University of Zurich[UZH]

A Frontier of Imagination: The Impact of the Tourism Industry on the Geographical Imagination of Antarctica

GEO 511 Master's Thesis

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Abstract

The privileged position of science in Antarctica and its ability to shape global perceptions of the southernmost continent is increasingly challenged by the rapidly expanding tourism industry. With a growing number of individuals visiting Antarctica, a broader public audience is being exposed to diverse personal experiences and narratives about the region. This thesis examines how Antarctica is conceptualized and portrayed by the three stakeholder groups that are spending significant time on the continent: the scientific community, the tourism industry, and the tourists themselves. By applying discourse theory to analyze the perspectives of these stakeholders, drawing on their websites, published data and literature, advertisements, and YouTube videos, it becomes evident that they share common discourses, particularly in highlighting the significance of scientific research and the necessity of environmental protection in this unique region.

However, significant variations exist in how these groups use and interpret specific terms and concepts. For example, while the term ‘wilderness’ is frequently invoked within the tourism industry, it is notably absent from the materials produced by the Scientific Committee on Antarctic Research. Such discrepancies highlight potential sources of friction, particularly when the same terms are interpreted differently across stakeholder groups. They carry distinct meanings depending on the discourse and the context in which it is employed.

This thesis also explores the discourses and the potential friction arising from communicating across these differences. Given the shared objective of raising public awareness about the challenges facing Antarctica, it is essential to understand the varying conceptualizations of the continent. Without this understanding, there is a risk of miscommunicating values that may be interpreted differently than intended, ultimately hindering efforts to convey the intended message across differences.

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Glossary

ATCM	Antarctic Treaty Consultative Meetings
ATS	Antarctic Treaty System
CEP	Committee for Environmental Protection
IAATO	International Association of Antarctica Tour Operators
Protocol	Protocol on Environmental Protection to the Antarctic Treaty
SCAR	Scientific Committee on Antarctic Research

1. Introduction

An increasing number of people are now able to visit Antarctica and experience this 'alien' continent firsthand. However, despite this growing trend, the total number of visitors remain only a small fraction compared to similar natural areas (Cajiao et al., 2022. p.2). Historically, research on Antarctica has been dominated by the natural sciences, with human perspectives only gaining attention recently. For a long time, Antarctica was viewed as a static environment where humans merely interacted with the landscape, rather than a place shaped by specific narratives and interpretations (Roberts et al., 2016, p.3). Consequently, the question of how Antarctica was perceived seemed straightforward. This idea is even reflected in the Protocol on Environmental Protection to the Antarctic Treaty (Protocol), the continent's highest governing level (Roberts et al., 2016, p.2), which defines Antarctica as "a natural reserve devoted to peace and science" (Antarctic Treaty Consultative Parties, 1991, p.2). Science was used to establish delicate peace amongst geopolitical rivals during the Cold War. It is often lauded as a triumph of international cooperation and has been granted a privileged position within this framework without concerns for the imperialist and colonialist implications science and this system had and still has today (Yao, 2021, p.1013). The portrayal of Antarctica through science and especially natural science as a place valued for its untouched wilderness, majestic landscapes, diverse wildlife, and scientific exploration has become nearly universally accepted (McLean & Rock, 2016, 302-303 & Roberts et al., 2016, p.7). Surveys conducted among both the public and scientists confirm the widespread acceptance of this particular value system, with little variation in how the different groups perceive and value the continent (McLean & Rock, 2016, 302-303).

Not offering different ways to imagine Antarctica means conceptually emptying the space (Roberts et al., 2016, p.3). It amplifies certain aspects while simultaneously simplifying or even erasing others (Tsing, 2005, p.15-16). Despite Antarctica's apparent remoteness and minimal human presence, the continent has not been absent from the cultural imagination. In fact, it has inspired a significant body of art and literature (Roberts et al., 2016, p.2). The act of reducing Antarctica to a purely scientific perspective has greatly influenced practices and policies. For instance, the emphasis on preserving its pristine wilderness has led to the destruction of cultural heritage in the region (Evans, 2011, p.97). This perspective has also resulted in a ban on mining and exploratory drilling for minerals, even though Antarctica is considered a potentially valuable source of resources. The Antarctic Peninsula is geologically speaking comparable to the

mineral rich Andean Mountains of Southern America. Therefore, similar deposits are to be expected (McLean & Rock, 2016, p.301). In this thesis, I do not aim to assess whether this focus is inherently good or bad. It is one perspective and value system among many. There is far more to Antarctica than its wilderness, aesthetics, and scientific value (McLean & Rock, 2016, p.301). Shifting attention toward other perspectives and ways of perceiving Antarctica is long overdue (Roberts et al., 2016, p.15).

There are many different groups of people, each experiencing Antarctica in unique ways. One's relationship with the land is closely tied to who they are and what they are doing (Roberts et al., 2016, p.8). Beyond scientific programs, tourism is the most prominent way to experience the continent directly (Summerson & Tin, 2018, p.272). During the 2022-2023 season, Antarctica saw around 106,000 visitors, 95% of whom participated in sea-based tourism (Varnajot et al., 2024, p.53). If past trends are any indication, the overall numbers are likely to rise rapidly (Cajiao et al., 2022, p.2). The sheer growth of tourism activities makes it impossible to ignore, especially as it directly threatens key values like wilderness, pristine nature, and the overall sustainability of the region (Varnajot et al., 2024, p.54). Although the International Association of Antarctica Tour Operators (IAATO) aims to minimize the impact of tourism, collaborating with scientists and educating guests about conservation (IAATO, 2024a) it still represents a clash of cultures. This is particularly striking when the growing tourism is compared to the idea of Antarctica as an alien frontier, free from human presence and influence (Roberts et al., 2016, p.1).

Scientists often accuse tourism of disturbing the wilderness and question the justification of the industry’s presence on the continent at large (Maher et al., 2001, p.208). The growth of tourism has therefore the potential to be a significant driver of spatial change and conflicts in Antarctica (Varnajot et al., 2024, 50). However, due to substantial gaps in our understanding of the tourism industry (Varnajot et al., 2024, p.50; Tejedo et al., 2022, p.2 & Vila et al., 2016, p.459), it remains unclear what specific frictions will emerge. My first research question will therefore be: How is the scientific gaze of Antarctica as an empty wilderness area devoted to peace and science reproduced in the local tourism and what types of frictions are produced through the encounter between tourists and the established scientific gaze?

Universals are concepts that we are compelled to accept, even if they exclude us. Regardless of personal desires, we remain bound by certain societal constructs that present themselves as

universal truths, despite being socially constructed (Tsing, 2005, p.1). However, universals are never fully successful, making friction inevitable (Tsing, 2005, p.10). Regardless of how objective something may appear, our access to it is always filtered through systems of meanings (Jorgensen & Phillips, 2002, p.35). This holds true for the perception of Antarctica, despite the apparent coherence of its core values across various social groups (McLean & Rock, 2016, 302-303). Rather than viewing this as a challenge, it can be seen as an opportunity, as friction generally gives the universals purchase (Tsing, 2005, p.10). The scientific community seeks to apply that by using Antarctica as an inspiration for climate change mitigation (McLean & Rock, 2016, p.292). However, there is a notorious case of not seeing the limits and exclusions from those who claim to be in touch with a certain universal (Tsing, 2005, p.8). Therefore, when friction is engaged, it is essential to understand its specific nature. Maximizing the positive outcomes of human interaction with the continent while balancing the ethical and ecological impacts of increased visitation will be crucial (Cajiao et al., 2022, p.10). To explore this further, my second research question will be: What values are commodified and communicated through the frontier of tourism?

To investigate my two research questions, I will conduct a discourse analysis of literature and videos related to the representation of Antarctica, focusing on published literature, advertisements, web content and YouTube videos. I am particularly interested in the intersection between science and tourism. The IAATO's stated aims include scientific collaboration and transforming visitors into ambassadors who champion conservation efforts to protect the continent (Vila et al., 2016, 452). This goal of fostering ambassadorship through tourism finds at least some resonance within the scientific community (McLean & Rock, 2016, 301). For my analysis, I will examine three different groups. First, I will explore the Scientific Committee on Antarctic Research (SCAR) to gain insight into the scientific perspective on Antarctica. This organization is dedicated to international research in and about Antarctica and provides guidance to political bodies on conservation and management issues (SCAR, 2025a). Secondly, I will analyze materials and advertisements published by IAATO and its member organizations to understand the tourism industry's perspective. Finally, I will examine YouTube videos of individuals recounting their travel experiences in Antarctica to capture the tourist viewpoint.

1.1 Building upon existing works

While the history of frontiers is well established, there are some keen gaps in knowledge that will be important for my thesis. In a frontier region like Antarctica, tourism is frequently one of the first industries to develop. Within tourism, different forms of human nature or nature in itself is appropriated as free gifts. These will subsequently be transformed into a resource subjected to practices of primitive accumulation. Tourism in frontier making processes is historically well documented (Mostafanezhad, 2020, p. 443-445). While the bigger picture is well established, there is still important information missing. In her paper Mary Mostafanezhad (2020) criticized that within Political Geography, there is little attention paid to the actual role of tourism in the broader frontier making practice and how it becomes enrolled in the territorialization and enclosure of nature (Mostafanezhad, 2020, p. 443).

To analyze that often-overlooked part, I will heavily lean on the work 'Friction. An Ethnography of Global Connection' by Anna Tsing (2005). Within this book, she established the concept 'friction' to effectively research abstract claims about the globe and how they operate in the world (Tsing, 2005, p.6). This approach helps me to deal with the dominant and privileged position of natural science within the geographical imagination of the continent (Roberts et al., 2016, p.1-2). Furthermore, Anna Tsing's work helps to make the landscape of a resource frontier in itself a lively actor. Instead of a seemingly objective nature, it shifts the attention to the social presence that exists everywhere (Tsing, 2005, p.28). "Cultures are continually co-produced in the interactions I call 'friction': the awkward, unequal, unstable, and creative qualities of interconnection across difference" (Tsing, 2005, p.4). This short quote shows both the key to my thesis and the concept of friction; it is about the interactions across differences.

These key interactions are taking place between the different stakeholders. The tourism industry is thereby often seen as an active threat (Roberts et al., 2016, p.14) to everything the continent is generally valued for, especially by the science community (McLean & Rock, 2016, p.301 & Tin et al., 2016, p.321). This potential for conflict between tourism and the existing status quo of an area is nothing new. In their paper, Marcinek and Hunt (2019) make this connection very explicit as they introduce this metaphor to tourism scholars (Marcinek & Hunt, 2019, p. 537). Through the use of friction, they argue that previously unseen perspectives can be put in the spotlight (Marcinek & Hunt, 2019, p.550). Consequently, this approach helps me identify what kind of friction exists across the difference and what values are cherished.

1.1.1 Antarctic tourism

Human activity in Antarctica primarily falls into two categories: scientific research and tourism (Leihy et al., 2020, p.571). In a frontier region like Antarctica, it is not unusual for tourism to develop as one of the first industry (Mostafanezhad, 2020, p.435). The resulting 'frontier feeling' remains central to the Antarctic travel experience, as the continent is widely perceived as the edge of human civilization. This perception stems not only from its remote geographical location but also from its symbolic and moral significance as a paradigmatic non-human space (Picard, 2015, p.305 & Roberts et al., 2016, p.2). Antarctica is furthermore frequently portrayed as mystical and otherworldly. A narrative emboldened by extremes that can only be found there: It is for example the coldest continent, with the lowest recorded air temperature on Earth (-89.2° Celsius) (Varnajot et al., 2024, p.58). It is also the most arid continent (Roberts et al., 2016, p.1). This mantra of Antarctica as an otherworldly place of extremes remains a powerful narrative (Glasberg, 2016, p.206), even though modern tourism mitigates those conditions in practice. Antarctic tourism has long transitioned from frontier-style exploration to a more mainstream, mass-market phenomenon (Frost, 2021, p.352). Historically, frontier tourism blurred the lines between exploration and leisure, requiring extensive preplanning, rigorous training, and the navigation of perilous conditions (Laing & Crouch, 2011, p.1517). Today, however, many tourists experience Antarctica via small landing crafts launched from luxury cruise ships, far away from the earlier perils of visiting Antarctica (Frost, 2021, p.352).

Tourism in Antarctica is not a new phenomenon. It dates back over two centuries, with the first organized tour occurring in the year 1958 (Varnajot et al., 2024, p.53). However, recent years have seen rapid growth in the industry. Before the COVID-19 pandemic, IAATO reported 74,000 visitors during the 2019-2020 season (Cajiao et al. 2022, 2). By the 2022-2023 season, this number had risen to 106,000 visitors (Varnajot et al., 2024, p.53). One might argue that this growth falls under the right of everyone to access Antarctica. However, it is only an elite subsection that tends to visit. It is people from developed countries that are in general older, wealthier and more well-traveled and educated than an average person from their home country (McLean & Rock, 2016, p.301). Despite a growing diversification of the tourism market, seaborne tourism still dominates, accounting for 95% of visitors (Varnajot et al., 2024, p.53). Characteristics are the spatial and temporal restrictions, as the navigation closer to shore and the landings are limited to several ice-free sites (Palmowski, 2020, p.1) during the austral summer.

This limits the season in between Novembre and March with some operations extend into Octobre and April (Tejedo et al., 2022, p.2). Only 0.5% of the continent's surface is not covered by ice (Palmowski, 2020, p.1), limiting the possible landing spots. Spatially, the activities are mainly concentrated at the northern end of the Antarctic Peninsula. To a lesser extent, the central section of this peninsula and the Ross Sea are also visited (Summerson & Tin, 2018, p.273). However, the increase in visitor numbers has expanded the range of accessible locations (Summerson & Tin, 2018, p.282). It has also contributed to growing environmental impacts, including the development of infrastructure to accommodate the growing tourism (Leihy et al., 2020, p.567). These developments pose significant challenges to preserving Antarctica's pristine landscape. The growing tourism footprint, including built infrastructure and human presence, has been identified as a key factor in the degradation of the continent's wilderness (McLean & Rock, 2016, p.301). Such impacts conflict with the intrinsic values of Antarctica, particularly its perceived status as a pristine wilderness and its aesthetic and ecological significance (Summerson & Tin, 2018, p.280). Similarly, scientific activities are also causing the degradation of nature (Summerson & Tin, 2018, p.270). The value of science is argued to outweigh this, as it produces benefits that go beyond those directly involved. On the other hand, when it comes to tourism, this does not seem to be the case (McLean & Rock, 2016, p.301).

1.2 Study area

In theory, the study area that I look at in this thesis is the whole continent of Antarctica. Although it is seen as one homogenous entity (Antonello, 2016, p.182), reality is different. The first big difference is between ice covered and the ice-free sites. Less than 1 percent of the continent is permanently ice-free. Yet almost all of the continent's biodiversity is concentrated into these small and isolated patches of habitat including exposed mountain tops, cliffs and slopes, ice free valleys, coastal oases and islands. They range in size from less than 1 km^2 to thousands of km^2. They are home to the continent's vegetation, microfauna and are essential breeding grounds for the iconic wildlife of the continent such as seabirds and seals (Lee et al., 2017, p.49). While some penguin species like the emperor penguins breed on the ice itself, Adélie penguins breed only on ice-free areas of the continent. They build nest out of stones to mate and raise their chicks their before return to the sea towards the end of summer (Millar et al., 2012, p.113-114).

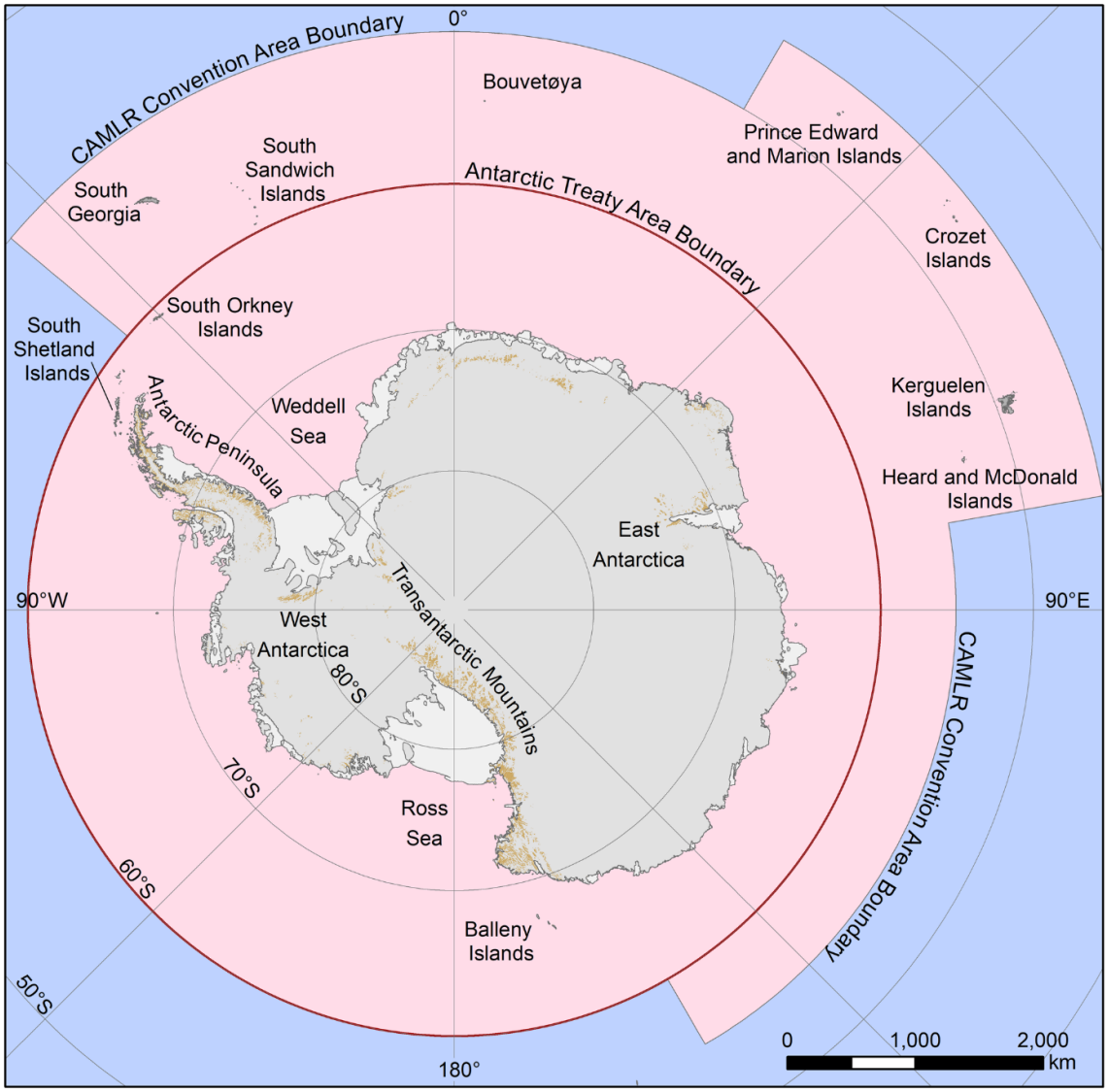

Figure 1: Map of the Antarctic region, showing the areas of the Antarctic Treaty and Convention for the Conservation of Antarctic Marine Living Resources (Hughes et al., 2023, p.441)

Human activities tend to be concentrated in those ice-free areas too. Despite a growing diversification of the tourism market, seaborne tourism still dominates, accounting for 95% of visitors (Varnajot et al., 2024, p.53). Characteristics are the spatial and temporal restrictions, as the navigation closer to shore and the landings are limited to several ice-free sites (Palmowski, 2020, p.1). To journey to Antarctica, about 90% of visitors leave from Ushuaia, Argentina which has become the most crucial port for Antarctic expeditions (Zuev & Picard, 2015, p.150). The Antarctic peninsula can be reached from there in as little as 48 hours whereas the voyage from Australia and New Zealand to the Ross Sea Region may take as long as 10 days (Maher et al., 2001, p.205). The main pressure from human presence is therefore really concentrated on small

ice-free areas on the coast of the Antarctic peninsula and the surrounding islands (Bender et al., 2016, p.197-198).

