion of Oldemeyer from the open and all-encompassing framework towards nature. Based on different ideas, from Goethe to Schelling to Kant, a holistic understanding of nature evolved, which described nature as a complex, self-regulating system. To perceive nature as object, as human counterpart is thereby incompatible with this new understanding. For this reason, humans are described as part of nature. As part of the system, they will never manage to capture the whole complexity, but rather only a certain perspective of it (Oldemeyer, 1983, pp. 35–36).

Oldemeyer's explanation shows similarities to other popular concepts of nature used in the scientific discourse. For instance, the idea to perceive nature as counterpart and object is familiar within the anthropocentrically mode of thinking. Based on ethical reflections, anthropocentrism "considers humans to be the most important life form, and other forms of life to be important only to the extent that they affect humans or can be useful to humans" (Kortenkamp & Moore, 2001, p. 262). Consequently, the protection of nature appears only relevant regarding advantages or disadvantages for human life (Thompson & Barton, 1994, p. 149). The utility of nature is thus the core of the human appreciation of nature. In contrast to that stands the ecocentric reasoning, nature has an intrinsic value apart from its usefulness for humans (Kortenkamp & Moore, 2001, p. 262). Apart from the moral reasoning, the current research concerning ecocentric and anthropocentric views also point out the importance of the perceived boarders of nature (Karpiak & Baril, 2008; Kortenkamp & Moore, 2001; Thompson & Barton, 1994). This feature plays also a big part in the description of Oldemeyer.

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[1] Original quote: "Natur ist jetzt etwas, was das Subjekt im Kern seines Wesens nicht ist oder nicht sein will, etwas, aus dem es sich mit seinem Zwecken des Erkennens und Bearbeitens, kurz: mit seiner 'Kultur' heraushebt" (Oldemeyer, 1983, p. 25).
[2] Original quote: „ein Aggregat von seit je existierenden, unveränderlichen *Atomen* die (...) sich im leeren Raum in Bewegung befinden und sich, nach Notwendigkeit allein von Gesetzen der Mechanik, wechselnd zu den erscheinenden Dingen zusammenballen und wieder trennen" (Oldemeyer, 1983, p. 30)

A common framework often referred to in the field, is the New environmental paradigm scale, introduced by Dunlap et al. (2000). It provides a technique to study personal attitude towards nature, human-nature relationship and natural resources. Based on a questionnaire containing different items relating to environmental issues, it aims to measure the environmental orientation, the ecological worldview of the individual or belief system (Dunlap et al., 2000, p. 427). The need to connect images of nature to beliefs and values was also highlighted by Buijs (2009).

Neither of the presented research actually links to empirical investigation based on the communicative practice, the way knowledge about nature is generally presented to the public. According to Berger & Luckmann this is actually what influences the described worldview (Berger & Luckmann, 1991, p. 33).

However, the results of those researches depict important starting points for the investigation of concept of nature. The studies show that our understanding of nature goes beyond a simple description of a human-nature relationship. Apart from the question of where nature begins and where it ends, it also encompasses questions of human self-perception, moral consideration, values, emotions and power-relations. All these factors form together the concept of nature.

To focus on the empirical investigation of the discourses dealing with exactly those factors within the exhibition and derive from there the meaning attributed to concepts of nature is the main challenge of this research.

3   Methodology

After explaining the theoretical framework and introducing some insights in the research concerning concepts of nature, it is important to elaborate on the method used to link those insights to empirical research. The research program *The sociology of knowledge approach to discourses* (henceforth SKAD), introduced by Reiner Keller (2008, 2011, 2013), can thereby provide useful guidelines for the qualitative data analysis. This approach focuses on the historical situated knowledge that structures and orders the composed meaning within social practices. The applied method as well as case selection and research design shall be explored in more detail in the following chapter.

3.1   The Sociology of Knowledge Approach to Discourses

SKAD offers a bridge between social constructivism in respect to Berger and Luckmann and the method of discourse[3] analysis, mainly based on Foucault (Keller, 2013, pp. 72–74). With this, it manages to illustrate a framework, designed to enable empirical research based on the concrete materiality level of discourse, but reaching way beyond the mere interrogation on the linguistic level. The focus is set not only on the social production of meaning by the usage of sign systems, but it also seeks to illustrate the "(re)-production/transformation of socials orders of knowledge" (Keller, 2011, p. 51). It thus emphasizes the role of historical situated practices that influence our behavior up until today. At the same time, it helps to illustrates how discourses can be transformed within social practice.

By emphasizing the role of knowledge, it distinguishes itself from the critical discourse analysis. Fairclough (2001) for example, an advocate of the critical discourse analysis, explores in his work the use of language as a mean to reproduce social power relations. Consequently, the critical discourse analysis is mostly used as method to challenge the dominating status of certain actors and the strategic use of language (Fairclough, 2001, pp. 1–20). In contrast to this, the main assumption of SKAD is that social actors within the discursive field are "not 'masters of the discourse universe', but rather (co-)constituted by existing structuring of discursive order or formations" (Keller, 2011, p. 52). The emphasize is set not on the intention of the actors, but rather on the displayed "objective reality" (Keller, 2011, p. 45). Accordingly, the focus is set in this paper on the content of the exhibition, on the manner of presenting and the way nature is described to visitors.

The SKAD approach thereby consists of three main analysis dimensions: knowledge configuration, discourse production and power effects. Due to the limited scope of this thesis, the focus will be mainly set on the knowledge configuration and its recommendation for an analytical framework. As suggested by Keller, a special attention during the analysis will be set on identifying interpretative schemes and classifications as well as to explore the narrative structure of the exhibitions. Those parts are described as main factors of the knowledge configuration (Keller, 2008, 2011).

The data-collection and analysis is thereby inspired by the grounded theory in respect to Strauss (1987), which highlights the necessity to base the investigation on empirical data and derive from there the explanation of human behavior. With the difference that instead of trying to understand a particular situation, the sequential analysis of SKAD aims to explore the underlying discourses which constructed the experienced objective reality.

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[3] Based on Foucault, Keller defines discourses „ as historically situated 'real' social practices, not representing external objects but constituting them" (Keller, 2011, p. 46). That is to say, that the term discourse, refers to communicative pattern, including all types of media that structures with their utilization our knowledge.

3.2   Case Selection

The main criterion for the case selection has been its recognition by IUCN as NP according to its guidelines for protected area management. A further requirement was that the parks have a permanent exhibition according to their own definition, which is not the case for all NPs.

Furthermore, due to my personal background, another important requirement for the case selection was its location within the German speaking area in order to avoid further complications caused by language barriers. For practical reasons, the focus was mainly set on the alpine landscape within Germany and Austria in order to minimize the organizational effort and simplifying the comparison. Additionally, one NP located in the north cost of Germany was added. The intention behind this step was to enlarge the comparison with another type of landscape.

The sample was set on four parks in order to be able to conduct in the given time frame a detailed analysis of each park. At the same time the sample number offers a rough overview of the NP exhibition practice.

3.3   Research Design and Process

The qualitative research design is based on a combination of observational and textual analysis, similar to Cassidy et al. (Cassidy et al., 2016). Accordingly, the selected exhibitions have been visited and documented via photographs, detailed maps and notes about my personal experience or even content, if it was not possible for me to capture it via photographs (e.g. movies or sound installations).

Following the idea of sequential analysis in respect to Keller (2011), the data analysis started already, although not all sights have been visited. By this means, it was possible to adapt the data collection process to the already gained insights, as it is recommended by Strauss (1987). In the same manner the open coding process was handled. This is to say, that with the visit of every park, new codes were introduced. Consequently, the existent analysis had to be revised and adopted several times.

However, it is important to keep in mind, that the presented results not only describe a selection of the exhibition's content, but above all a subjective interpretation of the collected data (Keller, 2011, p. 62; Strauss, 1987, p. 4). My experience and my knowledge influence the data processing. In order to counteract as good as possible my own expectations, a coding system that systematically rearranged the presented content and thus detach it from my personal experience was applied. To understand the proceeding, I will try to explain the creation and application of codes and my reflection within the data collection process and analysis in more detail.

In the beginning, the codes have been mostly based on the research overview described earlier. The main attention was consequently drawn to objects or sections relating explicitly to nature, human or nature-human-relationship; meaning that these sections used those terms. As the rhetoric in the exhibition goes beyond the used words (Mancino, 2015, p. 263), sections which didn't use the terms or language at all, but in a way still referred to human-nature relationship have been noted and described in detail in order to be able to include them in the analysis. For example the arrangement of pictures illustrating humans had been marked. Some sections didn't contain any references to humans which were also noted. As it can be seen, within the indirect codes the main focus was set on human references as it was very difficult to come up with suitable indications for indirect links to nature without already implying a certain understanding of nature. To still be able to grasp

the general approach towards nature, the design, overview of content and choice of objects as well as narrative structure have been introduced as codes. Distinctive features in those categories, for example the inclusion of living animals or specimen, the manner of encouraging people to engage within the exhibition, direct communication to the visitors or links to the outdoor world have been noted and processed for further analysis. With time, some more codes relating to specific sights got introduced, like human role, human activities, National Park, values and the positioning of nature and human in the concept of nature regarding the power relation got introduced.

During the analysis, the codes have been arranged thematically into three sub-themes. These sub-themes narrow down the complex impression of the investigated content. The interesting aspects of each sub-theme are further expressed by research questions. In a way the sub-themes can be described by three blocks of questions, as the following figure illustrates. These blocks of questions have functioned as guidelines for the analysis of the displayed concept of nature in each exhibition.

Exhibition

Questions relating to the exhibition in general:
What is actually presented in the exhibition ?
How is the exhibition structured?
What narrative structure guides the exhibition? How is it designed?

Nature

Questions relating to the impression of Nature:
How is the term Nature used? Is it defined? If so, how?
How is nature portrayed? What image is presented?
Which values are addressed?
How are the borders of nature constructed?

Nature-Human Relation-ship

Questions relating to the Human-Nature relationship:
How is the human-nature relationship depicted?
What human activities are described?
What roles do human play within the portrayed image of nature?
What implied power constellation is conveyed?

Figure 1:Overview Analysis (own figure)

The answer to these questions in all four cases have been taken together in order to identify similarities and differences and hence the underlying discourses. The main interest was set on the question of what structures the presentation of nature and can this structure be linked to a specific social practice. The discovered discourses will be explained after the analysis of the four visited exhibitions.

4 The Construction of Nature in the four sample exhibitions

In the following section, the four different exhibitions are presented in more detail. After a brief description of the NP in general, the actual analysis follows according to the three developed categories.

It is furthermore important to keep in mind that an explicit definition of the understanding of nature is rarely given. The meaning is rather constructed with the help of different objects, written remarks or the narrative structure of the exhibition itself. As said before, the here described examples depict a small selection of the contents and are based on a subjective interpretation, as highlighted by Keller (2011) and Strauss (1987).

4.1 National Park Hamburg's Wadden Sea

The National Park Hamburg's Wadden Sea (henceforth NPHWS) is located on the northern coast of Germany, just where the river Elbe reaches the ocean. It forms part of the Wadden Sea, which is spread over the Dutch, German and Danish coastline. Established in 1990, the NP today encompasses an area of 137,5 km² and is partly embedded in the Wadden Sea National Park of Lower Saxony on the one side and restricted by the Elbe fairway on the other side (Nationalpark Verwaltung Hamburgisches Wattenmeer, 2010).

The responsibility for the park management lies with the city of Hamburg, in the department for environment and energy. Apart from the ocean area, three islands are also integrated into the park. The biggest island, Neuwerk, on which the exhibition is also placed, is located 10 km from the main land and is home to approx. 40 people. The NPHWS is also classified as a UNESCO Biosphere Reserve and in 2011 the area was also declared a UNESCO world heritage site, as an enlargement of the already certificated part of the Wadden Sea in Lower Saxony and Schleswig-Holstein (Deutsche UNESCO-Kommission e.V., 2016).

The NP exhibition is located in the NP house and was opened in summer 2015. It was created in collaboration between the NP administration, the Verein Jorsand, an association for the protection of seabirds and nature, which is in charge of the maintenance of the NP house, and Kessler & Co GmbH, a company specialized in exhibition planning (NPWHS, pic. 003).

