

Actor-Networks of Northern Lights Tourism In Iceland, Norway and Finland

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Abstract:

Over the history people have been traveling to and across the Arctic in the purpose of seeing Northern Lights or Aurora Borealis, which is a natural light display in the sky, particularly in the high latitude Arctic regions. For now on there has been only few research projects about Northern Lights tourism itself and the socio-cultural practices related to it. The general aim of my thesis is to answer to this need and to find out, using Actor-network theory as a guiding viewpoint, to study which are the Actor-Networks of Northern Lights tourism in Iceland, Norway and Finland.

The scientific objective of this thesis is to identify the Actor-Networks of Northern lights tourism in Arctic regions of Iceland, Northern Finland and Northern Norway. Using an ethnographic methodology I have studied how the Northern Lights tourism products and practices are produced, performed and consumed in collaboration and relationships between human and non-human actors. Data was collected by a group of six researchers working on an international project Winter, in the first months of 2014, by visiting tourism sites and taking part in and observing nine Northern Lights tours in Iceland, Norway and Finland and by conducting four focus group interviews. The data gathered, including autoethnographic notes, photographs, video clips and brochures was organised and combined to narratives and tables which were then analysed with the analytical methodologies of ethnography and ANT.

The findings create a picture of Northern Lights tourism as a fluid, ever-changing network of actors, which by materialising social and natural objects creates a tourism field which has the possibility to gain collaborative advantage in providing nature-based experiences and products for supply and consumerism. The most notable actors include guides, tourists, weather, time, darkness and technology. Based on the findings presented in this thesis I argue that by taking into account the subjectivity of human and non-human actors in Northern Lights tourism context the practitioners are better prepared to answer to the growing needs for Northern Lights tourism, which will be of relevance to them and to the wider future tourism development in Arctic.

This thesis has been conducted in collaboration with research project Winter: New turns in arctic winter tourism, in which the Arctic University of Norway and Norut Alta will cooperate with Metla, University of Lapland, University of iceland, Cardiff Metropolitan (University's Welsh Center for Tourism Research), University of Alaska, Anchorage and University of Utah, to conduct research on the overall potential in Arctic winter tourism. This project and the data collection is funded by the Norwegian Research Council.

Keywords: arctic tourism, actor-network theory, northern lights tourism, tourism research

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Lapin yliopisto, yhteiskuntatieteiden tiedekunta

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Ihmiset ovat kautta aikojen matkustaneet pohjoiseen tavoitteenaan nähdä ja kokea revontulet, erityisesti pohjoisilla alueilla näyttäytyvä luonnollinen taivaan valoilmiö. Viime vuosina revontulimatkaileminen suosio on kasvanut suureksi, mutta siihen liittyvistä sosiaalista ja kulttuurisista käytännöistä on tehty vain muutama tutkimus. Pro gradu -työni tarkoitus on vastata tähän puutteeseen tutkimalla ja esittelemällä mitä ovat revontulimatkailemisen toimijaverkostot Islannissa, Norjassa ja Suomessa.

Tutkielman tieteellisenä tavoitteena on identifioida revontulimatkailemisen toimijaverkostot Islannissa, Pohjois-Suomessa ja Pohjois-Norjassa. Ethnografisen metodologian avulla olen tutkinut miten revontulimatkailemisen tuotteet syntyvät, miten ne toteutetaan ja kulutetaan inhimillisten ja ei-inhimillisten toimijoiden välisissä suhteissa. Aineisto on kerätty osana kuuden tutkijan ryhmää, jotka projektissa Winter keräsivät vuoden 2014 helmi-maaliskuussa aineistoa vieraillemalla revontulimatkoissa ja osallistumalla revontuliretkille. Aineisto kerättiin havainnoimalla yhdeksää retkeä ja suorittamalla 4 kohderyhmähaastattelua Islannissa, Norjassa ja Suomessa. Kerätty kirjallinen ja kuvallinen aineisto muokattiin ja koottiin narratiiviksi ja taulukoiksi ja analysoitiin etnografiaan ja toimijaverkostoteoriaan kuuluvien analyttisten metodologioiden avulla.

Tutkimuksen tulosten mukaan revontulimatkaileminen on vakiintunut, jatkuvasti muuttuva toimijoiden verkosto, joka aineellistamalla sosiaalisia ja luonnollisia objekteja muodostaa matkailuilmion, joka voi luoda yleistä hyötyä toimijoille tarjoamalla luontomatkailemiskokemuksia ja -tuotteita myytäväksi ja kulutettavaksi. Merkittäviin verkoston toimijoihin kuuluvat oppaat, matkailijat, sää, aika, pimeys ja teknologia. Tutkimukseni esittämien tulosten perusteella väitän että ottamalla huomioon inhimillisten ja ei-inhimillisten toimijoiden subjektiivisuuden verkoston muut toimijat ovat paremmin valmistautuneita vastaamaan haasteisiin ja kasvavaan revontulimatkailemisen kysyntään, millä on merkitystä sekä verkoston toimijoille että laajemmalle arktisen talvimatkailemisen kehitykselle.

Tutkielma on toteutettu osana kansainvälistä *Arktisen talvimatkailemisen muutostrendit* -projektia, jossa Tromssan yliopisto ja Norut Alta, yhteistyössä Metlan, Lapin yliopiston, University of Island, Cardiff Metropolitan University (University's Welsh Center for Tourism Research), University of Alaska, Anchorage ja University of Utah'n kanssa tutkivat arktisen talvimatkailemisen potentiaalia. Projektin ja aineistonkeruun rahoittajana toimii Norjan tutkimusneuvosto.

Avainsanat: toimijaverkostoteoria, etnografia, matkailututkimus, revontulimatkaileminen, arktinen matkaileminen

Muita tietoja: Suostun tutkielman luovuttamiseen kirjastossa käytettäväksi_X_

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1. Introduction

Aurora
Goddess sparkle
A mountain shade
Suggests your shape

- Björk

Over the history people have been traveling to and across the Arctic in the purpose of seeing Northern Lights or Aurora Borealis, which is a natural light display in the sky particularly in the high latitude Arctic regions. From this one can draw the connection between Northern lights and tourism in the Arctic, which recently has experienced a notable growth in demand and numbers. Northern Lights tourism connects the natural and experimental aspects of Arctic environments to socio-cultural practices of international tourism and the uncertainty for Northern Lights to show up and to be seen is one of the characteristics of the phenomenon, being both a pull factor and a barrier for tourism around it. Nevertheless it is a highly unpredictable phenomenon in which scientific research and knowledge goes almost hand in hand with myths, legends and cultural identities.

This thesis has been conducted in collaboration with research project Winter: New turns in arctic winter tourism, in which the Arctic University of Norway and Norut Alta will cooperate with Metla, University of Lapland, University of iceland, Cardiff Metropolitan (University's Welsh Center for Tourism Research), University of Alaska, Anchorage and University of Utah, to conduct research on the overall potential in Arctic winter tourism. The project explores winter tourism developments in the Arctic from four thematic angles and this thesis belongs to to the fourth one, in which researchers study tourism performances and symbolic meanings of aurora borealis. Furthermore, destinations Reykjavik and Akureyri in Iceland, Tromsø and Alta in Norway and Muonio and Rovaniemi, Finland have been chosen for fieldwork because they are popular destinations for Northern Lights tourism, competing over market shares with other destinations like Yellowknife in Canada and Greenland (see e.g, Friedman 2010, Weaver 2011, Amoamo & Boyd 2005) and by being able to offer many tours operators for a wide range of cases to the observed. The project and data collection is funded by the Norwegian Research Council. (Annex 1.)

In the work at hand I draw from the actor-network theory, from now on called ANT in this thesis, which will further the knowledge on Northern Light tourism production and consumption, helping to grasp how cultural and natural characteristics of the phenomenon, actors and their networks affect the Northern Lights tourism development in Arctic regions of Iceland, Northern Finland and Northern Norway. In my thesis I explore which are the essential elements of these actor-networks and how these networks are constructed and how they work. Furthermore I will study how the uncertainty of this phenomenon affects the Northern Lights tourism product, seeking answer to the question if the uncertainty is more of a pull factor, making it exotic 'once in a lifetime' - experience or a barrier making it too difficult to experience.

Tourism and hospitality is an important economic activity in most countries around the world and it has significant economic impacts, both direct and indirect and in addition induced impacts. According to the latest UNWTO World Tourism Barometer total export earnings generated by international tourism in 2013 reached US\$ 1.4 trillion, which confirm the important role of the tourism sector in stimulating growth and contributing to international trade. (UNWTO 2014)

In Iceland, the direct contribution of travel and tourism was 6,8 % of total GDP in 2013. In Norway the share was 2,8 % and in Finland 2,3%. In addition, the visitor export shares for tourism were in Iceland 17, 3%, in Finland 5,1 % and in Norway 2,8% in 2013. Tourism has also been promoted as an important part of the development of Arctic regions, based on the growing numbers of tourists arriving and showing interest in polar and Arctic regions (see e.g. Müller et al. 2013, Hall & Saarinen 2010) and a notion being part of the wider recent interest in Arctic issues and future scenarios. When the relative importance of Travel and Tourism's total contribution to GDP in countries is compared, Finland holds the 49th, Norway the 31th and Iceland the 95th place, when the total numbers of countries is 184. (WTTC 2014)

Since there has been only few studies conducted on Northern Lights tourism (see e.g. Friedman 2012, Rautanen 2012, Amoamo & Boyd 2005, Weaver 2011), while the general interest in Arctic tourism has grown, there is a need for research on Northern Lights tourism practices and the socio-cultural effects and practices in popular Northern Lights tourism destinations like Iceland, Northern Finland and Northern Norway, both within local entrepreneurs and tourists. In this study I have created an understanding on the environment and setting in which and from which the actors in their networks create and perform Northern Lights tourism, grasping on the surface in which

tourists make their decisions and some of the reasons behind their choices, but more through-full study on the initial consumer behaviour and reasons behind the purchase decisions would be of great interest.

1.1 Choice of Research: Northern Lights tourism

Northern Lights tourism is a commercial activity that takes place in a natural environment. Important part of this activity are the products and experiences which are created, produced and consumed. Tourism products are destinations and places, like amusement parks and hotels, sights and experiences, like wildlife- watching or river-rafting. These are produced, developed and sold, in a process which might start from a tabula rasa or from a moment in which elements already existing are combined together to create the product, which can partly or as a whole be an experience. In Northern Lights tourism, the product is a Northern Lights tour, in which the company provides the customer with a service combinations, varying in diversity and scale. Some firms offer only transportation to a place, while some offer clothing, cookies and warm drink, base camp facilities, instructions for photographing and stories.

Product development in Northern Lights tourism has been studied in a Master's thesis written in University of Lapland by Leena Rautanen (2012). In her thesis, Rautanen (2013) has studied the product development in Northern Lights tourism, comparing the products in Fairbanks, Longyearbyen, Kiruna and Sodankylä, concluding that a natural phenomenon can be materialised as a tourism experience product. Rautanen (2012) has also pointed out out how there hasn't been any other northern lights related research done in Lapland (Rautanen 2012), a need in which I will contribute with my thesis.

The networks of ANT, which in this study means especially the networks of Northern Lights tourism, are made up by a range of social-material entities or actors. These networks are relational effects resulting from complex linking and ordering of heterogenous entities. When I apply this theory to Northern Lights tourism I try to identify the complex entities of the phenomenon, hence creating a view of Northern Lights tourism and its actor-networks. In the process of creating, negotiating and stabilising networks many entities are connected through seamless intertwining of actors, which does not only cover people but also spaces and other players. Northern Lights tourism

is thus seen as social product, which is characterised by associations and multiplicity, rather than division. (Latour 1999, Law 1994).

Tourism experiences have been mostly studied from three perspectives, psychological, economical and socio-cultural (see eg. Lüthje & Tarssanen 2013). Joseph Pine II and James H Gilmore (1999) have made a great contribution to experience studies by researching and theorising experience economy from the supply/demand perspective. Moreover, Mihaly Csikszentmihalyi (1992) has contributed to experience studies from the psychological side with his flow- concept (see e.g. Csikszentmihalyi 1990, Lüthje & Tarssanen 2013), which describes a type of experience happening also but not only in tourism context. In my thesis I am studying the tourism experience, in this context Northern Lights, from the socio-cultural perspective.



Promotion material promoting tours and destination in Iceland, Norway and Finland.

In the North, harsh climate and weather conditions, long distances and varied degree of infrastructure build some significant barriers and challenges to mobility. The infrastructure varies between areas and destinations, but still many of these are dependent on decisions and funding made and coming from outside the region. Iceland, Norway and Finland are countries which all are selling the same phenomenon in more or less same settings, sharing many cultural and political values but on the same time being separate countries divided by national borders and different tourism business practices. Nevertheless, from the marketing materials it is sometimes hard to

separate the countries selling the same experience. It is more the services and national business policies and practices which separate these areas and services.

Reykjavik and Iceland in general attracts more tourists from the North America and Canada and also tourists who make a stop on the Island on their way between Europa, Asia and Northern America. Even though there are firms offering Northern Lights tourism in Canada and North America, for most of the tourists from the centres of these countries it is easier and cheaper to fly to Iceland or even Norway to experience Northern Lights. Northern Lights tourism has been promoted especially to North American tourists by Icelandair, which has carried campaigns in the big Northern American cities. Helsinki- Vantaa airport and Finnair being and promoted as a growing hub and company for travel between Asia and Europe serves Northern Lights tourists with connecting flights from Helsinki-Vantaa to Northern Lights tourism destinations like Tromsø.

In this thesis I have used only the term “Northern Lights”, to make things clear, but it would be as accurate to translate the term to Aurora Borealis or just aurora. With the term “no-show” I refer to the situation when the Northern Lights tour is on and there are no Northern Lights to be seen, be it because of the weather and clouds, low solar activity, wrong spot or some other reason.

1.2 Research Objectives: What I have studied, how and why?

The cases of my study are Northern Lights tourism tours in destinations in Iceland, Norway and Finland. With five other researchers I have taken part in and observed nine tours, one of which departing from Reykjavik, two from Akureyri, three from Tromsø, one from Alta, one from Muonio and one from Rovaniemi. The group of researchers has also conducted four focus group interviews among guides, coordinated by project leader (Annex 1.). During the tours we observed the experience being produced and consumed and the data, which is collected following ethnographic methodology, contains autoethnographic notes , both written and recorded, notes from the focus group interviews in Iceland, Norway and Finland and audio-visual material. This data is further combined to tables and organised in systematic way, which I have then analysed following the analytical methodology of ANT and ethnography. The six members of the research group have access to the primary data and it is handled and stored by care and guidelines.

The case of this study is Northern Lights tourism, It is also notable that through nine cases, of which three in Iceland, four in Norway and two in Finland, I have been able to test and apply the theory in a way that allows us to see if the phenomenon is universal or if the context is country based. Despite of latter, this is not a comparative case study; it has not been my intention to study in detail the differences between Northern Lights tourism in Iceland, Norway or Finland; rather I have been concentrating on the way Northern Lights tourism has been created and developed from a natural phenomenon which does not see any borders between countries and regions. The sky is the same for every one of us. Nevertheless the framework I have chosen does not mean that it would not be of interest to conduct a specifically comparative study on Northern Lights tourism in different countries.

Case study can be defined as one case selection strategy among others, like experiment and survey research (Hammersley 1992). It is not the intention of this thesis to do a comparative study on the phenomenon in different countries, but to study Northern Lights tourism as a case, a socio-cultural and material practice in itself. Bent Flyvgjerg (2006) has been criticising the critique towards case-study research, arguing that while social science has not succeeded in producing general, context-independent theory, it has in reality nothing else to offer than context-dependent knowledge. In this case, I approach the case with the theory chose and the knowledge I create is therefore context-dependent. Nevertheless, geographically and spatially wide context supports the valiability of this thesis, because the conclusions can be applied in Northern Lights tourism in Iceland, Norway and Finland and with some restrictions even in other counties where Northern Lights tourism emerges or is planned to be applied. The data collected in the three countries and by observing and interviewing many practitioners is a valuable asset to the relevance of the findings of this thesis (see e.g Hammersley 1992) to the practitioners of Northern Lights tourism and it is also the value of this ethnographic study that is strengthens by the relevance.

In recent years there has emerged a performance turn in tourism studies, emphasising the embodied and performance-like nature of tourism practices (see e.g Jóhannesson 2005). Tourism is in growing numbers seen and researched as multidimensional spatial practice, involving cultural, material and social elements and networks. Tourist project is an end result of actor networks (Jóhannesson 2005) and by going into the spatialities of translation we can create better understanding of what makes tourism happen in place and how this tourism could be better managed in the future. In his dissertation *Tourismscapes, an actor-network perspective on sustainable tourism development*, V.R.

van der Duim (2005) introduces the concept *tourismscapes*, which indicates the complex process of ordering people and things into networks (Duim 2005). This dissertation has contributed to the development of ANT to be suitable for tourism research, argument also made by Gunnar T. Jóhannesson (2005, 137) referring to the relational materiality of ANT.

Each network traces its own particular space-time which reflects both the variety of the materials used in construction and the relations established between the combined elements. And if these networks are successfully established, if all the elements act in collaboration, then they will take on the properties of actors (Latour 1987, Law 1994). This conclusion follows from the observation that actors can only do things in association with others (Latour, 1986); it is only by enlisting heterogeneous others in sets of stable relations - relations which allow for the transmission of action - that things happen. Actor-networks are both networks and points, moments in which the acts and relationships are stabilised (Callon and Law, 1997, p. 174). Tourism, when we approach it from the performance viewpoint, is a practice which “can be understood as a practice that involves networked orderings of people, natures, materials, mobilities and cultures; production as well as consumption of those different elements” (Jóhannesson 2005, 141). Tourism relations are ordered and happening through space the in which relations have certain spatialities. When studying Northern Lights tourism from the ANT viewpoint, I am thus studying the spatial ordering of Northern Lights tourism, in order to understand what makes the Northern Lights tourism happen in a space.

Actor-network theory has been used and tested in many social, but also market studies. In example Michel Callon argues that “ANT has passed one of the most demanding tests: that of the market (Callon 1999, 181)”. The networks of ANT, which in this study means especially the networks of Northern Lights tourism, are made up by a range of social-material entities or actors. These networks are relational effects resulting from complex linking and ordering of heterogeneous entities. When I apply this theory to Northern Lights tourism I try to identify the complex entities of the phenomenon, hence creating a view of Northern Lights tourism and its actor-networks. In the process of creating, negotiating and stabilising networks many entities are connected through seamless intertwining of actors, which does not only cover people but also spaces and other players. (Latour 1999, Law 1994). Northern Lights tourism can thus be seen as social product, which is characterised by associations and multiplicity, rather than division.

The methodology, with the theory, allows me to conceptualise the phenomenon through critical reflexivity (see e.g. Heiskala 2000) in which I understand and reflect the relationships which get their meaning through the subjective agency and which allow practices to happen. Constructivism describes the perspective with which the relationships are understood to be dependent on the cultural constructions created in reflexive human practices. The semiotic process from and which the reality is constructed creates the identities of the subjects and creates the possibility for practice. It is the objective of this study and ANT to offer the society a better understanding on the processes in and from which the practices and agencies can be identified and tools with which these practices can be modified.

Adrian Franklin (2007) argues how the tourism theories have too much concentrated on the negative effects of tourism, when it should have been noting also the positive effects and processes. Outside the academia, argues Franklin (2007, 145), the tourism practices and effects are in many discourses represented as positive. Especially in Iceland it was noted how tourism was promoted and seen as the saviour, and opportunity which helped the national economy to recover after the crisis. In my thesis I will try to answer to this need of taking into account both the positive and negative effects and practices, although keeping in mind that in not all the cases there are both sides to look for - some processes and practices might be just negative, especially when I look the data from the theoretical point of view, which directs my actions to the ready set representations.