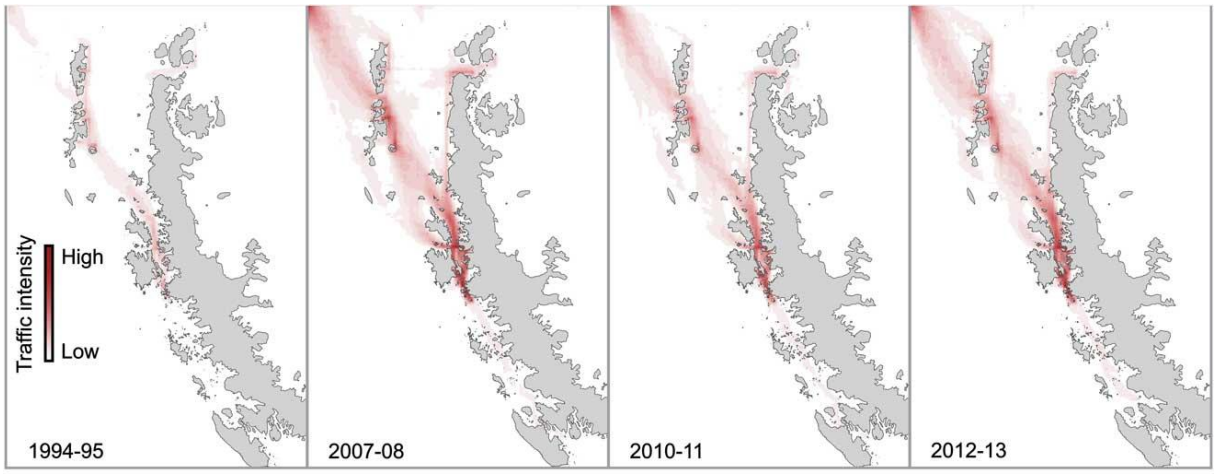

Figure 2: Map of intensity of vessel traffic in four seasons from 1994/95-2012/13 (Bender et al., 2016, p.196).

To illustrate that point, I have added figure 2 showing the intensity of vessel traffic in four seasons. The newest one being from the season 2012-2013 (Bender et al., 2016, p.196). In the 2012-2013 season the overall number of visitors had been less than 35'000 (IAATO, 2013, p.3). During the 2022-2023 season this has increased to 104'076 persons (IAATO, 2023a, p.10). 98 percent of those visited the Antarctic Peninsula and out of those visitors 71'346 were making landings (IAATO, 2023a, p.10). Out of all landed activities on the continent, 95% took place in the Antarctic peninsula (IAATO, 2023a, p.3). Even though the pressure from tourism is significantly bigger than figure 2 shows, it still gives an accurate description of the spatial area where tourists experience the continent. When looking at the tourism side of my analysis, the whole of Antarctica is not my study area instead only a small section of the Antarctic Peninsula (IAATO, 2023a, p.10) and some ice-free landing sites is visited (Bender et al., 2016, p.198).

1.3 Conceptual Debates

1.3.1 Frontier

The concept of the 'frontier' plays a central role in understanding the history of the human presence in Antarctica. This concept is a key way to think about the continent and is used across diverse perspectives such as tourism, environmentalism, science, and politics (Howkins, 2013,

p.9-10). Consequently, it is critical to examine the implications of this concept in depth. Anna Tsing (2005) defines the frontier as:

> "A frontier is an edge of space and time: a zone of not yet – not yet mapped, not yet regulated. It is a zone of unmapping: even in its planning, a frontier is imagined as unplanned. Frontiers aren't just discovered at the edge; they are projects in making geographical and temporal experience" (Tsing, 2005, p.28-29).

Central to this definition is the understanding that a frontier, or the act of frontier-making, is an imaginative project capable of reshaping both place and process. It is not an objective descriptor of a location or event but rather a transformative project (Tsing, 2005, p.32). Fundamentally, a frontier represents the discovery of a resource (Rasmussen & Lund, 2018, p.388). It manifests 'wildness'; spaces that yet remain unregulated (Tsing, 2005, p.29).

In the context of Antarctica, this wildness is self-evident. The continent's remoteness, absence of an indigenous population, and relatively brief history of human activity emphasizes its pristine nature (Roberts et al., 2016, p.1). However, wildness is not an inherent quality of a frontier. Instead, it is constructed both materially and imaginatively. In other words, the frontier is capable of making wildness where there was not one before. In new frontier spaces, resources are often viewed as pre-existing. However, they are not yet regulated and bringing therefore 'savage accumulation' into contemporary landscapes (Tsing, 2005, p.28-29).

The concept of the frontier in the context of Antarctica can be examined on both geographical and cultural levels (Laing & Crouch, 2011, p.1516). Antarctica's physical remoteness from human habitation and influence is a fundamental aspect of its perceived value. It is often portrayed as 'the world's last wilderness' (Howkins, 2013, p.23). Beyond its geographical aspects, Antarctica also represents a cultural frontier: From a scientific perspective, natural science is simply dominant. It dictates the research and significantly shapes the politics of and about the continent (Roberts et al., 2016, p.6). Its influence is enough to define what the continent is ought to be (McLean & Rock, 2016, 302-303). The Antarctic humanities on the other hand are still an emerging discipline (Howkins, 2016, p.267). An in-depth analysis of the continent through the lens of the humanities only started in the mid-1980s (Roberts et al., 2016, p.3). However, to this day, they are still underrepresented in many of the discussions that will shape the future of the continent (Howkins, 2016, p.267). It functions therefore as a frontier for new research, with

new ways of engaging with the continent (Roberts et al., 2016, p.2). Similarly, it is a frontier for tourism, where its unique characteristics are increasingly commodified (Frost, 2021, p.352). These varied conceptualizations share a common thread: the identification or creation of new resources that can be subjected to processes of accumulation (Mostafanezhad, 2020, p.435).

These resources often exist initially outside the framework of capitalism. Through salvage accumulation, they are redefined and converted into capitalist assets (Erickson, 2024, p.2090), as in the case of frontier tourism, where the local nature and culture become commodities for appropriation and commercialization (Mostafanezhad, 2020, p.435). Interestingly, the focus differs between actors: for the humanities, the emphasis is on the presence and impact of human actors on the continent (Roberts et al., 2016, p.2) while for tourism, the attraction is rooted in the perceived absence of human influence, emphasizing pristine and untouched landscapes (Tin et al., 2016, p.319).

1.3.2 Landscape perception

No perception of a place can ever be objective (Tsing, 2005, p.xi). An individual's interpretation of a place or experience is shaped by their prior experiences, cultural background, and personal values (Sæþórsdóttir & Hall, 2020, p.136-137). Landscapes, therefore, are not simply physical spaces; they are socially constructed and imbued with meaning through human interpretation and interaction. They are deeply social in nature (Tsing, 2005, p.xi). This does not imply the absence of a physical reality. The elements of a landscape undeniably exist. Rocks, glaciers, and other natural features are part of the material world. However, these mere physical elements do not inherently possess meaning or significance. Rather, their meanings are ascribed through human thought and discourse. A rock, for instance, is not meaningful in and out of itself; its significance emerges only within the context of how we perceive and interpret it (Jorgensen & Phillips, 2002, p.35).

The varying interpretations of a single object or site become more apparent when examining historical human settlements on the Antarctic continent. These sites may range from those associated with the 'Heroic Age' of exploration, to remnants of the historic whaling industry, or even abandoned scientific infrastructure (Picard, 2015, p.109-110). Historically, these remnants of human activities all had a detrimental impact on values such as wilderness, yet as these sites have fallen into abandonment, the disturbances they caused ceased, and no further

environmental degradation occurs (McLean & Rock, 2016, p.300). Sites in Antarctica that have historical significance are protected. According to the Protocol, there is an expressed desire to avoid degradation of such areas (Antarctic Treaty Consultative Parties, 1991, p.3). In principle, such areas are therefore protected. However, the specifics of what exactly should be protected remain vague, as there is no clear definition of what constitutes 'historical significance,' what qualifies as a 'site,' or even what constitutes 'damage' (Evans, 2011, p.91-92). When researchers were asked about the value of Antarctica as a key site in the history of human exploration, few placed much emphasis on it (McLean & Rock, 2016, p.294). Reflecting this view and in the name of conservation, some historically significant sites have been destroyed (Evans, 2011, p.96-97). When we shift our focus to tourism, however, the perspective on these sites changes. Tourists often visit sites that bear witness to the human presence on the continent, with ships frequently hosting historians to offer lectures about them. Interestingly, the dichotomy between human-made sites and natural landscapes need not be as rigid as often imagined; nature itself is gradually reclaiming areas once occupied by human activity. For instance, the remnants of the whaling industry have long since transformed into nesting grounds for birds (Picard, 2015, p.109-110).

The experience an individual has with a particular landscape begins long before they physically visit the location. Consider the example of Landmannalaugar, Iceland, the most popular tourist destination in Iceland's highlands. This region, characterized by its uninhabited wilderness and minimal visible evidence of human activity, has seen significant growth in visitors' numbers. This increase in tourism has been accompanied by expanding infrastructure to accommodate the growing crowds (Sæþórsdóttir & Hall, 2020, p.126-127). Visitors approach such destinations with preconceived notions shaped by narratives constructed around the space, influencing their expectations and experiences (Picard & Zuev, 2014, p.104). In Landmannalaugar, similar to Antarctica, the primary attraction is the perceived wilderness of the area, which draws visitors with a sense of pristine nature (Sæþórsdóttir & Hall, 2020, p.124). To understand how visitors' perceptions evolved over time, a questionnaire survey was conducted in 2000, 2009, and 2019. The methodology and distribution remained consistent across these surveys, allowing for direct comparisons between the results (Sæþórsdóttir & Hall, 2020, p.128). Interestingly, while the natural attributes of the area had objectively declined during this period, visitors in 2019 perceived the landscape as being more natural than in previous years (Sæþórsdóttir & Hall, 2020, p.131).

This reveals that landscapes are not static entities but are continuously produced and reproduced through a complex interplay of material and social relationships (Varnajot et al., 2024, p.51). Although the material indicators of naturalness showed a decline, the social and imaginative elements of the landscape compensated for this degradation, influencing visitors' perceptions to see a more natural area (Sæþórsdóttir & Hall, 2020, p.136). Beyond the tangible elements of a space, the ideas and narratives associated with it significantly shape its social construction (Varnajot et al., 2024, p. 51). This is particularly true for first-time visitors or those unfamiliar with the area, whose experiences are more heavily influenced by preconceived notions rather than repeat engagement (Sæþórsdóttir & Hall, 2020, p.137). Ultimately, the imagined qualities of a place wield significant influence over the experiences people have because spaces are socially constructed (Varnajot et al., 2024, p. 51). As much as we look for objective experiences, experiences of wilderness are not a straightforward reflection of the physical reality. Instead, these experiences are shaped by individual knowledge, cultural narratives, and the meanings attached to the landscape (Sæþórsdóttir & Hall, 2020, p.125).

1.3.3 Science as a Geopolitical Tool of Governance

Antarctica is governed by a unique political framework known as the Antarctic Treaty System (ATS). Often celebrated as a landmark achievement in international diplomacy during the Cold War, the ATS came into force in 1961 (Yao, 2021, p.1013). This treaty-based system regulates activities in and around Antarctica (Roberts et al., 2016, p.1). Initially, the ATS was primarily designed to address geopolitical concerns, with limited focus on environmental issues. The original treaty included only a broad directive for the “preservation and conservation of living resources in Antarctica” (Triggs, 2011, p.44). Over time, however, the ATS evolved to embrace a stronger commitment to environmental protection, integrating additional values to abide by (Roberts et al., 2016, p.14). This shift was marked by the adoption of supplementary agreements aimed at safeguarding Antarctica’s ecosystems and wildlife. The most significant development in this regard, particularly relevant to discussions of environmental protection, was the adoption of the Protocol in 1991 (Triggs, 2011, p.44-45). This treaty designated all land and sea south of 60 degrees latitude as a “natural reserve, devoted to peace and science” (Antarctic Treaty Consultative Parties, 1991, p.2). The Protocol explicitly mandates the protection of the Antarctic environment, affirming its intrinsic values, which include aesthetic, scientific, and wilderness attributes (Shah, 2015, p.211). Before any human activity can be approved, it is required to evaluate the potential impact it will have. Additionally, it encourages to designate protected

areas (Summerson & Tin, 2018, p.265-266). The ATS is a shining example of international cooperation, where science is seen as a unifying force that brings nations together under a shared purpose. In this context, the ATS is heralded as a triumph of apolitical science serving the cause of global peace (Yao, 2021, p.996). The emphasis here is on natural sciences, which have dominated Antarctic research, while humanities-based studies of the continent have only recently begun to emerge (Avango, 2016, p.265).

During the Cold War, a period defined by intense political rivalries, the twelve original member states of the ATS, including the United States and the Soviet Union, were able to agree on the importance of promoting scientific research in Antarctica (Howkins, 2013, p.22). This commitment to science as a common ground has elevated its role in the governance framework, making it a central pillar of the ATS. Science is not merely a tool of discovery in Antarctica but a prerequisite for political participation; any nation aspiring to full membership in the ATS must first conduct substantial scientific research on the continent (Howkins, 2016, p.251-252). While science is positioned as a neutral and unifying force, it is by no means an innocent tool. The prioritization of scientific engagement inherently legitimizes some stakeholders over others, shaping who has influence within the governance system (Yao, 2021, p.996-997) and reinforcing hierarchies grown out of imperial and colonial explorations (Yao, 2021, p.1013). The ATS rhetorically relies on a distinction between politics and science, but in practice, this boundary is far from clear (Howkins, 2016, p.262). The two are deeply interwoven, forming a web of relationships that influence how Antarctica is perceived, represented, and governed (Howkins, 2016, p.267).

1.3.4 Scientific gaze

Since natural science is deeply intertwined with governmental authority and the representation of Antarctica (Howkins, 2016, p.267), it becomes crucial to critically examine what constitutes the 'scientific gaze' of the continent. This perspective has played a dominant role in shaping how Antarctica is perceived, understood, and valued. The absence of any indigenous or permanent human population has meant that the responsibility for ascribing, producing, and reproducing meanings and values associated with Antarctica has largely fallen on those who visit the continent, whether for scientific research, tourism, or other purposes (Varnajot et al., 2024, p.52). Even before the rise of Antarctic tourism made the continent more accessible, science was never the sole purpose driving humans to spend time in the region. A diverse range of

working-class actors spend time there, including whalers, sealers, and sailors. These individuals, through their professions, experienced Antarctica in ways fundamentally different from scientists. Yet, their voices and narratives remain largely absent from the historical and cultural discourse surrounding the continent. Unlike scientists, these groups typically did not engage in cultural production or engage in systematic documentation of their experiences. Additionally, they had much less of a voice to share their narratives with a wider audience. As a result, they have been marginalized, with their contributions often overlooked or forgotten in the annals of Antarctic history (Roberts et al., 2016, p.8). This neglect of non-scientific perspectives has left ample room that the scientific community has filled, establishing a dominant authoritative narrative about Antarctica's environment: the scientific gaze (Varnajot et al., 2024, p.61). Such an idealized version is not just a byproduct but an essential prerequisite to establish it (Roberts et al., 2016, p.13).

The concept of the scientific gaze, which represents the dominant perspective about Antarctica, encompasses specific ideas and values attributed to the continent. Firstly, Antarctica is seen as a uniform entity. There is no differentiation between regions (Antonello, 2016, p.182), even though there are extremely important differences: Most human activities are situated near scientific stations, coastal sites and ice-free areas. Those ice-free areas are also rich in biodiversity compared to the permanently ice-covered region of the continent (Leihy et al., 2020, p.569). Regardless of the differences, the continent is overwhelmingly represented as a unified whole (Antonello, 2016, p.182). To investigate further values, McLean and Rock (2016) conducted a survey aimed at understanding the characteristics that Antarctic researchers associate with the region. The survey received responses from 76 researchers, a significant proportion of whom had personally visited Antarctica. Participants were allowed to select multiple characteristics that they felt applied to the continent. The results highlighted a clear hierarchy of values. The most frequently selected characteristic, chosen by 87% of respondents, was Antarctica's role as ‘a science laboratory for the benefit of mankind.’ This was closely followed by its recognition as ‘a component of the Earth’s climate system,’ selected by 83%. Other highly valued characteristics included its status as ‘a pristine wilderness’ (75%) and ‘an environment for wildlife’ (72%) (McLean & Rock, 2016, p.293-294). These attributes reflect a strong scientific and environmental framing of Antarctica, emphasizing its global ecological significance and its unique role in scientific research (McLean & Rock, 2016, p.302-303). In contrast, other characteristics were much less valued among researchers. For example, only 36% viewed Antarctica as ‘a key part of the history of human exploration,’ while even fewer associated it with being ‘a

tourist destination' (24%) or 'a source of mineral reserves' (5%) (McLean & Rock, 2016, p.293-294). These findings indicate that the dominant scientific gaze prioritizes ecological and research-related aspects of Antarctica over its historical, economic, or recreational dimensions (McLean & Rock, 2016, p.303).

The values embedded within the scientific gaze are deeply reflected in how Antarctica has been explored, represented, and imagined over time. This perspective has often framed Antarctica as a space devoid of human elements (Roberts et al., 2016, p.2), emphasizing its wilderness and pristine nature as defining characteristics. However, this portrayal frequently translates the idea of wilderness into a perception of emptiness, both cognitively (Varnajot et al., 2024, p.56) and physically. Unlike many other parts of the world where landscapes are recognized as cultural, Antarctica is rarely considered in terms of its cultural landscapes, despite the presence and remnants of human activities (Evans, 2011, p.95).

Cultural landscapes are understood as expressions of a way of life, arising when people actively shape spaces for living (Manningtyas & Furuya, 2022, p.1). Despite the prevailing narrative of Antarctica as an untouched wilderness, place-making processes have occurred there as well. These are most evident around research stations, where scientific communities have worked to make their environments feel homelike and familiar (Varnajot et al., 2024, p.61-62). Most Antarctic field camps and stations have their own distinct identities and cultures. Studying the interconnectivities between scientific, political, cultural and environmental histories helps to put those places and the place-making in a broader context (Howkins et al., 2021, p.85). Similar place-making can also be found outside of research stations. Historical industries, such as whaling, similarly created settlements that extended beyond mere functionality. Whaling stations, for example, often included features designed to enrich daily life and create meaningful spare time activities, such as football fields (Avango, 2016, p.168). Although these settlements were eventually abandoned, their physical remnants have been reevaluated, reinterpreted, and sometimes repurposed for new uses (Avango, 2016, p.172).

This particular scientific gaze is very dominant. In the same research McLean and Rock (2016) have found that there is a high congruence between the values ascribed to Antarctica across the divide between researcher and non-researcher (McLean & Rock, 2016, p.303). Yet, no matter how universal something seems, it can never reach that promise of universality. Engaged universals, such as this gaze, are charged and changed by their travel across differences. They are

hybrid and involved in constant reformulation through engagement (Tsing, 2005, p.8-9). But such universals deserve close attention because they are something impossible to refuse even if somebody were to put him or herself outside of it (Tsing, 2005, p.1).

1.3.5 Wilderness

Wilderness is one of the most prominent values ascribed to Antarctica, regarded highly not only by researchers but also by most groups of the public (McLean & Rock, 2016, p.298). This emphasis is formally reflected in Article 3 of the Protocol, which states:

> "The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area" (Antarctic Treaty Consultative Parties, 1991, p.2).

This article identifies three core values of Antarctica: its wilderness, its aesthetic qualities, and its significance as a site for scientific research (Antarctic Treaty Consultative Parties, 1991, p.2). While the protocol acknowledges these values, it does not offer explicit definitions or provide guidance on how wilderness and aesthetic values should be interpreted or applied in practice (Summerson & Tin, 2018, p. 268). As a result, although wilderness is emphasized in Article 3 of the Protocol, it is notably underrepresented in its implementation and management. For instance, an analysis of the 172 management plans for Antarctic Specially Protected Areas reveals that only five plans explicitly reference wilderness. In these cases, the aim is primarily on minimizing unnecessary human disturbance but not banning human presence there altogether (Deary & Tin, 2015, p.288-289). The lack of emphasis on wilderness is also evident in the discussions and submissions by consultative parties during Committee for Environmental Protection (CEP) meetings or Antarctic Treaty Consultative Meetings (ATCM). Only a small minority of papers submitted reference wilderness more than once. Moreover, approximately half of the member states demonstrate little to no engagement with wilderness protection at all. Since there needs to be a consensus for any decision to be made, there is currently a state of vacuum and inaction (Deary & Tin, 2015, p.303-304).