4.1.1 The Exhibition

Located on the ground floor of a two-story house made of red bricks, the exhibition invites the visitor to explore the Wadden See NP (NPHWS, pic. 001), as is stated in the entrance hall. It is placed in one large room and the manner of presentation is mainly based on approx. two meter high boards, which are arranged throughout the room, presenting different topics (NPHWS, pic. 203).

Figure 2: Exhibition NPHWS, picture taken from the entrance (NPHWS, pic. 203)

The structure of the exhibition of NPHWS is mostly based on the different features within the NP, as the 13 headlines on the top of the boards indicate. Four of the thirteen sections are dedicated to specific habitats: salt marsh (e.g. NPHWS, pic. 080), tidal creek (e.g. NPHWS, pic. 032), intertidal mudflats (e.g. NPHWS, pic. 006) and dune (e.g. NPHWS, pic. 044). Two other topics relate to a certain category of animals: birds (e.g. NPHWS, pic. 068) and marine animals (e.g. NPHWS, pic. 129).

The other part of the exhibition is dedicated to the islands within the NP, with the topics Neuwerk, described as the center of the NP (e.g. NPHWS, pic. 211, 212) and sandy islands (e.g. NPHWS, pic. 114). The topics nature protection (e.g. NPHWS, pic. 155), biosphere reserve (e.g. NPHWS, pic. 189) and world natural heritage (NPHWS, pic. 199) are also presented. The two remaining parts go under the headlines tides (NPHWS, pic. 010) and drift line (e.g. NPHWS, pic. 105, 106). The exhibition follows an open design, meaning that there's no clearly suggested route through the exhibition and the different topics are located through out the room.

Apart from the big boards, living animals are also displayed in the exhibition. Firstly, there is the big aquarium (NPHWS, pic. 005), imitating the tides, placed directly next to the entrance. Secondly, there is also a smaller aquarium (NPHWS, pic. 035) a bit further in the exhibition space, which contains various animals and plant species. Additionally, there are also staffed objects placed within the exhibition space. In the corner, there is for example, the bird station, where different seagull species are displayed with the help of preserved specimens in combination with an interactive media station that invites visitors to identify them (NPHWS, pic. 048-051). Additional bird specimens are placed on platforms at eyelevel in the middle of the room (NPHWS, pic. 210), in combination with a detailed description and typical sound of this species.

The rest of the exhibition is mostly based on text and images. Here and there are small things to pull out or to lift, sound installations or media stations (e.g. NPHWS, pic. 021, 030, 036). Furthermore, this exhibition also contains several experimental elements, which encourage the visitor to test the presented information, like for example a dune model (NPHWS, pic. 046) or microscope (NPHWS, pic. 040).

Most of the written passages follow an explanatory approach, as can be seen at the following example: "The Earth and the Moon attract each other. This is why water masses collect more strongly on the side of the Earth facing the moon. The result is a tide" (NPHW, pic. 010). As it can be seen, the knowledge about nature is presented in a neutral way. Similar ways of describing nature can be found throughout the exhibition. Without referring for example to any personal or alternative opinions, emotions or open questions, the phrasing is constantly kept accurate and fact-based, highlighting the objective impression of the presented content.

In contrast to that stands the communication pattern of Freddi (e.g. NPHW, pic. 001), an oystercatcher that functions as mascot of the NP. He communicates directly with the visitors and encourages them to "try out" (NPHW, pic. 024, 046, *own translation*), "to touch" (NPHW, pic. 133, *own translation*), or to "not come closer" (NPHW, pic. 85, *own translation*) to the animals during the breeding season. As can be seen, he is directly addressing the visitors, encouraging them to get engaged with the object, asking questions, giving advice and explaining phenomena. Since Freddie is a talking bird, this meta-communicative pattern as well as the contrast to the other writings within the

Figure 3: The mascot Freddi (NPHWS, pic. 001, cropped)

exhibitions points towards a certain understanding of nature, which will be explained in more detail in the following section.

4.1.2 Meaning of Nature within NPHWS exhibition

Within the exhibition, the expression nature or natural is used in many ways, depicting different aspects and dimensions of nature. At first sight, it is often used as noun or adjective (e.g. NPHWS, pic. 007, 008), referring to the material world around us as Williams (1983) described the third dimension of nature. Due to the setting within the field of nature protection, the noun nature is often connected to the idea of protection and conservation. For this reason, expressions linked to Naturschutz (e.g. NPHWS, pic. 069, 102, 154, *English: nature protection*) as for example in Naturschutzverbände (NPHW, pic. 037, *English: nature protection organization*) appear. But if one takes a closer look, it becomes clear that the expressions nature or natural within this exhibition are not only based on the material word, but rather on a combination between the material dimension and the processes within it.

One important sentence, which can help to develop a better understanding about implied meaning is thereby the slogan "let Nature be Nature" (NPHWS, pic. 148). Not only does this quote describe the vision of all German NPs for its management (EUROPARC Deutschland e. V., 2016), but it also links to the presented meaning of nature. First of all, this definition implies a separation from the human sphere. In the exhibition, the natural state is explicitly defined as "untouched by people" (NPHWS, pic. 082). The lack of human influences is key of its meaning. A special emphasis within the understanding of nature is thus put on the natural dynamic, relating to the occurring process within the material world, as can be explained with the help of the following written passage about Nigehörn, a sandy islands within NPHWS:

"Nigehörn was artificially washed up in 1989. The aim was to create new breeding grounds at a safe distance from the River Elbe to replace areas that had been lost on Scharhörn. Since then the originally circular island has been left to its own devices and makes a notable landscape development with an ever-changing importance for birdlife. People are strictly forbidden to enter Nigehörn in order to prevent them influencing its development" (NPHWS, pic. 115).

Since then, as is described in more detail within a small book beneath the board, a "natural dune vegetation" (NPHWS, pic. 121, *own translation*) has started to grow, the "natural dynamic" (NPHWS, pic. 122, *own translation*) has influenced the shape of the island and within the salt marshes a "natural tidal creek system" (NPHWS, pic. 122, *own translation*) has been established. As the title "Nigehörn – from artificial development to a natural island" (NPHWS, pic. 115) already indicates, the island is presented as natural, as a part of nature today, located in the core zone of the NPHWS.

However, a line is still drawn between the human made construction of the island at the beginning and its further development discribed as natural. This understanding goes hand in hand with the described nature protection vision of the biosphere reserve, which stresses the need for "process protection" (NPHWS, pic. 193, *own translation*). According to the exhibition, the main aim within the core zone is to allow the typical dynamics within the different habitats to develop. As long as the natural flow is ensured, the origin is apparently unimportant for its understanding as natural site.

Figure 4: Section entitled the sandy islands, with the discription of Nigehörn and the small booklet (NPHWS, pic. 114)

Hence, it doesn't matter if it was once touched or even created by humans, as long as they don't influence it anymore. The focus is set on the process, not the origin and with this a clear line is drawn between nature and human influence. Even more, it seems that the headline implies a quality judgment. Natural in this sense is equated with good, whereas artificial is perceived as a bad character.

The construction relating to the drift line, meaning the wash margin created by waves on the beach, is also a striking example for the distinction made between nature and human sphere.

Figure 5: Section entitled "The drift line", pictures taken from different angles (NPHWS, pic. 213, 214, 215, cropped)

The reason for this is that due to the arrangement, the boundary is not only drawn with the help of language, but rather also expressed by the spatial setup. On opposite sides of a wooden construction, two aspects of the driftline are presented. On the one side, the "treasures of the sea" (NPHWS, pic. 213) refers to objects from the underwater world, like seashells, quills or other dried remains of animals and plants. The visitor is able to touch and explore the different objects and even identify them with the help of some further descriptions. The intention is, as stated within the written description, to mirror the high biodiversity of animals living in the wadden sea (NPHWS, pic. 213). This side of the construction doesn't contain any direct link to humans, human activity or influences (apart from encouraging the visitor to engage with and identify the displayed species).

On the other side we have "The remains of our "civilization"" (NPHWS, pic. 106, 214), showing a beach section, which is covered, according the explanation, by rubbish from ships that was "simply tipped into the sea" (NPHWS, pic. 106). This is very dangerous for animals as they can get trapped in it (NPHWS, pic. 216). Again, the visitor is encourage to touch certain objects which are in this case mostly made out of plastic or glass (NPHWS, pic. 215) and thus a human made product. The term civilization, the phrasing as well as the displayed objects have been identified as implied link to the human sphere.

The pictures in the background further highlight the separation between those two worlds. On the one hand, we have a nice beach area with no human influence, appearing in light colors with blue sky in the back. The description as "treasure" (NPHWS, pic. 105) also adds an additional appreciation to objects, which convey the impression of belonging to the uncivilized, natural world, although this is not state explicitly. On the other side, we have a picture of a dune covered in rubbish, plastic and wood, under a grayish sky. Only in the far distance, one can discover birds and the sea. The human influence is here not only destroying the image of the landscape, but is further described as a danger or risk to animals, which is stressed by an additional picture showing a bird leg trapped in a net. As can be seen, this already links to the role that humans play within the presented concepts of nature.

4.1.3 Human-Nature Relationship within NPHWS

One important component within the understanding of nature portrayed here is not only the line drawn between human and nature, but also the power-constellation between those two subjects.

Coming back to the phrase, "let nature be nature", one could even go as far as to say that the term "let" suggests the idea that humans allow nature to be left to its own devices, by intentionally behaving in a different way than it is commonly done. One example, strengthening this impression, would be the phrasing within the salt marsh topic. The reentering of salty water within the marsh area is thereby portrayed as nature, which is "re-conquering the area" (NPHWS, pic. 090). By referring to the word conquering, which is also often linked to combat with enemies (Cambridge University Press 2016, 2016), it portrayes a strong picture of the human-nature relationship. The image of a battle field comes into mind, in which every side tries to gain as much territory as possible. The examples show that tendencies of the human domination over nature are obviously envisioned.

However, it is important to notice, that there are also evidence illuminating the possibility of humans living in balance with nature. For instance, in the part referring to the biosphere reserve, a sustainable human business in harmony with nature is described (NPHWS, pic. 189, 190).

Figure 6: Picture of the trail through the Wadden Sea (NPHWS, pic. 016, cropped)

Additionally, the necessity of humans to adapt to nature is also portrayed within the exhibition. One example would be the picture of a carrige riding through the Wadden sea (Figure 6). The caption describes the necessity to rearrange the wooden construction that guides the way through the wadden see each year, since the surface of the Wadden sea changes (NPHWS, pic. 016). Here, nature gives the direction and human have to follow. At the same time the picture illustrates the human ability to manage this

challenge, indicated by the stable construction within the Wadden Sea in the far distance, the horse carriage and the impression that they do find a way through the difficult territory. The human presence can lead to serious consequences for nature.

At numerous points within the exhibition, humans or human activities are depicted as a danger or risk to the animals. Either their presence is directly described as a disturbance of the animals, for example illustrated with the help of an oystercatcher illustration who's heartbeat increases, indicated by a blinking light if a visitor approaches the board with the painting (cf. NPHWS, pic. 085), or indirectly by referring to the population decline due to the habitat loss accompanying drainage measures, grazing activities or overfishing (e.g. NPHWS, pic. 037, 061, 089).

On the other hand, there are also some examples where the human ability to re-shape landscapes can have positive effects on the environment, like the establishment of Nigehörn (NPHWS, pic. 114). The above discribed drifting line contains a section presenting ideas to encourage a more environmentally friendly lifestyle, by for example recycling or participating in cleaning action is also included (NPHWS, pic. 111, 112). Apparently, humans would be able to shape the relationship differently. This possibility is also

addressed within the exhibition, but not to the same extent or with the same emphasis. Indications of this way of portraying nature were placed within a cupboard or as small picture description, which are not directly visible.

Apart from the negative image of human activity, there is one frame, which also underlines the whole exhibition: human as researcher. In a way, the style of information in general illustrates this influence: many drafts, numbers and categories (e.g. NPHWS, pic. 135, 137) in order to present animals, as well as stating the German, English and Latin name of every species (NPHWS, pic. 009), which is a common approach within the scientific world.

Figure 7: Section entitled "The basis for protection - bird-life research" (NPHWS, pic. 069)

The scientific perspective on nature is not only indicted by the choice of information and picture, but also included in the exhibition with the help of a subtheme describing the conducted research on birds (NPHWS, pic. 069). Apart from the images showing people conducting research, the visitor is asked to guess the number of birds shown on a picture. Here nature becomes indeed something we can measure, count and define, similar to Oldemeyers (1983) description of the technical- material approach towards nature.

