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# A social practice approach to nature-based tours: the case of the Marble Caves in Northern Patagonia, Chile

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## ABSTRACT

Chile's Northern Patagonia attracts thousands of tourists, who every summer venture to undertake a range of outdoor activities. In this article, we explore the local production of outdoor activities, by conceptualizing small-scale nature-based tours as a social practice. The study is based on empirical research, taking as a case study the development of the Marble Caves tour, an iconic destination in Northern Patagonia, Chile. The touring practice is analyzed based on the interplay of its material components, required competences and symbolic meanings. Our findings demonstrate that the persistence of the practice is particularly reliant on the competences of the tour operators, and on the abiotic nature of the tourist attraction. Fostering tour guide competences therefore contributes to the sustainability and performance of the practice. We contend that tourism policy interventions that aim to harmonize local development and environmental protection need to carefully analyze and take into account existing social practices.

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Nature-based tourism; social practices; competences; tourist experience; remote peripheral areas

## Introduction

Global demand for nature-based tourism experiences is rapidly growing and challenges local development, tourism policy-making and biodiversity conservation (Balmford et al., 2009; Fredman & Tyrväinen, 2010). South America is no exception. Every summer thousands of tourists from all over the world venture to travel to Northern Patagonia, Chile (Figure 1). Characterized by unique landscapes, rugged terrains and unpredictable weather conditions, Northern Patagonia occupies an important place within the social imaginary of pristine, unspoiled and extreme nature (Núñez et al., 2018). On a national and international scale, it has been featured as a nature-based tourism destination, providing ideal conditions for adventure sports (Chile Travel, 2016), fly fishing (Recorre Aysen, 2017) and long distance trails (BBC, 2018). In recent years, nature-based tourism has become one of the main economic sectors in Northern Patagonia, fostering a number of tourist destinations, and resulting in a rapidly growing job market of more than 7000 related jobs (Sernatur Aysén, 2017).

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Widely promoted and accepted as an economic activity compatible with the environment (Ardoin et al., 2015), nature-based tourism has frequently been portrayed as a means for local development, especially in geographic peripheral areas with high aesthetic amenity values, limited economic opportunities and a low population density (Brown & Hall, 2008; Hall & Boyd, 2005). At the same time, the rapid growth of nature-based tourism has been increasingly assessed with respect to the range of potentially unsustainable impacts that growing numbers of visitors generate in local areas (Butler, 2018; Gale et al., 2019). There is a long and lively academic debate on effective policies and governance arrangements for sustainable nature-based tourism activities and development. A relatively recent argument in this debate is the importance of the self-organized character of nature-based tourism in peripheral areas (Haase et al., 2009; Van Bets et al., 2017). These studies typically emphasize the collaborative efforts of organizers and operators of nature-based tours, including local networks, partnerships and branch organizations (Haase et al., 2009; Lamers et al., 2017), in shaping meaningful tourist experiences, as well as the dependence on such collective action to ensure safety for tourists, to minimize environmental impacts and to provide sufficient livelihood options for the local community. At the same time, it is argued that these forms of collective action are vulnerable to external actions and policies, such as operational standards, restrictions, zonation or certification, that disregard such communities of practice.

In this article, we aim to build on these insights by applying a social practice theory lens for understanding the production and regulation of small-scale nature-based tours (see also Lamers et al., 2017). The study is based on empirical research, taking as a case study the development of the Marble Caves tour, a 'must see' in Northern Patagonia (Revista Enfoque, 2018). Two research questions guide the investigation: (a) how can nature-based tours be analyzed as social practice, and (b) how can the social practice perspective contribute to local tourism policy-making for nature-based tourism.

By conceptualizing the Marble Caves tour as a social practice (Bachmann-Vargas, 2019), we focus the attention on the quotidian performance of tourism activities. These tourism activities are locally grounded in environmental conditions and livelihood sources, and are embedded in larger policy decisions and traveling trends. In addition, they are influenced by existing regulations, aimed at the tourist's safety and protection of nature. But, as we aim to demonstrate, the performance of activities is also significantly shaped by the social practice itself. We base our analysis on Shove et al.'s (2012) theoretical framework, and analyze the Marble Caves tour as an interplay between materials, competences and meanings. To contextualize the reproduction of the social practice, we use the 'zooming-in' and 'zooming-out' approach suggested by Nicolini (2012).

Looking into this particular case allows us to shed light on how small-scale nature-based tours can be understood from an everyday production perspective, wherein several tangible and intangible elements are intertwined in the local reproduction of such organized activities, and where the natural attractions influence the way tours are reproduced. In the following sections, we first introduce the social practices approach, the Marble Caves case study and the research methods. Afterwards we present the main results of this study, including a detailed description and analysis of the Marble Caves tour as a social practice, and discuss the implications of our findings for academic research and policy-making on nature-based tourism.