Perspectives on wilderness, while varied, often include descriptors such as vast, remote, beautiful, pristine, untouched, and isolated (Tin et al., 2016, p.321). Colloquially, wilderness can be understood as the land beyond the contaminated taint of humanity and civilization (Cronon, 1996, p.7). Although attempts have been made to formalize an official definition of wilderness, these efforts have yet to succeed. However, the CEP, an expert advisory board on the implementation of the Protocol, has offered a working definition. In its *Revised Guidelines for Environmental Impact Assessment in Antarctica*, the CEP describes wilderness as a measure assessing the extent to which evidence of or impacts from human activity is minimal or absent (Summerson & Tin, 2018, p. 269). Until a more definitive description is adopted, this interpretation provides a practical standard and forms the basis for discussions of wilderness.

When confronted with a notion like wilderness, people tend to rely on their own cultural understanding for their interpretation (Tin et al., 2018, p.381). When it comes to the nationality of tourists, American and Chinese are the two most dominant origins, therefore I will focus on those two examples. However, there is yet little known about the nationality-related differences in Antarctica's tourism. Due to the rapid diversification and new emerging markets, this is an area where future studies are necessary (Cajiao et al., 2022, p.10). In the United States, the US Wilderness Act generally prohibits commercial activities in federally designated wilderness areas. This is a significant difference to wilderness areas in Antarctica, where such activities exist and have existed for a long time. There is prohibition or other forms of regulation as the government system does not contain any explicit reference to such activities. As a result, when borrowing a phrase like 'protecting Antarctica's wilderness value' from the Protocol, people from the US tend to interpret it along the lines of their rules back at home. Unlike Antarctic practice, it would mean that commercial and for-profit activities would be prohibited in order to protect wilderness values (Tin et al., 2018, p.381). However, framing those values as wilderness values at all might show a bias towards the western world. Chinese people visiting the continent, for example, seem to be more at ease in referring to Antarctica as a 'pure land', as wilderness holds more an association of being lifeless, desolate and hostile (Tin et al., 2016, p.321-322).

The concept of wilderness is often less rooted in an objective, natural science framework and more grounded in subjective and socially constructed ideas (Sæthórsdóttir et al., 2011, p.270). The notion of wilderness as being beyond human influence inherently establishes a duality between humanity and nature, portraying wilderness as the epitome of 'otherness.' This duality is

so pervasive within wilderness contexts that the distinction between humanity and nature becomes implicit and unquestioned (Cronon, 1996, p.23). However, such a dichotomy is problematic as it creates a potential conflict between environmental ethics and social justice (Talen & Brody, 2005, p.685). Often, the drive to protect 'nature' has historically led to the exclusion or removal of the people who live there (Cronon, 1996, p.18).

Antarctica lacks any indigenous population (Roberts et al., 2016, p.1). Therefore, maintaining the perception of a pristine, people-less landscape does not involve displacing native inhabitants. Regardless, the concept of wilderness remains an artificial construct. Wilderness is not a natural phenomenon but a cultural invention that frequently erases the history and human presence of a place (Cronon, 1996, p.16). A similar erasure occurs in Antarctica, where historical and cultural elements are often overlooked to preserve its imagined pristine character (Evans, 2011, p.94) emptying the space to concentrate on only one value (Roberts et al., 2016, p.3).

1.3.6 Friction

Tourism is at odds with the commonly held Antarctic values (McLean & Rock, 2016, p.301). At best, the human activities have led to a fragmented and diminish set of remaining pristine areas free from human interference (Leihy et al., 2020, p.570), at worst Antarctica can simply no longer be considered pristine (Tejedo et al., 2022, p.13). As tourism opportunities heighten and become more affordable, the barriers between the rest of the world and Antarctica will continue to erose (Varnajot et al., 2024, p.62). The Antarctic tourism industry is largely self-regulating (Cajiao et al., 2022, p.1). There are certain obligations set down in the Protocol: most notably activities should be planned and conducted to limit adverse impacts on different aspects of its environment (Antarctic Treaty Consultative Parties, 1991, p.2). However, values like wilderness do not seem to be at the forefront of protection concerns. No proposed activity has ever been altered because of their impact on wilderness values of a particular area of Antarctica (Summerson & Tin, 2018, p.282), even though wilderness is a value explicitly named where degradation thereof should be avoided (Antarctic Treaty Consultative Parties, 1991, p.3). The lack of mechanism to effectively safeguard environmental values with regards to the rapid growing human presence on the continent (Leihy et al., 2020, p.571) is something that has the potential to cause friction.

Friction is more than just possible points of conflict. Friction is a metaphor that describes places of encounters across differences (Marcinek & Hunt, 2019, p.539). It was first outlined by Anna Tsing in 2005. She writes:

> "[…] a study of global connections shows the grip of encounter: friction. A wheel turns because of is encounter with the surface of the road; spinning in the air it goes nowhere. Rubbing two sticks together produces heat and light; one stick alone is just a stick. As a metaphorical image, friction reminds us that heterogenous and unequal encounters can lead to new arrangements of culture and power" (Tsing, 2005, p.5).

This concept is central to my thesis, as my analysis focuses on such encounters across differences, particularly in the context of tourism. Tourism inherently involves such encounters, acting as a bridge across diverse cultures, social classes, value systems, and discourses (Marcinek & Hunt, 2019, p.539). These intersections are not merely incidental; they have the potential to create new arrangements of culture and power (Tsing, 2005, p.5), which could play a pivotal role in shaping Antarctica's future (Varnajot et al., 2024, p.63).

Importantly, the concept of friction, inevitable in interactions across differences, should not be seen solely as a challenge to the status quo. Rather, it is a process through which hegemonies are both made and unmade (Tsing, 2005, p.6). It is therefore applicable to the intersections between long standing practices and newly emerging global powers (Marcinek & Hunt, 2019, p.539). Friction facilitates movement and change but also introduces constraints. Tsing compares this to the construction roads: they enable movement by making travel more efficient and accessible, yet they simultaneously restrict movement by determining where one can and cannot go. This duality captures how friction can simultaneously facilitate and confine, acting as both a force for inclusion and exclusion (Tsing, 2005, p.6).

The values ascribed to Antarctica seem universal:

> "It would seem the intrinsic values of Antarctica's wilderness and wildlife, above and beyond its instrumental values to science, tourism and future mineral extraction is a solid working frame for science communications. It is also understood as a key component of the Earth's climate system. This gives hope that the

> powerful aesthetic of Antarctica, valued so profoundly by researchers and public alike, may be enough to influence our future climate actions" (McLean & Rock, 2016, p.303).

Although the values associated with Antarctica, such as wilderness, aesthetics, and scientific significance, appear to hold universal appeal, the promise of universality is ultimately unattainable. As values travel across differences, they are reshaped and recontextualized, becoming particularly effective through the friction they encounter (Tsing, 2005, p.8). From the perspective of science communication, as seen in the quote above, the appearance of such universal values is highly beneficial. Shared values provide a foundation for framing scientific narratives, aiming to increase understanding and, ultimately, public engagement. Such framing offers a sense of common ground, as McLean and Rock (2016) suggest, capturing the aspirational hope that these narratives can cross differences to unite diverse audiences (McLean & Rock, 2016, p.303). To fully understand the dynamics of these universal values, it is crucial to further examine the friction that arises in their communication across differences keeping in mind that those who claim access to universal truths are often blind to the limitations and exclusions inherent in their knowledge systems (Tsing, 2005, p.8).

2. Methodology

2.1 Method

The term 'discourse analysis' has gained significant popularity in recent years, getting widely used across various disciplines. However, with this rise in usage, the term has increasingly become vague and ambiguous (Jorgensen & Phillips, 2002, p.1). Researchers increasingly employ different variations of discourse analysis to achieve a wide range of objectives. Even within a specialized subfield like tourism studies, multiple types of discourse analysis are utilized, each with distinct intentions and applications (Hannam & Knox, 2005, p.23). This diversity in use makes the term's precise meaning impossible to know, as it does not denote a single, unified approach. Instead, discourse analysis refers to a collection of interdisciplinary methodologies, each suited to different contexts and types of research (Jorgensen & Phillips, 2002, p.1).

This conceptual fluidity is further complicated by the frequent, indiscriminate use of the term without clear definition or explanation (Jorgensen & Phillips, 2002, p.1). Such a practice poses

a significant risk, as it undermines the methodological rigor of research. Discourse analysis is far more than just a set of tools for analyzing data. It is a comprehensive theoretical and methodological framework that encompasses key premises, theoretical models, methodological guidelines, and specific techniques for analysis (Jorgensen & Phillips, 2002, p.4).

At its core, discourse analysis is a method used to analyze various forms of text and language to uncover how groups of people make sense of and reflect on their own world or that of others (Hannam & Knox, 2005, p.23). The term 'discourse' itself carries multiple meanings, but in its simplest sense, it refers to a particular way of talking about and understanding the world or specific aspects of it (Jorgensen and Phillips, 2002). However, for analytical purposes, Laclau and Mouffe (2001) take this concept further, arguing:

> "Any discourse is a constituted as an attempt to dominate the field of discursivity, to arrest the flow of differences, to construct a centre" (Laclau & Mouffe, 2001, p.112)

Performing a discourse analysis involves identifying and analyzing these patterns (Jorgensen & Phillips, 2002, p.1). To conduct a robust discourse analysis, it is essential to accept certain philosophical premises, as the theory and method are deeply intertwined (Jorgensen & Phillips, 2002, p.4).

First, knowledge about the world is not an objective truth and should not be treated as such. Representations of knowledge are not straightforward reflections of an external reality but are products of specific discourses. Second, the world is socially constructed; its character is not predetermined by external factors but shaped by historical and cultural contexts. Our understanding of the world is, therefore, contingent on these contexts. Third, knowledge is created and maintained through social interactions, which establish shared truths and fuel debates about right and wrong. These interactions sustain and reproduce particular understandings of reality in a particular time. Fourth, social action is contingent upon these socially constructed worldviews. Certain actions may seem natural or inevitable within one worldview, while they become unthinkable within another. When worldviews change, they lead to shifts in social practices, underscoring the social consequences of the construction of knowledge (Jorgensen & Phillips, 2002, p.5-6).

Language acts as the medium through which these constructions are filtered, further shaping reality (Jorgensen & Phillips, 2002, p.9). Consequently, all textual and visual data should be regarded as mediated cultural products. These products are not isolated but are embedded within broader systems of knowledge (Hannam & Knox, 2005, p.23). Language is structured into patterns or discourses whose meanings vary across contexts. These patterns are both preserved and transformed within discursive practices. Exploring these transformations or the maintenance of specific discourses requires analyzing the context in which language is employed (Jorgensen & Phillips, 2002, p.12).

2.2 Discourse theory

> "(…), we will call *articulation* any practice establishing a relation among elements such that their identity is modified as a result of the articulatory practice. The structured totality resulting from the articulatory practice, we will call *discourse*. The differential positions, insofar as they appear articulated within a discourse we will call *moments*. By contrast, we will call *element* any difference that is not discursively articulated" (Laclau & Mouffe, 2001, p.105).

Laclau and Moufe (2001) define in this quote four concepts central for their approach 'discourse theory'. Firstly, a discourse is defined as a fixation of meaning within a certain domain. It is closely related to the 'discursive formation' formulated by Michel Foucault (Laclau & Mouffe, 2001, p.105). His theoretical and empirical contributions remain foundational for the discourse theory (Jorgensen & Phillips, 2002, p.12) I will adopt in my thesis. While building on Foucault's principles, it diverges in significant ways. Like Foucault, Laclau and Mouffe view individuals as shaped by overarching structures. However, where Foucault envisioned these structures as governed by a singular, totalizing ideology, Laclau and Mouffe present a more pluralistic framework in which multiple discourses compete for dominance (Jorgensen & Phillips, 2002, p.17). This distinction sets Laclau and Mouffe apart from other theoretical influences, such as Marxian social theory (Jacobs, 2018, p.296). Within discourse theory, there is no single underlying principle fixing the whole field of differences (Laclau & Mouffe, 2001, p.111). Moving beyond this singular notion, their approach embraces a more nuanced and integral perspective on identity politics. In this sense, it represents a post-structuralist reformulation of earlier theoretical frameworks (Jacobs, 2018, p.296).

Central to their discourse theory is the idea of interrogating social structures, processes, and power relationships by exposing their contingent nature (Glasze & Mattissek, 2009, p.157). Unlike a monolithic ideology, these power structures are understood as the result of a myriad of interconnected and competing discourses (Jacobs, 2018, p.296).

Each discourse represents a distinct way of talking about and interpreting the social world. They are perpetually engaged in a struggle to establish hegemony; seeking to dominate and normalize a particular worldview. None stands on its own (Jorgensen & Phillips, 2002, p.6-7). This happens through articulation, which is defined as the relation among elements such that their identity is modified (Laclau & Mouffe, 2001, p.105). While an example like 'wilderness' can be positioned in many ways. It has to be positioned in relations to other signs in order to give meaning (Jorgensen & Phillips, 2002, p.28). The goal of a discourse may be to achieve hegemony, however Laclau and Mouffe argue that meaning can never be permanently fixed (Laclau & Mouffe, 2001, p.109) This opens the door for ongoing social struggles, which, in turn, produce social effects (Jorgensen & Phillips, 2002, p.24). Those differential positions are called moments (Laclau & Mouffe, 2001, p.105). Here, Anna Tsing's concept of friction provides an insightful parallel: her idea of unequal encounters leading to new cultural and power arrangements (Tsing, 2005, p.5), aligns closely with Laclau and Mouffe's vision of discursive competition and contingency (Jorgensen & Phillips, 2002, p.6-7). Elements, on the other hand, are the difference that is not discursively articulated (Laclau & Mouffe, 2001, p.105)

The approach of discourse theory is particularly well-suited to my thesis, as it allows for an in-depth analysis of the frictions and interactions occurring in Antarctica. Laclau and Mouffe's assertion that all social phenomena can be examined through the lens of discourse analysis underscores its utility across my research. Since society is understood as a discursive construction, the tools of discourse theory can illuminate the contested meanings, power dynamics, and cultural shifts within this unique context (Jorgensen & Phillips, 2002, p.24).

The central thread of Laclau and Mouffe's analysis revolves around their transformation of the concept of hegemony (Laclau & Mouffe, 2001, p.3). Hegemony can be understood as the organization of consent, wherein power relations become so naturalized that they are absorbed into common sense and rendered difficult to question (Jorgensen & Phillips, 2002, p.26). Discourses that reach this level of normalization are referred to as 'objective.' This designation does not imply actual objectivity but rather reflects a sedimented discourse (Jorgensen &

Phillips, 2002, p.36). These objective discourses appear to derive meaning inherently, but this is deceptive; their objectivity simply obscures their contingency and masks alternative possibilities. Although Laclau and Mouffe rarely use the term ideology, this concept of objectivity aligns closely with their ideological framework (Laclau & Mouffe, 2001, p.67). Since it is impractical to challenge all assumptions at all times, such ideological underpinnings are necessary for any functioning society (Jorgensen & Phillips, 2002, p.37).

A discourse is formed through the partial fixation of meaning around a central organizing concept, or 'nodal point.' This nodal point acts as a privileged signifier around which other signs are arranged, with their meanings derived from their relationship to this central concept (Jorgensen & Phillips, 2002, p.26-27). However, nodal points are inherently empty; their meaning crystallizes only within a specific discourse. Outside that context, they remain open to interpretation depending on the surrounding discourse (Jorgensen & Phillips, 2002, p.28). For example, consider the term 'democracy.' It is difficult to define on its own, yet it serves as a central concept in liberal-democratic discourse, shaping the meaning of related terms such as 'parliament,' government,' and 'liberalism' (Jacobs, 2018, p.304).

Within this discursive framework, two distinct logics govern the relationships between signifiers. The 'logic of equivalence' connects signifiers into discursive chains (Jacobs, 2018, p.304), linking them to create shared meanings and to establish oppositional boundaries that define what a subject is and what it is not (Jorgensen & Phillips, 2002, p.43). In contrast, the 'logic of difference' introduces separation and nuance, making the social world more complex by emphasizing variation and distinctions among signifiers (Jacobs, 2018, p.304).

The concept of opposition is central to discourse theory, as it often leads to antagonism; a structural dualism wherein two discursive structures oppose one another, dividing the social world into competing camps (Jacobs, 2018, p.302-303). Antagonism arises when discourses collide, and it is evident for example in identity construction (Jorgensen & Phillips, 2002, p.48). All identities are necessarily relational (Laclau & Mouffe, 2001, p.106). This means, individuals possess multiple identities, such as being a citizen of a nation and a member of a class, which coexist unless they demand conflicting actions within the same domain. For instance, in the case of war, national and class identities may clash: Should a person fight for their nation, thereby killing fellow workers from another country? Such antagonism can only be resolved when one discourse achieves dominance. If the individual goes to war for his or her nation, the

articulation of citizenship has achieved hegemony over class identity (Jorgensen & Phillips, 2002, p.48).

This interplay between national and class identities raises the broader question of how identities are constructed. The underlying mechanisms are crucial for understanding the social boundaries that are established (Glasze & Mattissek, 2009, p. 154). According to discourse theory, collective identities and group formations follow the same principles as individual identities (Laclau & Mouffe, 2001, p.20-21). Consequently, both can be analyzed together. An individual's identity consists of structures external to themselves; these are not voluntarily chosen or easily altered. For example, while one might wish to step outside the framework of capitalism, many components of their identity remain embedded within the structures that compose capitalism in the first place (Jacobs, 2018, p.300). Nevertheless, identity is never entirely fixed. It is flexible, contingent, and subject to change as part of ongoing discursive struggles (Jorgensen & Phillips, 2002, p.33).

2.3 Application

The practical application of discourse theory remains contested, as there is no universally agreed-upon or codified methodology for its implementation (Jacobs, 2018, p.310-311). This absence of a standardized methodological framework did not come by chance; rather, it reflects the original intentions of Laclau and Mouffe (2001). They designed discourse theory with a focus on theoretical elaboration rather than as a guide for empirical or applied research. They have never intended for their theory to inspire hands on research in the first place (Jacobs, 2018, p.309-310). Their primary interest lies in identifying and analyzing discourses as abstract phenomena, rather than operationalizing the theory for practical use. Nonetheless, their theoretical framework offers valuable insights and tools that, when carefully adapted, can support empirical research (Jorgensen & Phillips, 2002, p. 49).

To employ discourse theory in empirical research, scholars can utilize a range of analytical tools embedded within the framework (Jorgensen & Phillips, 2002, p.49). The goal hereby is not to uncover an ‘objective reality’ but to investigate how groups construct reality in a manner that renders it seemingly objective and natural (Jorgensen & Phillips, 2002, p.33).

A discourse, in this context, serves as a system of meaning, a structured way of representing the world, which provides an analytical starting point for researchers. Within this framework, the boundaries of a discourse are identified by the articulation of elements that are incompatible with its structure. Importantly, these boundaries should not be regarded as fixed or clear-cut. Instead, they function as analytical constructs, enabling researchers to frame and investigate the subject under study (Jorgensen & Phillips, 2002, p.143).

To identify and analyze a discourse, researchers must examine its internal structure, particularly the key signifiers that organize its network of meanings (Jorgensen & Phillips, 2002, p.50). Central to this network are 'nodal points,' which represent the core around which a discourse is structured. These nodal points serve as the heart of the discourse, anchoring the meanings of other elements within the network. A single discourse may contain one or multiple nodal points, each of which plays a critical role in defining its boundaries and coherence (Jacobs, 2018, p.303).

In addition to nodal points, the concept of 'floating signifiers' is pivotal for understanding the dynamics of discourse. Floating signifiers signify the interplay between stability and contingency within a discourse. As Jorgensen and Phillips (2002) observe, areas where discourse share common-sense assumptions tend to exhibit greater stability, whereas zones of contested meaning are more open to transformation:

> "(…) areas where all discourses share the same common-sense assumptions are less open to change and more likely to remain stable, whereas areas where different discourses struggle to fix meaning in competing ways are unstable and more open to change" (Jorgensen & Phillips, 2002, p.142).

This constant struggle to sediment meaning within a discourse reflects an ongoing contest between competing forces seeking to fix the signification of key terms. The floating signifier thus becomes a site of conflict, revealing the tensions between competing discourses and the exclusion of alternative signs or meanings (Jorgensen & Phillips, 2002, p.165-166). It is through this process of struggle and exclusion that a discourse acquires its hegemonic status. Hybrid discourses, consisting of contradictory elements, further illustrate this phenomenon by uniting seemingly incompatible identities and meanings (Jorgensen & Phillips, 2002, p.167). Ultimately, the task of the researcher is to identify and analyze these myths of objectivity, exposing

the constructed and contingent nature of seemingly natural realities embedded in language (Jorgensen & Phillips, 2002, p.40).