The invitation to explore and examine is also directly addressed by Freddi, which strengthens the impression to perceive nature as a research object, dominated by humans. The interesting point is, that the sender of that message is a bird. Presumably, this bird functions as a symbol of nature, although the comic design already marks a distinction to the original animal. The fact, that it uses our language indicates a certain humanization and a further alienation of the original. However, the talking bird shapes the impression as if nature was the author of the message. With the framework of Berger and Luckmann in mind, the authorship of nature could further highlight the objectivity of the presented content, as the human perception of this assumption gets neglected. This shapes the impression as if the object itself would speak to the visitor, although humans have formulated those words. The underlying assumption is that we know what is best for nature, which reinforces the strict separation between nature and humans with a certain power constellation.

To sum up, the selected parts and sections mostly describe nature as something external to the human sphere. In the optimal case, it is depicted as something clearly separated from us. Many points within the exhibition thereby depict humans and their influences as a risk for nature, because they disturb or hinder the natural development. The image of the researcher is shaped differently. Here, the ability to interfere with nature, like to ring birds (NPHWS, pic. 071), is described as a good feature as it is seen as a medium to gain more knowledge. Consequently, the overall impression after the visit is that knowledge about nature is put above the intention to protect the natural processes, because humans indeed influence it. In a way that forms the impression that nature is an object, a much valued research object, that we have to count, measure to make it understandable for us in order to

be able to protect it. Yet, it is important to mention that the possibility of humans and nature living in harmony is also portrayed within the exhibition.

4.2 National Park Berchtesgaden

On the south boarder to Austria, the National Park Berchtesgaden (henceforth NPBG) is situated, as the only high mountain NP of Germany. Founded in 1978, it encompasses an area of 210 km² today. It is managed by the NP administration, a special authority directly subordinated to the Bavarian Ministry. Since 1990 the NPBG also belongs as core and buffer zone to the biosphere reserve Berchtesgadener Land and was certified with the Europadiplom in 1990 (Nationalparkverwaltung Berchtesgaden, 2016).

The exhibition itself is placed outside the NPBG, in the Haus der Berge (in English: House of the Mountains) in the small town called Berchtesgaden. The house was built according to the conceptual framework of the permanent exhibition. For this reason, the architecture is also integrated within the exhibition. It not only contains the permanent exhibition entitled vertical wilderness, which was opened in 2013, but also functions, according to the website, as general information, visitor and educational center, which is enlarged by an outdoor area (Nationalparkverwaltung Berchtesgaden, 2015).

The part arranged as an exhibition can thereby be divided into four sections: the NP information center in the entrance hall, the permanent exhibition, a temporary exhibition, as well as a section about mountains and people on the second level. Although not directly included within the permanent exhibition, the section about NPs and the relation of mountains and people were also taken into account, due to their permanent character and relevance to the research question.

4.2.1 The Exhibition "Vertical Wildness"
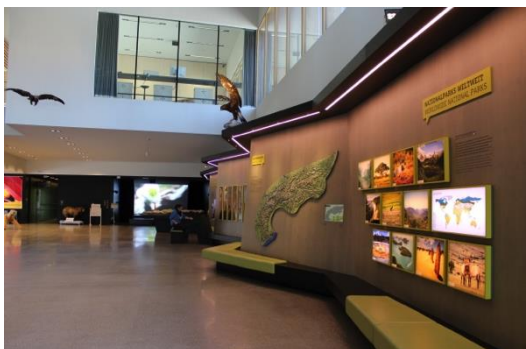
Figure 8:Right hand side of the Foyer, picture taken from the entrance (NPBG, pic. 005)

The display of information starts in the foyer, where different aspects about the NPBG and its relevance for national and international networks are presented (Nationalparkverwaltung Berchtesgaden, 2015). The displayed information is thereby based on text, images and maps (NPBG, pic. 025, 026). Apart from the open cinema across the entrance (NPBG, pic. 005), it also includes an interactive station, putting the visitor into the role of the park manager who has to decide how the park should be managed. The visitor can thereby listen to various stakeholders, each presenting their perspectives and opinion on relevant themes concerning the park management (NPBG, pic. 035).

A picture of the area, taken from the birds eye perspective, is also displayed on the floor (NPBG, pic. 039) as well as a large relief map of the park where additional information about hiking routs, huts, and other topics are presented (NPBG, pic. 034). Those two installations also contain live-web-cams, located at different points within the park (cf.

NPBG, pic. 041). In the entrance hall is also the starting point for the permanent exhibition (NPBG, pic. 040), which is limited to 100 visitors at a time.

The 1,000 m² permanent exhibition is based on the simulation of a walk through the four main habitats of the park, simulated by the interplay between wooden constructions and a sound and light installation (NPBG, pic. 046, 052).

Figure 9: Exhibition "Vertical Wilderness", picture taken from the entrance (NPBG, pic. 052)

The experienced atmosphere thereby constantly changes, according to the different seasons in the park (cf. NPBG, pic. 046, 052, 055). With an explicitly defined starting and ending point, the exhibition is structured by a clear storyline, guiding the visitors through the exhibition. Starting at the far ground of the lake Königsee, the visitor slowly moves through mountain forest and over alpine pastures, to the rocky mountain peak, until s/he reaches the end of the walk and the highest point of the exhibition. Here, at the simulated mountain peak, a movie screen opens up, after a short film presenting landscape images of the region, to reveal the view of the mountain Watzman (NPBG, pic. 191-195). The displayed objects and information combine a broad range of different topics, reaching for example, from detailed information of flora and fauna in the different habitats (e.g. NPBG, pic. 140, 156), to the development of the mountains or forest management in the region (NPBG, pic. 092) to the depiction of the pinzgauer cattle (NPBG, pic. 153), a breeding species especially adapted to the difficult mountain pastures (NPBG, pic. 154) and the hard working life of alpine farmers (NPBG, pic. 160, 162).

According to the website, the exhibition addresses all senses, "allowing visitors to familiarize themselves with the subject matter by experiencing and feeling it first-hand" (Nationalparkverwaltung Berchtesgaden, 2015). The object and information are thereby placed in different levels, more or less according to the natural appearance, meaning that between the tree-construction, you can find stuffed birds (NPBG, pic. 115). Pellets are placed on the pathway through the exhibition (NPBG, pic. 105) or in the section designed as cave construction, one actually has to use a flashlight to see the hidden bats, because there is no light otherwise (NPBG, pic. 165). Explanations are presented with the help of small texts, graphs and drawings, sometimes next to the objects, sometimes hidden behind wooden structures or even at some distance from the object (e.g. NPBG, pic. 105). Additional media stations provide deeper insight into various topics, like on sustainability

and the human nature relationship over time (NPBG, pic. 059) or the daily life of mountain pasture farmers (NPBG, pic. 162).

One remarkable feature within the exhibition is thereby not only the clearly artificial imitation of the outside world, but also the conscious and pronounced integration of the outer world in the exhibition. As already stated, the walk through the exhibition actually ends with the view on the mountain through a window (NPBG, pic. 194).

Figure 10: Opening of the screen at the mounatintop (NPBG, pic. 192-194)

Also the information center space, a linkage to different sights within the park is integrated with the help of live webcams. One important implication for the story line is consequently the attempt to open up to exhibition space and link it to the real content outside.

As can already been seen, the communicative practice is highly based on the conceptual exhibition design (cf. Dean 2002). The content of the exhibition is thereby presented in a way that enables the visitor to actually experience it. The visitor is indeed put in a different world, which he can discover. The language used also directly expresses this intention, since visitors are encouraged to "take a closer look and discover" (NPBG, pic. 129), "wander through (…) and experience the variegated flora and fauna with all your senses" (NPBG, pic. 089) or to "slip into the role of a speleologist" (NPBG, pic. 165), referring to the exhibition hall, but at the same time also the outdoor world.

As already mentioned, the main exhibition is enlarged by a special exhibition, designed as four small huts referring to the relationship between people and mountains (NPBG, pic. 199, 200). It was created in cooperation with various local partners. Here, the focus is set on different aspects about the relationship like climbing, legends or certain famous local personalities. The content is thereby displayed with the help of images and sound installation, but is mainly based on objects and text (NPBG, pic. 221, 224).

Figure 11: Section entitled "Mountain and People" (NPBG, pic. 200)

4.2.2   Meaning of Nature within NPBG

Already the whole exhibition design reflects a certain understanding of nature, as it is clearly designed to resample it, despite the fact that the distinction between the outdoor world and the constructed world is also demonstrated and thus addressed to the visitors.

The combination with the presented written passages can help to further develop a better understanding about the meaning constructed within the exhibition. One interesting point therefore is its combination with the adjective fascinating, like in "fascinating element of

nature" (NPBG, pic. 048) and "fascinating natural phenomena" (NPBG, pic. 165). Additionally, the term 'nature' appears often in its relevance of "natural heritage" (NPBG, pic. 033), described as "treasure" (NPBG, pic. 017) or ecological wealth (NPBG, pic. 007) that has always also functioned as an "inspirational force" (NPBG, pic. 068, *own translation*) as well as a basis for our daily life (NPBG, pic. 017, 063). Just in a few cases, the term is directly connected with the idea of protection, like in the section on the conservation of the Haarmoos region (cf. NPBG, pic. 015) within the information center area. Here, several activities have been undertaken to ensure the protection of nature, as it is explicitly said. More often, the term 'nature' is not directly linked to the protection idea, but rather used in a different context and thus describing a term with its own meaning.

Due to the fact that it is not consequently mentioned together with the protection idea, nature does not appear as a vulnerable object. Instead of portraying nature in the need of protection, it rather appears throughout the exhibition as an extraordinary construction, encompassing different actors and factors that influence this constantly changing overall system. Humans would be, just like time, one of those factors. A walk through the exhibition strengthens this impression, where the experienced vision of nature also changes throughout time and thus is like the current landscape "nothing but a snapshot as well" (NPBG, pic. 071). Here, the changable character of nature as is emphasized, linking to processes throughout the seasons as well as developments over years, which form these "natural circumstances" (NPBG, pic. 093).

This is also underlined by the self-definition of the NPBG and the way they narrow down the meaning of nature. First of all, NPs in general are sometimes described as "last refuges of nature" (NPBG, pic. 002), due to the fact that the areas are exempted from commercial use and hence nature can be left to its own devices to develop. Natural processes, not shaped by human usage, are thus an important factor within their understanding of nature. At the same time, they also portray the idea of NPs in the light of public pleasure, which indicates the important meaning given to the complex interplay between human and nature. In the section relating to the aims of the NPBG, one can see that the line drawn between nature and human includes important subtleties. Here, it is stated that wilderness beginns where there is no human intervention. "Protecting these natural processes and conserving biodiversity are the Berchtesgaden National Park's primary objectives. To enable nature to be better understood and fully experienced, the national park's spectrum of tasks also includes research, education and recreation programmes" (NPBG, pic. 028).

As can be seen, the part without any human intervention is described rather as wilderness, instead of nature, indicating a separate distinction. Wilderness is described as a place free of human influence and hence a counterpart to the human world. The term nature on the other hand is linked to the belief that it can be experienced and understood, which automatically reveals a human inclusion in it. Consequently, the strict separation line between human and nature becomes slightly blurred, although still maintained by the consistent categorization between, for example natural and cultural landscape (cf. NPBG, pic. 008).

Nevertheless, the connection or more precisely, the interconnection between those separated parts (cf. NPBG, pic. 054) is demonstrated at several points within the exhibition. One example would be the inclusion and positioning of the alms in the exhibition and park in general (NPBG, pic. 031). This landscape is based on an ancient pastoral farming method in the mountains. According to the exhibition, the gentle human intervention creates "near-natural landscapes" (NPBG, pic. 134) with its great biodiversity demonstrating the "harmonious interaction between people and nature" (NPBG, pic. 134), as these habitats wouldn't exist if it weren't for us humans.