## Practice-based approach in tourism studies

Social practices, or practice-based approaches, have recently gained attention in tourism studies as a way to understand the role of human and non-human components as part of routinized and recursive interactions, as well as to obtain a better comprehension of how certain activities, such as polar cruises and nature experiences are performed and materially and symbolically shaped (James et al., 2019; Lamers et al., 2017; Lamers & Pashkevich, 2018; Souza Bispo, 2016).

Spaargaren et al. (2016, p. 8) define social practices as "shared, routinized, ordinary ways of doings and sayings, enacted by knowledgeable and capable human agents who - while interacting with the material elements that co-constitute the practice - know what to do next in a non-discursive, practical manner". In this regard, a practice-based approach focuses on social practices as basic unit of analysis, wherein the definition of practices is an empirical question by itself (Nicolini, 2012).

Shove et al. (2012) propose that social practices are made up of three interconnected elements: materials (e.g. tangible objects), competences (e.g. know-how, skills) and meanings (e.g. symbolic representations). Hence, practices emerge and exist when those elements are articulated in a dynamic cycle in which they co-evolve and shape each other. On the contrary, practices die when connections between materials, competences and meanings are broken. The interplay between materials, competences and meanings may resemble an imaginary 'gear assembly', in which the carriers of the practice - i.e. knowledgeable and capable human agents - give life to a coordinated, coherent and self-organized interaction between the elements of the practice.

According to Nicolini (2009), social practices have a history and are historically and spatially situated. Social practices have a dynamic character and both material and discursive dimensions. Nicolini (2012) proposes that in order to understand a practice, we must 'zoom-in' on a practice by exploring its discursive and material accomplishment. By 'zooming-in', doings and sayings, bodily choreography, timing and tempo, practical concerns, tools and artifacts can become the main focus of analyzing practices. Complementary, by 'zooming-out' the association and effects between practices can be recognized in a wider network (Nicolini, 2012). Thus, interconnected practices can be identified and mapped as 'practice-arrangement bundles' (Schatzki, 2006). According to Schatzki (2002) in a practice-arrangement bundle, doings and sayings and material arrangements are articulated through practical and general understanding, rules and acceptable ends while performing the practice.

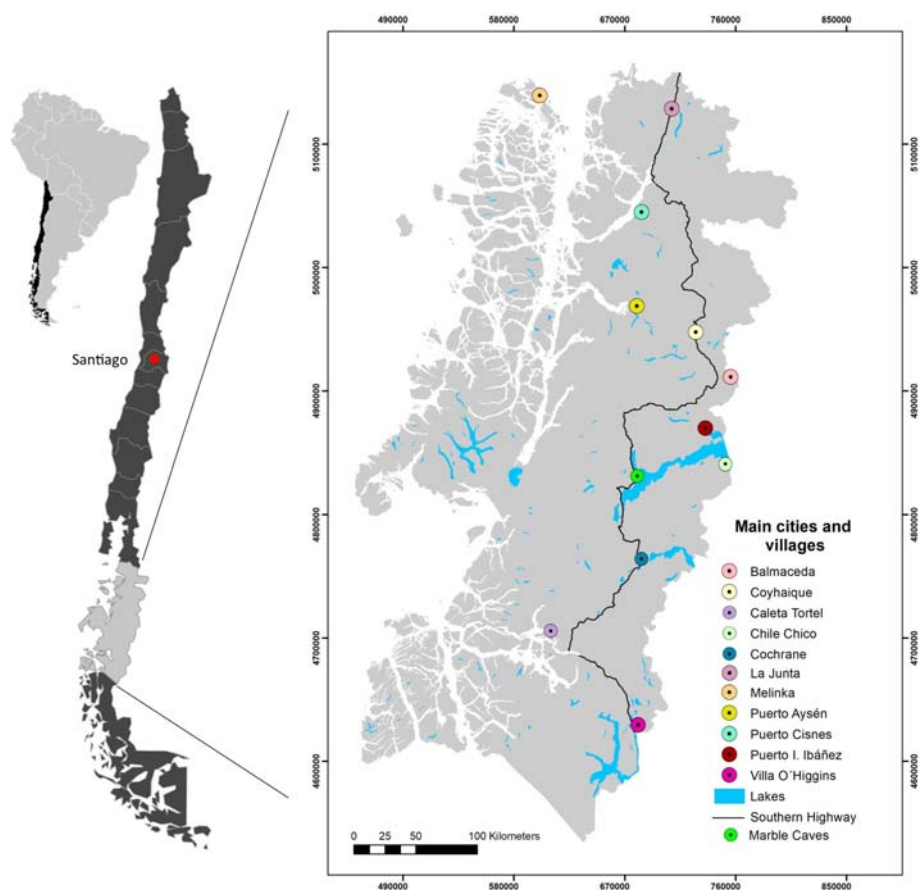
Moreover, through a practice-based approach (un)sustainable ways of doings can be scrutinized and reconfigured, in order to achieve more environmentally desirable outcomes (Spaargaren, 2011). However, the site-specific logic of practices will influence the extent to which social change is possible (Arts et al., 2014).