The bits of information linked to concrete representations of society and social relations creates the structure of modernity (MacCannell 1999, 136). MacCannell (1999) argues that each act of sightseeing, like a moment when a tourist stands still and turns her face to the sky to admire the Northern Lights, must replicate one of these linkages more or less exactly to re-create the construction of modernity. If it does not happen, the modernity will eventually decompose (MacCannell 1999). A close examination, like the observations done during this research process, reveal the individual making her own sight-marker linkages, in this way construction or reconstructing her own part of the modern world. The level of intensity of this task varies and it was not as clearly observed in all of the cases, but I will describe in next chapters the way actors in their collective practices construct a structure of Northern Lights tourism networks. The structure of social reality is a collective accomplishment of the experiences of tourists (MacCannell 1999, 141) and Northern Lights tourism is only a one of the many social realities constructed by the collective experiences of tourists.

My interest in using ANT in my study came initially from the discussions on the close linkages and similarities between tourism and ethnographic research. If and when ANT had been used, resulting in well articulated findings, in tourism research (see e.g. Duim 2005, Jóhannesson 2005) it could also be used in Northern Lights research. For me ANT offered a viewpoint from which I could understand the phenomenon at hand more broadly, resulting in new findings which would add a new discourse ??? to the Northern Lights tourism research, which is and should be continued in the future also, alongside the growing Northern Lights tourism itself.

Ren et al. (2009) have illustrated in their paper how in tourism research network, human connections and relationships are vital in effecting change (Ren et al. 2009, 899), which they argue results in collaborative advantage (see e.g. Huxham 1993). It is therefore I argue that the findings of this thesis can be used especially when the industry tries to cope with the challenges it is faced with. Working together and understanding the importance of the relationships and the actors connected to each other others help the industry and destination areas to gain collaborative advantage. Huxham (1993, 603) has defined this collaborative advantage as the result which will be achieved when something unusually creative and innovative is produced in collaboration with others, creating results which are greater than it would be if the organisation would produce something on its own.

For me the Actor-Network theory gave the kind of perspective with which I could take into account and to show the way Northern Lights tourism is highly influenced not just the entrepreneurs and tourists, but also by a range of other actors who interact with and influence each other the practices within various networks.

This thesis is aimed at to make the reader to understand the Northern Light tourism better. It is the intention of me with this thesis to offer a guide to the Actor-Networks of Northern Lights tourism in Iceland, Norway and Finland, so that if the reader one day visits one of these places, he or she can experience or rather, to recognise the Actor-Networks and see them working in reality, in different time and in different settings, but with the choreography and idea which reminds the acts I was witnessing this winter. The lights I have seen were only seen by me and in that exact moment, but there will be many more eyes and many more moments to witness their lights. Or the darkness, which made it impossible for me to make notes or see where I was going.

1.3 Reflexivity and ethical considerations

While reviewing the literature on Arctic tourism, I noticed that the further I went to the history the less articles I found and many of these articles proposed some false characteristics, or at least generalisations, which are not accurate. However there has been a positive trend in the amount and quality of articles concerning Arctic tourism (see e.g, Viken 2010, 112) and the trend should be growing both because of the growing numbers of Arctic tourism but also because a research projects like Winter (Annex 1.). In addition I have chosen to reflect on my own experience and personal history in the Arctic, to bring forward the empirical knowledge already there. This might not suit well to the traditional desire for researchers objective role on the field, but it answers to the current desire for reflecting the researchers own experiences as a way to create more accurate and I would even say ethical, knowledge production.

Viken has also noted (2010, 113), referring to Hall and Boyd (2005:6) that in academia and tourism literature there are signs of centre-based descriptions of the peripheral otherness. In this thesis I try to avoid this, helped by my own position as a researcher with origins in the Northern, peripheral Finland, away from the centres. Nevertheless I have been influenced by the mostly anglo-american tourism literature and research practices and during the research process I have reflected on this by going back and forth between my own personal history and the education and knowledge gained from the University and academia. In this way I have been able to challenge both my own views and the views presented in the literature, testing the theories and descriptions with my own empirical experience and on the other hand challenging and highlighting my own practices supporting the presented theories and descriptions.

Viken (2013) has noted how the close relationship between researcher and the researched field has advantages in research. Franklin (2007) has argued how many times the research on nature-based tourism fails in the way it does not recognise the humans part in and connection to nature. For me it was an advantage to know the culture and the environment I was working in, both ethically and practically. In this way the way I see things and how I interpret them has closer connections to the wider discourses and the other interpretations done inside that same culture. That way I could concentrate more on the things I was really looking for, the really unfamiliar aspects of Northern Lights tourism, because my own cultural knowledge helped me to understand the aspects which might have been unfamiliar to a researcher from a place more different. I knew, with over 20 years

experience, that the darkness during the polar night is not the same kind of darkness in all places. I knew that the snow would reflect some light and especially the moonlight and that in the places there would be no snow I would not be able to move as freely since the darkness would be more restricting.

An existential part of the research is the fact that I am part of the social world I study and there is no way I could escape the social work I am studying (Hammersley & Atkinson 1983, 15). Reflexivity, like this thesis, makes implausible attempts to found social research upon epistemological foundations independent of common-sense knowledge (Hammersley & Atkinson 1983, 17). In practice, to be reflexive is to have an ongoing conversation about experience while simultaneously living in the moment (Hertz 1997), reflecting on what I know and how I know it. Research techniques the researcher in ethnographic study is applying, like observations and conversations, are not fundamentally different from other forms of practical everyday activities and it is the reflexivity and analysis through which the process gets its foundation independent of common-sense knowledge and everyday practices. Simplified, science and research practices can be described as self-conscious common sense.

Above mentioned reflexivity has also implications for the practise of this thesis. The data I have created and collected is a field of inferences in which hypothetical patterns can be identified and their validity tested out (Hammersley and Atkinson 1983, 18), resulting in an analysis and better understanding on the phenomenon. It is also important to keep in mind that the theories I have applied to explain the behaviour of the people we study and the phenomenon in general, should also be applied, where relevant, to my own activities as researcher (Hammersley and Atkinson 1983, 19). That is the simplest and clearest way to see how the social works and to understand the foundations of a human behaviour in a given situation. When applying ethnographic methodology to research process it is also worth mentioning that testing and partly developing the theory is the distinctive function of the process which is social research and not just journalism or other social activity and reflexivity.

It has been argued (Hammersley & Atkinson 1983, 23) that the value of ethnography is partly related to its ability to depict the activities and perspectives of actors in ways that challenge the misleading preconceptions, because it is hard to maintain preconceptions in the face of extended first-hand contact with the people and settings at hand. Another valuable function of ethnography,

very well welcomed in this thesis also, is the flexibility of the ethnography, which has allowed me to adjust the strategy, direction and techniques used on the field quite easily, which has also helped me to get rid of earlier mentioned preconceptions. I was aware of that the situation and environment on the field might be different than I expected, and it was useful to have a methodology which allowed me to change and modify my strategy and techniques when faced with reality which did not reflect my expectations. For example, the first fieldwork period in Iceland made me realise that documenting the practices on tours would not be possible with my or any camera, since it was too dark to take pictures without a flash, latter of which would have interfered in situations too effectively. In that situation ethnography allowed me to leave photographing out from my set of data collecting techniques and to modify my research strategy, to make it more suitable for the research purposes and environment.

Franklin (2007, 145), inspired by Furedi (2005) has pointed out how researchers have traditionally seen tourism as something to fear of, something which does not leave many positive effects behind. On contrary to that, especially the current debate on sustainable development of the Arctic sees most of the time tourism, especially nature-based from the positive point of view, especially when it is put against other resource based industries in North, like fisheries, oil and gas or mining. From my positive point of view I could argue that Northern Light tourism could have positive effects on the Arctic, benefiting the local communities, economies, environments and the research on Northern Lights tourism benefits people and destination by disseminating knowledge and understanding.

2. Northern Lights tourism

Northern Lights tourism belongs to the category of nature-based winter tourism in the Arctic regions. Since Northern Lights can be seen mostly in high latitude Arctic regions, these having the needed, although varied, infrastructure and modern societies to welcome tourists, Northern Lights can be seen as a significant pull factor to trigger travel to these areas. Northern Lights tourism utilises the natural, experiential aspects of northern environments and combines these to the socio-cultural interest and practices of international tourism, which in polar regions links many of the tourists from a non-polar region to a polar region (Müller et al. 2013, 5). Furthermore the Arctic is changing from a peripheral region to global arena with discourses related to its geo-economic, environmental, political and social dynamics, in the middle of which tourism is developed, practised, and produced and most importantly highlighted as both positive and negative possibility and threat to local economies and livelihoods. (see e.g. Hall and Saarinen 2010, Müller 2006, , Müller et al. 2013, Grenier & Müller 2011, Grenier 2007, Stewart et al. 2005)

To enjoy certain qualities of nature and the natural environment has become a major motivation for many travellers to Iceland and other parts of the Europe (see e.g. Sæþórsdóttir 2010, Bell & al. 2008). The growing interest in Arctic Tourism has been noted in some current books and combined writings on Polar and Arctic tourism (see e.g. Snyder & Stonehouse 2007). Notable challenges but also possibilities for Arctic tourism are based on seasonal changes, and it has been noted that the gaps between seasons should be tackled with initiatives on developing products and destinations suitable and desirable for year-round tourism. There is not just a one definition of Arctic tourism or tourism in the North, but we can make some notions on the remarkable characteristics of tourism in the Arctic and especially in Iceland, Norway and Finland. Norway, with its long coastline caters a tourist masses from cruise ships, which represent the largest mass tourism activity operating in the Arctic (Snyder & Stonehouse 2007, 5). In the coming years this activity is expected to grow in numbers, caused by the opening of the Northern Sea route and also by the efforts of growing the tourism shares in the North where there are a growing need for other economic activities to the side of natural resource extraction, oil and gas activities and more traditional economies like hunting and reindeer husbandry. It has been noted how in Finland, Finnair expands flights to Lapland and other Arctic destination, in the purpose of serving the growing number of Northern Lights tourists (Good news from Finland) and that the Arctic region is perceived as a growing market (Finnish Government). In Northern Finland, mass tourism has concentrated on chartered flights from Britain and around Christmas tourism. In Reykjavik, Iceland and Northern Norway some tour operators

offer Northern Light tour products suitable for masses. Changes in consumer behaviours and values has created a new tourist, emerged during the 80's and 90's, a tourist which is independent, refers flexible and spontaneous itineraries and positive impact on the destination and searches for physically and mentally challenging experiences (see e.g. Poon 1993). Nilsson (2007) writes how this concept of new tourist can in the right context serve as a model for trends in the development of post-modern tourism. In most parts, post-modern tourism borrows from romanticism its admiration for nature as tourism context. Promotional material is based on the romantic admiration of pure, authentic nature, creating expectations of spectacular nature offering extraordinary experiments (see e.g. Rantala 2012, 92). In tourism studies the ethnographic methodology combined with ANT takes into account the the relationship between nature and tourism as socio-cultural phenomenon (see e.g. Rantala 2012, 94).

Bourdieu introduced us with the concept of habitus, with which he refers to the lifestyle, values, dispositions and expectations of particular social groups that are acquired through the activities and experiences of everyday life. Following Bourdieu's thinking (see e.g. Bourdieu 1998) I am approaching, with ANT, the phenomenon from the viewpoint, with which I understand the habitus in relationship of an actor's "best interest" through attention to the cultural definition of the "best". Individual agents, in their networks, embody and materialise their social structures in a relationship between themselves and the contextual tourism environment. This environment is their and my field, conceptualised by tourism practices and my work. The reality and entities are constituted by relationships. Although the actors are the products of the constructions, they make and re-make the constructions and in some occasions they can even modify it more or less dramatically (Bourdieu 1998). Network can thus be understood as a construction which produces the actors but which is also modified by the actors and their practices. In their networks, the power of other actors like weather and darkness to change the course of an activity, makes it important for other actors to react and conduct reflexive practices on site

Tourist experience, in its most authentic form, involves a participation in a collective tourist ritual, in which a person connects her/his own "marker" (McCannell 1979, 137) to a sight already market by others. I have seen the Northern Light all my life, but only recently I have have been introduced to the concept of Northern Light as a touristic attraction, a sight which other people travel to see and to which people connect their perceptions of what tourism is for. For tourist seeing the Northern Lights is a reason to travel somewhere, it is something which one has on his/her bucket list.

2.1. Northern Lights tourism and previous research

There are few previous studies on Northern Lights tourism, those few mostly concentrating on the anthropological studies of lights and cultural meanings (see e.g. Friedman 2012), product development (Rautanen 2012), and some of which see Northern Lights as one of the many assets which draws tourists to the Northern hemisphere, but very few studies have taken into account Northern Lights tourism as a phenomenon itself. Furthermore there is a lack of studies about winter tourism in the Northern hemisphere. Many of the previous studies in Arctic Tourism are mainly focused on the peripheral image and perceptions on the region, but lately there has been growing supply of studies criticising this peripheral perception. It has been pointed out how there's significant lack of knowledge on the social changes and phenomena in Arctic (Viken 2013) and while this study will crab into this field it will be just a minor part of the whole environment still unexplored in the field of Arctic tourism, with which I mean tourism happening and practised in the Arctic and regions above Arctic Circle. Furthermore Northern Lights tourism has many characteristics which belong inside the experience economy frame conceptualised by Pine & Gilmore (1999)

In a study conducted in Canada by Amoamo and Boyd (2005) Northern Lights were studied as a part of a visual imagery in tourism. The paper focuses on the representation of natural and cultural heritage in the region of Northwest Territories (NWT), Canada, noting how Northern Lights belongs to the attributes of North, like midnight sun, wildlife and others, to “offer customised niche products than promote the ‘experiece and, hence, the personal outcome (satisfaction) to the individual” (Amoamo & Boyd 2005, 9). In Canadian Northwest Territories the Northern Lights, or aurora product as it is labelled in the article, has provided an opportunity for cultural tourism development, finding niche in the Japanese market (Amoamo & Boyd 2005, 11). In Canada the tourism enterprises have used the cultural mythology of First Nations people attached to the lights to enhance the tourism promotion of the product and the estimated direct tourist expenditures were in 2005 estimated to grow to numbers as big as 19.9 million dollars in 2000 (Amoamo & Boyd 2005,11)

In Norway, Friedman (2010) has studied how the nation incorporates aurora into identity. He notes how the famous explorers, and forerunners for tourism in Northern hemisphere, like polar scientist

Fridrof Nansen and physicist Kristian Birkeland, helped to transfer the northern lights from a regional to a national icon, which in turn promoted scientific investigations, which furthermore promoted tourism in North. However, this study lacks the connection of Northern Lights to tourism as a practice and Northern lights tourism as a product, although it very well investigates how Northern Lights are connected to national identity and how they have cultural value which should not be underestimated.

For those interested in the observed auroras, there are specific catalogues of auroras observed at a specific locations over history, starting from a catalogue compiled by Mairan (1733) and including even remarks on auroras observed as low-latitude sites as Iberian Peninsula (Vaquero et al. 2003). We could also count into the historical remarks of Northern Lights the remarks made by Norwegian polar explorer Fridjof Nansen (1861-1930), who according to his stories witnessed the lights many times during his expeditions.

It is clearly demonstrated that Northern Lights tourism is a sightseeing tourism, where the sight is the Northern Lights. John Urry (1990) has argued that in modern western tourism the landscape is appreciated according to particular aesthetic criteria, a so called romantic gaze, in which tourists are occupied with photographing sites and scenes and in which a noise is minimised and a sense of wonder and appreciation is communicated to fellow tourists and peer groups. Nevertheless Northern Lights tourism is not only about the visual apprehension, it is also embodied practices, narratives and experiences.

Tim Edensor (2011) has studied the Northern Lights tourism in Iceland from the landscape perspective. He notes the recent growth of tourism to Iceland, Canada and Norway to experience Northern Lights in Arctic venues and how the Lights have become an integral part of Iceland's tourist branding. Interesting note made by Edensor (2011, 228) is that aurora experience is typified with the qualities of stillness and the there are relationalities which inhere in the aurora landscape, which produce powerful affective atmosphere which fosters embodied involvement and sociality (Edensor 2011, 228).

Celestial ecotourism, in which David Weaver (2011) counts Northern Lights tourism, is unrecognised institutionally, which can be demonstrated with a lack of research on this subject. Weaver (2011) has also noted how celestial tourism has the possibility to answer on the growing

desire for sustainable practices, arising from the need to preserve and restore dark sky and, calling for collaboration between institutions. Therefore one part of this study is to look for if and how the actor-networks of Northern Lights tourism use and showcase this kind of collaboration, resulting in above mentioned sustainable practises. Weaver (2011) notes how aurora-viewing is the best articulated as a geographically special commercial sector explicitly focused on tourism and according to Weaver this could be used as part of the process in which enhancing sustainability would be the result when developing the ecotourism potential in celestial tourism. In Northern Lights tourism the most remarkable sustainability issues is the transit, since the travel of thousands of visitors from origin countries as far as in Asia to remote high-latitude destinations like Finland or Iceland, combined with the transport at the destinations.

Especially the Japanese tourists have been examined in studies about winter tourism in Northern Europe. For Japanese, Northern Lights are a phenomenon with high mythical meanings and their visitor profile has been examined in example in study made by Milner et al. (2000) about Japanese tourists visiting Alaska. Weaver (2011) argues that Canada and Finland are probably the countries with the biggest market success, conclusion which followed a study made by celestial ecotourism, part of which Northern Lights are seen in this study. This study notes the problems related to sustainability in Northern lights tourism, especially in the need to preserve the dark sky, which plays huge role in Northern Lights viewings since those can't be seen in daylight or in areas with high degrees of light.

Psychological perspective to Northern Lights tourism has been presented by Gloria Avrech (2002) who in her study reflects on her mostly inner journey to her thoughts while following an idea of a trip to see Northern Lights as a reward of completing her training program. Latest paper on Northern Lights has been written by Line Mathisen (2013) who has studied the Northern Lights tourist experiences in Norway through a one case, concluding that the natural environments of tourist activities are multidimensional, and that by staging natural environment the Northern Lights hunt aims to engage participants emotionally. Furthermore, she suggests that tourism managers can benefit from viewing the natural environment as a co-created, multidimensional performance space (Mathisen 2013).

Bille and Sørensen (2007) have argued that understanding light as a powerful social agent, in its relationships with people, things, colours and others, may facilitate an appreciation of the active

social role of luminosity. Above mentioned are mostly concerned on the luminosity in the context and practice of day-to-day activities, but following their well demonstrated argument and combining that with the findings from the observations and interviews conducted in this study, we could say that luminosity plays an active social role also in tourism setting and especially in the actor-networks of Northern Lights tourism. What is interesting is that we talk about the Lights as the main attraction in Northern Lights tourism, but light and the luminosity is also one of the biggest barriers for the Northern Lights. There is the artificial luminosity of the urban centres, light-pollution as we call it, but more importantly there is the sun, which both acts as a catalyst in Northern Lights, in a way of solar-storms, but which also makes it impossible to see the lights during daytime or summer. Some tourism destination are turning street lights off in order to give people better opportunity for Northern Lights viewing. In Northern Finland, Ylläs has promoted this action as the “twilight time”.