The concept of antagonism is central to discourse theory and its articulation of hegemony. Antagonism arises from the inherent dualism within discourses, where opposing structures define their boundaries through mutual exclusion (Jacobs, 2018, p.305):

> "All discourses that have the ambition to organize the social world hence necessarily involve an antagonistic delimitation that functions as the frontier, the "limit" of this discourse" (Jacobs, 2018, p.305).

This antagonistic delimitation entails the structural division of the social world into two opposing camps, thereby constructing the boundaries of the discourse (Jacobs, 2018, p.305). However, this dualism should not be misconstrued as a conflict between two sides. Rather, it often emerges as a one-sided articulation, whereby one camp defines the opposition in its own terms (Glasze & Mattissek, 2009, p.164).

2.4 Argument Analysis

In addition to discourse analysis, I will employ the method of 'argument analysis' to gain deeper insights into the arguments presented by various stakeholders. This methodological approach is particularly valuable for uncovering implicit arguments within spatial communication (Felgenhauer, 2009, p.276). Argument analysis not only helps to identify explicit reasoning but also facilitates the reconstruction of implicit premises and missing elements within an argument, thereby enabling a more comprehensive understanding of the logic underpinning a stakeholder's position (Gronostay, 2017, p.155).

While argument analysis can be effectively integrated with discourse analysis, it requires careful consideration to avoid theoretical conflicts between the two approaches (Felgenhauer, 2009, p.276). The potential for conflict arises because argument analysis focuses on the micro-practices of singular argumentation, often at the expense of broader discursive structures. In principle, argument analysis can be conducted without accounting for the larger socio-cultural context (Felgenhauer, 2009, p.275). However, to mitigate this issue, I will adopt a dual approach: using discourse theory to examine the overarching structures and context, while applying argument

analysis selectively to scrutinize isolated arguments. This combination will ensure that the methodological integrity of both approaches is maintained while enhancing the depth of the analysis.

The argument analysis framework I will employ is rooted in the model developed by Stephen Toulmin, which provides a structured methodology for examining the relationships between various components of an argument (Felgenhauer, 2009, p.266). This model is particularly well-suited for analyzing the logical structure of arguments and their underlying premises.

At the core of Toulmin's model is the relationship between the claim and the data (Felgenhauer, 2009, p.266). The claim represents the conclusion or assertion made by a stakeholder: in simple terms, it is their argument (Gronostay, 2017, p.150). The claim is supported by the data, which consists of facts or evidence that justify or substantiate the claim. However, the connection between the data and the claim is not always explicitly articulated; this is where the warrant plays a crucial role. The warrant acts as a bridge, linking the data to the claim and justifying the reasoning behind this connection. Warrants are often implicit and rely on underlying assumptions or principles, which are referred to as backing. Backing provides the foundational knowledge or context that makes the warrant credible (Felgenhauer, 2009, p.267).

By dissecting these components, argument analysis reveals not only the explicit elements of an argument but also the implicit assumptions and logical gaps that may influence the stakeholder's reasoning (Gronostay, 2017, p.155).

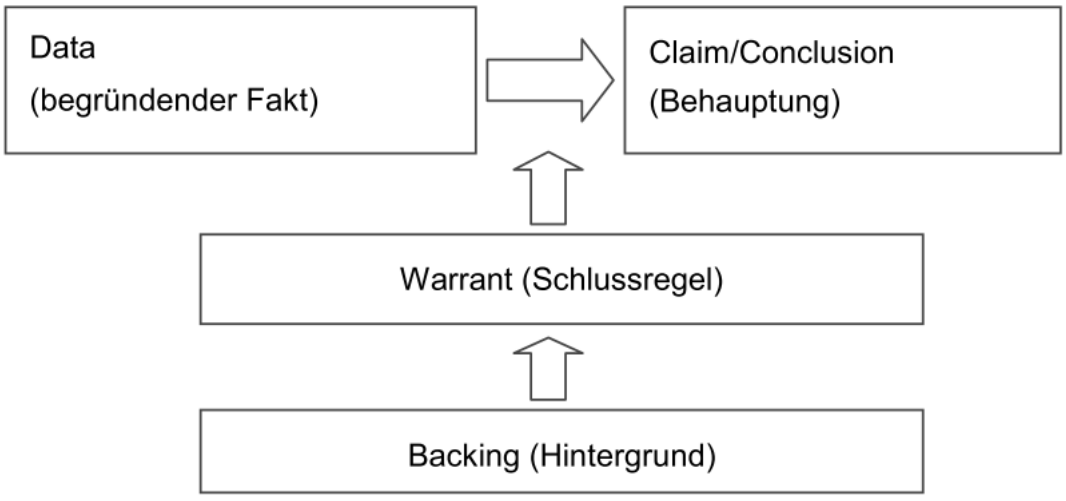

Figure 3: Concept of the Argument Analysis (Felgenhauer, 2009, p.267).

It is important to emphasize that neither the warrant nor the backing should be interpreted as evaluations of the argument's validity or persuasiveness by the researcher. Instead, these components are intended to uncover the implicit, unspoken elements that underpin the argument's structure. The warrant specifically addresses the connection between the data and the claim, asking the critical question: What underlying assumptions must hold true for the transition from data to claim to become intelligible? Similarly, the backing provides the foundational context or background knowledge that supports the warrant, shedding light on the prerequisites necessary for the argument's functionality (Felgenhauer, 2009, p.267).

This analytical approach focuses on the functionality of the argument, rather than its plausibility or truthfulness. The objective is not to judge whether the argument is convincing, logical, or empirically sound but rather to understand how the argument operates within its own framework. By doing so, the analysis provides insights into the mechanisms by which stakeholders construct and communicate their reasoning (Felgenhauer, 2009, p.267).

2.5 Data

For the purposes of my discourse analysis, I focused on the primary stakeholders who spend significant time in Antarctica and are thus positioned to share their firsthand experiences and perspectives with the wider public. These stakeholders can broadly be categorized into two main groups: those involved in scientific research and those engaged in tourism (Leihy et al., 2020, p.571).

Scientific research represents a dominant presence in Antarctica, with natural scientists playing a pivotal role in shaping how the region is understood and communicated globally. This is particularly evident in the framing of Antarctica as a critical source of data for addressing global challenges, most notably the issue of climate change. The continent serves as a natural laboratory for studying a range of phenomena, including the atmosphere, the cryosphere and different ecosystems and lifeforms, all of which have implications that extend far beyond its borders (Chown et al., 2022, p.2-3). However, the scientific engagement with Antarctica is not homogenous. While natural sciences often dominate the discourse, there exists a growing body of research within the humanities and social sciences. These alternative perspectives critique the predominantly naturalist framework, offering conceptual spaces to interrogate and challenge the status quo (Roberts et al., 2016, p.4).

To encapsulate the scientific perspective within my analysis, I focused on the Scientific Committee on Antarctic Research (SCAR). Established in 1958, SCAR played a pivotal role in shaping scientific exploration in the Antarctic region. Its primary mandate is to initiate, develop, and coordinate high-quality international scientific research in both Antarctica and the Southern Ocean (SCAR, 2025a). Moreover, SCAR serves as a key advisory body, providing "objective and independent scientific advice to the Antarctic Treaty Consultative Meetings and other organizations (…) on issues of science and conservation affecting the management of Antarctica and the Southern Ocean and on the role of the Antarctic region in the Earth system" (SCAR, 2025b).

SCAR's wide-ranging focus across numerous scientific disciplines makes it a central organization for understanding the scientific discourse on Antarctica. Its core activities are anchored in natural sciences, as evidenced by its three permanent scientific groups: Physical Sciences, Life Sciences, and Geosciences. However, SCAR's scope extends beyond the natural sciences. The organization also encompasses humanities and social sciences (Hughes et al., 2023, p.448).

SCAR's influence extends well beyond the realm of academia. The organization provides crucial scientific input to a variety of international bodies and treaties, including the ATCM, the United Nations and to the Intergovernmental Panel on Climate Change (SCAR, 2025b). Through these roles, SCAR plays a critical part in linking Antarctic science to broader discussions on environmental sustainability, conservation, and global policymaking.

To represent the touristic perspective in my analysis, I focused on the IAATO. Established in 1991 by a group of seven private tour operators, IAATO has grown into a significant organization comprising over 100 member operators, all of whom engage in Antarctic tourism. Membership in IAATO is voluntary, yet it reflects a shared commitment to the organization's mission: to promote and practice safe and environmentally responsible travel to Antarctica (IAATO, 2025a).

IAATO provides a variety of written materials and resources that will serve as key data for this analysis. These include official statement pieces, information papers (IAATO, 2025b), a newsroom (IAATO, 2025c), and a blog (IAATO, 2025d), all of which are accessible on the organization's website. These documents offer insight into IAATO's stance on tourism, environmental

conservation, and safety practices, as well as their efforts to shape the public narrative about Antarctic travel.

Additionally, I will examine advertisements for Antarctic cruises offered by IAATO's member organizations, focusing specifically on the companies most affordable cruise ship journeys to the Antarctic continent. The rationale for this focus is that cheaper tours are likely to be more accessible to a broader demographic, thereby enabling a larger number of individuals to experience Antarctica firsthand. These experiences, in turn, have the potential to shape and influence the public's perception of the continent, as visitors share and reproduce their narratives and impressions.

This analysis will primarily concentrate on ship-based tourism, which constitutes the overwhelming majority of Antarctic visitation. Approximately 95% of all visitors to Antarctica arrive via ship, underscoring the centrality of this mode of travel to the region's tourism industry (Varnajot et al., 2024, p.53).

In addition to institutional and organizational stakeholders, the role of tourists themselves should not be overlooked in an analysis of Antarctic discourse. As direct participants in the experience of the continent, tourists serve as powerful mouthpieces, capable of bringing their personal encounters and impressions into wider social and cultural contexts. Their stories and reflections have the potential to influence public perceptions of Antarctica, extending its significance beyond the confines of the physical environment.

IAATO explicitly acknowledges the influential role that tourists can play. As stated by IAATO's Executive Director:

> "We find that visitors returning from the region have often been moved to make changes in their lives which support conservation and educate others on the importance of protecting these precious places" (IAATO, 2021).

This statement illustrates the perceived power of tourists' narratives and their capacity to disseminate values and imaginations of Antarctica to broader audiences (Varnajot et al., 2024, p.60).

To explore the tourist perspective, I analyzed YouTube videos created by individuals who have traveled to Antarctica. These videos serve as a rich source of data, offering insights into how tourists experience and frame their journeys to the continent. They provide a visual and narrative lens through which Antarctica is represented, including the landscapes, wildlife, and personal reflections of the creators.

A significant advantage of using YouTube as a data source is the availability of quantitative engagement metrics, such as the number of views a video has garnered. These metrics provide an indication of the reach and influence of each video, enabling an assessment of how many people have potentially encountered the continent through the perspective of a specific content creator. This approach allows for an analysis of the intersection between personal storytelling and broader audience reception, revealing the ways in which tourists contribute to shaping Antarctic narratives.

2.6 Limitations to the study

Historically, Antarctica has been a place dominated by the science of white men, particularly those from Europe and North America (Nash et al., 2019, p.1). Contributions from people of color have been largely neglected. They were often silenced or entirely erased from history. Similarly, those of lower social status have also been excluded from the recorded narrative. For instance, little cultural history exists regarding the whalers and sealers who ventured south (van der Watt & Swart, 2016, p.137). Women were also excluded from exploratory and scientific expeditions for a significant part of Antarctica's history (Nash et al., 2019, p.1), relegated primarily to the roles of wives or partners of male researchers. Consequently, the canonical history of Antarctica reflects a distinct bias, privileging certain voices while erasing others (Roberts et al., 2016, p.6).

The humanities in Antarctic studies face additional challenges due to the limited pool of potential participants. While there has been considerable growth and diversification in the demographics of people visiting the continent, primarily through tourism, the overall numbers remain small compared to other natural destinations (Cajiao et al., 2022, p.2). As a result, many humanities studies in Antarctica are constrained by relatively small sample sizes (Tin et al., 2016, p.322; Cajiao et al., 2022, p. 10 & Vila et al., 2016, p. 459). This limitation raises

questions about the representativeness of existing research and underscores the need for more primary studies in this area (Tin et al., 2016, p.322).

Efforts to address inequality within Antarctic research are ongoing (Nash, 2019, p.19), but these challenges persist. Many voices remain overlooked, including those of multinational crews on tourist vessels or South American military personnel, whose perspectives on Antarctica are often deemed insufficiently relevant to contribute to its 'real' understanding (Roberts et al., 2016, p.2). While the circle of participation in Antarctic research has expanded, the field remains far from inclusive (McCahey, 2022, p.769). Gender barriers, for instance, continue to exist (Nash et al., 2019, p.1-2), and people of certain genders, ethnicities, socioeconomic backgrounds, and nationalities face distinct career disadvantages in Antarctic research. Structural barriers often intersect and compound, further marginalizing individuals (Seag et al., 2023, p.398).

In addition to these inequalities, there is a pronounced anglophone bias in Antarctic research (Seag et al., 2023, p.397). This bias affects both researchers and participants in studies (Cajiao et al., 2022, p.10 & Seag et al., 2023, p.397). International Antarctic journals, collaborations, and events are almost exclusively conducted in English. As a result, non-native English speakers face obstacles in expressing their ideas, reaching a broader audience, and building professional networks (Seag et al., 2023, p.397). Moreover, many studies rely solely on English-speaking references, further limiting the scope of research. This linguistic bias extends to participants in studies as well (Tin et al., 2016, p.308). For example, while Chinese tourists have accounted for over 10% of all visitors to Antarctica in certain years (IAATO, 2023b, p.6), there has been little focus on their experiences. As recently as 2016, Tin et al. criticized the absence of studies centered on the perspectives of Chinese tourists (Tin et al., 2016, p.308).

These broader issues are evident in my own research. Since my analysis relies on existing studies and data, it inevitably reproduces some of the limitations inherent in Antarctic research. All my sources are either written or spoken in English, restricting my work to an anglophone perspective on Antarctica and Antarctic experiences. While my data includes viewpoints from individuals of varying genders, ages, and ethnicities, it still mirrors many of the structural and representational biases prevalent in the current body of research. Furthermore, my focus is primarily on data from researchers and tourists, both of whom occupy relatively privileged positions. This focus inadvertently omits less privileged perspectives, such as those of crew members, whose experiences and insights are absent from my analysis.

2.7 Personal stance

When conducting a discourse analysis, the researcher's interpretative framework and positionality plays a crucial role in shaping the outcome of the investigation. Therefore, it is essential to approach discourse analysis with a critical and reflexive mindset to mitigate the risks of narrative entrapment and ensure a balanced interpretation (Hannam & Knox, 2005, p.29). Considering this, I have explicitly outlined my personal stance and background, as they form the lens through which I engaged with the material.

I have never personally visited Antarctica and therefore lack first-hand experience with the continent or its tourism industry. Additionally, I am unaware of anyone within my immediate social circle who has traveled to Antarctica, which means I have no direct social connections to this context prior to embarking on this research. My interest in this topic stems primarily from a broader fascination with areas portrayed as wilderness and pristine and the dynamics of tourism in such environments.

My academic background lies in geography and social anthropology, disciplines that are more closely aligned with the humanistic and social scientific perspectives of Antarctic research than with natural sciences or tourism studies. This background inevitably shaped how I engaged with the discourses.

However, it is crucial to acknowledge that such a background also creates certain interpretative predispositions. As Jorgensen and Phillips (2002, p.143) point out, the reception and interpretation of texts are active processes. What may appear unambiguous or self-evident to one reader could be perceived as contradictory or contested by another, depending on their personal and professional context. This underscores the importance of remaining vigilant to potential biases and being transparent about how my positionality might shape the framing and interpretation of the analyzed material.

Although I strived to maintain a neutral and objective stance throughout this research, it is inevitable that my personal and academic background influenced the aspects of the discourse I emphasized and the analytical paths I pursued.

By openly acknowledging these predispositions, I aim to adopt a reflexive approach that critically interrogates my own role in the research process. This reflexivity guided me to remain cautious of overemphasizing certain narratives while underexploring others, thereby striving for a balanced and inclusive analysis of the Antarctic discourse.

3. Analysis

3.1 Perspective of SCAR

> "The study of Antarctica and the Southern Ocean and their role in the global Earth system has never been more important as the region is experiencing dramatic changes that have global implications. The Antarctic region is a matchless 'natural laboratory' for vital scientific research that is important in its own right and impossible to achieve elsewhere on the planet" (Scar, 2025c).

SCAR plays a pivotal role in understanding and addressing the profound changes occurring in Antarctica and their global implications. Due to its unique environment, the Antarctic region offers a research platform for phenomena that cannot be studied anywhere else on earth (SCAR, 2025c). Consequently, SCAR has been at the forefront of numerous groundbreaking discoveries, including the detection of the ozone hole, the remarkable biodiversity of Antarctic marine life, the identification of neutrinos originating from outer space, the role of the Southern Ocean in regulating CO_2 and heat, mapping the sub-ice topography of the continent etc. (SCAR, 2018, p.2).

However, SCAR's contributions extend beyond scientific discovery. It serves as a vital advisory body with the authority to influence both local and global policy frameworks. SCAR describes its mission as follows:

> "SCAR provides objective and independent scientific advice to the Antarctic Treaty Consultative Meetings and other organizations such as the UNFCCC and IPCC on issues of science and conservation affecting the management of Antarctica and the Southern Ocean and on the role of the Antarctic region in the Earth system" (Scar, 2025a).

This statement prominently appears on SCAR's official website under the section 'What We Do,' forming the final sentence of their mission summary (Scar, 2025a). SCAR's notably emphasis on providing 'objective scientific advice' warrants closer examination.

In its explanation of policy advisory roles, SCAR further elaborates on its approach:

> "SCAR identifies issues emerging from greater scientific understanding of the Antarctic and Southern Ocean region and brings them to the attention of policy makers" (Scar, 2025b).

Using Toulmin's model of argumentation analysis, this statement presents a clear claim and its supporting data. The claim - SCAR provides objective advice - is backed by the data that emerging scientific understanding identifies critical issues requiring attention. The implicit assumptions within this argument form the warrant, namely that SCAR and its affiliated researchers operate with objectivity, allowing for reliable conversion of data into actionable advice. The backing for this argument rests on the premise that objective advice is possible and achievable within SCAR's scientific framework.

As part of SCAR's contributions to the research theme 'Human Impacts and Sustainability,' Hughes et al. (Hughes et al., 2023, p.466) examine the role of science in informing Antarctic policy and management. Their study highlights the multifaceted roles of researchers within the ATS, including:

- Supporting national priorities and interests, as scientific work is central to their nation's future entitlement to participate in the governance of the region
- Conducting fundamental research with global relevancy
- Informing Antarctic decision-making processes
- Providing scientific support for commercial ventures
- Enhancing their own professional status by operating at the science-policy interface (Hughes et al., 2023, p.452-458).

Hughes et al. (2023) further underscore the entanglement of science within broader interests, noting that while science is an integral component of the ATS, it is inherently influenced by political, commercial, and personal considerations (Hughes et al., 2023, p.452).

SCAR's strategic plan for 2023-2028 also emphasizes its leadership role in addressing growing human impacts on Antarctica:

> "To enhance leadership in international Antarctic science, Scar will: (…) Address the growing need for evaluating, understanding, and mitigating the increasing human impacts on Antarctica and the Southern Ocean by translating knowledge into policy-ready formats and clear messaging understandable by the general public" (SCAR, 2023, p.13).

This statement aligns with broader calls for a paradigm shift in planning and assessing human activities on the southern continent:

> "Barriers to accessing Antarctica and the Southern Ocean are diminishing and activities are increasing in terms of science, resource use and tourism. The rising global human population is expected to increase pressures on natural resources and the Antarctic environment" (SCAR, 2023, p.35).

SCAR acknowledges the collaborative efforts of IAATO, noting that its operations align with the ATS framework. SCAR views that IAATO tries to hold its impacts as relatively minor, recognizing its support for science and its promotion of citizen science projects while not being a scientific organization itself (Hughes et al., 2023, p.450). However, concerns persist about the self-regulatory nature of IAATO, with critics suggesting that it may prioritize commercial interests over conservation. This issue is particularly significant given the absence of regulations limiting the number of ships or tourists permitted to visit the continent (Tejedo et al., 2024, p.5).

As Tejedo et al. (2024) observe:

> "Some Parties within the Antarctic Treaty System, conservation organisations, and scientists are concerned about the current self-regulation model, indicating that it may no longer be sufficient" (Tejedo et al., 2024, p.6).

In response to these concerns, the annual ATCMs have initiated the formation of a dedicated working group to develop a consistent framework for regulating Antarctic tourism (Tejedo et al., 2024, p.6).