James et al. (2019) have recently published a compilation of different applications of practice-based approaches within tourism studies. They illustrate how practice-based approaches can shed light on a range of tourism and leisure activities, with exception of nature-based tourism practices. However, previous studies have explored practices of wilderness guiding (Rantala, 2011) and polar expedition cruising (Lamers & Pashkevich, 2018). Lamers et al. (2017), emphasize that the importance of practice-based approaches for tourism studies lies in its ability to generate in-depth understanding of

tourism consumption and production, to analyze change in tourism, and to delineate the interconnections and embeddedness of multiple practices.

### The case of the Marble Caves

This paper focuses on a single case study of the boat tours conducted at the Marble Caves in Northern Patagonia, southern Chile. Located 220 km south from the regional capital, Coyhaique (Figure 1), the Marble Caves are part of a geological formation that crosses the General Carrera lake (also known as Chelénko lake). They can only be visited by boat or kayak. Puerto Río Tranquilo is the closest village to the Caves. The tours are characterized by a high seasonality, concentrating the tourist activity in the summer months of January and February. In January 2017, 8145 tourists took the Marble



**Figure 1.** Geographic location of Northern Patagonia. Northern Patagonia, under the administration of the Aysén region, corresponds to the third largest and the least populated region in Chile. Holds a population of 103,158 inhabitants, and a density of 0.9 inhabitants per km<sup>2</sup> (INE, 2017). The map shows the main cities and villages along the Aysén region and the Southern Highway. The location of the Marble Caves is indicated. (Map own elaboration based on data set publicly available at National Catalogue of Geospatial Information-IDE Chile, WGS 84/UTM zone 18S. For better definition, consider the color version of this figure available online).

Caves tour. The lowest activity is during the winter months, for example, in June 2016, only 80 tourists were registered as boat passengers (Capitanía de Puerto del Lago General Carrera, 2018). During the high tourist season, the population of Puerto Río Tranquilo (600 inhabitants) can be tripled on a daily basis (Cerdeira, 2019). Due to its affordable ticket price (around 13 EUR p/p) and low fitness requirements, the Marble Caves boat tour attracts most of the tourists that pass by Puerto Río Tranquilo on the Southern Highway. Roughly 69% of the tourists that visit the village participate in the tour to the Marble Caves (Situr Aysén, 2017).

In 1994, the Marble Caves, and specifically the Marble Chapel formation, were declared a Nature Sanctuary based on the aesthetic value of the rock formation and the wider lacustrine landscape (Ministerio de Educación, 1994). Fifty hectares were decreed as Sanctuary, while the boundaries remained unclear (Seremi del Medio Ambiente región de Aysén, 2017). Since 2016, swimming or disembarking the boats at the Caves is no longer allowed (Capitanía de Puerto del Lago General Carrera, 2016a). In addition, boats are obligated to navigate by one licensed skipper and one crew member (Capitanía de Puerto del Lago General Carrera, 2016b). On the ground, the Navy and the Sea Bailiff keep track of the daily tours. Recently, the environmental authorities and the local community have expressed their concern about the village's coping capacity, the Nature Sanctuary's carrying capacity and the deterioration of the marble rocks. A public tender has been awarded to diagnose the tourist activity and the tourist services around the Nature Sanctuary (Ministerio del Medio Ambiente, 2018). The report, expected in June 2020, should provide baseline information to initiate the elaboration of a future sustainable tourism plan (it is likely, that due to the current COVID-19 situation, these initiatives may have been postponed). In this context, this research aims to provide policy recommendations that may shed light on nature-based tours as a multidimensional activity inspired by social practices analysis.

## Research methods

This case study is based on semi-structured interviews with key actors (Table 1), semi-closed questionnaires and observation methods conducted between November 2016 and January 2017. Depending on the respondent's role, interviews were conducted in several localities. Semi-closed questionnaires and observation methods only focused on Puerto Río Tranquilo village. This primary focus on qualitative methods, and participant observation particularly, has been claimed to match well with the study of social practices as it allows for an in-depth comprehension of the local context and a thorough understanding of the social and material interactions that constitute the practices (Nicolini, 2012).