Another example, which demonstrates nicely the presented connection between those two spheres, is the cross- section of the white silver fir (NPBG, pic. 113, 114). Here, on the tree "diary", as it is called within the exhibition (cf. NPBG, pic. 116), different historically important events in the regions were marked with white signs on the corresponding growth ring of the tree. Consequently, natural events, like the growth of a
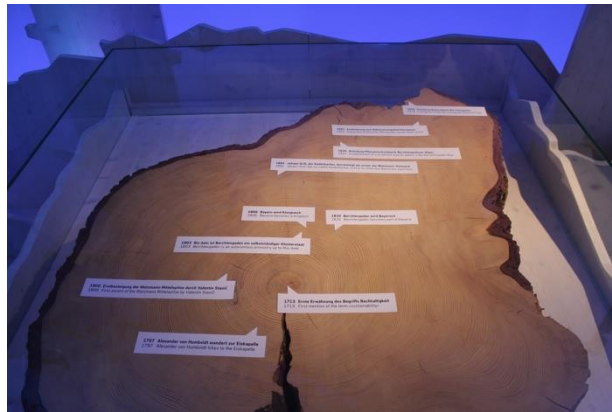

Figure 12: Cross-section of white silver fir (NPBG, pic. 114)

tree, are linked to cultural processes and not displayed separately. Nature or natural objects are thus not presented as external systems, but one that goes hand in hand with our society and our decisions and develops parallel or even in tune with society.

It illustrates the complex interplay and the way these parts depend on each other. This becomes especially clear, when taking the given explanation into account. Here, it states that this tree was standing within the area of the NP for over 300 years, before it had to be felled due to safety reasons (NPBG, pic. 117). Although presented as part of the natural world or as corresponding factor, both examples also illustrate the powerful human position.

4.2.3 Human-Nature-Relationship within NPBG

Taking a closer look at the exhibition, one can see human-nature relationship is portrayed in various ways, pointing in different directions. To begin with, the exhibition design in general as well as some displayed explanations and objects in more detail, illustrate a particular way humans encounter nature, which indicates a scientific approach towards nature due to the fact that it is information based. Nature again is explored, animals defined and named (NPBG, pic. 108), lakes measured (NPBG, pic. 069) and the development of the Alps explained from the geological perspective (NPBG, pic. 077). The displayed information appears in certain categories. Animals, for example, are described by presenting their weight, age, mating season and scientific name (e.g. NPBG, 120). The perception of nature as research object thus influences the constructed image of the human-nature relationship, although it is not the only one. The portrayed relationship goes beyond the technical perception or natural- science motivation image of nature, as it is depicted by Oldemeyer (1983). Despite the fact that knowledge about nature is highlighted, the idea of also presenting nature as a place to "linger" (NPBG, pic. 134) or something that "never ceases to amaze us" (NPBG, 2016, pic. 211), which links more to the emotional or recreational aspect of nature. For this reason, it seems necessary to not only consider the manner of representation of nature, but above all the described human impact in order to expand our understanding of the depicted human-nature relationship.

On the one hand, "alpine farming has characterized the alpine landscape for centuries" (NPBG, pic. 132), creating a balance between human and nature. Here, human activities are displayed in favor of nature, causing a higher biodiversity. On the other hand, a decrease of the black grouse population was also caused by "destruction of their habitat and hunting" (NPBG, pic. 216) and thus by human activities. In a more general tone it states within the forest section, that prior "to the national park's foundation, the forest communities had

undergone many changes due to human use" (NPBG, pic. 090). Further on, in a different section, it is explained in more detail, that due to their ability to grow fast, humans preferred spruce forests instead of natural mixed forests (NPBG, pic. 100). Nowadays, "the national park has been taking accompanying measures to support forest regeneration and recreate semi-natural and stable mountain mixed forests" (NPBG, pic. 250).

Consequently, nature and landscape is described as something that we can shape and influence, protect, manage and conserve, but also destroy and endanger. It depends on the treatment we choose, which illuminates a different perspective on the human-nature relationship. The moral consideration is now central of the characterization, instead of a general understanding about the superior status of human needs. This can be best explained with the help of the following quote, relating to the return of wolf, bear and lynx to the Bavarian alps: "we are no longer used to their presence in nature, the coexistence of humans and the Big Three needs to be managed in a way that takes conflicts associated with their return seriously and reduces them in conjunction with those concerned" (NPBG, pic. 118). The predators don't have to self-evidently adapt to human needs, but rather a new way of treatment has to be found which also demands a human adjustment to the new situation.

The fact that this storyline is taken goes hand in hand with the idea of connecting 'nature' with the heritage understanding, linking to the sustainability approach. The section about balance between nature, business and culture is as following: "Making conscious decisions and acting responsibly – these are the core principles behind sustainability. Sustainability ensures that future generations have the same opportunities that we do. This is especially important in the areas of nature, business and culture " (NPBG, pic. 54). Clearly, there is an implied message in which direction those choices should be made, by stating for example, that it is „our duty to preserve the world of caves for the use and pleasure of future generations" (NPBG, pic. 210). It seems that due to our knowledge and understanding of nature, which is partly based on science, we have to act in a certain way to not abuse the powerful position we occupy, but at the same time still be able to use it.

The choice to act in a certain way is also expressed by the section with the headline "I protect the environment" (NPBG, pic. 23). Using a first person narrative, different ways of protecting the environment are presented, like "I use recycled paper" (NPBG, pic. 23, *own translation*) or "I eat less meat" (NPBG, pic. 23, *own translation*). In comparison with the rest of the exhibition, the change within the narrative style is further of particular interest, as it addresses or speaks directly to the visitor. Assumably, this should guide readers towards a certain lifestyle and thus reinforces the direction of the moral consideration.

In summary, the image presented here of nature is due to the exhibition design above all connected with the idea of experiencing nature. Nature appears as a fascinating object we can engage with in the exhibition space, but also outdoors in the real world. A distinction between humans and nature is still made, albeit with the connection between them stressed. The possibility for a harmonious coexistence is further highlighted at different parts of the exhibition. Apart from the scientific view towards nature, the option for estimating its spiritual or emotional purpose is also addressed. In addition, at several points within the exhibition the influence of a sustainable view on nature can be found.

4.3 National Park Gesäuse

Established in 2002, the Nationalpark Gesäuse (henceforth NPGS) is the youngest NP in Austria (Verein Nationalparks Austria, 2016) and is located in the eastern part of the alps in the state of Styria. According to its legal foundation, the Nationalpark Geäuse Gesellschaft GmbH is responsible for the establishment and management of the park (Nationalpark Gesäuse GmbH, 2016).

It covers an area of approx. 110 km², located along the river Enns and encompassing two mountain massifs, the Buchsteinstock and Hochtor range (Nationalpark Gesäuse GmbH, 2016). Six communities are labeled as NP communities. The small town Admont is thereby one of the most famous ones, due to the Admont Abbey, of which also the investigated permanent exhibition is a part. One room within this old Abby, or more precisely within the natural history section of the Abby, is hence dedicated to the exhibition "passion for nature" (in German: Leidenschaft für Natur), the permanent exhibition of the NPGS, which was opened in spring 2015 (Nationalpark Gesäuse GmbH, 2015).

4.3.1 The Exhibition "Passion for Nature"

The exhibition is located in approx. 8 km distance of the park. One particularity of this exhibition is that the permanent exhibition is integrated within another museum – with a totally different background, approach and design. Indicating this separation between the different sections is thus the aim of a big banner placed next to the entrance door of the exhibition (NPGS, pic. 038) and the short introduction on the wall next to the door. With the help of a simulated phone call between the former padre Strobel, born

Figure 13: Entrance to the exhibition "Passion for Nature" (NPGS, pic. 038)

in 1846, and a student in our times about a recent discovery, the visitor gets introduced to the exhibition "passion for nature" (NPGS, pic. 036). Further on the right side, general information about the park is also displayed, relating to the landscape, the possibility to experience nature and the visitor centers within the park (NPGS, pic. 037).

Figure 14: Exhibition "Passion for Nature", picture taken from the corner of the room (NPGS, pic. 029)

According to the title, the exhibition is designed to give an insight into the motivations scientists have for their work. Arranged in a circular way and based on the four main habitats (mountain pasture, river, rock and forest), indicated by four huge photo collages covering the exhibition's walls, four researchers present their biggest discoveries.

Each discovery is thereby presented in combination with an image of its explorer, pointing or holding the finding (NPGS, pic.

029, 022). The researchers are separated from the background by the white fabrics they are printed on. The table constructions underneath the images provide further information, either in form of objects placed on the table, like a stone, wood piece and microscope, or with the help of written text or installation within the two cupboards.

One of the cupboards is always dedicated to the discovery or rather the story behind it. That wants to say that the researchers themselves present their discoveries and explain why they are so fascinated about it. The second cupboard contains different objects or contents, linked in different ways to the discovery. For instance, one is only lined with red fabrics (NPGS, pic. 009), another one contains a book about animal and plant species in Austria (NPGS, pic. 014). The third one relates to similarities between animal and human behavior (NPGS, pic. 025) and the last presents images and quotes of a former exhibition to the North Pole (NPGS, pic. 021).

Placed in the middle of the room, a construction showing a relief map of the NPGS provides an overview of the park area and its landscape (NPGS, pic. 029, 034). This section is again combined with two cupboards containing specific information about three animal and plant species within the park as well as a description of a hiking experience of the managing director of the park (NPGS, pic. 033, 035).

Apart from the visual incentives, a huge emphasis is also set on the acoustic setting within the room, which is based on different recordings made within the NPGS area. An interesting point is that the sound installation varies with the amount and type of movements of the visitors (Nationalpark Gesäuse GmbH, 2015). That is to say that, for example, whenever a person enters, a sound of cracking wood automatically plays. In addition, a bee, bird or fly sounds emerges, which accompanies the visitor. This means that the sound follows the visitor throughout the room. The opening of a cupboard is also again connected to different sounds. This means, that it is possible for the visitor to experience different settings with every visit s/he makes. To draw more awareness to this installation, the concept is also directly communicated to the visitor with the help of a small note at the entry of the room (NPGS, pic. 027).

The exhibition is based on a communicative approach in which the idea of story telling on the personal level is combined with the intention to construct an exhibition that enables visitors to experience a unique setting. Due to the very little amount of additional text, objects and explanations, it emphasizes visual as well as acoustic incentives on a new level. This combination creates, according to the homepage, a new type of listening experience (Nationalpark Gesäuse GmbH, 2015, *own translation*).

Figure 15: Cupboard referring to Wolfram Graf (NPGS, pic. 013, cropped)

The narrative structure of the exhibition is based on a very personal manner. The content within the exhibition is mostly linked to a personal experience or directly to a person. This can be seen in the writing style, based on the I-form or by the fact that the full name is always marked as source and as a title on the cupboards (NPGS, pic. 007, 013, 020, 024).

Furthermore, the displayed images and portraits of the 'speaking' researchers strengthens this personal impression, like e.g. the section of Dr. Wolfram Graf and his discovery of the fly Leuctra astridae, which he named after his wife (NPGS,

pic. 13). With the other exhibitions in mind, the presented information indicates a different communicative approach. Instead of focusing on basic biological information about the fly, this exhibition rather displays the story of its discovery as well. It describes how the researcher was jumping up and down with excitement (NPGS, pic. 13). In addition, it outlines that the species remains a mystery, because we still don't know a lot about it. Enhanced by additional examples of remarkable names of species given by humans, like 'dracorex hogwartsia' for a dinosaur, linking to the famous school of Harry Potter (NPGS, pic. 13), it also portrays the human influence on the given names.

In sum, the exhibition doesn't provide much information or many objects, but rather portrays very personal stories, highlighting the emotional level of the content. Sometimes the visitor is even left to come up with their own interpretation or conclusion as there are no explanations provided. This is for example the case of the red cupboard, which is indeed a cupboard covered in red fabrics which is left without further instructions (NPGS, pic. 8, 9)..

4.3.2 Meaning of Nature within NPGS

With the general storyline of the exhibition in mind, nature is obviously portrayed as research object. Different research present their discovers and with this also the way how they engage as humans with nature as a research object. The emphasize is thereby set on different species with remarkable characteristics that can be surprising for us humans.

With this manner, the exhibition also illustrates different reasons why people can be passionate about nature, linking to the more emotional level. One special notion within this exhibition can be observed by taking a closer look at the following statement, made by the managing director: „I'm literally surrounded by nature in all her beauty, pure and wild and with all her dangers" (NPGS, pic. 33). This means that on the one hand nature is depicted as spectacle (NPGS, pic. 7), whereby the NP distinguishes itself by its unique, contrasted landscape (NPGS, pic. 37) that can be experienced. The atmosphere in the room, with its light colors and kind of idyllic landscape pictures further strengthens this friendly impression.