While SCARs judgment of the Antarctic landscape is generally rare, there are some points where one is made. In the permanent science group 'Physical Science' the environment is called pristine to a point where even slight contamination from human activities can be observed (SCAR, 2025d). The same is true for their strategic plan, where the landscape is only classified as pristine (SCAR, 2023, p.19) and remote (SCAR, 2023, p.35). The 'Life Science' group additionally adds to that pristine assessment, the notion of it being cold and isolated (SCAR, 2025e). Affiliated scientists go in a similar direction, calling it remote, extreme and yet relatively pristine (Hwengwere et al., 2022, p.2). Notably absent in these characterizations of the landscape is the term 'wilderness' although some values commonly associated with wilderness - pristine, remote or isolated - are readily used. It is portrayed as an environment under threat as tourism comes with a significant environmental cost (Tejedo et al., 2024, p.3). The aim of SCAR is to minimize its impact and adapt to the rapidly changing social and natural environment (SCAR, 2023, p.41). The goal is to preserve the Antarctic and Southern Oceans environments at a state close to the one known for the last 200 years (SCAR, 2023, p.59).

3.2 Non-SCAR research

One goal of SCAR is to effectively integrate social science and humanities in their framework (SCAR, 2023, p.13). However, they are not the only ones doing research in Antarctica. When it comes to research that is done independently from SCAR, there is one phenomenon that I want to include here: There seems to be an antagonism between science and the tourism industry as the latter is regarded with something approaching disdain from those who have a connection to Antarctica through science (Roberts et al., 2016, p.14). Especially in the beginning, scientists did not welcome tourism fearing interruptions and that visitors may be upsetting the phenomena they were trying to study (Rolston, 2002, p.127). However, the tourists still came, but the antagonism never truly went away:

> "But unlike science, tourism does not appear to produce outcomes of potential benefit beyond those directly involved. A value for tourism may therefore be particularly difficult to justify, which likely accounts for the relatively low proportion of both researchers and non-researchers who valued it" (McLean & Rock, 2016, p.301).

While the antagonism is mostly masked, the worries are still evident, and SCAR seems to share them at least to some degrees:

> "Some Parties within the Antarctic Treaty System, conservation organisations, and scientists are concerned about the current self-regulation model, indicating that it may no longer be sufficient" (Tejedo et al., 2024, p.6).

3.3 Tourism industry perspective

3.3.1 IAATO

When examining the tourism industry in Antarctica, IAATO emerges as the most significant player. IAATO describes itself as follows:

> "IAATO is a member organization founded in 1991 to advocate and promote the practice of safe and environmentally responsible private-sector travel to the Antarctic" (IAATO, 2025a).

This introductory statement on IAATO's website is immediately followed by a detailed list of ten objectives that define the organization's goals. The third text emphasizes supporting scientific endeavors (IAATO, 2025a):

> "We strive to:
> - Support science in Antarctica through cooperation with National Antarctic Programs, including logistical support and research
> - Foster cooperation between private-sector travel and the international science community in the Antarctic" (IAATO, 2025a).

IAATO further elaborates that its member companies provide scientific, logistical and financial support to scientific research. For instance, tour operators act as transport providers for researchers, station personnel, and materials, as well as offering chartered vessels and accommodations. Both operators and passengers contribute directly to scientific organizations through financial donations (IAATO, 2025a).

This support aligns with Antarctica's reputation as a continent uniquely dedicated to peace and science, a principle enshrined in the Antarctic Treaty System (Antarctic Treaty Consultative Parties, 1991, p.2). The high-profile role of science in Antarctica is further underscored by statements such as that of former U.S. Secretary of State Hillary Clinton, who described the continent as a place where science is the universal language (Yao, 2021, p.996).

The term 'science' can be understood as a floating signifier; one with fluid meaning that can be adapted to fit specific narratives. In IAATO's case, this adaptability allows the organization to position itself within the scientific framework. By defining science in a way that includes them, they suddenly have a new position and importance. This shift is not just done by IAATO or the tourism industry, it is comparable to the role of militaries in Antarctica. While all military activities are generally prohibited, there is an exception when they happen in support of science (Hughes et al., 2023, p.440). The stakeholders can not seem to place themselves outside of science, making it a sedimented discourse.

By emphasizing their support for research and collaboration with the scientific community, IAATO integrates itself into Antarctica's scientific mission. For example, IAATO highlights the contributions of its tour operators to data collection efforts, such as recording whale and seal sightings to improve wildlife protection around the Antarctic Peninsula (IAATO, 2024c). In doing so, the tourism industry is presented not as a driver of human activity and environmental change but as an ally in the scientific effort to conserve Antarctica's unique ecosystems (SCAR, 2023, p.35):

> "As human activity grows across Antarctica and as environmental change becomes more pronounced, it becomes increasingly pressing to determine how to best conserve its unique biodiversity and environments" (IAATO, 2025g).

By reframing tourism as a contributor to conservation, IAATO positions itself as part of the solution rather than being part of the problem. IAATO further strengthens its conservation narrative through its promotion of citizen science initiatives. Its member operators include programs where tourists actively participate in data collection, thus making science more accessible and engaging for travelers. According to IAATO:

> "Citizen science allows everyone to be more than just visitors by experiencing Antarctica in a more hands on way, developing a deeper understanding of, and appreciation for, this beautiful place. Through this heightened level of participation, our guests are more likely to become true Antarctic Ambassadors" (IAATO, 2025g).

This framing transforms tourists into contributors to scientific knowledge and advocates for Antarctic conservation. By engaging with science in this manner, visitors reportedly develop a deeper appreciation for the continent and its ecological importance.

IAATO claims that tourism benefits Antarctica; a statement that can be analyzed using argumentation theory. Their claim is that tourism is, and should remain, a driving force in Antarctic conservation (IAATO, 2025f). The data supporting this claim lies in the belief that firsthand experiences in Antarctica foster greater understanding among tourists, who return home as ambassadors of goodwill, guardianship, and peace. IAATO underscores the role of educational programs provided by tour operators, some of which have received awards for their efforts (IAATO, 2025f). The warrant, or unspoken assumption, behind this argument is that the positive impact of creating 'Antarctic Ambassadors' outweighs the negative consequences of human activity. IAATO emphasizes this positive impact as central to its narrative:

> "It's our belief that Antarctic expeditions with responsible and robust environmental practices at their core create among visitors a greater understanding of the environment, Antarctica's value to global science and how changes to the region can impact us all. This is why responsible travel can create Antarctic Ambassadors" (IAATO, 2025e).

At the same time, IAATO minimizes the negative environmental impacts of tourism, asserting that they are negligible. They argue that the continent's pristine landscapes and wildlife remain largely unaffected by human activity, thanks to the implementation of responsible tourism practices (IAATO, 2025f). IAATO's goal is to preserve Antarctica for future generations:

> "IAATO's focus on protection, management and education promotes a greater worldwide understanding and protection of the Antarctic with the goal of leaving it as pristine and majestic for future generations as it is today" (IAATO, 2025f).

Through its claims of supporting science, promoting conservation, and fostering educational engagement, IAATO positions the tourism industry as a vital contributor to Antarctica's preservation. By framing its efforts through the lens of collaboration with the scientific community, IAATO seeks to counter criticisms of tourism as a driver of human impact. Instead, it presents tourism as an opportunity for global audiences to develop a deeper appreciation of Antarctica's unique ecosystems, ensuring the continent's protection for generations to come.

Their imagination of the place can be seen in an article they wrote in their newsroom: There was an appearance of graffiti at an old ruin of a building on an Island close to the Antarctic Peninsula (IAATO, 2024b):

> "Travelling to Antarctica and witnessing its majesty first-hand is an immense privilege – one that comes with a responsibility to leave the region as you found it, leaving nothing but footprints and taking nothing but memories and photographs" (IAATO, 2024b).

While IAATO goes on to emphasis that the perpetration was not committed by someone travelling with an IATTO member, they still are shocked and disgusted. But it shows also that traveling to this unique destination is seen as a privilege and not something taken for granted (IAATO, 2024b). Through the protection, management and educational programs IAATO and its members offer, the goal is to leave it as pristine and majestic for future generations as it is today (IAATO, 2025a).

3.3.2 Advertisement of its members

Since IAATO itself does not operate the ships or directly bring tourists to Antarctica, I will also include the tour operators themselves in my analysis. Specifically, I examined 30 advertisements for cruises to the Antarctic Peninsula offered by 30 different IAATO member operators. In cases where operators offer multiple tours, I analyze the cheapest option, assuming that affordability makes these tours accessible to a larger audience, thereby shaping more people's experiences of Antarctica. These operators include a mix of smaller, research-oriented vessels with fewer passengers and larger ships where visitors are unable to set foot on the continent.

Given IAATO's emphasis on science and its role in Antarctic research, I first examine whether this focus is reflected in the cruise descriptions. Of the 30 advertisements, 25 mention opportunities to attend lectures or learn from experts and scientists on topics related to Antarctica. For instance:

> "Explore alongside a team of biologists, geologists and undersea specialists who offer insights and engaging presentations throughout the trip" (National Geographic, 2024).

In addition to naturalists like those mentioned above, many advertisements highlight expertise in Antarctic history. Only six advertisements omit any reference to human presence on the continent, while the majority frame tourism as a continuation of historical exploration. This narrative draws parallels between modern tourists and the legendary explorers of old:

> "You will sail in the wake of Jean-Baptiste Charcot, Adrien de Gerlache and Sir Ernest Shackleton, great Antarctic explorers who, from the 19th century, set out to conquer these remote and uninhabited lands" (Ponant, 2025).

While the circumstances of early explorers differ vastly from the experiences of modern tourists aboard luxury vessels, these advertisements employ the discourse of exploration to promote their cruises. This framing draws on associations of 'adventure', a word that appears on average twice per advertisement. It implies the reliving of an idealized versions of expeditions and figures like Shackleton, Amundsen, Scott or the other explorers who heroically 'conquered' the continent before, paving the way for the modern explorers and their cruise ships (Elzinga, 2016, p.286-287).

Although IAATO highlights its Antarctic Ambassadorship program as a key justification for tourism's benefits to the region (IAATO, 2025f), this concept is less prominent in tour operators' marketing. Only one operator, Aurora Expeditions (2025), explicitly mentions Antarctic ambassadorship, expressing the hope that visitors will become advocates for the continent's conservation upon returning home:

> "With lectures and film presentations to complete our Antarctic experience, there is still plenty of time to enjoy the magic of the Southern Ocean and the life that

> calls it home. There is time for reflection and discussion about what we have seen and experienced. We hope you become ambassadors for Antarctica telling your family, friends and colleagues about your journey to this magical place, advocating for its conservation and preservation so that they might one day visit the region to experience what you have been lucky to see and do here" (Aurora Expeditions, 2025).

While many operators emphasize minimizing environmental impact and adhering to guidelines, this quote is a rare explicit articulation of why tourism could benefit the continent. Other potential benefits include citizen science projects, which invite tourists to contribute to environmental protection through data collection. There is also an absence of talk about climate change and its effects on the continent. Only in one ad, there is an explicit mention of it in the form of the ice shelf that continues to shrink at an alarming rate (Princess, n.d.).

These tour operators are commercial enterprises with a vested interest in attracting visitors to Antarctica, as their profits depend on tourist travel. In doing so, they appropriate the natural and cultural elements of the region and commodify them for financial gain (Mostafanezhad, 2020, p.435). Their advertisements reveal how parts of Antarctica, and the discourses surrounding it, are shaped and marketed for consumption:

> "Storied and sought for centuries, the great White Continent beckons intrepid modern-day explorers from all over the world. Experience incredible wildlife, stunning scenery and gigantic icebergs on this one-of-a-kind voyage to the Antarctic Peninsula in the peak of the southern summer!" (Albatros Expeditions, 2025).

This excerpt, drawn from a promotional description of a cruise from Ushuaia to the South Shetland Islands and the Antarctic Peninsula by Albatros Expeditions, exemplifies many of the recurring themes in Antarctic tourism marketing. Written in bold, attention-grabbing text, it highlights the core narratives these companies commodify.

First, there is the discourse of adventure and exploration. These trips are not positioned as ordinary cruises; instead, they are presented as extraordinary and transformative experiences. As G Adventures frames it:

> "Join us on a true adventure to a world of immense scale and visual splendour" (G Adventures, 2025).

This sense of adventure is often linked to the legacy of historical explorers, whose footsteps modern visitors are invited to follow. The uniqueness of Antarctica is emphasized as a rare and exclusive destination, far beyond the reach of ordinary tourism. Visitors are promised access to the world's most isolated and pristine areas, making the journey a 'once-in-a-lifetime' opportunity.

A critical selling point for these tours is the wildlife. Advertisements often promise extraordinary encounters with the continent's iconic species:

> "Enormous icebergs rise from the sea, hillsides are covered with thousands of penguins and seals basking on icebergs dot the channels and straits we will sail though; the sights, sounds and emotions will stay with you forever" (Noble Caledonia, 2025).

Penguins are the most frequently highlighted, with only one advertisement failing to mention them explicitly. Whales, seals, and a variety of other birds are also prominently featured. Wildlife is described as 'captivating,' 'iconic,' and integral to the adventure discourse, where encounters are once again framed as "(…) once-in-a-lifetime wildlife viewing" (Viking Cruises, 2025).

The landscape itself is another commodified element. Framed within the narrative of isolation, Antarctica's environment is described as wilderness: pristine, untouched, and "the world's last truly wild frontier" (Viking Cruises, 2025). Advertisements often use a blend of awe and reverence to depict the sublime nature of the Antarctic landscape. Words such as 'immense,' 'enormous,' 'majestic,' and 'grand' are paired with descriptors like 'beautiful,' 'alien,' and 'dramatic.' The imagery is meant to evoke a sense of wonder, portraying Antarctica as otherworldly and hard to grasp - far removed from the ordinary.

Some advertisements take this portrayal even further, infusing the Antarctic experience with ethereal or mystical qualities:

> “Succumb to the magic of a place unlike any other. To this day, the mythical Antarctic Peninsula still holds real fascination and promises its visitors unforgettable moments” (Ponant, 2025).

Ultimately, Antarctica is marketed as a truly unique destination; a world apart, where awe-inspiring landscapes and wildlife create an experience so remarkable it verges on the magical.

3.4 Tourists’ perspective

To understand tourists' perspectives on Antarctica, I analyzed 30 YouTube videos in which content creators documented their travels to the continent. While not all creators physically set foot on Antarctica, they all visited the region, with some traveling aboard large cruise ships that only allowed them to view the Antarctic Peninsula's coast. Of the 30 videos, 28 involved cruise ships as the primary mode of transportation, focusing on the Antarctic Peninsula and its nearby islands. The remaining two videos featured travelers who flew to the continent.

Collectively, these 30 videos have garnered over 229 million views. However, this figure is skewed significantly by the immense popularity of the video ‘I Survived 50 Hours in Antarctica*’* by MrBeast, which has amassed 220 million views as of January 2025 (MrBeast, 2022). The remaining 29 videos collectively account for approximately 9.2 million views as of the same date. Despite this disparity, these videos offer valuable insights into tourists' experiences and perceptions of Antarctica. Tourists represent a critical stakeholder in discussions about the future of tourism and human activity on the continent (Tejedo et al., 2024, p.6).

Moreover, these videos allow a much broader audience to engage with Antarctica through the eyes of the creators, even if they cannot visit the continent themselves. For example, MrBeast’s video alone has potentially exposed 220 million viewers to an impression of Antarctica, a scale of outreach that holds immense potential. This is particularly relevant in light of goals like SCAR’s efforts to increase public awareness of Antarctic issues (SCAR, 2023, p.3). Such content has the power to shape the public imagination and foster a greater understanding of the challenges facing this unique region.

3.4.1 Audio representation

In the analyzed YouTube videos, a clear discourse of adventure emerges. Despite most journeys being undertaken on luxury cruises, expressions such as “welcome to the edge of the world” (TravelOnlyWithKen, 2024, 0:43-0:47), “this is true unquestionable extreme exploration” (Jeb Brooks, 2023, 4:58-5:02), and “it wasn’t like any type of cruise. It’s an expedition” (A Cup of Joe with Go, 2022, 20:09-20:13) are prevalent. These descriptions frame the experience as an adventure, encapsulating the immersion in nature and wilderness, which aligns with Frost’s (2021) definition of frontier tourism:

> “These frontiers, as a cultural construct, have often been conceptualized as spaces in which the immersion in nature or wilderness and the risk inherent in this travel facilitates transcendent or sacred experiences” (Frost, 2021, p.351)

This portrayal is reinforced through depictions of Antarctica as a wilderness largely untouched by human presence. Statements like “less than 10 people have ever stepped here” (MrBeast, 2022, 5:10-5:13), “there is so much space just unexplored” (Alexyn Photo & Video, 2020, 39:50-39:54), and “only 0.07 percent of the population will ever see Antarctica. It is the rarest and most remote place on planet” (The Travelclast, 2024, 0:06-0:14) emphasizes the continent’s pristine and remote nature. Words such as pristine, rare, beautiful, remote, vast, and untouched frequently describe the Antarctic environment. This wilderness is often contrasted with the luxury experienced on the vessels, as noted by statements like, “it [the luxury of the ship] can almost make you forget you are in one of the most hostile environments on the planet” (The Travelclast, 2024, 5:17-5:22) or “while the onboard experience was exceedingly luxurious, the environment when we touch down will be one of the hardest the planet could provide” (Jeb Brooks, 2023, 1:54-2:02).

Adventure, as a discourse, also necessitates an element of risk. Travelers frequently present their trips as more than simple vacations. For example, one creator noted, “it is not as straightforward as just going on a simple cruise. This is a real adventure” (Paddy Doyle, 2024, 3:58-4:02). The Drake Passage, renowned for its turbulent waters, was often highlighted as a challenging rite of passage to reach Antarctica’s beauty. Danger was also linked to Antarctica’s extreme environment, as seen in MrBeast’s video named ‘I Survived 50 Hours in Antarctica’, where the focus was on enduring the cold, the wind, and the harsh weather (MrBeast, 2022).

This portrayal of survival implicitly conveys the possibility of death, as another creator remarked, “no one can get stuck in a hidden crevasse and you know like dies” (Alexyn Photo & Video, 2020, 16:32-16:35). While this degree of portrayed risks is the exception, the overall narrative emphasized the harshness and dangers of the journey.

The reward for overcoming these challenges, however, is portrayed as transcendent. The creators frequently described their experiences using terms like ‘ethereal,’ ‘magical,’ and ‘otherworldly.’ For example, “ the most ethereal location that you have ever seen” (The Travelclast, 2024, 7:57-7:59), “all I can say is that it is magical and beautiful, unbelievable and stunning” (Camilla, 2024, 6:01-6:07), and “if we can make it there safely and if we can navigate the ice, what awaits us will be truly magical” (Paddy Doyle, 2024, 0:43-0:51). This depiction of Antarctica as an awe-inspiring and otherworldly destination contributes to its allure as a bucket-list destination.

A significant part of this discourse involves following in the footsteps of historical explorers. Nearly half of the videos reference notable figures like Francis Drake, Ernest Shackleton, or Roald Amundsen, emphasizing the connection between modern travelers and these historic adventurers. Historical landmarks and remnants left behind by explorers are reimagined as tourist attractions and were never portrayed as something diminishing the beauty or pristineness of the continent. For two creators, stepping in the footsteps of these pioneers was a primary motivation for their journey. Their discourse around human history on the planet shows an idealized understanding of the human past in Antarctica. It portrays Antarctica as an empty place as there is a lack of nations, a lack of culture and lack of colonialism that motivated the past and presence (Glasberg, 2016, p.206).

Other motivations for visiting Antarctica included seeing its wildlife, particularly penguins, and experiencing its unique natural landscapes. Nearly half of the creators mentioned Antarctica as a bucket-list destination, often framing it as the ‘seventh and final continent’ to visit, making it a symbolic achievement in their travels.

The IAATO places significant emphasis on its ambassadorship program, which aims to cultivate visitors as advocates for Antarctica’s conservation (IAATO, 2025f). However, the reflections of this program in the videos were limited. Educational experiences were mentioned in about half of the videos, typically referring to expert teams or optional lectures on board the ships. In rare

cases, videos detailed more comprehensive offerings, such as science centers and active scientists on board. One notable critique came from KenTravels360 (2022), who highlighted the lack of enriching lectures as a downside of their experience:

> "But unfortunately, there were hardly any talks of that nature. One day when bad weather cancelled the zodiac cruising in the afternoon, we were treated to a very interesting talk by a naturalist about sex in the animal kingdom. Sadly, that kind of in-depth talk only happened once during our expeditions. We really could have done with lectures before going out to see wildlife or spot whales and history lessons before visiting Deception Island for example. I have no idea why they haven't done so. Talking to other cruisers on board, they expressed the same disappointment. (…) It is not as if there is no time to do it as every day after lunch there is a lull with no activities for an hour or two" (KenTravels360, 2022, 5:45-6:50).