Twenty semi-structured interviews were conducted. The interviews aimed to gather information about the beginnings of the Marble Caves tour, the current management and the opinions about the future of the tourist activity. Interviewees' accounts provided a complete overview on how the tour has been developed until now. Interviews were carried out at the work places or the homes of the interviewees, face-to-face and in most cases audio recorded and subsequently transcribed.

**Table 1.** Interviewees' profile.

Sector	Position	Gender	Locality	Profile/Activity
NGOs	Director	Male	Bahía Murta	NGO that aims to promote sustainable tourism and cultural heritage, involving youth from rural areas
	Secretary	Female	Puerto Río Tranquilo	NGO that gathers representatives from each of the small villages located around the Marble Caves, related to the tourism spatial planning unit (ZOIT)
Tour operator	Crew member	Female	Puerto Sánchez	Owner and crewwoman in a small family business that offers tours to the Marble Caves
	Manager	Female	Puerto Río Tranquilo	Owner and manager of a medium size family business, that offer tours to the San Rafael Lagoon
	Tour guide	Male	Puerto Río Tranquilo	Owner and tour guide of a small business that offers ice climbing tours
	Tour guide	Male	Puerto Río Tranquilo	Employee, skipper and tour guide in a medium size business that offers tours to the Marble Caves
	Manager	Male	Puerto Río Tranquilo	Owner, manager and tour guide in a medium size family business that offers ice climbing and kayak tours to the Marble Caves
	Secretary of the Boat Workers Association	Male	Puerto Río Tranquilo	Owners and temporary and informal workers, that offer the Marble Caves tour
	President of the Boat Owners Association	Male	Puerto Río Tranquilo	Boat owners organized in the General Carrera Lake Trade-Union Association
Public agencies	Sea Bailiff	Male	Puerto Río Tranquilo	A civilian, a trustworthy person recognized by the Navy
	Tourism and Culture program	Female	Coyhaique	Coordinator of the municipal tourism and culture program (Puerto Ibáñez)
	Mayor	Male	Coyhaique	Puerto Ibáñez Municipality
	Port Captain (S)	Male	Chile Chico	Navy Port Captaincy, General Carrera Lake. Enforcement of lacustrine and navigation rules
	Natural Heritage Commission	Male	Santiago	Belongs to the National Monuments Council, in charge of the Nature Sanctuary
	Studies department	Female	Coyhaique	Belongs to the National Tourism Service
	Regional Secretary	Female	Coyhaique	Regional Secretariat of Mining. In charge of the geological heritage
Tourism Public-Private Partnership	Regional Secretary	Female	Coyhaique	Regional Secretariat of Environment, with competence in protected areas
	Manager	Female	Coyhaique	Regional Tourism Strategic Program (PER)
	Coordinator	Female	Bahía Murta	Spatial Planning Instrument (ZOIT), Chelenko area
Labor-union associations	President	Female	Puerto Río Tranquilo	Chamber of Tourism of Puerto Río Tranquilo

In addition to the interviews a semi-closed questionnaire was carried out among the boat operators, locally called *boteros*. The data collection took place at the beginning of the tourist season. As a consequence, many *boteros* were often so busy dealing with the daily inflow of tourists that they did not have time for an interview, but they could briefly answer questions and fill in the questionnaire in spare moments while selling the tour tickets. The semi-closed questionnaire aimed to understand the *boteros'* perspective about the tourist activity, and collect more specific information about the duration of the tour, the number and type of vessels, the tour ticket price, and the number of daily tours, among other aspects. Sixteen *boteros* were surveyed at their tour ticket sale points, small kiosks along the lake shore. Because of the lack of official records, it is



estimated that this sample represents around 40% of the *boteros* working during the tourist season 2016-2017. However, the questionnaire does not aim to provide statistical representation.

Participant observation allowed for a detailed understanding of the tour's routine. As participant observer the first author embarked on the boat tour on several occasions, at different days and times. Moreover, observations were made at the tour tickets sale points and at the lake shore. From those observations, we learned about the logistics for the tours, the sailing practices and the way the safety measures and the tour's schedule were explained before embarking the boats.

Primary data were compiled and analyzed by using an open coding system, whereby the elements of the practice were characterized, with the aid of Atlas.ti software (Kumar, 2014, p. 318). Interview transcripts and questionnaires were indexed anonymously, by adding an identification code and a consecutive number (i.e. 'Int\_1', 'Q\_1'). Secondary sources supplemented the analysis.