Susan Sontag wrote already on 70's how everyone are addicted to aesthetic consumerism in which reality is confirmed and experience enhanced by photographs. She continues how having an experience has become the same as taking photograph of the experience. In our interviews some of the guides were referring to the customers who are there more to take photo of the Northern lights rather than really experiencing it. Some guides said how they might advise people to concentrate more on the experience itself and not to adjust their cameras all the time, while for some of the guides photographs was the thing and like one guide in Norway said : you become addicted to taking the pictures, and you might end up with hundreds of pictures on one night. Northern Lights tourism really seems to have characteristics which shows the way people are addicted to photographing as an aesthetic consumerism (Sontag)

The history of the photography has always been balancing between the struggle between two different imperatives, the beautification of the motive, coming from fine arts and truth-telling. The photograph has been supposed to unmask hypocrisy and combat ignorance, but like in the case of Northern Lights tourism the photograph also works as a ordering practise. Photographs scrutinise reality and order the value of appearances. Northern Lights are valued as worth capturing, and photographers, mostly amateurs, make seeing into a new kind of project in which a photograph acts as a demonstration of a reality, a production which like a trophy acts as a proof of a goal successfully achieved. Photograph, as commonly regarded as an instrument for knowing things, acts as an instrument for knowing Northern Lights exist. (Sontag 1977)

2.2 Winter tourism in Iceland, Norway and Finland

Some of the firms and marketing organisations, like Arctic Guide Service, especially in Norway, market Northern Lights as an arctic experience, therefore connecting Northern Lights to the Arctic winter tourism. Recently Arctic itself has been under the spotlight in many discourses from climate-change issues to the international politics and economic development of the area with high amount of natural resources to be exploited, making the economic development of the Arctic regions and states an important issue in many recent development agendas and policy discourses.

Johnston (1995) introduced the label polar tourism to describe the tourism happening in both polar areas of the globe. Furthermore Snyder and Stonehouse (2007) have studied and written papers on the prospects and environmental aspects of polar tourism. In Scandinavia, Arvid Viken (2011) and Dieter Müller, with C. Michael Hall (2008) have studied the Arctic Tourism in the Nordic context and Viken has also criticises the research practices and traditions in tourism research on Arctic (2013). Another notable part of Arctic tourism, cruise tourism in the Polar regions, has been studied by Patrick T Maher, Emma J. Stewart and Michael Lück (2010) and Per Åke Nilsson (2007).

Snyder and Stonehouse (2007) have studied the prospects for polar tourism and introduced the basis characteristics and assets of polar tourism, including Arctic. The barriers for tourism in the Arctic include difficulty of access, environmental conditions, high costs and the differences between seasons (see. eg. Snyder & Stonehouse 2007). Tourism industry can flourish when they can avoid, minimise or manipulate the discomfort and danger of natural environmental conditions (Snyder & Stonehouse 2007). The communities of Iceland, Norway and Finland have a long tradition of adjusting and modifying the natural environmental conditions for their needs, both for the industries and people in general. The interplay between sustainable and exploitative environmental management practices creates the environmental conditions that the traveller experiences (Snyder & Stonehouse 2007, 10) and tourism constitutes the single largest human activity in the polar regions (Snyder and Stonehouse 2007, 13). The scale and size of tourism practises in Iceland, Norway and Finland differs from mass tourism products and services like cruise tourism along Norwegian coast and to Iceland, to small firms offering smaller-scale and more individualistic niche products and tours.

It must be also kept in mind that the tourism in polar regions is going to be impacted by global environmental change (see e.g Johnston 2006). Johnston talks about hospitable and inhospitable climate and the possibility of overcrowding, which was already observed problem in some of the destinations and occasions in Iceland. Johnston (2006, 49) notes that there are opportunities for new activities, replacement and diversification for tourism operators and communities to moderate the negative and benefit from the positive. The actor-networks of Northern Lights tourism I have represented in this study and the way they generate innovative products and work through diversification could act as an example of an entity which is used to and ready for further modifications in response to diverse challenges.

3. Actor-Network Theory

The history of actor-network theory, or ANT as I will call it in this thesis, starts in the late 70's, when it was introduced as the sociology of science. From that the theory has spread to other fields of social research, including tourism research, being used, developed and criticised (see e.g. Latour 1997, Law and Hassard 1999, Jóhannesson 2005, Duim 2005, Ren et al 2010). Like the networks, the theory itself is fluid and in constant movement and mutation. John Law (1999, 3) has described ANT as an application of semiotics, in which the entities form and acquire their attributes as a result of their relations with other entities. Understood as a semiotics of materiality (Law 1999, 4) it shares some of the thoughts with Michael Foucault's work, with the understanding of relational materiality, which is constructed in and a consequence of the relations of entities. The relationships construct the networks from and in which actors are the result. Actors take their attributes of the entities, through relational materiality and performativity (Law 1999, 4-5). ANT follows the thinking of Foucault, which says that the society and social relations are constructed by practices and it is the actors who as subjects use the power through their actions (Heiskala 2000).

From the almost thirty years long history of actor-network theory one can find three notable names, Michel Callon, Bruno Latour and John Law, researchers studying the sociology of science. Theory allows the investigation of a diversity of actors and the interactions and relations between them. Actor-Network theory also allows the researcher to identify and reflect the change in the networks, be they economic, social or political, which might be the reason that the theory has recently been applied and will most likely be applied in studies which are studying phenomena in change and the development of the issues behind the development processes (see e.g., Bramwell 2006, 160). ANT is also a methodology, a way to access sites and moments and a way to travel from one spot to the next, from one field site to the next and not a simple interpretative theory of what actors simply do. In the process of negotiating and stabilising networks a number of entities are engaged through seamless intertwining of actors (Ren et al. 2010, 889). Thus the networks are relational effects created by the complex linking and ordering of and fluid relationships in heterogenous entities.

3.1 Actor-Networks

Stories are part of ordering and as we create and recreate our stories we make and remake both the facts of which they tell, and ourselves (Law 1994, 52) and histories may be treated as modes of telling and orderings. In ANT we seek for these histories and stories people tell and write and from there we find the orderings which create the stories or agencies. Histories and stories are ordering resources for working on and making sense of the networks of the social and in this they order the agencies and reveal and modify the characteristics of these agencies (Law 1994, 71). And with the modes of orderings we mean the lightly regular patterns that may be usefully imputed for certain purposes to the recursive networks of the social, embodied within and generated in as part of the ordering of human and non-human relations (Law 1994, 83). It is in these processes the ANT's are to be seen and to be modified. Law (1994) is arguing that it is not good for thinking this modes of ordering of things which are or aren't there, but rather as modes which might be usefully imputed to the patterns of the social for certain purposes (Law 1994, 83-84).

Based on Law's (1994) arguments we can say that actors have the possibility and power to modify the social for certain purposes, although it must be noted that we can not really say that the non-human actors have the means to act based on certain purposes. We should rather say that the humans use the non-human actors for their purposes. In order to achieve their intended outcomes, actors have to enrol and empower other actors into their own projects, after which the actor is able to borrow their force and speak and act on their behalf or with their support. The networks of the social carry and instantiate a series of intentional but non-subjective reflexive strategies of social ordering. (Law 1994, Callon 1986, Duim 2005)

ANT is a sociology of process, deriving from structuralism and post-structuralism. It says that agents may be treated as relational effects, which, however, are not unified effects. Agents are rather an effect of ordering, which in other words says that there are no stable social order, but endless attempts, processes and modes of ordering, latter of which is described as 'translation'. (Law 1994, 100-101, Callon 1986). Furthermore, Callon (1999, 194) says there are no model actors. The identity of the actor and the practice depends on the configurations the actor and the observer make and we can understand the actors only when we allow the non-humans to extend their action and practices. These moments of constitute the different phases of a general process called translation,

during which the identity of actors, the possibility of interaction, and the margins of manoeuvre are negotiated and delimited (Callon 1986).

3.2 What are the Actor-Networks and how they act?

Actor-network theory is the sociology of ordering (Duim 2005, 85, Law 1994). Actors take their form and acquire their attributes in their relationships with other actors and an actor is anything that acts or receives activity from others (Duim 2005, 86) and it is in this way, by applying subjectivity to non-human actors, that it differs from more traditional sociological theories.

An important aspect of actors is their materiality. In tourism, Duim (2005, 86) argues, following the imagination of Law and Hetherington (1999, 2) there are three kinds of materials: bodies, objects and information and media, which materialise themselves in various ways. First, the bodies materialise themselves and others through empowering practices, like guiding, taking part in leisure activities or sleeping in a hotel bed. Secondly, objects in tourism are materialised as sights, attractions, hotels, planes, cars and other natural and artificial objects. Third, information and media are materialised in promotion material, magazines, images and photographs, tickets, social media platforms and apps. Tourism is held together by active sets of relations and interactions in which the human and non-human actors continuously exchange properties and information (Duim 2005, 88). Important character of actor-networks, ordering, is made possible through relational materialism and the ordering has to do with both humans and non-humans (Duim 2005, 88, Jóhannesson 2005, Law 1994). Furthermore, ANT overcomes the dualism between human and non-human, highlighting the relationship between the social and material at the centre of the analysis (Duim 2005, 90). In tourism it is the effect generated by network of heterogeneous, interacting materials which counts, because the action is the result of network construction (Duim 2005, 92).

Actor-network theorists are interested in processes of translation, the method by which actors form associations with other actors and actor-networks are established and stabilized (Duim 2005, 94, Murdoch 1997, 331). Translation refers to the processes of negotiation, representation and displacement between actors, entities and places, based on the network requirements (Murdoch 1998, 362). In order to achieve their intended outcomes, actors have to enrol other actors into their own 'projects' (Law 1994, 60). If other actors are successfully enrolled in an actor's network, then that actor is able to borrow their force and speak and act on their behalf or with their support. This

process means that the actor becomes both the network and a point within it. The method by which an actor enrolls others are described by Callon et al. (1986) as a process of 'translation', including four phases. This process includes defining and distributing roles, devising a strategy through which actors are made indispensable to others and placing others within an actor's own itinerary. Not every translation involves all four moments (Duijm 2005, Callon 1986) and the order of the moments is not always linear and they may even overlap in some cases.

In the first phase, problematisation, the actors and the problems are identified. It is the actors, both human and non-human, which are needed for the construction of the networks in the first place (Callon 1986, Duijm 2005). The aim of the project in which actors engage defines the nature and the problems of the other actors, after which they suggest that the problems can be resolved by following the path of the action suggested by the project (Duijm 2005). The second phase, intersement, includes the process in which with the help and support of different practices the actors are identified to match the demands of the problematisation (Callon 1986). It is a process of translating the images and concerns of a project into that of others, and then trying to discipline or control that translation in order to stabilize an actor-network (Duijm 2005).

In the third phase, enrolment, the diverse roles connected to each other are identified and distributed to the actors identified through the negotiations done in the intersement phase (Callon 1986, Duijm 2005). In this phase the actors have been empowered to lock others into their own definitions and networks, so that their desires are served by other other actors as well (Duijm 2005). The fourth and final phase is the mobilisation of the allies. This phase is realised when the other phases have succeeded and the actor holds the agency in which it is able to represent a group which shares the same intentions(Callon 1986).

In the translation process the actors have created a common intention and a network of relationships which connects actors to each other and works as a solution for the problem. Another key notion in actor-network theory is that power is not invested in the actors but instead it emerges from the associations or relations that are made. Thus power only exists when it is exercised or actively performed through interactions with other entities in the network. (see e.g. Law 1994, Callon 1986, Duijm 2005).

Each network traces its own particular space-time which reflects both the variety of the materials used in construction and the relations established between the combined elements. And if these networks are successfully established, if all the elements act in collaboration, then they will take on the properties of actors (Latour 1987, Law 1994). This conclusion follows from the observation that actors can only do things in association with others (Latour, 1986); it is only by enlisting heterogeneous others in sets of stable relations - relations which allow for the transmission of action - that things happen. Actor-networks are both networks and points, moments in which the acts and relationships are stabilised (Callon and Law, 1997, p. 174).

In general, work on translation tends to identify two broad network types. On the one hand, there are those networks where translations are perfectly accomplished: the entities are effectively aligned and the network stabilised; despite the heterogeneous quality of any previous identities these entities now work in unison, thereby enabling the enrolling actor (the 'centre') to 'speak' for all. As the network settles into place the links and relations become standardised and therefore predictable (Callon 1992, p. 91). But there are also networks which are not as stable and in which the identities are shaped and modified in continuous process even when the other phases of translation have been stabilised. The strength of ANT, and this thesis, according to Jóhannesson (2006) is the understanding of the relationality and fluidity of these heterogeneous entities and

ANT could also be described as a sociology of translation, which describes the process in which the networks are constructed. In the process of translation agents attempt to characterise and frame the networks of the social, in which they also attempt to constitute themselves as agents. The network ordering is an uncertain process and the attempts might fail or succeed, and the agents as well as entities are materially heterogeneous in character, which is the base of the relational materialism in ANT. The material is an effect and related to where and from which it is an effect. Therefore it can be argued (Law 1994, 103) that agency and size are uncertain effects generated by a network and its mode of interaction. And the translation is about reflexivity, which is constituted by gathering, simplifying, representing and acting upon the flow of mobiles. The translation offers us a way of exploring how the modes of ordering interact to create the complex effects that we witness when we look at histories, agents or organisations (Law 1994, 109). In its simplest form, ordering offers a tool for imputing patterns to the networks of social that treats with materials in all their heterogeneity as effects rather than as primitive causes (Law 1994, 112). When arguing that social is materially heterogeneous, Law (1994, 2) allows us to study how the different human and non-

human objects are implicated in and perform the social. The social world, Law argues, is complex and messy, and ANT offers a way to study that and smaller parts of it in their whole complexity and heterogeneity.

4. Ethnographic case study: Methodology and data

The most advanced form of understanding is achieved when researcher places herself within the context being studied, in this way being able to understand the viewpoints and behaviour which characterises the social actors (Flyvbjerg 2006). My research effort is based on a set of epistemological assumptions about what data are valid for inclusion in a study and what methods are appropriate for collecting and analysing their data (see e.g. Lew 2010). Choices I have made are based on those assumptions, which are based on the knowledge I have gained through existing literature, studies and empirical experience. As a tourism student I am host of immense knowledge, ideas and experience (Chio 2010) which I have shared with some of the participants of this study, but I have also kept in mind that I am a guest in the situations I have been allowed to participate in and therefore I have with respectful awareness given the field the possibility to apply the needs and desires of their own.

In order to answer the central research question and its sub questions, I will be using a qualitative, descriptive ethnographic method of research. In its simplest definition, ethnography can be described as a theory of the research process (see e.g. Paju 2013). Ethnography offers a holistic approach, in which the phenomenon studied gains its meaning in the context, which is the result of interpretation and writing. The origins of ethnography are in the 70's and anthropologists intention on developing and understanding of other cultures, with which we understand the cultures and other forms of life and people that differ from Western standards. From that point ethnography has developed, especially through the significant efforts done by the Chicago School of Sociology, shifting it's focus from the other to the familiar and nearby cultures. In example in tourism it offers a way to study the multiple ways in which tourism constitutes and mediates cultural values and norms, both from the consumer, management and supply side. Ethnography has been used and is continually applied in many fields of study and it could be characterised by diversity, which does not mean that there would not be any distinctive characteristics in ethnographic research. All ethnographic studies and research processes include fieldwork and fieldwork report, like this thesis. It must be also noted that during the research process the ethnographer balances between the role of insider and outsider and it is not easy to make a clear distinction between these two stances. (Moisander & Valtonen 2006, 47- 63).

In this thesis I have also included autoethnographic practices to my research process. With autoethnography I mean the way as a researcher I have positioned myself both as the subject and the object of the research, from which point I have observed and interpreted the practices and phenomenon through reflecting on my own personal life experiences (see e.g. Moisander & Valtonen 2006, 63). In this way I have challenged many conventional academic practices, by using the self to make visible cultural meanings and practices, which might not be so easily visible with other methodologies or practices.

Significant feature of qualitative research is its dependence on and close connection to the theories and methodologies through which the phenomena are viewed and researched. All the knowledge is subjective and one can't have or gain objective knowledge through qualitative research. In empirical analysis I highlight the data collection and analysing methods (Tuomi & Sarajärvi 2001), which ethnography binds together. Describing my process of data collection and analysis I give the reader of this thesis the possibility to evaluate the research being done, which is a crucial part of my results being trustworthy (Tuomi & Sarajärvi 2002). The results show the reality which I was part of as a researcher, while collecting the data and analysing so that the reader is able to see from the findings the reality I was living in and phenomena I was researching and describing.

Tuomi and Sarajärvi (2002) call qualitative research as a research which understands rather than describes. I will follow on that path, understanding the phenomenon and translating my observations to readable form. I will understand what Northern Lights tourism in Iceland is this season and how the people see its development in the coming years. I will do that same in the data from Norway and Finland, creating that way three stories of the Actor-Networks of Northern Light tourism, stories which do not tell absolute truths but which gives a better understanding of the phenomenon, helping others to dig deeper in the social realms and concepts.

Observations is highly recommended, if and when the phenomenon is not researched before and when there are not enough knowledge about the phenomenon (Tuomi & Sarajärvi 2002). Northern Lights tourism has not been researched as itself and there are not enough knowledge on the phenomena. Therefore we can argue that there is a need for research which utilises all the means in creating more deeper knowledge on the phenomena at hand, arguing that observations in this research are recommended and necessary.

4.1 Ethnographic fieldwork

The most important and notable part of ethnographic research is observations, through which the ethnographer participates in the field she is studying. In this study I have been observing the Northern Lights tours from the viewpoint of the tourists, buying the trips like they have, although the main reason for my participation has been to do research and observations and not be a tourist in that way the other tourists have. I have not intended in this study to study the tourists expectations or experiences per se, although that would be a good objective for further studies, especially if combined with direct interviews. Nevertheless, by observing and taking part in the activities and reflecting on my own experiences, with the help of autoethnographic practices, I have been able to get an insight view on the visible cultural meaning and practices, bringing an analytical approach to the cultural phenomenon in question. (Hammersley and Atkinson 1983)

In a sense all social research is a form of participant observation, because we cannot study the social without being part of it (see e.g. Hammersley & Atkinson 1983). Therefore I am not describing nor using participant observation as a particular research technique, but rather as a mode of being-in-the-world or in this exact case being-in-the-field characteristic of myself as a researcher. In social sciences the twentieth century brought increasing recognition that the problem of understanding is not restricted to the study of past times and other societies and rather it applies to the study of one's own surroundings (Hammersley and Atkinson 1994). The epistemology of participant observation rests on the principle of interaction and the reciprocity of perspectives between social actors. (Hammersley & Atkinson 1983)

Observation is also justified because it can better knot other data gathering methods together and through observation things can be seen in and in connection to their right environment (Tuomi & Sarajärvi 2002). When c to be interpreted, but it can also show the behaviour related to norms better than pure interviews, which easily relate more to the norms itself (Tuomi & Sarajärvi 2002). Generally observations deepens the knowledge created through other data collection and analysing, making the knowledge more multiple and through-full. (Tuomi & Sarajärvi 2002).

Observations are a good way to gather data when there are little previous knowledge about the phenomenon at hand (Tuomi & Sarajärvi 2002). When there are no previous knowledge, it is hard to make pre-assumptions and in example structured questions and it is more accurate to seek for creating more through-full knowledge through observations, knowledge which can be later used on

drafting a new research with different methods. Observations can also work as a connecting link between other ways of data collection, helping to draw more through-full picture of the phenomenon at hand (Tuomi & Sarajärvi 2002, 83). Observing techniques also create data which should be more norm free than data gathered by interviews, although it might also be so that the interviews my also help to understand the behaviour or the reasons behind the behaviours which is observed. In my research the latter was the case when we interviewed the guides day after the trip we has been observing. In interview we got an explanation for the behaviour of the guide, the reason for which I had assumed to be different than it really was. In these situations the different methods might show the difference between aimed behaviour and reality, or then they might give way to interpret the situation better.

As there are no prior research on the ANT's of Northern Lights tourism and I will be analysing a phenomenon in its real-life context and environment, this method is appropriate. When combined with ANT, it will allow me to study the phenomenon in its multiple, heterogenous entity. Further on, the analysis have been a constant process during the fieldwork and afterwards, during which I have reflected and shared my thoughts with other researchers and supervisors to gain more reflexivity, which strengthens the validity of this research, as described in next chapter.