But this landscape also holds its danger which is especially depicted within the rocky mountain areas. The section dedicated to the explorer Fridtjof Nansen, born 1861, demonstrates the problematic side of this passion for nature, the possible dangers of injuries that can come if you dedicate your life to research, as the headline illustrates (NPGS, pic. 21). The researcher Christian Komposch describes his work also as "dangerous" (NPGS, pic. 20), when he tries to follow the megabunus lesserti, a species of harvestman, in its natural habitat. Apart from depicting the dangerous side of nature, a common feature is also that both statements are based on the human perception, on a personal experience, which goes hand in hand with the storyline of the exhibition. Important is thereby, that this human viewpoint is directly addressed or communicated to the visitor. It is clearly stated that the content is based on a human perception which indicates a different approach towards the presentation of nature.

But what does this concept of nature actually imply? First of all, it is important to notice that here again a differentiation is made between the human and nature. The 'natural' forest consequentially describes any forest which is not managed (NPGS, pic. 35) or that the 'natural' habitat of the Megabunus lesserti is protected within the park. Only external factors like climate change could threaten the population (NPGS, pic. 20), but they are not part of the natural processes. Indeed, the natural process is thus described as something that is not influenced by humans, not "managed"(NPGS, pic. 35) or just "left" (NPGS, pic. 24), which illustrates the separation line between nature and humans.

Furthermore, in text passage within the exhibition the managing director describes a text the feeling of leaving the urbanized world behind while hiking up to the top of the mountain. Arrived at the summit, he is "literally surrounded by nature" (NPGS, pic. 33). This makes clear that although the humanized world is separated from nature, because it is left behind, the integration of humans within the concept of nature is still seems possible. Not only by the fact that we can experience, enjoy nature and thus can be to some extent integrated in this concept, but additionally the alpine pasture once again forms part of the protected landscape and doesn't interfere with the idea of protecting nature (NPGS, pic. 7). Here, human made landscape is presented in a different light. The alpine pastures are contrasted with the urbanized world, which is clearly stressed as human made within the German description and left behind to be able to encounter nature. Consequently, nature to some is depicted as human counterpart, but not as a contradicting part. Depending on the level and manner of human impact, the line can be blurred.

4.3.3 Humans-Nature Relationship within NPGS

It is important to keep in mind, that the portrayed role of humans is here based on a certain profession, that is to say the one of a scientist. Obviously, the presented versions doesn't intend to resemble a general understanding of the human-nature relationship, but rather a very particular kind of it.

The exhibition itself is based on researchers and their insights into nature. In addition, there are also other typical symbols strengthening the scientific perspective on nature. For example, the microscope (NPGS, pic. 23), the magnificent glasses presenting the objects (e.g. NPGS, pic. 17, 18) or the fact that the Latin names are stated (NPGS, pic. 20) indicate influences from the field of natural science or the technical view on nature. Nature is again portrayed as something we can study, investigate and explain in its detail. Consequently, the first impression is indeed shaped by the scientific, objective perception of nature, which appears as fact to us.

However, there are other indications, questioning this common assumption. While describing the research of nature, the exhibition also depicts its limitations. Firstly, nature, or rather the discoveries found in nature, apart from being an object for investigation, are also described as a mystery (NPGS, pic. 13) about which we still know so little (NPGS, pic. 20). This challenges in a way the human positioning as all-knowing creatures within the concept of nature. It illustrates, that although we invest a lot in research, we still don't know everything and maybe we will never be able to fully understand nature, as it seems sometimes impossible to follow the object of interest within their habitat (NPGS, pic. 20).

Additionally, the section with the title "strictly scientific names" (NPGS, pic. 13), referring to funny scientific names, illuminates a different aspect of the human-nature relationship. By showing how we humans invent names and how this process is shaped by personal experiences as well, the human perception of the natural world is brought into mind. The given names don't appear as fact anymore. The human side of the experts, and not only their knowledge, comes to the surface. Suddenly, the scientific system appears in a different light, because it also gets connected to a personal story, illuminating the belief that the system and its taxonomy is indeed human made.

Furthermore, the idea of perceiving nature as an object of beauty and risk conveyes a different estimation and respect for it. It is also stated that the NPGS "not only stands for consistent conservation of nature and nature study but is also known for offering a unique enjoyment of nature" (NPGS, pic. 37). Research is thus just one of the important human behaviors. Enjoyment and conservation also play an important role. Especially the possibility to enjoy nature is constantly stressed. This links to a certain perception of nature,

as can be seen in the following quote of the managing director: "Standing up here alone on the magnificent mountain, I look down towards the River Enns. Up there, I feel any worries melt away and I'm filled with a deep sense of awe. Yes, I can climb my way to happiness" (NPGS, pic. 33). Humans are placed here within a bigger frame or at least, the feeling of belonging to a greater system is described. This relates more to a spiritual or emotional connection with nature. Similarly, it is also stated, that experiencing woodland "gives us a heightened sense of awareness. And much of what seems to fill our everyday lives suddenly seems quiet insignificant. In the Gesäuse National Park the fir can recover and grow – as can we by enjoying nature and tuning into our senses" (NPGS, pic. 35). This quote depicts a manner of experiencing nature beyond scientific methods, beyond the process of learning about facts. It rather brings to mind that the emotional connection also forms an important part of the human-nature relationship.

The interplay between nature as scientific object, as mystery, as beauty and risk shapes the impression that nature and humans are placed here on a rather equal level. This leads to the conclusion, that with the help of the personal narrative structure, the obvious view of nature as research object is combined with the idea to connect the concept of nature with additional values. Nature then appears as an object worth being passionate about for several more reasons than the scientific motivation. The NPGS exhibition stands out due to its simplistic communicative approach and the way the content is presented. Apart from the personal approach, there are only a few explanations and remarks. Some objects, for instance the book or the red cupboard, are presented without further explanation. It is left to the visitor to interpret the experienced objects and setting.

4.4   National Park Hohe Tauern

The biggest NP within the Alps is the National Park Hohe Tauern (henceforth NPHT) in Austria, which was established in 1981 and has been internationally recognized since 2006. It encompasses an area of 1856 square kilometers, including the Großglöckner, the highest mountain of Austria. It spreads over the three regions Salzburg, Tyrol and Carinthia (Nationalpark Hohe Tauern, 2011). For this reason, the political responsibility is shared by the ministry of life and the state government of those three regions. The park administration is also divided between the three regions (Nationalpark Hohe Tauern, 2006).

The exhibition Nationalparkwelten (in English: National Park Worlds), just one of many different exhibitions, is located in NP Centre in Mittersill, a small town with around 5.500 inhabitants (Mittersill, 2001) close to the city Zell am See. The exhibition was opened in 2007 and enlarged by the 360° cinema in 2015 (Ferienregion Nationalpark Hohe Tauern GmbH, 2016). It was chosen due to its size and its title which conveys the intention of representing the NPHT in general and not only a certain aspect of it.

4.4.1   The Exhibition "Nationalpark Worlds"

The exposition of the content starts in the foyer, just next to the entrance, where a big map of the NPHT and some further information about the Park are presented (NPHT, pic. 215). The exhibition space therefore encompasses 1800 m^2 (Nationalparkzentrum Hohe Tauern GmbH, 2016). According to the title, ten different stations make up this exhibition, each presenting a different aspect of or perspective on the NPHT. The comprehensive scope of the content is thereby best explained by briefly introducing the different sections of the exhibition.

The exhibition starts with the section "eagle's eye view", which is mostly based on film material produced with the help of a special helicopter construction which is flying above several valleys in the park (NPHT, pic. 079, 080, 081). Additionally, shots of eagles are also included in the short movies. The films are arranged around a big model of the two highest mountains in the park that are floating in the middle. The visitor can go around and choose in which valley he wants to 'fly'.

Figure 16: Sections Eagle's eye view (top) and Marmot & Co (bottom) (NPHT, pic. 005)

From here, one can either go a level down, entering the world of Marmots & Co (NPHT, pic. 073), dedicated not only to marmots, but also to other animals and plants species living in the high attitude of the park. The arrangement of this section contains different specimen, a climbing wall as well as a human sized marmot burrow into which the visitor can climb.

The entrance to the 360° panorama movie theater (NPHT, pic. 038) is also located in the lower basement. As the name already indicates, this section is based on a movie presentation where the visitor is placed on a platform in the center and the room which is surrounded by the screen. Additional explanations about the making of the movie, research and science (NPHT, pic. 040), history of the park as well as education and information (NPHT, pic. 041) are placed on the ground level, beneath the platform of the 360° movie.

On the upper level, the exhibition continues with the treasure chamber, dedicated to the geological development of the region, the different minerals and the history of the mining industry (e.g. NPHT, pic. 103, 104). Apart from the displayed stones and 3D- movie, the visitor is also encouraged with the help of knocking sounds to go into the treasure cave, a corner in the far back, in which the legend of the "vendigmandl" is told via audio play.

The adjacent section is the "mountain forest gallery", arranged as different tree logs through which the visitor has to wander (NPHT, pic. 123) in order to engaged with the presented information about trees, forest management and different species living in this habitat.

The next section is called alpine summer and links to the alpine pastures. Green grass wallpaper covering the whole exhibition space, from ground to ceiling, marks this section (NPHT, pic. 144). A wall placed in the middle of the section with pictures of people in the high pasture setting separates this station into

Figure 17: Section "Forestgallery" with the section "Alpine summer" in the background (NPHT, pic. 123)

two parts, as can be seen in the back of the picture (Figure 17). On the one side, the different plant species are presented and the visitor can lie down and watch a film sequence on plants on the ceiling. The other side is dedicated to the farm life, describing the work, life and various kinds of domestic animals (NPHT, pic. 145).

The "wild water" section follows, which includes original sized replicates of e.g. dipper (NPHT, pic. 183) and grey wagtail (NPHT, pic. 184), as well as for example large-scale models of brown trout, caddis fly larva, stone fly larva (NPHT, pic. 180-182) and some further information about water in the park. After that, the "Avalanche Dome", a 270° projection and sound installation (NPHT, pic. 197) that presents images of avalanches and waterfalls follows. The last part is the "Glacier World" (NPHT, pic. 214) that illustrates the development of the glacier over time and actually contains a real ice construction in its center. If a visitor approaches it from a certain angle, the audioplay of the glacier ghost begins to be played.

Although the exhibition has a clear start and end point, the transition between the different sections proves to be very abrupt. The sequence of completely different sections forms indeed the impression that different worlds are put next to each other, as expressed by the title.

Fitting the different focuses, the design of each section, referring to the presentation mode, arrangement of objects, floor and wall color etc., varies. Hence, the overall atmosphere within the space changes with every section, as well as the mode of presentation. This makes it difficult to describe the exhibition in general. Despite the difficulties, two major categories of presenting form can be found.

On the one hand, a big part is biased on the movie installation with the 360° panorama view and the 270° avalanche dome, each time combined with surround sound. In addition, the section on Marmots, the eagle's view and the treasure chamber are not merely based, but also contains movie material, the last one even in 3D cinema, which indicate the important role the movie presentation plays within the exhibition design. Although impressive due to the scale, one notices that due to this approach, the visitor is put, as audience, in an observing role, not able to directly interact with the content.

The other parts are arranged by the combination of objects (stuffed animals, rocks or landscape models), pictures, sound installations and text pieces. Here, the visitor can turn things, pull out cupboards or start an audio recording in order to get some more information. However, the content is therefore mostly conveyed by texts, following an explanatory manner. This approach rather follows the more traditional practice of an

exhibition design, which is based on the intention to convey information with the help of some objects (Dean, 2002).

Although arranged in different manners, one aspect implemented in every part is of particular interest: the transformation and partly exaggerated representation of nature. Continuously, the visitor experiences a different perspective on nature, which can never or rarely be experienced in nature. Standing beneath an avalanche or powerfull waterfall (NPHT, pic. 198), encountering the amplified stonefly larva model (NPHT, pic. 182) or experiencing the sterile glacier world, in which white tiles cover floor, ceiling and walls, would be just some examples. Obviously, the design is made in reference to the nature outside, but at the same time it is also clearly not trying to represent it, as is stated on the homepage (Nationalparkzentrum Hohe Tauern GmbH, 2016). To encounter different aspects of nature, experiencing uncommon perspectives shapes the foundation of the narrative structure.