## Results

Analyzing social practices requires a rich comprehension of the doings, sayings and things that constitute a specific routine. In this results section, we first present the tour's routine, which was reconstructed based on our field observations. Second, we analyze the Marble Caves tour as a social practice, whereby the material components, required competences and symbolic meanings of the tour are concisely described, drawing upon the data collected through interviews and surveys. Third, insights about the reproduction of the practice are laid out.

### Understanding the tour's routine

The participant observation and the interviews demonstrate that the Marble Cave boat tours follow a particular routine that is shared by most of the tour operators. Once the tourists have bought their tickets at the busy lake shore, the skipper asks for their names and nationalities, in order to fill in the sailing permit. The document is subsequently brought to the Sea Bailiff office (a shipping container located next to the tour ticket kiosks). When the weather conditions allow the port to be open, the Sea Bailiff immediately approves the permit (field notes). The skipper comes back to the tour ticket kiosk and, together with the crew member, walks the tourists to the boat. The tour usually runs with 8-10 passengers (field notes). At the time of data collection, we observed no piers to board the tourists. At the beach, either the skipper or the crew member hands over the life-vests, briefly describes the navigation route and indicates the Nature Sanctuary protection measures. The round trip usually takes 90 min (answer given by 12 out of 16 surveyed *boteros*). The skipper, who is usually male, is in charge of the vessel, and either he or the crew member acts as a tour guide. At the end of the brief introduction, the tourists are ready to embark. The skipper asks them to take a seat. He starts the engine and navigates the boat towards the caves. During the first 20-30 min, the tourists are amazed by the turquoise color of the lake. The first stop along the circuit is at the beginning of the marble formation. At this point, the tour guide begins the tour narrative. Inspired by the shape of the



marble rocks, the tour guide evokes the tourists' imagination, picturing nature-made figures on the marble rocks. Typically, the tourists identify the characteristic rock that resembles a giant 'dog's head'. After this point, the navigation continues towards the main spot along the tour. Two rocky islets of 30 meters high each, the Marble Chapel and the Marble Cathedral, are a mandatory stop (Figure 2). The skipper stops the boat and either he or the crew member gives a short explanation about the age and color of the marble rocks. The provision of historical, ecological and geological information depends on the tour guide's knowledge and experience. At this stop, the skipper maneuvers the boat, allowing tourists to take photographs without the presence of other boats or kayaks. The skipper carefully approaches the islets and caves, letting the tourists observe the colors and the unique texture of the marble rocks (Figure 2). After an observation period of 30-40 min, the tour guide indicates that the tour has ended and it is time to return to Puerto Río Tranquilo. The skipper accelerates the boat and sails without stopping until arriving at the village. We observed that depending on the weather conditions the return trip can be quite rough. Once the group is back in Puerto Río Tranquilo, either the skipper or the crew member collects the life-vests and says goodbye to the passengers. They moor the boat and walk back to the tour ticket kiosk, where a new group of passengers is ready to depart on the tour.



**Figure 2.** Photographs show the main spots that tourists encounter during the Marble Caves tour. The distinctive texture of the marble rocks can also be observed. (For better definition, consider the color version of this figure available online. Photographs by the first author).

### *The tour as a social practice*

Arranged tours provide access to natural or man-made areas that otherwise would not be possible to visit, either because of lack of means, time limitations or because of regulations that rule the attractions. Hence, tours take place as an organized and continuous set of activities, that while being performed integrate natural as well as artificial elements through a pertinent set of competences. The reproduction of tour narratives re-create symbolic meanings, and different connotations may be ascribed to the touring activities. Thus, tour operators and tourists engage in a concrete and meaningful experience. In our case study, the number of visitors to the Marble Caves is mediated exclusively by the local tour operators. Therefore, the tour becomes a significant unit of analysis for nature-based tourism and local policy-making that we proceed to unpack.

### *Material components*

Materials, or material arrangements, are especially relevant in nature-based tourism and ecotourism narratives and practices (Chakraborty, 2019). The biophysical environment and the built infrastructure form the space in which the tours take place. Hence, the predominantly natural assets, i.e. biotic or abiotic, co-determine the performance of the practice and thereby the tourist experience. At the same time, natural attributes may be associated with a sense of attachment and satisfaction (Stedman, 2003).

As a boat trip, the vessel is the central component of the practice along with the biophysical environment in which the activities are set. Back in late 1980s, the vessels used to be wooden boats steered with two wooden oars (Int\_6). Nowadays, boat trips are carried out in open fiberglass vessels for ten passengers, equipped with one outboard motor. During the high tourist season, an average of six trips per day are performed by each boat (Int\_6). According to one of the boat operators, upgrading the vessels means a direct increase in the number of passengers (Q\_1). Life-vests, flares and anchor are mandatory safety elements for each boat, among others (Capitanía de Puerto del Lago General Carrera, 2016a).