The data was collected in collaboration in a reserach group appointed by project Winter (Annex1.). The participant observations and interviews were completed during the winter season of 2014, in February and March. As a participant I observed and interacted with tourists and guides during nine trips, three of which in Iceland, in Reykjavik and Akureyri, four of which in Norway, Tromsø and Alta, and two in Finland, Muonio and Rovaniemi. In total six focus group interviews and conversations were conducted with the guides and the entrepreneurs and the interviews were later on transcribed by the author and other members of the research group and combined with the field notes. In this thesis I have used data from four of these interviews, since those were the ones where I participated and could thereof observe those situations also. Field notes were recorded and transcribed by the author, concentrating on the thoughts and reflections. These concepts were compared, reflected and adapted during the initial rounds of data collection and analysis, in a group of researcher in the project group (Annex 1) and in final stage the process was completed with an evaluation of its overall value which was further supported by the reflexivity adapted during the research process and data collection.

Like Outi Rantala in her dissertation on commercial tourism practices in Lappish forest (2011), I am using ethnographic methodology in which I have divided my research process on three phases, in and around which I move back and forth. On the first phase I will be on field, observing the phenomenon and conducting interviews, after which I will analyse the data produced, followed by the final phase of writing, in which I create the story of actor-networks of Northern Lights tourism in Iceland, Norway and Finland. Mostly my research is following this order, but there are times when I go back to the field, although not in the same purpose, like when I go for a hike in the area where I was observing the tourists earlier on, or follow through media what is happening now on my fields and also when I was on the field I already created some of the pieces of the story which I have written down in this thesis. The rigour, reliability and objectivity of the qualitative research are achieved through two different aspects of what might be called natural science methodology: replicability and validity (Krippendorff 2004). This has been sought through a multi-level and multi-phased reflexivity. Through triangulation, based on the multiplicity of ethnography, data of different kind has been systemically compared, which, according to Hammersley and Atkinson (1983, 24) is the most effective manner in which validity can be handled and achieved.

The theory chose has also given me the framework for analysis. ANT, in a way Callon, Latour and Law has conceptualised it, is a analytical framework, which borrows from the semiotics and categorisation. ANT gives me the tools for analysing the phenomenon, represented in the data I have collected, with which I am able to analyse and categorise the practices and orderings of the actors without any pre-assumptions of the roles and the abilities with which the actors construct their acts. (see e.g. Latour 1999). In the analysing phase I have carefully identified the parts of the data which shows traces of the practices and orderings of the actors. In a way I have done my own translation process, in the actor-network of my thesis process, first by identifying the actors, one of which I am myself, from the data collected but also already on the field. When writing down and translating my field notes I have already made orderings on choosing the parts in which I am concentrating most and leaving some parts away. The process has its limits, both external and internal, including time, money and the abilities of me as a researcher and therefore it has not been my intention or not even possible in all the means to collect or analyse all the data available on the field. Nevertheless I have kept in mind that there are no pre-assumptions of the roles and abilities nor the power of the actors and therefore I have in my analysis concentrated more on the performances and practices rather than the actors.

Data from which I have picked up my findings has been collected during three fieldwork periods in Iceland, Norway and Finland in February and March 2014. Fieldwork has been described by C. Michael Hall (2011, 7) as one of the defining approaches of academic research. Furthermore the theoretical lens that I apply affects what I leave in and what I ignore (Hall 2011, 16). Hence I will not try to theorise the phenomenon itself, but rather use the methodological theory as a way to conceptualise the phenomenon and offer more knowledge about Northern Lights tourism. In addition the ethical space occurs and should be noted inside and on the field, created by “formal and informal ethics generated by institutions and their cultures as well as personal ethos of the researcher that develop out of social relationships developed in the field, and existing relationships” (Hall 2011, 14). While in field I have kept the ethics in mind, in which I hope helps my own empirical experience of the environment, culture and people in these spaces. Like Jenny Chio (2011, 217) I would like to point out the usefulness and importance to acknowledge and even embrace the curious position of the tourism researcher as both a host and a guest in fieldwork situations. As a host I transform the space I am observing to a field in which I do my research and as a guest I am invited to the space and situations as a curious researcher, who as to mutually respect and value the space and the people in it.

Descriptions of social activity are results of being able to participate in it, in which the observer and participants share the mutual knowledge, gained through actions which constitute and reconstitute the social world (Giddens 1982, 15). As a researcher I am all the time engaging myself in situations as an observing actor, although the intensity and scale of my acts varies. On the one situation I act as a tourist, purchasing the product and playing the game with the same rules as other tourists, despite of which keeping in mind my special role as a researcher, who has her own individualistic reasons and purposes for her acts. Although acting like tourist and doing the same things as the tourists, I am a researcher who does not share the same leisure intentions and desires as the tourists. Therefore it would not be accurate to use and analyse this data collected by observations to understand the behaviour and intentions of the tourists. I can observe what they are doing and how they perform their acts in real-life situations and I can reflect on my own feelings and experiences on the field and how I was performing my act, but because of the fact that I do not share all the same characteristics of the tourists at that field, I will not be reflecting the tourist experiences.

Ethnography is a method which is fact is not a method. Ethnography is a combination of different methods and for me it worked as a set of guidelines for the research. Ethnography is a way to

theorise the research process - an idea about how we do research (Skeggs 1995, 192). In ethnographic research I involve myself in the research, as a researcher and observator, even as an actor. My role in research is fluid, changing from student and reader to tourist and traveller, to observer, interviewer, communicator, analyser, writer and researcher. In ethnographic study I focus on experience and practice, making an account of the development of relationships between me, the researcher, and the researched. My skills and competences as a researcher, as well as the field(s) I am working on, develop and change during the research process. Nevertheless, the most important characteristic of ethnographic research is its close relationship to theory, which comes from the fact that theory directs the crucial methodological decisions of the research, in the first place by creating a reason and research environment for ethnography. (Skeggs 1995, 192-193).

Beverley Skeggs has argued in 1995, based on her research experiences, that the time in which the research takes place, researcher's social location and access to theories is central to the motivations and framing of the research. For me this research is a study project, part of my Master studies in which I am partly supposed to use and showcase the skills and competencies my previous studies and curriculum has taught me, but mostly this a project of learning by doing. Conducting my fieldwork in a group of more experienced researchers and professors, I was all the time imposing more information on theories and concepts. I was and still am positioned by and positioning myself in relation to my chosen theory and other theories, which rise from what i read, who I talk to and with, my institutional and physical location, what my colleagues read and do and even on from my own personal feelings, which Skeggs (1995, 196) describes to be the result of in-built theoretical insecurity in ethnography (Skeggs 1995, 195-196). The content I have gathered and which I have analysed does not change, but the way I relate and position myself and my research to it changes and evolves. Skeggs (1995, 196) argues that this is the value of ethnography - the way in which researcher is continually exposed to changes, explaining processes rather than facts.

Following the notion of how it is more useful to think about the knowledge being produced through different discursive sites in which the researchers and the researched have different access to discursive resources (Skeggs 1995, 201). I have been imposed to and I have had access to different theories, concepts and explanations which differ from the ones my researched persons and situations have. This thesis and analysis has been shaped by my position and knowledge as a researcher and I analyse and understand the phenomenon and situations through that position of a tourism researcher. I have had an access to certain explanations and theories which create a lens

through which understand the phenomenon at hand. I was not expecting my respondents or the observed people to speak with the same concepts and my intention was not to seek for or identify the different discursive resources, but to apply the methodological theory to the information created on and gathered from the field. In other ways, my thesis is the result of a process which describes the way I understand the Northern Light tourism, based on my theoretical, methodological and discursive resources and potential.

Ethnography is a well known and tested methodology for producing theories, but it is also a way to descriptions and explanations, which create better understanding on the phenomenon at hand. One thing in common among the different ethnographic works is the production of text, which, according to Hammersley and Atkinson (2007, 190) leads to an understanding of ethnographic analysis as a form of writing. Ethnographic methodology has guided me through a process in which I on this final stage have produced a written ethnographic analysis.

Ethnography has originated as an anthropological method for studying distant cultures and communities, which in its earliest form overlooked the mediated interactions, movements, connections and connectivity (see e.g. Wittel 2002, Molz 2012). In its current form, ethnographic research allows the researcher to re-envision the field as mobile and fluid, making it multi-sited. This development of ethnographic methodology has allowed researchers to develop further concepts like virtual ethnography and ethnography which is well suited for studies on mobilities and tourism entities. Multi-sited ethnography privileges connections and networks (Hannerz 2013), which requires researcher to follow flows, involving variety of techniques, including travelling along with tourists, meaning that my research continues back home. This entails me to follow also the communication flows of digital and virtual travel (Molz 2012, 20); I have also observed what and how people share their experiences through social media and how firms create and manage these virtual spaces for participation and sharing. Like Molz in her study (2012, 21) I have involved in my research techniques moving, communicating and networking, by downloading applications to my mobile phone and corresponded online and in person with other tourists and the firms. Social media and mobile technologies proved to be a part of an technology as an agency in the actor-networks I was studying, but they were also important tools of the research. Nevertheless I have not fully engaged in mobile virtual ethnography, like Molz (2012, 22), but I have used it as a part of my methodological scope, to be able to see the phenomenon in wider perspective. Molz (2012, 36) has argued that tourism researchers must engage mobile methods to follow the emerging patterns of on

the move sociability in which technology combines with tourism practices in many ways. The virtual ethnography allows me to use techniques which account my research field as multi-sited, not just geographically but also across virtual sites. With virtual ethnography and observations I have been able to trace this relationship in which tourists and companies use technology as a materialised way of sightseeing, which organises behaviour and objects.

With the ethical epistemology of tourism research we mean the way of knowing which aims at goodness, usefulness, fairness and which is practiced openly and in line. As researchers we actively shape our research through our choices and the possibilities we are given (Ren, Pritchard & Morgan 2010). Like Northern Lights tourism, my research works in a network of multiple players, in which my personal characteristics and chemistry between me and the other actors of the field work close together creating and sharing knowledge of Northern Lights tourism (Ren, Pritchard & Morgan 2010).

Focus group interviews are a kind of organised conversations, in which a group of people is gathered to a place to have a conversation which is focused around a topic or topics but which is not structured (see eg. Valtonen 2009). The data I have analysed in this thesis is gathered from four focus group interviews, two of which in Iceland, one in Norway and one in Finland. The interviews lasted approximately 1 hour each and they were moderated by the leader of the project Winter (Annex 1). The groups included guides and entrepreneurs organising and leading Northern Lights tours and the reason for setting up the groups and interviews were to gather data for a better understanding of the views and opinions of Northern Lights tourism. For me the data gathered from these interviews worked as support for the data gathered from the field observations. The interviews worked as a forum in which the practices of the guides got their concrete explanations and through which I could get information which would support and challenge the practices I had and would observe on the field. I also need to highlight that the interviews were made while on the field and therefore there is not really a clear division between the interviews and other methodologies but rather they all were included in my set of fieldwork research techniques.

I, as a tourism research student, am working and acting from the tourism researchers point of view. Although having some of the same characteristics as tourism, like moving from my home to a foreign place, using transportation intended mostly for tourism purposes and services and sleeping in hotels and visiting tourism sites, my study differentiates from tourism because it has a different

purpose. I am conducting a careful study of Northern Lights tourism. Nevertheless I would like to point out the argument made by Jenny Chio (2011, 217) how it is useful and important to acknowledge and even embrace the curious position of the tourism researcher as both a host and a guest in fieldwork situations. It has also been argued that the sensitivity to power relations, representation and dissemination are more important than the question of which method to use (Skeggs 1995, 203). It is not the way I gather and analyse the information itself, but the way I represent the results and the process and the concrete representations I make which will be further evaluated.

In my thesis I am writing down the findings from a process in which I was following the traces of actor-networks of Northern Lights tourism, both already at the field and then from my field notes and transcribed interviews. One remarkable change I had to do for my analysis was to drop pictures from my analysis. I had planned to take photos and video material from the tours, creating visual data which I would have combined with the written notes and sound recordings. Despite my great plans, the field managed to surprise me and manipulate my research practices already at the first tour I was about to observe. The influencer and remarkable actor in this network was darkness and the play between lights and darkness. All around me I was surrounded with the darkness which made it impossible to make notes, to see the function taps of my camera and to take pictures. For taking pictures, which would have been good enough to be analysed later on, I would have needed to use flash, which I concluded was too obvious, too disturbing act in the middle of the darkness. After all, most of the observed tours and guides kept as a main rule the ban of flash, because with flash taking pictures of Northern Lights is impossible. In two occasions I also came to realise how even a headlamp or one flash of light could interfere strongly on the citations and atmosphere during the tours.

The darkness forced me to re-think and organise my research practices and innovate different ways for doing research. While reading the literature on ethnographic research and especially on the difficulties a researcher might face when doing ethnographic research, I never came across of a situation where basic pen and paper would not have worked. This made me wonder the very unconditional environment Northern Lights tourism is working - the environment of darkness. In some point I had written to my notes that I felt like I was doing something prohibited when working in a darkness where no traditional methods worked and where I had to invent new ways of making notes. When this is combined with the fact that the time most of the tours were operating, mostly

going from 9 pm over midnight, was a time which does not fit to the traditional view of the working hours, I became to realise that we were observing a really untraditional phenomenon, in which it would be more than likely to be faced with many surprises. I also came to realise that my energy levels on that time of the evening and especially in the dark are not as high as they are in the morning or during the hours I am more used to work, which also affected on the way I was looking for the data more carefully in search of same kind of problems among tourist or guides.

4.2 Analysis

The analysis of data is not a distinct stage of the ethnographic research (see e.g. Hammersley & Atkinson 2007). It is also in my research that the analysis begins in the pre-fieldwork phase, in the formulation and clarification of research problem and reviewing literature, and continues in the process of writing, first notes and transcriptions and then this thesis My data is unstructured, formed by field notes, transcriptions and extracts of different text, and the process of analysis has included the development of a set of categories that have captured the relevant aspects of this data. This categorisation has been framed and modified according to the chosen theoretical framework, in this case ANT. The theory is offering me the approach with which I have been concentrating on identifying the actors and the networks and the relationships. Therefore it must be noted that the same data could result on very different results, if and when it would be analysed with different theoretical approach.

The theory has allowed me to look at my data from one perspective and it has not been my intention to look or modify the theory itself, but to use the perspective the theory allows me to use. Using actor-oriented approach, it is important to identify the problems and concepts as perceived and presented by the social actors themselves (Verbole 2000). In the analysis of qualitative data it is important to find the concepts which help us to make sense of what is going on in the case (Hammersley and Atkinson 2007), in which the analytical categories help or from which the analytical categories are a result. The process of analysis relies on my existing ideas and knowledge, but I have kept in mind that I need to avoid prejudgements, in which the reflexivity has helped. The data is there to think with (Hammersley and Atkinson 2007, 163) and I have looked it in purpose of seeing if any patterns can be identified. These patterns I have been looking for have been the ones framed and made important based on my theoretical orientation.

The validity of this research has been tested and strengthened by different types of triangulation. The use of multi-sited and phased fieldwork has allowed me to apply data-source triangulation, which is the comparison of data collected in different phases and places. This is not a comparative research itself, but rather a study on phenomenon happening in many places and times in different forms and therefore I have used the comparison only for triangulation. The fact that this data collection has been done as a part of a team research practices has made it possible for us to triangulate between different researchers. Furthermore, the use of different data collection techniques, participant observation and interviewing, has allowed me to apply method triangulation in which I have compared the findings from data sets collected with different techniques. The basic idea behind triangulation is not really to check the validity of data, but to discover which inferences from those data seem more likely to be valid (Hammersley & Atkinson 2007, 184).

In ethnographic research, the reflexivity offers another way to test and gain the validity and reliability of the study and analysis. This reflexivity can be further divided into four types (see e.g. Foley 2002). The way I see and interpret the ethnographic research process and knowledge creation by moving in and around this multidimensional reflexivity (e.g. Rantala 2011, 47), which means that I have used the different types of reflexivity in different parts of my process. Right now in this writing phase I am in the middle of the writable reflexivity, in which I reflect on the type and style of writing I have chosen. The theoretical reflexivity is the way I reflect on the theoretical-methodological choices I have made and how they affect my research process. Confessional reflexivity is the way I reflect and recognise my own position as a researcher. Finally I have also taken into account the deconstructive reflexivity, which helps me to recognise and re-organise the relationship between me as researcher and you as a reader.

With the reflective methodology like ethnography I enable learning and knowledge creation from experiences about myself, my work as a researcher and the way all this relates to the work I am doing and the academia. This way I bring things and thoughts into the open, providing a way to explore and express experiences and processes otherwise difficult to communicate and calculate.

The way I have used a combination of data collection techniques leads me to use method triangulation (Hammersley & Atkinson 2007, 184). This way I am able to assess the validity of inferences between indicators and concepts by examining data relating to the same concept from participant observation, interviewing and photo documents, attempting to relate different sorts of

data in a way to counteract various possible threats to the validity of my analysis (Hammersley & Atkinson 2007, 184). When I find the same indicators and concepts from different versions of data or when the findings from one data source does not support the findings from the second data source. In this way I am not primarily checking the validity of the data, but rather seeking to discover which inferences from the data seem more likely to be valid. Therefore I might have left out from my analysis some of the findings from the interviews, since these did not support the data I have gathered observing the performances.

Ethnographic research process does not work in linear, clear order (e.g. Rantala 2011, 48). Rather, during the process I have changed my direction, returned to some parts, modified and re-written some of the earlier notes and used different types of reflection, in the purpose of creating a more open and ethical story. One of the reflections, the textual one, has been guided by the fact that this is a thesis process, during which my texts and earlier drafts has been read by my supervisors, colleagues in the research group and fellow graduate students in our seminar group. This has helped me to modify my text to suit better for the audiences and to strengthen the ethics of my research.

My mother tongue is Finnish, but I am writing this thesis in English, having most of my written data in English and in the field I was mostly communicating in English. In addition my background data, course books, and personal history includes Swedish, Norwegian and Finnish data, which I have further modified and translated into English. This is a notable part of my deconstructive reflectivity, since I am using and modifying different words, sentences and theoretical concepts, creating a story in English. From this I have gained better knowledge how the language and the way we speak and write differs in different situations and places. The way I am writing on and describing Northern Lights, or even weather, in my field notes, in Finnish, can not be translated directly to English and I have needed to think about how I would describe the same situation differently but on a way that it creates a same kind of story and description as it does in Finnish.

The confessional reflexivity was brought to my thesis process through the way I during the research process was trained to be a researcher. I come from the Northern Finland and I had seen Northern Lights many times before and I had been a tourist in many places, but it was this research process and the autoethnographic notes through which I created my initial role as a Northern Lights tourism

researcher, whose interest is on the practices and performances of the actors, and not on my own experience. My individual experiences and personal reflection added a dimension to my analysis and by reflecting the reasons behind the way I acted the way I acted and all of these helped me to better understand the Northern Lights tourism and tourism industry and to create this thesis which further on reflects the understanding I created.

After I had collected and organised the data, I used analytical reading technique, in which I read and the text keeping in mind my theoretical perspective. Like Rantala (2011, 52) in her dissertation, referring to Moisander and Valtonen (2006) and Palmu (2007), i wanted to use analytical reading rather than discursive-analytical, because the empirical phenomenon I am targeting is both social and material and suits better to the epistemological and ontological assumptions. While reading the data and creating this text I was concentrating on the routines, opening up the role of the materiality in the way the phenomenon is created and performed and creating a picture of the reflexivity of the practices.