4.4.2   Meaning of Nature within NPHT

After the coding process, it seems that the term "nature" is used in many ways, revealing various aspects. The term 'nature' appears in combination with the idea to protect and conserve it (NPHT, pic. 042) and thus more as endangered object. It is also depicted as an object that we can experience, either through the educational program of the park (NPHT, pic. 044), by admiring natural spectacles like the water falls (NPHT, pic. 191) or in combination with sports, as is indicated for example by the climbing wall in the marmot section (NPHT, pic. 73). As can be seen, many different facets about the implied meanings appear. The quotes mentioned refer mostly to single phrases, or small parts of the exhibition and the narrative structure clearly distances itself from the belief that it represents nature.

For this reason, instead of investigating what nature means or how the term is used, it might help to take a look at things that are described as unnatural. For example, it states that the park is composed of a " [m]agnificent natural landscape in the core zone (…), surrounded by an ecologically rich cultivated landscape" (NPHT, pic. 215). Although the alpine pastures and thus human-made landscape (NPHT, pic. 165) forms part of the NP, there is still a distinction made, which is clearly visible and repeatedly stressed (e.g. NPHT, pic. 042, 043). Despite its richness of species, it is still labeled as landscape which is "in harmony with nature" (NPHT, pic. 165), but not nature itself. This indicates again the idea to describe nature as a human counterpart by marking the differences between nature and cultre. Accordingly, the NPHT is known for its "treasures of the natural and cultural world" (NPHT, pic. 043). This example not only shows the differentiation between cultural and natural, but also links to another particularity within the exhibition. The usage of the word "treasure" plays an important role within this exhibition, due to the fact that it appears in several sections. Taking the quote as presented earlier, an obvious interpretation would be to see it as metaphor, as a way to express the value of nature for its own sake, referring to its biodiversity or ecologically rich habitats, as is illustrated within the wild water section (NPHT, pic. 187) and other NP exhibitions (e.g. NPHW, pic. 214).

This perception changes when linking this statement with another section in the exhibition: the treasure chamber (NPHT, pic. 086, 100). Referring to "gorgeous crystals" (NPHT, pic. 095), their attractiveness (cf. NPHT, pic. 098) or famousness (NPHT, pic. 099) portrays a different perspective on the term "treasure", especially in combination with the manner of presentation (NPHT, pic. 101), in which they appear as precious objects, protected by glass, illuminated by a special light installation. Above all, the inclusion of the mining history within the area illustrates a

Figure 18: Part of the section "treasure chambre" (NPHT, pic. 101)

different perception of the crystals and with this a general idea about nature. It shifts the valuation of nature from an unselfish, ecocentric perspective towards a human interest, due to the fact that "the presence of gold, silver and occasionally copper results in mines being dug and greater economic significance" (NPHT, pic. 105). Although depicted as historical activity, it also states that there have been "a number of more or less unsuccessful attempts to revive mining, and they persist to this day" (NPHT, pic. 111). Furthermore, there is still a running tungsten ore mine in Mittersill (NPHT, pic. 105).

The interesting point here is that the emphasis is set on the fact that the mine is placed outside of the park area, which is repeated in several tables (NPHT, pic. 105, 109, 111, 115). The running mine itself is not a part of the NPHT, although former mines have been located within the park area.

The concept of NPs thus plays an essential role. For example, the emphasis of the educational program of the park is not only set on experiencing nature, but also on strengthening "enthusiasm for the national park concept" (NPHT, pic. 044). To some extent, the constructed image of nature is in this exhibition linked to the idea of NPs. It portrays the image that within the area you can find nature due to the fact that NP, or "natural park" (NPHT, pic. 043) as it is also referred to, functions as a safeguard for nature and wilderness (NPHT, pic. 061). In this impression of nature, there is not only a separation between nature and culture, nature and human, but also between nature within the NP and nature, or whatever it might be called, beyond the boarders of the park. The idea of nature conservation goes hand in hand with the perception of NPs (NPHT, pic. 072), because it is "only in large reserve areas where ecosystems can develop untouched by outside influences" (NPHT, pic. 051) and thus 'real' nature develops. This way of portraying nature comes with a certain idea about the human role within it.

4.4.3 Human-Nature Relationship within NPHT

To begin with, the nature human-relationship can be again described with the help of different objects or sections, placed within the exhibition. Different perception of or focusses on nature thereby convey different meanings.

First of all, the section with the title "science and research" (NPHT, pic. 049) portrays nature again as a research object and the NPHT as the "largest laboratory of the Alps" (NPHT, pic. 049), which is due to its untouched character "predestined for long-term research and monitoring activities" (NPHT, pic. 051). Here, not only the above perception of the role of the NP within the construction of nature becomes obvious, but also conducting research is described as a fundamental task for the park management. Although the scientific influence is especially highlighted and described in more detail in this section,

it can be spotted at several points. For instance, all species are again labeled at least in German and with their Latin name (NPHT, pic. 058, 171, 176). The detailed description of the cross section of the stone pine (NPHT, pic. 124), where the visitor can investigate the object himself with the help of a magnifying glass, points towards the same perception of nature.

Exploring the human role within the portrayed concept of nature, the alpine summer section is of particular interest. Already the design of this section indicates a particular positioning of the human within the exhibition, because the wall, placed in the middle of this section, shows a picture with three people sitting on a bench in front of a wooden construction (NPHT, pic. 123, *background*). Held in black and white and with this clearly separated from the surrounding colourful flowering meadow background, it immediately attracts attention. Due to its size and the way the portrayed people look down on the observer, it conveys a particularly powerful positioning of humans.

Taking a closer look at the illustrated text passages shows that it relates to a large extent to the use and transformation of nature by humans. Flowers are thereby depicted as a central source of ingredients for medicine (NPHT, pic. 175) and the high pastures as an important foundation for livestock (NPHT, pic. 147). Humans have been using the land to feed their cattle for centuries now and with this habit, they have shaped the landscape according to their needs (NPHT, pic. 163, 165), which also favored the establishment of a rich flower biodiversity within the alpine landscape. The impact is thereby not only restricted to the landscape, but through breeding processes humans have also been modifiying animals in order to increase their ability to survive in these harsh mountain conditions (NPHT, pic. 147), which is also shown by explaining in detail the different species (NPHT, pic. 148-157). Animals are thereby described as tools (cf. NPHT, pic. 157) or "high-quality product[s]" (NPHT, pic. 158), which the menu shown (NPHT, pic. 161, 162) illustrates this nicely.

Figure 19: Menu in the section entitled "the alpine summer" (NPHT, pic. 161)

Although this might point towards the idea that humans are superior to animals, landscape and thus nature in general, it is also important to notice that this power is portrayed with its limitations. Accordingly, the text concerning the cultivated landscape points out that the maintenance of these cultural landscapes demands a lot of work (cf. NPHT, pic. 164), whereby it is important "to respect the limited opportunities and strict laws of the high mountains" (NPHT, pic. 165). The human respect for the limits therefore favors the balance between nature and human. In a way, this indicates that the human-nature relationship is not only a one-way relationship. Nature also has the ability to influence humans. The power and threat nature poses is also addressed to the visitors within the exhibition, by experiencing for instance the avalanche dome (NPHT, pic. 197, 198). Facing tones of waters falling towards you on the 270° screen (NPHT, pic. 198) indeed creates the impression of being helplessly exposed to nature. This feeling even gets reinforced by the dramatic background music. Combining those two perspectives on nature and the human role, not only illuminates the complex character of it, but also demonstrates how different presentation design can favor a particular understanding, if regarded separately.

In summary, the selected parts within this exhibition demonstrate a presentation of nature that highlights its value as natural resources. Humans are mostly presented as powerful actors, able to re-shape nature to a huge extent according to their needs.

Within the NP nature is protected to a certain extent from human influence and power. Nature is indeed depicted as a human counterpart. The drawn connection between the description of nature and the NP idea was indicated as special feature of this exhibition.

5 Discussion

The four case studies illustrate different ways to present nature. Each of them illustrates a an unique approach, emphasizing different understandings of nature. Nature is portrayed as something we use, transform, master, experience, protect and admire. Other examples show that humans also depend on nature, are threatened by it or encounter it as a bigger system of which humans are only a small part. This illustrates the complexity of the current construction of nature within one particular institutional setting.

Despite the differences within the exhibitions and their designs, there are still some common features which can help to develop a better understanding about the involved and socially rooted discourses. These discourses structure the content of the exhibition and by this means convey a certain understanding of nature.

The following section aims to illustrate the similarities and differences in the constructed concepts of nature, portrayed in the light of four discourses. Although described separately, it is important to keep in mind that discourses are not isolated, stand alone units, but rather interfere, interrelate and sometimes even contradict each other. They pop up in different parts of the exhibition, sometimes directly visible, sometimes more subtle. The discussion presented here aims to illustrate some reflections on it. Afterwards some conclusions about the discourse described here and how they relate to the theoretical framework of Berger and Luckmann are added.

5.1 Scientific Understanding of Nature

One of the most obvious influences on the content and presentation design of the exhibitions is the scientific approach towards nature. Science and the knowledge we gain through it take a special position within all four cases. For example, it is directly addressed as a topic within the NPHWS exhibition NPHT (cf. NPHWS, pic. 069; NPHT, pic. 049). In NPWHS, visitors are also invited to take the role of researchers by using the microscope (NPHWS, pic. 040), identifying birds (NPHWS, pic. 050) or counting them (NPHWS, pic. 069). The exhibition of the NPGS is based on the passion for nature of researchers working in the park, which already highlights this specific approach towards nature. Apart from that, the manner of presentation also indicates a certain relation to the natural science world. Animals are described with help of their scientific Latin name in all the four parks and regularly counted in the park (e.g. NPHWS, pic. 059; NPHT, pic. 058). Among others things, like behavior patterns or special features, they are often described with the help of numbers. For example, the nutcracker has a span between 49 and 53 cm, weighs between 160-250 g and can become up to 15 years old (NPBG, pic. 126).

Nature thus becomes a research object, which is explored and observed and afterwards put in categories and organized in schemata. The aim to investigate nature and discover natural laws in order to explain natural processes is a fundamental feature within one of the concepts of nature depicted by Oldemeyer. Within the mechanistic-technical the intention is to use this knowledge to increase the human benefit of nature (Oldemeyer, 1983, p. 32). This leads to the question of the purpose of the research. In the technical concept the human usage of knowledge is highlighted, whereas the exhibitions stress the need to conduct research on nature in order to be able to protect it (cf. NPHT, pic. 051; NPHWS, pic. 069). This indicates an ecocentric estimation of nature, in contrast to the technical concept of nature, which is clearly based on an anthropocentric reasoning.

However, although the valuations of nature differ, it is important to keep in mind that this doesn't mean that the described relationship changes. On the contrary, no matter what reasons are given, the idea that humans are able to investigate and thus understand nature and can intervene according to nature's needs still puts them in a powerful position, reinforcing the reduction of nature to an object, as is described by Oldemeyer. Nature remains an object, which we humans, as subjects, are able to understand and thus shape according to our visions. If it is for protection or usage is then a question of moral consideration, which is also partly addressed within the exhibition (e.g. NPBG, pic. 54). However, the description of the ability alone already highlights the human supremacy.

The NPGS exhibition breaks the ranks by positioning nature in a slightly different manner. Although the exhibition is based on scientific discoveries and the experiences of researchers, it exemplifies a different relationship between researcher and the research object. On the one hand, it strengthens with its exhibition design the perceived connection between nature protection and science and with this also the view on nature as research object. But on the other hand, it also points out the difficulties of research within exposed habitats (NPGS, pic. 021) and highlights the mysterious character of nature (NPGS, pic. 020). In a way the exhibition challenges the common perception that we can, thanks to research and developed method, indeed know everything. With this it also questions human supremacy and the human position within the concept of nature. To a certain extent, it illustrates the limits of research and with this also human knowledge about Nature. This indicates a shift towards the forth concept, the all-encompassing concept of nature, of Oldemeyer, since humans as part of the system will only be able to understand a certain side of the system, but never the whole item.

This illustrates nicely how a certain discourse is shaping the current praxis in general, because all four exhibitions contain references to the scientific discourse on nature. The grounding within the natural science, as the name already indicates, is thereby obvious. At the same time it shows the variety of the impact on the micro level and how small changes in the presentation can deliver a different impression of nature.