The biophysical environment is dominated by geological formations that have been carved for thousands of years, by the corrosive effect of the carbonic acid on the marble rocks. The slowly dissolving rocks form unique shapes and colors, referred to by geologists as a 'karst landscape' (Seremi de Minería región de Aysén, 2017). The characteristic coloring of the General Carrera lake due its glacial origin (Zambrano et al., 2009), frames the Marble Caves in an turquoise-greenish environment, creating a remarkable landscape. In this landscape, the Marble Chapel and the Marble Cathedral islets are the main attractions, visited by the boats for a certain amount of time and requiring navigation competences in order to provide a pleasant and worthwhile tourist experience. The weather conditions, particularly the wind, represents a key natural element that sets the scene and mood of each tour (field notes).

### *Required competences*

Competences, or elements of know-how underpin the appropriate reproduction of practices (Shove et al., 2012, p. 23). In this particular case, windy days require slower and

careful maneuvering through the short lake waves. A commonly heard phrase in Puerto Río Tranquilo is: "to navigate in this lake is not the same as if you were in the sea!" (field notes). Throughout the navigation skippers perfectly know what to do next and where to steer the boat to, following a memorized navigation route and allowing the passengers to take pictures without the presence of other vessels. Especially when boats are around the marble islets, the *boteros* are performing a complex practice of maneuvering the boat in such a way that the interests of the tourists are met, while taking wind, swell, rocks and other boats into account. In addition to navigation skills, historical, geological and ecological knowledge have become an important input to quality tour guiding. *Boteros* acting as tour guides, answered in the questionnaire that most of the information shared during the tours, has been self-learned (12 responses) or taught by another *botero* (10 responses), with few opportunities for formal training. Performances and experiences between different operators can therefore differ widely. One of the interviewees pointed out that "one of the problems with the *boteros* is when they go on a tour, there are many that do not talk, while others even tell you the history of the 'big-bang'!" (Int\_14). Regarding language competences, at the time of the research, boat tours were given only in Spanish. In addition, tourists that engage in the practice have the aptitude to sail in a small boat, while experiencing nature in a physical, observational and spiritual manner.

### Symbolic meanings

As relative constructions, symbolic meanings emerge and evolve, making sense of old and new connotations. Meanings are reshaped by processes of association and re-classification (Shove et al., 2012, p. 55). According to the interviewees, the Marble Caves tour began in 1987 as a family boat trip that slowly became a commercial visitor experience for the few tourists occasionally passing through Puerto Río Tranquilo in the late 1980s (Int\_6). Nowadays, boat tours are directly associated with a source of local livelihood. The Marble Caves tours mobilize almost the entire local tourism sector, by generating the demand for accommodation, transport, fuel and food (Int\_20).

The Marble Caves have also become a key component of the local identity and natural heritage, which is exemplified in the following quote: "Puerto Tranquilo does not have an identity as a Patagonian village so to say, as a Gaucho (peasant) culture. What represents Tranquilo are the Marble Caves" (Int\_20). In addition, associations related to environmental sustainability can be found in local narratives, referring to:

"we, the ones that make this tour, have understood that this is a natural heritage, that we must protect. We wish that our children and grandchildren can be raised in this wonderful environment that we have tried to protect as much as we could" (Consejo de Monumentos Nacionales, 2017, translation by first author).

While the designation of Nature Sanctuary in 1994 has not provided any material facilities or staff on the ground, it has created a discursive meaning whereby the *boteros* and the local community have made the Sanctuary theirs, by shaping the performance, the rules and the existence of the practice. Meanwhile, tourists often express a sense of accomplishment and adventure when visiting the Caves that they saw on TV or in the tourist travel guide. Tourists usually describe the landscape formed by the lake and the caves as 'stunning', 'unique' and as an 'amazing scenery'.

### *The reproduction of the practice*

In spite of high seasonal variations and lack of infrastructure, the Marble Caves boat tour has become a stable and persistent tourist activity, whose main carriers hope to continue in the future. In this respect, it is important to consider that practices do not exist in isolation. Practices emerge, mutate, re-enact and persist, by reinforcing existing links or creating new ones. They are connected to and affected by other practices and material arrangements that originate elsewhere.