Especially in practice- and action oriented research, it is important to think about the the audience to which the actions or accounts being used as data were directed (Hammersley & Atkinson 1983). In interviews I am, as an ethnographic researcher, the main audience of the narratives and the interaction makes participants aware of me as an audience. When making observations, my role as an audience is not as clear. It was in some cases noted, to the tourists and guides, that I am a researcher, after which the actions were partly directed to. But as I am suggesting, based on my findings, the main audience of the action observed was directed to the tourism community. In the data created by observations it is mostly the tourism context that influences acts more than the understanding of nature and purpose of social research, which is the case with interviews, but I have also taken into account the moments when my role as a researcher has been visible and the actions influenced by my presence.

In reflecting on their experiences on research work on women's solo travel experiences, Jordan and Gibson (2004, 228) encourage researchers to adopt a personal and reflexive style of writing, which would, according to them, add a richer dimension to tourism research and help tackling the questioned trustworthiness of qualitative research practices. In a way my analysis is mostly done by writing down my findings from the data set and combining the data derived from observations and transcribed interviews. I would also like to mention that a notable part of my analysis and especially

the organisation of data was done in a kind of brainstorming sessions, in which we were exchanging our thoughts in the group of researchers. This reflexivity allowed me to notice which pieces of the data were more important for my research and which parts were not more commonly of importance. Reflection on my data, along with the self-reflexivity and talks with my colleagues, helped me to re-organise my data in endless ways, which in turn helped me to find the connecting elements and actor-networks, in addition to the actors itself.

With many of the participants, tourists and guides and entrepreneurs I share many characteristics, which helps me to analyse the data more accurately, since I can more easily understand the reasons and socio-cultural backgrounds influencing their actions. I come from middle-class family, having the money and possibility to travel myself to most of the places I want. I am little bit younger than most of the tourists, entrepreneurs and guides observed and interviewed on the field and I have a different education than most of them and I have different taste on tourism products and destinations, but when we consider the bigger picture and modern global world, I have lots in common with the people I am observing and studying.

In his article Hannerz (2003, 211) mentions a ethnographic study Helena Wulff has made among ballet companies. While studying the ballet companies Wulff had been able to use and reflect her own experience on dance, which added another dimension to field observations, making her more able to analyse performances deeply. In my research I am also adding this kind of dimension, having the previous knowledge and experience on two of the field regions. My previous experience comes from Finland, as being born, raised and studied in Lapland and from Norway, where I have been living and studying in Trondheim and visited Tromsø and Alta as a tourist couple of times before. Furthermore I have worked in the tourism industry in Lapland and I have also been a tourist who has travelled to foreign places to experience something which I can not experience in my home region.

Honkasalo's (2004) text and it's ideas of using and analysing sounds and voices heard and collected during fieldwork encouraged me to analysed also the non-narrative voices people had and the sounds which I observed at the field. During work in Iceland, where there were no snow to reflect any snow and the trips we were observing done by night, with no artificial light directed to our close environment (in some points the only light being lights of the buss directed to the road we were driving on and the very distant city lights we saw while standing on totally dark side in the

middle of empty landscape, only the dark night sky above us). I had planned that I would later on analyse the notes and pictures I would take during these trips, but on the site it became clear that making notes or taking pictures was impossible in this dark site. For taking pictures of moving objects, meaning tourists and guides, would have required flash, which was not suitable since I did not want to interfere in the situations in that way. Also writing notes in the dark was hard and even though I tried for a while write notes on my cellphone I noticed how that didn't work as I would have liked since even the faint light of the phone seemed to be an object too visible in this dark site and environment. From that it became clear that I would need to count a lot on my memories and especially the sounds I was hearing and recording. The work I had planned to be sensory in a visual way, became more sensory in a hearing way, voice data becoming the most important compared to the planned idea of visual and textual data. Nevertheless I came to follow Hammersley & Atkinson's (2007) note on how ethnographic analysis is a form of writing. I just came to perform my writing in a later stage than planned. (Honkasalo 2004)

Alasuutari (2001, 82) has written how researcher has to set the questions in which the data will give the answers, because without and even with those questions and frame there are endless possibilities for interpretations. Theory is the frame with which we approach the data and which predicts which kind of results our analysis will give. Thus interpreting and analysing the data is a process of following a path, made by theoretical and methodological practices. During my research process I came to realise that the path is easiest to follow when one do not see or hear anything outside the path. Nevertheless, being as curious person as I am, always ready and interested in the new and unknown, it was hard to keep my eyes fixed on the path and follow the pace set before entering the path. The process of analysis was an ongoing practice in which I utilised the flexibility of my methodological and theoretical frames in modifying the strategy on the way, to be more suitable on the moment at hand and to utilise the knowledge gained during the research process.

I have been observing the Northern Lights tours in their natural environment and my data contains hints of the many actors in the networks, who through their practices have constructed the actor-networks of Northern Lights tourism. With the help of the autoethnographic methodology I have also been able to trace the inner feelings and thoughts of an actor in these networks. The field notes have created data which contain information of the acts of the actors observed in the framework of the actual tour, while data gathered by autoethnographic narratives and virtual ethnography and

focus group interviews have been the way to trace the information of practices and networks before and after the tours.

The strength of actor-network is based on the practical analysing methods, which can be utilised in actor-network research. Actor-networks can be framed with three methodological contexts: Semiotics by Greimas, the philosophy by Serres and post-structuralism and basically it is a combination of methodologies of material semiotics, which can be utilised in many ways (LAW 2007, 2-6). The way ANT applies agency to non-human actors comes from the actant model introduced by Algirdis J. Greimas (1980). While applying this methodology to my analysis, I have been able to trace the origins and development of the actors and the partly conflicting acts.

5. Actor-Networks of Northern Lights tourism in Iceland, Norway and Finland

My analysis is based on the semiotics of materiality and identifying the process of translation, The method by which an actor enrolls others are described by Callon (1986) as a process of ‘translation’, including four phases. This process includes defining and distributing roles, devising a strategy through which actors are made indispensable to others and placing others within an actor’s own itinerary. In the first phase, problematisation, the actors and the problems are identified. The actors, both human and non-human are needed for the constructions of the solution to this problem. After analysing the data, applying the framework of translation, I have combined the findings and created descriptions of typical actor-networks of Northern Lights tourism and the processes of translation, in which the tours achieve their goals or when the result is not what the actors were looking for.

The goal of the Northern Lights Actor-Networks of Northern Lights tourism is to create and offer Northern Lights tourism products for consumption. In their networks, the various actors engage themselves and other actors to actions in purpose of achieving the goal and to provide Northern Lights tourism experience. By analysing the data I have traced the more or less strong and visible relationships between actors and the way actors engage themselves to the process of translation. It is the understanding of relational materiality of the entities (see e.g. Duim 2005, Jóhannesson 2005) which makes the ANT an useful tool on identifying the process.

ANT has been used in tourism research mostly in the studies of tourism research itself (e.g., Tribe 2010, Ren et al. 2010), following the tradition and origins of ANT as the methodological theory of the science(s), a sociology of science. Duim (2005) has conceptualised tourismcapes with the ANT , adding an application of ANT to tourism practices. Bramwell (2006, 162) notes how tourism researchers should be careful not to uncritically adopt the ideas contained in actor-network theory (2006, 162) and I therefore I want to highlight that the understanding of ANT used in this thesis is only a one interpretation of the theory, which has been conceptualised differently in different times and by different researchers. The concepts of ANT have also been criticised and especially the aspect of ANT of treating non-human actors equal to human actors (Bramwell 2006, 162). For me it was a well argued choice to take into account the non-human objects, since arguably there would not be Northern Lights tourism without the non-human objects. The objects might not be able to

negotiate their state or relations to the human objects, but without them the human objects could only talk and interpret the phenomenon with their language and signs.

Based on Bourdieu's practice theory, which has its roots in anthropology, we can say that the social constructions are re-made and modified only in the cooperation and relational practises of actors who produce and embody their practices and orderings unintentionally, although the practices in reality are connected to a social constructions which actors do not intentionally are aware of (Bourdieu 1977, 1998). The unintentional practises are the aspect by which the practices are objectively adjusted to other practices and to the structures of which the principle of their production is itself the product. Example of this is the symbolic value of Northern Lights, which translates to symbolic power when it is witnessed and experiences by a social actors, who have the knowledge and value categories which make it impossible to give the symbolic value to the phenomenon (see e.g. Bourdieu 1998). By showing interest in Northern Lights tourism, buying the products and sharing their experiences, the social actors construct the social network, in which the Lights get their shared symbolic value and power amongst social actors. It is this symbolic value which embowers the actors to materialise the phenomenon in many ways. When on field, I was experiencing couple of times a feeling of alienation, otherness, while standing there and admiring the Northern Lights, amongst tourists who connected the Lights to a different symbolic value. In their networks they had translated themselves to consumers, consuming the phenomenon in a way unfamiliar to me. It was not possible for me to connect myself to that network, but I could observe how the network seemed to construct and modify their network based on a shared value and cultural background. In one moment it was the western consumer culture, in which people make their bucket lists of things they want to experience and buy to be able to say they have done it and connect themselves to the social circles they want to, and in other moment I was observing the way these groups constructed and took part in post-colonial practises, hunting the light and collecting experiences and photos like trophies.

Before entering the site or taking part of the tour, I am, as any other tourist on that tour, part of the web of relationships with people and things that constitute me as a tourist. I have booked flights to a foreign country, booked the hotel room, taken those flights and checked in to the hotel room and made some research on tour operators on internet. All of these constitute a particular mode of touristic subjectivity, although I hold a dualistic mode of subjectivity in my role as a tourist and a researcher. The arrangements of the materials, like the flights and hotels and the touristic activity,

translate me to from my identity in other context like my identity as a tourist. In the same way the materialised arrangements translated identities and roles of the tourists I am observed. They become tourists, who's intention is to take part in a touristic activity in a touristic setting. It is the advantage of ANT to be able to take into account these materials which are crucial in producing the bodies which are assembled together as subjects. It is in and through the materials arrangements that the purchase of an activity and experience is made possible. The subjects are constituted in the course of their trip and the objects cannot be entirely stabilised in the process of purchase or experience. (Dugdale 1999).

The material arrangements become crucial in producing the bodies which are offering the Northern Lights tourism products. There is the Northern Lights itself, which are materialised in promotion material and photographs as well as in the process of setting up the touristic product around it, including translated objects and subjects like weather, transportation, tripods, food and drink. According to Callon (1986) the translations is more a process than a clear result of an exact act. Translation is constructed in negotiations, in which the social and natural world get their shape and by studying the power relations we can discover how and from which the actors are constructed and shaped and how they are connected to each other and which is the strengths of these relationships (Callon 1986, 224). The actors might stabilise their position over time and in this process the network is modified to network with many layers and in which a actor might represent many actors, which all are connected in another layer than the one who represents them. The tourism practice is both on the supply and demand side a collective practice, which both produces the event and are the products of this event (see e.g. Bourdieu 1977). It is the company offering the tour which produces the event which a tourist can purchase, but it is the event itself and in the greatest moment the Northern Lights which produce the collective practices. Therefore it can be said that Northern Lights tourism happens in a fluid and ever-changing networks of actors, who make and re-make their relationships and in the process of translation order the arrangements to be more or less suitable for their practices and intentions, which have their basic on the socio-cultural values and power given to modern tourism in the negotiations made in other levels. These include the construction of practices of the likes *habitus* described by Bourdieu (1977) or the *touristic gaze* (Urry 1990) and a material culture in which the sensation things is inseparable from the meanings and sociality of things, and their production (Bille & Sørensen 2007, 264).

All the cases studied, Iceland, Northern Norway and Finnish Lapland, are modern communities, which touristic value, according to MacCannell (1999, 48) “lies in the way it organises social, historical, cultural and natural elements into a stream of impressions”. The touristic value of Northern Lights tourism in all of these three places studied is based on the way ANT’s organise and how the actors in the networks order and translate the histories, cultures and natural elements into impressions. What is remarkable is that in all these three places the touristic value is based on almost identical historical, cultural and natural elements, which makes differentiation almost impossible. Nevertheless, like I heard one of the tourists in Iceland saying, the impression of the Northern Lights and the experience itself, might be the same in all these countries, but the moment and the Lights itself are not the same in all the occasions. Therefore, even though he had seen amazing Northern Lights in Norway, this tourist has paid for another trip and was now standing on the Icelandic ground waiting for the Northern Lights to emerge again in the front of his eyes. He did not seem to mind that he was purchasing the same experience all again.

5.1. Translating process in actor-networks of Northern Lights tourism

Actor-network theorists are interested in processes of translation, the method by which actors form associations with other actors and actor-networks are established and stabilized (Duum 2005, 94, Murdoch 1997, 331). In my analysis I have, with the analytical methods of ANT, traces these processes. Translation refers to the processes of negotiation, representation and displacement between actors, entities and places, based on the network requirements (Murdoch 1998, 362). In order to achieve their intended outcomes, actors have to enrol other actors into their own ‘projects’ (Law 1994, 60). If other actors are successfully enrolled in an actor’s network, then that actor is able to borrow their force and speak and act on their behalf or with their support. This process means that the actor becomes both the network and a point within it. The method by which an actor enrolls others are described by Callon et al. (1986) as a process of ‘translation’, including four phases. This process includes defining and distributing roles, devising a strategy through which actors are made indispensable to others and placing others within an actor’s own itinerary. Not every translation involves all four moments (Duum 2005, Callon 1986) and the order of the moments is not always linear and they may even overlap in some cases. In the process of translation the tourismscape (Duum 2005) of Northern Lights tourism is created. This is the tourismscape led by human actors, which by engaging and empowering other actors in their networks, in the

practices following the socio-cultural traditions of post-modern tourism, creates the consumer culture of their interest.

In the first phase, problematisation, the actors and the problems are identified. It is the actors, both human and non-human, which are needed for the construction of the networks in the first place (Callon 1986, Duim 2005). The aim of the project in which actors engage defines the nature and the problems of the other actors, after which they suggest that the problems can be resolved by following the path of the action suggested by the project (Duim 2005). In my analysis I identified the actors, which in Northern Lights tourism include human actors as tourists, guides, tour planners and the tourism community, including the families and friends of tourists. There are also non-human actors, which create smaller scapes inside the networks. These include the lightscape, which includes the darkness, artificial light, Northern Lights and in some cases so-called living light in form of open fire and candles (Bille & Sørensen 2007). Many of the tours observed offered food and drinks and some even base camps, with food, warm lavvo, open fire and moments of story telling and friendly chat amongst participants, which I would say created a hospitalityscape inside the actor-networks. It was the cozy feeling created by these moments and services created, that I started to feel that as the result of the ordering and negotiations was managed to modify the entity to be more comfortable, reducing the power of uncomfortable aspects of the tour, including long hours in buss and no-show. My field notes from that specific tour include a sentence in which I describe the positive feeling and experience created by these actors and relationships.

“The friendly people gathered around the fire, hot coffee, traditional Norwegian pastries and stories of Norwegian culture makes me feel home and safe. I can see and feel the Northern Lights by myself, but for this feeling of ‘hygge’ I need these people and this culture. “

What is characteristics for Northern Lights tourism is that it turns the mostly negative assets to a positive ones. There are uncertainty, darkness, cold, unknown places, long trips and waiting. Combining these makes a product which does not at first seem like very attractive. But when we see the many numbers of people, waiting for the buss to take them into the middle of nowhere and the money they give to the companies in exchange for this experience, we could argue that it is a good product, although quite an extraordinary one. The actor networks of Northern Lights tourism are also mobilising the hospitality (see e.g Molz & Gibson 2007) in many ways. Especially the findings from the Iceland case propose examples of practices in which guides seek to welcome tourists and

make them feel welcomed by sharing their experiences. Like a guide in Iceland expressed, one of the biggest motivations for her to work as a guide is to have the opportunity to guide people into her country, culture and nature and to share her appreciation and in a way teach tourists to appreciate the nature. For the tourist this connection to nature might be strange and he or she might not easily feel home in the middle of foreign environment. The guide can use her or his skills to make the tourist feel home and comfortable even on the foreign ground by material gestures of hospitality. In a setting which lacks the more traditional signs and materialised objects of hospitality like warmth, suitable lightning, or even food and toilets, it is the way the actors in their networks create the social atmosphere of hospitality through gestures, narratives and other social practices. Hospitality is a structure that regulates, negotiates and celebrates the social relations between inside and outside, home and away, private and public, self and other (e.g. Molz & Gibson 2007) and it is in the actor-networks and in the fluid, ever-changing relationships in which this mobile hospitality structure emerges in Northern Lights tourism. In the translation process the network of hospitality agencies materialise the distinction between home and away, offering shelters and cooperative practices.

The second phase, *interessement*, includes the process in which with the help and support of different practices the actors are identified to match the demands of the problematisation (Callon 1986). It is a process of translating the images and concerns of a project into that of others, and then trying to discipline or control that translation in order to stabilize an actor-network (Duijn 2005). In this phase the tourists show interest in participating in Northern Lights tours and the tour operator answers to this need. The tour operators also get inspired by other tour operators and the information they get from the media. Some of the guides and tour operators interviewed said that the media, TV-series and promotion made by national tourism boards had inspired them to include Northern Lights tours to their services, because they believed that people would like to experience something they had seen in TV or the celebrities doing. In this phase the transportation to bring people to the destinations and to take them from their hotels to the places are constructed. It is also in this phase that the weather and the solar activity, which is part of the process of Northern Lights to emerge, gets their agencies. The tour operators consider in which places and in which time the weather would be the most suitable for Northern Lights tours and in which time of the year and how far from the light pollution of the centres, created by artificial light, the tours should be operated. It was observed that some tour operators are more willing to order their practices so that the translation of the weather is most likely to succeed, like the case in Norway where the tour operators might drive many hours to the spot where the sky should be more clear and the

possibilities for no-show lower. In Finland, the tours operators seemed to be less interested in to drive more than one hour to their spot, arguing that the price would be too high and the tourists would be not so comfortable with the challenges they would need to tackle during the tour. Nevertheless I would suggest, based on my analysis, that it is these challenges and uncomfotability that makes the experience. Many of the tour operators have named their tours with names as “*Hunting the Light*” and “*Northern Lights hunter*”, which suggests uncomfotability and challenges, differin the experience from the experiences available in their daily life.

In the third phase, enrolment, the diverse roles connected to each other are identified and distributed to the actors identified through the negotiations done in the intereseement phase (Callon 1986, Duim 2005). In this phase the actors have been empowered to lock others into their own definitions and networks, so that their desires are served by other other actors as well (Duim 2005). Above I have introduced some of the processes in which the negotiations and orderings are made. It was also noted from my analysis that technology plays a major role in many of the negotiations. Guides use phones to organise their trips and plan their moves, connecting themselves to the tour operators and other guides. In addition, the weather and aurora forecasts are used to predict the weather and to negotiate the most suitable place and time for the operations. The tourist has been embowered, by the money he or she has, to purchase the trip and in this way to lock the tour operators and guiding services to his or her networks. Recently the agency of technology has been materialised in these processes with the help of online booking systems, social media and sites like Tripadvisor, which make it possible to purchase and compare the products online, read recommendations and share the experiences. It was observed how tour operators in Iceland and Norway were encouraging tourists to post pictures and rate the services in Tripadvisor and Facebook. One of the firms in Reykjavik, Iceland was using Twitter as a channel to communicate the information of cancelled trips and weather forecasts. Based on my analysis I would suggest that tour operators pay more attention to these services, since with little effort they help the actors to negotiate the conditions more efficiently. It was observed and mentioned in the interviews, that recently the demand for and interest in Northern Lights tourism products has grown exponentially, for which reasons could be said to be the natural reasons like high solar activity, exponential marketing and the good reviews of tourists already been on a Northern Lights tour.