5.2   Sustainability Approach towards Nature

Apart from the scientific or rather natural scientific influences, the results also indicate other discourses, illuminating nature in a different light. One of them links to the sustainability discourse. According to Tilbury (1995), this approach goes beyond the mere naturalistic and scientific work about the environment. In contrast, education in this sense "focuses more sharply on developing closer links between environmental quality, ecology and socio-economics and the political threads which underlie it" (Tilbury, 1995, p. 210). It thus follows a more holistic approach towards nature, combining social, economic and ecological aspects.

For example, within the exhibition of NPHWS, the sections about the biosphere reserve stand out from the narrative structure of the rest of the exhibition. As already mentioned above, in most of the parts the people are described as intruders or as a risk to nature. This is not the case in this section. The area of the NP is here presented as a testing stage for "sustainable human business in harmony with nature" (NPHWS, pic. 189), thanks to the nature protection measurements, the use of solar-energy and the promotion of extensive agriculture. The belief that humans can indeed live in harmony with nature (NPHT, pic. 165) or have beneficial influences on nature (NPGS, pic. 007) is also picked up by the other parks. Especially within the exhibition of NPBG the term sustainability is very present. Not only is the positive human impact on biodiversity is explained (NPBG, pic. 134), but also the sustainability idea is directly addressed since it is, according to the exhibition, of

particular importance within this area and for its interplay between nature, economy and culture (NPBG, pic. 054).

In the course of this, the need for responsible decisions is stressed. This portrays a slightly different picture of the concept of nature, or at least of the human role within it. Putting the human needs as well as nature's value on the same level and stressing the reliant character of the relationship (cf. NPBG, pic. 146) creates the impression of a rather balanced relationship within a complex system. The separating line between nature and humans gets weaker, allowing a tendency towards the all-encompassing concept in respect to Oldemeyer of nature to develop. By stressing the role of responsible decisions and the need to reflect on moral questions, the follow the demand of Oldemeyer to take both humanistic as well as ecological aspects into consideration (Oldemeyer, 1983, p. 37). In his view, the important point is precisely to understand that nature's value consists of the appreciation of nature for its own sake as well as for human use. Stressing both aspects goes hand in hand with the shift towards a new meaning of the concept of nature. It portrays an understanding that is based on the perception of nature as an all-encompassing system.

Considering that the NP is a clearly defined area, the question arises of whether the narrative structure within this discourse manages to leave the boarders of the NP. Or if the sustainable reasoning is only demanded within the park in order to protect nature.

In the mentioned cases, the need to behave responsibly is directly addressed to the visitor. The interesting question is whether those recommendations can only be applied for the behavior inside the park or if they relate to a more general level. One example, pointed out by the NPBG, would be the recommendation to rather take public transportation instead of one's own car in order to get to the Lake Königsee (NPBG, pic. 065). Here, the recommendation is limited to the park area. The NPHWS gives examples of how people can reduce plastic waste and help the environment by getting, for instance, engaged in a non-governmental Organization (NPHWS, pic. 111). Although it is connected to specific problems within the park, the advice can also be adopted in everyday life and is thus not limited to the visit of the park.

The important point here is that thanks to this phrasing, the portrayed idea of nature and nature protection is not limited to the park area, as it was for example in the case for the exhibit on mining within the NPHT. A good example of how this line can be broken is thereby presented by NPBG. In the section about the important aspects about the park it firstly clarifies that the idea of nature protection is not limited to the park area (NPBG, pic. 015). Secondly, the written passage directly addresses ways for the visitor to protect the environment (NPBG, pic. 023).

As can be seen, the exhibitions are not only based on the natural scientific background, but also integrate current trends in society, which are directly addressed. Visitors are also provoked to reflect on their own behavior and even to some extent encouraged to change their lifestyle as it has an impact on nature. This favors the understanding of nature as a delicate system of which humans form part of.

5.3   Historical Development

A common feature within the exhibition is also the historical references on nature or rather the integration of the historical use of nature, which influences the portrayed concept of nature. Especially within the alpine NPs, this plays an important role. Alpine farming "has characterized the alpine landscape for centuries" (NPBG, pic. 132), by using it as a

grazing ground for their cattle (NPHT, pic. 147) and other domestic animals in order to gain milk, meat (NPHT, pic. 158) and wool (NPHT, pic. 159). It is in a similar way portrayed within the NPHWS. In the 11th until the 13th century, the island Neuwerk was used as trading spot for fish and as summer grazing ground (NPHWS, pic. 183). With time the island got transferred in order to better meet human requirements. Agriculture has been the main income for the people living on the island until the 1970s (NPHWS, pic. 187).

Consequently, nature here is presented as a tool for our daily income, as a basis for our life. The use of landscape, the shaping of nature in the past, conveys the impression of perceiving nature above all as a means to survive. The idea to perceive nature above all as natural resource is especially highlighted in the mining section of NPHT, which indeed describes the exploitation of minerals (cf. NPHT, pic. 104-120). This depicts the concept of nature based on the materialistic approach in respect to Oldemeyer. The human's ability and superior position are used to transform and exploit our environment according to our needs.

Although the historical aspect is stressed, an interesting question within the historical discourse is, if there is a distinction made between the past and the current situation or if the portraying of the old manner rather helps to reinforce the idea to perceive nature in the same manner, because it has always been like this.

The distinction made in the mining section of the NPHT has been already mentioned. Here, it was stressed that mining is not conducted anymore within the Park, but rather somewhere nearby (cf. NPHT, pic. 115). It is not clear if essential things in the treatment of nature have changed in general or if they have just been relocated to a different place in order to protect the nature within this area. Specifically the statement about attempts to revive the mining activity reinforces the impression of cherishing nature for its natural resources and to continues to use it in the same manner as has been the case in the past.

The last statement becomes especially obvious within the presentation of alpine farming. Stating that these old traditions had been established a long time ago, but were maintained until today (cf. NPBG, pic. 134; NPHT, pic. 165), shows that there is no difference made between the treatment of nature within different times. The reason for this might be that alpine pastures are anyhow described as in "tune with nature" (NPHT, pic. 147). Only thanks to the human intervention has the "near-natural landscape" (NPBG, pic. 134) emerged, which created this unique landscape. Instead of stressing the human use, the benefits for nature are highlighted. The reasons for the appreciation of the tradition has changed, although the practice maintained the same. Instead of focusing on the human benefit, its harmony with nature is highlighted which opens up a different perception of the concept of nature. Humans are put in the service of nature. Once again one can see a shift towards the understanding of nature as an all-encompassing system.

However, within the historical consideration, the use of nature and human supremacy are still addressed, although the examples also illustrate turns within the argumentations. It seems that it is not a question about the habit itself, its historical grounding, but rather a consideration about the values it represents. Consequently, historical aspects can either be criticized or cherished, depending on the current view on nature.

To be marked is that the historical discourse also links to old legends and tales, which are also presented within the exhibitions (cf. NPBG, pic. 203; NPHT, pic. 213). The presented stories show nature in a more magical, spiritual manner. This links to older concepts of nature also described by Oldemeyer that have been prevalent before philosophy and science became established (Oldemeyer, 1983, pp. 21–22).

Although this understanding of nature plays only a minor role within the exhibitions, it is still important point out that nature can be and actually is to some extent also portrayed in a

magical way, referring to natural spirits. At the same time, one has to acknowledge that this perception of nature is addressed in a different manner. For example, at the NPBG, the mystical character of the stories and the curiosity of the occurrences is also stressed (NPBG, pic. 202). The content is not presented with the same credence as the rest of the exhibition and with this the impression of nature as magical force neglected.

5.4   Nature as Experience

The idea of presenting nature as experience is already obvious, if one considers some of the exhibition designs in the described cases. The sound installation and the impressive wallpaper of the NPGS, the creation of different worlds by the NPHT as well as the changing character and light installation of NPBG highlight the tendency towards an exhibition design based on an adventurous setting. The design stresses the idea that nature is something we can experience. The written passages show that this intention not only applies for the exhibition space, but also for the outdoor world. People are invited to visit the NP independently (NPBS, pic. 037), to walk through the forests, to linger on the Alm (cf. NPBG, 134) or to join one of the ranger tours (NPHT, pic. 044; NPGS, pic. 037). Nature is thus portrayed as something we can engage with, not only for scientific purposes or for the fulfillment of our substantial needs, but also for pleasure and recreation, which highlights a new aspect of the current understanding of nature.

First of all, the NPGS for example illustrates the spiritual connection one can feel while hiking through the park (NPGS, pic. 033), portraying a rather romantic image of nature. Thompson and Barton have suggested identifying spiritual appreciation of nature as an indicator for the ecocentric worldview (Thompson & Barton, 1994, p. 150), because the emphasis is not set on the human material use. In Oldemeyer's view, although portrayed in a beautiful and positive way, nature is still separated from the human world and seen as an antonym (Oldemeyer, 1983, p. 34), because it is opposed to our everyday lives. The implied concept of nature is in his view based on a subject to object relationship (Oldemeyer, 1983, pp. 36–37).

This conception becomes even stronger when a different aspect of nature experience is taken into account, which is more visible in other exhibitions. The NP or the area of the park is often described as tourist attraction as well. This illuminates a different perspective. For example, NPHT illustrates the many possible ways to experience nature by taking part in one of the outdoor programs, like glacier hikes or mountain climbing (NPHT, pic. 44). Despite the fact that these activities are connected to the educational mission, they can still convey a different view on nature. It is stated in the NPHWS exhibition, that tourism is nowadays the most important economic sector for the inhabitants of the park area (NPHWS, pic. 187). Taking the tourism aspect into account, the idea of letting people experience nature can be connected with monetary value. Although not related to natural resources in the material sense, nature can indeed be used within the service sector in order to gain money.

In summary, the different discourses convey different meanings of nature, each of them portraying a slightly different concept of nature. They thus can be seen as tools to deliver a specific kind of understanding of nature. Over all there is strong evidence of perceiving nature as opposed to humans, which is further stressed by the line depicted in all cases. The strong influence of the scientific frame, which was identified in all four cases, further strengthens the impression of perceiving nature as an object. The same impression is made if one looks at the historical development. Here, nature mostly appears in the light of human usage and transformation.

However, there is also a tendency fighting against this perception and the separation of those spheres. The sustainable discourse is especially challenging this impression by placing humans and nature on the same level and stressing their harmonious interaction.

The different perceptions of nature can further be linked to different phrasings and way of presenting. Within the scientific discourse, nature is presented as fact, as unchangeable knowledge, whereas the sustainable approach rather addresses moral considerations and open questions. The exhibition design, which is in three of the four cases mostly characterized through its event character, further strengthens the impression that the emotional connection with nature gains more and more importance in the exhibition practice. This indicates a shift in the exhibition practice. Instead of presenting a huge amount of fact-based information on nature, the emphasis is set on allowing the visitor to experience the certain dramatic setting. With this, the assumed roles and tasks of the visitor as well as institutions transform and with this also our general expectations on this social setting, which links back to the theory of Berger and Luckmann.

5.5   The Social Construction of Nature within National Parks

After having focused on the contents of the exhibitions and the way different discourses structure the knowledge of nature displayed, this section aims to connect those insights back to the theoretical framework of Berger and Luckmann. The attention is drawn to the social practices and institutional settings that introduce those discourses in our daily lifes and thus configure our general understanding of nature.

5.5.1   The Institutional Setting as Objectivied Reality

The results not only show the difficulties of defining nature, but also illustrates the way social norms influence the current practice. On the one hand, we have the natural science perspective on nature, which is based on a long tradition in research as well as in presentation and distribution of its results, as can be seen for example in research in the field of natural history museums (Alberti, 2008; Star & Griesemer, 1989). The research and educational missions of NPs, as highlighted within the IUCN definition, further strengthens this tradition and habit. It seems that this perspective on nature forms part of the institutional setting. In a way NPs have to adapt to align with the social norms and traditions of presenting nature.

Berger and Luckmann stress that every institution is also a product of its history. An important thought is therefore that institutions, "by the very fact of their existence, control human conduct by setting up predefined patterns of conduct, which channel it in one direction as against the many other directions that would theoretically be possible" (Berger & Luckmann, 1991, p. 72). The tradition of representing nature within museums influences the construction of nature within the explored exhibition, because it has established certain rules of conduct. An institution not following this code of conduct might have to face critique, due to the lack of logical coherence with other institutions or the overall system. This could cause problems on the level of legitimation as well as practical problems within the socialization process (Berger & Luckmann, 1991, p. 89). This could explain why the scientific discourse has such a strong stand within the explored exhibition and influence of the portrayed image of nature.