From a zooming-in perspective, the reproduction of the practice is directly dependent on the stability of the relations between its dimensions (i.e. materials, competences and meanings), which provides a pleasant and safe tourist experience. By zooming-out, one recognizes that the reproduction of local tourism practices is dependent on its position within a broader network of practice-arrangement bundles (Lamers et al., 2017). For example, the persistence of the Marble Caves tour has been highly influenced by the regional tourism marketing campaigns that have aimed to position the Marble Caves tours and the Puerto Rio Tranquilo village as a tourist destination in the Aysén region (Int\_20), accompanied by the increasing flow of tourists that travel along the Southern Highway, a scenic route that connects Northern Patagonia through 800 km of intricate geography. Further, hospitality and waste management practices are challenged every summer when dealing with the increasing number of visitors (Int\_2).

## **Discussion**

Based on our qualitative data, this research has aimed to analyze nature-based tours from a social practice perspective, as well as to analyze their implications for local tourism policy-making. Though the data collection took place within a limited period of time, we believe that our account of the Marble Caves tour as a social practice provide valuable insights for a better understanding of small-scale nature-based tours in Patagonia, and elsewhere in similar remote peripheral areas. Data collected through semi-structured interviews, semi-closed questionnaires and participant observation allowed us to delve into a routinized and self-organized activity. Here, we would like to discuss the implications of our results for research, practice and policy.

### *Nature-based tours as social practice*

Small-scale nature-based tours involve intertwined and complex economic and social-ecological relations that are situated in specific political, geographical and ecological contexts, and whereby livelihood, local identity and sustainability concerns are typically interwoven. While the definition of social practices based on the three elements of materials, competences and meanings entails a simplification of social life, it does provide a useful conceptual tool, whereby stability and change can be analyzed as part of a recursive and self-organized activity (Shove et al., 2012, p. 15). Our article demonstrates that this model also serves as a solid and practical ground for empirical research on nature-based tours, enabling researchers to analyze complex social phenomena (Lamers et al., 2017), and providing a versatile approach that integrates natural and human components in one unit of analysis (see also Rantala, 2011). It enables researchers

to comprehend how tourism activities are reproduced in practice, and where there might be room for change.

Our findings indicate that the *boteros* can be deemed as the main carriers of the practice. Despite their social division (i.e. boat owners and boat workers associations, Table 1), *boteros* have built a sort of community of practice (Snyder & Wenger, 2010) with their own identity and a shared passion for the tours. As a community of practice, they share practical knowledge and exercise intentional and unintentional creative control throughout the performance of the practice. Hence, their ideas and behaviors are influenced by the practice and *vice versa* (Arts et al., 2014). This case has shown how the *boteros* have shaped the Marble Caves tour in a learning by doing strategy, into its current status as the main local economic activity and one of the iconic tourist destinations in Northern Patagonia.

### Competences as key practice element

The practice approach foregrounds the role of competences as a crucial element of the touring practice. It is through appropriated competences that material elements and symbolic meanings are combined in the performance of tourism practices. Competences and materials are articulated through the boat maneuvering skills, thus integrating human agency, material and ecosystem components as part of the unit of analysis. As ingredient of the timing and tempo of the practice (Nicolini, 2012, p. 220), executing the right boat maneuvers may increase the experiential capacity of the Marble Caves, by reducing the spatial pressure when the tour is at the main observation point. At the same time the boat maneuvering competences help to prevent biophysical impacts by not approaching too close. Boat maneuvering skills also provide a safe and pleasant visit to the Caves, therefore creating part of the tourist experience.

Moreover, the interaction between competences and meanings is exemplified by the role that the *boteros* play as tour guides. Competence enables a tour guide to create meaningful narratives with historical, social, ecological and geological knowledge. Thus, the persistence of the practice depends on the number and types of meanings that are ascribed to it, as well as on the connection with other practices (Shove et al., 2012). The creation of natural value, as well as the reproduction of the sustainability, livelihood and adventure meanings, have crafted the practice into what it is today. However, the analysis suggests that scientific knowledge plays a potentially sensitizing role, in communicating particular geological characteristics that are not immediately perceived, compared to the primarily biotic or charismatic natural attractions. Equipped with this knowledge, the tour guides would be able to enrich the tour narratives.

Since there is no one unified concept of what a tourist experience is (Uriely, 2005), we propose that the nature-based tourist experience in Northern Patagonia may be defined as the enjoyment of nature's beauty, in a non-invasive, knowledgeable and safe way when undertaking outdoor activities. We suggest that the tourist experience is constructed each day as a result of the consistent and safe performance of practices. Nevertheless, in a pilot survey conducted in 2017, tourists identified four areas in which the tour could be improved, namely: payment methods, quality/price perception, tour narrative and tour guide's knowledge (Situr Aysén, 2017). These results demonstrate that competences of practitioners should be prioritized in eventual tourism policy interventions. Further,

enhancing local touring competences may also better prepare the *boteros* for the competition of new, larger and trained tour operators that aim to offer the Marble Caves tour in the future.