During the fieldwork in Iceland I talked with people who had already been to Norway and seen the lights there, continuing now their Euro-trip as they called it, having another Northern Lights trip in

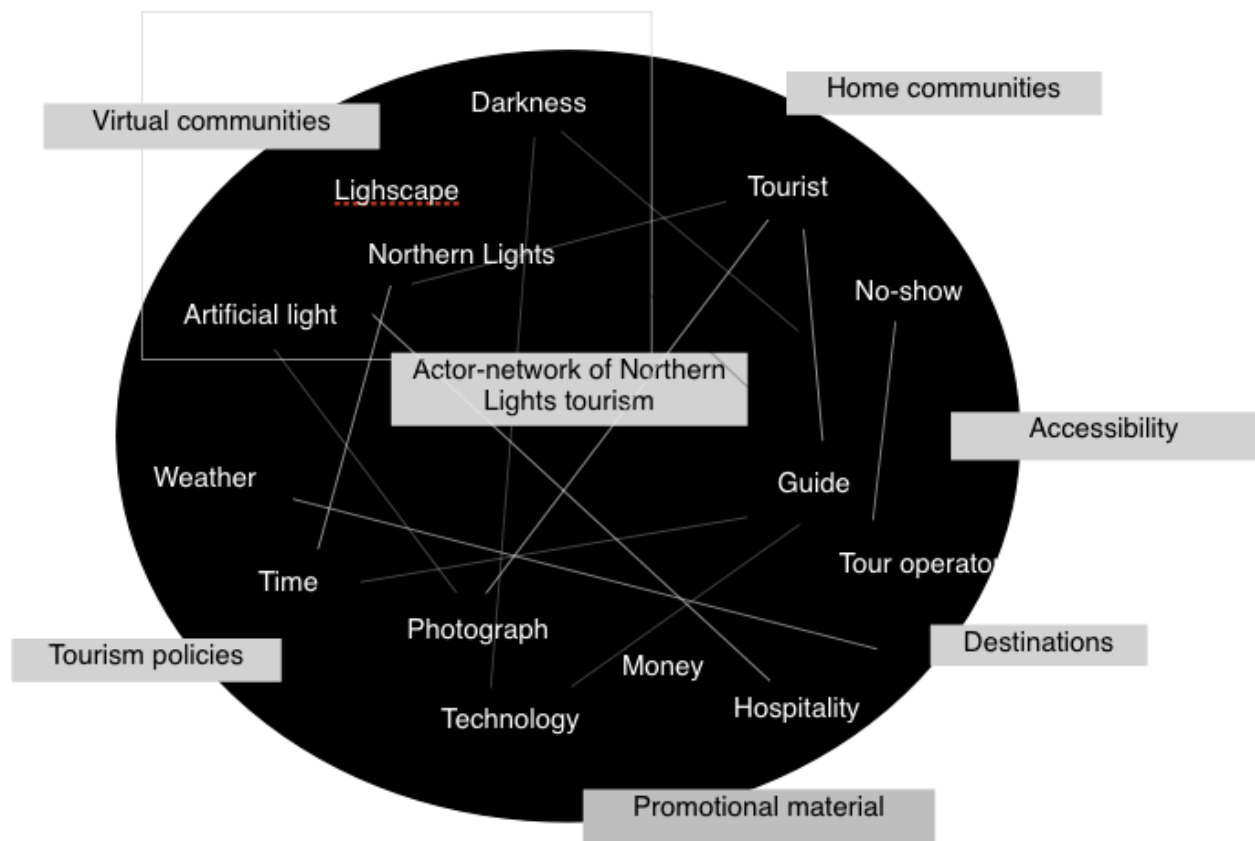
Iceland. They compared the experience, saying they had already been very satisfied with what they saw in Norway, but still they were eager to see what other places had to offer. It didn't come clear how big thing Northern Lights itself was for them and if they had other main experiences or experience-categories they were after, but in a way I got the feeling that after seeing the lights they had gotten more hungry and eager to experience to see them more.

The forth and final phase is the mobilisation of the allies. This phase is realised when the other phases have succeeded and the actor holds the agency in which it is able to represent a group which shares the same intentions (Callon 1986). This is the phase in which the Northern Lights tour is finally on, starting from the moment tourists step into a buss, or like in some observed tour, take part in briefing session before the tour itself. The intention of the ally, which is constructed in previously described phases, is to experience the Northern Lights tour, to hunt the lights and to offer the the tourist the possibility to see the Northern Lights with the help of the orderings and relationships constructed in the translation process.

In the translation process the actors have created a common intention and a network of relationships which connects actors to each other and works as a solution for the problem. Another key notion in actor-network theory is that power is not invested in the actors but instead it emerges from the associations or relations that are made. Thus power only exists when it is exercised or actively performed through interactions with other entities in the network. (see e.g. Law 1994, Callon 1986, Duim 2005). When at home, I can see the Northern Lights from my balcony, in which I hold the power for the experience itself. But for the experience to be an intention of the actor-network of Northern Lights tourism, I would need to engage other others actors into my network, or the other actors should engage me into their processes.

From my data I have traced and identified the process of translations (Callon 1986) in which the actor-networks of Northern Lights tourism are constructed and stabilised. Starting from the problematisation, I have identified the actors and the 'problems' to which the networks of actors are a solution. The problem, or a result of a Northern Lights tourism actor-network is the Northern Lights tourism experience, which is supplied and consumed. In the context of this study, tourism is a consumer activity, which my materialising cultural and natural elements creates products which can be sold and purchased. As described earlier, tourism is also cultural activity, which constructs its meaning in the socio-cultural orderings.

It is impossible to identify all the actors, since the actor-networks are heterogenous, ever-changing entities. Nevertheless I have been able to observe that there is a pattern in which many of the networks are stabilised. To produce Northern Lights tourism is to bring actors together and therefore it is a result and realisation of heterogenous practices and ordering of those. The actor-network model I am presenting is an representation of a typical network, but it is not said that this is the only model there is. This models is a result of three case studies, and other case studies might create a different understanding of the actor-networks.



Model of the Actor-Network of Northern Lights tourism.

Some network configurations generate effects that last longer than others and especially recently these have been the effect of technological innovations which create the possibility of ordering practices from a centre, having the potential effect of generating peripheries and centres (Law 1994, 103-104, Duim 2005, 96). A centre of ordering, in example tourism destination and tour operator there, is likely to be a place that monitors a periphery, represents that periphery and makes

calculations about what to do next partly on the basis of those representations, process of which makes themselves heterogenous effects (Duim 2005, 96). My analysis suggests that it is the social media and platforms like Tripadvisor which, in relationships to other actors in the Northern Lights tourism network, create the ordering practices which generate the peripheries and centres of Northern Lights tourism.

Most of the tours were attributed with a process of translation involving translators (tourism company, guides and tourists), entities to be translated (darkness, light pollution, cloudy weather) and mediums in which the translation was inscribed (transport, stop, base camp, promotion material, descriptions, phone calls and money). Translation process can be more or less succesful (Duim 2005) and one of the cases showcases the translation process which was not successful in translating the entities to its purposes. In this case, the other actors were not able to translate the weather to serve their needs and even though it could have been translated into an another experience. During that tour the weather turned stormy, making it quite dangerous to be outside and enjoy the experience, since the conditions made the tourists feel uncomfortable and scared. The guide tried to negotiate solutions and other translations, but in the end we tourists we embowered to cut the tour short. The network conformity and nonconformity is performative, an effect of process of ordering and in most of the cases the actors were able to utilise and modify the heterogenous qualities of the networks (Duim 2005). Nevertheless the negotiations do not always work out and the process results in undesired result.

5.2 Lightscape in Actor-Networks of Northern Lights tourism

During the process of translation, the qualities and roles of the light and dark are translated to serve for tourism purposes. Like the role of the time, the roles of light and dark differ from the roles they have in the context of everyday life. The darkness becomes desirable and the light ‘pollution’, which harms the experience and is only decided when being the ‘Northern Lights’. By way of three case studies Bille and Sørensen (2007) argue that light may be used as a tool for exercising different social orderings and of shaping spaces and hospitality. Furthermore, the most important use of light in the context of Northern Lights tourism would be their argument that light works as a metaphor as well as material agent in social negotiations. Therefore we can argue that applying the same idea to

the actor-networks of Northern Lights tourism, supported by my observations, we can trace the relationships between light and other actors in the networks, which creates special lightscape to the social and cultural relations of Northern Lights tourism.

The materiality of light has the ability to alter human experiences of space and the network between the light and the person and other things in the network shapes the atmosphere (Bille and Sørensen 2007, 274). Basically, we attribute agency to light in the relationship between thing and person through the meanings invested in these relationships. Light is both a source of social negotiation for human agents in the actor-networks of Northern Lights tourism, but also a phenomenon that may transform human experiences and social frameworks without any special human intervention (Bille and Sørensen 2007, 280). The light, or more precisely lights, are in the core of Northern Lights tourism and people use the light in many ways, thus creating the socially constructed lightscape inside their actor-networks. Nevertheless, the lights also hold an agency in the networks, like the darkness. After all it is not up to any social creature or social relationships which determines if the Lights are visible or not. The lightscapes are constructed in the relationships inside the actor-networks, but the Northern Lights and lights in general hold an materialised agency which makes them act individually.

Inspired by Bille & Sørensen (2007) I have used term “lightscape” to describe the connection and role of the light in the social and cultural entity of Northern Lights tourism. In this way I have been able to trace the way actual matter and the use of light in shaping experiences in culturally specific ways, by the way light is inhabited and manipulated and used socially, as a way of connecting but also as a thing to be connected to other things in the networks (Bille & Sørensen 2007, 266). With this term I have also wanted to include the celestial to the traditional concept of landscape, with which me mostly talk about what is of the earth (Edensor 2011, 229). Theories on landscape invariably focus upon what is perceived during daylight or under artificial light (Edensor 2011, 229), but as this study suggests there is also a good reason to focus on the night time landscape, where the celestial qualities play a major role. The term lightscape also helps me to grip the idea of how light and luminosity create the hospitality dimension to Northern Lights tourism, the networks creating a hospitable lightscape which welcomes tourist to the environment. Shortly, lightscape is about attributing agency to light in the relationship between things and person (Bille and Sørensen 2007, 208). In the actor-networks of Northern Lights tourism, this relationship creates a special

lightscape, which is a practice of making, through the changing materiality of the light and the light source itself and lived experience.

Edensor (2011) has conceptualised an aurora landscape, which translates the Northern Lights as an landscape which can be appreciated like any other landscape. As a result this atmosphere of appreciation and affection fosters the embodied involvement in the social relationships in actor-network of Northern Lights, an argument supported with the findings of this study. The interviewed guides described the situations in which the Lights emerge and the atmosphere is changed in a blink of an eye. On the other hand, the tours where tourists do not see the lights, experience an different atmosphere which foster different involvement and sociality. I have observed that the tourists are more social, talkative and cheerful when the lights come out, which embodies sharing of experiences and feelings. In one occasion we witnessed a proposal under a Northern Lights, which made me wonder if this would have happened if the lights would not have been there. When there are no lights and it is cold outside, tourists seemed to be more motivated to stay in the buss and share stories un-related to the tour at hand. Tourists were talking about their other holidays, which carried totally different attributes that Northern Lights tour, like a holiday memories from Bali. It is in these latter situations where the aurora landscape embodies more active involvement from the guide. Like one guide said, he feels the most succeeded when people are happy and cheerful after a tour where there were no Lights. The guide continued by saying that there are people who come over and over to Iceland to take part in his tours, which suggests that a guide can create a strong relationship to tourists with the help of his personal attributes. This supports also the notion made by Rantala (2011) about how guides have a strong potential for enhancing tourists experiences and the product quality with their personal qualifications. It would be of interest to study more how the guides really do this and if there would be more good examples of how the company by choosing their guides can affect the tourists experience and in the Northern Lights tourism concept especially to use these attributes to tackle the problem with no-show.

There is also the time factor, which is also connected to the light. On macro-scale, the time makes it possible to see the Northern Lights only on a specific time of the year, when the skies are dark enough to create the contrast needed for the Lights. On micro-scale, time determines that Northern Lights can only be seen during the evening and night, when it is again enough darkness for viewing the lights. Helping to understand the agency of the time has many implications to the management to Northern Lights tourism. It was mentioned in the interviews and observed during the tours, in

Iceland, Norway and Finland, that the late timing of the Northern Lights tours is demanding both for the guides and the tourists. Like it is with the light, the agency of time in Northern Lights tourism context is quite negative. The guides interviewed said that the Northern Lights tours are not for every guide, since some of them do not want to work during the evenings, knowing that you can not go sleeping before midnight and that you need to work during a very unusual time. In addition I observed that many tourists were sleeping in the busses, showing that the agency of time makes the Northern Lights tours demanding activity which schedule differs from the normal day schedules we have. There is also the overflow (see e.g. Callon 1999) in which the time affects the orderings of the outer world and in which the outer world affects the orderings in actor-networks of Northern Lights tourism. An example of this is the observed difficulty of feeling to wake up early enough to breakfast, when you have been out late chasing the Northern Lights. It was however observed to be possibilities to tackle this problem, one of which is that the problem with jetlag could be solved with the problem of timing in Northern Lights tourism. Asian tourists flying to Scandinavia might have an asset in practicing tourism in unusual times for the people scheduled to scandinavian everyday.

It was noted by the guides in both Iceland and Norway that the time is an actor which manipulates the attractiveness of the tours when guides have the change to decide if they want to work on Northern Lights tours or other tours during the daytime. In Iceland some of the guides reflected on how some guides do not want to do Northern Lights tours at all, for various reasons linked to the timing of the tourism, while for others the timing suits better.

We are on a holiday, we offer holiday services, so would there be a reason for and good opportunity for using this dichotomy as an asset, turn the whole holiday experience to an opposite of everyday? Definitely. Based on my analysis I would argue that the actor-networks of Northern Lights show how it is possible to sell an product which rarely contains assets familiar from our everyday life. They also help lowering the boundaries between seasons and offer examples of how to offer extraordinary products based on the most ordinary things, just by customising and manipulating the way they are practices and valued in our social and cultural realities. Like an interviewee in this study noted, it is a very good asset to be on the road when everyone else are already sleeping - the roads are quiet, the parking spaces empty and why not to think the breakfast as a late dinner. During the polar night it does not really matter when you are awake and when sleeping. And how about al

those tourists travelling from the other side of the world, for the timing of Northern Light tours might be the most suitable when keeping in mind the problem with jetlag.

Edensor (2011, 230, 231) makes a notion how the things in sky are like land in continuously formation, despite the illusion of stability, which is especially connected to the latter. Similar to weather, Edensor argues (2011, 231) the light enfolds and is enfolded into the world to produce the qualities of landscape and provide the means through which it is perceived. Lightscape, by attributing agency to light, creates thus a counter force to the darkness. What we must note, though, is the fact that in ideal conditions of Northern Lights tourism the darkness takes over, away from the urban lights and light pollution of urban centres, and creates a lightscape of darkness. This is promoted by the firms who guide the tourists away from the centres, where most of the tourists are spending the rest of their holiday outside the hours they spend hunting the lights. Also individual guides involve in creating the lightscape by not using headlamp and advising tourists not to use their flashes or headlamps. It is more the way artificial light is taken out from the space that we introduce the Northern Lights to our sight.

Edensor (2011, 232) has also noted how we mostly underline the tourists convention of consuming the Northern Lights visually, paying little attention to other senses. But what the findings of this study suggest and what Edensor has also pointed out, non-visual apprehension of the lights and the broader landscape emerges alongside the visual. It was observed that the darkness around us made the others senses more sensitive to the sounds, the weather and other people around you, which contribute to a wider sensual apprehension. It would be of interest for Northern Lights tourism producers to keep that in mind, since the under-estimated wider sensuality of Northern Lights viewing might help creating more enjoyable products and experiences. In their networks, the lights manipulate human actions, contesting the traditional idea of tourism as constant movement and mobilities. It is the information which flows through the network relationships, but the human is still, appreciating the Northern Lights in the sky. It is in this moment when the Lights become actors and tourists the viewers, nailed to the ground by the movement in the sky. One of the sensual attributes of Northern Lights is also the sound they possibly make, which doesn't yet have any scientific proof behind.

Some of the myths and stories on Northern Lights form another agency to the Lights and this is the mythical agency, which materialises in the stories on how the Northern Lights have the potential to

physically threaten, by reaching out to the ground and taking you with them. These kind of stories are told by the guides, following the storytelling traditions of North. From the childhood I remember my mother to tell that it was not allowed to whistle when appreciating the lights, since the Lights might think that I was calling them to take me with them.

5.3 Technoscape

Actor-networks of Northern Lights tourism also copy the trends from the external world. It is the technology and social media which has affected tourism development and social interactions tremendously the last years. The tourist gaze (Urry 1990) has always been a technological achievement Molz (2012, 62) argues and these days technologies of visualisation are converging with technologies of communication to produce new ways of seeing and staying in touch while travelling. In the actor-networks of Northern Lights tourism, technology materialises this gaze and sightseeing practice, which refer to the socially structured and systematised practices which attribute sights with particular meanings. (MacCannell 1999) sightseeing is a form of social structure that organises behaviours and objects in public spaces.

With virtual ethnography and observations I have been able to trace this relationship in which tourists and companies use technology as a materialised way of sightseeing, which organises behaviour and objects. Connecting with an absent, distant or mobile social network sometime involves disconnecting from localised experiences (Molz 2012, 72). These moments were easily observed during the tours and noted by interviewed guides, in a situations where people are more concentrated on taking a picture of Northern Lights rather than enjoying the situation with all their senses. What is notable when considering photographing Northern Lights, is the fact that the lens of the camera is better at capturing the lights than a bare human eye and therefor some of the guides even encourage people to look at the Lights through the objective, especially on situations when lights are weak, meaning not as bright or colourful as they in other situations are.

Jóhannesson (2005, 140) writes how tourists translate places through their performances, in example by taking photos. When taking a photo, tourism translates the place or sight into the desired result of the networks, establishing and enabling communication between networks and the photo acts as the intermediary into which the place or sight is translated. At the same time tourism

promoters, management and people living in the tourism destination translate the tourists which become the index for economic success or failures. Taking the picture of Northern Lights works as a souvenir, a proof of an experience being lived through, working same time as a translation of a time and place. When thinking about the Northern Lights tourism especially in the border regions of Northern Norway or Finland one can see some kind of false translations, when in example tourists flying to Tromsø, producing Norwegian tourism facilities, travel to the Swedish or Finnish land to see and picture Northern Lights, translating this way the image of a place somewhere else and being the same time translated to as tourism income in Norway. In the marketing material and successful media representations Northern Lights tourism translates as an economic success or at least possibility for economic success, but the reality in which the experience is not bound to a specific place or destination translates a different act, an act of falsification and conceptualisation which falsely is translated to a sign of a possibility for success.

It came up in the interviews that many firms do not really pay attention during normal tours how the photograph will look like or which would be the best spot for photographs. For the tourist, especially in big groups, the beautification is not as important as the photo itself, the act of capturing the moment and Northern Lights. But there are people, those amateur photographers, for whom it would be reasonable to design products serving especially their needs and demands.

The photos act as a reminders of an availability of authentic experiences at other times and in other places (MacCannell 1999, 148). Especially the social media enables us to circulate and accumulate these representations, as a reminder for ourselves but also for others. In the ANT's of Northern Lights tourism the information flows in both ways, in which the image brings back memories of an experience and when an experience brings backs memories of an image. During one of the tours I was having the feeling of having been on that place before, feeling of a dream come true, wondering if it came from the marketing material I had seen or some other informations generated by someone else. After I had returned home from that trip and while browsing my Facebook newsfeed for other purposes I noticed a picture I had shared, a picture not taken by me but under which I had written that I was missing home. That exact picture was a representation of the place I had been standing couple of weeks before, wondering the origins of my familiar feeling. The picture has been taken for promotional purposes, the relationship between me and picture had been changing. It is this way the translation and ANT's work in tourism networks, enabling the actors to create, modify and re-make their relationships and to have fluid roles in their networks.