The creator noted that while more lectures were offered on the return journey, they felt they would have been more impactful earlier in the trip. This lack of emphasis on education reflects a missed opportunity for fostering ambassadorship (KenTravels360, 2022).

In contrast, sustainability and preservation efforts were much more prominently represented in the videos. Commonly mentioned practices included disinfecting shoes, adhering to regulations, such as maintaining distance from wildlife and limiting the number of visitors onshore, and ensuring no trace of human presence was left behind. These elements were consistently highlighted, reinforcing the commitment to minimizing the impact of human activity on Antarctica.

3.4.2 Visual representation

Since my data comes from YouTube videos, the visual elements provide essential insights alongside the audio. A prominent theme in the analyzed videos is wildlife imagery. Penguins feature in every video, often accompanied by footage of other species such as whales, seals, and a variety of birds. This prominence is unsurprising, given that wildlife tourism is a rapidly growing global industry (Curtin, 2005, p.3). Wildlife tourism exemplifies the commodification of nature, which is occurring across the globe (Belicia & Islam, 2018, p.4). The economic value

of wildlife becomes especially apparent when considering examples like tigers in India: a single tiger in one of the country's most visited reserves is estimated to generate $130 million USD over its lifetime (Macdonald et al., 2017, p.138). This demand arises largely because most people rarely encounter wild animals in their everyday lives (Curtin, 2005, p.3) and to reconnect with nature (Curtin & Kragh, 2014, p.546).

The discourse surrounding wildlife viewings in the analyzed videos mirrors broader global narratives and patterns. Human interactions with wildlife are predominantly shaped by human interests, while the interests of the animals are rarely addressed explicitly (Cohen, 2012, p.201). In the videos, concern for the animals is limited to adhering to rules, such as maintaining a required distance from penguins and refraining from disturbing seals after extended observation periods.

Alongside the wild animal sightings, the natural landscapes and icy terrains of Antarctica were extensively showcased. However, contrary to the expectation of pure, uninterrupted ice fields, the imagery primarily depicted a mix of solid ground covered with ice and snow, as well as icebergs floating in the surrounding waters. The exception to this was a video in which the creators flew to the literal South Pole, where the imagery of pure ice landscapes was much more prominent (Jeb Brooks, 2023). This difference stems from the fact that most cruise itineraries focus on the Antarctic Peninsula and nearby islands, where the landscape is more varied and less dominated by endless ice fields.

Figure 4: Screenshot of human interference in Antarctic nature (EatSleepCruise, 2023, 10:42)

Figure 4 depicts such a scene. There, the visitors were able to do a shore landing on an ice-free beach and were treated to some penguin sightings. This depicts a small group, compared to other penguin colonies. In the picture, there are also several cones visible. Those mark where the tourists were allowed to step and where they were not in order to protect the fragile elements of nature and the penguins from too much stress.

Interestingly, while Antarctica is often described as remote and pristine, the videos frequently included visual evidence of human presence on the continent. This did not just include the cruise ships (see figure 5) or related infrastructure necessary for the tourists' experience, which were understandably given significant screen time, but also traces of past and ongoing human activities. Out of the 30 videos, only three excluded any evidence of human activity beyond that of the creators and their travelling group. The remaining 27 included visuals of research stations, ruins of old whaling stations, a shipwreck, rusty silos and barrels, and other ships encountered during their journey. One example of this is figure 4, where there is some sort of rusty structure in the background. This does not get commented on in their video. While the wildlife gets the attention, both in the video and from the people visible in the picture, it is simply a part of the backdrop.

This juxtaposition is striking, as it contrasts with the narrative of Antarctica as a pristine wilderness. Despite emphasizing isolation and untouched nature, the creators did not shy away from showing these human-made elements. Surprisingly, these visual reminders of human activity did not seem to diminish the discourse of remoteness and wilderness but rather coexisted with it in the presentation of their journeys. This is the case with random structures as shown in figure 4, but it also holds true for the cruise and zodiac ships used to travel. Both are used in a wide variety of landscape shots. An example hereby is figure 5:

Figure 5: Screenshot of Antarctic cruise ship in front of an icescape (Adventures In NoMadness, 2023, 13:52)

Figure 5 depicts a common imaginary shown: a white and frozen continent with even more ice in the sea. Their cruise ship is not in the foreground but positioned in a way that allows the massive ship to be almost small in comparison to its surrounding landscape. This shot is quite exemplary as it seemingly tries to capture the beauty and vastness of the continent.

The sublime nature is shown even better in figure 6. This is a screenshot from MrBeast's video (2022). It shows the moment they ascended to the peak of a mountain. At this several overlapping discourses are recognizable: Firstly, there is the discourse of adventure, as they claim, "this is by far the hardest thing we have ever done" (MrBeast, 2022, 1:39-1:42). This extreme challenge comes with a clear sense of exploration as they say they can name the mountain however they want since it does not have a name yet. According to the video, no one has ever climbed it before and less than 10 people on earth have ever been at the foot of the mountain. In their discussion while climbing they discuss the nature as beautiful, otherworldly and terrifying playing into its sublime nature (MrBeast, 2022).

Figure 6: Screenshot of sublime Antarctic nature (MrBeast, 2022: 7:29).

3.5 Cross-cutting discourses

3.5.1 Natural area devoted to peace and science

When comparing the imaginations of different stakeholders regarding Antarctica, at first glance, there appear to be numerous similarities. They are largely rooted in sedimented discourses that have shaped the collective understanding of the continent. One of the most prominent and widely accepted designations is that of Antarctica as a natural reserve devoted to peace and science (Antarctic Treaty Consultative Parties, 1991, p.2). Although this characterization is not an objective truth but rather a political construct, it remains uncontested among many stakeholders. The final part of Article 2 of the Protocol has emerged as a nodal point; a central concept around which broader discourses are structured (Jorgensen & Phillips, 2002, p.28). Both the IAATO (2025a) and SCAR (Hughes et al., 2023, p.441) operate firmly within the framework of Article 2 and show no indication of questioning or challenging it.

The adoption of this nodal point can be traced back to the Protocol, which was introduced in 1991. Prior to this, the framing of Antarctica's purpose looked somewhat different. When the Antarctic Treaty was first signed in 1959, its primary focus was on maintaining peace, particularly in the context of the Cold War geopolitical climate. The emphasis on environmental protection only began to emerge prominently after the establishment of the ATS, which laid the groundwork for more comprehensive environmental policies. Even in its early stages, there was

a clear recognition of the urgent need to conserve the living resources of the region and to shield them from human interference and destruction (Bastmeijer & van Hengel, 2009, p.62-63).

While Article 2 of the Protocol has become a nodal point for key organizations such as SCAR and IAATO, its meaning remains fluid and open to interpretation, a hallmark of nodal points as conceptualized in discourse theory. It is only through examining specific discourses that the meaning begins to solidify and take on concrete significance (Jorgensen & Phillips, 2002, p.28). For the purposes of this analysis, the attention is focused on the key signifiers mentioned in Article 2, namely, the natural environment and science. Although the discourse surrounding peace would undoubtedly offer valuable insights into how Antarctica is imagined and its implications for the continent's governance and use (Yao, 2021, p.1008), this aspect lies beyond the scope of the present dataset.

3.5.2 Natural reserve

At face value, the designation of Antarctica as a natural reserve suggests a level of environmental protection. However, the extent of this protection is not always clear. While the status implies certain safeguards, it does not necessarily align with the stringent protections often associated with designated 'protected areas.' If the standards outlined in the Protocol are adhered to, activities by any stakeholder - regardless of their underlying interests - are permitted (Bastmeijer & van Hengel, 2009, p.71). This includes commercial and for-profit activities, which are generally allowed under the Protocol (Tin et al., 2018, p.381).

Nevertheless, the foundational principle of designating Antarctica as a natural reserve underscores the need for comprehensive environmental protection across the entire continent and its surrounding islands (Bastmeijer & van Hengel, 2009, p.78). While the Protocol provides a framework for balancing human activity with conservation goals, the tension between facilitating access and preserving the environment continues to pose challenges for the governance of this region (McLean & Rock, 2016, p.301).

3.5.3 Environmental Protection

> "There is a long tradition of describing Antarctica as a screen upon which values, commitments, and desires are projected, from nationalism and imperialism to

> personal gain and—more recently—environmental protection, and science" (Roberts, 2016, p.107).

All stakeholders appear to agree on the need for the protection of Antarctica, though their approaches and areas of focus differ. For SCAR, this encompasses both local and global human activities that negatively impact Antarctica, whether through direct physical presence on the continent or by contributing to global phenomena such as climate change (Hughes et al., 2023, p.452). In contrast, IAATO and the tourism industry primarily focus on their own activities, with the stated goal of ensuring no more than a minor, transitory impact while advocating for and promoting safe and environmentally responsible travel to Antarctica (IAATO, 2025a). Although IAATO has developed a climate change pledge (IAATO, 2023c, p.4), this broader issue is only minimally addressed in their data. Only in their Ambassador program is climate change and the behavior of people at home a key issue (IAATO, 2025e). It is similarly underemphasized in the advertising materials for Antarctic cruises.

Both the advertisements and tourist-generated content, however, frequently highlight local sustainability and preservation efforts. One of the key reasons cited for protecting Antarctica is its unparalleled uniqueness, a quality explicitly acknowledged by all stakeholders (IAATO, 2024a, p.4 & SCAR, 2017, p.34). The concept of uniqueness has become a central signifier in describing the continent and its appeal across different stakeholders. For example, SCAR emphasizes the distinctiveness of Antarctica's features:

> "Antarctica contains many unique geological, paleontological, glaciological, and biological features" (SCAR, 2018b, p.1).

SCAR views this uniqueness as an opportunity to study Antarctica's critical roles in Earth's climate system (SCAR, 2023, p.7), its unique records of past climatic and environmental conditions, and its function as an unparalleled scientific laboratory for research that cannot be conducted anywhere else on the planet (SCAR, 2023, p.39 & SCAR, 2025c).

While SCAR provides detailed explanations of the qualities that make Antarctica unique, IAATO takes a more general approach. Its materials emphasize the uniqueness of the landscape (IAATO, 2025e), environment, and wildlife (IAATO, 2025g), without elaborating on the specific characteristics that make them distinctive. However, the 'uniqueness' discourse is heavily

commodified. The commercial value of this idea of uniqueness becomes evident in advertising materials, where everything from the 'unique wildlife' to the 'unique landscapes,' 'unique and personal experiences' offered by cruises, 'unique opportunities' for citizen science participation, and even 'unique' features of the vessels themselves are heavily marketed. This emphasis on uniqueness has clearly resonated with tourists, who predominantly highlight the landscapes, wildlife, especially penguins, and the sheer opportunity to travel to Antarctica as uniquely significant aspects of their experience.

This widespread agreement on the importance of protecting Antarctica raises the question of what, precisely, is or should be protected. From a policy perspective, this is addressed in Article 3 of the Protocol, which states:

> "The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area" (Antarctic Treaty Consultative Parties, 1991, p.2).

The policy highlights the need to protect ecosystems, flora and fauna, wilderness, aesthetic values, and Antarctica's intrinsic value as a site for scientific research (Antarctic Treaty Consultative Parties, 1991, p.2). However, the policy offers no explicit definitions or guidelines for how wilderness and aesthetic values should be interpreted or implemented in practice (Summerson & Tin, 2018, p. 268). Without a unified definition, these terms function as floating signifiers, concepts whose meanings and implications shift depending on the discourse in which they are embedded.

3.5.4 Wilderness

While the concepts of wilderness and uniqueness are not necessarily part of the same discourse, there is a clear intersection between the two. The wilderness discourse can be utilized to draw comparisons between Antarctica and other wilderness areas globally. However, Antarctica occupies a unique position, as it is frequently used to establish a baseline of what constitutes wilderness (Tin et al., 2016, p.323). Common phrases such as 'the last great wilderness'

illustrate the overlay between the uniqueness and wilderness discourses, granting Antarctica a distinctive status while still positioning it within a broader, comparable state of nature.

When examining the concept of wilderness, it is notable that SCAR does not appear to use the term extensively. For instance, the term is entirely absent from SCAR's strategic plan for 2023–2028 (SCAR, 2023) and the document *Antarctic Climate Change and the Environment - A Decadal Synopsis and Recommendations for Actions* (Chown et al., 2022). Similarly, it is not mentioned in many of SCAR's policy advice materials or the code of conduct for terrestrial field research in Antarctica (SCAR, 2018b). This conspicuous absence raises questions about SCAR's interpretation of the concept.

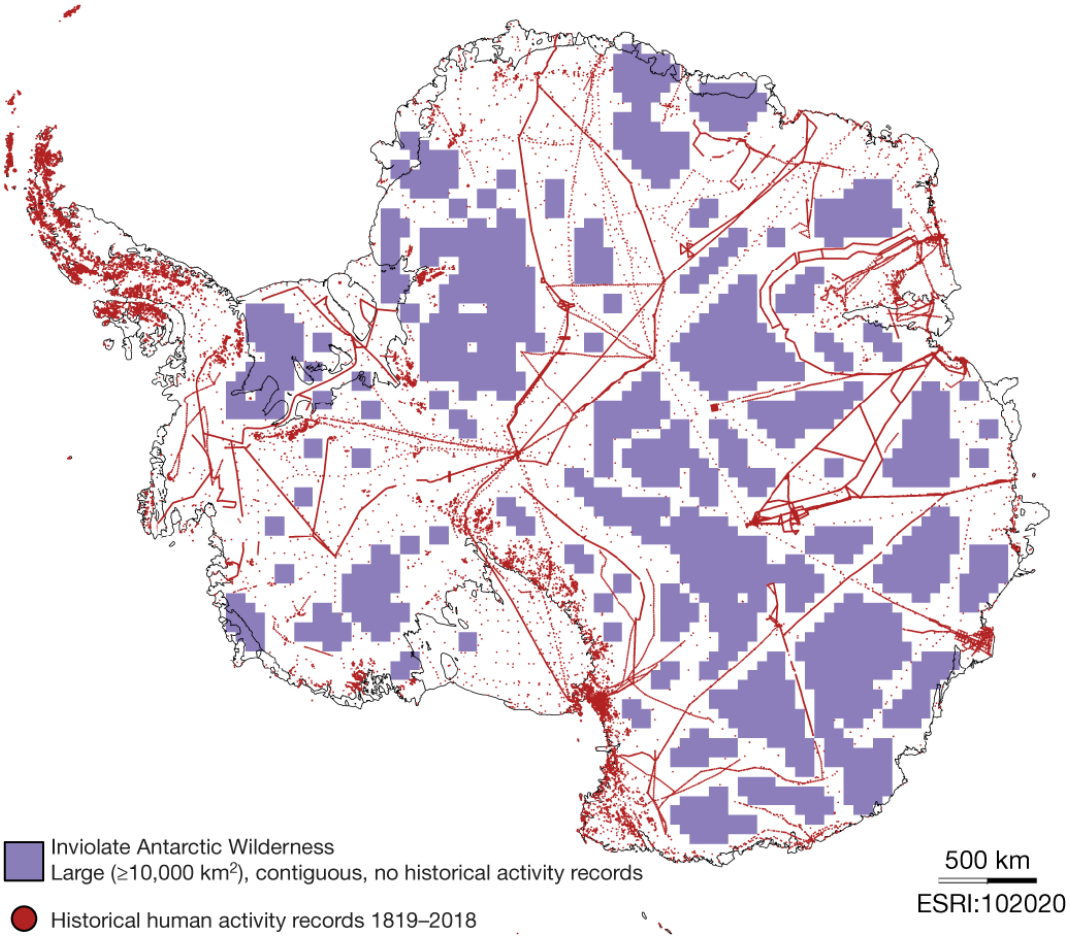

Figure 7: Inviolate Antarctic Wilderness areas

"Large (≥10,000 km²), contiguous, putatively inviolate areas free from human interference across Antarctica (purple squares). Lines of historical visitation records (red points, n = 2,698,429 records) indicate visited sites along transverse routes" (Leihy et al., 2020, p.569).

The reasons behind this omission remain speculative. However, exploring the broader research literature on Antarctica may provide insight. Leihy et al. (2020, p.569) assessed Antarctica's wilderness based on a definition that specifies wilderness as any contiguous area of land of at least 10,000 km² where the cumulative human impacts have been negligible or non-existent. Their findings, represented in Figure 7, highlight the spatial distribution of inviolate wilderness areas across Antarctica.

According to this figure, the Antarctic Peninsula, the region most frequented by visitors, lacks wilderness entirely. While the definition of wilderness applied by Leihy et al. (2020, 569-570) encompasses most of the continent, it excludes most of the area's biodiversity. Other scholars, such as Tin et al. (2016, p.323), have also expressed concern about the increasing fragmentation and diminishment of wilderness on the continent. Tejedo et al. (2022, p.13) go even further, arguing that Antarctica can no longer be considered pristine due to the lack of common monitoring strategies on the Antarctic Peninsula. Without comprehensive monitoring, it remains unclear whether human impacts are minor or transitory. These factors might explain why SCAR avoids using the term wilderness, as its applicability to Antarctica has become increasingly questionable. However, they use description like "Antarctica is known as the last pristine continent" (Hwengwere et al., 2022, p.2), remote (SCAR, 2023, p.35) and are calling for a minimization of environmental impacts (SCAR, 2018b, p.1). While they are not using the term wilderness itself, their understanding of nature still has wilderness quality.

IAATO, on the other hand, employs the term wilderness more frequently. For example, IAATO highlights the type of environment it seeks to protect in its best practices:

> "Our agreed best practices demonstrate that first-hand, environmentally responsible tourism is possible in remote and fragile wilderness areas" (IAATO, 2025a).

Here, wilderness is understood in terms of the relative absence of evidence of human activity or impacts (Summerson & Tin, 2018, p. 269). If this definition is accepted and holds true for Antarctica, IAATO can argue that it fulfills its mission of promoting environmentally responsible visitation to the continent (IAATO, 2025a). However, this claim hinges on Antarctica maintaining its status as a wilderness. If IAATO's practices resulted in significant environmental degradation, the wilderness narrative would no longer hold, undermining their assertion of

responsible tourism. In this understanding of wilderness, we can somehow leave nature untouched by our passage (Cronon, 1996, p.22)

In a blog post by IAATO's director of environment and science coordination, the concept of wilderness is framed as both subjective and multifaceted:

> "Perhaps how we *feel* a wilderness is as important as what we see. Different perspectives of wilderness can make it surprisingly hard to define, which in turn makes it challenging to protect at policy level. We need wilderness. It supports life on our planet and makes us feel good, but conserving it is an enduring challenge" (Lynnes, 2020).

This perspective reveals a marked contrast with SCAR's approach. There is a duality within the concept of 'wilderness'. It includes both a state of mind and a political aspect (Shultis, 1999, p.389). IAATO emphasizes subjective and emotional experiences of wilderness and is therefore concentrating on how it feels. Their understanding or usage of wilderness lays within the state of mind. SCAR on the other hand tends to focus on tangible, scientifically measurable impacts. For example, SCAR highlights the spread of antibiotic-resistant bacteria across the continent, which is neither easily seen nor felt (Hwengwere et al., 2022, p.11). SCAR's primary concerns center on identifying the impacts of climate change on the cryosphere and ecosystems, as well as Antarctica's role in the global climate system (SCAR, 2023, p.43). These priorities emphasize the unseen and systemic aspects of environmental change, in contrast to IAATO's focus on the perceptual and experiential qualities of wilderness. It would therefore fall under the second aspect of wilderness, seeing wilderness as a political construct which includes clearly defined qualities. However, there is no definition in the policy of Antarctica (Summerson & Tin, 2018, p. 268). That makes the concept of wilderness much harder to employ in such a way, a sentiment that IAATO agrees with (Lynnes, 2020).

Visitor perceptions of wilderness are also influenced by their personal experiences. As environmental qualities decline and wilderness objectively diminishes, it may paradoxically be perceived as more natural (Sæþórsdóttir & Hall, 2020, p.136). This is partly due to the global scarcity of wilderness areas, which limits the baseline understanding of wilderness against which tourists can compare Antarctica (Tin et al., 2016, p.323). Consequently, wilderness becomes a commodified attribute, marketed as a key draw for Antarctic tourism. This trend can

be seen similarly in other nature-based tourist destinations. Wilderness areas are promoted as sites for touristic consumption (Sæthórsdóttir et al., 2011, p.249).