But not only is the museum practice shaping the exhibition content, the development of NPs in general is also influencing it. The fact that the NP idea was first established with the creation of the Yellowstone Park in 1872 in the US (cf. NPBG, pic. 2) is thereby a crucial point. Reinius and Fredman (2007) have already illustrated the impact of NP as tourist icon. This comes along with certain expectations and images, which can cause problems. According to the definition by IUCN, the ideal park would be excluded from any human exploitation in order to protect the ecological wealth and to create scientific and recreational opportunities. The definition alone already implies a tendency towards a strong separation between the human and natural world as well as the perception of nature as a research and recreational object. Furthermore, its origin within the USA in the 19th century describes a different setting in comparison to the current situation for the investigated NPs within Europe, especially concerning the use of land. All four NPs have been established within the last forty years and are inhabited or close to urban areas. The setting is different, but the NP idea as a last refuge for nature has remained the same.

This could explain the struggle for the NPs to justify their integration of cultural landscape within a concept for an area, which is designated to be as untouched by humans as possible. A different definition of the area could lead to a different presentation of nature. This is clearly evident in the section about the UNESCO biosphere reserve of the NPHWS. Here, nature and especially the human-nature relationship are portrayed differently. This illustrates the difficulties in adopting a clearly defined definition to changing circumstances and shows the impact of strong socially embedded categories, like for example NPs (Reinius & Fredman, 2007), on our perception of reality. The strong influence of the language and labels used and the way they structure our knowledge and thus guide our behavior becomes obvious. The point to remember is, that although the institutional setting appears massive, the established categories and rules of conduct are a human product and just perceived as objective reality.

5.5.2 The Ongoing Social Production of Social Norms

At the same time the investigation highlights the dialectic process between the objectivated social order and its constant ongoing human production of it. The examples show how new ideas about nature and nature conservation get integrated in the social practice. Those activities then again influence our stock of knowledge.

The reproducing of social order can be seen as stabilizer, but also as driving force for social change, due to their dialectic relationship. Social institutions may change in order to make them more legitimate by adopting to upcoming new ideas or changing circumstances (Berger & Luckmann, 1991, p. 145). According to Dreher (2016), the possibility of illuminating the freedom of action is thereby a big advantage of the theory. Facing problems where the stock of knowledge can not offer possible options may favor a reconsideration about new topics needed in this situation. With this, "objectively imposed power structures can be contested on the basis of thematic relevances which reject taken-for-granted imposed knowledge and initiate action against it" (Dreher, 2016, p. 65).

An example would be the display of sustainable ideas. It introduces a different concept of nature that functions as a tool to downsize the separation line between human and nature. By this it questions our taken for granted knowledge. It demonstrates also the ability of exhibitions to pick up relevant ideas or abstract thoughts and through this reshape the social practice. The shift not only links to the choice of content, but can also be seen with the help of the communication structure. With this in mind, the NPGS exhibition is worth a further consideration.

The interesting point is that the whole exhibition is based on a personal narrative. Consequently, the conveyed information is obviously already portrayed in the light of the

human perception. Instead of only presenting information in its objectivated manner, the exhibition also illuminates an insight in the process of knowledge production and emphasizes with this the human-made character of it. For instance the section about scientific names (NPGS, pic.013) illustrates how they get established in the first place.

This not only links to the construction of nature, but also questions the general manner of knowledge presentation and the way we portray truth.

In fact, the breaking of common routines can according to Berger & Luckmann be seen as a tool to challenge every-day life proclamation and thus favor deliberation from our common understating (Berger & Luckmann, 1991, pp. 37–39). Due to the fact that the NPGS exhibition is located within the natural history museum, the contrariness of their storyline to the conventional way of presenting nature becomes obvious. Although the character also differs from the institutional setting, the combination still illustrates the changeable character and with this the possible transformation of social practice over time. As the NPGS is only one example, the question would be if this mode of presentation describes indeed a social practice or if it rather should be considered an isolated incident.

5.5.3 The Role of Experts

So far the discussion has elaborated the meaning of nature that is conveyed by the choice of information, objects displayed and mode of presentation. It has shown how routines and specific categories influence the way we portray nature. Nonetheless, it has also demonstrated the ability to challenge the social norms by transforming the social practice. Considering this freedom of action, the role of experts comes into mind. The expression 'experts' refers here to every person who distinguish him/herself from ordinary people due to a high knowledge in this field. This definition consequently encompasses the staff of the NPs, but also cooperation partner who are working in the field of exhibition practice. Those people can influence the content of the exhibition as well as the manner of presenting it.

Although the question of power is not addressed in detail by Berger and Luckmann, Dreher (2016) stresses the need to consider power formations within the dialectic process between objective reality and subjective meaning. He thereby describes the ability of powerful actors to control the knowledge transfer and with this the information the individual receives during the socialization process. In fact, Berger and Luckmann state, that although reality is socially defined, certain groups or individuals can "serve as definers of reality" (Berger & Luckmann, 1991, p. 134). Without wanting to go deeper into the discussion of the actual power of individual experts within the creating process, since reflections of this kind should rather be located within the critical analysis, it seems anyhow appropriate to at least mention and shortly reflect upon the question weather experts construct for us the meaning of nature.

Koppl (2010) has demonstrated the possibility of a group to establish a epistemic monopoly. Accordingly, this people can for instance decided, intentionally or not, weather something is socially considered to be true or not. This consideration links to the epistemic level which explains its relevance to this research question. Relating to the research aim, the question would be who decides what is considered to be nature or not; what impression of nature is conveyed by the displayed information and how nature is constructed.

Dreher (2016) points out that experts can either justify the status quo or "appear as revolutionaries struggling for the legitimation of their diverging worldview with a specific power of interpretation" (Dreher, 2016, p. 61). With the choice of content and the general arrangement, the management can decided what knowledge is presented and how it is presented. Consequently, they can influence the conveyed meaning and the way reality is defined within the exhibition space. Although this is a powerful position, it is important to keep in mind is that the production of reality is a social process. That means that although

experts may be able to introduce certain ideas in society, their impact still depends on whether the ideas are supported by a certain group or the public in general and thus introduced in the social practice or not (Berger & Luckmann, 1991, p. 138). Knowledge alone is not the core factor in the construction of reality, but rather the application of this knowledge within the social practice forms our worldview. In this sense, Berger and Luckmann stand out in comparison to e.g. constructivism or radical constructivism, because they explicitly stress that social reality is "constructed by processes which are specifically social, such as social actions, social interactions, and institutions" (Knoblauch & Wilke, 2016, p. 64). This degrades the influences of individual actors. A transformation of the meaning of nature constructed within the exhibition demands a bigger social basis. Changes within individual institutions can be an initiative, but can not be taken as guarantee for a social change. The question whether this new ideas are adopted by other and thus have a bigger impact on society in general is a different one.

In sum, experts involved in the creation process of the exhibition may be able to control the presented knowledge on nature, but that doesn't mean that they are able to shape our understanding of nature. The results indicate above all forces that influence our image of nature which are beyond ideas of certain people, but rather deeply based on the social interaction of many people, over a long period of time. Actors involved in the exhibition practice are not master of those discourses, but are rather also affected by them. Due to their expertise in this field, they have spent a long time within this institutional setting and thus internalized this worldview more than others. Although demanding, a deliberation of this proclamation is possible (Berger & Luckmann, 1991, p. 37). For this process a deeper engagement within the theoretical reflection are according to the authors necessary, which goes hand in hand with the intention of this paper. Accordingly, this paper is also supposed to encourage experts to reflect on their practice and the implicitly constructed meaning of nature.

6 Conclusion

Nature is not something we can easily explain or define. The term itself has been established for centuries now. Throughout time the implied meaning has always shifted and does this until this day, as the results indicate. The aim of this paper was to explore the construction of nature and to illuminate the meaning currently attributed to the often-used expression. The discourse analysis, based on the investigation of four permanent exhibitions within different NPs shows influences from the natural scientific, historical as well as sustainable approach. Furthermore, there is a tendency to portray nature in the light of experiencing it within the exhibition space and in the outdoor world. The clear line portrayed between humans and nature in all four cases favors a perception of nature as existing beside humans, as Oldemeyer (1983) describes it. Evidences for a shift towards conceiving nature as an all-encompassing system, in which humans are placed inside, instead of above, are also found within the exhibitions.

With the help of the theoretical framework of Berger & Luckmann the attempt was to illustrate how the social order and especially the history of the institution influences the portrayed image of nature. The long tradition of natural history museum and the NP idea were identified as features to enforce a strong line between humans and nature, strengthening the tendency to portray it as something opposed to humans. However, the differences between the exhibition design and content also show how social practice can be used as initiator to question those attitudes and introduce a different understanding, challenging the role of experts and their reflection of their own practice.

The point is, no matter how deeply our understandings about nature is grounded in our everyday life, in our common sense knowledge, this term is a changeable concept and will be reshaped over time. The question will not be if it changes, but rather in what way and to which extent. Taking a closer look at the social practice can thereby help to develop an idea about the direction in which we are heading.

7 Further research

Finally, it should be emphasized that more research seems necessary to fully understand the complexity of the construction of nature within NP exhibitions and the impact of this social practice. First of all, since the thesis only takes the conceptual approach from the park management into account, it is limited to a one sided perspective on the social construction of nature. The consequences of the social interaction also depend to a large extent on the visitors themselves, which is stressed by Alberti (2008). He points out, that in order to understand the function of museums the agency of the visitor has to be taken into account, because they are "as active as ever in constructing ideas about nature when engaging with natural history displays" (Alberti, 2008, p. 77). Furthermore, the thesis was focusing only on one activity of the educational program of NPs. To enlarge the data basis with additional material, like field observations of guided tours and interviews with participants as well as staff, would deepen the insights into the social practices between park management and public and with this the social construction of the meaning of nature.

Furthermore, the creation process of exhibitions with its different phases and actors can be of particular interest. In this way, the knowledge configuration could be linked to the discourse production and the power effects, as actually postulated by Keller (2011). To include the intention as well as the reason why certain aspects have been highlighted, would also meet Macdonald's (1998) demand to uncover indeed the underlying power relations and intentions. Research in this direction would tackle the question of why certain ideas or impressions of nature are integrated within the exhibition and thus maintained in society.

In short, this thesis illustrates only a small insight into the complexity of the current construction of nature within NP exhibitions, but opens up many interesting points for further research. In order to fully understand the production of the meaning of nature through social interaction more research at the empirical level is needed. Of course, this includes research based on areas beyond NPs and exhibition settings. Since the idea of nature goes hand in hand with the understanding of ourselves, there are many social practices that shape our understanding of nature and can function as a good sample to further study the social construction of nature on the empirical level.

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National Parks Exhibitions

Nationalpark Berchtesgaden (NPBG), visited March 18, 2016
Nationalpark Zentrum Haus der Berge
Exhibition: Nationalpark-Ausstellung, Vertikale Wildnis, Mensch & Berg
Hanielstraße 7
83471 Berchtesgaden, Germany
www.haus-der-berge.bayern.de

Nationalpark Gesäuse (NPGS), visited April 14, 2016-08-26
Naturhistorischen Museum des Stift Admont
Exhibition: Leidenschaft für Natur
In the Benediktinerstift Admont
Bibliothek & Museum
8911 Admont, Austria
http://www.nationalpark.co.at/de/besucherzentren/leidenschaft-fuer-natur

Nationalpark Hamburgisches Wattenmeer (NPHWS), visited March 9, 2016
Nationalpark-Haus Neuwerk
Exhibition: Nationalpark-Ausstellung
27499 Insel Neuwerk, Germany
www.nationalpark-wattenmeer.de

Nationalpark Hohe Tauern (NPHT), visited April 21, 2016
Nationalparkzentrum
Exhibition: Nationalparkwelten
Gerlosstr. 18
5730 Mittersill, Austria
www.nationalparkzentrum.at

Appendix

Photo CD with images of the exhibitions:
NPBG (255 Images)
NPGS (39 Images)
NPHWS (223 Images)
NPHT (217 Images)