While studying tourism, one can not escape the fact that while being a part of a society, tourism is also an industry which has a lots of linkages to enterprises, media and commercial world. Like Hammersley (2003, 212) points out, both personal and impersonal media play their role on most multi-site studies. After being in the field and returned home I can and will still be in contact with the field, through articles and especially internet, social media and sites like Tripadvisor. In other words, most of my connections with the industry and phenomenon happens through and with the help of media and technology, both while on field and after I have returned home and started analysing my data. Furthermore, media is nowadays more or less managed, owned and distributed by multinational corporations, which makes a strong linkage between communications and commercial, global world. The content management and distribution is both done by the participants in my field observations and by me, but the media companies set the limits and stages for the distribution through their communication channels.

In the act of sightseeing (MacCannell 1999, 158) the representation of the true society is formulated and refined and it is the actors in ANT's of Northern Lights tourism who construct this representation of Northern Lights tourism society. The act is not continuous nor participated in by everyone (MacCannell 1999, 158), but following the understanding of how ANT's translates the objects to representations and based on the findings of this thesis we can argue that these acts hold the possibility for and power of greatest intensity in the operations and practices of tourist attractions on the touristic consciousness. When the attraction is to be seen, the ANT's are able to empower the actors to a experience which pays off in a way no other moment would. The fact that the authentic attraction, which creates the experience in a first place, can not be created or purchased, creates challenges for the management of Northern Lights tourism. Nevertheless, the way some of the guides described the way they had managed to overcome these challenges by creating other, substituting attractions and experiences, might offer a model for a way how the moments and experiences can be manipulated.

Actor-network theory is especially concerned with changing recursive processes, thus taking step away from pure structuralism, although having the basis in post-structuralism (Law 1994, 18). ANT tells stories how actor-networks elaborate themselves and those stories also "erode the analytical status of the distinction between the macro and micro -social (Law 1994, 18)". Furthermore the processes of orderings generate effects, which in Northern Light tourism might

mean technologies used to memorise the experience, in example through photographing and sharing pictures and experiences through social media. (Law 1994).

Some of the british guides noted also the british TV programme Sky at Night, which is also mentioned in the article by Dunnett (2012). In Norway the regional Northern Norway tourism board and many companies are using the publicity gained through the BBC programme Joanna Lumley in the Land of the Northern Lights, in which Northern Norwegian Northern Lights guide and photographer Kjetil Skogli guided the British actress and campaigner Joanna Lumley, produced in 2008. It was observed that many companies were using the name of Skogli as a quality mark, in example by promoting their guides as trained by Skogli. In Iceland the Icelandair takes part in the promotion and production of Northern Lights tours, and the Northern Lights are shown in many ways in in-flight magazines, airports and even the airport busses are the same busses which take tourists later on to Northern Light tours. In Finland a video by Flatlight Films gained lots of attention through internet, but it has not been used as effectively in general marketing as the Norwegians have done with their programmes.

In his article Dunnett (2012, 514) says how editor and TV presenter, Sir Patrick Moore played a key role in the popularisation of 'British outer space' with his Sky at Night - programme, during the early post-war period. One can see a similar pattern in Northern Lights popularisation, supported by the guides interviewed in this study who noted the publicity gained through recent TV -shows and newspaper articles, highlighting the Northern Lights touring and in example listing the best spots and destinations for Northern Lights viewing, like article published by CNN travel on November 21, 2013. In this way popular culture takes part in the Northern Lights tourism networks, making it trendy and more known amongst the masses. The guides expressed their worries on how long this pull effect might last, although noting also the way the media has commodised Northern Lights tourism, and making it a kind of a bucket list product, as described by one of the interviewed guides. It is also worth noticing how Dunnett (2012, 518), based on his research, argues how Moore's understanding of audience participation helped promote space exploration and astronomy in British people's homes in the early post-war period. In is this way how also the rapid evolution of Internet and especially Social media has helped to promote Northern Lights tourism. In our modern, global world new technologies constitute both an object of knowledge and a way of knowing that makes the world in particular ways (Molz 2010). These technologies, which enable us and the companies to create a modern version of audience and customer participation, work in a

relationship which further create a more social and interactive mode of producing and sharing knowledge and information through mobility (Molz 2010, 100). New technologies afford new ways for tourists to connect and collaborate with each other, creating thus a new empirical realm of mobile social life (Molz 2010, 100). It is in this realm the basis for technologies to demonstrate their agency in the actor-networks, observed during this study.

5.3 Weather, landscape and seasonal changes

Light and weather can be powerful contributory elements within the affective atmospheres, conceptualised by Edensor (2011, 236) in tourism entity. The affect in the lightscape is generated by immersion that holds folds subject and space together (Edensor 2011) and it is therefore argued to say that in actor-networks of Northern Lights tourism the lightscape connects the subjects to their environment, it being a context which a body feels and acts. By standing still, turning their faces to the sky, the body is bound to the landscape and in the moment in which the Northern Lights emerge to the sky the tourist is connected to the experience. It was observed that in these moments, tourists forget easier the aspects of cold, because the Lights engage their concentration. Based on my analysis I can say that in the case of no-show the non-human actors gain more power, in the way they make people feel cold, as the weather and the way the timing makes the tourist tired. If and when there are lights, people tend to overcome these challenges more easier.

While the visual gaze is directed to the sky and the lights, other senses heightens by the lack of visual information coming from other sources. That might be the reason I found the sound of the snow mobile, during a Northern Lights on snowmobile, or the fact that the helmet made it more demanding to hear what others were saying, so disturbing, since I could not go through my research observation practices the way I had planned and used to. Edensor (2013, 462) notes how in modern times the night is in most cases ordered by extensive illuminations, whilst there has always been those who have sought darkness. In the actor-networks of Northern Lights tourism we can see the companies and even authorities acting contrary to this trend of over-illuminating - companies by driving tourists out from the urban, over-illuminated, light-polluted areas, and offering the tourists the opportunity to experience Lights in a convenient way in the middle of inconvenient dark space. Furthermore, the authorities also hold an agency in the way the make decisions to shut down the city lights, in example done in Reykjavik, Iceland and Ylläs, Finland. In this way these actors turn

the traditional way of seeing darkness as an undesirable environment to other way round, in which the artificial light is seeing undesirable and the darkness the most sought state of affairs. In the future the desire of less intense lighting should grow due to sustainability (Edensor 2013, 463) and based on this and my analysis I could argue that Northern Lights tourism represents a model for a way in which the darkness has been successfully transformed to desired state of affairs, in which the role of the lighting has been questioned.

Nevertheless I disagree with Edensor (2011, 238) who has argued that “unlike weather, the aurora suggest no wind, heat or cold, wetness or dryness. Its ever-changing configurations are the embodiment only of distant light, lacking any phenomenological grasp”. I would argue, based on the analysis and my own empirical experiences and the way actor-networks of Northern Lights tourism create the lightscape in their relations, that aurora suggest cold and dryness. I have always associated Northern Lights in Finland with very cold, bright evenings, when the elements in nature, like water, are still, frozen and the greatest movement is happening in the sky in the form of Northern Lights. Nevertheless, the tourist, with no prior experience on Northern Lights, lacks this knowledge and connection. Based on my analysis, this is the point in which the stories and myths, narratives produced by the guide and the producer of the tour comes into picture, creating and strengthening the relationships between tourists and the Northern Lights as a culturally and socially constituted agency.

In their article on ethnographic study on weather-wise wilderness guiding practices, Rantala et al. (2001) have argued that weather holds an agency, exercising a significant power in directing and redirecting human nature-based activities. In the article authors demonstrate the way weather manipulates human practices by narrowing down or extending the possibilities for outdoor activities (Valtonen & al. 2011, 285). The findings from my observations and interviews create a picture of weather as an actor which manipulate human practices in actor-networks of Northern Lights tourism mostly when it comes to tourists practices, while the entrepreneurs or guides rarely modify their practices to the weather. The supply side of the Northern Lights tourism does not seem willing or prepared for the role of the weather as a manipulator of tourist practices and there was more than a one occasion when guides were seemingly more concentrated on delivering the product and tour promised, rather than adjusting to the weather. Tourists, on the other hand, seemed to be more concerned on the weather in those occasions. Tourists relationship to the current local weather is weaker than the relationship between guide and the weather. Guide or entrepreneur, having been

living and working in the field has prior knowledge of local weather and the way in which it manipulates its practices, which makes it easier to them adjust their own practices in their networks. Tourist, on the other hand, is less aware of the manipulating acts of the weather, which demands knowledge transfer from the guide to the tourist, to make tourist feel more connected to the place and situation.

My own background experience suggests me that the solution for the winter time darkness, the polar night, is snow. I have been telling, over and over, to my friends from the south, that the snow lightens the otherwise dark landscape. During this research process I came to realise that is not the case in all the situations. Even in Finland, on my home ground, I realised that the darkness is challenging, in a situations like when snowmobiling, in which the lights of the snowmobile makes the darkness outside the light more dark, creating a strong contrast between natural darkness and man made light. Previously I had though that the snow and the natural light sources like sun or the moon, with the help of snow, create a natural opposite for the natural darkness. Nevertheless I came to realise during this research that the way more urban people might see se relationship between darkness and light. For a person from the city the man makes the light which lightens up the darkness, the only natural light being the daylight and the sun, which are not “on” during the night. For these persons the cold and dark conditions are not primarily there for positive enjoyment of nature. This asks knowledge and creativity from the service provider side, an ability to turn these circumstances into positive experiences. The weather conditions make the work easier or more difficult (Rantala & al. 2011, 295), depending on the situation at hand. More experienced guides, and I would say, based on my observations, the guides with more local knowledge are better prepared to these changing situations and they have developed more ways to cope with situations. Some of the guides and firms even showed a high level on innovativeness on the way they have changed or planning to change the negative aspects, like the late time and the darkness into positive experiences. With supporting acts the guides can work in the network so that the other actors can not manipulate the situations endlessly.

With their practice-based approach, Rantala & al. (2011) have in their study noticed that discursive practices offer opportunities for different narratives to cope with and even change unfavourable situations to favourable. In the actor-networks this kind of translation is highly visible and recommended - the stories and narratives offer the guide the opportunity to lead the situations and other actors. Rantala and al (2011, 296) argue that the universality of discursive practices related to

weather, like the way talking about the weather is the most common type of small talk, deriving from the fact that all the people have some experience of it, further demonstrates the role of agency held by non-human entities.

As my study suggests, materiality is involved in the Northern Lights tourism in many ways and the many actors are material entities in themselves and interaction between actors involves a wide range of material objects and the non-human actors like the weather holds the power to direct and redirect human practices, holding thereby agency. Recognition of the integral role of the different actors in tourism practices can help the industry and development agencies to develop and plan their practices accordingly. Furthermore, the reflexivity I have practised through the research process has added an important dimension to this research, since conscious actions are needed to reach reflexive information in daily customs and practices (Rantala & al. 2011. 289), which in other methods would not be as clear. During the fieldwork periods I was daily reflecting my experiences and actions with the other researchers, enabling me to pay particular attention to deconstructive reflexivity, giving me the knowledge which to use when chosen the parts I am representing in this text.

When studying the agency of weather, Rantala and al (2011, 296), inspired by Miller (2005) and Shove (2003) argue that it is because the agency, in this case weather, represents such a commonplace phenomenon that its materialised aspects and power easily escape academic reflection. Therefore we could argue that this kind of research in which I have traced the actor-networks of Northern Lights tourism, brings into light important aspects not traditionally seen in academic reflection.

Ingold and Kurttila (2000) offer in their study an analysis of the way the Sámi people in Finnish Lapland perceive weather and employ traditional knowledge and skills related to weather, when carrying out various activities in natural environments. Following their arguments, which provide a view of weather's significant role in traditional forms of acting according to nature, we can better understand and notice the weather-related knowledge transfer in the actor-networks of Northern Lights tourism. My observations and findings suggest that tourism entrepreneurs and local guides use their weather-related knowledge both to create a more suitable environment and products for Northern Lights tourism, but most importantly they use and transfer this knowledge to better tackle the risk of no-show. This knowledge transfer is mostly happening outside the tourists' sight, but in some occasions this was highly visible to tourists, when guides were calling to other guides to

check if the weather and clouds were different somewhere else. In some of the occasions this was even presented as a play by the guides - to provide the tourist with a play in which the guide plays the role as a experience provider, the one who does every possible act to provide the tourist the best possible situation and environment for his/her experience. By doing this the guide creates a link of trust between the tourist and the product provider and non-human actors, a link which can be described as an actor-network of trust. In this network the entrepreneur or guide trusts in his/her knowledge and experience on the weather and he/she might have even created a different scenarios and plans for tackling the different problems changing weather creates. From the interviews we also learned that guides use and trust, in varying degrees, different forecast services, both for aurora activity and the weather, when planning their tours. Further on there is a relationship of trust and knowledge transfer between the tourist and the guide/company, in which the tourist, again in varying degree, trusts the information and knowledge guide and the company have, to be able to provide the tour the tourist has bought.

In previous studies, people have admitted the lost of their skills of reading nature, making them more relied on forecasts (Ingold and Kurtti 2000, 191). Traditionally, knowing what the weather was going to do, referring to reading nature, was a way of noticing and responding to the signs in the environment, whereas today the forecast offers people a a different kind of prediction, which Ingold and Kurtti (2000, 191) writes to come in the form or hypothetical, map-like projection of a future situations “which has then to be interpreted in the light of information specific to the local area before it can be understood” (Kurtti & Ingold 200, 191). In the actor-networks of Northern Lights tourism, the guides and firms interpret their prediction of the future state of affairs to tour plans and product development. In Iceland I observed that the guides rarely used or referred to the forecast services ad trustful. Icelandic guides seemed to be more adjusted to use their local knowledge and own experiences to plan their actions, whilst in Finland I observed a guide with British origins to use more forecast services and modern technology to predict the weather-to-be and to plan the actions of that night. On the other hand, in Norway I was faced with a dilemma when I observed the guide to have local knowledge which I would have expected her to use, or at least assure me that it was based on that we did what we were doing. With this I am referring to a tour which was done in a stormy night, when I did not feel comfortable to be in a car driving through storm and to be standing outside with a wind which was strong enough to pull me down. On that night the guide left us two researchers on that trip to decide if we would go further inland, without minding the storm, since the sky was clear and the possibility for seeing Northern Lights

high. On that occasion we asked if that was the thing what she does with tourists, meaning the way she leaves the final decision to be made to tourists, and she answered that yes, since it was the customers she was serving and she wanted to give them what they wanted.

On another occasion, while our group of researchers were reflecting our experiences from tours we had participated in the previous evening, we started to talk about the way one of us had re-created the lost connection to the nature and land, referring to the way she had noticed how she after all likes the snow, which in the North and countryside is different than in cities. Based on my own experiences, having grown up in North and knowing the way people have learned to cope with the snow, which in the North is so much more than a problem, like I have noticed to be the case in bigger cities, even in the Scandinavian capitals. My colleague had been lying on the snow that night and thought how she had not done that in many years and how he had forgotten that when living in the city and connecting snow with problems like it making the cycling almost impossible in some days. This way to use snow and to customise the actions to suit better to the snowy environment seemed to be more natural for me and the Northern Norwegians and Finnish, while in Iceland where there were no snow or if it was too wet to be lying on, people seemed to utilise it differently. I observed that the guides with foreign background did not encourage the people to lay on the ground to get better position, when it was possible, while the Finnish guide on one of our tours encouraged us to play in the snow and use the snow as something which makes actions possible, not as barrier. Therefore I have to say that after many Northern Lights tours I got a very bad neck ache, from directing my eyes to the sky in not-so-natural position. Because my background knowledge I knew that it would be easier to lay on the ground, since from that position you can keep your eyes on the sky longer, without getting your neck or other muscles hurt so much, like the situation is when you just stand there with your face towards the sky.

The cruise industry, argues Nilsson (2007, 84) has a problem with its niche market for its products. Northern Lights tourism, happening in the excursion zone of the cruise tourism destinations (see e.g. Hobson 1993, 86) offers products suitable for this industry but it also gains advantage in the way the cruise industry has the potential to reach the peripheral destinations which offer these products. In this way the cruise industry has the power to translate the Northern Lights tour into a mass tourism product, which can be observed in destinations like Tromsø and Alta in Norway. In these places the Hurtigruten stops, allowing customers to take part in a special tour outside the cruise ship.

Furthermore it is the intention of the industry to create more demand on the previously quiet winter season. It is this way the Northern Lights translates into a solution for a problem with unbalanced seasons and the low numbers of tourists on a cruise during winter months. Northern Lights tourism, like any entity is caught up in a network of relations, in a flow of intermediaries which circulate, connect, link and reconstitute identities. Framing is an operation used to define individual agents and objects which are clearly distinct and dissociated from one other and it is impossible to totally frame any of these entities. Callon calls this possible process overflow. In ANT this means that it is impossible to frame the network so that we could state that there are no connections or flow to the externals or that the actors would not have any relationships to the world outside their network framed in some means. (Callon 1999).

Northern Lights tourism offers a great opportunity to serve these tourists, but it can also serve the intentions of mass tourism, which can be observed in Reykjavik, Iceland, where tour operators offer Northern Lights tours with big busses every evening or in Norway where the biggest tour operator for mass tourism Hurtigruten provides the tourists possibility for Northern Lights tours. In Norway, Hurtigruten is working with other entrepreneurs to offer Northern Lights excursions for the cruise passengers, to expand the product catalogue and service offers and to find some more attractions to attract tourist during the winter season. Nilsson (2007) has written how the problem for Hurtigruten has been the unbalance between seasons - during the winter season there has been a need for a support from the State, while on the summer season from May to September its commercial business creates most revenue. Therefore it can be argued that Northern Lights tourism offers possibilities for the industry to serve better the new tourist and fill the gaps between seasons.

5.4 How do the Actor-Networks of Northern Lights tourism work?

Northern Lights tourism is achieving to materialise the experience, which as its greatest can create an exceptional flow experience (Csikszentmihalyi 1994) which differs from the reality of ordinary everyday life. The actor-networks of Northern Lights tourism balance between the possibilities that the challenges are too high for the experience to be desirable and the possibility that the challenges are too low which generates boredom and experience too similar to the experiences of everyday life. This balance was observed to be managed with a assets and agencies which change the negative aspects of everyday desirable, like darkness and the positive experiences of everyday life like certainty of things to happen in a predictable way. The actor-networks of Northern Lights

tourism create an entity in which the uncertainty creates a possibility for surprises. When nothing is certain everything is possible. In their everyday lives tourists are used to predicts how thing are going to be or how they are not going to be and Northern Lights tourism gives them the change to experience something which are not as easily predicted. They are more willing to high level of challenges, like long distance travel, staying up late and adjusting themselves to the cold environment, because those challenges create the possibility to a flow experience. It was mentioned by some guides that even for them it is possible to have that flow experience during a Northern Lights tours. The risk of no-show was observed to be a challenge which tourists were more accustomed to handle than the guides and entrepreneurs, since it is the experience they are promoting and selling and in some cases it is falsely promised to be achieved by participating on a specific tour. The findings of this study suggest that it would be fruitful to the companies and management to count the risk of no-show as a part of the experience, an asset which differentiates the touristic experience from the everyday experiences. It can be argued that the risk of no-show is an essential asset of Northern Lights tourism, which differs it from other types of tourism.

For the people from the northern countries, like me, the experience is too easily achieved by ourselves and therefore desire for and interest in Northern Lights tourism itself is not so high. On the other hand, for the tourists the level of challenges they are willing to accept is higher. It is the combination of challenges and easiness, which makes the product desirable and I would like to encourage the companies to think about how they can achieve the balance in which the tourist is served with enough knowledge and supporting services to make the experience achievable, but also how not to take away all the mysterious and challenging aspects of the product.