While less than half of the advertisements explicitly mention wilderness, it is a common descriptor of Antarctica's natural environment. In tourist-generated content, wilderness emerges even more prominently, especially in the depiction of landscapes and wildlife. Tourists often convey a 'feeling of wilderness' through their photographs and videos, emphasizing emotional responses rather than the absence of visible human impact. This suggests that for many visitors, the perceived wilderness experience is more important than an untouched reality.

This discussion of wilderness leads to the related concept of aesthetic values. Although these values are explicitly mentioned in the Protocol, they are less prominent in the data from stakeholders. While stakeholders seldom use the term 'aesthetic values,' the beauty of Antarctica is a recurring theme, particularly in tourism advertisements and cruise materials. The promotional content and tourist narratives emphasize Antarctica's awe-inspiring visuals using descriptors such as 'immense,' 'majestic,' and 'otherworldly.' However, these terms rarely refer to specific features of the landscape. Instead, they focus on the collective emotional impact of the environment, evoking wonder and a sense of magic. Much like the concept of wilderness, aesthetic values in the context of Antarctic tourism prioritize the observer's emotional and sensory experience over detailed visual characteristics.

Understanding wilderness as a state of mind, as suggested by Shultis (1999, p.389), aligns closely with the perspectives of tourists and the tourism industry, where the emotional experience it evokes becomes a fundamental aspect of wilderness. This interpretation is not limited to Antarctica but can be observed in other regions worldwide. The example of tiger safaris in India provides a compelling case. Spotting a tiger in the wild is a rare occurrence, yet many tour operators guarantee tiger sightings by baiting the animals with meat to attract them to specific areas where they can be observed (Cohen, 2012, p.197). This practice has little to do with the regal definition of wilderness, yet Indias tiger reserves, where such encounters take place, are still sold as wilderness (Vasan, 2018, p.483). Nevertheless, such encounters allow tourists to engage with the world of wild animals and foster a sense of reconnection with nature (Curtin & Kragh, 2014, p.552). Importantly, the human influence underlying such experiences does not necessarily diminish the emotional response or the sense of wilderness that tourists emphasize

so strongly in their narratives and videos. Instead, the perception of wilderness remains intact, shaped by the feelings it evokes rather than its strict ecological or untouched definition.

3.5.5 Science

The second floating signifier under analysis is science. At first glance, science might appear as a straightforward concept, seemingly under the purview of SCAR. After all, the organization is named the 'Scientific Committee on Antarctic Research' for a reason. Traditionally rooted in natural science, SCAR has increasingly embraced interdisciplinary approaches, promoting the integration of social sciences and humanities into Antarctic research. This expansion reflects their goal of fostering a more holistic understanding of the continent, achieved by involving a broader array of disciplines and perspectives (SCAR, 2017, p.15).

However, SCAR is by no means the only stakeholder claiming involvement in scientific endeavors. The IAATO prominently aligns itself with science, leveraging its association in multiple ways. One such avenue is through citizen science projects, which have even featured in cruise advertisements. Citizen science is designed to democratize the scientific process, bringing the public closer to research by enabling non-experts to contribute to scientific initiatives. These projects often involve collaborations between professional scientists and the public to gather large datasets that would otherwise be difficult to collect (Bonney et al., 2016, p.3). For example, IAATO highlights a project in which whale and seal sightings reported by IAATO operators' vessels are used to create comprehensive wildlife presence maps (IAATO, 2024c). Such initiatives have demonstrated their potential benefits, as citizen science not only increases scientific understanding but can also influence participants' future attitudes and behaviors toward the environment (Bonney et al., 2016, p.16). IAATO encourages tourists to participate in these projects by submitting photographs of whales, monitoring seal populations, counting penguins, or even identifying cloud formations (Smith, 2022).

Despite their potential, citizen science projects remain relatively niche within the broader scope of both IAATO's and SCAR's activities. A more prominent initiative from IAATO is its Antarctic Ambassadorship program. This initiative is heavily promoted and organized, featuring an Antarctic Ambassadorship Day, a global map of ambassadors, and a dedicated committee overseeing the project (IAATO, 2025c). The ambassadorship program aims to inspire participants

to advocate for the region, educate others about its significance, and take actionable steps to protect it back home (IAATO, 2025e):

> "Did you participate in any science onboard? Can you share the science? When you share your iceberg photos, perhaps explain what you learned about how climate change is impacting Antarctica? Did you manage to capture a photo of you washing your boots or vacuuming your backpack? Most have never thought about invasive species before their trip to Antarctica – share the photo of your penguin poop-filled boot tread and explain the risk of non-native species" (Smith, 2022).

IAATO describes this initiative as an opportunity for travelers to share their experiences and newfound knowledge to raise awareness about the importance of Antarctica. For instance, IAATO encourages ambassadors to reflect on their participation in science during their trip, whether by explaining how climate change affects the region, sharing photos that highlight responsible practices like cleaning boots to prevent the spread of invasive species, or educating others on the unique challenges faced by Antarctica (Smith, 2022).

The underlying philosophy of this program is that engagement with science, combined with the learning and emotional connection fostered by Antarctic travel, creates a profound sense of stewardship for the region. IAATO states:

> "It's our belief that Antarctic expeditions with responsible and robust environmental practices at their core create among visitors a greater understanding of the environment, Antarctica's value to global science and how changes to the region can impact us all. This is why responsible travel can create Antarctic Ambassadors" (IAATO, 2025e).

Through this combination of science, education, and personal engagement, tourists are expected to return home with a stronger connection to the region. This connection, it is hoped, will inspire them to educate others by sharing their stories, advocate for Antarctica through public discourse or policy support, and adopt sustainable practices to contribute to the region's protection (Smith, 2022).

In this context, science is positioned not merely as a means of acquiring knowledge but as a tool for fostering global awareness and action. SCAR's focus on scientific rigor and interdisciplinary research contrasts with IAATO's understanding and self-assessment of being part of the scientific endeavor. Both perspectives agree on the vital role of science, a role science has been occupying since the early exploration of Antarctica where science was used as a marker of civilization advancement to legitimize colonial claims of land on the continent (Yao, 2021, p.1003). While this part of history is largely ignored, IAATO and SCAR see science as the key for understanding and protecting Antarctica. This multifaceted framing of science highlights its status as a sedimented discourse where stakeholders must put themselves inside of it. However, its meaning is still a contested floating signifier, with the limits of science shifting depending on the stakeholder and their discourse.

3.5.6 Wildlife Tourism

Wildlife tourism, including the activities conducted in Antarctica, can be understood as part of a broader and rapidly expanding trend of non-consumptive wildlife tourism. This form of tourism focuses on observing wild animals in their natural habitats rather than exploiting them for consumptive purposes, such as hunting. Tour operators capitalize on indigenous, iconic, and charismatic species to attract tourists. Antarctica's wildlife tourism, which prominently features species like penguins, seals, and whales, mirrors similar trends seen in other parts of the world. For example, the rapid growth of visitors to the tiger reserves in India exemplifies the global rise of such tourism ventures (Curtin & Kragh, 2014, p.545).

The underlying logic of wildlife tourism remains consistent across contexts, whether it involves tracking jaguars in the rainforest, going on a whale-watching expedition, or spotting penguins on the Antarctic continent (Curtin, 2005, p.2-3). Tourists are driven by the desire to observe animals in their natural surroundings, which offers a sense of connection to the wild. This connection is often heightened by the unique experiences of searching for, anticipating, and finally encountering the animals. For instance, observing a lion in Africa entails much more than simply seeing the animal. It is about sharing the same space, stepping into its world, and experiencing its life as authentically and directly as possible. This sense of immersion and authenticity lies at the heart of wildlife tourism's appeal. Curtis and Kragh (2014, p.576) have summarized this wildlife experience in figure 8.

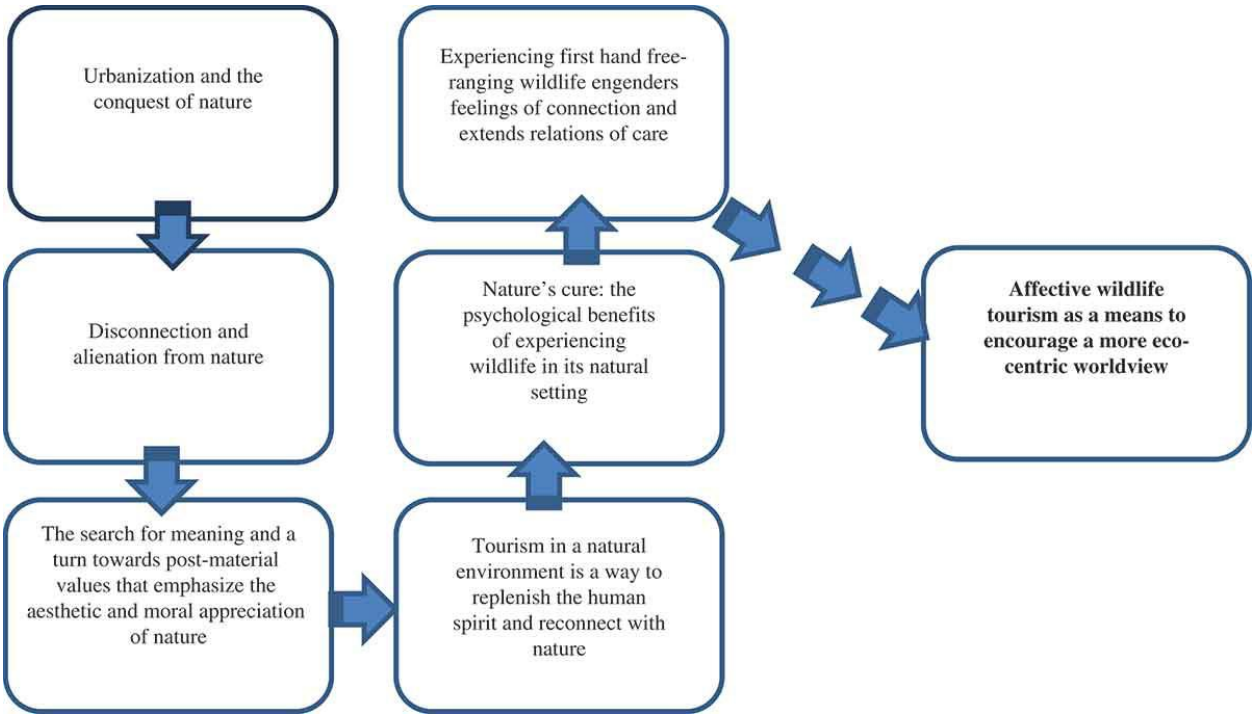

Figure 8: Wildlife tourism as a way to reconnect people with nature (Curtin & Kragh, 2014, p.547).

Experiencing wildlife firsthand is often argued to foster a stronger emotional connection to nature and heightened environmental awareness, which in turn could support conservation efforts. This idea underpins much of the discourse surrounding non-consumptive wildlife tourism, with proponents emphasizing its potential to inspire tourists to become advocates for preservation and sustainability. By witnessing animals in their natural habitats, visitors may develop a deeper appreciation for biodiversity and feel compelled to take action to protect it (Curtin & Kragh, 2014, p.547).

However, while this claim is compelling in theory, the reality is far more complex. Evidence indicates that the majority of wildlife tourism activities can have significant negative impacts on animal welfare and conservation status (Moorhouse et al., 2015, p.12). Figure 8 and the discourse surrounding wildlife tourism illustrate that Antarctica might not be as unique as often portrayed in this context. The underlying rhetoric aligns closely with that found in other wildlife tourism scenarios examined in Curtin and Kragh's analysis (Curtin & Kragh, 2014, p.547).

Tourists are encouraged to contribute to conservation efforts by visiting Antarctica or any other nature place, with the promise that such travel will foster a deeper appreciation of the region's natural environment. Upon their return, it is hoped that this newfound connection will inspire

an eco-friendlier lifestyle, a shift in worldview, and support for conservation efforts (Curtin & Kragh, 2014, p.547). However, researchers studying the phenomenon have raised critical questions about the legitimacy of these purported benefits, suggesting that the positive claims often made by the industry may not hold up under scrutiny (Moorhouse et al., 2015, p.12).

3.6 Friction between the stakeholders

3.6.1 The Ambassador Program

While the Antarctic Ambassadorship program is championed by IAATO, its impact has been analyzed critically by researchers outside of SCAR or IAATO. Their conclusions are often less optimistic. Still, studies have identified a measurable learning effect among returning tourists. For instance, Vila et al. (2016, p.459) observed increased environmental awareness specific to Antarctica. Cajiao et al. (2022, p.11) noted that this effect is most prominent when visitors engage directly with science, as such interactions enhance both perceived and measurable learning outcomes and improve overall trip satisfaction. Powell et al. (2008, p.238) similarly reported positive environmental learning outcomes, with a large percentage of the acquired knowledge being retained three months after the trip.

However, despite these findings, tourists often fail to fulfill the role of ambassadors upon their return. The knowledge gained tends to center around iconic wildlife, such as large resident animals, rather than the functional or ecological aspects of the environment (Vila et al., 2016, p.459):

> "Tour operators in Antarctica seem to fail making the connection between ecosystem health and corporate performance and the future risks to their own activities arising from possible degradation of the ecosystem and the role it plays" (Vila et al., 2016, p.459).

In my own analysis of the tourist videos, this sentiment is reflected. The concept of becoming an ambassador upon returning home is entirely absent from the videos. Instead, the shared knowledge within these videos predominantly focuses on the wildlife and the historical narratives of the continent. Broader discussions about the environmental systems of Antarctica or critical reflections on the tourists' own impacts on the region are either missing or rare.

Eijgelaar et al. (2010, p.346) did a study about Antarctic cruise tourism where they asked tourists whether they believed their travels had a large impact on climate change. 59% of the respondents did not believe this, 20% did not know and only 21% thought that traveling has in fact an impact. Furthermore, even if Antarctic tourism raises environmental awareness, such awareness often diminishes shortly after the trip. In many cases, it has been observed to fade within three months, and there is little evidence to suggest that these experiences lead to long-term changes in attitudes or more sustainable lifestyles (McLean & Rock, 2016, p.301). There is a rather weak link between awareness of climate change and actual changed behavior because of it (Eijgelaar et al., 2010, p.374). The tourists' videos that I have analyzed mirror this assessment. Climate change and the risk stemming from their own activities were seldom a topic discussed beyond showing the disinfection of the visitors' boots and similar mitigation strategies.

The idea behind the ambassadorship program is, in theory, admirable. SCAR, for instance, shares similar goals of communicating information about Antarctica to the public and promoting sustainability. However, SCAR's methods diverge significantly from IAATO's ambassador program. Instead of fostering individual ambassadors, SCAR utilizes social media, produces documentaries, and provides online platforms for direct engagement (SCAR, 2023, p.20). Given SCAR's similar objectives, one might wonder why it does not directly adopt or engage with the ambassadorship model. Despite many years of promotion, the ambassador program's benefits remain largely anecdotal and based on assumptions rather than empirical evidence (Varnajot et al., 2024, p.60).

This raises questions about whether the program is more symbolic than substantive. With the rapid growth of the tourism industry and its associated greenhouse gas emissions and pollution, the program's narrative may become increasingly hard to justify. There is concern that such initiatives might amount to greenwashing or sciencewashing, misleading the public by positioning the tourism industry as central to sustainability and science discourses in Antarctica (Varnajot et al., 2024, p.60). Especially, since this form of knowledge production gives legitimacy to the actors being in Antarctica (Yao, 2021, p.1001).

3.6.2 Communication across differences

Science has traditionally been the gatekeeper to Antarctica (Yao, 2021, p.1014). However, tourism is unlikely to disappear, as it is deeply intertwined with the geopolitical interests of countries seeking to legitimize their presence on the continent (Elzinga, 2016, p.280). The continent's governance operates under a consensus model (Hughes et al., 2023, p.444) and has proven slow to adapt to evolving circumstances (Tejedo et al., 2022, p.13). Consequently, collaboration among stakeholders is essential:

> "Communication and education about Antarctic science in partnership with other cultural and societal actors is essential to enable further appreciation of the value of Antarctica and the Southern Ocean for current and future human wellbeing, biodiversity, and the interdependence of humans and nature" (SCAR, 2023, p.30).

Recognizing this need, there are some collaborative initiatives underway. For example, SCAR and IAATO are working together on a systematic conservation plan for the Antarctic Peninsula. This project aims to facilitate the concurrent management of biodiversity, science, and tourism (IAATO, 2023c, p.5).

Despite similarities in their stated values, stakeholders interpret key concepts differently. For instance, while all the analyzed stakeholders on principle agree on the importance of protecting wilderness values, the term 'wilderness' is understood in varied ways. Effective collaboration can bridge these differences, fostering shared knowledge and offering multiple perspectives that might otherwise be overlooked (Tsing, 2005, p.81).

However, collaboration and broader public outreach present their own challenges, even though the values placed on the continent are similar across the various stakeholders. This following framing could inspire climate action:

> "It would seem the intrinsic values of Antarctica's wilderness and wildlife, above and beyond its instrumental values to science, tourism and future mineral extraction is a solid working frame for science communications. It is also understood as a key component of the Earth's climate system. This gives hope that the

> powerful aesthetic of Antarctica, valued so profoundly by researchers and public alike, may be enough to influence our future climate actions" (McLean & Rock, 2016, p.303).

At the same time, the tourism industry commodifies these values, which risks attracting even more visitors to Antarctica and further degrading the very wilderness they seek to protect. For instance, 'wilderness' as a scientific concept might serve as a cautionary tale about the fragility of nature (Tin et al., 2016, p.323). Yet, for the tourism industry, it becomes a powerful marketing tool, drawing more visitors and inadvertently contributing to the degradation of Antarctica's pristine environment.

3.6.3 Exploration

While most of the values appear to be aligned across the stakeholders analyzed, there is a notable divergence in how Antarctica is perceived. For the tourism industry, Antarctica is predominantly portrayed as a grand adventure, where visitors can retrace the footsteps of heroic explorers from the past. This narrative is less pronounced within SCAR and the scientific community, where the role of science in Antarctic exploration is acknowledged but not extended beyond this mention (Hughes et al., 2023, p.466). Evans (2011, p.89) critiques the ATS for its reliance on SCAR for technical advice in managing historical artifacts, even before SCAR included representatives from disciplines concerned with historical and cultural resources. This reveals a gap in recognizing the broader cultural and historical dimensions of Antarctica within the scientific governance framework. It is neglected even though scientists and explorers have made imperial claims on Antarctica's territory imbuing the scientific conquest of the continent with noble qualities while being agents of nationalist conquests and larger imperial imaginaries (Yao, 2021, p.1004-1005).

In contrast, the tourism industry capitalizes heavily on the theme of adventure and exploration. This motif is extensively commodified and features prominently in videos and promotional materials produced by tourists and tourism operators alike. Cruises are marketed as polar expeditions, emphasizing a struggle against the harsh elements and the treacherous seas. Like the commodification of wildlife experiences, these narratives allow visitors to feel a deep connection to the historical explorers of Antarctica. Tourists are presented with the opportunity to share the same space as these explorers, experiencing their challenges and hardships as directly and

authentically as possible. Artifacts and structures left behind by these historical figures, which might otherwise be seen as disruptions to Antarctica's wilderness, have instead become significant tourist attractions and popular sightseeing spots.

However, this romanticized narrative obscures the more problematic aspects of Antarctica's history. The exploration of the continent is deeply entwined with imperialism and colonialism; histories that are largely ignored in both tourism and scientific discourses (Antonello, 2016, p.183). Antarctica is often framed as a 'global common,' a place that belongs to all of humanity. This framing, however, fails to account for the disparate experiences of different regions and perpetuates the deeply unequal North-South relations that are characterizing global power dynamics. Rather than ensuring equal access, this narrative reinforces the dominance of industrialized Western nations (Antonello, 2016, p.197). Science, as the gatekeeper of the continent, further entrenches these imperial hierarchies by controlling access and knowledge production about Antarctica. Science in Antarctica continues to be shaped by the imaginations and narratives of the 'Heroic Age' (Yao, 2021, p.1000-1013) often unconsciously carrying forward unexamined assumptions (Hall, 1992, p.221). Enduring discourses frame the Antarctic wilderness as a natural laboratory and position science as a tool for legitimizing national interests, reinforcing the idea of a superior civilization imposing order on an otherwise untamed space. These imperial narratives persist within contemporary imaginaries of Antarctica (Yao, 2021, p.1000-1001).