### **Touring practices and policy**

According to Shove et al. (2012, p. 163), a "practice based approach offers a conceptual framework around which to build policy interventions explicitly designed to address systemic challenges". Nature-based tourism development certainly posits a systemic challenge, whereby human and non-human, and tangible and intangible dimensions are closely entangled, and by which local livelihood and environmental concerns challenge the everyday touring practices. The Chilean state is currently attempting to gain control by devising a sustainable tourism management plan for the Marble Caves tours. Our practice-based analysis contributes several insights to tourism policy-making.

First, our discussion suggests that, next to potential future investments in the material arrangement (e.g. pier, infrastructure), fostering or enhancing competences required to perform the tour (e.g. educational programs, certification) maintains or enhances both sustainability and the tourist experience. In other words, if the current touring practice configured by the *boteros* is considered desirable or sustainable, the key elements of the practice should be carefully fostered. This is relevant as community-based sustainable tourism practices are also vulnerable, particularly in terms of new participants or external state policies (see also Haase et al., 2009). The future implementation of a sustainable tourism management plan is no guarantee for improving touring practices or changes in environmental behavior (Baggio et al., 2016). Social practices have their own internal logic that cannot be easily steered by external rules (Arts et al., 2014). The performance, the spatial extent and the site-specific logic of the practice have been molded by the main carriers of it – the *boteros* –, whose practical knowledge and situated agency have allowed them to configure, re-adapt and sometimes improvise while carrying out the practice (cf. Arts et al., 2014; cf. Valtonen, 2010).

Second, with regard to the meanings ascribed to the tour, the Nature Sanctuary, that was designated to highlight and protect the value of the marble formations, plays a key role. To date, the management attention has primarily been concentrated within the boundaries of the Nature Sanctuary, which only encompasses the area of the marble formations. However, the mobile character of the practice analyzed in this research, outlines a larger area that could be considered as a management unit. The tour, and therefore the tourist experience, begins at the tour ticket kiosks and continues with the embarkation, the sailing, the climax of reaching the Marble Cathedral and the Marble Chapel spots, and the closure with the boat trip back to the village. Incorporating the area of the whole trip as part of the Sanctuary might enrich a sense of attachment that the local tour operators already convey towards the marble formation. Matching the management unit with the scale of the practice performed would enhance the management effectiveness, contribute to a better performance of the practice and to the tourist experience (see also Boas et al., 2018).

Third, analyzing the embeddedness of small-scale touring practices in a broader traveling and policy context provides insights into how local communities are



changing and how tourist destinations are being created (Saarinen, 2004). The current performance of the Marble Caves tour is the result of a series of events, which include the discursive reproduction and material arrangement of the Southern Highway journey. The same goes for current policies on regional development, nature conservation and tourism promotion, which have contributed to the reproduction of local development, local identity, nature-based tourism and nature conservation meanings through policy instruments and marketing campaigns. For example, the touring practice of the *boteros* might be considered sustainable, but as the practice lens zooms out one realizes that the village of Puerto Río Tranquilo has major challenges dealing with the visitation peaks resulting from regional promotion campaigns. We suggest that future policy interventions should consider local tourism activities, as arrangements of interconnected routines wherein, by mapping the elements of the practices, specific innovations towards sustainable tourism could be determined.

## Conclusion

In this paper, we have conceptualized and analyzed nature-based tours as social practice, by unpacking the Marble Caves boat tours in Northern Patagonia, Chile, and by discussing the significance of the social practices approach for local tourism policy-making. The social practices approach highlights the role of competences of local tourism operators in performing sustainable and meaningful tourism experiences. Moreover, our case illustrates how the performance of the practice is enabled by the abiotic nature of the tourist attraction.

We conclude that fostering the competences of local tour guides will certainly contribute to a better performance of the practice, and therefore to a better tourist experience. By looking at nature-based touring practices, tourism activities can be analyzed beyond institutional approaches, thus foregrounding the everyday reproduction of doings and sayings, and providing a critical account of how competences and meanings are being reproduced in practice. A practice-based approach provides a non-prescriptive framework that may be used as input for future policy interventions. We conclude that nature-based tourism policies may benefit by taking a closer look at the production of small-scale touring activities and its social and environmental dimensions. Moreover, examining the persistence of touring practices may offer some indications about the potential (un)sustainable effects of nature-based tourism and the current and future changes in the tourist activity.

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