The actor-networks of Northern Lights tourism turn many of our everyday practices and traditions other way round. We are awake when we normally sleep, we are connected through different networks and we prefer darkness over light. We seek and learn for patience from an activity. The modern inventions like better clothing allow people to enjoy their experiences more, reducing the negative aspects like the feeling of cold. Some firms offer clothing and blankets for tourists, but some still seemed to be unaccustomed for serving tourists with appropriate clothes. Generally tourists seemed to be well clothed for the tours, but still it was observed how people preferred to stay in busses and go in earlier when they felt cold.

For the Northern Lights tourism product these actor-networks are trust are very important, since basically none of the tour operators can sell the Northern Lights itself or produce the experience itself - the company and the guides are all the time playing with the uncertainty and they must be able to work fluently in and with these networks of trust. The trust does not mean, at least not in most of the cases, that the tourist really gets to experience the Northern Lights itself. In the interviews some of the guides were referring to customers who asks them to put on the lights, to create and produce the lights for them. These tourists have a trust on their false reality where people can really manipulate the natural phenomenon. The trust network is also playing in the field of basic customer expectations - satisfaction ground, in which the tourist trusts that the product he/she buys fulfils the expectations. Some of the interviewed guided expressed their concern on how the marketing and promotion of the Northern Lights tours creates high expectations which are impossible to satisfy. In some of the situations this leads to a situation where the actor-network of trust is first created by promotion and then possibly broken when the tourist is faced with the reality which doesn't match the expectations he/she has created based on the marketing, which in worst case might be done by the company itself which does not manage to produce the kind of experience it is promoting.

If and when the entrepreneurs and guides want to understand the customer better and to delegate their actions and plans in a better and more sustainable way, they need to take into account the non-human actors, no matter how big or small their scale is and how much their actions can be modified. In one of the interviews in Iceland it was mentioned how the authorities play a role in determining where the tours can be taken, in multiple ways. There are the issues with land and area management, even with restrictions related to military, like in an occasion when in a tour I was participating in the army officers came to ask if our group had a permission to be there, distracting the experience with their lights and raising into the surface the issues of who's property the sky is and the fact that in some areas one can not freely look everywhere. It was the moment when we started to wonder the questions of who owns the sky and who has the right to decide. Another issue mentioned in Iceland was the issue of infrastructure and the road management. In the winter not all the roads are to be kept open during a snowfall, which is many times the issues especially during the evening. The roads are opened for the people going to work at the morning, because that is the traditional way of life. Tourism is simply not an activity which is thought of being the reason to keep the roads and in example parking lots open in unusual time and places. Nevertheless some of

the entrepreneurs have started to take action on this and there has been conversations between the authorities and the companies to make the environment and authority more Northern Lights tourism friendly, or at least to raise the awareness of the issues concerning this industry. Like Callon (1999, 192) I say that the market is the result of operations of disentanglement, framing, internalization and externalisation and therefore the politics have to be taken into account when we try to understand and predict the actors behaviour better.

In one way the actor-networks of Northern Lights tourism also show traces of post-colonial practices and orderings in the North. Iceland, Norway and Finland are countries which have not really experienced imperialism in the history - North has been inhabited by Northern people(s) and imperial practices have concentrated more on other Arctic nations and regions, in example Canada and Alaska. Nevertheless the Northern Lights tourism, which its concepts like “Hunting the Light”, which brings in mind the imperial Africa and wildlife hunting. When analysing Finnish literature history, Ridanpää (2003, 112) has noted how the Finnish literature have followed colonialistic features with characteristics such as exoticism and strangeness. most frequently repeated phrases in current cultural and social sciences. Mostly this phrase has been referred to as some kind of theoretical background for research, but on the other hand, post-colonialism can also be regarded as a form of social criticism and as the re-writing of colonial history through different theoretical perspectives (Ridanpää 2003, 107), of which the practices of actor-networks of Northern Lights tourism also show traces., based on my analysis.

Northern Lights tourism translates the concept of hunting into an untraditional version of hunt, in which the tourist is on the hunt for the perfect lights, the perfect moment when the sky is clear, lights giving their prefects show and the patience and long journey rewarded. Tourists hunt with their cameras, bringing home trophies in the form of photographs, stories and even traditional souvenirs like t-shirts with Northern Lights printed on those. One of this kind of trophy is presented in a NRK documentary “Jakten på nordlyset”, which can be seen in the internet. In this episode a tourist and amateur photographer Greg from Oregon, USA, has travelled to Norway to witness and photograph Northern Lights. The narrator in this documentary describes the photos these kinds of tourists take as hunting trophies in. Greg describes his trip and photographing Northern Lights as a great challenge and a task which demands lots of equipment, continuing by telling how he corresponds with her wife every evening and sends photos to her, who then has showed the photos to her colleagues, who has been impressed by Gregs talents. Greg is an example of Northern Lights

hunter, who in his networks and thorough the practices in the networks translates his role from dedicated husband to hunter and a character who is admired because of his achievements in Northern Lights tourism practices.

This passion and the strong emotions related to Northern Lights tourism experience can be seen in the documentary “Jakten på Nordlyset”. In this case we can clearly observe the network of actors, combining the firm providing the service and environment for the tourist, the weather which has allowed the lights to be seen and the technology which has allowed the tourist to take the picture and share that picture, finalising in the act of media which allows the tourist to share his experience and maybe encourage others to take part in these kind of trips.

On one of the trips I participated in we managed to see the Northern Lights and the guide took a photo of the group under the sky and Northern Lights. Symbolically this connects the activities to a traditional semiotic meanings of how hunting trips are expected to be like. In the group under the Northern Lights, with our cameras representing weapons, we are like the colonial groups before us, in the jungle, gathering around the game shot down. I was not in a foreign ground in that point, but many of the other tourists were in this network part of a practices reminding a semiotic piece of post-colonial practices. The tourist comes from a centre, to the periphery, to experience the Lights, to shoot them with their cameras, to bring back home hunting trophies and stories of a great experience in the far north.

The patience, chanted by guides, entrepreneurs and tourists in many occasions during fieldwork, is needed in Northern Lights tours, since most of the tours I participated in included long moments in a car, through landscape too dark to admire, and waiting, in the buss, on the field and in a lavvo. Patience is also needed in hunting, but opposite for hunting, one can not rally in any ways to ask the Lights to come. There are no carcass for Northern Lights, to tricker them to our sight. We can only go to high latitude places, during the dark time, seek for an area not polluted by artificial light and wait. We might get lucky, but it is not guaranteed in any means. We might get back with a real, authentic trophy, a photograph or memoir of Northern Lights experienced by ourselves, or we might use the photos by the company and tricker our peer groups. This was even promoted in one of the trips in Norway, where our guide encouraged us to look for the pictures in their Facebook page and copy them, if we wanted to have something to show to our friends and families back home. How would they know it was no true?

In the focus group interviews many of the guides, both in Iceland, Norway and Finland, expressed a passion for their work. One of the guides described how he still is so excited to see the lights and capture them into his camera that he feels like sharing the same passion as the most passionate tourists, who might take hundreds of picture of Northern Lights during their tour. Vallerand et al. (2003) have defined passion as the strong inclination for an activity one loves and finds important, investing a substantial amount of time. This kind of passion was observed during my field work but also it came out from the interviews, creating a link of emotions between the actors. In some of the cases this passion is so strong that some tourists want to and are motivated to buy and experience many Northern Lights tours, and for some of the guides it is the motivating factor in their preferences on which work they are doing.

In Norway I first came with the problem of familiarity. One of the guides reminded me of myself, with her humour and stories about her home village. Furthermore another guide in Norway reminded me of my friend who's moved back North after some time in South, being now very eager to help her home region to develop. Both of them, being females around my age or little bit older, seemed to have same kind of connection to nature, culture and weather of their home regions as I have, a connection and knowledge which is very hard to explain for others, especially the ones without the same kind of connection or knowledge. In Iceland the guides and people we met told about the same kind of knowledge of nature and environment, but after comparing those interviews and observations to the ones I had in Norway and Northern Finland, I came to realise that although I partly understood their relativity to nature, my own unfamiliarity with Icelandic environment, nature and culture made it hard and almost impossible to understand what kind of knowledge and connection they really had. When we finally reached Finland, I noticed how I had the most deepest knowledge of the site we were working in, compared to the previous ones. From the Northern Lights tourism viewpoint my knowledge had been developing during the time doing fieldwork in Icelandic and Norwegian sites and reading literature, in which I could in Finland add my deep knowledge of the environment and tourism industry in Lapland.

Northern Lights tourism can not be described with simple terms like sightseeing (see MacCannell, 1999) although it includes the sight which people go to see, which they photograph and bring home the memories and photographs and other merchandise as souvenirs. It would also be too simple to call Northern Lights tourism as nature-based experience tourism (see Pine & Gilmore

1999), although it has characteristics of that. It is the Northern Lights and the exact moment people are experiencing and the level and way they experience it is highly individual. I could continue with many other terms and concepts, which would describe Northern Lights tourism, but none of which would describe the whole phenomenon better than ANT, and it is my findings which are strongly suggesting that. The way I observed the actors to create, stabilise and modify their networks created an understanding of Northern Lights tourism as a concept which materialises and further sells the natural phenomenon through the workings of networks, inside of which the actors come and go, either helping the concept to be experienced or by making barriers which furthermore may create obstacles and force other actors to modify their performances and acts, or fundamentally making the workings of the network impossible in that exact moment. Some of the actors can even act as a Force majeure, like a thunderstorm which delays flights and changes the way refund system works. During the fieldwork we experienced a storm, which forced some companies to cancel their Northern Lights trips from that night and with my colleague we got the chance to negotiate and consider if we were willing to take the risk and go further to maybe see the lights and most likely to get stuck because of the storm and closed roads.

7. Conclusions

In my thesis I am arguing that as a phenomenon Northern Lights tourism consists various actors and their practices, hence strengthening the idea of multiple reality and relational materiality of the tourism. In this thesis, I have approached the case chosen, Northern Lights tourism, with the theory and the knowledge I created is therefore context-dependent. Nevertheless, geographically and spatially wide context supports the viability of this thesis, because the conclusions can be applied in Northern Lights tourism in Iceland, Norway and Finland and with some restrictions even in other countries where Northern Lights tourism emerges or is planned to be applied. The findings offer valuable knowledge to the practitioners of Northern Lights tourism, giving tools to better manage their practices and to better prepared for the challenges and possibilities ahead. The data collected in the three countries and by observing and interviewing many practitioners is a valuable asset to the relevance of the findings of this thesis (see e.g Hammersley 1992) to the practitioners of Northern Lights tourism and the relevance strengthens the value of this ethnographic study. It has been noted in many studies, introduced above, that there is a need for more research on Northern Lights tourism and this thesis should be added to the material helping the industry and management to better adjust to, manage and utilise the challenges and possibilities Northern Lights tourism possesses.

Taking example from the data created during this study, we could argue that collaboration between Northern Lights tourism human actors and organisations, be they individuals like freelance guides or already arranged to organisations like tour operators, have the possibility to create collaborative advantage, if and when the relationships and connections between various actors are taken into account and managed. In an occasion, on one of the tours I was participating in, we were distracted by the military personnel, which with their lights and questions were disturbing the moment and creating obstacles through which it was impossible to utilise the resources as well as they should have been. If and when Northern Lights tourism entrepreneurs and providers would be aware of and negotiate their plans and strategies with the other actors operating in the same places, the product they are offering would be better managed and experience to the tourists would be more easily provided. These actors can not really create the Lights, but they can through they can create supporting services and pay attention to the ways they handle the waiting and no-shows. Collaborative advantage requires the creation of synergy, central to which is the avoidance or management of pitfalls, which in organisation culture are repetition, omission, divergence and

counter-production. It is the way the humans in the networks consider and manage their relationships to other actors which determines the results of the changes happening in these networks. (Huxham 1993).

Many entrepreneurs have been prolonging their winter season with Northern Lights tours. The best time for Northern Lights viewing is said to be already at October-November, when there are no snow and the nights are really dark. The Northern Light tourism season continues from October, even from end of the September, to February, being a season between the short autumn colours season around September, and around the most profitable Christmas season, and ending in to be followed by the spring skiing season from February on. Especially during this winter season 2013-2014 there were lots of media coverage of Northern Lights during the September and October, during which time the lights were very active and skies many times clear enough to show the play of the Lights. Previously winter tourism has mostly concentrated on the peak holiday seasons like Christmas and Winter Holiday, but according to the interviews and observations during this winter we could predict that people are more aware that there is something to see and experience even outside the traditional tourism seasons.

In Norway the problem has been that many tourism companies and services are closed outside the seasons. Previously and even today one can find the camping sites, hotels and other accommodations closed during the winter season, because traditionally summer has been the main season of tourism in Northern Norway and it has not been profitable to keep places open during the quiet winter months. Nevertheless the findings of this study suggest that there is demand which needs different tourism services even and most importantly during the previously low season.

In this thesis I have presented a new way of looking at the Northern Lights tourism production and performances by examining how the actors in tourism networks perform their act of tourism. By following ANT, I have concluded that the Northern Lights tourism production is a ongoing set of practices, in which natural and social actors materialise and are materialised by their relationships to others. Like tourism as a whole concept, Northern Lights tourism cannot be conceptualised with only one narrative, rather it can be described as a dynamic tourism network.

Based on the findings of this thesis, the actor-networks of Northern Lights tourism offer examples of fluid and most importantly innovative networks, which have resulted in Northern Lights tourism

entity which has the potential to develop further on and to offer other nature-based tourism initiatives good examples and best practices. Nevertheless it is good to keep in mind that this requires good management and noting as well the unsustainable practices and the desire and will to limit the negative effects. It might not all go like in our modern, urban everyday, and there are aspects which does not go hand in hand with the natural assets, like it was observed during the snowmobile safari, but there is the possibility of utilising the natural orderings and northern seasons in a mores sustainable way and to reconsider the way we consider tourists to be motivated to take part and adjust their bodily performances in activities set by the tourism entrepreneurs and not in natural, social and cultural realities already there in the landscapes and lightscares of the north. Northern Lights tourism, by offering the reason to stop, to be still and practise patience, offers a nice frame for a holiday outside the hectic everyday pace of modern life. In its way it shows the way people and practices follow the flows and pace of nature, forcing people to stop, to be silent, to turn of the lights off and wholly enjoy what the nature and the environment can offer. In addition it utilises the social and cultural practices connected to the natural settings. Social life is connected to nature and vice versa and the actor-networks of Northern Lights tourism showcase this connection, which is fluid and ever-changing but definitively there.

Ethnographic methodology has allowed me to grasp on how the Northern Lights tourism is practiced in reality and which kind of individual ways there there is to change and modify these practices to better answer the demand and needs of the tourists, industry, authorities and even environment. Even though qualitative research has been described many times as indicative, we cannot really argue that the findings of this research could be applied as such to a different places and in every Northern Lights tourism activity. Nevertheless this research has proved a comprehensive picture of these cases of Northern Lights tourism in Iceland, Norway and Finland, in this way helping the practitioners and planners in these places to better plan their practices and products and have more tools for their successful forecast on future trends in Northern Lights tourism and even more widely in Arctic winter tourism.

My findings suggest that the reactions embowered by the change, like the moment when tourists move into a buss to warm up because the cold and no-show, highlights the importance for supporting or modifying acts. It is the understanding of the process and the orderings which makes it easier for the tour planner to predict and handle these situations and it is the guide who on the spot and on the exact moment finally decides which are the reflexive reactions and actions taken.

The guides can provide more clothing, a supplementing activity or bring the group or an individual tourist to a different spot. The risk of no-show is tightly connected to every actor-network of Northern Lights tourism and it would be reasonable for entrepreneurs to create strategies how to manage this. This could happen through product development or creating substituting services.

Nevertheless I could argue that it would be reasonable to continue with the Northern Lights research. A good objective to study would be the Northern Lights tourism in Greenland, which is promoted as the next big thing in Arctic tourism and which was mentioned in one of the focus group interviews as a serious competitor, especially when keeping in mind the more stable weather and clear skies of Greenland, when compared to other Northern Lights tourism destinations. It would also be of my interest to study further the way technology helps and new media helps companies and people to deepen their experiences and to find out if the technology with innovative solutions would create a better environment for future tourism.

Northern Lights tourism is in some occasion combined with other tourism products and many times it is combined with various transportation means. In Northern Norway Northern Lights tourism is many times combined to Hurtigruten tours, and furthermore other cruise companies also have products and marketing linked to Northern Lights viewing and seeing. There has been discussion how decreasing sea ice will increase cruise ship tourism in Arctic, but this will have little if none effect on Northern Lights tourism since the amount of cruises will only grow during the summer months when the midnight sun will make Northern Lights viewing impossible. Nevertheless one could argue that midnight sun phenomenon could be described as the summer version of Northern Lights, and therefore products developed around that might and has many similarities with Northern Lights tourism. Therefore one could argue how the results of this study could be, with some restrictions, applied also to Midnight Sun tourism in the northern places where the phenomenon can be experienced.

“Darkness is drawn to light, but light does not know it; light must absorb the darkness and therefore meet its own extinguishment.”

- Edna O' Brien

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Appendix 1: Winter - Project description

Project description:

In this project we explore winter tourism developments in the Arctic from four thematic angles:

1. Winter Tourism Activities: Soft and Hard Adventures.
2. Finnmarkslopet and the Iditarod of Alaska: Event Tourism
3. Hurtigruten: Potentials and Barriers in Mass Tourism Developments.
4. Aurora Borealis: Tourism Performances and Symbolic Meanings

The Arctic University of Norway and Norut Alta will conduct research on the overall potential in Arctic winter tourism. Internationally we cooperate with Metla, University of Lapland, University of Iceland, Cardiff Metropolitan (University's Welsh Center for Tourism Research), University of Alaska, Anchorage and University of Utah.

WP4: Aurora Borealis: Tourism Performances and Symbolic Meanings

WP leaders: Bente Heimtun (UiT)

'Hunting the Light' is a way of including Aurora Borealis in tourism outdoor adventures. Although this phenomenon is experienced in several northern countries and states, Finnmark county's location and average winter weather conditions make it one of the best places for Northern Light viewings in the world (Friedman 2010). In spite of this several destinations in Norway such as Tromsø and Lofoten as well as international destinations like Canada, Finland, Iceland, Greenland, Scotland, and Russia compete over market shares. Canada and Finland are probably the countries with the biggest market success (Weaver 2011) and Yellowknife is labelled the Aurora Borealis capital of the World (Amoamo and Boyd 2005). Moreover, Japan is one of the major tourist markets. In this market, experiencing Aurora Borealis is the main motive for winter tourism to this northern region. Here, tour operators have succeeded in turning the Japanese's 'fascination with the Northern Lights to a deep love of all things natural that is part of Japanese culture' (Milner et al. 2000). Together with University of Surrey, UK, University of Iceland, University of Lapland and Metla we would like to explore 1) the production and co-creation of Northern Light tours; and 2) how Northern Light tourism is produced, performed and consumed.

Key questions in this work package are

1. How is Northern Light tourism staged and narrated and how do the providers negotiate natural conditions and constraints? How are no-show risks communicated and handled? In what ways is 'Hunting the Light' perceived as adventurous exploration by the tourists? How are scientific knowledge, myths and legends managed in the production of this tourism? How and in what ways do the handling of tour groups, affect the exoticness and romanticism of Northern Light presentations and experiences?
2. How do cultural symbolic meanings and differences affect Northern Light tourism performances? What are the differences between Asian markets and western markets? In what ways are the Northern Light marketed in target markets? How and in what ways is Northern Light tourism in rural areas perceived differently by tourists in Tromsø, Alta and Kirkenes, in North Norway in general and compared to Finnish Lapland?