4. Discussion

While the ATS has successfully preserved Antarctica as a zone of peace and cooperative scientific research, the language of the treaty itself is often vague and ambiguous (Triggs, 2011, p.39). Key values embedded in the treaty remain undefined, with no clear guidelines provided for how they should be interpreted or implemented (Summerson & Tin, 2018, p.268). This lack of precision has created challenges when addressing emerging issues. For example, in the past, controversies such as whaling and unregulated fishing in the Southern Ocean revealed significant delays in the system's ability to respond (Triggs, 2011, p.39). Even when compelling evidence is presented to support the need for policy or management interventions, decision-makers within the regime have often failed to act in a quick way (Hughes et al., 2023, p.465).

When it comes to tourism and its impact, there remains a lack of a common monitoring strategy and substantial gaps in data to accurately assess the growing human impact on the continent, particularly in areas where Antarctic tourism is most concentrated (Tejedo et al., 2022, p.13). There is some optimism that a consistent framework for regulating Antarctic tourism might be developed. In 2023, an agreement was reached to establish a new working group tasked with developing such a framework (Tejedo et al., 2024, p.6). However, the consensus-based decision-making process within the ATS, where a single objection can block the approval of policy proposals (Hughes et al., 2023, p.444), makes swift action unlikely. Especially since there is a direct link between tourism and the legitimation of various countries' presence in Antarctica (Glasberg, 2016, p.208). Therefore, simply waiting for policy changes seems ill-advised, particularly given that Antarctica is not merely a global common; nationalist aspirations are deeply interwoven into polar activities such as scientific research (Yao, 2021, p.1012). With the challenges Antarctica faces, including the urgency of climate change and tourism impacts, there is little time to lose (Hughes et al., 2023, p.466).

While governments may be slow to act and implement policy changes (Hughes et al., 2023, p.465), it falls upon stakeholders to take proactive measures themselves. Fortunately, a set of cross-cutting discourses exists among the key groups physically present in Antarctica. Tourists, tour operators, IAATO, and SCAR all agree that the environment is under threat, that Antarctica is a unique and invaluable place, and that science should play a central role on the continent. Wilderness is another value those stakeholders can agree upon, although SCAR does not explicitly use the term wilderness. It still advocates for preserving nature in as pristine a state as possible. Both my analysis and prior research support this conclusion (McLean & Rock, 2016, p.303).

Engaging with the discourses employed across different perspectives is inherently challenging, as these discourses do not remain static when they traverse the differences between stakeholders. In this process, they are translated, not in a literal sense, as the same word may still be used, but in the way the associated ideas, values, and practices are reshaped (Tsing, 2005, p.212). When discussing shared values or conducting studies to determine alignment, it is critical to remember that the concepts themselves are transformed through this translation (Tsing, 2005, p.224). Taking the example of science, there is a sedimented part of the discourse. While all stakeholders agree that science is a core value, depending on the perspective, different activities fall under that discourses umbrella. IAATO sees itself as a part of the scientific endeavor on the

continent through their logistic support (IAATO, 2025e), the ambassador program (IAATO, 2025h), citizen science projects (IAATO, 2025g) and the claimed benefits to conservation efforts stemming from those activities (IAATO, 2025f). Meanwhile, SCAR designates the IAATO explicitly not as a scientific body (Hughes et al., 2023, p.449). Depending on the stakeholder's position, the discourse contains therefore different elements.

In my analysis, I have identified discourses that are cross-cutting among various stakeholders. A shared understanding emerges that Antarctica is a natural reserve dedicated to peace and science (Antarctic Treaty Consultative Parties, 1991, p.2). This designation remains uncontested across different groups, including SCAR, IAATO, cruise advertisements from IAATO member companies, and the tourists themselves. However, discourse surrounding a shared value can invoke different meanings and associations. Inevitable, there is friction found in those encounters (Tsing, 2005, p.6). This makes terms like 'uniqueness,' which are frequently invoked, floating signifiers: words whose meanings shift depending on the discourse and the stakeholder using them. Consequently, it is vital to move beyond the buzzwords commonly associated with Antarctica and examine the meanings behind them, as well as how those meanings and associations evolve when carried across different contexts and perspectives.

SCAR has conducted scientific research in Antarctica for over 60 years and has played a central role in defining the vision and goals of Antarctic science (SCAR, 2018a, p.1). Their contributions include groundbreaking discoveries such as identifying the Ozone Hole, uncovering the history of ice sheets, and documenting the diversity of marine life, among others (SCAR, 2018c, p.2). SCAR emphasizes that science provides the most effective means of addressing challenges and mitigating their impacts (SCAR 2023, p.43). However, SCAR is not the sole stakeholder in Antarctica, positioning itself within the realm of science. IAATO also supports scientific endeavors (IAATO, 2025a). By highlighting its contributions to research and collaboration with the scientific community, IAATO aligns itself with Antarctica's scientific mission. This positioning allows the tourism industry to present itself not as a driver of human activity and environmental change but as an ally in the effort to conserve Antarctica's unique ecosystems. IAATO further integrates science into the tourist experience by bringing researchers aboard its vessels to deliver lectures and educate travelers about Antarctica. Although these lectures are less frequently mentioned, they also appear in videos made by tourists. The hope is that visitors gain knowledge during their trip, share what they have learned upon returning home, and contribute to the protection of the region by fostering environmental awareness and adopting more

sustainable practices in their daily lives (IAATO, 2025e). However, on a more commercial level, the effectiveness of this approach has been questioned. Critics argue that such participation often appears largely symbolic, raising concerns that the industry is engaging in 'science-washing' (Varnajot et al., 2024, p.60). In my own analysis, the effectiveness of passing knowledge forwards does not seem to be extensive, especially when talking about larger environmental functions even though science and the lectures they have received were mentioned frequently. As a result, my analysis backs the feeling of sciencewashing more than an effective ambassador program. Sporadically, the lectures and information they received were used as an argument to choose one cruise over another, adding a sense of commercialization to the mix that mirrors the advertisements:

> "On board, the naturalists share with you the secrets of this unique ecosystem" (Ponant, 2025).

Science occupies a privileged role within Antarctica (Hughes et al., 2023, p.466). IAATO and its operators capitalizes on this by emphasizing its scientific commitment. This not only provides a justification for the presence of tourism in such a fragile ecosystem but also commodifies science and environmental protection. By presenting these values to travelers, operators integrate them into their marketing strategies, framing tourism as a positive force (IAATO, 2025e) while simultaneously profiting from such claims. However, this framing often overlooks the environmental costs associated with the growing touristification of the continent, including the increase in greenhouse gas emissions and pollution resulting from expanding tourism activities (Varnajot et al., 2024, p.60).

In a scientific context, Antarctica is undeniably unique. The region offers numerous research opportunities that cannot be replicated elsewhere on the planet (SCAR, 2023, p.39). This scientific exclusivity is what makes Antarctica particularly exceptional to SCAR. While both the tourism industry and tourists themselves also recognize this uniqueness, their perspectives significantly diverge from SCAR's. IAATO emphasizes the region's uniqueness in broad terms, highlighting its distinctive landscape (IAATO, 2025e), environment, and wildlife (IAATO, 2025g). In contrast, tourism operators commodify this uniqueness, turning nearly every aspect of the advertised journey into something exceptional. The time spent in Antarctica is marketed as a once-in-a-lifetime adventure, with the continent's uniqueness serving as a central selling point:

> “You will be assured of an intimate wildlife and photography adventure that will be one of the most unique adventures of your lifetime” (Secret Atlas 2025).

Closely related to the discourse of uniqueness is that of wilderness. Phrases like ‘the last great wilderness’ often demonstrate the overlap between the two ideas. Much like the notion of Antarctica's uniqueness, the concept of wilderness is also heavily commodified. The opportunity to see iconic wildlife is a major factor in why tourists visit the continent:

> “I was super happy because that’s what I was most excited about when we came to Antarctica was seeing the Penguins. They are the most adorable little animals that you could ever imagine” (Alexyn Photo & Video, 2020, 10:39-10:48).

As unique as penguins are, this wildlife tourism also highlights a contradiction: Antarctica may not be as unique as it is portrayed. This discourse around the wild animals mirrors similar patterns seen in other parts of the world where wildlife tourism exists. In these locations, people visit to reconnect with nature and experience wildlife in its natural setting. Witnessing animals in their habitats is believed to foster a deeper appreciation for biodiversity and motivate protective actions (Curtin & Kragh, 2014, p.547)**.** Yet, these claims, often promoted by the tourism industry, do not seem to hold up under closer examination (Moorhouse et al., 2015, p.12). In many cases, they risk contributing to greenwashing, where the appearance of environmental responsibility masks the underlying impacts (Varnajot et al., 2024, p.60).

Regardless of the uniqueness of Antarctica, wilderness is a core signifier for both tourists and the tourism industry, who heavily use the term, while SCAR does not. It is contested whether Antarctica, particularly the Antarctic Peninsula, can be classified as wilderness (Leihy et al., 2020, p.569). While SCAR still promotes certain values commonly associated with it such as nature being pristine (SCAR, 2023, p.19), outside of its perspective wilderness is widely used. It is used often more for the feeling it evokes rather than for its actual representation of human presence and disturbance. The key focus seems to be on the emotional experience of wilderness (Lynnes, 2020). In tourist videos, this feeling is often described as magical and otherworldly, invoking a sense of wonder and awe:

> "I feel like I've been a broken record all of these past videos trying to find the right words for my experience in Antarctica. All I've been able to say is that it's magical and beautiful and unbelievable and stunning and all of that is true. Maybe one day I'll be able to find even better words to describe this experience but it's just that: It's indescribable and I am forever grateful to have been able to visit this perfect place" (Camilla, 2024, 5:52-6:24).

The use of the term wilderness by tourists and the tourism industry, therefore, contrasts with the scientific and political definitions, where wilderness is defined by the absence of human activity or its impacts (Summerson & Tin, 2018, p. 269). In tourism materials, the encounter with remnants of human presence in Antarctica does not seem to detract from the experience. Even artifacts with no historical significance, such as rusty barrels, posts, or other cruise ships, are featured in videos, even though they could easily be avoided in favor of showcasing a more pristine portrayal of the landscape.

Related to the emotional connection with nature is the sense of danger and adventure that is commonly emphasized in the tourist portrayal of the human presence in Antarctica:

> "If we can make it there safely and if we can navigate the ice, what awaits us will be something truly magical" (Paddy Doyle, 2024, 0:45-0:51).

The tourism industry and, as the quote shows, the tourists themselves, depict Antarctica as a grand adventure, where visitors can go beyond the frontier of civilization and are able to retrace the steps of heroic explorers from the past. This narrative is less emphasized within SCAR and the scientific community, where the role of science in Antarctic exploration is acknowledged but not explored further (Hughes et al., 2023, p.466). This adventurous motif is extensively commodified and prominently featured in videos and promotional materials created by tourists and tour operators, often with no mention of the historical context or its connections to imperialism and colonialism (Antonello, 2016, p.183).

Overview of the most important discourses and stakeholders found in my analysis

	SCAR	IAATO	Tour operators	Tourists
Wilderness	Does not use this term – the nature has values associated with wilderness but might not always qualify for being called wilderness	Antarctica is a wilderness. This proves they are doing well. More concerned with the feeling of a wilderness than what constitutes a wilderness	Commodification of term wilderness	Using the term prominently but do not shy away from showing human interference: The feeling of being in a wilderness supersedes physical disturbances
Uniqueness	Matchless scientific laboratory	Antarctica is unique but it remains vague what exactly makes it unique	Once in a lifetime opportunity to experience something otherworldly and magical	Otherworldly, rare, magical, sublime
Nature under threat	To be saved by science	Tourism contributes to conservation efforts	Mitigation of direct environmental impact	Mitigation of direct environmental impacts
Place for science	Absolutely, there is a long history of important scientific findings stemming from research in Antarctica. It also allows SCAR to provide objective information and advice	The tourism industry is part of science through logistical support, citizen science, the ambassador program and their benefits for the conservation efforts	Offering lectures and insights and advertising those. Rare mentions of citizen science or the ambassador program	On board, there are optional lectures but not much finds its way into the videos
Exploration	Science played a role in the era of exploration	It is a privilege to visit the continent and follow in the footsteps of earlier explorers	Cruise is a true adventure where visitors get to walk in the path of earlier explorers	Frontier tourism: True and risky adventure, where they could follow earlier explorers

Table 1: Overview of the core discourses surrounding Antarctica

Table 1 provides an overview of the key discourses identified among the stakeholders analyzed, highlighting the differences in their respective positions. A crucial factor to consider is that the tourism industry operates for profit. As a result, the discourses and values it employs are not merely narratives but have been reevaluated as commodities for consumption (Mostafanezhad,

2020, p.443). For instance, Antarctic cruises are promoted as an "authentic expedition in a wilderness of epic proportions" (Poseidon Expedition, 2025) while the continent's uniqueness and remoteness are leveraged to present the experience as a once-in-a-lifetime opportunity (Adventure Life, 2025). Onboard lectures are framed as opportunities for visitors to uncover the 'secrets of the ecosystem' through expert knowledge (Ponant, 2025). Tourists are told they can relive history by walking in the footsteps of legendary explorers such as Shackleton, Scott, and Amundsen (Oceanwide Expeditions, 2025), reinforcing an adventure-driven narrative. Visitors even get to be part of the protection effort of the environment (Hurtigruten Expedition, 2025).

These examples illustrate how seemingly shared values, such as environmental protection, scientific engagement or the uniqueness of the continent are commodified within the tourism industry. Consequently, when these values are communicated across different stakeholders, there is a risk of unintended consequences, including increased tourism to Antarctica. This underscores the need for careful and critical engagement with these narratives to ensure that messaging aligns with conservation goals rather than inadvertently fueling greater human presence in the region.

5. Conclusion

In this thesis, I have analyzed the varying perspectives of SCAR, IAATO, IAATO member companies, and tourists concerning Antarctica. It is important to look beyond the dominant scientific gaze to not emptying the continent conceptually. There is more than just the scientific way to understand Antarctica (Roberts et al., 2016, p.7). While the analyzed stakeholders share several discourses and values, they do not fully align on all fronts. Notably, in SCAR's literature, the terms 'wilderness,' the sense of adventure, and the romanticized reliving of the history of exploration are absent. However, commonalities exist across all groups: Antarctica, or at least the regions frequented by visitors, is consistently portrayed as unique, as an environment under threat requiring protection, and as a space dedicated to scientific endeavors. Within the tourism industry, those discourses and values have been commodified and are used to advertise travel to Antarctica. Such travel thereby is not as unique as often depicted. The discourse surrounding wildlife tourism in other places of the world mirrors the one from Antarctica closely (Curtin & Kragh, 2014, p.547) including contested claims of environmental benefits and protections through such activities (Moorhouse et al., 2015, p.12).

Despite the stakeholders sharing discourses, significant differences and points of friction emerge as terms and their associated meanings shift within various contexts. For example, should the emotional experience of wilderness be prioritized? Is the tourism industry a legitimate contributor to Antarctica's scientific mission? Does it actively aid in the region's environmental protection? The answers to these questions vary depending on the origin of the discourse being analyzed. These discrepancies highlight the importance of carefully considering how floating signifiers, such as 'wilderness' or 'protection,' are employed and interpreted within different frameworks. They pose a significant risk of mistranslation, especially given that many of the values upheld by SCAR have been commodified and are actively used to attract tourists to Antarctica. These encounters between differing interpretations have the potential to both reinforce and destabilize the hegemony of science (Tsing, 2005, p.6), which has been the dominant framework for engagement with Antarctica since the 'Heroic Age' (Roberts et al., 2016, p.5). This scientific dominance of Antarctica is not neutral; it carries historical legacies, including imperialist and colonialist exploits (Elzinga, 2016, p.286). They are, however, often omitted from narratives by the stakeholders analyzed.

Antarctica's values and imagery are frequently utilized for scientific communication, often with the intent of fostering future environmental advocacy (SCAR, 2023, p.30 & McLean & Rock, 2016, p.303). However, advocating for wilderness protection in Antarctica (Tin et al., 2016, p.323), may unintentionally attract more visitors to the continent, as the term evokes different associations for different audiences. Wilderness within the tourism industry is far more concerned with the feeling invoked by wilderness (Lynnes, 2020) than with physical disturbance and the measurable level of pristineness science is often concerned about (Leihy et al., 2020, p.569). Consequently, it is essential to scrutinize the discourses, values, and ideas of each stakeholder group. Without such attention, efforts to enhance communication and advocacy could inadvertently produce unintended and counterproductive outcomes.

5.1 Ways forwards

My analysis offers an initial glimpse into the friction that arises when floating signifiers are communicated across different stakeholder perspectives. However, there is a pressing need for more in-depth research, particularly since SCAR aims to enhance its public outreach (SCAR, 2023, p.3). These encounters across differing interpretations have potential for desirable

changes (Powell et al., 2008, p.238) but without careful consideration such friction might hurt the effectiveness of the continent's protection by increasing human activity on the continent.

Generally, there seems to be a consensus among the analyzed stakeholders that visitors to Antarctica should be educated about the region's unique challenges and significance. Through programs like the ambassador initiative, the hope is that visitors will become advocates for Antarctic conservation based on their first-hand experiences and implement positive environmental changes in their daily lives (IAATO, 2025e). However, evidence of pro-environmental behavior change among tourists is limited (Cajiao et al., 2022, p.3). Furthermore, the ambassador program appears to rely more on assumptions than on empirical evidence (Varnajot et al., 2024, p.61). In the analyzed data of the tourists, this program was largely absent despite it being heavily advertised by IAATO. If the program reflects genuine ambition rather than an exercise in greenwashing or sciencewashing, there are ways to enhance its impact and bridge the gap between science and the public (Bonney et al., 2016, p.14).

If the program is indicative of a real ambition, investing in citizen science projects offers a promising approach with dual benefits. On one side, public data collection initiatives, such as IAATO's animal sightings project (IAATO, 2024c), can yield valuable scientific insights. However, evidence of measurable knowledge gains among participants remains sparse, as many similar projects are not designed with specific learning outcomes in mind (Bonney et al., 2016, p.5-6). On the other hand, such projects have been shown to enhance overall trip satisfaction for visitors in Antarctica (Cajiao et al., 2022, p.11). Encouragingly, there is also evidence of increased understanding and even long-term impacts on participants' lives through well-designed citizen science programs. To achieve these outcomes, projects must be intentionally crafted to foster learning and bridge the divide between scientific discourse and lay audiences (Bonney et al., 2016, p.14).

Collaboration across stakeholder groups is essential for such efforts to succeed. SCAR must recognize the potential role of tourists and the tourism industry as partners in addressing the increasing human presence in Antarctica, which is expected to only grow in the future (Varnajot et al., 2024, p.62). At the same time, more robust tools need to be developed to accurately measure the educational outcomes of citizen science projects (Bonney et al., 2016, p.12). By grounding ambassador programs and citizen science initiatives in empirical evidence,

accusations of being based solely on assumptions can be avoided, ultimately increasing their credibility and effectiveness (Varnajot et al., 2024, p.60).

Another area that requires further research is tourism originating outside the Western world. Currently, there is a significant knowledge gap, particularly concerning tourists from China (Tin et al., 2016, p.308), despite their accounting for over 10% of all visitors to Antarctica in certain years (IAATO, 2023b, p.6). While studying non-Western tourism trends is valuable in itself, it becomes even more crucial when considering the historical narratives associated with Antarctica. A heavily commodified aspect of Antarctic tourism is its history, often portrayed as an opportunity to follow in the footsteps of great explorers from the so-called 'Heroic Age.' These explorers are frequently celebrated as resourceful entrepreneurs and strong leaders, yet this framing largely ignores the imperial and colonial dimensions of their exploits (Elzinga, 2016, p.286). Moreover, Antarctica's current international order reflects the continuation of material and ideational legacies of colonial structures, with science functioning as a geopolitical gatekeeper (Yao, 2021, p.997 & 1002).

It would be particularly interesting to explore whether these historical figures are celebrated in non-Western contexts or if alternative narratives emerge, emphasizing the darker aspects of colonial history and their enduring influence today. Countries like India, Zambia, and Malaysia have already resisted the ATS, criticizing it as an exclusionary framework favoring wealthy, technologically advanced nations (Yao, 2021, p.1014). Investigating how these perspectives shape tourism and engagement with Antarctic history could provide important insights into the dynamics of global tourism and the broader implications of the Antarctic governance.

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Personal Declaration

I hereby declare that the submitted thesis is the result of my own, independent work. All external sources are explicitly acknowledged in the thesis

Livio Gerber, 30.01.2025